



**SPXFLOW**

[powerteam.com](http://powerteam.com)

**Professional Grade  
Hydraulic & Mechanical Tools For Industry**

**>Power Team®**



# ➤ Power Team®



## TOUGH PRODUCTS FOR TOUGH APPLICATIONS



**Over 90 years experience** in supplying Professional Grade High Pressure Hydraulic Pumps, Cylinders, Jacks, Pullers & Tools. Combining our tough products with application expertise and training makes your life safer, easier and more efficient.

### **A Heritage of Innovation**

Since 1924, we've been instrumental in the development of innovative high force hydraulic power products, systems and tools. Many of our products are known as the industry standard for rugged construction, reliability, and long service life. Today, we provide a full range of professional grade products and services around the globe.

### **Power Team Quality**

Power Team Products are built tough with strict ISO 9001 manufacturing processes and are covered by a Lifetime PowerThon Warranty\*.

### **Global Distribution and Service**

Wherever your job is in the world, the Power Team network of distributors and service centers assures local product, parts and service availability.

#### CYLINDERS 5-42



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Table with 4 columns listing cylinder part numbers and their corresponding page numbers. The table is organized into four columns, with the first column containing the most entries. The entries include various cylinder models such as BB1600, BC212, BP12INT, etc., and their page numbers range from 14 to 271.



# CYLINDERS



## SUPERIOR FEATURES OF POWER TEAM HYDRAULIC CYLINDERS:

We build our own cylinders in our ISO 9001 registered manufacturing facilities. All Power Team cylinders are date coded and stamped with a maximum pressure rating and capacity. Each cylinder we make complies with the demanding ASME B30.1 standard and are assembled/tested by certified assemblers and pressure tested to 125% of capacity before leaving our factories. Some other key features included:

- Cylinder bores are roller burnished to harden and smooth the surface, improving seal life by 30%.
- Base mounting holes withstand full cylinder capacity.
- Typical cylinder burst pressure range is from 1750 to 2450 bar, well-beyond extreme usage.
- Cylinders with gland nuts may be “dead-ended” at 700 bar.
- Eddy current and mag-particle inspections detect flaws in the steel.
- Material is removed from surface to ensure that any flaws are eliminated.





|   | Page Description | Cylinder Movement              | Type of Return      | Tonnage Range        | Page(s) |
|---|------------------|--------------------------------|---------------------|----------------------|---------|
|   | Introduction     | -                              | -                   | -                    | 5-10    |
|    | C                | Single-Acting                  | Spring              | 5-100                | 11-12   |
|    | CBT              | Single-Acting                  | Spring              | 5-25                 | 13      |
|   | RP               | Single-Acting                  | Spring              | 2-5                  | 14      |
|    | C Accessories    | -                              | -                   | -                    | 15-16   |
|    | RA               | Single-Acting                  | Spring              | 20-100               | 17      |
|   | RLS              | Single-Acting                  | Spring              | 5-150                | 18      |
|   | RSS              | Single-Acting<br>Double-Acting | Spring              | 10-250               | 19-20   |
|   | RH               | Single-Acting<br>Double-Acting | Spring<br>Hydraulic | 100-100<br>30-200    | 21-22   |
|   | RT               | Single-Acting                  | Spring              | 17.5-100             | 23-24   |
|  | RGG              | Single-Acting                  | Load                | 55-600               | 25-28   |
|  | RDG              | Double-Acting                  | Hydraulic           | 55-600               | 29-32   |
|   | RD               | Double-Acting                  | Hydraulic           | 10-500               | 33-34   |
|  | R                | Single-Acting<br>Double-Acting | Load<br>Hydraulic   | 55-565<br>100-565    | 35-36   |
|  | RC_C<br>RC_D     | Single-Acting<br>Double-Acting | Load<br>Hydraulic   | 740-1220<br>740-1220 | 37-38   |
|   | RA_L<br>R_L      | Single-Acting,<br>Locking      | Load                | 55-100<br>55-565     | 39-40   |
|  | RC_P             | Single-Acting,<br>Locking      | Load                | 55-620               | 41      |
|  | RC_L Series      | Single-Acting,<br>Locking      | Load                | 740-1220             | 42      |



### SELECTING THE RIGHT CYLINDER:

**Step 1:** Select the hydraulic cylinder that best suits the application.

**Step 2:** Select a hydraulic pump with adequate oil output and reservoir capacity to power cylinder.

**Step 3:** Select pump and valve option that is best suited to the cylinder and application.

### CYLINDER SIZING CONSIDERATIONS:

1. What push or pull tonnage is required per cylinder in your application?  
Power Team recommends using 80% of the rated capacity and stroke to maximize product performance and safety.
2. What is the push or pull stroke length required?
3. Does the cylinder need to push, pull or both?  
(Single-acting cylinders extend the piston under hydraulic pressure. Double-acting cylinders extend and retract the piston under pressure.)
4. Does the application require multiple cylinders?
5. Is the application stationary, or must the components be light in weight for easy portability?
6. Do you need to extend a rod or cable through the center of the cylinder for the application, as in a tensioning operation?
7. Does the application require that the cylinder fit within limited-clearance work areas?
8. Does the application require that the cylinder be "dead-ended" at the end of its work stroke?
9. Will the cylinder need to withstand off-center loads? If yes, consider using swivel load caps.
10. Does the application require that the lifted load be supported for extended periods of time? Locking collars are ideal for such jobs, as are cribbing blocks.
11. Is corrosion resistance required?  
Our unique "Power-Tech" surface treatment is standard on many Power Team cylinders, and optional on many of our cylinders which feature steel construction.
12. Will the application involve high cycles (over 2500 in the cylinder's lifetime)?  
Our "RD," "RH," "RP" and "C" series cylinders are ideal choices. Please refer to pages 12-13 for the capabilities of each cylinder.

#### WHAT TYPE OF CYLINDER DO YOU NEED?

1. To determine a cylinder's force capacity:

Force

Cylinder Effective Area (cm<sup>2</sup>)

X

Bar from Pump

2. To determine oil

Oil Capacity (cm<sup>3</sup>)

Cylinder Effective Area (cm<sup>2</sup>)

X

Cylinder Stroke (cm)

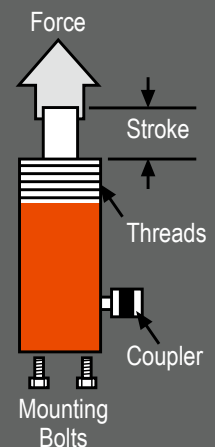
3. To determine reservoir capacity needed for a multiple cylinder system:

Usable Oil

Oil Cap. of Cyl. (cm<sup>3</sup>)

X

Number of Cyl. in System





# INFO SECTION CYLINDER TO PUMP SIZING REFERENCE CHART



The following guidelines are for general lifting and construction applications. Hydraulic tools, pullers and presses may fall outside these recommendations. Always check to see that the pump's "usable reservoir capacity" exceeds the cylinder(s) oil capacity.

|                                       |  |
|---------------------------------------|--|
| Generally Recommended                 | <span style="background-color: #d9ead3; border: 1px solid #ccc; display: inline-block; width: 15px; height: 10px;"></span> |
| Marginal Check Requirements           | <span style="background-color: #fff2cc; border: 1px solid #ccc; display: inline-block; width: 15px; height: 10px;"></span> |
| Not Recommended for most applications | <span style="background-color: #f4cccc; border: 1px solid #ccc; display: inline-block; width: 15px; height: 10px;"></span> |

|                             | Pressure Stage | CYLINDER CAPACITY (Tons) |     |      |      |      |      |      |      |      |      |      |      |       |       |       |
|-----------------------------|----------------|--------------------------|-----|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|
|                             |                | 5                        | 10  | 15   | 20   | 25   | 30   | 55   | 75   | 100  | 150  | 200  | 300  | 400   | 500   |       |
| Hand Pumps *                | P12 ‡          | Single                   | 14  | 32   | 44   | 65   | 72   | 93   |      |      |      |      |      |       |       |       |
|                             | P55 ‡          | Single                   | 6   | 14   | 19   | 28   | 31   | 40   | 71   |      |      |      |      |       |       |       |
|                             | P19(L)         | Low                      | 4   | 8    | 10   | 15   | 17   | 21   |      |      |      |      |      |       |       |       |
|                             |                | High                     | 13  | 30   | 42   | 59   | 68   | 86   |      |      |      |      |      |       |       |       |
|                             | P59F           | Low                      | 1.8 | 4.1  | 5.7  | 8    | 9    | 12   | 20   | 29   |      |      |      |       |       |       |
|                             |                | High                     | 8   | 17   | 24   | 34   | 48   | 50   | 85   | 122  |      |      |      |       |       |       |
|                             | P59(L) ‡       | Low                      | 1.5 | 3.2  | 4.7  | 7    | 7.7  | 9.7  | 16.7 | 23.9 |      |      |      |       |       |       |
|                             | P157(D) ‡      | High                     | 6   | 14   | 19   | 28   | 31   | 40   | 71   | 101  |      |      |      |       |       |       |
|                             | P159(D) ‡      | Low                      | 0.5 | 1    | 1.3  | 1.9  | 2.2  | 2.8  | 5    | 7    | 9    | 13   | 18   |       |       |       |
|                             |                | High                     | 7   | 15   | 21   | 30   | 34   | 43   | 77   | 110  | 143  | 200  | 250  |       |       |       |
| P460(D) ‡                   | Low            | 0.1                      | 0.3 | 0.6  | 0.6  | 0.7  | 0.9  | 1.5  | 2.2  | 2.8  | 4.2  | 5.6  | 8.4  | 11.2  |       |       |
|                             | High           | 3.3                      | 7.7 | 9    | 14   | 17.5 | 22   | 37   | 55   | 71   | 105  | 143  | 213  | 284   |       |       |
| Electric/ Hydraulic Pumps † | PB10 / PE10    | Low                      | 0.5 | 1.2  | 1.6  | 2.2  | 2.6  | 3.2  | 5.5  |      |      |      |      |       |       |       |
|                             |                | High                     | 6   | 13.4 | 18.9 | 27   | 31   | 39   | 66.2 |      |      |      |      |       |       |       |
|                             | PE17 ‡         | Low                      | 0.2 | 0.5  | 0.7  | 0.9  | 1.1  | 1.4  | 2.3  | 3.3  | 4.3  | 6.5  | 8.7  |       |       |       |
|                             |                | High                     | 3.5 | 7.9  | 10.9 | 16   | 18   | 23   | 39   | 56.3 | 73   | 109  | 146  |       |       |       |
|                             | PE18           | Low                      | 0.4 | 0.8  | 1.2  | 1.6  | 1.8  | 2.3  | 3.9  | 5.7  | 7.3  | 10.8 | 14.6 | 21.9  | 29.2  |       |
|                             |                | High                     | 3.3 | 7.5  | 10.3 | 15   | 17   | 21   | 37   | 53   | 69   | 102  | 136  | 207   | 276   |       |
|                             | PE21 ‡         | Low                      | 0.2 | 0.5  | 0.7  | 1.0  | 1.1  | 1.4  | 2.5  | 3.6  | 4.6  | 6.8  | 9.2  | 13.8  | 18.4  |       |
|                             |                | High                     | 2.8 | 6.4  | 9    | 13   | 15   | 19   | 32   | 45.5 | 59   | 88   | 118  | 177   | 236   |       |
|                             | PED25          | Low                      | 0.2 | 0.4  | 0.6  | 0.9  | 1.0  | 1.3  | 2.2  | 3.2  | 4.1  | 6.1  | 8.3  | 12.0  | 15.7  | 19.9  |
|                             |                | High                     | 2.4 | 5.4  | 7.5  | 10.6 | 12.4 | 15.6 | 26.5 | 38.2 | 49.5 | 73.3 | 99.1 | 144.3 | 188.5 | 238.6 |
|                             | PE30 ‡         | Low                      | 0.2 | 0.45 | 0.6  | 0.9  | 1    | 1.3  | 2.2  | 3.2  | 4.1  | 6    |      |       |       |       |
|                             |                | High                     | 2   | 4.5  | 6    | 9    | 10   | 13   | 22   | 32   | 41   | 60   |      |       |       |       |
|                             | PE46 ‡         | Low                      | 0.1 | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 1.3  | 1.8  | 2.4  | 3.5  | 4.7  | 7.2   | 9.6   |       |
|                             |                | High                     | 1.3 | 2.9  | 4.1  | 5.9  | 6.8  | 8.6  | 14   | 22   | 28   | 42   | 56   | 84    | 112   |       |
|                             | PE55 ‡         | Low                      | 0.1 | 0.2  | 0.3  | 0.4  | 0.4  | 0.6  | 0.9  | 1.4  | 1.8  | 2.6  | 3.5  | 5.4   | 7.2   |       |
|                             | PE60 ‡         | High                     | 1.4 | 2.4  | 3.4  | 4.8  | 5.6  | 7.1  | 12   | 17.8 | 23   | 34   | 45   | 69    | 92    |       |
|                             |                | Low                      | 0.1 | 0.2  | 0.3  | 0.4  | 0.4  | 0.5  | 0.9  | 1.3  | 1.7  | 2.5  | 3.4  | 5.1   | 6.8   | 8.5   |
|                             | PQ60           | High                     | 1   | 2.2  | 3.3  | 4.4  | 5.2  | 6.5  | 11   | 16.2 | 21   | 31   | 41   | 63    | 84    | 105   |
|                             |                | Low                      | 0.1 | 0.2  | 0.3  | 0.4  | 0.4  | 0.5  | 0.9  | 1.3  | 1.7  | 2.5  | 3.4  | 5.1   | 6.8   | 8.5   |
|                             | PQ120          | High                     | 0.5 | 1.1  | 1.6  | 2.2  | 2.6  | 3.2  | 5.5  | 7.7  | 10   | 15   | 21   | 30    | 40    | 50    |
| Low                         |                | 0.1                      | 0.1 | 0.2  | 0.2  | 0.3  | 0.3  | 0.6  | 0.8  | 1    | 1.5  | 2.1  | 3    | 4     | 5     |       |
| PE400                       | High           | 0.1                      | 0.3 | 0.4  | 0.6  | 0.7  | 0.9  | 1.6  | 2.2  | 2.9  | 4.4  | 5.9  | 8.7  | 11.6  | 14.5  |       |
|                             | Low            | 0.1                      | 0.1 | 0.2  | 0.2  | 0.3  | 0.3  | 0.6  | 0.8  | 1    | 1.5  | 2.1  | 3    | 4     | 5     |       |
| Air/Hydraulic Pumps †       | PA6 ‡          | Single                   | 10  | 22.4 | 31   | 44.4 | 51.3 | 65.2 |      |      |      |      |      |       |       |       |
|                             | PA9 ‡          | Single                   | 10  | 22.4 | 31   | 44.4 | 51.3 | 65.2 |      |      |      |      |      |       |       |       |
|                             | PA17 ‡         | Low                      | 0.2 | 0.5  | 0.7  | 0.9  | 1.1  | 1.4  | 2.3  | 3.3  | 4.3  | 6.5  | 8.7  |       |       |       |
|                             |                | High                     | 3.5 | 7.9  | 10.9 | 16   | 18   | 23   | 39   | 56   | 73   | 109  | 146  |       |       |       |
|                             | PA46 ‡         | Low                      | 0.1 | 0.3  | 0.4  | 0.5  | 0.6  | 0.7  | 1.3  | 2    | 2.4  | 3.5  | 4.7  | 7.2   | 9.6   |       |
|                             |                | High                     | 1.3 | 2.9  | 4.1  | 5.9  | 6.8  | 8.6  | 14   | 22   | 28   | 42   | 56   | 84    | 112   |       |
| PA55 ‡                      | Low            | 0.1                      | 0.3 | 0.4  | 0.6  | 0.7  | 0.9  | 1.5  | 2.2  | 2.8  | 4.1  | 5.5  | 8.4  | 11.2  |       |       |
|                             | High           | 1.1                      | 2.4 | 3.4  | 4.8  | 5.6  | 7.1  | 12   | 18   | 25   | 34   | 45   | 69   | 92    |       |       |
| Gas/Hydraulic Pumps †       | PG30           | Low                      | 0.3 | 0.7  | 1    | 1.3  | 1.6  | 2    | 3.3  | 4.8  | 6.2  | 9.3  | 12.4 | 18.1  |       |       |
|                             |                | High                     | 2   | 4.5  | 6.3  | 8.9  | 10.3 | 13   | 22   | 31.8 | 41.3 | 61.4 | 83   | 121   |       |       |
|                             | PG55 ‡         | Low                      | 0.1 | 0.3  | 0.4  | 0.6  | 0.7  | 0.8  | 1.4  | 2    | 2.6  | 3.9  | 5.2  | 7.6   | 9.9   | 12.5  |
|                             |                | High                     | 1.1 | 2.5  | 3.5  | 4.9  | 5.6  | 7.1  | 12.1 | 17.3 | 22.5 | 33.5 | 45   | 66    | 86    | 109   |
|                             | PG120 ‡        | Low                      | 0.1 | 0.3  | 0.4  | 0.6  | 0.7  | 0.8  | 1.4  | 2    | 2.6  | 3.9  | 5.2  | 7.6   | 9.9   | 12.5  |
|                             |                | High                     | 0.5 | 1.0  | 1.5  | 2.0  | 2.4  | 3.0  | 5.1  | 7.3  | 9.5  | 14.2 | 19.1 | 27.8  | 36.3  | 46.0  |
| PG400                       | Low            | 0.1                      | 0.1 | 0.2  | 0.2  | 0.3  | 0.3  | 0.6  | 0.8  | 1.0  | 1.5  | 2.0  | 3.0  | 3.8   | 4.9   |       |
|                             | High           | 0.2                      | 0.3 | 0.5  | 0.7  | 0.8  | 1.0  | 1.7  | 2.4  | 3.1  | 4.6  | 6.2  | 9.0  | 11.8  | 15.0  |       |

\* Hand Pumps = Number of strokes required to move piston 1".  
 † Air, Electric and Gasoline Engine/Hydraulic pumps = Number of seconds required to move piston 1".  
 ‡ Some Power Team pumps are available in special configurations not listed in this catalog.  
 Power Team can "Assemble to order" pumps with special seals, voltages, valves, relief valve settings, etc.  
 For your special requirements, please consult your local distributor or the Power Team factory.





Model Shown:  
**Various Types of C-Series**



**>Features**

**RUGGED, HIGH QUALITY CYLINDER USED FOR LIFTING AND PRESSING.**

- Aluminum bronze bearing reduces wear caused by off-center loads.
- Maximum sized springs speed piston return and increase spring life.
- Collar threads are standard on all C-Series models, simplifying fixturing applications.
- Removeable rubber boots protects collar threads during transport and storage.
- Solid steel cylinder body for durability.
- Chrome plated piston rod resists wear and corrosion.
- Wide range of accessories available that mount onto the piston rod, collar, or base.
- Base mounting holes standard on 5 through 55 ton cylinders and optional on 75 and 100 ton cylinders.
- A 3/8" NPTF female half coupler is standard.
- Complies with ANSI / ASME B30.1 safety standards.

▶ **C10010C used in this pulling application.**



**Best Practice for Cylinder Selection**



Power Team recommends using 80% of the rated capacity and stroke to maximize product performance and safety.

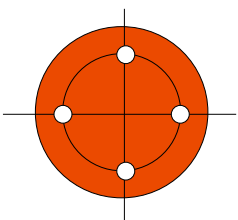


**Optional Cylinders Lifting Handle**



**Order Number:** 420655OR9  
Lifting handle for "C" series, 25 ton cylinders

▶ **Technical Dimensions, Base Mounting Holes**



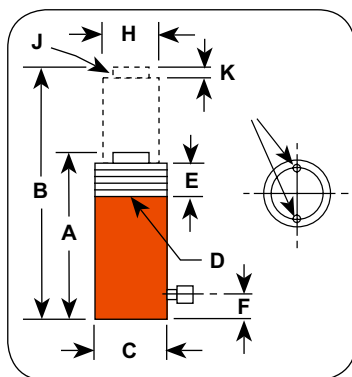
| Cylinder Tonnage          | 5        | 10        | 15       | 25       | 30     | 55       | 75*      | 100*   |
|---------------------------|----------|-----------|----------|----------|--------|----------|----------|--------|
| # of Holes                | 2†       | 2†        | 2†       | 2†       | 2†     | 2†       | 4        | 4      |
| Thread Size               | 1/4 - 20 | 5/16 - 18 | 3/8 - 16 | 1/2 - 13 | 1/2-13 | 1/2 - 13 | 3/4 - 10 | 1 - 8  |
| Thread Depth (mm)         | 9,50     | 12,70     | 12,70    | 19,10    | 19,10  | 19,10    | 25,40    | 25,40  |
| Bolt Circle Diameter (mm) | 25,40    | 39,70     | 47,60    | 58,70    | 73,66  | 95,30    | 114,30   | 120,70 |

\* Consult Factory (45° from coupler)  
† 90° from coupler

**Technical Dimensions**

Cylinder Load Caps furnished with "C" Series Cylinders:

|                   |            |
|-------------------|------------|
| 5 ton cylinders   | No. 201375 |
| 10 ton cylinders  | No. 201362 |
| 15 ton cylinders  | No. 201362 |
| 25 ton cylinders  | No. 201412 |
| 30 ton cylinders  | No. 201412 |
| 55 ton cylinders  | No. 36161  |
| 75 ton cylinders  | No. 36161  |
| 100 ton cylinders | No. 36161  |



**C10010C used in this lift application.**



**Ordering Information**

| Cyl. Cap. (ton) | Stroke (mm) | Order No. | Oil Cap. (cm³) | A                      |                         | C     | D         | E    | F    | H     | J               | K   | Bore Dia. (mm) | Cylinder Effective Area (cm²) | Metric Tons at 700 (bar) | Prod. Wt. (kg) |
|-----------------|-------------|-----------|----------------|------------------------|-------------------------|-------|-----------|------|------|-------|-----------------|-----|----------------|-------------------------------|--------------------------|----------------|
|                 |             |           |                | Re-tracted Height (mm) | Ex-extended Height (mm) |       |           |      |      |       |                 |     |                |                               |                          |                |
| 5               | 25,4        | C51C      | 18             | 110,3                  | 138,1                   | 38,1  | 1 1/2-16  | 28,6 | 19,1 | 25,4  | 3/4-16 x 15,9   | 6,4 | 28,6           | 6,4                           | 4,5                      | 1,0            |
|                 | 82,6        | C53C      | 52             | 165,1                  | 247,7                   | 38,1  | 1 1/2-16  | 28,6 | 19,1 | 25,4  | 3/4-16 x 15,9   | 6,4 | 28,6           | 6,4                           | 4,5                      | 1,5            |
|                 | 133,4       | C55C      | 85             | 215,9                  | 349,3                   | 38,1  | 1 1/2-16  | 28,6 | 19,1 | 25,4  | 3/4-16 x 15,9   | 6,4 | 28,6           | 6,4                           | 4,5                      | 1,8            |
|                 | 184,2       | C57C      | 118            | 273,1                  | 457,2                   | 38,1  | 1 1/2-16  | 28,6 | 19,1 | 25,4  | 3/4-16 x 15,9   | 6,4 | 28,6           | 6,4                           | 4,5                      | 2,3            |
|                 | 235,0       | C59C      | 151            | 323,9                  | 558,8                   | 38,1  | 1 1/2-16  | 28,6 | 19,1 | 25,4  | 3/4-16 x 15,9   | 6,4 | 28,6           | 6,4                           | 4,5                      | 2,6            |
| 10              | 25,4        | C101C     | 36             | 92,1                   | 117,5                   | 57,2  | 2 1/4-14  | 28,6 | 19,1 | 38,1  | 1-8 x 19,1      | 6,4 | 42,8           | 14,4                          | 10,2                     | 1,8            |
|                 | 54,0        | C102C     | 79             | 122,0                  | 172,8                   | 57,2  | 2 1/4-14  | 28,6 | 19,1 | 38,1  | 1-8 x 19,1      | 6,4 | 42,8           | 14,4                          | 10,2                     | 2,3            |
|                 | 104,8       | C104C     | 151            | 171,5                  | 276,2                   | 57,2  | 2 1/4-14  | 28,6 | 19,1 | 38,1  | 1-8 x 19,1      | 6,4 | 42,8           | 14,4                          | 10,2                     | 3,0            |
|                 | 155,6       | C106C     | 225            | 247,7                  | 403,2                   | 57,2  | 2 1/4-14  | 28,6 | 19,1 | 38,1  | 1-8 x 19,1      | 6,4 | 42,8           | 14,4                          | 10,2                     | 4,3            |
|                 | 206,4       | C108C     | 326            | 298,5                  | 504,8                   | 57,2  | 2 1/4-14  | 28,6 | 19,1 | 38,1  | 1-8 x 19,1      | 6,4 | 42,8           | 14,4                          | 10,2                     | 5,0            |
|                 | 257,2       | C1010C    | 370            | 349,3                  | 606,4                   | 57,2  | 2 1/4-14  | 28,6 | 19,1 | 38,1  | 1-8 x 19,1      | 6,4 | 42,8           | 14,4                          | 10,2                     | 5,9            |
|                 | 308,0       | C1012C    | 444            | 400,1                  | 708,0                   | 57,2  | 2 1/4-14  | 28,6 | 19,1 | 38,1  | 1-8 x 19,1      | 6,4 | 42,8           | 14,4                          | 10,2                     | 6,6            |
|                 | 358,8       | C1014C    | 518            | 450,9                  | 809,6                   | 57,2  | 2 1/4-14  | 28,6 | 19,1 | 38,1  | 1-8 x 19,1      | 6,4 | 42,8           | 14,4                          | 10,2                     | 7,3            |
|                 | 406,4       | C1016C    | 592            | 520,7                  | 927,1                   | 57,2  | 2 1/4-14  | 28,6 | 19,1 | 38,1  | 1-8 x 19,1      | 6,4 | 42,8           | 14,4                          | 10,2                     | 8,4            |
| 15              | 25,4        | C151C     | 51             | 123,8                  | 149,2                   | 69,9  | 2 3/4-16  | 28,6 | 19,1 | 44,5  | 1-8 x 19,1      | 6,4 | 50,8           | 20,3                          | 14,2                     | 3,4            |
|                 | 54,0        | C152C     | 110            | 149,2                  | 203,2                   | 69,9  | 2 3/4-16  | 28,6 | 19,1 | 44,5  | 1-8 x 19,1      | 6,4 | 50,8           | 20,3                          | 14,2                     | 4,0            |
|                 | 104,8       | C154C     | 211            | 200,0                  | 304,8                   | 69,9  | 2 3/4-16  | 28,6 | 19,1 | 44,5  | 1-8 x 19,1      | 6,4 | 50,8           | 20,3                          | 14,2                     | 5,2            |
|                 | 155,6       | C156C     | 315            | 271,4                  | 427,0                   | 69,9  | 2 3/4-16  | 28,6 | 19,1 | 44,5  | 1-8 x 19,1      | 6,4 | 50,8           | 20,3                          | 14,2                     | 6,9            |
|                 | 206,4       | C158C     | 418            | 322,2                  | 528,6                   | 69,9  | 2 3/4-16  | 28,6 | 19,1 | 44,5  | 1-8 x 19,1      | 6,4 | 50,8           | 20,3                          | 14,2                     | 8,1            |
|                 | 257,2       | C1510C    | 521            | 373,0                  | 630,2                   | 69,9  | 2 3/4-16  | 28,6 | 19,1 | 44,5  | 1-8 x 19,1      | 6,4 | 50,8           | 20,3                          | 14,2                     | 9,4            |
|                 | 308,0       | C1512C    | 625            | 423,8                  | 731,8                   | 69,9  | 2 3/4-16  | 28,6 | 19,1 | 44,5  | 1-8 x 19,1      | 6,4 | 50,8           | 20,3                          | 14,2                     | 10,5           |
|                 | 358,8       | C1514C    | 728            | 474,6                  | 833,4                   | 69,9  | 2 3/4-16  | 28,6 | 19,1 | 44,5  | 1-8 x 19,1      | 6,4 | 50,8           | 20,3                          | 14,2                     | 11,8           |
|                 | 406,4       | C1516C    | 824            | 522,3                  | 928,7                   | 69,9  | 2 3/4-16  | 28,6 | 19,1 | 44,5  | 1-8 x 19,1      | 6,4 | 50,8           | 20,3                          | 14,2                     | 12,8           |
| 25              | 25,4        | C251C     | 84             | 139,7                  | 165,1                   | 85,7  | 3 5/16-12 | 49,2 | 25,4 | 57,2  | 1 1/2-16 x 25,4 | 9,5 | 65,1           | 33,2                          | 23,4                     | 5,4            |
|                 | 50,8        | C252C     | 169            | 164,5                  | 215,3                   | 85,7  | 3 5/16-12 | 49,2 | 25,4 | 57,2  | 1 1/2-16 x 25,4 | 9,5 | 65,1           | 33,2                          | 23,4                     | 6,3            |
|                 | 101,6       | C254C     | 338            | 215,9                  | 317,5                   | 85,7  | 3 5/16-12 | 49,2 | 25,4 | 57,2  | 1 1/2-16 x 25,4 | 9,5 | 65,1           | 33,2                          | 23,4                     | 8,0            |
|                 | 158,8       | C256C     | 528            | 273,1                  | 431,8                   | 85,7  | 3 5/16-12 | 49,2 | 25,4 | 57,2  | 1 1/2-16 x 25,4 | 9,5 | 65,1           | 33,2                          | 23,4                     | 9,8            |
|                 | 209,6       | C258C     | 697            | 323,9                  | 533,4                   | 85,7  | 3 5/16-12 | 49,2 | 25,4 | 57,2  | 1 1/2-16 x 25,4 | 9,5 | 65,1           | 33,2                          | 23,4                     | 11,6           |
|                 | 260,4       | C2510C    | 865            | 374,4                  | 635,0                   | 85,7  | 3 5/16-12 | 49,2 | 25,4 | 57,2  | 1 1/2-16 x 25,4 | 9,5 | 65,1           | 33,2                          | 23,4                     | 13,3           |
|                 | 311,2       | C2512C    | 1036           | 425,5                  | 736,0                   | 85,7  | 3 5/16-12 | 49,2 | 25,4 | 57,2  | 1 1/2-16 x 25,4 | 9,5 | 65,1           | 33,2                          | 23,4                     | 15,0           |
|                 | 362,0       | C2514C    | 1205           | 476,3                  | 838,2                   | 85,7  | 3 5/16-12 | 49,2 | 25,4 | 57,2  | 1 1/2-16 x 25,4 | 9,5 | 65,1           | 33,2                          | 23,4                     | 16,7           |
| 30              | 209,6       | C308C     | 880            | 325,1                  | 534,7                   | 101,6 | 4-12      | 50,8 | 25,4 | 63,5  | 1 1/2-16 x 22,4 | 9,7 | 72,9           | 41,6                          | 29,2                     | 16,2           |
|                 | 50,8        | C552C     | 362            | 174,6                  | 225,4                   | 127,0 | 5-12      | 55,6 | 34,9 | 79,4  | None            | 3,2 | 95,3           | 71,2                          | 50,1                     | 14,7           |
|                 | 108,0       | C554C     | 769            | 231,8                  | 339,7                   | 127,0 | 5-12      | 55,6 | 34,9 | 79,4  | None            | 3,2 | 95,3           | 71,2                          | 50,1                     | 18,7           |
|                 | 158,8       | C556C     | 1131           | 282,6                  | 441,3                   | 127,0 | 5-12      | 55,6 | 34,9 | 79,4  | None            | 3,2 | 95,3           | 71,2                          | 50,1                     | 23,1           |
|                 | 260,4       | C5510C    | 1853           | 384,2                  | 644,5                   | 127,0 | 5-12      | 55,6 | 34,9 | 79,4  | None            | 3,2 | 95,3           | 71,2                          | 50,1                     | 30,4           |
| 75              | 336,6       | C5513C    | 2398           | 460,4                  | 796,9                   | 127,0 | 5-12      | 55,6 | 34,9 | 79,4  | None            | 3,2 | 95,3           | 71,2                          | 50,1                     | 35,3           |
|                 | 155,6       | C756C     | 1596           | 314,3                  | 469,9                   | 146,1 | 5 3/4-12  | 44,5 | 31,8 | 95,3  | None            | 3,2 | 114,3          | 102,6                         | 72,1                     | 33,3           |
|                 | 333,4       | C7513C    | 3421           | 492,1                  | 825,5                   | 146,1 | 5 3/4-12  | 44,5 | 31,8 | 95,3  | None            | 3,2 | 114,3          | 102,6                         | 72,1                     | 49,6           |
|                 | 50,8        | C1002C    | 675            | 219,1                  | 269,9                   | 158,8 | 6 1/4-12  | 57,2 | 41,3 | 104,8 | None            | 3,2 | 130,2          | 133,0                         | 93,6                     | 28,6           |
| 100             | 168,3       | C1006C    | 2245           | 336,6                  | 504,8                   | 158,8 | 6 1/4-12  | 57,2 | 41,3 | 104,8 | None            | 3,2 | 130,2          | 133,0                         | 93,6                     | 41,3           |
|                 | 260,4       | C10010C   | 3467           | 428,6                  | 689,0                   | 158,8 | 6 1/4-12  | 57,2 | 41,3 | 104,8 | None            | 3,2 | 130,2          | 133,0                         | 93,6                     | 51,3           |

Model Shown:

**C55CBT, C2514CBT**



**Features**

**THREADED PISTON ROD END AND BASE THREADS ACCOMMODATE ACCESSORIES AND ADAPTERS.**

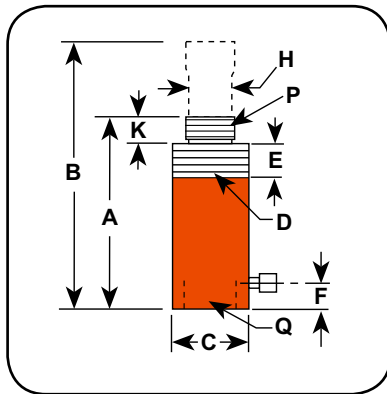
- Threaded cylinder collars, piston rod ends, and internal base threads simplify mounting.
- A 9796 3/8" NPTF female half coupler is standard with each cylinder. Oil port threads are 3/8" NPTF.
- Removable threaded rod cap.
- Factory accessories do not de-rate tonnage.
- Complies with ANSI / ASME B30.1 safety Standards.



**Versatility and fixturing capabilities**



**Technical Dimensions**



**Analog Gauges**



Improve your system visibility and safety by adding an inline hydraulic gauge to your circuit.

- 9040E (63,5 mm)
- 9052E (100 mm)

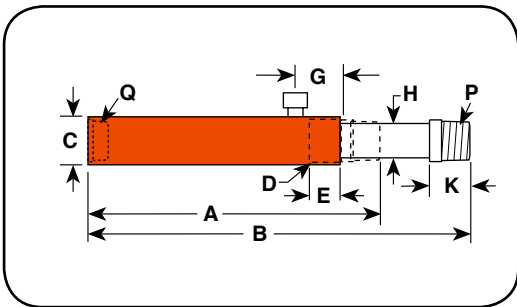
**Ordering Information**

| Cyl Cap. | Stroke | Order No. | Oil Cap.           | A                 | B                | C            | D             | E                    | F            | H               | K                      | P                       | Q                           | Bore Dia. | Cylinder Effective Area | Metric Tons at 700 | Prod. Wt. |
|----------|--------|-----------|--------------------|-------------------|------------------|--------------|---------------|----------------------|--------------|-----------------|------------------------|-------------------------|-----------------------------|-----------|-------------------------|--------------------|-----------|
|          |        |           |                    | Re-tracted Height | Ex-tended Height | Outside Dia. | Collar Thread | Collar Thread Length | Base to Port | Piston Rod Dia. | Piston Rod Protru-sion | Piston Rod Thread (NPT) | Internal Base Thread (NPSM) |           |                         |                    |           |
| (ton)    | (mm)   |           | (cm <sup>3</sup> ) | (mm)              | (mm)             | (mm)         | (mm)          | (mm)                 | (mm)         | (mm)            | (mm)                   | (in.)                   | (in.)                       | (mm)      | (cm <sup>2</sup> )      | (bar)              | (kg)      |
| 5        | 133,4  | C55CBT    | 85                 | 266,7             | 400,1            | 38,1         | 1 1/2-16      | 28,6                 | 47,6         | 25,4            | 28,6                   | 3/4-14                  | 3/4-14                      | 28,6      | 6,4                     | 4,5                | 2,0       |
| 10       | 155,6  | C106CBT   | 228                | 292,1             | 447,7            | 57,2         | 2 1/4-14      | 28,6                 | 42,9         | 38,1            | 27,0                   | 1 1/4-11.5              | 1 1/4-11.5                  | 42,9      | 14,4                    | 10,2               | 4,7       |
|          | 257,2  | C1010CBT  | 375                | 393,7             | 650,9            | 57,2         | 2 1/4-14      | 28,6                 | 42,9         | 38,1            | 27,0                   | 1 1/4-11.5              | 1 1/4-11.5                  | 42,9      | 14,4                    | 10,2               | 6,3       |
| 25       | 158,8  | C256CBT   | 528                | 339,7             | 498,5            | 85,7         | 3 5/16-12     | 49,2                 | 47,6         | 57,2            | 47,6                   | 2-11.5                  | 2-11.5                      | 65,1      | 33,3                    | 23,4               | 11,1      |
|          | 362,0  | C2514CBT  | 1205               | 542,9             | 904,9            | 85,7         | 3 5/16-12     | 49,2                 | 47,6         | 57,2            | 47,6                   | 2-11.5                  | 2-11.5                      | 65,1      | 33,3                    | 23,4               | 18,2      |

Model Shown:  
**RP25, RP55**



► **Technical Dimensions**



► **Ordering Information**

| Cyl. Cap. | Stroke | Order No.   | Oil Cap.           | A                 | B                | C            | D             | E                    | G    | H    | K    | P              | Q              | Bore Dia. | Cylinder Effective Area | Metric Tons at 700 | Prod. Wt. |
|-----------|--------|-------------|--------------------|-------------------|------------------|--------------|---------------|----------------------|------|------|------|----------------|----------------|-----------|-------------------------|--------------------|-----------|
|           |        |             |                    | Re-tracted Height | Ex-tended Height | Outside Dia. | Collar Thread | Collar Thread Length |      |      |      |                |                |           |                         |                    |           |
| (ton)     | (mm)   |             | (cm <sup>3</sup> ) | (mm)              | (mm)             | (mm)         | (in.)         | (mm)                 | (mm) | (mm) | (mm) | (in.)          | (in.)          | (mm)      | (cm <sup>2</sup> )      | (bar)              | (kg)      |
| 2         | 127,0  | <b>RP25</b> | 45                 | 242,9             | 379,9            | 44,5         | 1 1/2 - 16    | 25,4                 | 42,9 | 19,1 | 25,4 | 3/4 - 14       | 3/4 - 14       | 28,6      | 3,5                     | 2,5                | 1,8       |
| 5         | 139,7  | <b>RP55</b> | 102                | 301,6             | 441,3            | 57,2         | 2 1/4 - 14    | 25,4                 | 42,9 | 30,2 | 34,9 | 1 1/4 - 11 1/2 | 1 1/4 - 11 1/2 | 42,9      | 7,3                     | 5,1                | 5,0       |

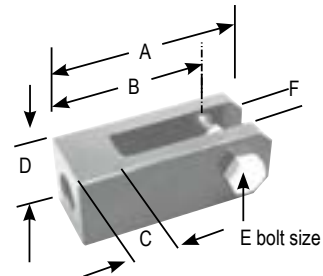
► **Features**

**DESIGNED FOR PULLING AND TENSIONING APPLICATIONS.**

- Heavy-duty compression spring provides long cycle life and rapid extension of piston.
- Spring automatically extends piston rod when pump pressure is released.
- Complies with ANSI / ASME B30.1 safety standards.



**Clevis Ordering Information**



| Use with Cyl. No. | Order No.       | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) |
|-------------------|-----------------|--------|--------|--------|--------|--------|--------|
| RP25              | <b>421057*</b>  | 130,30 | 109,47 | 33,27  | 50,80  | 19,05  | 25,40  |
| RP55              | <b>421056**</b> | 152,40 | 127,00 | 38,10  | 63,50  | 22,35  | 31,75  |

\* For base mounting, extension rod 351106 is required.  
\*\* For base mounting, extension rod 351075 is required.

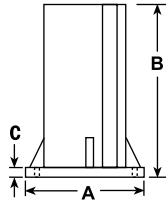


**Learn More - About Hydraulic Safety Insight**



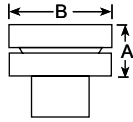
Looking for great safety suggestions? Visit our Resource Section to get a better understanding of hydraulic and mechanical safety insights on what to look for when working around hydraulics.

► Support Base



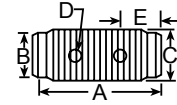
| Cylinder Tons | Part No. | A (mm) | B (mm) | C (in.) |
|---------------|----------|--------|--------|---------|
| 10            | 420062   | 177,8  | 177,8  | 7/16    |
| 25            | 420063   | 127,0  | 127,0  | 7/16    |

► Swivel Cap



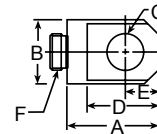
| Cylinder Tons | Part No. | A (mm) | B (mm) |
|---------------|----------|--------|--------|
| 10 or 15      | 350144   | 22,4   | 36,5   |
| 25            | 350145   | 28,7   | 54,0   |
| 55 or 75      | 350376   | 31,8   | 71,4   |
| 100           | 351574   | 48,5   | 85,7   |

► Threaded Connector



| Cylinder Tons | Part No. | A (mm) | B (mm)    | C (in.)             | D (mm)   | E (mm) |
|---------------|----------|--------|-----------|---------------------|----------|--------|
| 5             | 25748    | 44,5   | 22,4 Dia. | 3/4 - 14 NPSM       | 4,8 Dia. | 12,7   |
| 10            | 25664    | 41,4   | 36,6 Dia. | 1 1/4 - 11 1/2 NPSM | 7,9 Dia. | 14,2   |
| 25            | 25654    | 57,2   | 57,2 Dia. | 2 - 11 1/2 NPSM     | 9,7 Dia. | 16,0   |

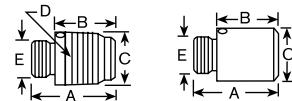
► Piston Clevis



| Cylinder Tons | Part No. | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (in.)    |
|---------------|----------|--------|--------|--------|--------|--------|------------|
| 5             | 350095   | 44,5   | 28,7   | 16,0   | 36,6   | 16,0   | 3/4 - 16   |
| 10 or 15*     | 350094   | 65,0   | 42,9   | 31,8   | 58,7   | 25,4   | 1 - 8      |
| 25**          | 420059   | 74,7   | 57,2   | 50,8   | 68,3   | 31,8   | 1 1/2 - 16 |

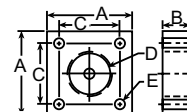
\* Can be used with RD106, RD1010 Cylinder.  
\*\* RD256 & RD2514

► Threaded & Plain Adapters



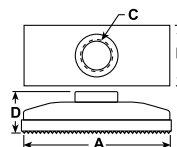
| Cylinder Tons | Part No.          | A (mm) | B (mm) | C (mm)    | D (in.)            | E (in.)          |
|---------------|-------------------|--------|--------|-----------|--------------------|------------------|
| 5             | 202178 (threaded) | 41,4   | 28,7   | 26,9 Dia. | 3/4 - 14 NPT       | 3/4 - 16 UNF-2A  |
| 10 or 15*     | 202179 (threaded) | 46,0   | 26,9   | 41,4 Dia. | 1 1/4 - 11 1/2 NPT | 1 - 8 UNC-2A     |
| 25            | 202180 (threaded) | 69,9   | 47,8   | 60,5 Dia. | 2 - 11 1/2 NPT     | 1 1/2 - 16 UN-2A |
| 10 or 15      | 350724 (plain)    | 50,8   | 31,8   | 37,6 Dia. | —                  | 1 - 8 UNC-2A     |
| 25            | 350723 (plain)    | 54,1   | 31,8   | 57,2 Dia. | —                  | 1 1/2 - 16 UN-2A |

► Cylinder Mounting Plate



| Cylinder Tons | Part No. | A (mm) | B (mm) | C (mm) | D (in.)           | E (mm) |
|---------------|----------|--------|--------|--------|-------------------|--------|
| 5             | 350099   | 76,2   | 25,4   | 54,1   | 1 1/2 - 16 UN-2B  | 8,6    |
| 10            | 350100   | 88,9   | 25,4   | 66,8   | 2 1/4 - 14 UNS-2B | 8,6    |
| 15            | 350184   | 88,9   | 25,4   | 66,8   | 2 3/4 - 16 UN-2B  | 8,6    |
| 25            | 420064   | 127,0  | 50,8   | 100,8  | 3 5/16 - 12 UN-2B | 16,8   |

► Cylinder Flat Base

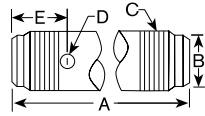


| Cylinder Tons | Part No. | A (mm) | B (mm) | C (in.)             | D (mm) |
|---------------|----------|--------|--------|---------------------|--------|
| 5             | 25750    | 114,3  | 63,5   | 3/4 - 14 NPSM       | 34,0   |
| 10 or 15*     | 32325    | 9,5    | 88,9   | 1 1/4 - 11 1/2 NPSM | 36,6   |

\* Items require threaded adapter when used with "C" series cylinders. Can be used on threaded "CBT" cylinders without the use of an adapter.

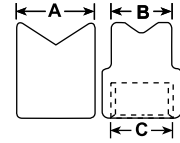


► Extension Rod



| Cylinder Tons | Part No. | A     | B         | C                  | D        | E    |
|---------------|----------|-------|-----------|--------------------|----------|------|
|               |          | (mm)  | (mm)      | (in.)              | (mm)     | (mm) |
| 5             | 350895   | 127,0 | 22,4 Dia. | 3/4 - 14 NPT       | 8,4 Dia. | 50,8 |
| 5             | 38908    | 254,0 | 22,4 Dia. | 3/4 - 14 NPT       | 8,4 Dia. | 50,8 |
| 5             | 350896   | 457,2 | 22,4 Dia. | 3/4 - 14 NPT       | 8,4 Dia. | 50,8 |
| 10            | 350897   | 127,0 | 36,6 Dia. | 1 1/4 - 11 1/2 NPT | 8,4 Dia. | 50,8 |
| 10            | 38909    | 254,0 | 36,6 Dia. | 1 1/4 - 11 1/2 NPT | 8,4 Dia. | 50,8 |
| 10            | 350898   | 457,2 | 36,6 Dia. | 1 1/4 - 11 1/2 NPT | 8,4 Dia. | 50,8 |

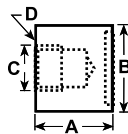
► 90° "V" Base



| Cylinder Tons | Part No. | A    | B    | C               |
|---------------|----------|------|------|-----------------|
|               |          | (mm) | (mm) | (in.)           |
| 5             | 25388*   | 35,1 | 26,9 | 3/4 - 14 NPSM   |
| 10            | 25395*   | 54,1 | 54,1 | 1 1/4 - 14 NPSM |

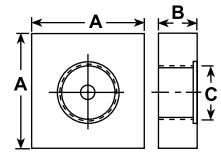
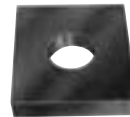
\* Items require threaded adapter when used with "C" series cylinders. They may be used on threaded "CBT" cylinders without the use of an adapter.

► Cylinder Base Attachment



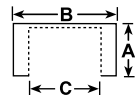
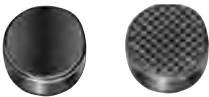
| Cylinder Tons | Part No. | A    | B         | C                   | D   |
|---------------|----------|------|-----------|---------------------|---|
|               |          | (mm) | (mm)      | (in.)               | (mm / in.)  |
| 5             | 208380   | 41,4 | 44,5 Dia. | 3/4 - 14 NPSM       | 7,1 Dia. (2) 1/4 - 20 UNC x 3/4 Lg. Socket Head Cap Screws  |
| 10            | 208381   | 47,8 | 63,5 Dia. | 1 1/4 - 11 1/2 NPSM | 8,6 Dia. (2) 5/16 - 18 UNC x 3/4 Lg. Socket Head Cap Screws |
| 25            | 208382   | 60,5 | 85,9 Dia. | 2 - 11 1/2 NPSM     | 13,5 Dia. (2) 1/2 - 13 UNC x 1 Lg. Socket Head Cap Screws   |

► Plunger Base



| Cylinder Tons | Part No. | A     | B    | C               |
|---------------|----------|-------|------|-----------------|
|               |          | (mm)  | (mm) | (in.)           |
| 25            | 25652    | 152,4 | 31,8 | 2 - 11 1/2 NPSM |

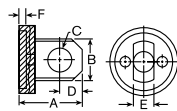
► Plain & Serrated Saddles



| Cylinder Tons | Part No.          | A    | B         | C                   |
|---------------|-------------------|------|-----------|---------------------|
|               |                   | (mm) | (mm)      | (in.)               |
| 5             | 25746* (serrated) | 28,7 | 33,3 Dia. | 3/4 - 14 NPSM       |
| 10 or 15*     | 31772* (serrated) | 28,7 | 50,8 Dia. | 1 1/4 - 11 1/2 NPSM |
| 25            | 31776* (serrated) | 33,3 | 76,2 Dia. | 2 - 11 1/2 NPSM     |
| 5             | 351575* (plain)   | 28,7 | 33,3 Dia. | 3/4 - 14 NPSM       |
| 10            | 24016* (plain)    | 28,7 | 50,8 Dia. | 1 1/4 - 11 1/2 NPSM |
| 25            | 351576* (plain)   | 33,3 | 76,2 Dia. | 2 - 11 1/2 NPSM     |

\* Items require threaded adapter when used with "C" series cylinders. They may be used on threaded "CBT" cylinders without the use of an adapter.

► Body Clevis †



| Cylinder Tons | Part No. | A    | B    | C    | D    | E    | F    |
|---------------|----------|------|------|------|------|------|------|
|               |          | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |
| 5             | 350096   | 52,3 | 28,7 | 16,0 | 16,0 | 14,2 | 6,4  |
| 10            | 350097   | 76,2 | 42,9 | 22,4 | 25,4 | 25,4 | 6,4  |
| 15            | 350098   | 77,7 | 42,9 | 22,4 | 25,4 | 25,4 | 6,4  |
| 25            | 420061   | 90,4 | 57,2 | 31,8 | 31,8 | 31,8 | 6,4  |

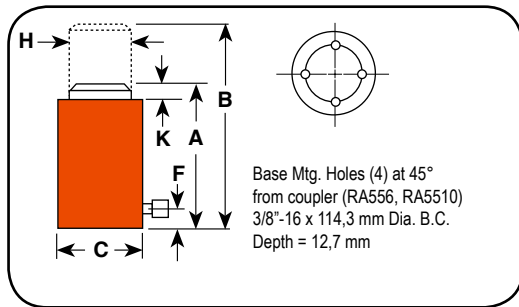
† Mounting screws are included.

Model Shown:

**RA552, RA1006**



**Technical Dimensions**



**Ordering Information**

| Cyl. Cap. | Stroke | Order No. | Oil Cap.           | A                | B               | C            | F            | H               | K                     | Bore Dia. | Cylinder Effective Area | Metric Tons at 700 | Prod. Wt. |
|-----------|--------|-----------|--------------------|------------------|-----------------|--------------|--------------|-----------------|-----------------------|-----------|-------------------------|--------------------|-----------|
|           |        |           |                    | Retracted Height | Extended Height | Outside Dia. | Base to Port | Piston Rod Dia. | Piston Rod Protrusion |           |                         |                    |           |
| (ton)     | (mm)   |           | (cm <sup>3</sup> ) | (mm)             | (mm)            | (mm)         | (mm)         | (mm)            | (mm)                  | (mm)      | (cm <sup>2</sup> )      | (bar)              | (kg)      |
| 20        | 54,0   | RA202     | 154                | 161,9            | 215,9           | 95,3         | 31,8         | 50,8            | 7,9                   | 60,3      | 28,6                    | 20,1               | 3,5       |
|           | 104,8  | RA204     | 300                | 212,7            | 317,5           | 95,3         | 31,8         | 50,8            | 7,9                   | 60,3      | 28,6                    | 20,1               | 4,2       |
|           | 155,6  | RA206     | 445                | 263,5            | 419,1           | 95,3         | 31,8         | 50,8            | 7,9                   | 60,3      | 28,6                    | 20,1               | 5,1       |
| 30        | 54,0   | RA302     | 226                | 187,3            | 241,3           | 108,0        | 31,8         | 63,5            | 9,5                   | 73,0      | 41,9                    | 29,4               | 5,0       |
|           | 104,8  | RA304     | 439                | 238,1            | 342,9           | 108,0        | 31,8         | 63,5            | 9,5                   | 73,0      | 41,9                    | 29,4               | 5,9       |
|           | 155,6  | RA306     | 652                | 288,9            | 444,5           | 108,0        | 31,8         | 63,5            | 9,5                   | 73,0      | 41,9                    | 29,4               | 6,8       |
| 55        | 54,0   | RA552     | 386                | 171,5            | 225,4           | 133,4        | 34,9         | 79,4            | 6,4                   | 95,3      | 71,2                    | 50,1               | 7,3       |
|           | 104,8  | RA554     | 746                | 222,3            | 327,0           | 133,4        | 34,9         | 79,4            | 6,4                   | 95,3      | 71,2                    | 50,1               | 8,9       |
|           | 155,6  | RA556*    | 1109               | 273,1            | 428,6           | 133,4        | 34,9         | 79,4            | 6,4                   | 95,3      | 71,2                    | 50,1               | 10,9      |
|           | 254,0  | RA5510*   | 1811               | 384,2            | 638,2           | 133,4        | 34,9         | 79,4            | 6,4                   | 95,3      | 71,2                    | 50,1               | 14,4      |
| 100       | 54,0   | RA1002    | 718                | 196,9            | 250,8           | 187,3        | 30,2         | 104,8           | 3,2                   | 130,2     | 133,0                   | 93,5               | 15,1      |
|           | 158,8  | RA1006*   | 2116               | 298,5            | 457,2           | 187,3        | 30,2         | 104,8           | 3,2                   | 130,2     | 133,0                   | 93,5               | 22,6      |
|           | 260,4  | RA10010*  | 3463               | 396,9            | 655,3           | 187,3        | 30,2         | 104,8           | 5,6                   | 130,2     | 133,0                   | 93,5               | 30,4      |

\* Equipped with carrying handles.

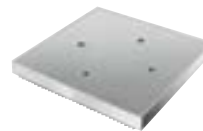
**Features**

**LIGHTWEIGHT DESIGN, EASY TO TRANSPORT AND POSITION.**

- Hard coated aluminum piston rod and cylinder bore resist wear and corrosion.
- Grooved piston top helps keep the load from sliding on top of piston.
- Aluminum body resists sparking in explosive environments.
- Complies with ANSI / ASME B30.1 safety standards.



**Optional Cylinders Bases**



Aluminum Cylinder Base – For use when an enlarged cylinder base is needed or advantageous. Attaches to bottom of RA556, RA556L and RA5510 with four 3/8"–16 screws (included). Serrated base for extra stability.

**Order No: 208406** – Aluminum cylinder base, 317cm<sup>2</sup>.



**Optional Cylinders Lifting Handles**



**Order Number: 420496BK2**  
Lifting handle for RA552, RA554 cylinders

**Order Number: 420498BK2**  
Lifting handle for RA1002, RA10010 cylinders

Model Shown:  
**RLS100**



**Features**

**IDEAL LOW CLEARANCE OR TIGHT CONSTRAINT APPLICATIONS REQUIRING HIGH FORCES.**

- Low height starting at 41,3 to 101,6 mm.
- Cylinder body, piston and gland nut are “Power-Tech” treated for corrosion and abrasion resistance.
- Standard domed piston rod (5-30 tons) or swivel cap (50-150 tons) minimize effects of off-center loading.
- Unique heavy-duty spring provides fast piston return on all cylinders, except RLS50.
- Coupler is angled upward for extra clearance, except RLS50.
- Complies with ANSI / ASME B30.1 safety standards.

▶ RLS200 used in this lifting application.

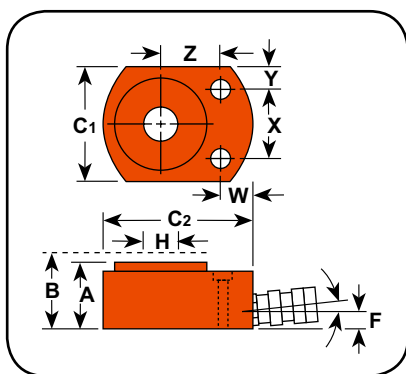


**RLS1000S (with swivel load cap)**



RLS Series ending with an “S” suffix denotes models equipped with a swivel load cap.

**Technical Dimensions**



**Mounting holes for “RLS” cylinders**

| Order Number | C' Bore | Depth | "Thru Hole " |
|--------------|---------|-------|--------------|
|              | (mm)    | (mm)  | (mm)         |
| RLS50        | 8,6     | 6,4   | 5,6          |
| RLS100       | 10,7    | 8,7   | 7,1          |
| RLS200       | 15,5    | 10,4  | 10,4         |
| RLS300       | 15,5    | 11,2  | 10,4         |
| RLS500S      | 17,8    | 12,7  | 11,9         |
| RLS750S      | 20,3    | 14,2  | 13,5         |
| RLS1000S     | 20,3    | 14,2  | 13,5         |
| RLS1500S     | 20,3    | 14,2  | 13,5         |

**Ordering Information**

| Cyl. Cap. | Stroke | Order No. | Oil Cap. | A                | B               | C1 C2        |              | F    | H    | W    | Mounting Hole Location |      |      |       | Bore Dia. | Cylinder Effective Area | Metric Tons at 700 | Prod. Wt. |
|-----------|--------|-----------|----------|------------------|-----------------|--------------|--------------|------|------|------|------------------------|------|------|-------|-----------|-------------------------|--------------------|-----------|
|           |        |           |          | Retracted Height | Extended Height | Outside Dia. | Base to Port |      |      |      | Piston Rod Dia.        | (mm) | (mm) | (mm)  |           |                         |                    |           |
| (ton)     | (mm)   |           | (cm³)    | (mm)             | (mm)            | (mm)         | (mm)         | (mm) | (mm) | (mm) | (mm)                   | (mm) | (mm) | (mm)  | (mm)      | (cm²)                   | (bar)              | (kg)      |
| 5         | 14,3   | RLS50     | 10       | 41,3             | 55,6            | 41,3         | 65,1         | 19,1 | 15,9 | 19,1 | 28,6                   | 6,4  | 25,4 | 28,6  | 6,4       | 4,5                     | 1,0                |           |
| 10        | 11,1   | RLS100    | 17       | 44,5             | 55,6            | 55,6         | 82,6         | 15,9 | 19,1 | 17,5 | 36,5                   | 9,5  | 33,3 | 42,9  | 14,4      | 10,1                    | 1,5                |           |
| 20        | 11,1   | RLS200    | 33       | 50,8             | 61,9            | 76,2         | 101,6        | 16,7 | 28,6 | 18,3 | 49,2                   | 13,5 | 39,7 | 60,3  | 28,6      | 20,1                    | 2,5                |           |
| 30        | 12,7   | RLS300    | 53       | 58,7             | 71,4            | 95,3         | 114,3        | 18,3 | 34,9 | 20,6 | 52,4                   | 21,4 | 44,5 | 73,0  | 41,9      | 29,5                    | 3,9                |           |
| 50        | 15,9   | RLS500S   | 99       | 66,7             | 82,6            | 114,3        | 139,7        | 21,4 | 44,5 | 23,8 | 66,7                   | 23,8 | 54,0 | 88,9  | 62,1      | 43,6                    | 6,3                |           |
| 75        | 15,9   | RLS750S   | 163      | 79,4             | 95,3            | 140,5        | 165,1        | 25,4 | 54,0 | 23,8 | 76,2                   | 32,1 | 65,9 | 114,3 | 102,6     | 72,2                    | 10,6               |           |
| 100       | 15,9   | RLS1000S  | 202      | 85,7             | 101,6           | 152,4        | 177,8        | 25,4 | 63,5 | 20,6 | 76,2                   | 38,1 | 71,  | 127,0 | 126,6     | 89,1                    | 13,6               |           |
| 150       | 14,3   | RLS1500S  | 282      | 101,6            | 115,9           | 190,5        | 215,9        | 33,3 | 76,5 | 33,3 | 117,5                  | 36,5 | 79,4 | 158,8 | 197,9     | 139,2                   | 23,6               |           |

Model Shown:

**RSS2503, RSS302**

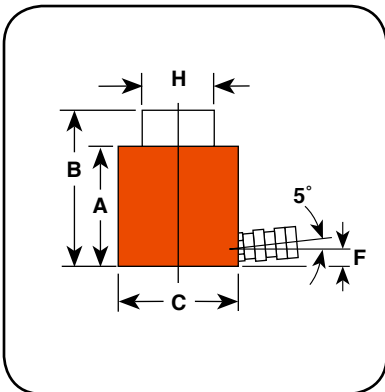


**Features**

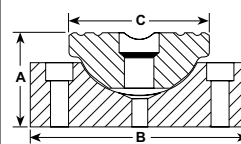
**IDEAL FOR CONFINED AREAS WITH 88,9 TO 290,5 MM CLEARANCE.**

- "Power-Tech" nitro-carburization surface treatment inhibits corrosion and provides exceptional durability for the rod and piston.
- Heavy-duty return spring (except for double-acting models) provides fast piston return & low collapsed height.
- Coupler on 10 - 50 ton models is angled upward 5° for added clearance.
- Grooved piston top keeps load from sliding.
- Cylinders can be "dead-ended" at full capacity.
- Removable carrying handles on 100 and 250 ton models.
- Complies with ANSI / ASME B30.1 safety standards.

**Technical Dimensions**



**Optional Swivel Load Caps Ordering Info**



Reduce the effects of off-center loading. Tilts up to 5 degrees. Radial grooves on top of cap reduce load slippage. Notch across face of each cap helps keep loads having a protruding or round shaped centered.

| Use with Cyl. No. | Swivel Cap Order No. | Wt. (kg) | A (mm) | B (mm) | C (mm) |
|-------------------|----------------------|----------|--------|--------|--------|
| RSS101            | 350320               | 0,2      | 25,4   | 36,6   | 36,6   |
| RSS202            | 350321               | 0,6      | 35,1   | 54,1   | 54,1   |
| RSS302            | 350322               | 0,7      | 35,1   | 63,5   | 54,1   |
| RSS502            | 350331               | 1,2      | 36,6   | 82,6   | 54,1   |
| RSS1002           | 350332               | 3,0      | 46,0   | 111,3  | 85,7   |

**Ordering Information**

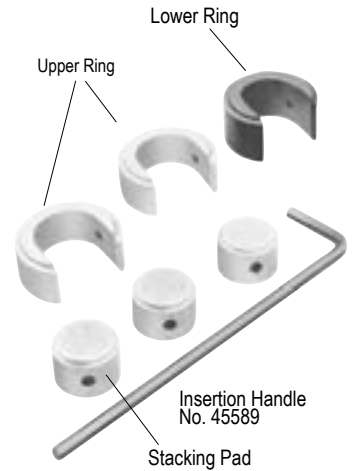
| Cyl. Cap. (ton) | Stroke (mm) | Order No. | Oil Cap. |        | A                     | B                    | C                 | F                 | H                    | Bore Dia. (mm) | Cylinder Effective Area (cm²) | Metric Tons at 700 (bar) | Prod. Wt. (kg) |
|-----------------|-------------|-----------|----------|--------|-----------------------|----------------------|-------------------|-------------------|----------------------|----------------|-------------------------------|--------------------------|----------------|
|                 |             |           | (cm³)    |        | Retracted Height (mm) | Extended Height (mm) | Outside Dia. (mm) | Base to Port (mm) | Piston Rod Dia. (mm) |                |                               |                          |                |
|                 |             |           | Push     | Return |                       |                      |                   |                   |                      |                |                               |                          |                |
| 10              | 38,1        | RSS101    | 56       | -      | 88,9                  | 127,0                | 69,9              | 15,9              | 38,1                 | 42,9           | 14,4                          | 10,2                     | 2,7            |
| 20              | 44,5        | RSS202    | 126      | -      | 95,3                  | 139,7                | 90,5              | 15,9              | 54,8                 | 60,3           | 28,6                          | 20,0                     | 4,5            |
| 30              | 62,0        | RSS302    | 259      | -      | 117,5                 | 179,4                | 101,6             | 15,9              | 63,5                 | 73,0           | 41,9                          | 29,5                     | 6,7            |
| 50              | 60,5        | RSS502    | 374      | -      | 127,0                 | 187,3                | 123,8             | 19,1              | 79,4                 | 88,9           | 62,0                          | 43,6                     | 10,5           |
| 100             | 57,2        | RSS1002   | 725      | -      | 139,7                 | 196,9                | 168,3             | 23,8              | 111,1                | 127,0          | 126,6                         | 89,1                     | 21,4           |
| 100             | 38,1        | RSS1002D* | 482      | 212    | 144,5                 | 182,6                | 174,6             | 23,8*             | 95,3                 | 127,0          | 126,6                         | 89,1                     | 24,7           |
| 250             | 76,2        | RSS2503   | 2469     | -      | 290,5                 | 366,7                | 250,8             | 36,0              | 139,7                | 203,2          | 323,9                         | 227,8                    | 99,7           |

\* Note: RSS1002D is double-acting.



**Optional Cylinders Cribbing Blocks**

Cribbing blocks are shown on a 30 ton RSS302 "Shorty" cylinder. Each kit includes:



The Insertion tool (45589) is used for keeping hand from load.

► **Cribbing Block Ordering Information**

| For Use With                         |      | 30 Ton Cylinder Number RSS302 |            |              | 50 Ton Cylinder Number RSS502 |            |              | 100 Ton Cylinder Number RSS1002 |            |              |
|--------------------------------------|------|-------------------------------|------------|--------------|-------------------------------|------------|--------------|---------------------------------|------------|--------------|
| Order No.                            |      | 30 Ton Set Number CB30        |            |              | 50 Ton Set Number CB50        |            |              | 100 Ton Set Number CB100        |            |              |
|                                      |      | Lower Ring                    | Upper Ring | Stacking Pad | Lower Ring                    | Upper Ring | Stacking Pad | Lower Ring                      | Upper Ring | Stacking Pad |
| Number included in set               |      | 1                             | 2          | 3            | 1                             | 2          | 3            | 1                               | 2          | 3            |
| Outside Diameter                     | (mm) | 114,30                        | 114,30     | 69,85        | 139,70                        | 139,70     | 85,85        | 187,71                          | 187,71     | 120,7        |
| Inside Diameter                      | (mm) | 71,37                         | 71,37      | -            | 87,63                         | 87,63      | -            | 122,17                          | 122,17     | -            |
| Height, each                         | (mm) | 57,91                         | 45,72      | 45,21        | 56,39                         | 43,69      | 42,93        | 54,10                           | 44,45      | 43,7         |
| Total stacked height of rings in set | (mm) | 149,35                        |            |              | 143,76                        |            |              | 187,45                          |            |              |
| Weight of set                        | (kg) | 9,1                           |            |              | 12,7                          |            |              | 29                              |            |              |

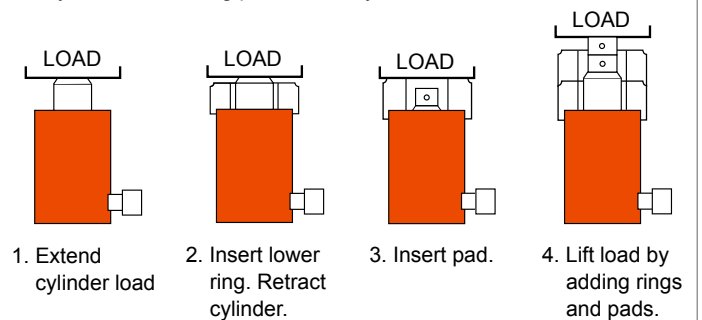
Note: Each set includes one Insertion Handle 45589 - 0.5" Hex x 18" Long, 4" Bend

► **RSS302 is perfect for any bridge construction application.**



**Cribbing Block Operation**

Convert Power Team "Shorty" cylinders to mechanical cribbing devices. They are more stable and safe than timber or other awkward, make-shift methods. Ideal for lifting applications such as structure moving. Reduces cribbing time dramatically. In effect, increases the stroke of the cylinder as stacking pads act as cylinder extensions:

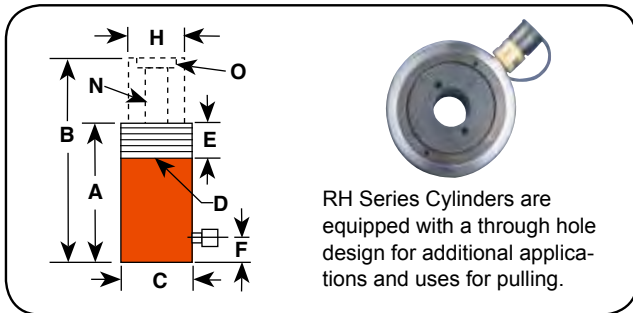


Model shown:

**RH203, RH503**



**Technical Dimensions**



**Features**

**IDEAL FOR CABLE PULLING AND TENSIONING, ANCHOR BOLTS, FORCING SCREWS, ETC.**

- Cylinder body, piston and gland nut “Power-Tech” treated for corrosion and abrasion resistance.
- Most models feature threaded collar, excludes the RH203 and RHA306 models.
- All cylinders are furnished with a 9796 3/8” NPT female half coupler, except the RH120.
- Aluminum cylinder body and piston are featured on the RHA306 cylinder.
- Complies with ANSI / ASME B30.1 safety standards.



**Optional Piston Head Inserts**



| For Use With: | Threaded Insert | Order No. |
|---------------|-----------------|-----------|
| RH102, RH108  | 3/4”-16         | 28632     |
| RH203         | 1”-8            | 28612     |
| RH302, RH306  | 1 1/4”-7        | 38904     |
| RH303         | 1 1/4”-7        | 28644     |
| RH503         | 1 5/8”-51/2     | 38855     |
| RH603, RH605  | 1 5/8”-51/2     | 34251     |



**Optional Cylinders Lifting Handles**



Lifting handle for RH303, RH306, RH306D and RHA306  
**Order Number: 252215**

**Ordering Information**

| Cyl. Cap. (ton) | Stroke (mm) | Order No. | Oil Cap. (cm <sup>3</sup> ) | A                      | B                     | C                 | D                   | E                         | F                 | H                    | N                     | O                        | Mounting Holes and Bolt Circle (in.) | Cylinder Effective Area (cm <sup>2</sup> ) | Metric Tons at 700 (bar) | Prod. Wt. (kg) |
|-----------------|-------------|-----------|-----------------------------|------------------------|-----------------------|-------------------|---------------------|---------------------------|-------------------|----------------------|-----------------------|--------------------------|--------------------------------------|--|--------------------------|----------------|
|                 |             |           |                             | Re-tracted Height (mm) | Ex-tended Height (mm) | Outside Dia. (mm) | Collar Thread (in.) | Collar Thread Length (mm) | Base to Port (mm) | Piston Rod Dia. (mm) | Center Hole Dia. (mm) | Insert Thread Size (in.) |                                      |  |                          |                |
| 10              | 65,3        | RH102     | 91                          | 134,9                  | 198,4                 | 76,2              | -                   | -                         | 25,4              | 52,4                 | 19,4                  | 1 3/4 - 12               | 1/4-20 x 60,3                        | 14,3                                       | 10,0                     | 4,1            |
|                 | 203,2       | RH108     | 290                         | 287,3                  | 490,5                 | 76,2              | -                   | -                         | 25,4              | 52,4                 | 19,4                  | 1 3/4 - 12               | 1/4-20 x 60,3                        | 14,3                                       | 10,0                     | 8,5            |
| 12              | 7,9         | RH120**   | 14                          | 55,6                   | 63,5                  | 69,9              | 2 3/4 - 16          | 31,8                      | 9,5               | 34,9                 | 17,5                  | 3/4 - 16                 | 5/16-18 x 50,8                       | 17,8                                       | 12,5                     | 1,4            |
|                 | 41,3        | RH121     | 74                          | 122,2                  | 163,5                 | 69,9              | 2 3/4 - 16          | 31,8                      | 25,4              | 34,9                 | 20,2                  | -                        | -                                    | 17,8                                       | 12,5                     | 3,0            |
|                 | 41,3        | RH121T**  | 74                          | 122,2                  | 163,5                 | 69,9              | 2 3/4 - 16          | 31,8                      | 25,4              | 34,9                 | 17,5                  | 3/4 - 16                 | 5/16-18 x 50,8                       | 17,8                                       | 12,5                     | 3,0            |
|                 | 76,2        | RH123     | 136                         | 184,2                  | 260,4                 | 69,9              | 2 3/4 - 16          | 20,6                      | 25,4              | 34,9                 | 20,6                  | -                        | -                                    | 17,8                                       | 12,5                     | 4,0            |
| 20              | 50,8        | RH202     | 155                         | 155,6                  | 206,4                 | 98,4              | 3 7/8 - 12          | 38,1                      | 25,4              | 54,0                 | 27,4                  | 1 9/16 - 16              | 3/8-16 x 82,6                        | 30,4                                       | 21,4                     | 7,3            |
|                 | 76,2        | RH203     | 193                         | 154,0                  | 230,2                 | 101,6             | -                   | -                         | 25,4              | 69,9                 | 26,6                  | 2 1/4 - 12               | 3/8-16 x 82,6                        | 25,3                                       | 17,8                     | 9,1            |
|                 | 152,4       | RH206     | 465                         | 308,0                  | 460,4                 | 98,4              | 3 7/8 - 12          | 38,1                      | 25,4              | 54,0                 | 27,4                  | 1 9/16 - 16              | 3/8-16 x 82,6                        | 30,4                                       | 21,4                     | 13,7           |
| 30              | 63,5        | RH302     | 260                         | 158,8                  | 222,3                 | 120,7             | 4 3/4 - 12          | 38,1                      | 29,4              | 82,6                 | 32,9                  | 2 3/4 - 12               | 7/16-20 x 92,1                       | 40,9                                       | 28,8                     | 11,6           |
|                 | 149,2       | RHA306    | 625                         | 283,4                  | 432,6                 | 130,2             | -                   | -                         | 31,8              | 82,6                 | 32,5                  | 2 5/8 - 8                | -                                    | 40,9                                       | 28,8                     | 9,9            |
|                 | 152,4       | RH306     | 625                         | 247,7                  | 400,1                 | 120,7             | 4 3/4 - 12          | 38,1                      | 29,4              | 82,6                 | 32,5                  | 2 3/4 - 12               | 7/16-20 x 92,1                       | 40,9                                       | 28,8                     | 17,7           |
| 50              | 76,2        | RH503     | 534                         | 181,0                  | 257,2                 | 152,4             | 6 - 12              | 50,8                      | 31,8              | 104,8                | 42,5                  | 3 1/4 - 12               | 5/8-18 x 120,7                       | 70,0                                       | 49,3                     | 21,2           |
| 60              | 76,2        | RH603*    | 607                         | 235,0                  | 311,2                 | 158,8             | 6 1/4 - 12          | 63,5                      | 25,4              | 91,3                 | 54,0                  | 3 - 12                   | 1/2-13 x 130,2                       | 79,4                                       | 55,9                     | 27,2           |
|                 | 152,4       | RH606*    | 1211                        | 311,2                  | 463,6                 | 158,8             | 6 1/4 - 12          | 63,5                      | 25,4              | 91,3                 | 54,0                  | 3 - 12                   | 1/2-13 x 130,2                       | 79,4                                       | 55,9                     | 35,4           |
| 100             | 76,2        | RH1003*   | 1014                        | 254,0                  | 330,2                 | 212,7             | -                   | -                         | 31,8              | 127,0                | 79,4                  | 4 1/8 - 12               | -                                    | 133,0                                      | 93,5                     | 52,2           |

\* Supplied with carrying handles.

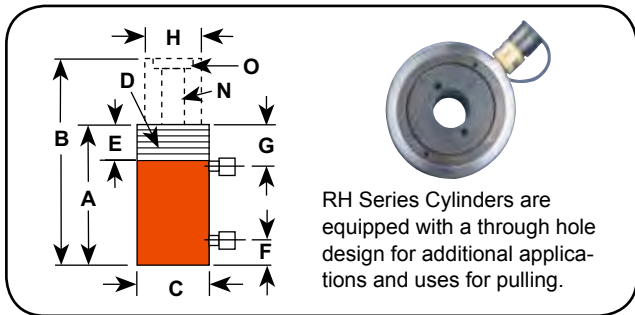
\*\* RH120 and RH121T do not have an internal threaded insert, but do have a 3/4-16 internal thread. The RH120 inlet port is 1/4” NPTF.

Aluminum

Model Shown:  
**RH605**



► **Technical Dimensions**



► **Features**

**FOR PULLING AND TENSIONING OF CABLES, ANCHOR BOLTS, AND FORCING SCREWS.**

- Plated piston rod resists wear and superior packings provide high cycle life without leakage.
- Built-in safety feature prevents over-pressurization of the retraction circuit.
- Corrosion-resistant standpipe has “Power-Tech” treatment.
- 30, 60, 100 Ton Double-Acting Models Feature Threaded Collar.
- Aluminum cylinder body and piston are featured on the RHA604D cylinder.
- Each cylinder has 9796 3/8” NPTF female half couplers. The 60 ton thru 200 ton steel models are equipped with removable carrying handles.
- Complies with ANSI / ASME B30.1 safety standards.



**Optional Piston Head Inserts**



| For Use With: | Threaded Insert | Order No. |
|---------------|-----------------|-----------|
| RH102, RH108  | 3/4”-16         | 28632     |
| RH203         | 1”-8            | 28612     |
| RH302, RH306  | 1 1/4”-7        | 38904     |
| RH303         | 1 1/4”-7        | 28644     |
| RH503         | 1 5/8”-5 1/2    | 38855     |
| RH603, RH605  | 1 5/8”-5 1/2    | 34251     |



**Optional Cylinders Lifting Handles**



Lifting handle for RH303 and RH306D  
**Order Number:** 421312OR9

► **Ordering Information**

| Cyl. Cap. | Stroke | Order No. | Oil Cap.           | A                 | B                | C             | D             | E                    | F            | G                | H               | N                | O                  | Mounting Holes and Bolt Circle | Cylinder Effective Area |                 | Metric Tons at 700 |       | Prod. Wt. |      |       |
|-----------|--------|-----------|--------------------|-------------------|------------------|---------------|---------------|----------------------|--------------|------------------|-----------------|------------------|--------------------|--------------------------------|-------------------------|-----------------|--------------------|-------|-----------|------|-------|
|           |        |           |                    | Re-tracted Height | Ex-tended Height | Out-side Dia. | Collar Thread | Collar Thread Length | Base to Port | Cyl. Top to Port | Piston Rod Dia. | Center Hole Dia. | Insert Thread Size |                                | Push                    | Pull            | Push               | Pull  |           |      |       |
| (ton)     | (mm)   |           | (cm <sup>3</sup> ) | (mm)              | (mm)             | (mm)          | (in.)         | (mm)                 | (mm)         | (mm)             | (mm)            | (mm)             | (in.)              | (in.)                          | (cm <sup>2</sup> )      | (bar)           | (kg)               |       |           |      |       |
| Push      | Pull   |           | Push               | Pull              |                  |               |               |                      |              |                  |                 |                  |                    |                                | Push                    | Pull            | Push               | Pull  |           |      |       |
| 30        | 15     | 76,2      | <b>RH303</b>       | 289               | 167              | 179,4         | 255,6         | 120,7                | -            | -                | 25,4            | 41,3             | 63,5               | 32,5                           | 2 - 12                  | 3/8-16 x 92,1   | 38,0               | 21,8  | 26,8      | 15,3 | 13,5  |
| 30        | 15     | 152,4     | <b>RH306D</b>      | 580               | 333              | 281,0         | 433,4         | 120,7                | -            | -                | 25,4            | 41,3             | 63,5               | 32,5                           | 2 - 12                  | 7/16-20 x 92,1  | 38,0               | 21,8  | 26,8      | 15,3 | 20,4  |
| 30        | 20     | 257,2     | <b>RH3010</b>      | 1082              | 672              | 438,2         | 695,3         | 114,3                | 4 1/2 -12    | 41,0             | 44,5            | 81,0             | 60,3               | 33,3                           | 1 7/8 - 16              | -               | 42,2               | 26,1  | 29,7      | 18,3 | 27,7  |
| 60        | 25     | 101,6     | <b>RHA604D</b>     | 807               | 338              | 241,3         | 342,9         | 177,8                | -            | -                | 39,7            | 57,2             | 101,6              | 54,0                           | 3 - 12                  | 1/2-13 x 130,2  | 79,4               | 33,2  | 55,8      | 25,1 | 16,2  |
| 60        | 25     | 127,0     | <b>RH605*</b>      | 1009              | 423              | 241,3         | 368,3         | 165,9                | -            | -                | 25,4            | 44,5             | 101,6              | 54,0                           | 3 - 12                  | 1/2-13 x 130,2  | 79,4               | 33,2  | 55,8      | 25,1 | 33,1  |
| 60        | 40     | 257,2     | <b>RH6010*</b>     | 2181              | 1427             | 458,8         | 716,0         | 155,8                | 6 1/4 -12    | 47,6             | 54,0            | 81,8             | 92,1               | 54,4                           | 3 - 16                  | -               | 84,8               | 55,4  | 59,6      | 38,9 | 54,5  |
| 100       | 45     | 38,1      | <b>RH1001</b>      | 526               | 233              | 165,1         | 203,2         | 212,7                | -            | -                | 31,8            | 58,7             | 127,0              | 79,8                           | 4 - 16                  | 5/8-11 x 177,8  | 138,0              | 60,8  | 97,0      | 42,7 | 38,6  |
| 100       | 50     | 152,4     | <b>RH1006*</b>     | 1971              | 1076             | 314,3         | 466,7         | 184,2                | -            | -                | 37,3            | 59,1             | 111,1              | 52,4                           | -                       | 1/2-13 x 139,7  | 129,2              | 70,5  | 90,8      | 49,6 | 43,1  |
| 100       | 45     | 257,2     | <b>RH10010*</b>    | 3552              | 1556             | 495,3         | 752,5         | 215,9                | 8 1/2 -12    | 57,0             | 63,5            | 91,7             | 139,7              | 79,8                           | 4 1/2 - 12              | -               | 138,0              | 60,8  | 97,0      | 42,7 | 109,0 |
| 150       | 70     | 127,0     | <b>RH1505*</b>     | 2475              | 1207             | 311,2         | 438,2         | 215,9                | -            | -                | 37,3            | 68,3             | 139,7              | 65,1                           | -                       | -               | 194,1              | 94,8  | 136,9     | 66,8 | 67,2  |
| 150       | 75     | 203,2     | <b>RH1508*</b>     | 3929              | 2086             | 349,3         | 552,5         | 247,7                | -            | -                | 39,3            | 61,1             | 152,4              | 80,2                           | 5 - 12                  | -               | 193,2              | 102,6 | 135,9     | 72,1 | 103,1 |
| 200       | 75     | 203,2     | <b>RH2008*</b>     | 5307              | 2093             | 408,0         | 611,2         | 273,1                | -            | -                | 57,2            | 81,8             | 190,5              | 103,2                          | 6 - 12                  | 1 1/4-7 x 198,1 | 260,9              | 102,9 | 183,5     | 72,4 | 142,0 |

\* Supplied with carrying handles.  
 Aluminum

Model shown:

**RT302, RT1004**



**Features**

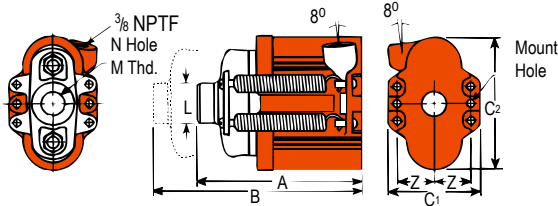
**IDEAL FOR PULLING AND PRESSING APPLICATION, REQUIRING HIGHER FORCES.**

- Cylinders withstand full “dead-end” loads.
- Compact design is ideal for applications in which space is limited.
- Basic head can be changed from a tapped hole to plain hole by simply changing the insert.
- Pistons have “Power-Tech” treatment for corrosion and abrasion resistance.
- Complies with ANSI / ASME B30.1 safety standards.

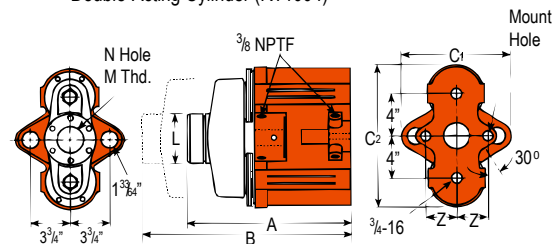
**Technical Dimensions, Base Mounting Holes**

Dimensions for reference only.

Single-Acting, Spring Return Cylinders



Double-Acting Cylinder (RT1004)



**Ordering Information**

| Cyl. Cap. | Stroke | Order No. | Oil Cap.           |        | A     | B     | C1    | C2    | L     | M            | N    | Z    | Mount Hole | Cylinder Effective Area | Metric Tons at 700 | Prod. Wt. |                   |                  |              |      |               |                 |                  |                     |                     |                    |
|-----------|--------|-----------|--------------------|--------|-------|-------|-------|-------|-------|--------------|------|------|------------|-------------------------|--------------------|-----------|-------------------|------------------|--------------|------|---------------|-----------------|------------------|---------------------|---------------------|--------------------|
|           |        |           | (cm <sup>3</sup> ) |        |       |       |       |       |       |              |      |      |            |                         |                    |           | Re-tracted Height | Ex-tended Height | Outside Dia. |      | Load Cap Dia. | Load Cap Thread | Center Hole Dia. | Mount Hole Location | Cyl. Effective Area | Metric Tons at 700 |
|           |        |           | Push               | Return |       |       |       |       |       |              |      |      |            |                         |                    |           |                   |                  | (mm)         | (mm) |               |                 |                  |                     |                     |                    |
| 17.5      | 50,8   | RT172     | 116                | -      | 174,6 | 225,4 | 95,3  | 146,1 | 44,5  | 1" - 8       | 27,0 | 38,1 | 8,7        | 22,8                    | 16,1               | 6,6       |                   |                  |              |      |               |                 |                  |                     |                     |                    |
| 30        | 63,5   | RT302     | 258                | -      | 214,3 | 277,8 | 108,0 | 190,5 | 57,2  | 1 1/4" - 7   | 32,9 | 46,0 | 11,9       | 40,5                    | 28,5               | 12,8      |                   |                  |              |      |               |                 |                  |                     |                     |                    |
| 50        | 76,2   | RT503     | 482                | -      | 268,3 | 344,5 | 149,2 | 238,1 | 73,0  | 1 5/8" - 5.5 | 42,5 | 60,3 | 16,7       | 63,3                    | 44,5               | 25,4      |                   |                  |              |      |               |                 |                  |                     |                     |                    |
| 100       | 123,8  | RT1004*   | 1,583              | 1,037  | 384,2 | 508,0 | 266,7 | 336,6 | 120,7 | 2 1/2" - 8   | 65,1 | 73,0 | 19,8       | 124,1 *                 | 87,3               | 72,6      |                   |                  |              |      |               |                 |                  |                     |                     |                    |

\* The RT1004 has a bypass when full stroke is reached, preventing over-pressurization of the cylinder.  
NOTE: Each cylinder complete with threaded cylinder head insert, cylinder half coupler and cylinder attaching screws.



▶ RT Series center hole cylinder is versatile for strand or pull applications



**Center Hole Design Cylinders**



RT Series pullers are equipped with a through hole design for additional applications and uses for pulling requiring high force.



**Optional Plain Head Cylinder Inserts**



Switch from a tapped hole to a plain hole quickly with these cylinder head inserts. They are held in place with a socket screw. Plain hole permits use of a speed nut for re-adjusting cylinder after extension.

| For Use With: | Threaded Order No. | Plain Order No. |
|---------------|--------------------|-----------------|
| RT172         | 21669              | 21714           |
| RT302         | 21873              | 21872           |
| RT503         | 22274              | 22275           |
| RT1004        | 24197              | 24196           |

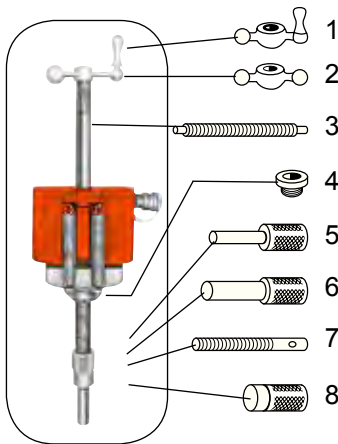


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▶ Accessories Ordering Information



| Use with Cylinder Number | No. | RT172, RH203  | RT302, RH302, RH303, RH306                          | RT503, RH503, RH603, RH605, RH606                      | RT1004                                 |
|--------------------------|-----|---|---|--|--|
| Order Set                |     | RHA20   | RHA30   | RHA50  | RHA100                                 |
| Speed Crank              | 1   | 24814   | 27198   | 29595  | 303785                                 |
| Speed Nut                | 2   | 302482<br>1"- 8 thread  | 302483<br>1 1/4"-7 thread                           | 33439<br>1 5/8"-5 1/2 thread                           | 34136<br>2 1/2"-8 thread               |
| Adjusting Screw          | 3   | 32118<br>1"-8 thd.<br>508 mm lg.  | 34758<br>1 1/4"-7 thd.<br>609,6 mm lg.              | 32698<br>1 5/8"-5 1/2 thd.<br>762 mm lg.               | 32699<br>2 1/2"-8 thd<br>869,9 mm lg.  |
| Threaded Insert          | 4   | Threaded insert supplied with RT series cylinders.<br>Order threaded insert for RH series cylinders with the accessory set. |   |  |  |
| Pushing Adapter          | 5   | 201923<br>1"-8 thread<br>12,7 mm diameter shank   | 34510<br>1 1/4"-7 thread<br>19,1 mm diameter shank  | 34755<br>1 5/8"-5 1/2 thread<br>25,4 mm diameter shank | —                                      |
| Pushing Adapter          | 6   | 201454<br>1"-8 thread<br>19,5 mm diameter shank   | 34511<br>1 1/4"-7 thread<br>25,4 mm diameter. shank | 34756<br>1 5/8"-5 1/2 thread<br>31,7 mm diameter shank | —                                      |
| Jack Screw               | 7   | 24813<br>1"-8 thd.<br>177,8 mm lg.  | 25931<br>1 1/4"-7 thd.<br>228,6 mm lg.              | 32701<br>1 5/8"-5 1/2 thd.<br>279,4 mm lg.             | 32702<br>2 1/2"-8 thd.<br>406,4 mm lg. |
| Screw Cap                | 8   | 28228<br>1"-8 thd.<br>38,1 mm dia.  | 28229<br>1 1/4"-7 thd<br>44,4 mm dia.               | 28230<br>1 5/8"-5 1/2 thd,<br>57,2 mm dia.             | —                                      |

Model Shown:  
**RGG Family**



▶ RGG Series is perfect for any bridge construction application.



**Features**

**HEAVY LIFT, GENERAL PURPOSE CYLINDER FOR MAINTENANCE APPLICATIONS.**

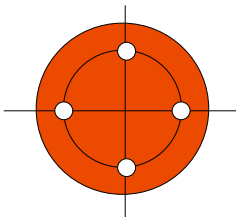
- Single-Acting, load return hydraulic cylinders, tonnages ranging from 55 - 200.
- Patented swivel cap provides concentrated load centering up to 5 degrees.
- Sealing technology provides rod lubrication to reduce friction and wear.
- Floating piston design resists side loading conditions.
- "Power-Tech" nitro-carburization surface treatment inhibits corrosion and provides exceptional durability.
- Base mounting holes standard on all models.
- One high flow 3/8" NPTF female half coupler and removable eyelets are included.
- Complies with ANSI / ASME B30.1 safety standards.

**RGG Series Design Features**

- Patented swivel cap minimizes side load conditions
- Robust retaining ring withstands full load end stop
- Seal band technology reduces wear and provides lubricity
- Power-Tech surface treatment provides extended durability
- Carrying eyelets for ease of positioning
- Heavy-duty, heat treated piston rod for the most demanding applications
- Design complies with AMSE / ANSI B30.1 Safety Standard
- Self-Aligning piston gland design Resists side loading
- High pressure 3/8 NPTF Female Half Coupler(s) included

RDG10012 cutaway shown

**Technical Dimensions, Base Mounting Holes**



Four base mounting holes are 45° apart - standard on all models.

| Tonnage                     | 55  | 75            | 100          | 150          | 200          |
|-----------------------------|---|---------------|--------------|--------------|--------------|
| # of Base Mounting Holes    | 4   | 4             | 4            | 4            | 4            |
| Base thread size            | M12X1.75 - 6H   | M12X1.75 - 6H | M16X1.5 - 6H | M16X1.5 - 6H | M20X1.5 - 6H |
| Base thread depth (mm)      | 18,1  | 18,0          | 15,8         | 22,9         | 30,5         |
| Base Mounting Diameter (mm) | 77,0  | 93,0          | 101,6        | 130,1        | 145,3        |
| Orientation                 | Mounting hole orientation is not maintained to port location. |               |              |              |              |

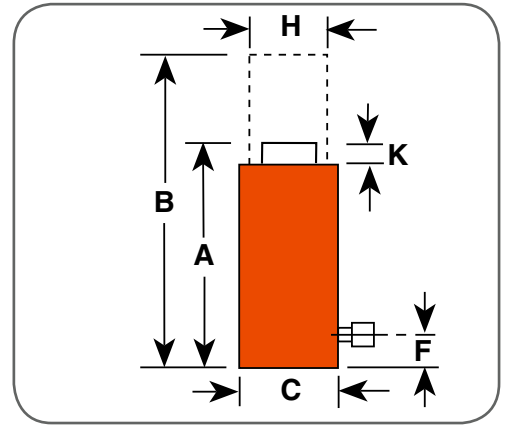


**Cylinder Selection**



Power Team recommends using 80% of the rated capacity and stroke to maximize product performance and safety.

Custom stroke lengths are available, contact your local Power Team Sales Office for details and availability.



**Ordering Information**

| Cyl. Cap. | Stroke | Order No. | A           | B           | C         | F            | H               | K                     | Swivel Cap Dia. | Bore Dia. | Cyl. Eff. Area (Advance) | Oil Cap.           | Metric Tons at 700 | Prod. Wt. |
|-----------|--------|-----------|-------------|-------------|-----------|--------------|-----------------|-----------------------|-----------------|-----------|--------------------------|--------------------|--------------------|-----------|
|           |        |           | Ret. Height | Ext. Height | Out. Dia. | Base to Port | Piston Rod Dia. | Swivel Cap Protrusion |                 |           |                          |                    |                    |           |
| (ton)     | (mm)   |           | (mm)        | (mm)        | (mm)      | (mm)         | (mm)            | (mm)                  | (mm)            | (mm)      | (cm <sup>2</sup> )       | (cm <sup>3</sup> ) | (bar)              | (kg)      |
| 55        | 50,8   | RGG552    | 199,1       | 249,9       | 131,1     | 41,0         | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 362,0              | 50,1               | 17,7      |
|           | 101,6  | RGG554    | 249,9       | 351,5       | 131,1     | 41,0         | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 724,0              | 50,1               | 21,7      |
|           | 152,4  | RGG556    | 300,7       | 453,1       | 131,1     | 41,0         | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 1086,0             | 50,1               | 27,1      |
|           | 203,2  | RGG558    | 351,5       | 554,7       | 131,1     | 41,0         | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 1448,0             | 50,1               | 31,2      |
|           | 254,0  | RGG5510   | 402,3       | 656,3       | 131,1     | 41,0         | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 1809,9             | 50,1               | 35,3      |
|           | 304,8  | RGG5512   | 453,1       | 757,9       | 131,1     | 41,0         | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 2171,9             | 50,1               | 39,3      |
|           | 330,2  | RGG5513   | 478,5       | 808,7       | 131,1     | 41,0         | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 2352,9             | 50,1               | 41,4      |
|           | 355,6  | RGG5514   | 503,9       | 859,5       | 131,1     | 41,0         | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 2533,9             | 50,1               | 43,4      |
| 75        | 50,8   | RGG752    | 211,1       | 261,9       | 146,8     | 44,8         | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 492,7              | 68,2               | 23,4      |
|           | 101,6  | RGG754    | 261,9       | 363,5       | 146,8     | 44,8         | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 985,3              | 68,2               | 30,5      |
|           | 152,4  | RGG756    | 312,7       | 465,1       | 146,8     | 44,8         | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 1478,0             | 68,2               | 35,3      |
|           | 203,2  | RGG758    | 363,5       | 566,7       | 146,8     | 44,8         | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 1970,7             | 68,2               | 40,2      |
|           | 254,0  | RGG7510   | 414,3       | 668,3       | 146,8     | 44,8         | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 2463,3             | 68,2               | 45,1      |
|           | 304,8  | RGG7512   | 465,1       | 769,9       | 146,8     | 44,8         | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 2956,0             | 68,2               | 49,9      |
|           | 330,2  | RGG7513   | 490,5       | 820,7       | 146,8     | 44,8         | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 3202,3             | 68,2               | 52,3      |
|           | 355,6  | RGG7514   | 515,9       | 871,5       | 146,8     | 44,8         | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 3448,7             | 68,2               | 54,8      |
| 100       | 50,8   | RGG1002   | 221,0       | 271,8       | 165,9     | 47,1         | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 676,3              | 93,6               | 32,2      |
|           | 101,6  | RGG1004   | 271,8       | 373,4       | 165,9     | 47,1         | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 1352,6             | 93,6               | 38,4      |
|           | 152,4  | RGG1006   | 322,6       | 475,0       | 165,9     | 47,1         | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 2028,8             | 93,6               | 44,5      |
|           | 203,2  | RGG1008   | 373,4       | 576,6       | 165,9     | 47,1         | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 2705,1             | 93,6               | 50,6      |
|           | 254,0  | RGG10010  | 424,2       | 678,2       | 165,9     | 47,1         | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 3381,4             | 93,6               | 56,8      |
|           | 304,8  | RGG10012  | 475,0       | 779,8       | 165,9     | 47,1         | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 4057,7             | 93,6               | 62,9      |
|           | 330,2  | RGG10013  | 500,4       | 830,6       | 165,9     | 47,1         | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 4395,8             | 93,6               | 66,0      |
|           | 355,6  | RGG10014  | 525,8       | 881,4       | 165,9     | 47,1         | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 4734,0             | 93,6               | 69,1      |
| 150       | 50,8   | RGG1502   | 238,0       | 288,8       | 195,6     | 53,5         | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 1005,6             | 139,2              | 46,7      |
|           | 101,6  | RGG1504   | 288,8       | 390,4       | 195,6     | 53,5         | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 2011,3             | 139,2              | 54,9      |
|           | 152,4  | RGG1506   | 339,6       | 492,0       | 195,6     | 53,5         | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 3016,9             | 139,2              | 63,1      |
|           | 203,2  | RGG1508   | 390,4       | 593,6       | 195,6     | 53,5         | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 4022,5             | 139,2              | 71,2      |
|           | 254,0  | RGG15010  | 441,2       | 695,2       | 195,6     | 53,5         | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 5028,2             | 139,2              | 79,4      |
|           | 304,8  | RGG15012  | 492,0       | 796,8       | 195,6     | 53,5         | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 6033,8             | 139,2              | 87,6      |
|           | 330,2  | RGG15013  | 517,4       | 847,6       | 195,6     | 53,5         | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 6536,6             | 139,2              | 91,7      |
|           | 355,6  | RGG15014  | 542,8       | 898,4       | 195,6     | 53,5         | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 7039,4             | 139,2              | 95,7      |
| 200       | 50,8   | RGG2002   | 255,0       | 305,8       | 226,8     | 57,2         | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 1353,1             | 187,2              | 67,4      |
|           | 101,6  | RGG2004   | 305,8       | 407,4       | 226,8     | 57,2         | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 2706,1             | 187,2              | 78,5      |
|           | 152,4  | RGG2006   | 356,6       | 509,0       | 226,8     | 57,2         | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 4059,2             | 187,2              | 89,5      |
|           | 203,2  | RGG2008   | 407,4       | 610,6       | 226,8     | 57,2         | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 5412,2             | 187,2              | 100,6     |
|           | 254,0  | RGG20010  | 458,2       | 712,2       | 226,8     | 57,2         | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 6765,3             | 187,2              | 111,7     |
|           | 304,8  | RGG20012  | 509,0       | 813,8       | 226,8     | 57,2         | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 8118,3             | 187,2              | 122,7     |
|           | 330,2  | RGG20013  | 534,4       | 864,6       | 226,8     | 57,2         | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 8794,9             | 187,2              | 128,3     |
|           | 355,6  | RGG20014  | 559,8       | 915,4       | 226,8     | 57,2         | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 9471,4             | 187,2              | 133,8     |

Model Shown:  
**RGG Family**



**Features**

**HEAVY LIFT, GENERAL PURPOSE CYLINDER FOR TOUGH MAINTENANCE APPLICATIONS.**

- Single-Acting, load return hydraulic cylinders, tonnages ranging from 250 - 600.
- Patented swivel cap provides concentrated load centering up to 5 degrees
- Sealing technology provides lubrication to reduce friction and wear.
- Floating piston design resists side loading conditions.
- "Power-Tech" nitro-carburization surface treatment inhibits corrosion and provides exceptional durability.
- Base mounting holes standard on all models (they are not maintained to port location).
- One high flow 3/8" NPTF female half coupler and removeable carry strap w/ eyelets are included.
- Complies with ANSI / ASME B30.1 safety standards.

▶ RGG Series is perfect for any building lift application.

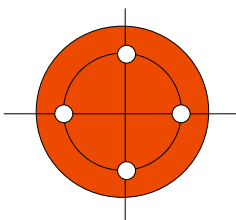


**RGG Series Design Features**

- Patented swivel cap minimizes side load conditions
- Robust retaining ring withstands full load end stop
- Seal band technology reduces wear and provides lubricity
- Power-Tech surface treatment provides extended durability
- Carrying eyelets for ease of positioning
- Heavy-duty, heat treated piston rod for the most demanding applications
- Design complies with AMSE / ANSI B30.1 Safety Standard
- Self-Aligning piston gland design Resists side loading
- High pressure 3/8 NPTF Female Half Coupler(s) included

RDG10012 cutaway shown

**Technical Dimensions, Base Mounting Holes**



Four base mounting holes are 45° apart - standard on all models.

| Tonnage                     | 250   | 300          | 400          | 500          | 600          |
|-----------------------------|---|--------------|--------------|--------------|--------------|
| # of Base Mounting Holes    | 4   | 4            | 4            | 4            | 4            |
| Base thread size            | M24X3.0 - 6H  | M24X3.0 - 6H | M30X3.5 - 6H | M30X3.5 - 6H | M33X2.0 - 6H |
| Base thread depth (mm)      | 37,0  | 37,0         | 45,7         | 45,7         | 49,5         |
| Base Mounting Diameter (mm) | 153,9   | 179,3        | 194,3        | 227,3        | 245,1        |
| Base Mounting Orientation   | Mounting hole orientation is not maintained to port location. |              |              |              |              |

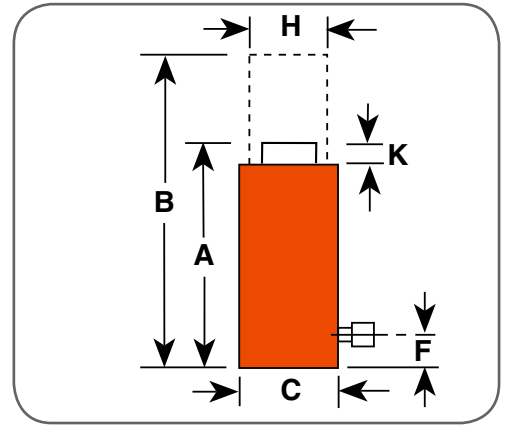


**Cylinder Selection**



Power Team recommends using 80% of the rated capacity and stroke to maximize product performance and safety.

Custom stroke lengths are available, contact your local Power Team Sales Office for details and availability.



**Ordering Information**

| Cyl. Cap. | Stroke | Order No. | A           | B           | C         | F            | H               | K                     | Swivel Cap Dia. | Bore Dia. | Cyl. Eff. Area (Advance) | Oil Cap.           | Metric Tons at 700 | Prod. Wt. |
|-----------|--------|-----------|-------------|-------------|-----------|--------------|-----------------|-----------------------|-----------------|-----------|--------------------------|--------------------|--------------------|-----------|
|           |        |           | Ret. Height | Ext. Height | Out. Dia. | Base to Port | Piston Rod Dia. | Swivel Cap Protrusion |                 |           |                          |                    |                    |           |
| (ton)     | (mm)   |           | (mm)        | (mm)        | (mm)      | (mm)         | (mm)            | (mm)                  | (mm)            | (mm)      | (cm <sup>2</sup> )       | (cm <sup>3</sup> ) | (bar)              | (kg)      |
| 250       | 50,8   | RGG2502   | 261,6       | 312,4       | 250,2     | 59,7         | 152,3           | 28,4                  | 141,2           | 203,3     | 324,3                    | 1647,4             | 228,0              | 87,2      |
|           | 101,6  | RGG2504   | 312,4       | 414,0       | 250,2     | 59,7         | 152,3           | 28,4                  | 141,2           | 203,3     | 324,3                    | 3294,8             | 228,0              | 101,2     |
|           | 152,4  | RGG2506   | 363,2       | 515,6       | 250,2     | 59,7         | 152,3           | 28,4                  | 141,2           | 203,3     | 324,3                    | 4942,2             | 228,0              | 115,1     |
|           | 203,2  | RGG2508   | 414,0       | 617,2       | 250,2     | 59,7         | 152,3           | 28,4                  | 141,2           | 203,3     | 324,3                    | 6589,6             | 228,0              | 129,1     |
|           | 254,0  | RGG25010  | 464,8       | 718,8       | 250,2     | 59,7         | 152,3           | 28,4                  | 141,2           | 203,3     | 324,3                    | 8237,0             | 228,0              | 143,0     |
|           | 304,8  | RGG25012  | 515,6       | 820,4       | 250,2     | 59,7         | 152,3           | 28,4                  | 141,2           | 203,3     | 324,3                    | 9884,4             | 228,0              | 156,9     |
|           | 330,2  | RGG25013  | 541,0       | 871,2       | 250,2     | 59,7         | 152,3           | 28,4                  | 141,2           | 203,3     | 324,3                    | 10708,1            | 228,0              | 163,9     |
|           | 355,6  | RGG25014  | 566,4       | 922,0       | 250,2     | 59,7         | 152,3           | 28,4                  | 141,2           | 203,3     | 324,3                    | 11531,8            | 228,0              | 170,9     |
| 300       | 50,8   | RGG3002   | 272,8       | 323,6       | 281,4     | 63,0         | 165,0           | 32,5                  | 169,2           | 228,7     | 410,4                    | 2084,9             | 288,5              | 114,0     |
|           | 101,6  | RGG3004   | 323,6       | 425,2       | 281,4     | 63,0         | 165,0           | 32,5                  | 169,2           | 228,7     | 410,4                    | 4169,7             | 288,5              | 131,0     |
|           | 152,4  | RGG3006   | 374,4       | 526,8       | 281,4     | 63,0         | 165,0           | 32,5                  | 169,2           | 228,7     | 410,4                    | 6254,6             | 288,5              | 148,0     |
|           | 203,2  | RGG3008   | 425,2       | 628,4       | 281,4     | 63,0         | 165,0           | 32,5                  | 169,2           | 228,7     | 410,4                    | 8339,5             | 288,5              | 164,5     |
|           | 254,0  | RGG30010  | 476,0       | 730,0       | 281,4     | 63,0         | 165,0           | 32,5                  | 169,2           | 228,7     | 410,4                    | 10424,3            | 288,5              | 182,0     |
|           | 304,8  | RGG30012  | 526,8       | 831,6       | 281,4     | 63,0         | 165,0           | 32,5                  | 169,2           | 228,7     | 410,4                    | 12509,2            | 288,5              | 198,9     |
|           | 330,2  | RGG30013  | 552,2       | 882,4       | 281,4     | 63,0         | 165,0           | 32,5                  | 169,2           | 228,7     | 410,4                    | 13551,6            | 288,5              | 207,4     |
|           | 355,6  | RGG30014  | 577,6       | 933,2       | 281,4     | 63,0         | 165,0           | 32,5                  | 169,2           | 228,7     | 410,4                    | 14594,1            | 288,5              | 215,9     |
| 400       | 50,8   | RGG4002   | 306,6       | 357,4       | 328,4     | 70,3         | 190,4           | 37,1                  | 197,4           | 266,8     | 558,6                    | 2837,6             | 392,6              | 177,2     |
|           | 101,6  | RGG4004   | 357,4       | 459,0       | 328,4     | 70,3         | 190,4           | 37,1                  | 197,4           | 266,8     | 558,6                    | 5675,1             | 392,6              | 200,1     |
|           | 152,4  | RGG4006   | 408,2       | 560,6       | 328,4     | 70,3         | 190,4           | 37,1                  | 197,4           | 266,8     | 558,6                    | 8512,7             | 392,6              | 223,0     |
|           | 203,2  | RGG4008   | 459,0       | 662,2       | 328,4     | 70,3         | 190,4           | 37,1                  | 197,4           | 266,8     | 558,6                    | 11350,2            | 392,6              | 245,8     |
|           | 254,0  | RGG40010  | 509,8       | 763,8       | 328,4     | 70,3         | 190,4           | 37,1                  | 197,4           | 266,8     | 558,6                    | 14187,8            | 392,6              | 268,7     |
|           | 304,8  | RGG40012  | 560,6       | 865,4       | 328,4     | 70,3         | 190,4           | 37,1                  | 197,4           | 266,8     | 558,6                    | 17025,4            | 392,6              | 291,6     |
|           | 330,2  | RGG40013  | 586,0       | 916,2       | 328,4     | 70,3         | 190,4           | 37,1                  | 197,4           | 266,8     | 558,6                    | 18444,1            | 392,6              | 303,0     |
|           | 355,6  | RGG40014  | 611,4       | 967,0       | 328,4     | 70,3         | 190,4           | 37,1                  | 197,4           | 266,8     | 558,6                    | 19862,9            | 392,6              | 314,5     |
| 500       | 50,8   | RGG5002   | 311,9       | 362,7       | 359,7     | 73,6         | 203,1           | 39,4                  | 216,2           | 292,2     | 670,0                    | 3403,7             | 471,0              | 205,0     |
|           | 101,6  | RGG5004   | 362,7       | 464,3       | 359,7     | 73,6         | 203,1           | 39,4                  | 216,2           | 292,2     | 670,0                    | 6807,3             | 471,0              | 240,6     |
|           | 152,4  | RGG5006   | 413,5       | 565,9       | 359,7     | 73,6         | 203,1           | 39,4                  | 216,2           | 292,2     | 670,0                    | 10211,0            | 471,0              | 267,4     |
|           | 203,2  | RGG5008   | 464,3       | 667,5       | 359,7     | 73,6         | 203,1           | 39,4                  | 216,2           | 292,2     | 670,0                    | 13614,7            | 471,0              | 294,1     |
|           | 254,0  | RGG50010  | 515,1       | 769,1       | 359,7     | 73,6         | 203,1           | 39,4                  | 216,2           | 292,2     | 670,0                    | 17018,4            | 471,0              | 320,8     |
|           | 304,8  | RGG50012  | 565,9       | 870,7       | 359,7     | 73,6         | 203,1           | 39,4                  | 216,2           | 292,2     | 670,0                    | 20422,0            | 471,0              | 347,5     |
|           | 330,2  | RGG50013  | 591,3       | 921,5       | 359,7     | 73,6         | 203,1           | 39,4                  | 216,2           | 292,2     | 670,0                    | 22123,9            | 471,0              | 360,9     |
|           | 355,6  | RGG50014  | 616,7       | 972,3       | 359,7     | 73,6         | 203,1           | 39,4                  | 216,2           | 292,2     | 670,0                    | 23825,7            | 471,0              | 374,3     |
| 600       | 50,8   | RGG6002   | 324,1       | 374,9       | 391,2     | 76,8         | 228,5           | 41,4                  | 235,0           | 317,6     | 791,6                    | 4021,2             | 556,4              | 255,0     |
|           | 101,6  | RGG6004   | 374,9       | 476,5       | 391,2     | 76,8         | 228,5           | 41,4                  | 235,0           | 317,6     | 791,6                    | 8042,5             | 556,4              | 287,7     |
|           | 152,4  | RGG6006   | 425,7       | 578,1       | 391,2     | 76,8         | 228,5           | 41,4                  | 235,0           | 317,6     | 791,6                    | 12063,7            | 556,4              | 320,5     |
|           | 203,2  | RGG6008   | 476,5       | 679,7       | 391,2     | 76,8         | 228,5           | 41,4                  | 235,0           | 317,6     | 791,6                    | 16085,0            | 556,4              | 353,2     |
|           | 254,0  | RGG60010  | 527,3       | 781,3       | 391,2     | 76,8         | 228,5           | 41,4                  | 235,0           | 317,6     | 791,6                    | 20106,2            | 556,4              | 385,9     |
|           | 304,8  | RGG60012  | 578,1       | 882,9       | 391,2     | 76,8         | 228,5           | 41,4                  | 235,0           | 317,6     | 791,6                    | 24127,4            | 556,4              | 418,7     |
|           | 330,2  | RGG60013  | 603,5       | 933,7       | 391,2     | 76,8         | 228,5           | 41,4                  | 235,0           | 317,6     | 791,6                    | 26138,0            | 556,4              | 435,0     |
|           | 355,6  | RGG60014  | 628,9       | 984,5       | 391,2     | 76,8         | 228,5           | 41,4                  | 235,0           | 317,6     | 791,6                    | 28148,7            | 556,4              | 451,4     |

Model Shown:  
**RDG Family**



**Features**

**HEAVY LIFT, GENERAL PURPOSE CYLINDER FOR TOUGH MRO APPLICATIONS.**

- Double-Acting, hydraulic return cylinders, tonnages ranging from 55-200.
- Patented swivel cap provides concentrated load centering up to 5 degrees.
- Safety relief valve prevents over-pressurization of the retract circuit.
- Sealing technology provides lubrication to reduce friction and wear.
- "Power-Tech" nitro-carburization surface treatment inhibits corrosion and provides exceptional durability.
- Floating piston design resists side loading conditions.
- Base mounting holes standard on all models (they are not maintained to port location).
- Two high flow 3/8" NPTF female half coupler and removeable carry strap w/ eyelets are included.
- Complies with ANSI / ASME B30.1 safety standards.

▶ RDG Series is perfect choice for any heavy lift MRO application.

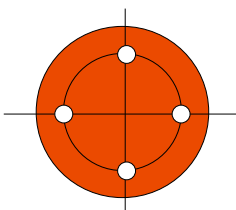


**RDG Series Design Features**

- Patented swivel cap minimizes side load conditions
- Robust retaining ring withstands full load end stop
- Seal band technology reduces wear and provides lubricity
- Power-Tech surface treatment provides extended durability
- Carrying eyelets for ease of positioning
- Heavy-duty, heat treated piston rod for the most demanding applications
- Design complies with AMSE / ANST B30.1 Safety Standard
- Self-Aligning piston gland design Resists 'side' loading
- High pressure 3/8" NPTF Female Half Coupler(s) included

RDG10012 cutaway shown

**Technical Dimensions, Base Mounting Holes**



Four base mounting holes are 45° apart - standard on all models.

| Tonnage                     | 55  | 75            | 100          | 150          | 200          |
|-----------------------------|---|---------------|--------------|--------------|--------------|
| # of Base Mounting Holes    | 4   | 4             | 4            | 4            | 4            |
| Base thread size            | M12X1.75 - 6H   | M12X1.75 - 6H | M16X1.5 - 6H | M16X1.5 - 6H | M20X1.5 - 6H |
| Base thread depth (mm)      | 18,0  | 18,0          | 15,7         | 22,9         | 30,5         |
| Base Mounting Diameter (mm) | 77,0  | 93,0          | 101,6        | 139,1        | 145,3        |
| Orientation                 | Mounting hole orientation is not maintained to port location. |               |              |              |              |

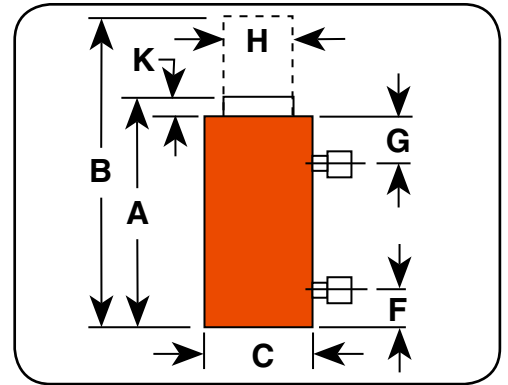


**Cylinder Selection**



Power Team recommends using 80% of the rated capacity and stroke to maximize product performance and safety.

Custom stroke lengths are available, contact your local Power Team Sales Office for details and availability.



**Ordering Information**

| Cyl. Cap. | Stroke | Order No. | A           | B           | C            | F            | G           | H               | K                     | Swivel Cap Dia. | Bore Dia. | Cyl. Eff. Area (Advance) | Oil Cap. (Ext.)    | Oil Cap. (Ret.)    | Metric Tons at 700 | Prod. Wt. |
|-----------|--------|-----------|-------------|-------------|--------------|--------------|-------------|-----------------|-----------------------|-----------------|-----------|--------------------------|--------------------|--------------------|--------------------|-----------|
|           |        |           | Ret. Height | Ext. Height | Outside Dia. | Base to Port | Top to Port | Piston Rod Dia. | Swivel Cap Protrusion |                 |           |                          |                    |                    |                    |           |
| (ton)     | (mm)   |           | (mm)        | (mm)        | (mm)         | (mm)         | (mm)        | (mm)            | (mm)                  | (mm)            | (mm)      | (cm <sup>2</sup> )       | (cm <sup>3</sup> ) | (cm <sup>3</sup> ) | (bar)              | (kg)      |
| 55        | 50,8   | RDG552    | 199,1       | 249,9       | 131,1        | 41,0         | 41,0        | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 362,0              | 167,6              | 50,1               | 17,8      |
|           | 101,6  | RDG554    | 249,9       | 351,5       | 131,1        | 41,0         | 41,0        | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 724,0              | 335,1              | 50,1               | 21,9      |
|           | 152,4  | RDG556    | 300,7       | 453,1       | 131,1        | 41,0         | 41,0        | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 1086,0             | 502,7              | 50,1               | 27,3      |
|           | 203,2  | RDG558    | 351,5       | 554,7       | 131,1        | 41,0         | 41,0        | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 1448,0             | 670,3              | 50,1               | 31,4      |
|           | 254,0  | RDG5510   | 402,3       | 656,3       | 131,1        | 41,0         | 41,0        | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 1809,9             | 837,8              | 50,1               | 35,4      |
|           | 304,8  | RDG5512   | 453,1       | 757,9       | 131,1        | 41,0         | 41,0        | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 2171,9             | 1005,4             | 50,1               | 39,5      |
|           | 330,2  | RDG5513   | 478,5       | 808,7       | 131,1        | 41,0         | 41,0        | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 2352,9             | 1089,2             | 50,1               | 41,5      |
|           | 355,6  | RDG5514   | 503,9       | 859,5       | 131,1        | 41,0         | 41,0        | 69,8            | 17,0                  | 70,6            | 95,3      | 71,3                     | 2533,9             | 1173,0             | 50,1               | 43,5      |
| 75        | 50,8   | RDG752    | 211,1       | 261,9       | 146,8        | 44,8         | 44,8        | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 492,7              | 241,6              | 68,2               | 23,4      |
|           | 101,6  | RDG754    | 261,9       | 363,5       | 146,8        | 44,8         | 44,8        | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 985,3              | 483,2              | 68,2               | 30,6      |
|           | 152,4  | RDG756    | 312,7       | 465,1       | 146,8        | 44,8         | 44,8        | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 1478,0             | 724,7              | 68,2               | 35,5      |
|           | 203,2  | RDG758    | 363,5       | 566,7       | 146,8        | 44,8         | 44,8        | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 1970,7             | 966,3              | 68,2               | 40,4      |
|           | 254,0  | RDG7510   | 414,3       | 668,3       | 146,8        | 44,8         | 44,8        | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 2463,3             | 1207,9             | 68,2               | 45,2      |
|           | 304,8  | RDG7512   | 465,1       | 769,9       | 146,8        | 44,8         | 44,8        | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 2956,0             | 1449,5             | 68,2               | 50,1      |
|           | 330,2  | RDG7513   | 490,5       | 820,7       | 146,8        | 44,8         | 44,8        | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 3202,3             | 1570,3             | 68,2               | 52,5      |
|           | 355,6  | RDG7514   | 515,9       | 871,5       | 146,8        | 44,8         | 44,8        | 79,3            | 19,3                  | 82,3            | 111,2     | 97,0                     | 3448,7             | 1691,1             | 68,2               | 55,0      |
| 100       | 50,8   | RDG1002   | 221,0       | 271,8       | 165,9        | 47,1         | 47,1        | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 676,3              | 314,9              | 93,5               | 32,3      |
|           | 101,6  | RDG1004   | 271,8       | 373,4       | 165,9        | 47,1         | 47,1        | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 1352,6             | 629,7              | 93,5               | 38,4      |
|           | 152,4  | RDG1006   | 322,6       | 475,0       | 165,9        | 47,1         | 47,1        | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 2028,8             | 944,6              | 93,5               | 44,5      |
|           | 203,2  | RDG1008   | 373,4       | 576,6       | 165,9        | 47,1         | 47,1        | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 2705,1             | 1259,5             | 93,5               | 50,7      |
|           | 254,0  | RDG10010  | 424,2       | 678,2       | 165,9        | 47,1         | 47,1        | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 3381,4             | 1574,4             | 93,5               | 56,8      |
|           | 304,8  | RDG10012  | 475,0       | 779,8       | 165,9        | 47,1         | 47,1        | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 4057,7             | 1889,2             | 93,5               | 63,0      |
|           | 330,2  | RDG10013  | 500,4       | 830,6       | 165,9        | 47,1         | 47,1        | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 4395,8             | 2046,7             | 93,5               | 66,0      |
|           | 355,6  | RDG10014  | 525,8       | 881,4       | 165,9        | 47,1         | 47,1        | 95,2            | 23,4                  | 98,3            | 130,2     | 133,1                    | 4734,0             | 2204,1             | 93,5               | 69,1      |
| 150       | 50,8   | RDG1502   | 238,0       | 288,8       | 195,6        | 53,5         | 53,5        | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 1005,6             | 485,1              | 139,1              | 46,8      |
|           | 101,6  | RDG1504   | 288,8       | 390,4       | 195,6        | 53,5         | 53,5        | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 2011,3             | 970,2              | 139,1              | 54,9      |
|           | 152,4  | RDG1506   | 339,6       | 492,0       | 195,6        | 53,5         | 53,5        | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 3016,9             | 1455,3             | 139,1              | 63,1      |
|           | 203,2  | RDG1508   | 390,4       | 583,6       | 195,6        | 53,5         | 53,5        | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 4022,5             | 1940,4             | 139,1              | 71,3      |
|           | 254,0  | RDG15010  | 441,2       | 695,2       | 195,6        | 53,5         | 53,5        | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 5028,2             | 2425,5             | 139,1              | 79,5      |
|           | 304,8  | RDG15012  | 492,0       | 796,8       | 195,6        | 53,5         | 53,5        | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 6033,8             | 2910,7             | 139,1              | 87,7      |
|           | 330,2  | RDG15013  | 517,4       | 847,6       | 195,6        | 53,5         | 53,5        | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 6536,6             | 3153,2             | 139,1              | 91,8      |
|           | 355,6  | RDG15014  | 542,8       | 898,4       | 195,6        | 53,5         | 53,5        | 114,2           | 24,1                  | 117,6           | 158,8     | 198,0                    | 7039,4             | 3395,8             | 139,1              | 95,8      |
| 200       | 50,8   | RDG2002   | 255,0       | 305,8       | 226,8        | 57,2         | 57,2        | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 1353,1             | 644,5              | 187,2              | 67,5      |
|           | 101,6  | RDG2004   | 305,8       | 407,4       | 226,8        | 57,2         | 57,2        | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 2706,1             | 1289,0             | 187,2              | 78,6      |
|           | 152,4  | RDG2006   | 356,6       | 509,0       | 226,8        | 57,2         | 57,2        | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 4059,2             | 1933,4             | 187,2              | 89,6      |
|           | 203,2  | RDG2008   | 407,4       | 610,6       | 226,8        | 57,2         | 57,2        | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 5412,2             | 2577,9             | 187,2              | 100,7     |
|           | 254,0  | RDG20010  | 458,2       | 712,2       | 226,8        | 57,2         | 57,2        | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 6765,3             | 3222,4             | 187,2              | 111,8     |
|           | 304,8  | RDG20012  | 509,0       | 813,8       | 226,8        | 57,2         | 57,2        | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 8118,3             | 3866,9             | 187,2              | 122,8     |
|           | 330,2  | RDG20013  | 534,4       | 864,6       | 226,8        | 57,2         | 57,2        | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 8794,9             | 4189,1             | 187,2              | 128,3     |
|           | 355,6  | RDG20014  | 559,8       | 915,4       | 226,8        | 57,2         | 57,2        | 133,3           | 26,9                  | 136,4           | 184,2     | 266,3                    | 9471,4             | 4511,4             | 187,2              | 133,9     |

Model Shown:  
**RDG Family**



**Features**

**HEAVY LIFT, GENERAL PURPOSE CYLINDER FOR TOUGH MAINTENANCE APPLICATIONS.**

- Double-Acting, hydraulic return cylinders, tonnages ranging from 250 - 600.
- Patented swivel cap provides concentrated load centering up to 5 degrees.
- Safety relief valve prevents over-pressurization of the retract circuit.
- Sealing technology provides lubrication to reduce friction and wear.
- "Power-Tech" nitro-carburization surface treatment inhibits corrosion and provides exceptional durability.
- Floating piston design resists side loading conditions.
- Two high flow 3/8" NPTF female half coupler and removable carry strap w/ eyelets are included.
- Base mounting holes standard on all models (they are not maintained to port location).
- Complies with ANSI / ASME B30.1 safety standards.

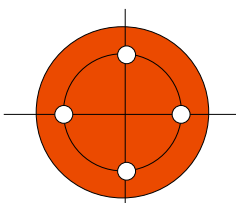
▶ RDG Series is perfect for mining MRO application.



**RDG Series Design Features**



▶ **Technical Dimensions, Base Mounting Holes**



Four base mounting holes are 45° apart - standard on all models.

| Tonnage                     | 250   | 300          | 400          | 500          | 600          |
|-----------------------------|---|--------------|--------------|--------------|--------------|
| # of Base Mounting Holes    | 4   | 4            | 4            | 4            | 4            |
| Base thread size            | M24X3.0 - 6H  | M24X3.0 - 6H | M30X3.5 - 6H | M30X3.5 - 6H | M33X2.0 - 6H |
| Base thread depth (mm)      | 37,0  | 37,0         | 45,7         | 45,7         | 49,5         |
| Base Mounting Diameter (mm) | 153,9   | 179,3        | 194,3        | 227,3        | 245,1        |
| Orientation                 | Mounting hole orientation is not maintained to port location. |              |              |              |              |



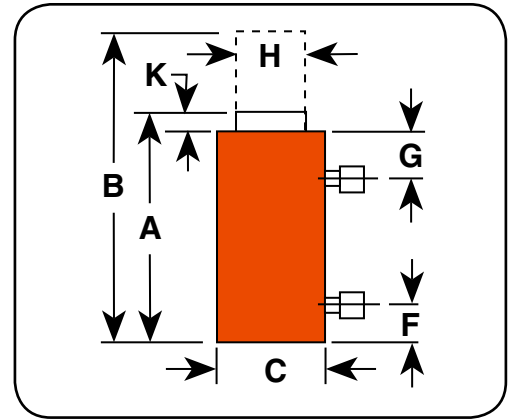


**Cylinder Selection**



Power Team recommends using 80% of the rated capacity and stroke to maximize product performance and safety.

Custom stroke lengths are available, contact your local Power Team Sales Office for details and availability.



**Ordering Information**

| Cyl. Cap. (ton) | Stroke (mm) | Order No. | A                | B                | C                  | F                 | G                | H                    | K                          | Swivel Cap Dia. (mm) | Bore Dia. (mm) | Cyl. Eff. Area (Advance) (cm <sup>2</sup> ) | Oil Cap. (Ext.) (cm <sup>3</sup> ) | Oil Cap. (Ret.) (cm <sup>3</sup> ) | Metric Tons at 700 (bar) | Prod. Wt. (kg) |
|-----------------|-------------|-----------|------------------|------------------|--------------------|-------------------|------------------|----------------------|----------------------------|----------------------|----------------|---|------------------------------------|------------------------------------|--------------------------|----------------|
|                 |             |           | Ret. Height (mm) | Ext. Height (mm) | Out-side Dia. (mm) | Base to Port (mm) | Top to Port (mm) | Piston Rod Dia. (mm) | Swivel Cap Protrusion (mm) |                      |                |   |                                    |                                    |                          |                |
| 250             | 50,8        | RDG2502   | 261,6            | 312,4            | 250,2              | 59,7              | 59,7             | 152,3                | 28,4                       | 141,2                | 203,3          | 324,3                                       | 1647,4                             | 721,8                              | 227,9                    | 87,3           |
|                 | 101,6       | RDG2504   | 312,4            | 414,0            | 250,2              | 59,7              | 59,7             | 152,3                | 28,4                       | 141,2                | 203,3          | 324,3                                       | 3294,8                             | 1443,6                             | 227,9                    | 101,2          |
|                 | 152,4       | RDG2506   | 363,2            | 515,6            | 250,2              | 59,7              | 59,7             | 152,3                | 28,4                       | 141,2                | 203,3          | 324,3                                       | 4942,2                             | 2165,4                             | 227,9                    | 115,2          |
|                 | 203,2       | RDG2508   | 414,0            | 617,2            | 250,2              | 59,7              | 59,7             | 152,3                | 28,4                       | 141,2                | 203,3          | 324,3                                       | 6589,6                             | 2887,3                             | 227,9                    | 129,2          |
|                 | 254,0       | RDG25010  | 464,8            | 718,8            | 250,2              | 59,7              | 59,7             | 152,3                | 28,4                       | 141,2                | 203,3          | 324,3                                       | 8237,0                             | 3609,1                             | 227,9                    | 143,1          |
|                 | 304,8       | RDG25012  | 515,6            | 820,4            | 250,2              | 59,7              | 59,7             | 152,3                | 28,4                       | 141,2                | 203,3          | 324,3                                       | 9884,4                             | 4330,9                             | 227,9                    | 157,0          |
|                 | 330,2       | RDG25013  | 541,0            | 871,2            | 250,2              | 59,7              | 59,7             | 152,3                | 28,4                       | 141,2                | 203,3          | 324,3                                       | 10708,1                            | 4691,8                             | 227,9                    | 164,0          |
|                 | 355,6       | RDG25014  | 566,4            | 922,0            | 250,2              | 59,7              | 59,7             | 152,3                | 28,4                       | 141,2                | 203,3          | 324,3                                       | 11531,8                            | 5052,7                             | 227,9                    | 171,0          |
| 300             | 50,8        | RDG3002   | 272,8            | 323,6            | 281,4              | 63,0              | 63,0             | 165,0                | 32,5                       | 169,2                | 228,7          | 410,4                                       | 2084,9                             | 998,5                              | 288,5                    | 114,1          |
|                 | 101,6       | RDG3004   | 323,6            | 425,2            | 281,4              | 63,0              | 63,0             | 165,0                | 32,5                       | 169,2                | 228,7          | 410,4                                       | 4169,7                             | 1997,1                             | 288,5                    | 131,1          |
|                 | 152,4       | RDG3006   | 374,4            | 526,8            | 281,4              | 63,0              | 63,0             | 165,0                | 32,5                       | 169,2                | 228,7          | 410,4                                       | 6254,6                             | 2995,6                             | 288,5                    | 148,1          |
|                 | 203,2       | RDG3008   | 425,2            | 628,4            | 281,4              | 63,0              | 63,0             | 165,0                | 32,5                       | 169,2                | 228,7          | 410,4                                       | 8339,5                             | 3994,2                             | 288,5                    | 165,1          |
|                 | 254,0       | RDG30010  | 476,0            | 730,0            | 281,4              | 63,0              | 63,0             | 165,0                | 32,5                       | 169,2                | 228,7          | 410,4                                       | 10424,3                            | 4992,7                             | 288,5                    | 182,1          |
|                 | 304,8       | RDG30012  | 526,8            | 831,6            | 281,4              | 63,0              | 63,0             | 165,0                | 32,5                       | 169,2                | 228,7          | 410,4                                       | 12509,2                            | 5991,3                             | 288,5                    | 199,0          |
|                 | 330,2       | RDG30013  | 552,2            | 882,4            | 281,4              | 63,0              | 63,0             | 165,0                | 32,5                       | 169,2                | 228,7          | 410,4                                       | 13551,6                            | 6490,5                             | 288,5                    | 207,5          |
|                 | 355,6       | RDG30014  | 577,6            | 933,2            | 281,4              | 63,0              | 63,0             | 165,0                | 32,5                       | 169,2                | 228,7          | 410,4                                       | 14594,1                            | 6989,8                             | 288,5                    | 216,0          |
| 400             | 50,8        | RDG4002   | 306,6            | 357,4            | 328,4              | 70,3              | 70,3             | 190,4                | 37,1                       | 197,4                | 266,8          | 558,6                                       | 2837,6                             | 1391,1                             | 392,7                    | 177,3          |
|                 | 101,6       | RDG4004   | 357,4            | 459,0            | 328,4              | 70,3              | 70,3             | 190,4                | 37,1                       | 197,4                | 266,8          | 558,6                                       | 5675,1                             | 2782,3                             | 392,7                    | 200,2          |
|                 | 152,4       | RDG4006   | 408,2            | 560,6            | 328,4              | 70,3              | 70,3             | 190,4                | 37,1                       | 197,4                | 266,8          | 558,6                                       | 8512,7                             | 4173,4                             | 392,7                    | 223,1          |
|                 | 203,2       | RDG4008   | 459,0            | 662,2            | 328,4              | 70,3              | 70,3             | 190,4                | 37,1                       | 197,4                | 266,8          | 558,6                                       | 11350,2                            | 5564,6                             | 392,7                    | 245,9          |
|                 | 254,0       | RDG40010  | 509,8            | 763,8            | 328,4              | 70,3              | 70,3             | 190,4                | 37,1                       | 197,4                | 266,8          | 558,6                                       | 14187,8                            | 6955,7                             | 392,7                    | 268,8          |
|                 | 304,8       | RDG40012  | 560,6            | 865,4            | 328,4              | 70,3              | 70,3             | 190,4                | 37,1                       | 197,4                | 266,8          | 558,6                                       | 17025,4                            | 8346,9                             | 392,7                    | 288,6          |
|                 | 330,2       | RDG40013  | 586,0            | 916,2            | 328,4              | 70,3              | 70,3             | 190,4                | 37,1                       | 197,4                | 266,8          | 558,6                                       | 18444,1                            | 9042,5                             | 392,7                    | 303,1          |
|                 | 355,6       | RDG40014  | 611,4            | 967,0            | 328,4              | 70,3              | 70,3             | 190,4                | 37,1                       | 197,4                | 266,8          | 558,6                                       | 19862,9                            | 9738,0                             | 392,7                    | 314,6          |
| 500             | 50,8        | RDG5002   | 311,9            | 362,7            | 359,7              | 73,6              | 73,6             | 203,1                | 39,4                       | 216,2                | 292,2          | 670,0                                       | 3403,7                             | 1757,9                             | 471,0                    | 214,0          |
|                 | 101,6       | RDG5004   | 362,7            | 464,3            | 359,7              | 73,6              | 73,6             | 203,1                | 39,4                       | 216,2                | 292,2          | 670,0                                       | 6807,3                             | 3515,8                             | 471,0                    | 240,7          |
|                 | 152,4       | RDG5006   | 413,5            | 565,9            | 359,7              | 73,6              | 73,6             | 203,1                | 39,4                       | 216,2                | 292,2          | 670,0                                       | 10211,0                            | 5273,8                             | 471,0                    | 267,5          |
|                 | 203,2       | RDG5008   | 464,3            | 667,5            | 359,7              | 73,6              | 73,6             | 203,1                | 39,4                       | 216,2                | 292,2          | 670,0                                       | 13614,7                            | 7031,7                             | 471,0                    | 294,1          |
|                 | 254,0       | RDG50010  | 515,1            | 769,1            | 359,7              | 73,6              | 73,6             | 203,1                | 39,4                       | 216,2                | 292,2          | 670,0                                       | 17018,4                            | 8789,6                             | 471,0                    | 320,9          |
|                 | 304,8       | RDG50012  | 565,9            | 870,7            | 359,7              | 73,6              | 73,6             | 203,1                | 39,4                       | 216,2                | 292,2          | 670,0                                       | 20422,0                            | 10547,5                            | 471,0                    | 347,6          |
|                 | 330,2       | RDG50013  | 591,3            | 921,5            | 359,7              | 73,6              | 73,6             | 203,1                | 39,4                       | 216,2                | 292,2          | 670,0                                       | 22123,9                            | 11426,5                            | 471,0                    | 361,0          |
|                 | 355,6       | RDG50014  | 616,7            | 972,3            | 359,7              | 73,6              | 73,6             | 203,1                | 39,4                       | 216,2                | 292,2          | 670,0                                       | 23825,7                            | 12305,5                            | 471,0                    | 374,4          |
| 600             | 50,8        | RDG6002   | 324,1            | 374,9            | 391,2              | 76,8              | 76,8             | 228,5                | 41,4                       | 235,0                | 317,6          | 791,6                                       | 4021,2                             | 1938,2                             | 556,5                    | 255,2          |
|                 | 101,6       | RDG6004   | 374,9            | 476,5            | 391,2              | 76,8              | 76,8             | 228,5                | 41,4                       | 235,0                | 317,6          | 791,6                                       | 8042,5                             | 3876,4                             | 556,5                    | 288,0          |
|                 | 152,4       | RDG6006   | 425,7            | 578,1            | 391,2              | 76,8              | 76,8             | 228,5                | 41,4                       | 235,0                | 317,6          | 791,6                                       | 12063,7                            | 5814,7                             | 556,5                    | 320,7          |
|                 | 203,2       | RDG6008   | 476,5            | 679,7            | 391,2              | 76,8              | 76,8             | 228,5                | 41,4                       | 235,0                | 317,6          | 791,6                                       | 16085,0                            | 7752,9                             | 556,5                    | 353,4          |
|                 | 254,0       | RDG60010  | 527,3            | 781,3            | 391,2              | 76,8              | 76,8             | 228,5                | 41,4                       | 235,0                | 317,6          | 791,6                                       | 20106,2                            | 9691,1                             | 556,5                    | 386,2          |
|                 | 304,8       | RDG60012  | 578,1            | 882,9            | 391,2              | 76,8              | 76,8             | 228,5                | 41,4                       | 235,0                | 317,6          | 791,6                                       | 24127,4                            | 11629,3                            | 556,5                    | 418,9          |
|                 | 330,2       | RDG60013  | 603,5            | 933,7            | 391,2              | 76,8              | 76,8             | 228,5                | 41,4                       | 235,0                | 317,6          | 791,6                                       | 26138,0                            | 12598,4                            | 556,5                    | 435,2          |
|                 | 355,6       | RDG60014  | 628,9            | 984,5            | 391,2              | 76,8              | 76,8             | 228,5                | 41,4                       | 235,0                | 317,6          | 791,6                                       | 28148,7                            | 13567,5                            | 556,5                    | 451,6          |

Model Shown:

**RD10013, RD556, RD300**



▶ Four special order 500 ton, 610 mm stroke cylinders used in a swaging press for crimping 89 mm wire rope.



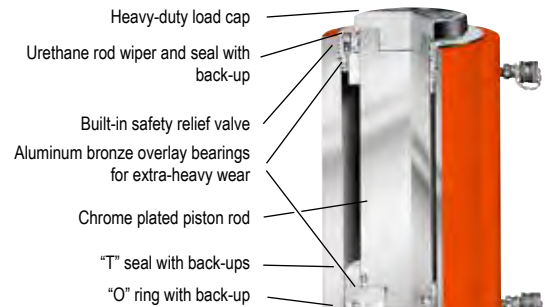
**Features**

**HIGH TONNAGE PREMIUM DESIGN FOR HIGH CYCLE LIFE.**

- Perfect for bridge lifting, building reconstruction, shipyard, utility and mining equipment maintenance.
- Aluminum bronze overlay bearings provide long life.
- Chrome plated piston rod resists corrosion.
- Rod and collar threads are designed to withstand full tonnage.
- Grooved ring pattern in load cap helps guard against load slippage.
- Each cylinder has two 9796 3/8" NPTF female half couplers.
- Built-in safety relief valve prevents over-pressurization of the retract circuit.
- Feature mounting holes and collar threads.
- Complies with ANSI / ASME B30.1 safety standards.



**RD Series Design Features**



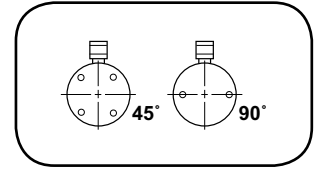
**RD Series Performance**

The table at right gives you an idea of what to expect when coupling RD series cylinders to a Power Team pump. Actual performance will vary according to job conditions.

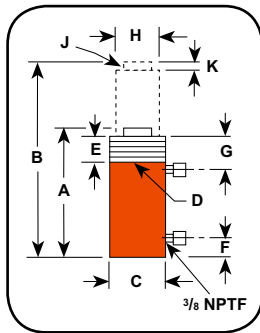
| Pump         | Cylinder | Time to Extend Cylinder 25,4 mm |           |
|--------------|----------|---------------------------------|-----------|
|              |          | 7 bar                           | 700 bar   |
| PE55         | RD55     | 1,0 sec.                        | 12,0 sec. |
|              | RD100    | 1,8 sec.                        | 22,5 sec. |
|              | RD200    | 3,5 sec.                        | 45,0 sec. |
|              | RD400    | 7,2 sec.                        | 92,0 sec. |
| PQ120 Series | RD200    | 3,4 sec.                        | 20,6 sec. |
|              | RD300    | 4,9 sec.                        | 30,0 sec. |
|              | RD400    | 6,4 sec.                        | 39,0 sec. |
| PE400 Series | RD500    | 8,1 sec.                        | 49,5 sec. |
|              | RD300    | 3,0 sec.                        | 8,5 sec.  |
|              | RD400    | 3,9 sec.                        | 11,1 sec. |
|              | RD500    | 4,9 sec.                        | 14,1 sec. |

► Technical Dimensions, Base Mounting Holes

| Cylinder Tonnage          | 10      | 25      | 55      | 80      | 100     | 150  | 200      | 300      | 400       | 500       |
|---------------------------|---------|---------|---------|---------|---------|------|----------|----------|-----------|-----------|
| # of Holes                | 2       | 4       | 4       | 4       | 4       | 4    | 4        | 4        | 4         | 6         |
| Thread Size               | 3/8"-16 | 1/2"-13 | 5/8"-11 | 5/8"-11 | 3/4"-10 | 1"-8 | 1 1/4"-7 | 1 1/4"-7 | 1 1/2"-12 | 1 3/8"-12 |
| Thread Depth (mm)         | 16      | 19      | 22      | 22      | 25      | 25   | 32       | 44       | 48        | 51        |
| Bolt Circle Diameter (mm) | 51      | 70      | 89      | 114     | 140     | 152  | 165      | 159      | 184       | 203       |
| Orientation*              | 90°     | 45°     | 45°     | 45°     | 45°     | 45°  | 45°      | Random   | Random    | Random    |



NOTE: Base mounting holes are standard on all RD cylinders. \*Orientation of base mounting holes to coupler.



Optional Swivel Load Caps Ordering Info

| Cylinder Tonnage | Swivel Cap Order No. | Wt. (kg) | A (mm) | B (mm) | C (mm) |
|------------------|----------------------|----------|--------|--------|--------|
| 10               | 350144               | 0,4      | 22,2   | 36,5   | 21,8   |
| 25               | 350145               | 0,6      | 28,6   | 54,0   | 36,5   |
| 55               | 351325               | 1,9      | 61,9   | 63,5   | 39,3   |
| 100              | 351324               | 5,1      | 75,0   | 95,3   | 67,5   |
| 150/200          | 351334               | 5,8      | 66,7   | 111,1  | 77,8   |

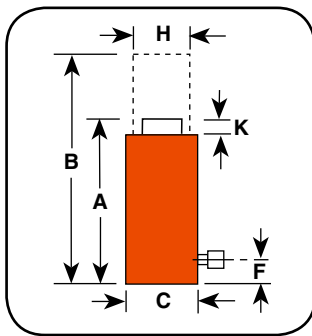
► Ordering Information

| Cyl. Cap. | Stroke | Order No. | Oil Cap. | A                 | B                | C            | D                  | E                    | F            | G                       | H               | J                       | K                     | Load Cap. Dia.   | Bore Dia. | Cylinder Effective Area |       | Metric Tons at 700 |       | Prod. Wt. |                    |       |
|-----------|--------|-----------|----------|-------------------|------------------|--------------|--------------------|----------------------|--------------|-------------------------|-----------------|-------------------------|-----------------------|------------------|-----------|-------------------------|-------|--------------------|-------|-----------|--------------------|-------|
|           |        |           |          | Re-tracted Height | Ex-tended Height | Outside Dia. | Collar Thread Size | Thread Length Thread | Base to Port | Cyl. Piston Top to Port | Piston Rod Dia. | Rod Int. Thread & Depth | Piston Rod Protrusion |                  |           | Push                    | Pull  | Push               | Pull  |           |                    |       |
|           |        |           |          | (mm)              | (mm)             | (mm)         | (in.)              | (mm)                 | (mm)         | (mm)                    | (mm)            | (mm)                    | (in.)                 |                  |           | (mm)                    | (mm)  | (mm)               | (mm)  |           | (cm <sup>2</sup> ) | (bar) |
| 10        | 4      | 158,8     | RD106    | 228               | 90               | 296,9        | 455,6              | 76,2                 | 2 3/4 - 12   | 41,3                    | 25,4            | 63,5                    | 33,3                  | 1-8 x 25,4       | 6,4       | 34,9                    | 42,9  | 14,4               | 5,7   | 10,2      | 4,0                | 10,0  |
|           | 4      | 254,0     | RD1010   | 366               | 144              | 398,5        | 652,5              | 76,2                 | 2 3/4 - 12   | 41,3                    | 25,4            | 63,5                    | 33,3                  | 1-8 x 25,4       | 6,4       | 34,9                    | 42,9  | 14,4               | 5,7   | 10,2      | 4,0                | 12,7  |
| 25        | 8      | 158,8     | RD256    | 528               | 166              | 314,3        | 473,1              | 101,6                | 4 - 12       | 41,3                    | 25,4            | 63,5                    | 54,0                  | 1 1/2-16 x 25,4  | 9,5       | 54,0                    | 65,1  | 33,2               | 10,4  | 23,4      | 7,3                | 18,1  |
|           | 8      | 362,0     | RD2514   | 1205              | 376              | 517,5        | 879,5              | 101,6                | 4 - 12       | 41,3                    | 25,4            | 63,5                    | 54,0                  | 1 1/2-16 x 25,4  | 9,5       | 54,0                    | 65,1  | 33,2               | 10,4  | 23,4      | 7,3                | 29,5  |
| 55        | 28     | 158,8     | RD556    | 1132              | 577              | 329,4        | 488,2              | 127,0                | 5 - 12       | 41,3                    | 33,3            | 63,5                    | 66,7                  | 1 11/16-8 x 30,2 | 15,9      | 66,7                    | 95,3  | 71,2               | 36,3  | 50,1      | 25,6               | 27,9  |
|           | 28     | 333,4     | RD5513   | 2376              | 1212             | 504,0        | 837,4              | 127,0                | 5 - 12       | 41,3                    | 33,3            | 63,5                    | 66,7                  | 1 11/16-8 x 30,2 | 15,9      | 66,7                    | 95,3  | 71,2               | 36,3  | 50,1      | 25,6               | 40,9  |
|           | 28     | 460,4     | RD5518   | 3280              | 1673             | 657,2        | 1117,6             | 127,0                | 5 - 12       | 41,3                    | 33,3            | 63,5                    | 66,7                  | 1 11/16-8 x 30,2 | 15,9      | 66,7                    | 95,3  | 71,2               | 36,3  | 50,1      | 25,6               | 64,5  |
| 80        | 44     | 333,4     | RD8013   | 3421              | 1901             | 517,5        | 850,9              | 146,1                | 5 3/4 - 12   | 41,3                    | 38,1            | 63,5                    | 76,2                  | 2-4 1/2 x 38,1   | 14,3      | 73,0                    | 114,3 | 102,6              | 57,0  | 72,1      | 40,1               | 53,6  |
|           | 44     | 168,3     | RD1006   | 2242              | 959              | 350,0        | 518,3              | 174,6                | 6 7/8 - 12   | 41,3                    | 38,1            | 63,5                    | 98,4                  | 2 3/4-12 x 29,4  | 15,9      | 98,4                    | 130,2 | 133,1              | 57,0  | 93,5      | 40,1               | 57,2  |
| 100       | 44     | 333,4     | RD10013  | 4440              | 1902             | 515,1        | 848,5              | 174,6                | 6 7/8 - 12   | 41,3                    | 38,1            | 63,5                    | 98,4                  | 2 3/4-12 x 29,4  | 15,9      | 98,4                    | 130,2 | 133,1              | 57,0  | 93,5      | 40,1               | 82,2  |
|           | 44     | 511,2     | RD10020  | 6809              | 2919             | 718,3        | 1229,5             | 174,6                | 6 7/8 - 12   | 41,3                    | 38,1            | 63,5                    | 98,4                  | 2 3/4-12 x 29,4  | 15,9      | 98,4                    | 130,2 | 133,1              | 57,0  | 93,5      | 40,1               | 118,0 |
|           | 73     | 168,3     | RD1506   | 3334              | 1606             | 377,8        | 546,1              | 209,6                | 8 1/4 - 12   | 41,3                    | 50,8            | 63,5                    | 114,3                 | 3 1/4-8 x 38,1   | 20,6      | 114,3                   | 158,8 | 197,9              | 95,3  | 139,1     | 66,9               | 85,4  |
| 150       | 73     | 333,4     | RD15013  | 6604              | 3180             | 542,9        | 876,3              | 209,6                | 8 1/4 - 12   | 41,3                    | 50,8            | 63,5                    | 114,3                 | 3 1/4-8 x 38,1   | 20,6      | 114,3                   | 158,8 | 197,9              | 95,3  | 139,1     | 66,9               | 123,5 |
|           | 73     | 460,4     | RD15018  | 9132              | 4392             | 673,9        | 1134,3             | 209,6                | 8 1/4 - 12   | 41,3                    | 50,8            | 63,5                    | 114,3                 | 3 1/4-8 x 38,1   | 19,1      | 114,3                   | 158,8 | 197,9              | 95,3  | 139,1     | 66,9               | 170,7 |
|           | 113    | 168,3     | RD2006   | 4485              | 2457             | 406,4        | 574,7              | 241,3                | 9 1/2 - 12   | 41,3                    | 63,5            | 68,3                    | 123,8                 | 3 1/4-8 x 57,1   | 27,0      | 114,3                   | 184,2 | 266,3              | 145,9 | 187,2     | 102,6              | 118,9 |
| 200       | 113    | 333,4     | RD20013  | 8886              | 4869             | 571,5        | 904,9              | 241,3                | 9 1/2 - 12   | 41,3                    | 63,5            | 68,3                    | 123,8                 | 3 1/4-8 x 57,1   | 27,0      | 114,3                   | 184,2 | 266,3              | 145,9 | 187,2     | 102,6              | 161,6 |
|           | 113    | 460,4     | RD20018  | 12270             | 6722             | 723,9        | 1184,3             | 241,3                | 9 1/2 - 12   | 41,3                    | 63,5            | 68,3                    | 123,8                 | 3 1/4-8 x 57,1   | 27,0      | 114,3                   | 184,2 | 266,3              | 145,9 | 187,2     | 102,6              | 200,7 |
|           | 147    | 152,4     | RD3006   | 5920              | 2903             | 488,9        | 591,3              | 273,1                | 10 1/2 - 12  | 60,3                    | 85,7            | 85,7                    | 158,8                 | 2 1/2-12 x 82,5  | 28,6      | 174,6                   | 222,3 | 387,8              | 190,0 | 272,7     | 133,6              | 172,5 |
| 300       | 147    | 330,2     | RD30013  | 12825             | 6281             | 630,2        | 960,4              | 273,1                | 10 1/2 - 12  | 60,3                    | 85,7            | 85,7                    | 158,8                 | 2 1/2-12 x 82,5  | 28,6      | 174,6                   | 222,3 | 387,8              | 190,0 | 272,7     | 133,6              | 296,9 |
|           | 186    | 152,4     | RD4006   | 7724              | 4051             | 489,7        | 642,1              | 320,7                | 12 1/2 - 8   | 69,9                    | 97,6            | 184,2                   | 184,2                 | 3-12 x 92,2      | 31,8      | 198,4                   | 254,0 | 506,6              | 240,3 | 356,2     | 169,0              | 265,6 |
| 400       | 186    | 330,2     | RD40013  | 16744             | 8790             | 667,5        | 997,7              | 320,7                | 12 1/2 - 8   | 69,9                    | 97,6            | 184,2                   | 184,2                 | 3-12 x 92,2      | 31,8      | 198,4                   | 254,0 | 506,6              | 240,3 | 356,2     | 169,0              | 349,6 |
|           | 245    | 152,4     | RD5006   | 9774              | 4838             | 522,3        | 674,7              | 374,7                | 14 3/4 - 8   | 79,4                    | 105,6           | 105,6                   | 203,2                 | 3 1/4-12 x 107,9 | 38,1      | 215,9                   | 285,8 | 641,1              | 317,0 | 450,8     | 222,8              | 371,8 |
| 500       | 245    | 330,2     | RD50013  | 21189             | 10480            | 700,1        | 1030,3             | 374,7                | 14 3/4 - 8   | 79,4                    | 105,6           | 105,6                   | 203,2                 | 3 1/4-12 x 107,9 | 38,1      | 215,9                   | 285,8 | 641,1              | 317,0 | 450,8     | 222,8              | 495,8 |

Model Shown:  
**R2802C**



**Technical Dimensions**



**Ordering Information**

| Cyl. Cap.<br>(ton) | Stroke<br>(mm) | Order No. | Oil Cap.<br>(cm <sup>3</sup> ) | A                        | B                       | C                    | F                    | H                       | K                             | Bore Dia.<br>(mm) | Cylinder Effective Area<br>(cm <sup>2</sup> ) | Metric Tons at 700<br>(bar) | Prod. Wt.<br>(kg) |
|--------------------|----------------|-----------|--------------------------------|--------------------------|-------------------------|----------------------|----------------------|-------------------------|-------------------------------|-------------------|---|-----------------------------|-------------------|
|                    |                |           |                                | Retracted Height<br>(mm) | Extended Height<br>(mm) | Outside Dia.<br>(mm) | Base to Port<br>(mm) | Piston Rod Dia.<br>(mm) | Piston Rod Protrusion<br>(mm) |                   |   |                             |                   |
| 55                 | 50,8           | R552C     | 362                            | 125,4                    | 176,2                   | 127,0                | 25,4                 | 95,3                    | 3,2                           | 95,3              | 71,2  | 50,1                        | 12,3              |
|                    | 152,4          | R556C     | 1087                           | 227,0                    | 379,4                   | 127,0                | 25,4                 | 95,3                    | 3,2                           | 95,3              | 71,2  | 50,1                        | 22,7              |
|                    | 254,0          | R5510C    | 1811                           | 328,6                    | 582,6                   | 127,0                | 25,4                 | 95,3                    | 3,2                           | 95,3              | 71,2  | 50,1                        | 32,7              |
| 100                | 50,8           | R1002C    | 677                            | 139,7                    | 190,5                   | 165,1                | 25,4                 | 130,2                   | 3,2                           | 130,2             | 133,1   | 93,6                        | 23,6              |
|                    | 152,4          | R1006C    | 2030                           | 241,3                    | 393,7                   | 165,1                | 25,4                 | 130,2                   | 3,2                           | 130,2             | 133,1   | 93,6                        | 40,4              |
| 150                | 50,8           | R1502C    | 1007                           | 161,9                    | 212,7                   | 204,8                | 31,8                 | 158,8                   | 3,2                           | 158,8             | 197,9   | 139,1                       | 41,8              |
|                    | 152,4          | R1506C    | 3019                           | 263,5                    | 415,9                   | 204,8                | 31,8                 | 158,8                   | 3,2                           | 158,8             | 197,9   | 139,1                       | 68,6              |
|                    | 254,0          | R15010C   | 5032                           | 365,1                    | 619,1                   | 204,8                | 31,8                 | 158,8                   | 3,2                           | 158,8             | 197,9   | 139,1                       | 95,3              |
| 200                | 50,8           | R2002C    | 1355                           | 190,5                    | 241,3                   | 235,0                | 41,3                 | 184,2                   | 3,2                           | 184,2             | 266,3   | 187,2                       | 65,8              |
|                    | 152,4          | R2006C    | 4062                           | 292,1                    | 444,5                   | 235,0                | 41,3                 | 184,2                   | 3,2                           | 184,2             | 266,3   | 187,2                       | 100,3             |
| 280                | 50,8           | R2802C    | 1861                           | 190,5                    | 241,3                   | 260,4                | 41,3                 | 215,9                   | 3,2                           | 215,9             | 365,9   | 257,5                       | 91,6              |
|                    | 152,4          | R2806C    | 5583                           | 292,1                    | 444,5                   | 276,2                | 41,3                 | 215,9                   | 3,2                           | 215,9             | 365,9   | 257,5                       | 136,7             |
| 355                | 50,8           | R3552C    | 2326                           | 231,8                    | 282,6                   | 298,5                | 54,0                 | 241,3                   | 3,2                           | 241,3             | 457,2   | 321,4                       | 137,1             |
|                    | 152,4          | R3556C    | 6975                           | 333,4                    | 485,8                   | 298,5                | 54,0                 | 241,3                   | 3,2                           | 241,3             | 457,2   | 321,4                       | 197,0             |
|                    | 254,0          | R35510C   | 11624                          | 435,0                    | 689,0                   | 298,5                | 54,0                 | 241,3                   | 3,2                           | 241,3             | 457,2   | 321,4                       | 256,5             |
| 430                | 50,8           | R4302C    | 2841                           | 263,5                    | 314,3                   | 330,2                | 63,5                 | 266,7                   | 3,2                           | 266,7             | 558,5   | 392,7                       | 199,8             |
|                    | 152,4          | R4306C    | 18548                          | 365,1                    | 517,5                   | 330,2                | 63,5                 | 266,7                   | 3,2                           | 266,7             | 558,5   | 392,7                       | 276,5             |
| 565                | 50,8           | R5652C    | 3710                           | 292,1                    | 342,9                   | 377,8                | 69,9                 | 304,8                   | 3,2                           | 304,8             | 729,5   | 512,9                       | 289,7             |
|                    | 152,4          | R5656C    | 11129                          | 393,7                    | 546,1                   | 377,8                | 69,9                 | 304,8                   | 3,2                           | 304,8             | 729,5   | 512,9                       | 389,5             |
|                    | 254,0          | R56510C   | 18548                          | 495,3                    | 749,3                   | 377,8                | 69,9                 | 304,8                   | 3,2                           | 304,8             | 729,5   | 512,9                       | 489,4             |

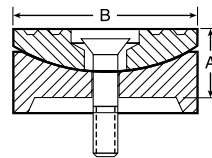
**Features**

**HIGH-TONNAGE, LOW CYCLE APPLICATION, GRAVITY RETURN.**

- Visible indicator band alerts when stroke limit is reached. Overflow port (weep hole) stroke limiter prevents piston from being overextended.
- Alloy heat treated piston and body for reliability and strength.
- Plated piston rod increases corrosion resistance and gives superior bearing support.
- Optional swivel load caps reduce the effects of off-center loading tilts up to 5 degrees. Radial grooves on top of cap reduce load slippage.



**Optional Swivel Load Caps Ordering Info**



| Cylinder Tonnage | Swivel Cap Order No. | Wt. (kg) | A (mm) | B (mm) |
|------------------|----------------------|----------|--------|--------|
| 150-200          | 420867               | 4,0      | 38,1   | 130,2  |
| 280              | 420868               | 6,1      | 44,5   | 149,2  |
| 355              | 420869               | 16,8     | 69,9   | 195,3  |
| 430              | 420870               | 23,6     | 79,4   | 225,4  |
| 565              | 420871               | 35,4     | 92,1   | 250,8  |

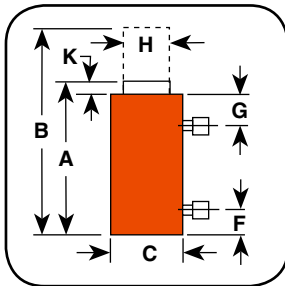
Reduce the effects of off-center loading. Tilt up to 5 degrees. Radial grooves on top of cap reduce load slippage. Notch across face of each cap helps keep loads having a protruding or round shaped centered.

Model Shown:

**R2806D, R1502D**



► **Technical Dimensions**



► **Ordering Information**

| Cyl. Cap.<br>(ton) | Stroke<br>(mm) | Order No. | Oil Cap.<br>(cm <sup>3</sup> ) |        | A                        | B                       | C                    | F                    | G                            | H                       | K                             | Bore Dia.<br>(mm) | Cylinder Effective Area<br>(cm <sup>2</sup> ) | Metric Tons at 700<br>(bar) | Prod. Wt.<br>(kg) |
|--------------------|----------------|-----------|--------------------------------|--------|--------------------------|-------------------------|----------------------|----------------------|------------------------------|-------------------------|-------------------------------|-------------------|---|-----------------------------|-------------------|
|                    |                |           |                                |        | Retracted Height<br>(mm) | Extended Height<br>(mm) | Outside Dia.<br>(mm) | Base to Port<br>(mm) | Cylinder Top to Port<br>(mm) | Piston Rod Dia.<br>(mm) | Piston Rod Protrusion<br>(mm) |                   |   |                             |                   |
|                    |                |           | Push                           | Return |                          |                         |                      |                      |                              |                         |                               |                   |   |                             |                   |
| 100                | 50,8           | R1002D    | 675                            | 315    | 168,7                    | 219,5                   | 165,1                | 25,4                 | 55,9                         | 95,3                    | 7,1                           | 130,3             | 132,9   | 93,4                        | 24,5              |
|                    | 152,4          | R1006D    | 2025                           | 944    | 270,3                    | 422,7                   | 165,1                | 25,4                 | 55,9                         | 95,3                    | 7,1                           | 130,3             | 132,9   | 93,4                        | 36,7              |
|                    | 254,0          | R10010D   | 3376                           | 1573   | 371,9                    | 625,9                   | 165,1                | 25,4                 | 55,9                         | 95,3                    | 7,1                           | 130,3             | 132,9   | 93,4                        | 49,0              |
| 150                | 50,8           | R1502D    | 1006                           | 485    | 189,0                    | 239,8                   | 204,7                | 31,8                 | 57,2                         | 114,3                   | 7,6                           | 158,8             | 198,1   | 139,1                       | 43,1              |
|                    | 152,4          | R1506D    | 3019                           | 1455   | 290,6                    | 443,0                   | 204,7                | 31,8                 | 57,2                         | 114,3                   | 7,6                           | 158,8             | 198,1   | 139,1                       | 61,7              |
| 200                | 50,8           | R2002D    | 1354                           | 642    | 206,8                    | 257,6                   | 235,0                | 41,4                 | 58,7                         | 133,4                   | 8,6                           | 184,2             | 266,5   | 187,2                       | 61,7              |
|                    | 152,4          | R2006D    | 4061                           | 1927   | 308,4                    | 460,8                   | 235,0                | 41,4                 | 58,7                         | 133,4                   | 8,6                           | 184,2             | 266,5   | 187,2                       | 84,8              |
|                    | 254,0          | R20010D   | 6768                           | 3212   | 410,0                    | 664,0                   | 235,0                | 41,4                 | 58,7                         | 133,4                   | 8,6                           | 184,2             | 266,5   | 187,2                       | 108,4             |
| 280                | 50,8           | R2802D    | 1858                           | 773    | 233,7                    | 284,5                   | 276,4                | 47,8                 | 65,5                         | 165,1                   | 10,4                          | 215,9             | 365,8   | 257,3                       | 99,3              |
|                    | 152,4          | R2806D    | 5575                           | 2320   | 335,3                    | 487,7                   | 276,4                | 47,8                 | 65,5                         | 165,1                   | 10,4                          | 215,9             | 365,8   | 257,3                       | 134,7             |
|                    | 254,0          | R28010D   | 9291                           | 3867   | 436,9                    | 690,9                   | 276,4                | 47,8                 | 65,5                         | 165,1                   | 10,4                          | 215,9             | 365,8   | 257,3                       | 170,6             |
| 355                | 50,8           | R3552D    | 2324                           | 777    | 66,8                     | 339,9                   | 298,5                | 54,1                 | 69,9                         | 196,9                   | 11,2                          | 241,3             | 457,4   | 321,4                       | 147,0             |
|                    | 152,4          | R3556D    | 6971                           | 2330   | 390,7                    | 543,1                   | 298,5                | 54,1                 | 69,9                         | 196,9                   | 11,2                          | 241,3             | 457,4   | 321,4                       | 191,0             |
| 430                | 50,8           | R4302D    | 2838                           | 977    | 312,7                    | 363,5                   | 330,2                | 63,5                 | 74,9                         | 215,9                   | 11,9                          | 266,7             | 558,7   | 392,7                       | 199,1             |
|                    | 152,4          | R4306D    | 8515                           | 2930   | 414,3                    | 566,7                   | 330,2                | 63,5                 | 74,9                         | 215,9                   | 11,9                          | 266,7             | 558,7   | 392,7                       | 253,1             |
|                    | 254,0          | R43010D   | 14191                          | 4883   | 515,9                    | 769,9                   | 330,2                | 63,5                 | 74,9                         | 215,9                   | 11,9                          | 266,7             | 558,7   | 392,7                       | 305,3             |
| 565                | 50,8           | R5652D    | 3707                           | 1259   | 345,2                    | 396,0                   | 378,0                | 69,9                 | 81,3                         | 247,7                   | 14,0                          | 304,8             | 729,7   | 512,9                       | 280,8             |
|                    | 152,4          | R5656D    | 11120                          | 3776   | 446,8                    | 599,2                   | 378,0                | 69,9                 | 81,3                         | 247,7                   | 14,0                          | 304,8             | 729,7   | 512,9                       | 350,2             |
|                    | 254,0          | R56510D   | 18534                          | 6293   | 548,4                    | 802,4                   | 378,0                | 69,9                 | 81,3                         | 247,7                   | 14,0                          | 304,8             | 729,7   | 512,9                       | 420,0             |

► **Features**

**HIGH-TONNAGE, LOW CYCLE, HYDRAULIC RETURN CYLINDERS.**

- Cylinders come standard with swivel caps to reduce the effects of off-center loading.
- Cylinders may be “dead-ended” without damage.
- Hard chrome plated, heat treated piston rod reduces wear on piston and gland nut.
- Built-in safety relief valve prevents over-pressurization of the retraction circuit.
- Each cylinder has two 9796 3/8" NPTF female half couplers.



**Hydraulic Hoses**

Heavy-duty and thermo plastic hydraulic hoses to meet your requirements and safety factor.

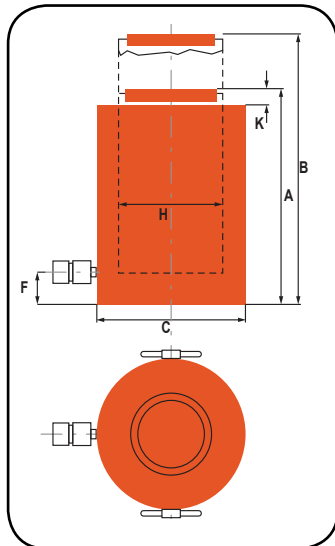
Refer to the accessories section for details.



Model Shown:  
**RC7406C**



**Technical Dimensions**



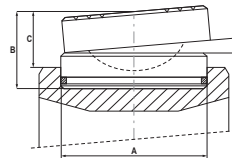
**Features**

**HIGH-TONNAGE, LOW CYCLE, GRAVITY RETURN CYLINDERS.**

- Overflow port (weep hole) prevents piston from being overextended under load.
- Alloy heat treated piston and body for reliability and strength.
- Plated piston rod increases corrosion resistance and gives superior bearing support.
- Complies with ANSI / ASME B30.1 safety standards.



**Optional Swivel Load Caps Ordering Info**



Reduce the effects of off-center loading. Tilt up to 5 degrees. Radial grooves on top of cap reduce load slippage. Notch across face of each cap helps keep loads having a round shaped center.

| Used with Cylinder | Swivel Cap Order No. | Wt. (kg) | A (mm) | B (mm) | C (mm) |
|--------------------|----------------------|----------|--------|--------|--------|
| RC740_D            | 2000822              | 19,3     | 200,1  | 78,7   | 55,9   |
| RC965_D            | 2000823              | 40       | 248,9  | 104,1  | 76,2   |
| RC1220_D           | 2000825              | 113      | 322,6  | 175,3  | 124,5  |



**Hydraulic Hoses**

Heavy-duty and thermo plastic hydraulic hoses to meet your requirements and safety factor.



Refer to the accessories section for details.

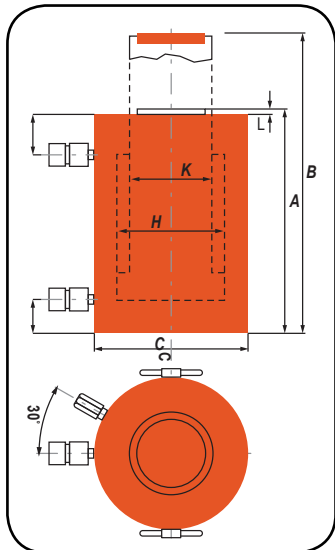
**Ordering Information**

| Cyl. Cap. (ton) | Stroke (mm) | Order No. | Oil Cap. (cm <sup>3</sup> ) | A                     | B                    | C                 | F                 | H                    | K                          | Bore Dia. (mm) | Cylinder Effective Area (cm <sup>2</sup> ) | Metric Tons at 700 (bar) | Prod. Wt. (kg) |
|-----------------|-------------|-----------|-----------------------------|-----------------------|----------------------|-------------------|-------------------|----------------------|----------------------------|----------------|--|--------------------------|----------------|
|                 |             |           |                             | Retracted Height (mm) | Extended Height (mm) | Outside Dia. (mm) | Base to Port (mm) | Piston Rod Dia. (mm) | Piston Rod Protrusion (mm) |                |  |                          |                |
| 740             | 50,8        | RC7402C   | 4811                        | 265                   | 315                  | 430               | 65                | 350                  | 9                          | 350            | 962,0                                      | 673,5                    | 300            |
|                 | 152,4       | RC7406C   | 14432                       | 365                   | 515                  | 430               | 65                | 350                  | 9                          | 350            | 962,0                                      | 673,5                    | 416            |
|                 | 254,0       | RC74010C  | 24053                       | 465                   | 715                  | 430               | 65                | 350                  | 9                          | 350            | 962,0                                      | 673,5                    | 530            |
| 965             | 50,8        | RC9652C   | 6280                        | 290                   | 340                  | 490               | 70                | 400                  | 10                         | 400            | 1256,6                                     | 878,7                    | 423            |
|                 | 152,4       | RC9656C   | 18848                       | 390                   | 540                  | 490               | 70                | 400                  | 10                         | 400            | 1256,6                                     | 878,7                    | 577            |
|                 | 254,0       | RC96510C  | 31401                       | 490                   | 740                  | 490               | 70                | 400                  | 10                         | 400            | 1256,6                                     | 878,7                    | 725            |
| 1220            | 50,8        | RC12202C  | 7949                        | 415                   | 465                  | 550               | 80                | 450                  | 10                         | 450            | 1590,4                                     | 1113,3                   | 766            |
|                 | 152,4       | RC12206C  | 23856                       | 440                   | 665                  | 550               | 80                | 450                  | 10                         | 450            | 1590,4                                     | 1113,3                   | 960            |
|                 | 254,0       | RC122010C | 40184                       | 615                   | 865                  | 550               | 80                | 450                  | 10                         | 450            | 1590,4                                     | 1113,3                   | 1147           |

Model Shown:  
**RC7406D**



► **Technical Dimensions**



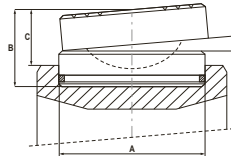
► **Features**

**HIGH-TONNAGE CYLINDERS RUGGED AND RELIABLE.**

- Cylinders come standard with hardened caps.
- Cylinders may be “dead-ended” without damage.
- Safety relief valve prevents over-pressurization of the retract circuit.
- Each cylinder has two 9796 3/8” NPTF female half couplers.
- Complies with ANSI / ASME B30.1 safety standards.



**Optional Swivel Load Caps Ordering Info**



Reduce the effects of off-center loading. Tilt up to 5 degrees. Radial grooves on top of cap reduce load slippage. Notch across face of each cap helps keep loads having a round shaped center.

| Used with Cylinder | Swivel Cap Order No. | Wt. (kg) | A (mm) | B (mm) | C (mm) |
|--------------------|----------------------|----------|--------|--------|--------|
| RC740 D            | 2000822              | 19,3     | 200,1  | 78,7   | 55,9   |
| RC965 D            | 2000823              | 40       | 248,9  | 104,1  | 76,2   |
| RC1220 D           | 2000825              | 113      | 322,6  | 175,3  | 124,5  |

► **Ordering Information**

| Cyl. Cap. (ton) | Stroke (mm) | Order No. | Oil Cap. (cm³) | A                     | B                    | C                 | F                 | G                         | H              | K                    | L                          | Cylinder Effective Area (cm²) | Metric Tons at 700 (bar) | Prod. Wt. (kg) |
|-----------------|-------------|-----------|----------------|-----------------------|----------------------|-------------------|-------------------|---------------------------|----------------|----------------------|----------------------------|-------------------------------|--------------------------|----------------|
|                 |             |           |                | Retracted Height (mm) | Extended Height (mm) | Outside Dia. (mm) | Base to Port (mm) | Cylinder Top to Port (mm) | Bore Dia. (mm) | Piston Rod Dia. (mm) | Piston Rod Protrusion (mm) |                               |                          |                |
| 740             | 50,8        | RC7402D   | 4811           | 283                   | 333                  | 430               | 65                | 105                       | 350,5          | 280                  | 9                          | 673,5                         | 673,5                    | 304            |
|                 | 152,4       | RC7406D   | 14432          | 398                   | 548                  | 430               | 65                | 105                       | 350,5          | 280                  | 9                          | 673,5                         | 673,5                    | 398            |
|                 | 254,0       | RC74010D  | 24053          | 508                   | 758                  | 430               | 65                | 105                       | 350,5          | 280                  | 9                          | 673,5                         | 673,5                    | 490            |
| 965             | 50,8        | RC9652D   | 6283           | 310                   | 360                  | 490               | 70                | 115                       | 398,8          | 320                  | 10                         | 878,7                         | 879,7                    | 434            |
|                 | 152,4       | RC9656D   | 18849          | 420                   | 570                  | 490               | 70                | 115                       | 398,8          | 320                  | 10                         | 878,7                         | 879,7                    | 551            |
|                 | 248,9       | RC96510D  | 31400          | 530                   | 780                  | 490               | 70                | 115                       | 398,8          | 320                  | 10                         | 878,7                         | 879,7                    | 668            |
| 1220            | 50,8        | RC12202D  | 7952           | 330                   | 380                  | 550               | 80                | 125                       | 449,6          | 360                  | 10                         | 1113,3                        | 1.113,3                  | 584            |
|                 | 152,4       | RC12206D  | 23856          | 440                   | 590                  | 550               | 80                | 125                       | 449,6          | 360                  | 10                         | 1113,3                        | 1.113,3                  | 731            |
|                 | 254,0       | RC122010D | 39761          | 550                   | 800                  | 550               | 80                | 125                       | 449,6          | 360                  | 10                         | 1113,3                        | 1.113,3                  | 878            |

Model Shown:

**RA1006L, RA556L**



**>Features**

**POSITIVE MECHANICAL LOCKING COLLAR TO SUPPORT EXTENDED LOAD HOLDING.**

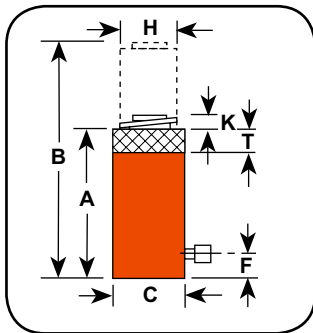
- Supports lifted load for extended periods of time with hydraulic pressure released.
- At half the weight of steel cylinders of comparable capacity, aluminum cylinders are ideal when portability is a key factor.
- Features carrying handle.
- Complies with ANSI / ASME B30.1 safety standards.

**i Locking Collar**



Locking collar feature permits non-hydraulic support of load.

**► Technical Dimensions**



**i Learn More - About Hydraulic Safety Insight**



Looking for great safety suggestions? Visit our Resource Section to get a better understanding of hydraulic and mechanical safety insights on what to look for when working around hydraulics.

**► Ordering Information**

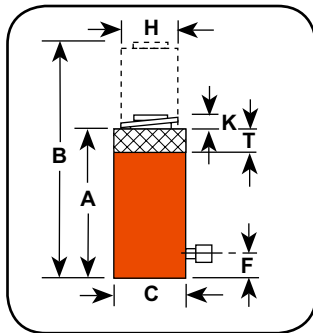
| Cyl. Cap. | Stroke | Order No. | Oil Cap.           | A                | B               | C            | F            | H               | K                     | T             | Bore Dia. | Cylinder Effective Area | Metric Tons at 700 | Prod. Wt. |
|-----------|--------|-----------|--------------------|------------------|-----------------|--------------|--------------|-----------------|-----------------------|---------------|-----------|-------------------------|--------------------|-----------|
|           |        |           |                    | Retracted Height | Extended Height | Outside Dia. | Base to Port | Piston Rod Dia. | Piston Rod Protrusion | Nut Thickness |           |                         |                    |           |
| (ton)     | (mm)   |           | (cm <sup>3</sup> ) | (mm)             | (mm)            | (mm)         | (mm)         | (mm)            | (mm)                  | (mm)          | (mm)      | (cm <sup>2</sup> )      | (bar)              | (kg)      |
| 55        | 155,5  | RA556L    | 1109               | 317,5            | 473,1           | 133,4        | 34,9         | 82,6            | 12,7                  | 38,1          | 95,3      | 71,2                    | 50,1               | 13,4      |
| 100       | 158,8  | RA1006L   | 2116               | 339,7            | 498,5           | 187,3        | 30,2         | 114,3           | 6,4                   | 38,1          | 130,2     | 133,0                   | 93,5               | 29,0      |



Model Shown:  
**R556L**



► **Technical Dimensions**



► **Ordering Information**

| Cyl. Cap.<br>(ton) | Stroke<br>(mm) | Order No. | Oil Cap.<br>(cm <sup>3</sup> ) | A                        | B                       | C                    | F                    | K                       | L                             | T                     | Bore Dia.<br>(mm) | Cylinder Effective Area<br>(cm <sup>2</sup> ) | Metric Tons at 700<br>(bar) | Prod. Wt.<br>(kg) |
|--------------------|----------------|-----------|--------------------------------|--------------------------|-------------------------|----------------------|----------------------|-------------------------|-------------------------------|-----------------------|-------------------|---|-----------------------------|-------------------|
|                    |                |           |                                | Retracted Height<br>(mm) | Extended Height<br>(mm) | Outside Dia.<br>(mm) | Base to Port<br>(mm) | Piston Rod Dia.<br>(mm) | Piston Rod Protrusion<br>(mm) | Nut Thickness<br>(mm) |                   |   |                             |                   |
| 55                 | 50,8           | R552L     | 362                            | 161,9                    | 212,7                   | 125,4                | 25,4                 | 95,3                    | 3,2                           | 36,5                  | 95,3              | 71,2  | 50,1                        | 15,3              |
|                    | 152,4          | R556L     | 1087                           | 263,5                    | 415,9                   | 125,4                | 25,4                 | 95,3                    | 3,2                           | 36,5                  | 95,3              | 71,2  | 50,1                        | 26,3              |
|                    | 254,0          | R5510L    | 1811                           | 365,1                    | 619,1                   | 125,4                | 25,4                 | 95,3                    | 3,2                           | 36,5                  | 95,3              | 71,2  | 50,1                        | 36,3              |
| 100                | 50,8           | R1002L    | 677                            | 184,2                    | 235,0                   | 165,1                | 25,4                 | 130,2                   | 3,2                           | 44,5                  | 130,2             | 133,1   | 93,4                        | 30,0              |
|                    | 152,4          | R1006L    | 2030                           | 285,8                    | 438,2                   | 165,1                | 25,4                 | 130,2                   | 3,2                           | 44,5                  | 130,2             | 133,1   | 93,4                        | 46,8              |
|                    | 254,0          | R10010L   | 3383                           | 387,4                    | 641,4                   | 165,1                | 25,4                 | 130,2                   | 3,2                           | 44,5                  | 130,2             | 133,1   | 93,4                        | 64,5              |
| 150                | 50,8           | R1502L    | 1007                           | 206,4                    | 257,2                   | 204,8                | 31,8                 | 158,8                   | 3,2                           | 44,5                  | 158,8             | 197,9   | 139,1                       | 53,0              |
|                    | 152,4          | R1506L    | 3019                           | 308,0                    | 460,4                   | 204,8                | 31,8                 | 158,8                   | 3,2                           | 44,5                  | 158,8             | 197,9   | 139,1                       | 80,4              |
|                    | 254,0          | R15010L   | 5027                           | 409,7                    | 663,7                   | 204,7                | 31,8                 | 158,8                   | 3,2                           | 44,5                  | 158,8             | 197,9   | 153,4                       | 106,6             |
| 200                | 50,8           | R2002L    | 1355                           | 241,3                    | 292,1                   | 235,0                | 41,3                 | 184,2                   | 3,2                           | 50,8                  | 184,2             | 266,3   | 187,2                       | 83,1              |
|                    | 152,4          | R2006L    | 4062                           | 342,9                    | 495,3                   | 235,0                | 41,3                 | 184,2                   | 3,2                           | 50,8                  | 184,2             | 266,3   | 187,2                       | 117,6             |
|                    | 203,2          | R2008L    | 3303                           | 393,7                    | 596,9                   | 234,6                | 41,4                 | 184,2                   | 3,2                           | 50,8                  | 184,2             | 266,3   | 206,4                       | 102,2             |
| 280                | 50,8           | R2802L    | 1861                           | 247,7                    | 298,5                   | 276,2                | 41,3                 | 215,9                   | 3,2                           | 57,2                  | 215,9             | 366,0   | 257,3                       | 118,5             |
|                    | 152,4          | R2806L    | 5583                           | 349,3                    | 501,7                   | 276,2                | 41,3                 | 215,9                   | 3,2                           | 57,2                  | 215,9             | 366,0   | 257,3                       | 163,0             |
|                    | 254,0          | R28010L   | 9305                           | 450,9                    | 704,9                   | 276,2                | 41,3                 | 215,9                   | 3,2                           | 57,2                  | 215,9             | 366,0   | 257,3                       | 208,1             |
| 355                | 50,8           | R3552L    | 2326                           | 292,1                    | 342,9                   | 298,5                | 54,0                 | 241,3                   | 3,2                           | 60,3                  | 241,3             | 457,2   | 321,4                       | 173               |
|                    | 152,4          | R3556L    | 6975                           | 393,7                    | 546,1                   | 298,5                | 54,0                 | 241,3                   | 3,2                           | 60,3                  | 241,3             | 457,2   | 321,4                       | 232,5             |
| 430                | 50,8           | R4302L    | 2841                           | 333,4                    | 384,2                   | 330,2                | 63,5                 | 266,7                   | 3,2                           | 69,9                  | 266,7             | 558,5   | 392,7                       | 252,4             |
|                    | 152,4          | R4306L    | 9520                           | 435,0                    | 587,4                   | 330,2                | 63,5                 | 266,7                   | 3,2                           | 69,9                  | 266,7             | 558,5   | 392,7                       | 329,2             |
|                    | 254,0          | R43010L   | 14201                          | 536,6                    | 790,6                   | 330,2                | 63,5                 | 266,7                   | 3,2                           | 69,9                  | 266,7             | 558,5   | 392,7                       | 405,9             |
| 565                | 50,8           | R5652L    | 371                            | 371,2                    | 422,3                   | 377,8                | 69,9                 | 304,8                   | 3,2                           | 79,4                  | 304,8             | 729,5   | 512,9                       | 368,2             |
|                    | 152,4          | R5656L    | 11129                          | 473,1                    | 625,5                   | 377,8                | 69,9                 | 304,8                   | 3,2                           | 79,4                  | 304,8             | 729,5   | 512,9                       | 468,0             |
|                    | 254,0          | R56510L   | 18548                          | 574,7                    | 828,7                   | 377,8                | 69,9                 | 304,8                   | 3,2                           | 79,4                  | 304,8             | 729,5   | 512,9                       | 568,0             |

NOTE: Supported loads not to exceed the rated capacity of the cylinders. Not intended to support additional dynamic loads, such as those applied by moving vehicles.

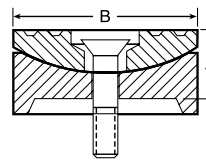
► **Features**

**POSITIVE MECHANICAL LOCKING COLLAR TO SUPPORT LOAD.**

- Supports lifted load for extended periods of time with hydraulic pressure released.
- Visible indicator band alerts when stroke limit is reached. Overflow port (“weep hole”) stroke limiter prevents piston from being overextended.
- All cylinders feature coated pistons to resist corrosion and abrasion.
- Complies with ANSI / ASME B30.1 safety standards.



**Optional Swivel Load Caps Ordering Info**



| Cylinder Tonnage | Swivel Cap Order No. | Wt. (kg) | A (mm) | B (mm) |
|------------------|----------------------|----------|--------|--------|
| 55-100           | 420866               | 0,8      | 25,4   | 71,4   |
| 150-200          | 420867               | 4,8      | 38,1   | 130,2  |
| 280              | 420868               | 6,1      | 44,5   | 149,2  |
| 355              | 420869               | 16,8     | 69,9   | 195,3  |
| 430              | 420870               | 23,6     | 79,4   | 225,4  |
| 565              | 420871               | 35,4     | 92,1   | 250,8  |

Reduce the effects of off-center loading. Tilt up to 5 degrees. Radial grooves on top of cap reduce load slippage. Notch across face of each cap helps keep loads having a round shaped centered.

Model Shown:  
**RC2402P**

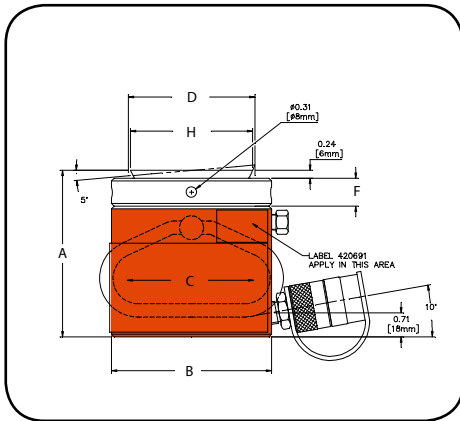


**Features**

**LOW HEIGHT POSITIVE MECHANICAL LOCK TO SUPPORT EXTENDED LOAD HOLDING.**

- Compact design where space is limited.
- Locking collar designed to support lifted load for extended periods of time with hydraulic pressure released.
- Integral tilt saddle comes standard and improves performance under side load, reducing the effects of off-center loading
- Overflow port (weep hole) prevents piston from being overextended under load.
- Special coating improves corrosion and abrasion resistance.
- Equipped with 3/8" NPTF female half couplers.

**Technical Dimensions**



Pancake locking cylinders are ideal for tight quartered locations.



**Ordering Information**

| Cyl. Cap. | Stroke | Order No. | Oil Cap.           | A                | B            | C         | D                  | E            | F             | G                     | H               | Metric Tons at 700 | Prod. Wt. |
|-----------|--------|-----------|--------------------|------------------|--------------|-----------|--------------------|--------------|---------------|-----------------------|-----------------|--------------------|-----------|
|           |        |           |                    | Retracted Height | Outside Dia. | Bore Dia. | Piston Thread Dia. | Base to Port | Nut Thickness | Swivel Cap Protrusion | Swivel Cap Dia. |                    |           |
| (ton)     | (mm)   |           | (cm <sup>3</sup> ) | (mm)             | (mm)         | (mm)      | (mm)               | (mm)         | (mm)          | (mm)                  | (mm)            | (bar)              | (kg)      |
| 55        | 50,8   | RC0552P   | 355                | 125              | 120          | 95        | 3.74 x 4           | 19           | 21            | 6                     | 92              | 50                 | 11        |
| 100       | 44,5   | RC1002P   | 597                | 137              | 165          | 130       | 5.12 x 6           | 21           | 31            | 8                     | 126             | 100                | 22        |
| 155       | 44,5   | RC1552P   | 905                | 148              | 205          | 160       | 6.30 x 6           | 27           | 38            | 9                     | 148             | 155                | 39        |
| 240       | 44,5   | RC2402P   | 1413               | 155              | 255          | 200       | 7.87 x 6           | 28           | 40            | 10                    | 157             | 240                | 59        |
| 380       | 44,5   | RC3802P   | 2208               | 178              | 320          | 250       | 9.84 x 6           | 35           | 50            | 11                    | 240             | 380                | 110       |
| 620       | 44,5   | RC6202P   | 3617               | 192              | 405          | 320       | 12.60 x 6          | 38           | 60            | 10                    | 295             | 620                | 193       |

Model Shown:

**RC7402L, RC9656L**

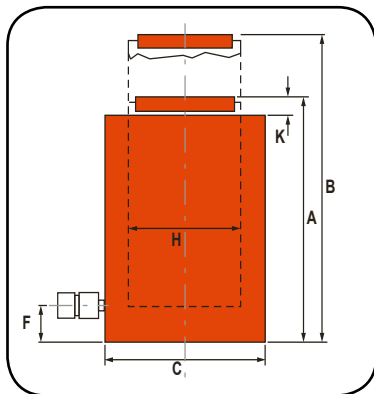


**Features**

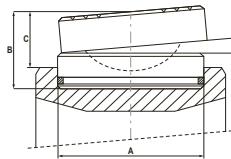
**POSITIVE MECHANICAL LOCK TO SUPPORT LOAD.**

- Supports lifted load for extended periods of time with hydraulic pressure released.
- All cylinders feature coated pistons to resist corrosion and abrasion.
- Visible indicator band alerts when stroke limit is reached. Overflow port (weep hole) stroke limiter prevents piston from being overextended.

**Technical Dimensions**



**Optional Swivel Load Caps Ordering Info**



Reduce the effects of off-center loading. Tilt up to 5 degrees. Radial grooves on top of cap reduce load slippage. Notch across face of each cap helps keep loads having a round shaped center.

| Used with Cylinder | Swivel Cap Order No. | Wt. (kg) | A (mm) | B (mm) | C (mm) |
|--------------------|----------------------|----------|--------|--------|--------|
| RC740_L, RC965_L   | <b>2000824</b>       | 72,0     | 289,6  | 139,7  | 99,1   |
| RC1220_L           | <b>2000825</b>       | 113,0    | 322,6  | 175,3  | 124,5  |

**Ordering Information**

| Cyl. Cap. (ton) | Stroke (mm) | Order No. | Oil Cap. (cm <sup>3</sup> ) | A                     | B                    | C                 | F                 | K              | L                          | Piston Thread Dia. (mm) | Cylinder Effective Area (cm <sup>2</sup> ) | Metric Tons at 700 (bar) | Prod. Wt. (kg) |
|-----------------|-------------|-----------|-----------------------------|-----------------------|----------------------|-------------------|-------------------|----------------|----------------------------|-------------------------|--|--------------------------|----------------|
|                 |             |           |                             | Retracted Height (mm) | Extended Height (mm) | Outside Dia. (mm) | Base to Port (mm) | Bore Dia. (mm) | Piston Rod Protrusion (mm) |                         |  |                          |                |
| 740             | 50,8        | RC7402L   | 4811                        | 12,0                  | 14,0                 | 16,9              | 2,6               | 13,8           | 0,2                        | TR350 X 6               | 962,0                                      | 673,5                    | 545            |
|                 | 152,4       | RC7406L   | 14432                       | 16,5                  | 22,4                 | 16,9              | 2,6               | 13,8           | 0,2                        | TR350 X 6               | 962,0                                      | 673,5                    | 683            |
|                 | 254,0       | RC74010L  | 24053                       | 21,1                  | 30,9                 | 16,9              | 2,6               | 13,8           | 0,2                        | TR350 X 6               | 962,0                                      | 673,5                    | 821            |
| 965             | 50,8        | RC9652L   | 6280                        | 12,8                  | 14,8                 | 19,3              | 2,8               | 15,7           | 0,2                        | TR400 X 6               | 1256,6                                     | 879,7                    | 714            |
|                 | 152,4       | RC9656L   | 18849                       | 17,3                  | 23,2                 | 19,3              | 2,8               | 15,7           | 0,2                        | TR400 X 6               | 1256,6                                     | 879,7                    | 990            |
|                 | 254,0       | RC96510L  | 31400                       | 21,9                  | 31,7                 | 19,3              | 2,8               | 15,7           | 0,2                        | TR400 X 6               | 1256,6                                     | 879,7                    | 1170           |
| 1220            | 50,8        | RC12202L  | 7949                        | 13,4                  | 15,4                 | 21,7              | 3,1               | 17,7           | 0,2                        | TR450 X 6               | 1590,4                                     | 1113,3                   | 969            |
|                 | 152,4       | RC12206L  | 23857                       | 19,1                  | 25,0                 | 21,7              | 3,1               | 17,7           | 0,2                        | TR450 X 6               | 1590,4                                     | 1113,3                   | 1310           |
|                 | 254,0       | RC122010L | 39741                       | 23,6                  | 33,5                 | 21,7              | 3,1               | 17,7           | 0,2                        | TR450 X 6               | 1590,4                                     | 1113,3                   | 1530           |

# PUMPS

## MARKET LEADING HIGH PRESSURE POWER UNITS FOR A WIDE ARRAY OF APPLICATIONS AND USES.

Every power unit goes through a rigorous assembly and test process to ensure the highest level of performance:

- Power units are available in manual or powered configurations. Powered options include electric, air, and gas.
- A wide array of reservoir sizes from under 0,99 l to 152 l
- Variety of valve configurations, such as dump, 2-way, 3-way and 4-way in manual and solenoid configurations,
- Whether you are seeking a manual, electrical or an air power pump, Power Team pumps can generate flows up to 420 cm<sup>3</sup> / minute @ 700 Bar.





| Section / Series  | Power Source    | Flow Stages        | Flow @ Max Pressure       | Page(s) |
|-------------------|-----------------|--------------------|---------------------------|---------|
| Introduction      | All             | All                | All                       | 45-48   |
| P                 | Manual          | Single & Two-Speed | 197-901 cm <sup>2</sup>   | 49-51   |
| RPS               | Manual          | Single & Two-Speed | —                         | 52      |
| PA6               | Air             | Single-Acting      | 98 cm <sup>2</sup>        | 53-54   |
| PA6D              | Air             | Single-Speed       | 98 cm <sup>2</sup>        | 55-56   |
| PA9               | Air             | Single-Speed       | 148 cm <sup>2</sup>       | 57-58   |
| PA60              | Air             | Two-Speed          | 98 cm <sup>2</sup>        | 59-60   |
| PA50              | Air             | Single-Speed       | 459 cm <sup>2</sup>       | 61-62   |
| PA17              | Air             | Two-Speed          | 279 cm <sup>2</sup>       | 63-64   |
| PA46/55           | Air             | Two-Speed          | 754-901 cm <sup>2</sup>   | 65-66   |
| PUA / PMA         | Air             | Single-Speed       | —                         | 67-70   |
| PB                | Battery         | Two-Speed          | 98 cm <sup>2</sup>        | 71-72   |
| PE10              | Electric        | Two-Speed          | 164 cm <sup>2</sup>       | 73-74   |
| PE17              | Electric        | Two-Speed          | 279 cm <sup>2</sup>       | 75-76   |
| PE18              | Electric        | Two-Speed          | 295 cm <sup>2</sup>       | 77-78   |
| PE21              | Electric        | Two-Speed          | 361 cm <sup>2</sup>       | 79-80   |
| PED               | Electric        | Two-Speed          | 410 cm <sup>2</sup>       | 81-82   |
| PE30              | Electric        | Two-Speed          | 492 cm <sup>2</sup>       | 83-84   |
| PE46              | Electric        | Two-Speed          | 754 cm <sup>2</sup>       | 85-86   |
| PE55              | Electric        | Two-Speed          | 901 cm <sup>2</sup>       | 87-88   |
| PE60              | Electric        | Two-Speed          | 918 cm <sup>2</sup>       | 89-90   |
| PQ60              | Electric        | Two-Speed          | 983 cm <sup>2</sup>       | 91-92   |
| PQ120             | Electric        | Two-Speed          | 1966 cm <sup>2</sup>      | 93-94   |
| PE400             | Electric        | Two-Speed          | 6883 cm <sup>2</sup>      | 95-96   |
| MCS               | Electric        | Two-Speed          | 901-1966 cm <sup>2</sup>  | 97-98   |
| PE-NUT            | Electric        | Two-Speed          | 492 cm <sup>2</sup>       | 99      |
| PG120_CP          | Gas             | Two-Speed          | 2130 cm <sup>2</sup>      | 100     |
| PG30/55           | Gas             | Two-Speed          | 492-901 cm <sup>2</sup>   | 101-102 |
| PG120-PG400       | Gas             | Two-Speed          | 2130-6883 cm <sup>2</sup> | 103-104 |
| HB Intensifier    | Hydraulic       | —                  | Press. Ratio 5:1          | 105     |
| Assemble to Order | Air, Elec., Gas | Custom Built       | —                         | 107-110 |



## SELECTING THE RIGHT PUMP:

**Step 1** Select the hydraulic pump that best suits the application.

**Step 2** Select the series of pump with adequate oil output and reservoir capacity to power tool.

**Step 3** Select pump within series with the valve option that is best suited to the tool and application.

## PUMP SIZING CONSIDERATIONS:

1. What maximum system operating pressure (bar) is required?
2. What volume of oil delivery is required? (For manual pumps, cm<sup>3</sup> of oil per handle stroke. For powered pumps, cm<sup>3</sup>/min. of oil).
3. Is a single or two-speed pump required? (Two-speed pumps deliver high oil volume at low pressure for rapid cylinder piston advance, then shift to high pressure, low volume stage under load).
4. What is the preferred source of power?
  - a. Manual (hand or foot operated): Provides portability, can be used where electricity or shop air are not available.
  - b. Air/Hydraulic: Uses shop air or a portable air compressor.
  - c. Electric/Hydraulic: What voltage is available? Is a battery operated pump preferred?
  - d. Gasoline Engine/Hydraulic: Powers high-output pumps at remote job sites where air or electricity are unavailable.
5. Is portability of the pump a factor to consider?
6. Will the pump be used intermittently, or will it need to provide high-cycle operation? Does the application require that the pump be capable of starting under load?
7. Is fluid heat build-up a factor in your application? High-cycle applications may require a larger capacity oil reservoir for cooling.
8. Will the application require large displacement or multiple cylinders? Reservoir size and pump output levels will be factors to consider.
9. Does the working environment require a pump having a low operating noise (dBA) level?
10. Must the pump operate in a spark-free environment?
11. Do you need CE mark?





▶ **Manually-operated hydraulic pumps:**



- **P12, P23, P55** – These single-speed pumps are for use with single-acting cylinders.
- **P19/P19L, P59/P59L, P59F, P157, P159, P300, P460** – These two-speed pumps are used with single-acting cylinders. The two-speed feature provides high oil volume for fast cylinder piston approach to the work, then the pump automatically shifts to the high pressure stage. This reduces the number of pump handle strokes required.
- **P157D, P159D, P300D, P460D** – These two-speed pumps are used with double-acting cylinders.

▶ **Air / hydraulic pumps:**

Used where air is the preferred energy source or where electricity is not available. Ideal for use in petrochemical, mining or other flammable or explosive environments.



- **PA6 Series** – These single-speed pumps drive single or double-acting cylinders.
- **PA9 Series** – These new single-speed pumps drive single-acting cylinders and are ideal for powering portable hydraulic tools.
- **PA50 Series** – These single-speed pumps drive single or double-acting low pressure (221 bar) cylinders.
- **PA60** – This two-speed pump is equipped with a manifold to operate multiple cylinders, and provides a 7.6 l reservoir.
- **PA64** – Similar to PA60, this two-speed pump drives single or double-acting cylinders.
- **PA172 and PA174** – These “economy” two-speed pumps drive single or double-acting cylinders, depending on the model chosen. Provide a low weight-to-output ratio.
- **PA462 and PA464 Series** – These two-speed pumps drive single or double-acting cylinders, depending on the model selected. They offer high speed cylinder piston advance.
- **PA554** – This two-speed pump drives single or double-acting cylinders, delivering a high volume of oil.

▶ **Electric / Hydraulic pumps:**

All of the following pumps are two-speed models, and can be used to drive single or double-acting cylinders.



- **PE/PB10 Series “Quarter Horse” Series** – These pumps feature a 1/4 hp electric motor. A battery-powered version is available. Having a low noise level and weighing just 9,1 kg. They are ideal for powering portable hydraulic spreaders, nut splitters, pipe flange spreaders and other tools.
- **PE17 Series** – CSA rated for intermittent duty, these feature a 1/2 hp, single-phase induction motor with a low noise level (67-81 dBA). Smaller generators and low amperage circuits can be used as a power source.
- **PE46 Series** – Powered by a 1-1/2 hp, single-phase induction motor, operates at a moderate noise level of 77-81 dBA. CSA rated for intermittent duty.
- **PE18 Series** – CSA rated for intermittent duty, these feature a 1/2 hp, single-phase universal motor with a noise level of 85-90 dBA. Provide high-performance at a low price. Has low amperage draw.
- **PE30 Series** – Equipped with a 1 hp, single-phase permanent magnet motor, have a noise level of only 82-87 dBA. CSA rated for intermittent duty, and requires a relatively low voltage. Ideal for use in general construction applications. Roll cage/handle protects the motor and controls.
- **PE55 and PED25 Series** – Equipped with a 1-1/8 hp, single-phase universal motor, have a 90-95 dBA noise level. Offer the best weight to performance ratio of any Power Team electric/hydraulic pump. CSA rated for intermittent duty. The PED25 versions are “dual flow” pumps which deliver the same low and high pressures to both valves, and have a noise level of 80-85 dBA. They have a 1-1/2 hp induction motor.



► **Electric / Hydraulic pumps: (CONT.)**



- **PE60 Series** – These Vanguard® Supreme® pumps provide trouble-free service in the most severe working environments. Powered by a 1-1/8 hp, single-phase motor, has a moderate noise level of 80-85 dBA. Starts under load even at the reduced voltages encountered on construction sites. High-output pumps, ideal for use with post-tensioning/pre-stressing jacks and other high-pressure hydraulic tools.
- **“Custom-Built” Pumps** – Power Team offers you “assemble to order” electric/hydraulic pumps to suit unique applications. You can choose from pre-engineered, off-the-shelf components to customize your pump.
- **PE21 Series** – Ideal for heavy-duty, extended-cycle applications. Powered by a 1 hp, single-phase motor, pump operates at a very low noise level of 70 dBA. Pump automatically shuts down in the event of a power failure. CSA rated for intermittent duty.
- **“Quiet” Pumps** – Our PQ60 and PQ120 series operate at a very low noise level of between 73-78 dBA. The PQ60 has a 2 hp (single-phase) motor; the PQ120 has a 3 hp (three-phase) motor. These pumps are designed for heavy-duty, extended cycle operations. CSA rated for intermittent duty.
- **PE400 Series** – High-flow units deliver a large volume of high pressure oil for heavy construction and maintenance operations employing high tonnage cylinders. The PE400 is powered by a 10 hp, three-phase motor. Low noise rating of 73-80 dBA.

► **Gasoline-driven hydraulic pumps:**

These two-speed pumps are ideal for use in remote applications, such as construction sites. May be used with single or double-acting cylinders.



- **PG30 Series** – Powered by a 2-cycle, 2 hp Honda engine, these have an integral, protective “roll cage” and adequate reservoir capacity for cylinders up to 100 tons capacity or more. Readily portable, and popular in the railroad, rescue and construction markets.
- **PG55 Series** – With a 4-cycle, 4 hp Briggs & Stratton engine, this pump is based on our popular Vanguard® Series hydraulic system. It has a generous 19 l reservoir capacity.
- **PG120 Series** – Powered by a 4-cycle, 5.5 hp Honda engine. Has a 19 l reservoir, and is capable of handling multiple-cylinder lifting tasks. Ideal for the structure moving, pier setting, bridge lifting and concrete contracting industries.
- **PG4004** – Featuring a 4-cycle, 18 hp Honda engine, this unit has a big 75,7 l reservoir. Rugged steel “roll cage” has a hook on top and swivel casters for ease of mobility. Popular for concrete stressing applications.

► **Hydraulic intensifier:**

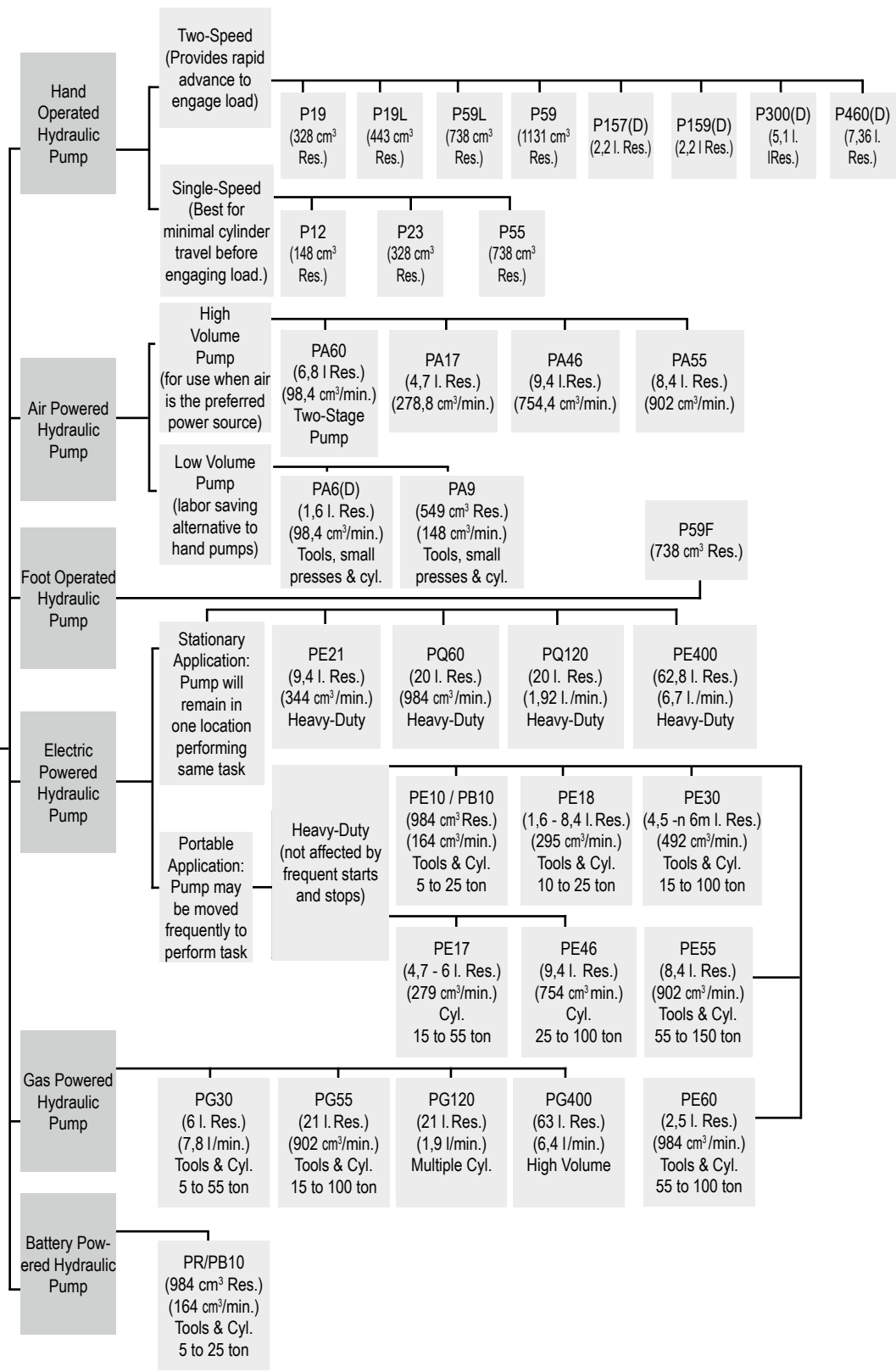


- **HB Series** – Turns low pressure hydraulic pumps into high pressure power sources to operate single or double-acting cylinders and tools such as crimper’s, spreaders, cutters, etc. Compact and portable for use inside a utility vehicle aerial bucket or stowing in a vehicle.





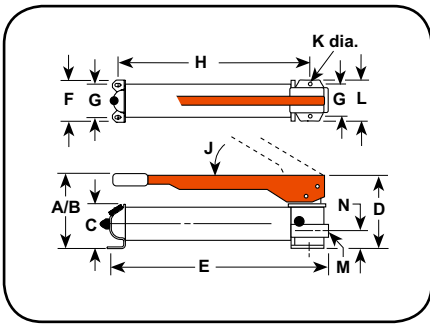
**HYDRAULIC  
PUMP  
OPTIONS**



Model Shown:  
**P55, P12, P23**



Pumps



**Features**

**STEEL HAND PUMPS BEST SUITED FOR MRO APPLICATIONS.**

- All metal construction won't burn through in welding environments.
- Formed metal handle provides rigidity, and reduces operator fatigue with grip.
- Convenient fill port enables pumps to be filled in a horizontal or vertical position, excluding P12.
- Fill cap seal acts as safety valve preventing over-pressurizing of reservoir.
- Large valve knob gives added control for slowly metering loads down.



**Pump Protection System**



Power Team hand pumps, with the angled fill port, have a built in "relief valve" protection system. This system is designed to protect over-pressurization of the reservoir from sudden back pressure. This system also works as a seal to prevent oil leaks only fill to bottom of threads.



**Foot Pump Conversion Kit**



| For Use With: | Kit Order No. | Wt. (kg) |
|---------------|---------------|----------|
| P55, P59      | FK59          | 2,7      |

**Technical Dimensions**

| Order No. | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | G (mm) | H (mm) | J (deg.) | K (mm) | L (mm) | M (in.)  | N (mm) |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|----------|--------|--------|----------|--------|
| P12       | 101,6  | 330,2  | 60,0   | 101,6  | 342,9  | 85,7   | 55,6   | 292,1  | 45°      | 4,8    | 85,7   | 3/8 NPTF | 28,6   |
| P19       | 139,7  | 371,5  | 73,0   | 115,9  | 347,7  | 101,6  | 82,6   | 281,0  | 53°      | 7,9    | 101,6  | 3/8 NPTF | 35,7   |
| P23*      | 158,8  | 330,2  | 88,9   | 141,3  | 346,1  | 108,0  | 82,6   | 261,6  | 38°      | 7,9    | 120,7  | 3/8 NPTF | 41,3   |
| P55       | 165,1  | 533,4  | 88,9   | 141,3  | 584,2  | 108,0  | 82,6   | 501,7  | 38°      | 7,9    | 120,7  | 3/8 NPTF | 41,3   |
| P59       | 177,8  | 533,4  | 88,9   | 127,0  | 584,2  | 108,0  | 82,6   | 501,7  | 38°      | 7,9    | 120,7  | 3/8 NPTF | 41,3   |
| P59F      | 88,9   | 425,5  | 88,9   | 152,4  | 590,6  | 108,0  | 82,6   | 514,4  | —        | 7,9    | 114,3  | 3/8 NPTF | 42,9   |

\*The P23 pump maximum pressure is 210 bar only.

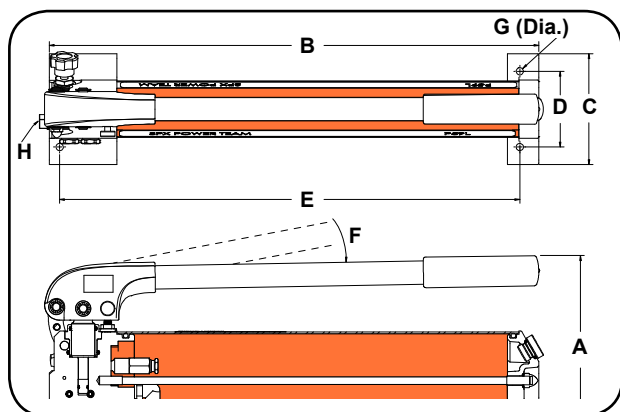
**Ordering Information**

| For Use With            | Speed | Order No. | Volume per Stroke     |                       | Max. Pressure |          | Handle Effort (kg) | Reservoir                   |                                    | Oil Port (cm) | Prod. Wt. (kg) |
|-------------------------|-------|-----------|-----------------------|-----------------------|---------------|----------|--------------------|-----------------------------|------------------------------------|---------------|----------------|
|                         |       |           | LP (cm <sup>3</sup> ) | HP (cm <sup>3</sup> ) | LP (bar)      | HP (bar) |                    | Oil Cap. (cm <sup>3</sup> ) | Usable Oil Cap. (cm <sup>3</sup> ) |               |                |
| Single-Acting Cylinders | 1     | P12       | —                     | 1,1                   | —             | 700      | 34                 | 197                         | 148                                | 3/8 NPTF      | 2,6            |
|                         | 2     | P19       | 5,0                   | 1,2                   | 22            | 700      | 45                 | 400                         | 328                                | 3/8 NPTF      | 3,0            |
|                         | 1     | P23       | —                     | 2,6                   | —             | 210      | 32                 | 390                         | 333                                | 3/8 NPTF      | 5,5            |
|                         | 1     | P55       | —                     | 2,6                   | —             | 700      | 66                 | 902                         | 738                                | 3/8 NPTF      | 7,2            |
|                         | 2     | P59       | 10,9                  | 2,6                   | 22            | 700      | 66                 | 902                         | 738                                | 3/8 NPTF      | 7,8            |
|                         | 2     | P59F      | 9,0                   | 2,1                   | 22            | 700      | 55                 | 902                         | 738                                | 3/8 NPTF      | 6,4            |

LP = Low Pressure - HP = High Pressure

Model Shown:

**P19L, P59L, P59L-1500, P59L-1500G**



**Features**

**PUMP AUTOMATICALLY SHIFTS INTO THE HIGH PRESSURE LIFT STAGE UPON CONTACT WITH THE LOAD.**

- Two-speed reduces handle strokes so you work faster and easier.
- More usable oil volume allows for use with larger or longer stroke cylinders.
- True unloading valve provides more efficiency and lower handle force.
- Link design reduces handle effort by 40%.
- Durable aluminum reservoir, manifold, and end cap.
- Ergonomic non-slip handle grip provides more comfort.
- Spring loaded handle lock incorporated into handle.
- Aluminum design reduces weight.

▶ **The P59L hand pump is able to quickly advance the cylinder to the load with its two speed operation.**



**Technical Dimensions**

| Order No.   | A     | B     | C     | D    | E     | F      | G    | H             |
|-------------|-------|-------|-------|------|-------|--------|------|---------------|
|             | (mm)  | (mm)  | (mm)  | (mm) | (mm)  | (deg.) | (mm) | (in.)         |
| P19L        | 141,5 | —     | 104,1 | 82,6 | 347,7 | 40°    | 7,9  | 3/8 NPTF      |
| P59L        | 177,8 |       |       | 82,6 | 533,4 | 50°    | 7,9  | 3/8 NPTF      |
| P59L-1500   | 182,1 | 556,5 | 138,9 | 82,6 | 501,7 | 47°    | 7,9  | 9/16-18 UNF** |
| P59L-1500G* | 182,1 | 556,5 | 138,9 | 82,6 | 501,7 | 47°    | 7,9  | 9/16-18 UNF** |

\* Overall length, with the skid-plate is 719 mm.

\*\* 60° cone fitting.

**Ordering Information**

| For Use With            | Speed | Order No.   | Volume per Stroke  |                    | Max. Pressure |       | Handle Effort | Reservoir          |                    | Oil Port     | Prod. Wt. |
|-------------------------|-------|-------------|--------------------|--------------------|---------------|-------|---------------|--------------------|--------------------|--------------|-----------|
|                         |       |             | LP                 | HP                 | LP            | HP    |               | Oil Cap.           | Usable Oil Cap.    |              |           |
|                         |       |             | (cm <sup>3</sup> ) | (cm <sup>3</sup> ) | (bar)         | (bar) | (kg)          | (cm <sup>3</sup> ) | (cm <sup>3</sup> ) | (cm)         | (kg)      |
| Single-Acting Cylinders | 2     | P19L        | 4,1                | 0,9                | 70            | 700   | 37            | 475                | 443                | 3/8 NPTF     | 2,3       |
|                         | 2     | P59L        | 12,0               | 2,6                | 59            | 700   | 44            | 1131               | 1082               | 3/8 NPTF     | 4,1       |
|                         | 2     | P59L-1500   | 11,1               | 0,88               | 20            | 1500  | 32,7          | 1100               | 729,2              | 3/4 - 16 UNF | 4,7       |
|                         | 2     | P59L-1500G* | 11,1               | 0,88               | 20            | 1500  | 32,7          | 1100               | 729,2              | 3/4 - 16 UNF | 6,5       |

\* Equipped with a skid plate and a digital gauge.

LP = Low Pressure, HP = High Pressure

**CAUTION:** P59L-1500 pumps are not recommended for use with 700 bar tools.

Model Shown:  
**P300, P157, P159D, P460**

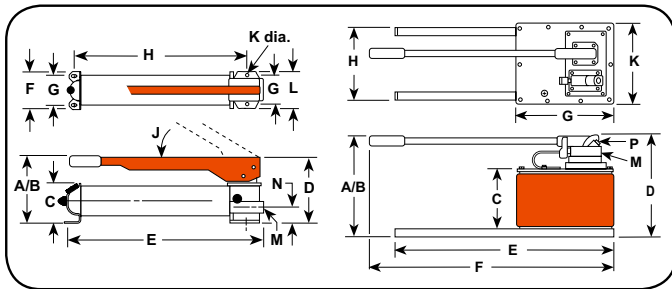
Pumps



**Features**

**HEAVY-DUTY STEEL HAND PUMPS HOLD UP TO THE MOST DEMANDING APPLICATIONS.**

- Rugged all metal construction for strength and durability that won't burn through in welding environments.
- Heavy-duty, formed metal handle provides rigidity, and reduces operator fatigue with grip.
- Convenient oil fill ports.
- Fill cap seal acts as safety valve to prevent over-pressurizing of reservoir.
- Relief valve inboard of check valve prevents loads from drifting down.
- Large valve knob gives added control for slowly metering loads down.



**Foot Pump Conversion Kit**

| For Use With:           | Kit Order No. | Wt. (kg) |
|-------------------------|---------------|----------|
| P157, P159, P300, P300D | <b>FK159B</b> | 2,7      |

**Technical Dimensions**

| Order No.          | A (cm) | B (cm) | C (cm) | D (cm) | E (cm) | F (cm) | G (cm) | H (cm) | J (deg.) | K (cm) | L (cm) | M (cm)   | N (cm) | P (cm)   |
|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|----------|--------|--------|----------|--------|----------|
| <b>P157 / P159</b> | 197    | 521    | 123,8  | 175    | 578    | 98,4   | 76,2   | 502    | 39       | 7,9    | 95,3   | 3/8 NPTF | 57,2   | —        |
| <b>P300</b>        | 210    | 522    | 114,3  | 175    | 575    | 215,9  | 190,5  | 526    | 39       | 7,9    | 95,3   | 3/8 NPTF | 57,2   | —        |
| <b>P460</b>        | 283    | 787    | 171,5  | 289    | 610    | 743    | 279,4  | 229    | 80       | 241,3  | —      | 3/8 NPTF | —      | 1/4 NPTF |

**Ordering Information**

| For Use With             | Speed | Order No.    | Volume per Stroke  |                    | Max. Pressure |       | Handle Effort (kg) | Reservoir          |                    | Oil Port (cm) | Prod. Wt. (kg) |
|--------------------------|-------|--------------|--------------------|--------------------|---------------|-------|--------------------|--------------------|--------------------|---------------|----------------|
|                          |       |              | LP                 | HP                 | LP            | HP    |                    | Oil Cap.           | Usable Oil Cap.    |               |                |
|                          |       |              | (cm <sup>3</sup> ) | (cm <sup>3</sup> ) | (bar)         | (bar) |                    | (cm <sup>3</sup> ) | (cm <sup>3</sup> ) |               |                |
| Single-Acting Cylinders  | 2     | <b>P157</b>  | 10,7               | 2,6                | 97            | 700   | 64                 | 2491               | 2245               | 3/8 NPTF      | 11,8           |
|                          | 2     | <b>P159</b>  | 42,6               | 2,6                | 22            | 700   | 64                 | 2491               | 2245               | 3/8 NPTF      | 11,8           |
|                          | 2     | <b>P300</b>  | 42,6               | 2,6                | 22            | 700   | 64                 | 5700               | 5081               | 3/8 NPTF      | 25,1           |
|                          | 2     | <b>P460</b>  | 120,5              | 4,6                | 22            | 700   | 41                 | 9500               | 7539               | 3/8 NPTF      | 24,9           |
| Double-Acting Cylinders* | 2     | <b>P157D</b> | 10,7               | 2,6                | 97            | 700   | 64                 | 2491               | 2245               | 3/8 NPTF      | 13,1           |
|                          | 2     | <b>P159D</b> | 42,6               | 2,6                | 22            | 700   | 64                 | 2491               | 2245               | 3/8 NPTF      | 12,7           |
|                          | 2     | <b>P300D</b> | 42,6               | 2,6                | 22            | 700   | 64                 | 5700               | 5081               | 3/8 NPTF      | 25,9           |
|                          | 2     | <b>P460D</b> | 120,5              | 4,6                | 22            | 700   | 41                 | 9500               | 7539               | 3/8 NPTF      | 26,3           |

\* Pump includes 4-Way Valve LP = Low Pressure, HP = High Pressure

Model Shown:  
RPS1006, RPS203H



**Features**

**PRECISION-MATCHED CYLINDER AND PUMP SET FOR WIDE RANGE OF APPLICATIONS.**

- Four styles of cylinders to choose from.
- Sets feature single or two-speed hydraulic hand pumps.
- Cylinders of various tonnages with long, medium or short stroke.
- Includes necessary fittings, couplers and 1,8 m hose.

Pumps



**OPTIONAL: STORAGE BOX**



Storage box for hydraulic cylinder and pump sets. Rugged industrial strength material, strong as steel, never needs painting, won't rust, dent or chip. Weatherproof lid is self sealing and lockable. Molded-in handles, water-tight, one piece bottom and side construction. Strong enough to stand on. Note: Actual product may differ from photo.

| Order No. | Dimensions                     | Wt. (kg) |
|-----------|--------------------------------|----------|
| 350722    | 940 mm L x 533 mm H x 508 mm W | 10,4     |

**Ordering Information**

| Style of Cylinder | Cyl. Cap. (tons.) | Stroke (cm) | Order No. | Re-tracted Height (cm) | Handle Strokes Required to Fully Extend Cylinders | Cylinder No. | Pump No. | Hose No. | Coupler No. | Pump Speed | Prod. Wt. (kg) |
|-------------------|-------------------|-------------|-----------|------------------------|---|--------------|----------|----------|-------------|------------|----------------|
| "C" Series        | 5                 | 133,4       | RPS55     | 216                    | 75  | C55C         | P12      | 9756E    | 9798        | Single     | 5,4            |
|                   | 10                | 54,0        | RPS102**  | 121                    | 32  | C102C        | P55      | 9756E    | 9798        | Single     | 11,8           |
|                   | 10                | 155,6       | RPS106**  | 248                    | 93  | C106C        | P55      | 9756E    | 9798        | Single     | 14,5           |
|                   | 10                | 257,2       | RPS1010** | 349                    | 154   | C1010C       | P55      | 9756E    | 9798        | Single     | 16,1           |
|                   | 15                | 104,8       | RPS154**  | 200                    | 81  | C154C        | P55      | 9756E    | 9798        | Single     | 13,1           |
|                   | 15                | 155,6       | RPS156**  | 271                    | 118   | C156C        | P55      | 9756E    | 9798        | Single     | 15,4           |
|                   | 25                | 158,8       | RPS256**  | 273                    | 219   | C256C        | P55      | 9756E    | 9798        | Single     | 19,3           |
|                   | 25                | 362,0       | RPS2514** | 476                    | 285*  | C2514C       | P159     | 9756E    | 9798        | Two        | 28,4           |
|                   | 55                | 158,8       | RPS556**  | 283                    | 268*  | C556C        | P159     | 9756E    | 9798        | Two        | 37,5           |
| "Shorty"          | 100               | 168,3       | RPS1006   | 337                    | 428*  | C1006C       | P460     | 9756E    | 9798        | Two        | 58,3           |
|                   | 30                | 61,9        | RPS302**  | 117                    | 61*   | RSS302       | P59      | 9756E    | 9798        | Two        | 18,1           |
|                   | 50                | 60,3        | RPS552**  | 127                    | 89*   | RSS502       | P59      | 9756E    | 9798        | Two        | 22,7           |
| "Center-Hole"     | 100               | 57,2        | RPS1002** | 140                    | 172*  | RSS1002      | P59      | 9756E    | 9798        | Two        | 36,7           |
|                   | 20                | 76,2        | RPS203H** | 154                    | 80  | RH203        | P55      | 9756E    | 9798        | Single     | 18,3           |
| Alum.             | 55                | 155,6       | RPS556A** | 273                    | 262*  | RA556        | P159     | 9756E    | 9798        | Two        | 21,3           |

\* Based on 50% of the stroke being made at low-pressure and 50% of the strokes at high pressure.

\*\* Add suffix "B" (example: RPS102B, RPS203HB, etc.) to order set with optional storage box shown above.

Model Shown:

PA6, PA6M-1, PA6-2



Pumps

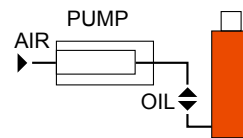
**Features**

**COMPACT, LIGHTWEIGHT AND PORTABLE. SINGLE-SPEED PUMPS DESIGNED TO DRIVE SINGLE-ACTING CYLINDERS.**

- The power unit of choice for major manufacturers of auto body, frame straighteners and other shop equipment.
- Operate at 3-8 bar shop air pressure at the pump.
- Quiet operation that is suitable for indoor applications, 85 dBA at 700 bar.
- Serviceable pump motor is not a “throw away” providing economical repair.
- Permanently vented reservoir cap.
- Internal relief valve protects circuit components, air inlet filter protects motor.



**Typical Set-Up**

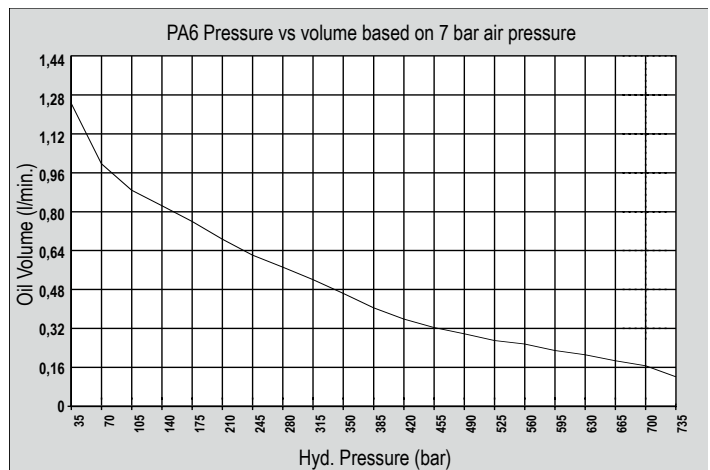


Hook-up for single-acting cylinders

▶ PA6 is the perfect choice for driving this nut splitter in this heavy truck shop.



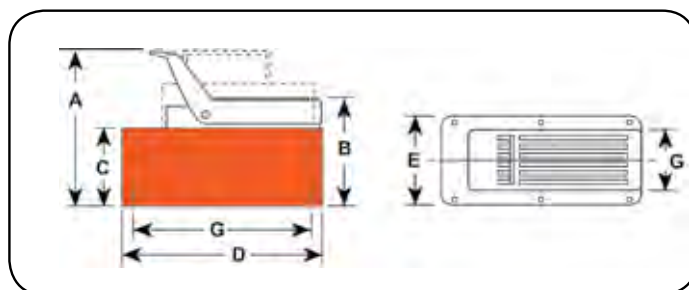
▶ **Performance Specifications**



► Two Point Lifting System Example



Pumps



► Technical Dimensions

| Order No. | A    | B    | C    | D    | E    | G         |
|-----------|------|------|------|------|------|-----------|
|           | (mm) | (mm) | (mm) | (mm) | (mm) | (mm)      |
| PA6       | 197  | 149  | 111  | 241  | 127  | 102 x 229 |
| PA6A      | 197  | 149  | 111  | 241  | 127  | 102 x 229 |
| PA6AM     | 197  | 149  | 111  | 241  | 127  | 102 x 229 |
| PA6M      | 197  | 149  | 111  | 241  | 127  | 102 x 229 |
| PA6R      | 197  | 149  | 111  | 241  | 127  | 102 x 229 |
| PA6RM     | 197  | 149  | 111  | 241  | 127  | 102 x 229 |
| PA6M-1    | 200  | 152  | 111  | 321  | 187  | —         |
| PA6-2     | 254  | 197  | 171  | 292  | 241  | 203 x 254 |
| PA6M-2    | 260  | 203  | 178  | 292  | 241  | 130 x 181 |

► Ordering Information

| Description   | Order No. | Air Supply Req'd<br>(bar) | Reservoir       |                        | Oil Port<br>(in.) | Prod. Wt.<br>(kg) |
|---|-----------|---------------------------|-----------------|------------------------|-------------------|-------------------|
|   |           |                           | Oil Cap.<br>(l) | Usable Oil Cap.<br>(l) |                   |                   |
| Base model pump with high density polyethylene reservoir.                   | PA6       | 3 - 8                     | 1,7             | 1,6                    | 3/8 NPTF          | 6,3               |
| PA6 pump with externally adjustable relief valve and polyethylene reservoir | PA6A      | 3 - 8                     | 1,7             | 1,6                    | 3/8 NPTF          | 6,8               |
| PA6 pump with externally adjustable relief valve and metal reservoir.       | PA6AM     | 3 - 8                     | 1,7             | 1,6                    | 3/8 NPTF          | 7,7               |
| PA6 pump with metal reservoir.  | PA6M      | 3 - 8                     | 1,7             | 1,6                    | 3/8 NPTF          | 8,2               |
| PA6 pump with 3,7 m remote control and polyethylene reservoir               | PA6R      | 3 - 8                     | 1,7             | 1,6                    | 3/8 NPTF          | 9,3               |
| PA6 pump with 3,7 m remote control and metal reservoir.                     | PA6RM     | 3 - 8                     | 1,7             | 1,6                    | 3/8 NPTF          | 9,8               |
| PA6 pump with 3,8 l metal reservoir.  | PA6M-1    | 3 - 8                     | 3,8             | 3,0                    | 3/8 NPTF          | 10,7              |
| PA6 pump with 7,6 l high density polyethylene reservoir.                    | PA6-2     | 3 - 8                     | 7,6             | 7,3                    | 3/8 NPTF          | 11,1              |
| PA6 pump with 9,5 l metal reservoir.  | PA6M-2    | 3 - 8                     | 9,5             | 9,1                    | 3/8 NPTF          | 14,5              |

Model Shown:  
**PA6D**



Pumps

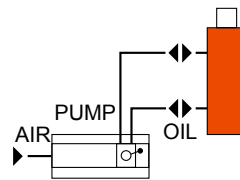
**Features**

**COMPACT, LIGHTWEIGHT AND PORTABLE SINGLE-SPEED PUMP FOR DRIVING DOUBLE-ACTING CYLINDERS.**

- Operate at 3-8 bar shop air pressure at the pump.
- Internal relief valve protects circuit components while the air inlet filter protects motor.
- Serviceable pump allows for economical repairs.
- Permanently vented reservoir cap.
- 85 dBA at 700 bar for all PA6 pumps.



**Typical Set-Up**

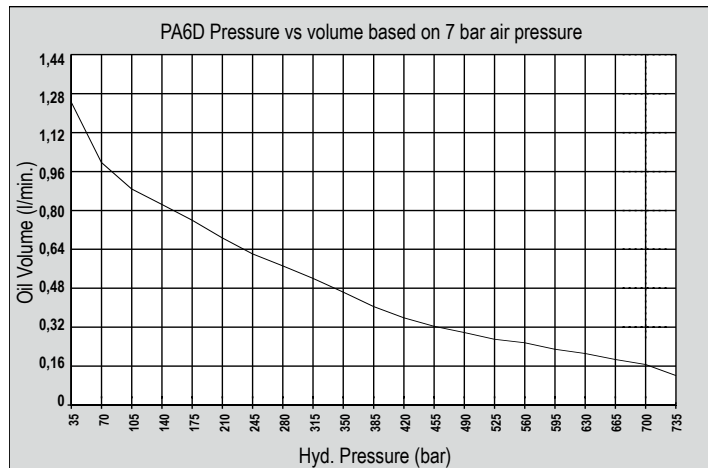


Hook-up for double-acting cylinders

▶ PA6D pump, 9052 analog and 25 ton cylinder used in a test fixture.



**Performance Specifications**

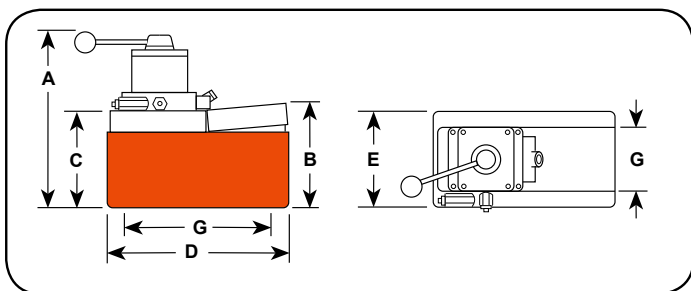




Model Shown:  
**PA6D2, PA6DM-1**



Pumps



► **Technical Dimensions**

| Order No. | A<br>(mm) | B<br>(mm) | C<br>(mm) | D<br>(mm) | E<br>(mm) | G<br>(mm) |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| PA6D      | 264       | 149       | 111       | 241       | 127       | 102 x 229 |
| PA6DM     | 264       | 149       | 111       | 241       | 127       | 102 x 229 |
| PA6DM-1   | 279       | 146       | 111       | 321       | 187       | —         |
| PA6D2     | 324       | 203       | 178       | 287       | 235       | 130 x 181 |
| PA6DM-2   | 318       | 197       | 171       | 292       | 241       | 203 x 254 |

► **Technical Dimensions**

| Description   | Order No. | Valve No.         | Air Supply Req'd<br>(bar) | Reservoir       |                        | Oil Port<br>(in.) | Prod. Wt.<br>(kg) |
|---|-----------|-------------------|---------------------------|-----------------|------------------------|-------------------|-------------------|
|   |           |                   |                           | Oil Cap.<br>(l) | Usable Oil Cap.<br>(l) |                   |                   |
| Base model pump with high density polyethylene reservoir. | PA6D      | 9504, 3-way/4-way | 3-8                       | 1,7             | 1,6                    | 3/8 NPTF          | 8,3               |
| PA6D pump with metal reservoir.                           | PA6DM     | 9504, 3-way/4-way | 3-8                       | 1,7             | 1,6                    | 3/8 NPTF          | 9,2               |
| PA6D pump with 3,8 l metal reservoir.                     | PA6DM-1   | 9504, 3-way/4-way | 3-8                       | 3,8             | 3,0                    | 3/8 NPTF          | 12,7              |
| PA6D pump with 7,6 l high density polyethylene reservoir. | PA6D2     | 9504, 3-way/4-way | 3-8                       | 7,6             | 7,3                    | 3/8 NPTF          | 13,0              |
| PA6D pump with 9,5 l metal reservoir.                     | PA6DM-2   | 9504, 3-way/4-way | 3-8                       | 9,5             | 9,1                    | 3/8 NPTF          | 16,4              |

Model Shown:

**PA9 Foot Control, PA9H Hand Control**

Pumps

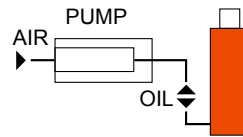


**Features**

**IDEAL FOR POWERING SINGLE-ACTING CYLINDERS AND PORTABLE HYDRAULIC TOOLS.**

- Easier to operate than a hand pump, giving you the speed you need at an affordable price.
- Serviceable pump allows for economical repairs.
- Unique bladder design for all-position operation and storage.
- Operates on 3-8 bar shop air, at 570 l.
- Hard-coat anodized aluminum housing.
- Oil filler with integral safety relief minimizes chance of damage to reservoir bladder if overfilling occurs.

**Typical Set-Up**

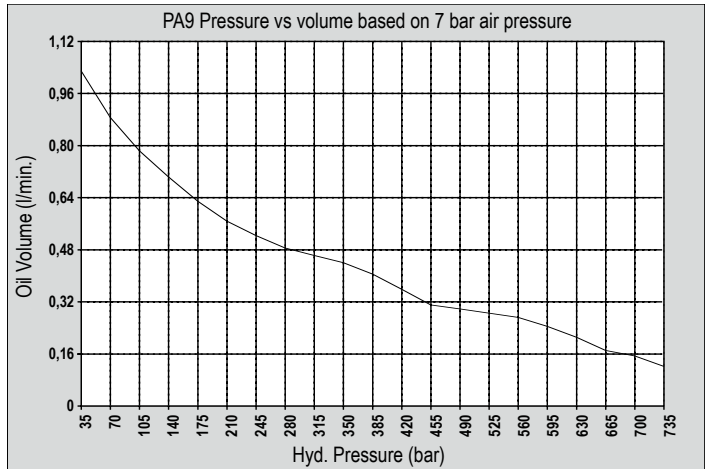


Hook-up for single-acting cylinders

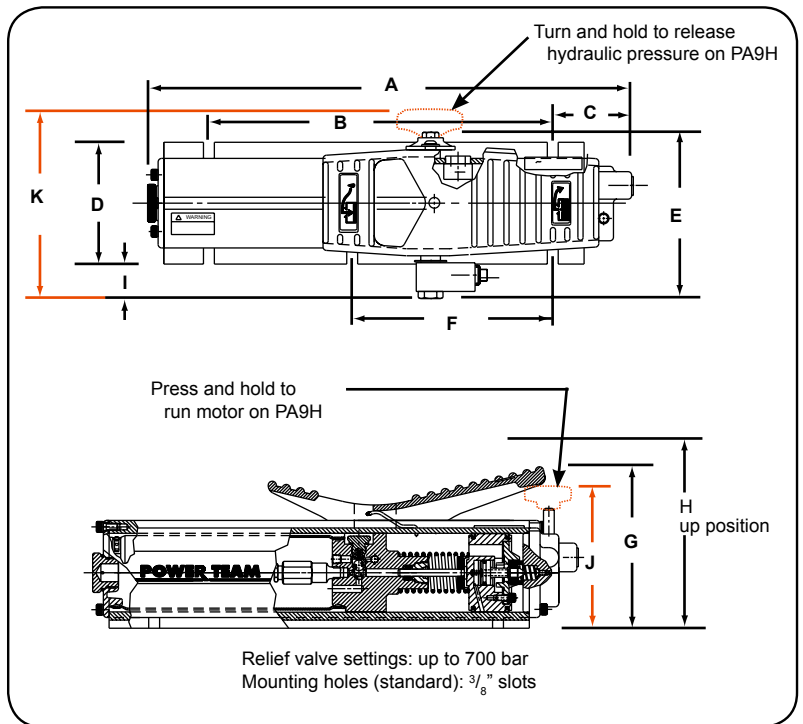
▶ **PA9H Hand Control Pump used in a straightening press.**



▶ **Performance Specifications**



▶ PA9 Foot Control



Pumps

▶ Technical Dimensions

| Order No. | A    | B    | C    | D    | E    | F    | G    | H    | I    | J    | K    |
|-----------|------|------|------|------|------|------|------|------|------|------|------|
|           | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |
| PA9       | 432  | 305  | 71,4 | 108  | 149  | 178  | 142  | 178  | 28,2 | —    | —    |
| PA9H      | 432  | 305  | 71,4 | 108  | —    | 178  | —    | 178  | 28,2 | 122  | 170  |

▶ Ordering Information

| For Use With Cyl. Type | Order No. | Air Supply Req'd (bar) | Reservoir                   |                                    | Oil Port (in.) | Max. Pressure Output (bar) | Prod. Wt. (kg) |
|------------------------|-----------|------------------------|-----------------------------|------------------------------------|----------------|----------------------------|----------------|
|                        |           |                        | Oil Cap. (cm <sup>3</sup> ) | Usable Oil Cap. (cm <sup>3</sup> ) |                |                            |                |
| Single-Acting          | PA9       | 3-8                    | 574                         | 549                                | 3/8 NPTF       | 700                        | 6,8            |
| Single-Acting          | PA9H      | 3-8                    | 574                         | 549                                | 3/8 NPTF       | 700                        | 6,8            |

Model Shown:  
**PA64**

Pumps



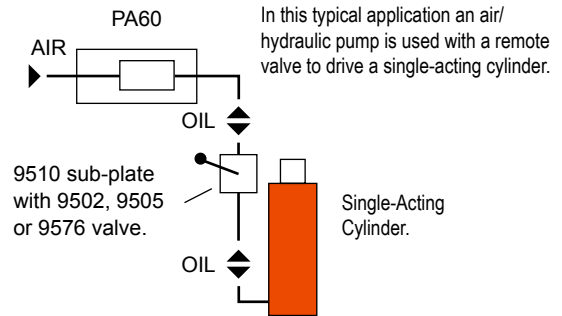
**Features**

**TWO-SPEED PUMP FOR RAPID OIL DELIVERY AT LOW PRESSURE QUICKLY ADVANCES CYLINDER OR TOOL.**

- Equipped with air pressure regulator, air filter and lubricator.
- Serviceable air motor for economical repair.
- Internal relief valve protects circuit components.
- Permanently vented reservoir cap.



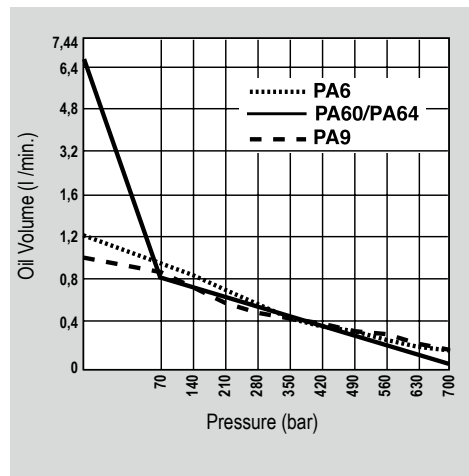
**Typical Set-Up**



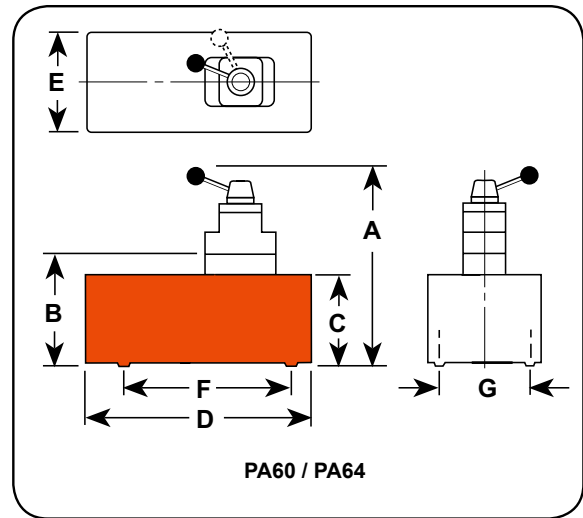
**The PA60 used in a work-holding environment**



**Performance Specifications**



Model Shown:  
**PA60**



Pumps

► **Technical Dimensions**

| Order No. | A<br>(mm) | B<br>(mm) | C<br>(mm) | D<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | Max.<br>Pressure<br>Output<br>(bar) | Oil Del. (l/min. @) * |            |             |              |              |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------------------------------|-----------------------|------------|-------------|--------------|--------------|
|           |           |           |           |           |           |           |           |                                     | 0<br>(bar)            | 7<br>(bar) | 70<br>(bar) | 350<br>(bar) | 700<br>(bar) |
| PA60      | —         | 240       | 206       | 362       | 244       | 181       | 130       | 700                                 | 6,24                  | 5,6        | 0,8         | 0,19         | 0,1          |
| PA64      | 362       | —         | 206       | 362       | 244       | 181       | 130       | 700                                 | 6,24                  | 5,6        | 0,8         | 0,19         | 0,1          |

\* Typical delivery. Actual flow will vary with field conditions.

► **Technical Dimensions**

| Description                                    | Order No. | Valve No.     | Valve Function       | Air Supply Req'd (bar) | Reservoir    |                     | Oil Port (in.) | Prod. Wt. (kg) |
|--|-----------|---------------|----------------------|------------------------|--------------|---------------------|----------------|----------------|
|  |           |               |                      |                        | Oil Cap. (l) | Usable Oil Cap. (l) |                |                |
| For use with remote valves.                    | PA60      | 9626 Manifold | —                    | 3 - 8                  | 7,6          | 6,8                 | 3/8 NPTF       | 24,5           |
| For use with single or double-acting cylinders | PA64      | 9507 3/4-Way  | Advanced Hold Return | 3 - 8                  | 7,6          | 6,8                 | 3/8 NPTF       | 24,5           |

Model Shown:

PA50D, PA50M, PA50R2

Pumps



**Features**

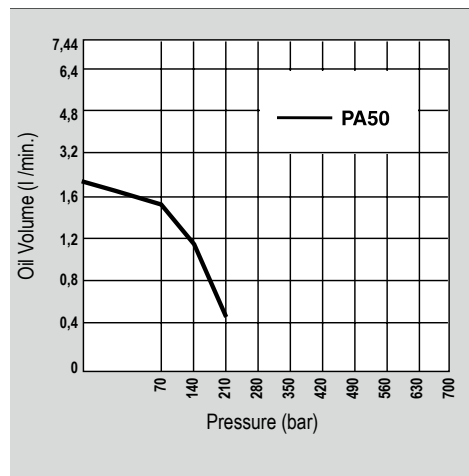
**SINGLE-SPEED, LOW PRESSURE (220 BAR) OUTPUT PUMPS.**

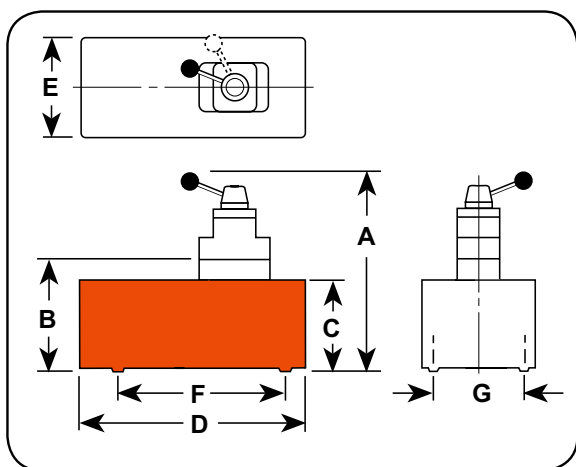
- Serviceable air motor for economical repair.
- Air inlet filter protects air motor.
- Filter in outlet port protects against contaminated systems.
- Assorted reservoirs to suit your application's requirements.

**The PA50 used in a work-holding environment**



**Performance Specifications**





### Hydraulic Hoses

Heavy-duty and thermo plastic hydraulic hoses to meet your requirements and safety factor.

Refer to the accessories section for details.



### Analog Gauges

Improve your system visibility and safety by adding an inline hydraulic gauge to your circuit.

9040E (63 mm)  
9052E (100 mm)



### Technical Dimensions

| Order No.   | A    | B    | C    | D    | E    | F    | G         | Max. Pressure Output (bar) | Oil Del. (l/min. @) * |         |           |           |
|-------------|------|------|------|------|------|------|-----------|----------------------------|-----------------------|---------|-----------|-----------|
|             | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (cm)      |                            | 0 (bar)               | 7 (bar) | 170 (bar) | 220 (bar) |
| PA50, PA50R | 197  | 149  | 111  | 241  | 127  | —    | 102 x 229 | 220                        | 2,05                  | 1,76    | 1,41      | 0,45      |
| PA50R2      | 260  | 203  | 178  | 292  | 241  | —    | 130 x 181 | 220                        | 2,05                  | 1,76    | 1,41      | 0,45      |
| PA50D       | 264  | 149  | 111  | 241  | 127  | 229  | 102       | 220                        | 2,05                  | 1,76    | 1,41      | 0,45      |

\* Typical delivery. Actual flow will vary with field conditions.

### Ordering Information

| For Use With Cylinder Type | Description   | Order No. | Valve No. | Air Supply Req'd (bar) | Reservoir    |                     | Oil Port (in.) | Prod. Wt. (kg) |
|----------------------------|---|-----------|-----------|------------------------|--------------|---------------------|----------------|----------------|
|                            |   |           |           |                        | Oil Cap. (l) | Usable Oil Cap. (l) |                |                |
| Single-Acting              | Base model pump with high density polyethylene reservoir. | PA50      | —         | 3 - 8                  | 1,7          | 1,6                 | 3/8 NPTF       | 6,4            |
| Single-Acting              | PA50, except has 3,7 meter remote control.                | PA50R     | —         | 3 - 8                  | 1,7          | 1,6                 | 3/8 NPTF       | 8,4            |
| Single-Acting              | PA50R, except has 7,6 liter reservoir.                    | PA50R2    | —         | 3 - 8                  | 7,6          | 7,3                 | 3/8 NPTF       | 12,9           |
| Single and Double-Acting   | PA50 pump with valve and polyethylene reservoir.          | PA50D     | 9504      | 3 - 8                  | 1,7          | 1,6                 | 3/8 NPTF       | 8,4            |

Notes: Air inlet port 1/4" NPTF. Requires 570 l/min at 7 bar shop air pressure at the pump to achieve 220 bar.

Model Shown:  
PA172, PA174

Pumps



### Features

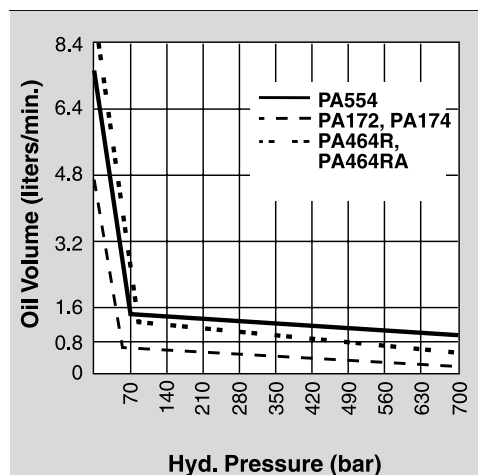
ROTARY-STYLE AIR MOTOR. USE WHERE AIR IS THE PREFERRED SOURCE OF ENERGY.

- Two-speed operation for high speed cylinder advance.
- Durable 7,6 liter thermoplastic reservoir. (Metal reservoir conversion kits are available.)
- Air motor capable of starting under full load.

▶ The PA17 used with a flange spreader



▶ Performance Specifications







### Hydraulic Hoses



Heavy-duty and thermo plastic hydraulic hoses to meet your requirements and safety factor.

Refer to accessories section for details



### Hydraulic Fluids



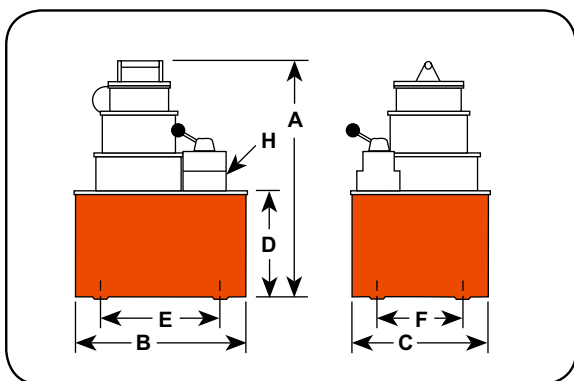
For dependable performance of all your hydraulic pumps and cylinders. Power Team specialty blended oils contains foam suppressant additives and has a high viscosity index. Refer to the Accessories section for complete details



### Learn More - About Hydraulic Safety Insight



Looking for great safety suggestions? Visit our Resource Section to get a better understanding of hydraulic and mechanical safety insights on what to look for when working around hydraulics



### Technical Dimensions

| Order No. | A    | B    | C    | D    | E    | F    | H        | Max. Pressure Output | Oil Del. (l/min. @) * |       |       |       |     |
|-----------|------|------|------|------|------|------|----------|----------------------|-----------------------|-------|-------|-------|-----|
|           |      |      |      |      |      |      |          |                      | 0                     | 7     | 70    | 350   | 700 |
|           | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (in.)    | (bar)                | (bar)                 | (bar) | (bar) | (bar) |     |
| PA172     | 359  | 289  | 235  | 178  | 181  | 130  | 3/8 NPTF | 700                  | 4,6                   | 3,8   | 0,4   | 0,4   | 0,3 |
| PA174     | 359  | 289  | 235  | 178  | 181  | 130  | 3/8 NPTF | 700                  | 4,6                   | 3,8   | 0,4   | 0,4   | 0,3 |

\* Typical delivery. Actual flow will vary with field conditions.

### Ordering Information

| For Use With Cylinder Type | Description   | Order No. | Valve No.   | Valve Function       | Air Supply Req'd (bar) | Reservoir    |                     | Prod. Wt. (kg) |
|----------------------------|---|-----------|-------------|----------------------|------------------------|--------------|---------------------|----------------|
|                            |   |           |             |                      |                        | Oil Cap. (L) | Usable Oil Cap. (L) |                |
| Single-Acting              | Base model pump with 7,6 liter thermoplastic reservoir.                     | PA172     | 9517, 2-way | Advance Return*      | 3-8                    | 7,6          | 4,7                 | 18,1           |
| Single and Double-Acting   | PA172, except has 9500 valve for use with single or double-acting cylinders | PA174     | 9500, 4-way | Advance Hold Return* | 3-8                    | 7,6          | 4,7                 | 18,6           |

\* Holds pressure in advance position when valve motor is shut-off or in return position with motor running. Pump will build pressure when motor is shut-off and oil returns to reservoir.

**Notes:** Requires 1133 l/min at 7 bar shop air pressure at the pump. 85/90 dBA at 700 bar.

Model Shown:

PA462, PA464R, PA554

Pumps



**Features**

**ROTARY-STYLE AIR MOTOR. USE WHERE AIR IS THE PREFERRED SOURCE OF ENERGY.**

- 2,2 kW motor starting under full load.
- Two-speed operation for rapid cylinder advance.
- Models available with full remote control over advance and return, (except PA554).
- Tandem center valve holds the load when pump is shut-off.

**Torque Wrench Pumps**

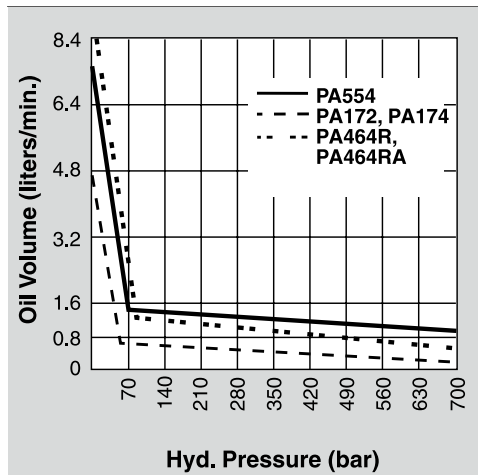


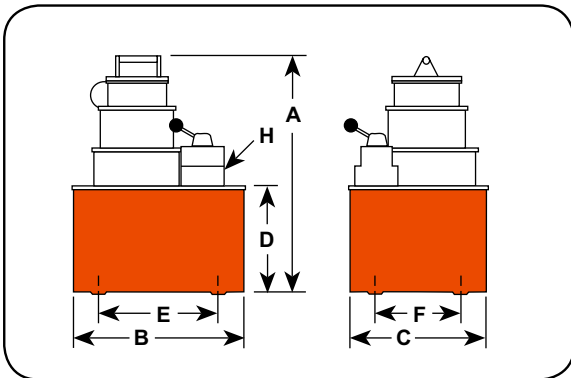
For Torque Wrench Pump Configurations, refer to the Tools Section.

▶ PA554 pump and RH2008 Center Hole cylinder used to tension cables.



**Performance Specifications**





Analog Gauges



Improve your system visibility and safety by adding an inline hydraulic gauge to your circuit.

9040E (63 mm)  
9052E (100 mm)

► Technical Dimensions

| Order No. | A<br>(mm) | B<br>(mm) | C<br>(mm) | D<br>(mm) | E<br>(mm) | F<br>(mm) | H<br>(in.) | Max. Pressure Output<br>(bar) | Oil Del. (l/min. @) * |            |             |              |              |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|-------------------------------|-----------------------|------------|-------------|--------------|--------------|
|           |           |           |           |           |           |           |            |                               | 0<br>(bar)            | 7<br>(bar) | 70<br>(bar) | 350<br>(bar) | 700<br>(bar) |
| PA462     | 381       | 292       | 241       | 178       | 254       | 203       | 3/8 NPTF   | 700                           | 7,4                   | 7,2        | 0,8         | 0,8          | 0,7          |
| PA464     | 381       | 292       | 241       | 178       | 254       | 203       | 3/8 NPTF   | 700                           | 7,4                   | 7,2        | 0,8         | 0,8          | 0,7          |
| PA464R    | 381       | 292       | 241       | 178       | 254       | 203       | 3/8 NPTF   | 700                           | 7,4                   | 7,2        | 0,8         | 0,8          | 0,7          |
| PA464RA   | 381       | 292       | 241       | 178       | 254       | 203       | 3/8 NPTF   | 700                           | 7,4                   | 7,2        | 0,8         | 0,8          | 0,7          |
| PA554     | 483       | 292       | 241       | 178       | 254       | 203       | 3/8 NPTF   | 700                           | 7,4                   | 7,2        | 1,3         | 1,1          | 0,7          |

\* Typical delivery. Actual flow will vary with field conditions.

**Note:** Reservoir has four 1/2" - 20 mounting holes.

► Ordering Information

| For Use With Cylinder Type | Description   | Order No.  | Valve Number | Valve Function        | Air Supply Req'd<br>(bar) | Reservoir       |                        | Prod. Wt.<br>(kg) |
|----------------------------|---|------------|--------------|-----------------------|---------------------------|-----------------|------------------------|-------------------|
|                            |   |            |              |                       |                           | Oil Cap.<br>(L) | Usable Oil Cap.<br>(L) |                   |
| Single-Acting              | Base model pump with 9,6 liter steel reservoir.   | PA462      | 9584, 2-way  | Advance/ Hold/Return  | 3 - 8                     | 9,5             | 9,4                    | 27,2              |
| Single and Double-Acting   | PA462, except has 9500 valve capable of running 2 single-acting cylinders or one double-acting cylinder.          | PA464      | 9500, 4-way  | Advance/ Hold/Return* | 3 - 8                     | 9,5             | 9,4                    | 27,6              |
| Single and Double-Acting   | PA462 with air actuated valve for full remote control over advance and return. Includes 3,7 meter remote control. | PA464R†    | 9594, 4-way  | Advance/ Hold/Return  | 3 - 8                     | 9,5             | 9,4                    | 35,3              |
| Single and Double-Acting   | PA464R except, has automatic dump feature. 7,6 meter remote control.  | PA464RA**† | 9594, 4-way  | Advance/ Hold/Return* | 3 - 8                     | 9,5             | 9,4                    | 35,8              |
| Single and Double-Acting   | High performance pump with 9,5 liter steel reservoir.   | PA554      | 9500, 4-way  | Advance/ Hold/Return* | 3 - 8                     | 9,5             | 8,4                    | 32,0              |

\* Holds when motor is shut-off and valve is in "advance" position.

\*\* Not to be used for lifting.

† The PA464RA has an "automatic dump" feature. Pressure is not held when operator releases "advance" or "return" button. PA464R will "hold" only in the "advance" position with the motor shut-off.

**Notes:** Requires 1420 l/m at 5,5 bar shop air pressure at the pump. 85/90 dBA at 700 bar.

Model Shown:  
**PUA70U, PMA190U**

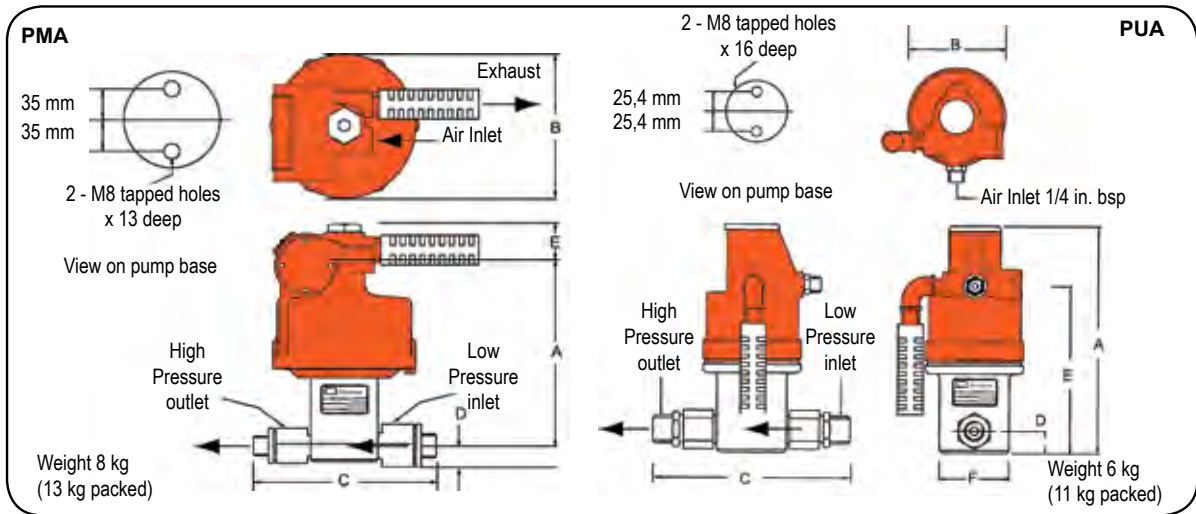
Pumps



### Features

#### PROVIDES INFINITELY VARIABLE CAPACITY AND DISCHARGE PRESSURE

- Suitable for continuous and start/stop applications.
- Pumps oil, water, and other fluids.
- Stainless steel pump and check valves standard.
- Maintains pressure with minimal power consumption (Non-load holding).
- Usable in hazardous areas (per ATEX II, CAT. 2 GDcT5).
- Quiet operation
- Simple to install and maintain with a compact, rugged design.
- Only 1 bar air pressure required to start pump.
- Requires flooded inlet. vertical mount.
- Can operate on gases other than air.



► Technical Dimensions

| Order No. | RAM/<br>Dia.<br>(mm) | A    | B    | C    | D    | E    | F    |
|-----------|----------------------|------|------|------|------|------|------|
|           |                      | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |
| PUA26U    | 31,75                | 233  | 102  | 168  | 22,2 | 170  | 73   |
| PUA70U    | 19,00                | 222  | 102  | 168  | 22,2 | 158  | 73   |
| PUA157U   | 12,70                | 222  | 102  | 168  | 22,2 | 158  | 73   |
| PUA275U   | 9,53                 | 222  | 102  | 168  | 22,2 | 158  | 73   |
| PUA430U   | 7,94                 | 222  | 102  | 168  | 22,2 | 158  | 73   |
| PUA655U   | 6,35                 | 222  | 102  | 168  | 22,2 | 158  | 73   |
| PUA982U   | 5,13                 | 222  | 102  | 168  | 22,2 | 158  | 73   |
| PMA27U    | 76,20                | 220  | 178  | 230  | 38,0 | 48   | -    |
| PMA60U    | 50,80                | 210  | 178  | 230  | 38,0 | 48   | -    |
| PMA90U    | 41,30                | 210  | 178  | 230  | 38,0 | 48   | -    |

| Order No. | RAM/<br>Dia.<br>(mm) | A    | B    | C    | D    | E    | F    |
|-----------|----------------------|------|------|------|------|------|------|
|           |                      | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |
| PMA130U   | 35,00                | 203  | 178  | 195  | 22   | 48   | -    |
| PMA190U   | 28,50                | 203  | 178  | 195  | 22   | 48   | -    |
| PMA240U   | 25,40                | 203  | 178  | 195  | 22   | 48   | -    |
| PMA370U   | 20,60                | 203  | 178  | 178  | 22   | 48   | -    |
| PMA520U   | 17,50                | 203  | 178  | 178  | 22   | 48   | -    |
| PMA770U   | 14,30                | 203  | 178  | 178  | 22   | 48   | -    |
| PMA980U   | 12,70                | 203  | 178  | 178  | 22   | 48   | -    |
| PMA1740U  | 9,50                 | 203  | 178  | 256  | 22   | 48   | -    |
| PMA2410U  | 8,00                 | 203  | 178  | 256  | 22   | 48   | -    |

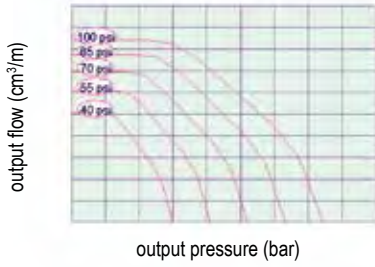
► Ordering Information

| NPT Fittings | Ratio | Outlet Pres. | Outlet Per Cycle | Max. Flow at 0 Press. | Inlet    | Outlet   |
|--------------|-------|--------------|------------------|-----------------------|----------|----------|
|              |       | (bar)        | (L)              | (l/min.)              | (NPT)    | (NPT)    |
| PUA26U       | 4,3   | 26           | 0,0280           | 14,0                  | 1/2" NPT | 1/2" NPT |
| PUA70U       | 11,9  | 70           | 0,0100           | 5,0                   | 1/2" NPT | 1/2" NPT |
| PUA157U      | 26,7  | 157          | 0,0040           | 2,4                   | 1/2" NPT | 1/2" NPT |
| PUA275U      | 47,5  | 275          | 0,0025           | 1,4                   | 1/2" NPT | 1/2" NPT |
| PUA430U      | 68,4  | 430          | 0,0017           | 0,9                   | 1/2" NPT | 1/2" NPT |
| PUA655U      | 107,0 | 655          | 0,0011           | 0,6                   | 1/2" NPT | 1/2" NPT |
| PUA982U      | 163,8 | 982          | 0,0007           | 0,4                   | 1/2" NPT | 1/2" NPT |
| PMA27U       | 4,0   | 27           | 0,1600           | 37,0                  | 1" NPT   | 3/4" NPT |
| PMA60U       | 9,0   | 60           | 0,0700           | 23,0                  | 1" NPT   | 3/4" NPT |
| PMA90U       | 13,6  | 90           | 0,0500           | 15,0                  | 1" NPT   | 3/4" NPT |

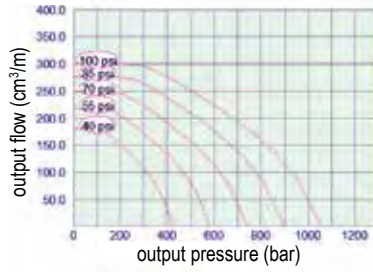
| NPT Fittings | Ratio | Outlet Pres. | Outlet Per Cycle | Max. Flow at 0 Press. | Inlet    | Outlet   |
|--------------|-------|--------------|------------------|-----------------------|----------|----------|
|              |       | (bar)        | (L)              | (l/min.)              | (NPT)    | (NPT)    |
| PMA130U      | 19,0  | 130          | 0,0340           | 11,0                  | 3/4" NPT | 1/2" NPT |
| PMA190U      | 28,4  | 190          | 0,0230           | 7,3                   | 3/4" NPT | 1/2" NPT |
| PMA240U      | 36,0  | 240          | 0,0180           | 5,8                   | 3/4" NPT | 1/2" NPT |
| PMA370U      | 54,5  | 370          | 0,0120           | 3,8                   | 1/2" NPT | 1/2" NPT |
| PMA520U      | 76,5  | 520          | 0,0080           | 2,8                   | 1/2" NPT | 1/2" NPT |
| PMA770U      | 113,0 | 770          | 0,0060           | 1,8                   | 1/2" NPT | 1/2" NPT |
| PMA980U      | 145,0 | 980          | 0,0040           | 1,5                   | 1/2" NPT | 1/2" NPT |
| PMA1740U     | 256,0 | 1740         | 0,0025           | 0,8                   | 1/2" NPT | HP       |
| PMA2410U     | 368,0 | 2410         | 0,0017           | 0,6                   | 1/2" NPT | HP       |

**PUA:**

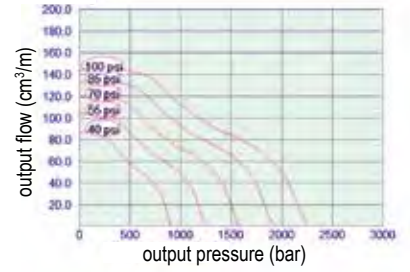
**PUA - 4.3:1**



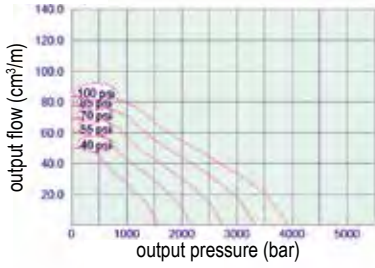
**PUA - 11.9:1**



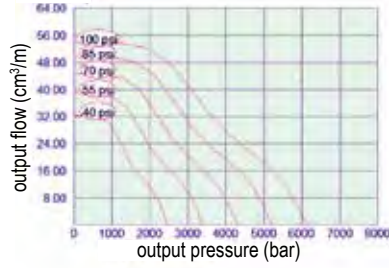
**PUA - 26.7:1**



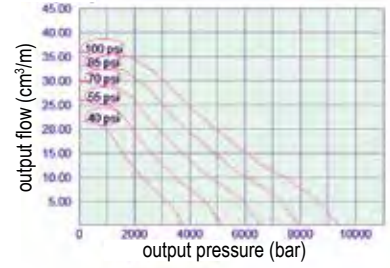
**PUA - 47.5:1**



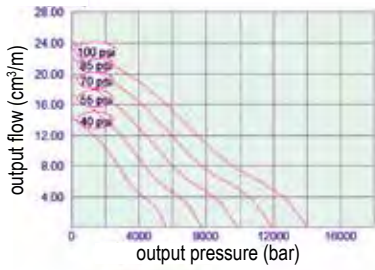
**PUA - 68.4:1**



**PUA - 107:1**



**PUA - 163.8:1**



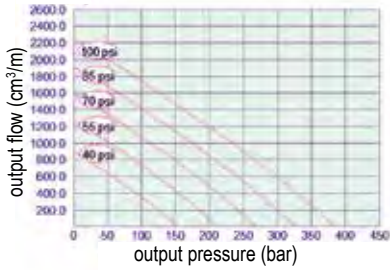
Model Shown:  
**PUA70U, PMA190U**



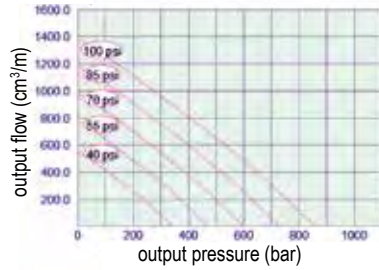
PMA:

Pumps

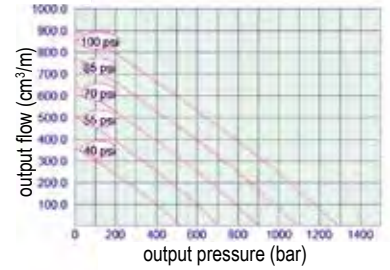
PMA - 4:1



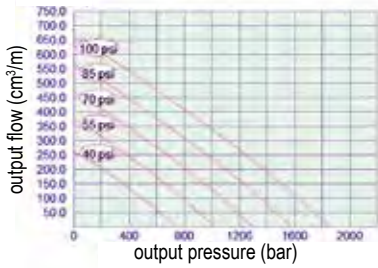
PMA - 9:1



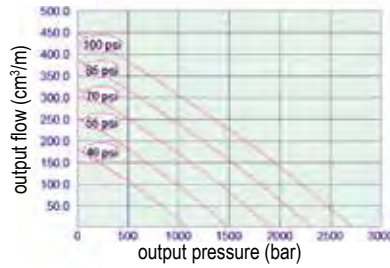
PMA - 13.6:1



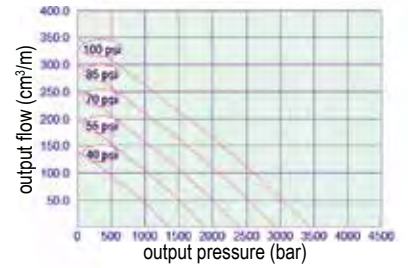
PMA - 19:1



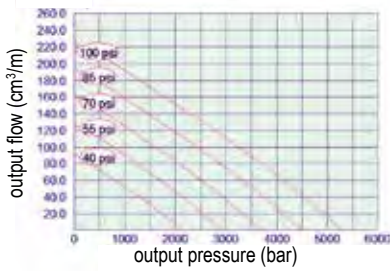
PMA - 28.4:1



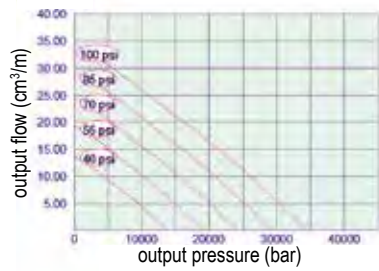
PMA - 36:1



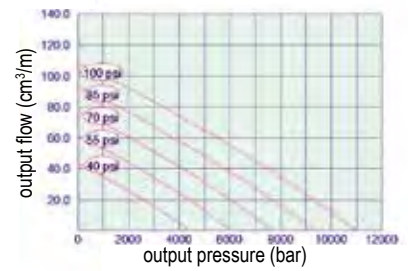
PMA - 54.5:1



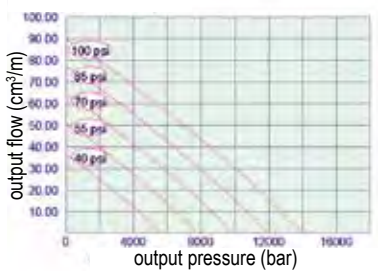
PMA - 76.5:1



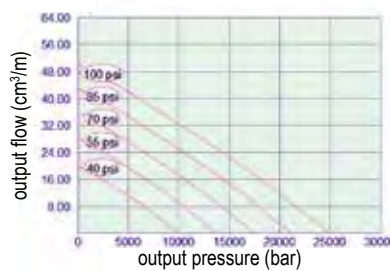
PMA - 113:1



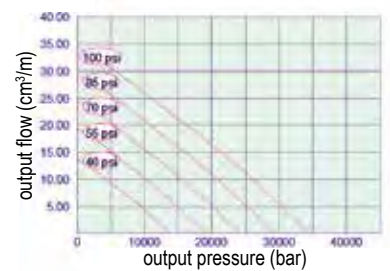
PMA - 145:1



PMA - 256:1



PMA - 368:1



Model Shown:

**PB102-1, PB102P-1**



Pumps

**Features**

**COMPACT, PORTABLE, CORDLESS HYDRAULIC PUMP FOR MRO APPLICATIONS.**

- Compact, Li-ion 18VDC, 9.0 Ah battery-powered pump provides extended run-time.
- Two-stage, high-pressure hydraulic pump offers quick tool advancement in the first stage.
- Extremely compact, lightweight with an ergonomic handle grip and transport strap to ease portability.
- Self-contained, rubber bladder reservoir allows pump usage in most positions with an impressive capacity of 1,1 l usable.
- Quiet, smooth-running, serviceable brushed 18VDC motor.
- High-impact, fiberglass reinforced shroud protects your investment in the most demanding and harsh applications.
- Interchangeable valve configuration accommodate a vast array of applications.
- CSA rated for intermittent duty, CE compliant.

**Ordering Information**

| Order Number | Description  | Refer to Note | Tool Type | Valve Type  | Valve Function  | Remote Control                     |
|--------------|--|---------------|-----------|---|---|------------------------------------|
| PB102-0      | 18VDC, 1/4 HP Power Pump, S/A, 2-Way with Auto Dump                | (1)           | SA        | 2-Way/ Auto. Dump (9561)                            | Advance / Return (Auto)                                   | Optional                           |
| PB102P-0     | 18VDC Power Pump, S/A, 2-Way with Auto Dump                        | (1)           | SA        | 2-Way/ Auto. Dump (9561)                            | Advance / Return (Auto)                                   | Hand Pendant with 3m cord included |
| PB102R-0     | 18VDC Power Pump, S/A, 2-Way with Auto Dump and Pressure Regulator | (1), (3)      | SA        | 2-Way/ Auto. Dump / Pressure Regulator (9561, 9560) | Advance / Return (Auto) / Pressure Adjustment 70 -690 bar | Optional                           |
| PB102A-0     | 18VDC Power Pump, S/A, Auto Dump                                   | (2)           | SA        | Auto. Dump (9562)                                   | Advance / Return  | Optional                           |
| PB104-0      | 18VDC Power Pump, D/A, 4-Way                                       | (4)           | DA        | 4-Way (9563)  | Advance / Hold / Return                                   | Optional                           |
| PB102-2      | 18VDC Power Pump, S/A, 2-Way with Auto Dump                        | (1)           | SA        | 2-Way/ Auto. Dump (9561)                            | Advance / Return (Auto)                                   | Optional                           |
| PB102P-2     | 18VDC Power Pump, S/A, 2-Way with Auto Dump                        | (1)           | SA        | 2-Way/ Auto. Dump (9561)                            | Advance / Return (Auto)                                   | Hand Pendant with 3m cord included |
| PB102R-2     | 18VDC Power Pump, S/A, 2-Way with Auto Dump and Pressure Regulator | (1), (3)      | SA        | 2-Way/ Auto. Dump / Pressure Regulator (9561, 9560) | Advance / Return (Auto) / Pressure Adjustment 70 -690 bar | Optional                           |
| PB102A-2     | 18VDC Power Pump, S/A, Auto Dump                                   | (2)           | SA        | Auto. Dump (9562)                                   | Advance / Return  | Optional                           |
| PB104-2      | 18VDC Power Pump, D/A, 4-Way                                       | (4)           | DA        | 4-Way (9563)  | Advance / Hold / Return                                   | Optional                           |
| PB102-3      | 18VDC, HP Power Pump, S/A, 2-Way with Auto Dump                    | (1)           | SA        | 2-Way/ Auto. Dump (9561)                            | Advance / Return (Auto)                                   | Optional                           |
| PB102P-3     | 18VDC Power Pump, S/A, 2-Way with Auto Dump                        | (1)           | SA        | 2-Way/ Auto. Dump (9561)                            | Advance / Return (Auto)                                   | Hand Pendant with 3m cord included |
| PB102R-3     | 18VDC Power Pump, S/A, 2-Way with Auto Dump and Pressure Regulator | (1), (3)      | SA        | 2-Way/ Auto. Dump / Pressure Regulator (9561, 9560) | Advance / Return (Auto) / Pressure Adjustment 70 -690 bar | Optional                           |
| PB102A-3     | 18VDC Power Pump, S/A, Auto Dump                                   | (2)           | SA        | Auto. Dump (9562)                                   | Advance / Return  | Optional                           |
| PB104-3      | 18VDC Power Pump, D/A, 4-Way                                       | (4)           | DA        | 4-Way (9563)  | Advance / Hold / Return                                   | Optional                           |

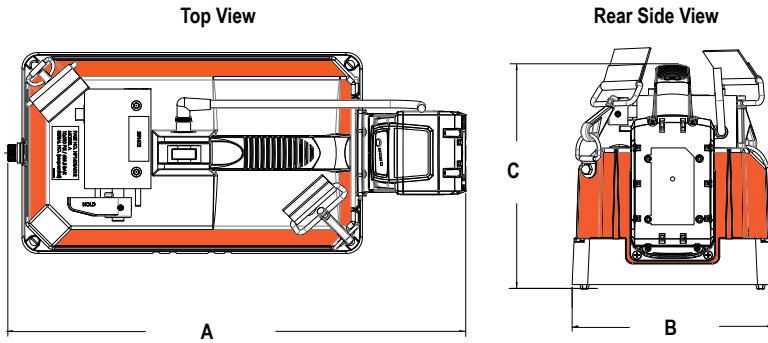
(1) 2-Way Auto Dump Function: Flapper handle in "hold" position will allow the tool to advance and maintain pressure when the motor is shut off, flapper handle must be switched back to retract and dump pressure. Flapper handle is set to "return" position, power on will advance tool and power off will retract tool and dump pressure.

(2) Auto Dump Function: Power on - tool advances, and power off - tool returns, releasing pressure to tank.

SA = Single-Acting DA = Double-Acting



► **Technical Dimensions**




**Optional Remotes**

These remotes are equipped with connectors to enable the operator to "plug and play" the connection quickly. The wiring is configured to allow the operator to use the power switch on the pump or operate remotely once connected.




**Hand Pendant**  
Order # 3000989



**Foot Pendant**  
Order # 3000975

Pumps


► **Hardware Included**




Turnkey, 690 bar hydraulic power pump powered by an 18VDC Li-ion battery, ships with hydraulic oil.





Transport shoulder strap with clips installed on shroud for quick fastening or removal.



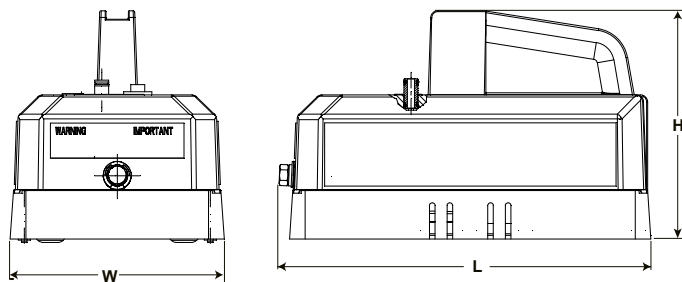
One 18VDC Li-ion 9.0 Ah Battery, additional batteries can be purchased separately. Order #3000973



18VDC battery charger available in 230V for certain models, refer to the ordering information below. Order #2009647 EU, #2010141 UK

| Flow @ Stages<br>(cm <sup>3</sup> )  | Usable Oil Capacity<br>(cm <sup>3</sup> ) | Battery Included                     | Charger (w/plug style)  | Dimension<br>(mm) |     |     | Weight<br>(kg) | Order Number |
|--|---|--------------------------------------|---|-------------------|-----|-----|----------------|--------------|
|  |   |                                      |   | A                 | B   | C   |                |              |
| 1st Stage:<br>3.300 cm <sup>3</sup> /min. @ 14 bar<br><br>2nd Stage:<br>98 cm <sup>3</sup> /min. @ 690 bar | 1150                                      | (1) One 18VDC Li-ion 9.0 Ah included | No charger is included  | 438               | 192 | 215 | 10,9           | PB102-0      |
|  |   |                                      |   |                   |     | 215 | 11,8           | PB102P-0     |
|  |   |                                      |   |                   |     | 242 | 11,3           | PB102R-0     |
|  |   |                                      |   |                   |     | 192 | 10,9           | PB102A-0     |
|  |   |                                      |   |                   |     | 259 | 11,3           | PB104-0      |
| 1st Stage:<br>3.300 cm <sup>3</sup> /min. @ 14 bar<br><br>2nd Stage:<br>98 cm <sup>3</sup> /min. @ 690 bar | 1150                                      | (1) One 18VDC Li-ion 9.0 Ah included | (1) One 230V M18 Charger Included, Europe only<br>         | 438               | 192 | 215 | 10,9           | PB102-2      |
|  |   |                                      |   |                   |     | 215 | 11,8           | PB102P-2     |
|  |   |                                      |   |                   |     | 242 | 11,3           | PB102R-2     |
|  |   |                                      |   |                   |     | 192 | 10,9           | PB102A-2     |
|  |   |                                      |   |                   |     | 259 | 11,3           | PB104-2      |
| 1st Stage:<br>3.300 cm <sup>3</sup> /min. @ 14 bar<br><br>2nd Stage:<br>98 cm <sup>3</sup> /min. @ 690 bar | 1150                                      | (1) One 18VDC Li-ion 9.0 Ah included | (1) One 230V M18 Charger Included, United Kingdom only<br> | 438               | 192 | 215 | 10,9           | PB102-3      |
|  |   |                                      |   |                   |     | 215 | 11,8           | PB102P-3     |
|  |   |                                      |   |                   |     | 242 | 11,3           | PB102R-3     |
|  |   |                                      |   |                   |     | 192 | 10,9           | PB102A-3     |
|  |   |                                      |   |                   |     | 259 | 11,3           | PB104-3      |

Model Shown:  
PE104, PR104

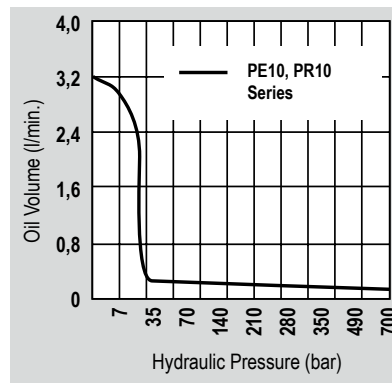


### Features

**HIGH-PERFORMANCE IN A COMPACT PACKAGE. ELECTRIC AND BATTERY POWERED MODELS FOR POWERING TOOLS AND CYLINDERS UP TO 25 TON.**

- Portable power source for hydraulic cylinders and tools.
- Permanent magnet motor starts easily under load, even with reduced voltage conditions.
- Battery-operated models have 2,4 m power cord with alligator clips to connect to any 12VDC battery.
- Optional rechargeable battery pack with shoulder strap for maximum portability.
- Pump typically delivers 15 minutes of continuous operation at 700 bar on a single battery.
- Pump can be operated in any position.
- 24VDC hand and foot switches available for all AC powered models.
- High-impact housing with flame-retardant construction.
- Base mounting holes for fixed installations.
- CSA rated for intermittent duty.

### Performance Specifications



### Technical Dimensions

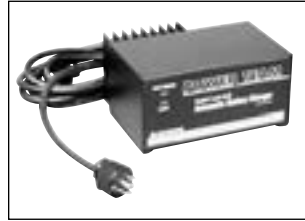
| Order No.   | Max. Pressure Output (bar) | dBA at Idle and 700 (bar) | Oil Del. (l/min. @) |           | Overall Dimensions |            |             | Prod. Wt. with Oil (kg) |
|-------------|----------------------------|---------------------------|---------------------|-----------|--------------------|------------|-------------|-------------------------|
|             |                            |                           | 0 (bar)             | 700 (bar) | Length (mm)        | Width (mm) | Height (mm) |                         |
| PE10 Series | 700                        | 68-74*                    | 1,9                 | 0,16      | 330                | 197        | 203         | 9,1                     |
| PR10 Series |                            |                           |                     |           |                    |            |             |                         |

\* Measured at 0,9 m distance, all sides.

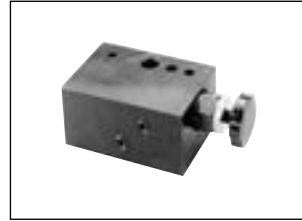
► **Accessories**



**BP212VQ** – Optional 12VDC battery pack. Includes sealed lead acid battery, 115V charger, 1,2 m cord, carrying case and shoulder strap. Wt., 8 kg



**BC212EUR** – Battery charger for Europe. Wt., 3 kg



**9560** – Pressure regulator. Adjustable from 7 to 700 bar. All mounting hardware included. Wt., 1,4 kg.



**251660** – Foot switch with 3,1 m cord. Single pole, double throw, 15 amp @ 125-250V. Wt., 0,5 kg.

RB12V – Battery only.

BP12INT – Battery with cord and carrying case. Wt., 5 kg

RC12V – Replacement 1,2 m. battery cord only. Wt., 0,2 kg

**NOTE:** PR10 rechargeable model is equipped with 2,4 m cord with alligator clips. Order optional battery pack (No. BP212VQ) or use with any 12VDC battery.

**NOTE:** Amp draw at 700 bar – 6 amp at 115V, 3 amp at 230V, and 35 amp at 12VDC.

► **The Quarter Horse pump has a maximum operating pressure of 700 bar, which handles a wide variety of hand-held hydraulic tools.**



► **Ordering Information**

| Order No.   | For Use With Cylinder Type      | Description   | Valve Type           | Valve No. | Valve Function                | Control Switch                   | Motor                                       | Reservoir Usable Oil Cap. (l) |
|-------------|---------------------------------|---|----------------------|-----------|-------------------------------|----------------------------------|---|-------------------------------|
| PE102-E220  | Single-Acting                   | Base model pump with 0,19 kW motor. Bladder type reservoir, 110 volt power required.            | 2-Way/<br>Auto. Dump | 9561      | Advance<br>Return<br>(Auto.)* | Rocker Type off,<br>Momentary on | 0,19 kW, 220/230V<br>50/60 Hz, Single Phase | 1                             |
| PE102A-E220 | Single-Acting                   | PE102-E220, except has automatic dump valve.  | Auto. Dump           | 9562      | Advance<br>Return**           | Rocker Type off,<br>Momentary on | 0,19 kW, 220/230V<br>50/60 Hz, Single Phase | 1                             |
| PE102-220   | Single-Acting                   | PE102, except requires 220 volt.  | 2-Way/<br>Auto. Dump | 9561      | Advance<br>Return<br>(Auto.)* | Rocker Type off,<br>Momentary on | 0,19 kW, 220/230V<br>50/60 Hz, Single Phase | 1                             |
| PE102A-220  | Single-Acting                   | PE102A, except requires 220 volt.   | Auto. Dump           | 9562      | Advance<br>Return**           | Rocker Type off,<br>Momentary on | 0,19 kW, 220/230V<br>50/60 Hz, Single Phase | 1                             |
| PR102       | Single-Acting                   | PE102, except requires 12 volt DC.  | 2-Way/<br>Auto. Dump | 9561      | Advance<br>Return<br>(Auto.)* | Rocker Type off,<br>Momentary on | 0,19 kW, 12V†                               | 1                             |
| PR102A      | Single-Acting                   | PE102A, except requires 12 volt DC.   | Auto. Dump           | 9562      | Advance<br>Return**           | Rocker Type off,<br>Momentary on | 0,19 kW, 12V†                               | 1                             |
| PE104       | Single-Acting,<br>Double-Acting | "Base model pump has 4-way valve for operating double-acting systems. 110 volt power required." | 4-Way                | 9563      | Advance<br>Hold<br>Return     | Rocker Type off,<br>Momentary on | 0,19 kW, 220/230V<br>50/60 Hz, Single Phase | 1                             |
| PE104-E220  | Single-Acting,<br>Double-Acting | PE104, except requires 220 volt.  | 4-Way                | 9563      | Advance<br>Hold<br>Return     | Rocker Type off,<br>Momentary on | 0,19 kW, 220/230V<br>50/60 Hz, Single Phase | 1                             |
| PR104       | Single-Acting,<br>Double-Acting | PE104, except requires 12 volt DC.  | 4-Way                | 9563      | Advance<br>Hold<br>Return     | Rocker Type off,<br>Momentary on | 0,19 kW, 12V†                               | 1                             |

\* Advance position holds pressure with motor shut-off. Return position advances cylinder with motor running and returns cylinder with motor shut-off.

\*\* Cylinder advances with motor running and automatically returns with motor shut-off.

† Comes with an 8 ft. alligator clip cord for 12VDC use.

Model Shown:  
**PE172-E220**



Pumps



### Features

#### FOR MAINTENANCE AND CONSTRUCTION APPLICATIONS.

- For use with single or double-acting cylinders at operating pressure up to 700 bar.
- Equipped with 0,37 kW, 2850 rpm, single-phase, thermal protected induction motor; 3 m remote control cord (PE172S has 7,6 m cord)
- Low amperage draw; small generators and low amperage circuits can be use as power source.
- Extremely quiet noise level (67-81 dBA).
- Starts under full load for intermittent duty.



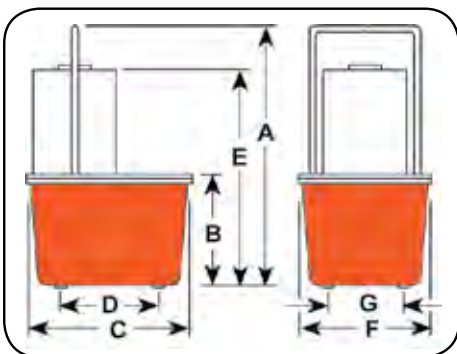
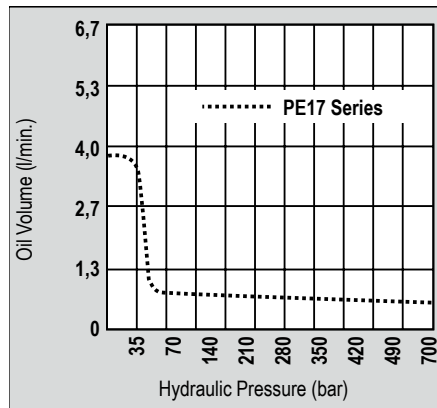
### Hydraulic Hoses

Heavy-duty and thermo plastic hydraulic hoses to meet your requirements and safety factor.

Refer to the accessories section for details.



### Performance Specifications



### Technical Dimensions

| Order No.    | A    | B    | C    | D    | E    | F    | G    | Max. Pressure Output (bar) | rpm  | dBA at Idle and 700 (bar) | Amp Draw 220 V - at 700 (bar) | Oil Del. (l/min. @) |         |           |           | Prod. Wt. with Oil (kg) |
|--------------|------|------|------|------|------|------|------|----------------------------|------|---------------------------|-------------------------------|---------------------|---------|-----------|-----------|-------------------------|
|              | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |                            |      |                           |                               | 0 (bar)             | 7 (bar) | 350 (bar) | 700 (bar) |                         |
| PE17 Series  | 470  | 178  | 289  | 181  | 378  | 235  | 130  | 700                        | 2800 | 67/81*                    | 5                             | 3,9                 | 2,5     | 0,3       | 0,2       | 20,4                    |
| PE17M Series | 460  | 168  | 292  | —    | 368  | 241  | —    | 700                        | 2800 | 67/81*                    | 5                             | 3,9                 | 2,5     | 0,3       | 0,2       | 24,0                    |

\* Measured at 0,9 m distance, all sides

► **Ordering Information**

| For Use With Cylinder Type | Description   | Order No.                         | Valve Type          | Valve No. | Valve Function         | Control Switch                      | Motor                                | Reservoir Usable Oil Cap. (l) |
|----------------------------|---|-----------------------------------|---------------------|-----------|------------------------|-------------------------------------|--------------------------------------|-------------------------------|
| Single-Acting              | Base model pump with 0,37 kW pump with 7,6 liter thermoplastic reservoir. Non CE                              | <b>PE172-50-220</b>               | 2-Way               | 9517      | Advance Return (Auto†) | Remote Motor Control (3,1 m) on/off | 0,37 kW, 220V 50/60 Hz, Single Phase | 4,72                          |
| Single-Acting              | PE172-50-220, Non CE except has 9,5 liter steel reservoir.  | <b>PE172M-50-220</b>              | 2-Way               | 9517      | Advance Return (Auto†) | Remote Motor Control (3,1 m) on/off | 0,37 kW, 220V 50/60 Hz, Single Phase | 6                             |
| Single-Acting              | PE172-50-220, Non CE except has solenoid operated valve.  | <b>PE172S-50-220</b>              | 3-Way               | 9570      | Advance Hold Return    | Remote Motor & Valve (7,6 m)        | 0,37 kW, 220V 50/60 Hz, Single Phase | 4,72                          |
| Single-Acting              | PE172S-50-220, Non CE except has steel reservoir.   | <b>PE172SM-50-220</b>             | 3-Way               | 9570      | Advance Hold Return    | Remote Motor & Valve (7,6 m)        | 0,37 kW, 220V 50/60 Hz, Single Phase | 6                             |
| Single-Acting              | Best suited for crimping, punching, pressing. Not for lifting. Thermoplastic reservoir.                       | <b>PE172A-50-220<sup>∞</sup></b>  | Auto./Dump Manifold | 45554     | Advance Return         | Remote Motor Control (3,1 m) on/off | 0,37 kW, 220V 50/60 Hz, Single Phase | 4,72                          |
| Single-Acting              | PE172A-50-220, Non CE except has steel reservoir.   | <b>PE172AM-50-220<sup>∞</sup></b> | Auto./Dump Manifold | 45554     | Advance Return         | Remote Motor Control (3,1 m) on/off | 0,37 kW, 220V 50/60 Hz, Single Phase | 6                             |
| Single-Acting              | 0,37 kW pump with 7,6 liter thermoplastic reservoir. Meets CE requirements                                    | <b>PE172-E220</b>                 | 2-Way               | 9517      | Advance Return (Auto†) | Remote Motor Control (3,1 m) on/off | 0,37 kW, 220V 50/60 Hz, Single Phase | 4,72                          |
| Single-Acting              | PE172-E220, except has 9,5 liter steel reservoir. Meets CE requirements                                       | <b>PE172M-E220</b>                | 2-Way               | 9517      | Advance Return (Auto†) | Remote Motor Control (3,1 m) on/off | 0,37 kW, 220V 50/60 Hz, Single Phase | 6                             |
| Single-Acting              | PE172-E220, except has solenoid operated valve. Meets CE requirements   | <b>PE172S-E220</b>                | 3-Way               | 9570      | Advance Hold Return    | Remote Motor & Valve (3,1 m)        | 0,37 kW, 220V 50 Hz, Single Phase    | 4,72                          |
| Single-Acting              | PE172-E220, except has steel reservoir. Meets CE requirements   | <b>PE172SM-E220</b>               | 3-Way               | 9570      | Advance Hold Return    | Remote Motor & Valve (3,1 m)        | 0,37 kW, 220V 50 Hz, Single Phase    | 6                             |
| Single-Acting              | Best suited for crimping, punching, pressing. Not for lifting. Thermoplastic reservoir. Meets CE requirements | <b>PE172A-E220<sup>∞</sup></b>    | Auto./Dump Manifold | 4554      | Advance Return         | Remote Motor Control (3,1 m) on/off | 0,37 kW, 220V 50 Hz, Single Phase    | 4,72                          |
| Single-Acting              | PE172A-E220, except has steel reservoir. Meets CE requirements  | <b>PE172AM-E220<sup>∞</sup></b>   | Auto./Dump Manifold | 4554      | Advance Return         | Remote Motor Control (3,1 m) on/off | 0,37 kW, 220V 50 Hz, Single Phase    | 6                             |
| Single/ Double-Acting      | PE172-50-220, Non CE except has 9500 double-acting valve.   | <b>PE174-50-220</b>               | 4-Way               | 9500      | Advance Hold Return*   | Remote Motor Control (3,1 m) on/off | 0,37 kW, 220V 50 Hz, Single Phase    | 4,72                          |
| Single/ Double-Acting      | PE174-50-220, Non CE except has steel reservoir.  | <b>PE174M-50-220</b>              | 4-Way               | 9500      | Advance Hold Return*   | Remote Motor Control (3,1 m) on/off | 0,37 kW, 220V 50 Hz, Single Phase    | 6                             |
| Single/ Double-Acting      | PE172-E220, except has 9500 double-acting valve. Meets CE requirements  | <b>PE174-E220</b>                 | 4-Way               | 9500      | Advance Hold Return*   | Remote Motor Control (3,1 m) on/off | 0,37 kW, 220V 50 Hz, Single Phase    | 4,72                          |
| Single/ Double-Acting      | PE174-E220, except has steel. Meets CE requirements   | <b>PE174M-E220</b>                | 4-Way               | 9500      | Advance Hold Return*   | Remote Motor Control (3,1 m) on/off | 0,37 kW, 220V 50 Hz, Single Phase    | 6                             |

\* Advance position holds pressure with motor shut-off.

† Advance position holds pressure with motor shut-off. Return position advances cylinder with motor running and returns cylinder with motor shut-off.

<sup>∞</sup> Not to be used for lifting.

‡ Some Power Team pumps are available in special configurations not listed in this catalog. For your special requirements please consult your local distributor or the Power Team factory.

**NOTE:** Usable oil is calculated with the oil fill at the recommended level of 38 mm below reservoir cover plate.

**NOTE:** Contact Factory for special 12VDC version for service vehicles

Also available in E110 (meets CE requirement)

Model Shown:

PE182, PE183-2, PE183C

Pumps

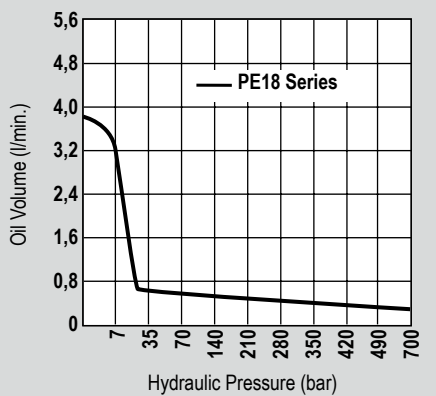


## Features

### IDEAL FOR USE WITH SMALL HYDRAULIC POWER TOOLS.

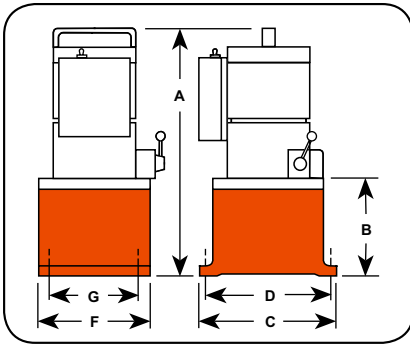
- Vanguard Jr.® pumps provide two-speed high-performance in a light-weight, compact package.
- Gauge port provided on pump. Metal reservoir on all models.
- Equipped with at 0,37 kW, 220V, 60/50 Hz single-phase motor that starts under load, even at reduced voltage.
- Low amperage draw permits use with smaller generators and low amperage circuits.
- All pumps have a 3,1 m remote control (PE183C has 7,6 m remote control).
- Noise level of 85-90 dBA.
- CSA rated for intermittent duty.
- Non CE.

## Ordering Information



### For operating hydraulic crimping, cutting or other tools:

- **PE183C** - For crimping or pressing applications. Has special electrical circuitry to pulse/advance, hold at full pressure, build to a predetermined pressure, release and reset circuit. Features separate emergency return switch.
- **PE184C** - Allows operator to alternately operate a spring-return cutting and/or crimping tool without disconnecting either tool. Select port connection with manual 4-way valve, start pump with remote control hand switch and extend connected tool. When hand switch is switched to off, pump stops and automatic valve opens, allowing tool to return. In center (neutral) position, manual control valve holds tool in position at time valve is shifted.



► **Technical Dimensions**

| Order No. | A<br>(mm) | B<br>(mm) | C<br>(mm) | D<br>(mm) | F<br>(mm) | G<br>(mm) | Max. Pressure Output<br>(bar) | rpm   | dBA at Idle and 700<br>(bar) | Amp Draw 220V at 700<br>(A) | Oil Del. (l/min. @) † |            |              |              | Prod. Wt. with Oil<br>(kg) |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------------------------------|-------|------------------------------|-----------------------------|-----------------------|------------|--------------|--------------|----------------------------|
|           |           |           |           |           |           |           |                               |       |                              |                             | 0<br>(bar)            | 7<br>(bar) | 350<br>(bar) | 700<br>(bar) |                            |
| PE182     | 406       | 121       | 203       | 181       | 152       | 130       | 700                           | 12000 | 85/90**                      | 10,2                        | 3,7                   | 3,0        | 0,4          | 0,3          | 13,6                       |
| PE183     | 406       | 121       | 203       | 181       | 152       | 130       | 700                           | 12000 | 85/90**                      | 10,2                        | 3,7                   | 3,0        | 0,4          | 0,3          | 13,6                       |
| PE183A    | 406       | 121       | 203       | 181       | 152       | 130       | 700                           | 12000 | 85/90**                      | 10,2                        | 3,7                   | 3,0        | 0,4          | 0,3          | 13,6                       |
| PE184     | 406       | 121       | 203       | 181       | 152       | 130       | 700                           | 12000 | 85/90**                      | 10,2                        | 3,7                   | 3,0        | 0,4          | 0,3          | 13,6                       |
| PE183-2*  | 470       | 184       | 292       | 254       | 241       | 203       | 700                           | 12000 | 85/90**                      | 10,2                        | 3,7                   | 3,0        | 0,4          | 0,3          | 19,0                       |
| PE184-2*  | 470       | 184       | 292       | 254       | 241       | 203       | 700                           | 12000 | 85/90**                      | 10,2                        | 3,7                   | 3,0        | 0,4          | 0,3          | 19,0                       |
| PE183C †† | 406       | 121       | 203       | 181       | 152       | 130       | 700                           | 12000 | 85/90**                      | 10,2                        | 3,7                   | 3,0        | 0,4          | 0,3          | 13,6                       |
| PE184C †† | 406       | 121       | 203       | 181       | 152       | 130       | 700                           | 12000 | 85/90**                      | 10,2                        | 3,7                   | 3,0        | 0,4          | 0,3          | 13,6                       |

\* 9,5 l reservoir.

\*\* Measured at 3 ft. distance, all sides.

† Typical delivery. Actual flow will vary with field conditions.

†† Special application pumps for cutting, crimping or pressing.

► **Performance Specifications**

| For Use With Cylinder Type      | Description  | Order No.           | Valve Type                 | Valve Function       | Control Switch                      | Motor   | Reservoir Usable Oil Cap. (L) |
|---------------------------------|--|---------------------|----------------------------|----------------------|-------------------------------------|---|-------------------------------|
| Single-Acting                   | Base model pump has 0,37 kW pump with 2-Way valve and 1,9 liter reservoir.           | PE182               | 2-Way                      | Advance Return†      | Remote Motor Control (3,1 m) on/off | 0,37 kW, 110/115V**<br>50/60 Hz, A.C., Single Phase | 1,7                           |
| Single-Acting                   | PE182, except has 3-way valve.   | PE183               | 3-Way                      | Advance Hold Return  | Remote Motor Control (3,1 m) on/off | 0,37 kW, 110/115V**<br>50/60 Hz, A.C., Single Phase | 1,7                           |
| Single-Acting                   | PE183, except has 2 gallon reservoir.  | PE183-2             | 3-Way                      | Advance Hold Return  | Remote Control (3,1 m)              | 0,37 kW, 110/115V**<br>50/60 Hz, A.C., Single Phase | 8,4 ††                        |
| Single-Acting                   | PE183, except has "dump valve".  | PE183A <sup>∞</sup> | Auto./Dump Pump            | Advance Return       | Remote (3,1 m)                      | 0,37 kW, 110/115V**<br>50/60 Hz, A.C., Single Phase | 1,7                           |
| Single-Acting                   | Special crimping pump.   | PE183C <sup>∞</sup> | Special, for crimping only | Advance Hold Return† | Remote Motor Control (7,6 m) on/off | 0,37 kW, 110/115V**<br>50/60 Hz, A.C., Single Phase | 1,7                           |
| Single-Acting/<br>Double-Acting | Base model pump has 0,37 kW pump for double-acting systems with 1,9 liter reservoir. | PE184               | 4-Way                      | Advance Hold Return  | Remote Motor Control (3,1 m) on/off | 0,37 kW, 110/115V**<br>50/60 Hz, A.C., Single Phase | 1,7                           |
| Single-Acting/<br>Double-Acting | PE184, except with 9,5 liter reservoir.  | PE184-2             | 4-Way                      | Advance Hold Return† | Remote Motor Control (3,1 m) on/off | 0,37 kW, 110/115V**<br>50/60 Hz, A.C., Single Phase | 8,4 ††                        |
| Single-Acting/<br>Double-Acting | Special crimping pump.   | PE184C*             | 4-Way                      | Advance Return       | Remote Control (3,1 m) on/off       | 0,37 kW, 110/115V**<br>50/60 Hz, A.C., Single Phase | 1,7                           |

\* Also for use with special single-acting cylinder applications.

\*\* Available with 220V, 60/50 Hz motor (to order, place suffix "50-220" behind pump order number). Specify voltage when ordering.

† Holds when motor is shut-off and valve is in "advance" position.

†† Pumps supplied with 7,6 l oil (usable oil is 5,7 l), will hold 9,5 l gallon when filled to within 38 mm below reservoir cover plate.

<sup>∞</sup> Not to be used for lifting.

Model Shown:

PE213, PE214, PE214S

Pumps



## Features

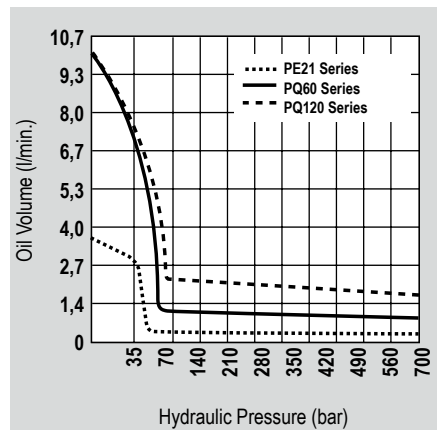
### IDEAL FOR USE WITH SMALL MEDIUM HYDRAULIC POWER TOOLS.

- Totally enclosed, fan cooled induction motor: 0,75 kW, 1725 rpm, 60 Hz, single-phase. Thermal overload protection.
- Remote control, with 3,1 m cord is standard on pumps with solenoid valves. Manual valve pumps have “Stop”, “Start” and “Run/Off/Pulse” switches.
- Pump controls are moisture and dust resistant.
- Motor drip cover with carrying handles and lifting lug.
- Low noise level of 70 dBA@700 bar.
- In the event of electrical interruption, pump shuts off and will not start up until operator presses the pump start button.
- Units with remote have a 24V control circuit that provides additional user/operator safety.
- CSA rated for intermittent duty.
- Non CE.

- ▶ PE21 series pump and RD5513 cylinder used in a special press that produces pharmaceutical-grade extracts for herbal medicines.



## Performance Specifications







**Learn More - About Hydraulic Safety Insight**

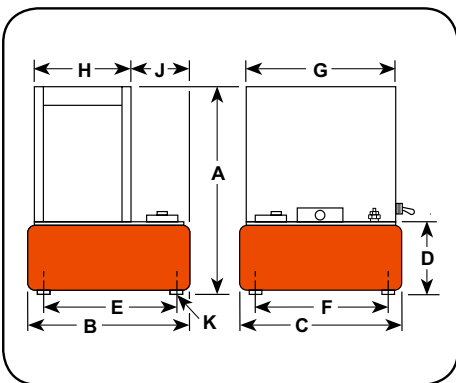


Looking for great safety suggestions? Visit our Resource Section to get a better understanding of hydraulic and mechanical safety insights on what to look for when working around hydraulics



**Optional Cylinders**

Power Team offers a wide variety of single-acting, double-acting, lock nut, pancake and center hole cylinders to meet your requirements.



**Technical Dimensions**

| Order No.          | A    | B    | C    | D    | E    | F    | G    | H    | J    | K**        | Max. Pressure Output (bar) | rpm  | dBA at Idle and 700 (bar) | Oil Del. (l/min. @) |          |           |           | Prod. Wt. † with Oil (kg) |
|--------------------|------|------|------|------|------|------|------|------|------|------------|----------------------------|------|---------------------------|---------------------|----------|-----------|-----------|---------------------------|
|                    | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (in.)      |                            |      |                           | 7 (bar)             | 70 (bar) | 350 (bar) | 700 (bar) |                           |
| <b>PE21 Series</b> | 543  | 292  | 241  | 165  | 254  | 203  | 359  | 82,6 | 3.25 | 1/2-20 UNF | 700                        | 1437 | 70*                       | 3,6                 | 0,4      | 0,4       | 0,3       | 44,4 †                    |

\*\* For 2" dia. swivel casters, order (4) No. 10494.

† Shipping weight with manual valve; add 14 kg for pump with solenoid valve.

**Ordering Information**

| For Use With Cylinder Type | Description   | Order No.            | Valve Type | Valve No. | Valve Function      | Max. Amp Draw @ 700 †† (bar)    | Motor                                    | Reservoir Usable Oil Cap. (L) |
|----------------------------|---|----------------------|------------|-----------|---------------------|---------------------------------|--|-------------------------------|
| Single-Acting              | 0,75 kW pump with 9,5 liter reservoir and manual valve. | <b>PE213-50-220</b>  | 3-Way      | 9520*     | Advance Hold Return | 115V -15 amps<br>230V -7.5 amps | 0,75 kW, 220 Volt<br>50 Hz, Single Phase | 9,4                           |
| Single-Acting              | PE213, except has solenoid operated remote valve.       | <b>PE213S-50-220</b> | 3-Way      | 9599†     | Advance Hold Return | 115V -15 amps<br>230V -7.5 amps | 0,75 kW, 220 Volt<br>50 Hz, Single Phase | 9,4                           |
| Double-Acting              | 0,75 kW pump with 9,5 liter reservoir and manual valve. | <b>PE214-50-220</b>  | 4-Way      | 9506*     | Advance Hold Return | 115V -15 amps<br>230V -7.5 amps | 0,75 kW, 220 Volt<br>50 Hz, Single Phase | 9,4                           |
| Double-Acting              | PE214, except has solenoid operated remote valve.       | <b>PE214S-50-220</b> | 4-Way      | 9512†     | Advance Hold Return | 115V -15 amps<br>230V -7.5 amps | 0,75 kW, 220 Volt<br>50 Hz, Single Phase | 9,4                           |

\* Manual valve. Pump is equipped with RUN/OFF/PULSE switch for control of motor.

† Solenoid valve. Pump is equipped with a remote control switch with 3,1 m cord.

†† Pre-wired at factory for this voltage. PE21 series available in 230V 60Hz or 220V 50Hz. Please specify when ordering. Example: for 60Hz order PE213-230; for 50Hz order PE213-50-220.

**NOTE:** Some Power Team pumps are available in special configurations not listed in this catalog. For your special requirements please consult your local distributor or the Power Team Customer Service.

Model Shown:  
PED253, PED254, PED254S

Pumps



**Features**

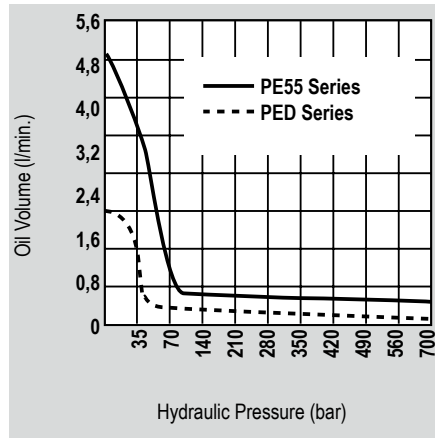
**IDEAL FOR RUNNING MULTIPLE TOOLS OR CYLINDERS FROM ONE POWER UNIT. RECOMMENDED FOR CYLINDERS UP TO 75 TONS.**

- Two-speed pumps have the same low pressure and high pressure flows from both valves.
- Flows and pressures of each pump are independent.
- Delivers 4,8 l/min. of oil @ 7 bar and 0,4 l/min. @ 700 bar from each pump.
- 1,12 kW, 110/115V, 60 Hz induction motor, 3,1 m remote control and 19 l steel reservoir.
- Models available for operating single-acting or double-acting cylinders.
- Each power unit contains two separate pumps and two separate valves allowing operator to control multiple processes with one power unit.
- Both pumps on each power unit are equipped with an externally adjustable pressure relief valve.
- Not recommended for frequent starting and stopping.
- Non CE

▶ PED series pump and RD5513 cylinder used in a special press that produces pharmaceutical-grade extracts for herbal medicines.



**Performance Specifications**





**4 Port Control Manifold**



For independent multiple-cylinder operation, feature needle valves for precise manual control. Designed for remote-mounted applications.

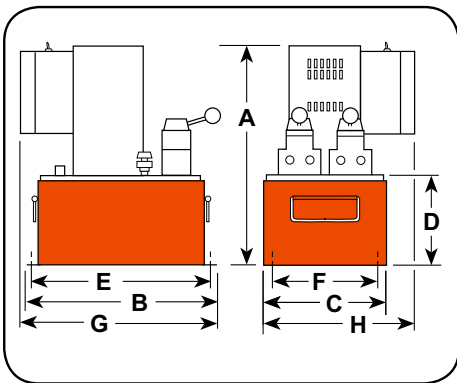
Ordering Information: **9644**



**Hydraulic Fluids**



For dependable performance of all your hydraulic pumps and cylinders. Power Team specialty blended oils contains foam suppressant additives and has a high viscosity index. Refer to the Accessories section for complete details



► **Technical Dimensions**

| Order No.         | A    | B    | C    | D    | E    | F    | G    | H    | Max. Pressure Output | rpm  | dBA at Idle and 700 | Amp Draw 220V at 700 | Oil Del. (l/min. @) |     |     |     | Prod. Wt. with Oil |
|-------------------|------|------|------|------|------|------|------|------|----------------------|------|---------------------|----------------------|---------------------|-----|-----|-----|--------------------|
|                   | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |                      |      |                     |                      | 7                   | 70  | 350 | 700 |                    |
| <b>PED Series</b> | 527  | 457  | 292  | 216  | 419  | 229  | 457  | 330  | 700                  | 2874 | 87/85*              | 11                   | 4,8                 | 0,6 | 0,6 | 0,4 | 77                 |

\*\* Amp draw at 700 bar, 230V 50/60 Hz is 15 Amps.

► **Ordering Information**

| For Use With Cylinder Type | Description   | Order No.      | Valve Type     | Valve No. | Valve Function | Control Switch      | Motor          | Reservoir Usable Oil Cap. (cm <sup>3</sup> ) | Reservoir Usable (l) |
|----------------------------|---|----------------|----------------|-----------|----------------|---------------------|----------------|--|----------------------|
| Single-Acting              | 1,12 kW pump with 19 liter reservoir. Valve has Posi-Check feature. | <b>PED253</b>  | PED253-50-220  | 3-Way     | 9520           | Advance Return      | Remote Motor   | 1,12 kW, 220 V 50 Hz, Single Phase           | 16                   |
| Double-Acting              | 1,2 kW pump with 19 liter reservoir. Valve has Posi-Check feature.  | <b>PED254</b>  | PED254-50-220  | 4-Way     | 9506           | Advance Hold Return | Remote Motor   | 1,12 kW, 220 V 50 Hz, Single Phase           | 16                   |
| Double-Acting              | PED254, expect has solenoid operated remote valve.                  | <b>PED254S</b> | PED254S-50-220 | 4-Way     | 9513           | Advance Hold Return | Remote Control | 1,12 kW, 220 V 50 Hz, Single Phase           | 16                   |

NOTE: All remotes are 3,1 m long.

Model Shown:  
PE302S, PE302



Pumps

### Features

#### IDEAL FOR MAINTENANCE AND CONSTRUCTION APPLICATIONS

- Deliver a powerful punch to operate single-acting or double-acting cylinders.
- Integral roll cage protects pump from abuse.
- 0,75 kW, single-phase, permanent magnet motor.
- High-performance-to-weight ratio.
- Starts under full load even when voltage is reduced to 50% of nominal rating.
- Quiet operation: 82 dBA @ 700 bar and 87 dBA @ 0 bar.
- Remote controls and/or solenoid valves feature 24V controls.
- CSA rated for intermittent duty.
- Non CE

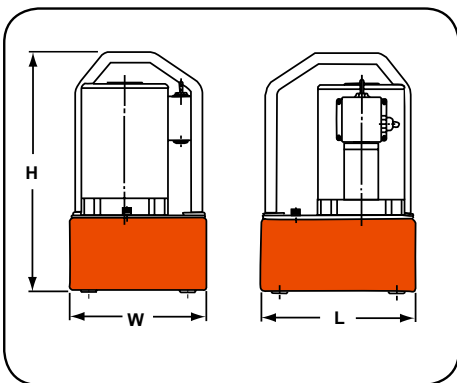
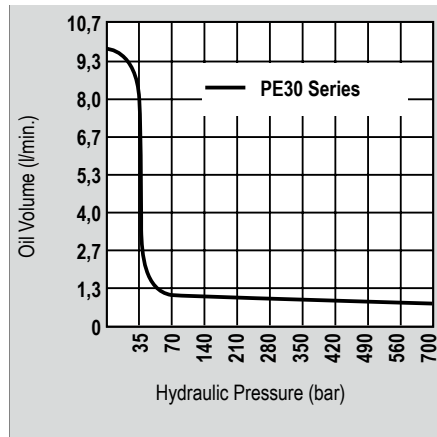


### PE30TWP



For Torque Wrench Pump Configurations, refer to the Tools Section.

### Performance Specifications



### Technical Dimensions

| Order No.                            | Overall Dimensions |       |        | Max. Pressure Output (bar) | dBA at Idle and 700 (bar) | Amp Draw 220V at 700 (A) | Oil Del. (l/min. @) |       |       |       |       | Prod. Wt. with Oil (kg) |
|--------------------------------------|--------------------|-------|--------|----------------------------|---------------------------|--------------------------|---------------------|-------|-------|-------|-------|-------------------------|
|                                      | Length             | Width | Height |                            |                           |                          | 7                   | 35    | 70    | 350   | 700   |                         |
|                                      | (mm)               | (mm)  | (mm)   |                            |                           |                          | (bar)               | (bar) | (bar) | (bar) | (bar) |                         |
| PE30 Series with 4,7 liter reservoir | 254                | 229   | 406    | 700                        | 87/82                     | 7                        | 4,8                 | 3,2   | 0,7   | 0,6   | 0,5   | 18,6                    |
| PE30 Series with 7,6 liter reservoir | 343                | 241   | 419    | 700                        | 87/82                     | 7                        | 4,8                 | 3,2   | 0,7   | 0,6   | 0,5   | 22,2                    |

► **Ordering Information**

| For Use With<br>Cylinder Type | Description  | Order<br>No.                  | Valve<br>Type                            | Valve<br>No. | Valve<br>Function               | Control<br>Switch                  | Motor<br><br>(4,000 rpm)                  | Reservoir<br>Usable<br>Oil Cap.<br>(l) |
|-------------------------------|--|-------------------------------|--|--------------|---------------------------------|------------------------------------|---|--|
| Single-Acting                 | Base model 0,75 kW pump with 4,7 liter reservoir and 2 position valve.                     | <b>PE302-220<sup>∞</sup></b>  | 3-Way,<br>2 Position                     | 9584         | Hold<br>Advance<br>Return       | On/Off<br>Pulse Switch             | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 4,5 **                                 |
| Single-Acting                 | PE302-220, except has 6,6 liter reservoir.   | <b>PE302-2-220</b>            | 3-Way,<br>2 Position                     | 9584         | Hold<br>Advance<br>Return       | On/Off<br>Pulse Switch             | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 6,1 ***                                |
| Single-Acting                 | PE302-220, except has remote motor control.  | <b>PE302R-220</b>             | 3-Way,<br>2 Position                     | 9584         | Hold<br>Advance<br>Return       | Remote Motor<br>Control<br>(3,1 m) | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 4,5 **                                 |
| Single-Acting                 | PE302R-220, except has 6,6 liter reservoir.  | <b>PE302R-2-220</b>           | 3-Way,<br>2 Position                     | 9584         | Hold<br>Advance<br>Return       | Remote Motor<br>Control<br>(3,1 m) | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 6,1 ***                                |
| Single-Acting                 | PE302R-220, except also has solenoid operated remote valve.                                | <b>PE302S-220</b>             | 3-Way,<br>2 Position                     | 9570         | Hold<br>Advance<br>Return       | Remote Motor<br>& Valve<br>(3,1 m) | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 4,5 **                                 |
| Single-Acting                 | PE302S-220, except has 6,6 liter reservoir.  | <b>PE302S-2-220</b>           | 3-Way,<br>2 Position                     | 9570         | Hold<br>Advance<br>Return       | Remote Motor<br>& Valve<br>(3,1 m) | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 6,1 ***                                |
| Single-Acting                 | PE302-220, except has "Auto Dump" valve  | <b>PE302A-220<sup>∞</sup></b> | Auto Dump                                | 9610         | Automatic<br>Pilot<br>Operation | Remote Motor<br>Control<br>(3,1 m) | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 4,5 **                                 |
| Single-Acting                 | Base model 0,75 kW pump with 4,7 liter reservoir and 3 position valve.                     | <b>PE303-220</b>              | 3-Way,<br>3 Position                     | 9520*        | Advance<br>Hold<br>Return       | On/Off<br>Pulse Switch             | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 4,5 **                                 |
| Single-Acting                 | PE303-220, except has 6,6 liter reservoir.   | <b>PE303-2-220</b>            | 3-Way,<br>3 Position                     | 9520*        | Advance<br>Hold<br>Return       | On/Off<br>Pulse Switch             | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 6,1 ***                                |
| Single-Acting                 | PE303-220, except has remote motor control.  | <b>PE303R-220</b>             | 3-Way,<br>3 Position                     | 9520*        | Advance<br>Hold<br>Return       | Remote Motor<br>Control<br>(3,1 m) | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 4,5 **                                 |
| Single-Acting                 | PE303R-220, except has 6,6 liter reservoir.  | <b>PE303R-2-220</b>           | 3-Way,<br>3 Position                     | 9520*        | Advance<br>Hold<br>Return       | Remote Motor<br>Control<br>(3,1 m) | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 6,1 ***                                |
| Double-Acting                 | Base model 0,75 kW pump with 4,7 liter reservoir and 4-way valve for double-acting systems | <b>PE304-220</b>              | 4-Way,<br>3 Position<br>Tandem<br>Center | 9506*        | Advance<br>Hold<br>Return       | On/Off<br>Pulse Switch             | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 4,5 **                                 |
| Double-Acting                 | PE304-220, except has 6,6 liter reservoir.   | <b>PE304-2-220</b>            | 4-Way,<br>3 Position<br>Tandem<br>Center | 9506*        | Advance<br>Hold<br>Return       | On/Off<br>Pulse Switch             | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 6,1 ***                                |
| Double-Acting                 | PE304-220, except has remote motor control.  | <b>PE304R-220</b>             | 4-Way,<br>3 Position<br>Tandem<br>Center | 9506*        | Advance<br>Hold<br>Return       | Remote Motor<br>Control<br>(3,1 m) | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 4,5 **                                 |
| Double-Acting                 | PE304R-220, except has 6,6 liter reservoir.  | <b>PE304R-2-220</b>           | 4-Way,<br>3 Position<br>Tandem<br>Center | 9506*        | Advance<br>Hold<br>Return       | Remote Motor<br>Control<br>(3,1 m) | 0,75 kW 220/230 V,<br>50 Hz, Single Phase | 6,1 ***                                |

\* Posi-Check® valve design, Posi-Check® guards against pressure loss when valve is shifted from "advance" to "hold" position.

\*\* Shipped with 3,8 l of oil (3,4 l, 210 usable).

\*\*\* Shipped with 7,6 l of oil.

∞ Not to be used for lifting applications. Best suited for crimping, pressing & punching applications.

NOTE: For 220/230V, 50/60 Hz. add suffix "- 220" (example PE302-220).

Model Shown:  
**PE462-E220**



Pumps

▶ **PE46 series pump and RD5513 cylinder used in a special press that produces pharmaceutical-grade extracts for herbal medicines.**



▶ **Features**

**BEST SUITED FOR UNDER-THE-ROOF MAINTENANCE AND PRODUCTION APPLICATIONS.**

- Two-speed high-performance pump.
- For use with single or double-acting cylinders at operating pressures up to 700 bar.
- Equipped with a 1,12 kW, 2875 rpm single-phase, 50 Hz thermal protected induction motor that starts under full load. Noise level of 77-81 dBA.
- All equipped with a 3,1 m remote control except PE462S which has a 7,6 m remote control.
- 24V control circuit on all units with remote control.
- CSA rated for intermittent duty.



**Hydraulic Hoses**

Heavy-duty and thermo plastic hydraulic hoses to meet your requirements and safety factor.

Refer to accessories section for details

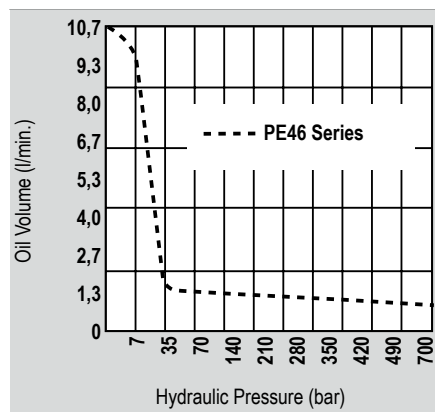


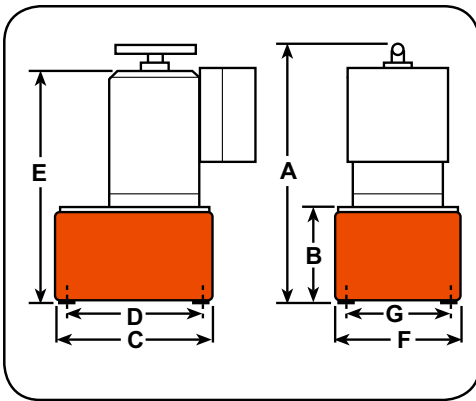
**Hydraulic Fluids**

For dependable performance of all your hydraulic pumps and cylinders. Power Team specialty blended oils contains foam suppressant additives and has a high viscosity index. Refer to the Accessories section for complete details



▶ **Performance Specifications**





► **Technical Dimensions**

| Order No.   | A    | B    | C    | D    | E    | F    | G    | Max. Pressure Output (bar) | rpm   | dBA at Idle and 700 (bar) | Amp Draw 220V at 700 (A) | Oil Del. (l/min. @) † |          |           |           | Prod. Wt. with Oil (kg) |
|-------------|------|------|------|------|------|------|------|----------------------------|-------|---------------------------|--------------------------|-----------------------|----------|-----------|-----------|-------------------------|
|             | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |                            |       |                           |                          | 7 (bar)               | 70 (bar) | 350 (bar) | 700 (bar) |                         |
| PE46 Series | 499  | 173  | 292  | 254  | 378  | 241  | 203  | 700                        | 2,875 | 77/81*                    | 13**                     | 6,7                   | 6,0      | 0,7       | 0,6       | 35,8                    |
| PE46-E220   | 499  | 173  | 292  | 254  | 378  | 241  | 203  | 700                        | 2,875 | 77/81*                    | 13**                     | 6,7                   | 6,0      | 0,7       | 0,6       | 41,3                    |

\* Measured at 0,9 m. distance, all sides.

\*\* Requires 20 amp circuit.

† Typical delivery. Actual flow will vary with field conditions.

► **Ordering Information**

| For Use With Cylinder Type         | Description  | Order No.      | Valve Type        | Valve No. | Valve Function       | Control Switch ††                   | Motor                               | Reservoir ***Usable Oil Cap. (l) |
|------------------------------------|--|----------------|-------------------|-----------|----------------------|-------------------------------------|-------------------------------------|----------------------------------|
| Single-Acting                      | Base model 1,12 kW pump with 9,5 liter metal reservoir           | PE462-50-220   | 3-Way             | 9584      | Advance Return†      | Remote Motor Control (3,1 m) on/off | 1,12 kW, 220 V* 50 Hz, Single Phase | 9,4                              |
| Single-Acting                      | PE462-50-220, except has solenoid valve                          | PE462S-50-220  | 3-Way             | 9570      | Advance Return**     | Remote Motor Valve (7,6 m)          | 1,12 kW, 220 V* 50 Hz, Single Phase | 9,4                              |
| Single-Acting                      | PE462-50-220, except has "dump valve"                            | PE462A-50-220∞ | "Auto/Dump 3-Way" | 9610      | Advance Return       | Remote Motor Control (3,1 m) on/off | 1,12 kW, 220 V* 50 Hz, Single Phase | 9,4                              |
| Single-Acting                      | 1,12 kW pump with 9,5 liter metal reservoir Meets CE requirement | PE462-E220     | 3-Way             | 9584      | Advance Return†      | Remote Motor Control (3,1 m) on/off | 1,12 kW, 220 V* 50 Hz, Single Phase | 9,4                              |
| Single-Acting                      | PE462-50-220, except has solenoid valve Meets CE requirement     | PE462S-E220    | 3-Way             | 9570      | Advance Return**     | Remote Motor Valve (7,6 m)          | 1,12 kW, 220 V* 50 Hz, Single Phase | 9,4                              |
| Single-Acting                      | PE462-50-220, except has "dump valve". Meets CE requirement      | PE462A-E220    | "Auto/Dump 3-Way" | 9610      | Advance Return       | Remote Motor Control (3,1 m) on/off | 1,12 kW, 220 V* 50 Hz, Single Phase | 9,4                              |
| Double-Acting/ Multi-Single Acting | PE462-50-220, except has 9500 double-acting valve.               | PE464-50-220   | 4-Way             | 9500      | Advance Hold Return† | Remote Motor Control (3,1 m) on/off | 1,12 kW, 220 V* 50 Hz, Single Phase | 9,4                              |
| Double-Acting/ Multi-Single Acting | Same as PE464-50-220 Meets CE requirement                        | PE464-E220     | 4-Way             | 9500      | Advance Hold Return† | Remote Motor Control (3,1 m) on/off | 1,12 kW, 220 V* 50 Hz, Single Phase | 9,4                              |
| Double-Acting/ Multi-Single Acting | PE462S-50-220 Meets CE requirement                               | PE464S-E220    | 3/4-Way           | 9592      | Advance Return**     | Remote Motor/Valve (3,1 m)          | 1,12 kW, 220 V* 50 Hz, Single Phase | 9,4                              |
| Double-Acting/ Multi-Single Acting | PE462S-50-220, except has 9592 double-acting valve               | PE464S-50-220  | 3/4-Way           | 9592      | Advance Return**     | Remote Motor/Valve (3,1 m)          | 1,12 kW, 220 V* 50 Hz, Single Phase | 9,4                              |

\* Available with 220V 50 Hz motor (to order, place suffix "50-220" behind pump order number). Specify voltage when ordering.

\*\* Advance position holds pressure with motor shut-off.

\*\*\* Usable oil is calculated with the oil fill at the recommended level of 1.50" below reservoir cover plate.

† Advance position holds pressure with motor shut-off. Return position returns cylinder.

†† The remote motor control switch on PE46 series pumps is 24V.

∞ Not to be used for lifting. When pump is shut-off, oil returns to reservoir.

Model Shown:  
**PE55-E220**



Pumps

**Features**

**INDUSTRY LEADING HEAVY-DUTY PUMP FOR MULTIPLE APPLICATIONS**

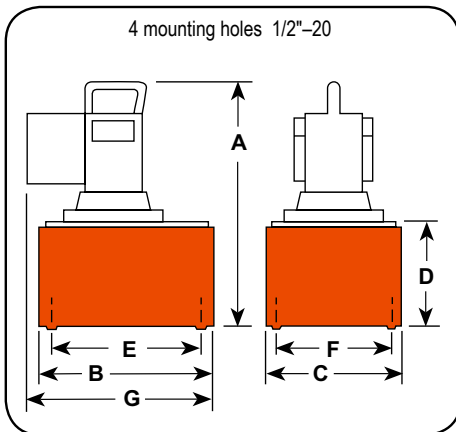
- 0,84 kW, 12000 rpm, 220V, 50/60 Hz universal motor. Draws 25 amps at full load, starts at reduced voltage.
- True unloading valve achieves greater pump efficiency, allowing higher flow at maximum pressure.
- Reservoirs available in sizes up to 38 l, refer to pump accessories page.
- Lightweight and portable. Best performance-to-weight ratio of all Power Team pumps.
- 3,1 m remote motor control.



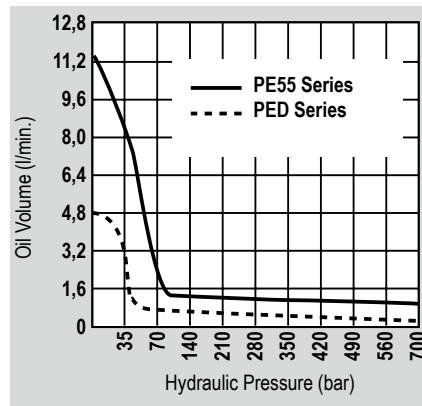
**Torque Wrench Pumps**



For Torque Wrench Pump Configurations, refer to the Tools Section.



**Performance Specifications**



**Technical Dimensions**

| Order No.   | A    | B    | C    | D    | E    | F    | G    | Max. Pressure Output (bar) | rpm   | dBA at Idle and 700 (bar) | Amp Draw 230V at 700 (A) | Oil Del. (l/min. @) |         |          |           | Prod. Wt. with Oil (kg) |
|-------------|------|------|------|------|------|------|------|----------------------------|-------|---------------------------|--------------------------|---------------------|---------|----------|-----------|-------------------------|
|             | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |                            |       |                           |                          | (mm)                | 0 (bar) | 50 (bar) | 350 (bar) |                         |
| PE55 Series | 464  | 292  | 241  | 178  | 254  | 203  | 356  | 700                        | 12000 | 90/89*                    | 13                       | 11,3                | 7,1     | 1,2      | 0,9       | 29,4                    |
| PE55-E220   | 520  | 292  | 241  | 178  | 254  | 203  | 391  | 700                        | 12000 | 90/89*                    | 13                       | 11,3                | 7,1     | 1,2      | 0,9       | 29,4                    |



► **Ordering Information**

| For Use With Cylinder Type | Description   | Order No. ***            | Valve Type | Valve No. | Valve Function                | Control Switch ††    | Motor                               | Reservoir Usable Oil Cap. (l) |
|----------------------------|---|--------------------------|------------|-----------|-------------------------------|----------------------|-------------------------------------|-------------------------------|
| Single-Acting              | Base model 0,84 kW pump with 9,5 liter reservoir, remote motor control                      | PE552-50-220             | 3-Way      | 9582      | Advance Return**              | Remote Motor         | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Single-Acting              | PE552-50-220, except also has solenoid operated remote valve                                | PE552S-50-220            | 3-Way      | 9570      | Advance Hold Return           | Remote Motor & Valve | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Single-Acting              | PE552-50-220, except has Auto Dump valve  | PE552A-50-220            | Auto/Dump  | 9610      | Advance Return                | Remote Motor         | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Single-Acting              | 0,84 kW pump with 9,5 liter reservoir. Valve has Posi-Check feature.                        | PE553-50-220             | 3-Way†     | 9520      | Advance Hold Return           | Remote Motor         | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Single-Acting              | Same as PE552-50-220, but meets also CE requirement   | PE552-E220               | 3-Way      | 9584      | Advance Return**              | Remote Motor         | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Single-Acting              | Same as PE552S, but meets also CE requirement   | PE552S-E220              | 3-Way      | 9570      | Advance Return                | Remote Motor & Valve | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Single-Acting              | Same as PE552A-50-220, but meets also CE requirement  | PE552A-E220 <sup>∞</sup> | Auto/Dump  | 9610      | Advance Hold Return           | Remote Motor         | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Single-Acting              | Same as PE553-50-220, but meets also CE requirement   | PE553-E220               | 3-Way      | 9520      | Advance Hold Return           | Remote Motor         | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Double-Acting              | Base model 0,84 kW pump with 9,5 liter reservoir, and 4-way valve for double-acting systems | PE554-50-220             | 4-Way†     | 9506      | Advance Hold Return           | Remote Motor         | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Double-Acting              | Same as PE554-50-220 but meets also CE requirement  | PE554-E220               | 4-Way†     | 9506      | Advance Hold Return           | Remote Motor         | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Double-Acting              | PE554-50-220, except has 9500 tandem center valve.  | PE554T-50-220            | 4-Way      | 9500      | Advance Hold Return           | Remote Motor         | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Double-Acting              | For use with single-acting Spring Seat, Stressing Jack or double-acting cylinder.           | PE554P-50-220            | 4-Way      | 9500      | Advance Hold Return           | Remote Motor         | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Double-Acting              | For use with single- or double-acting Power Seat, Stressing Jacks ONLY                      | PE554PT-50-220           | 4-Way      | 9628      | Advance Hold Sequenced Return | Remote Motor         | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Double-Acting              | Pump suitable to run multiple spring return tools   | PE554C-50-220            | 4-Way      | 9511 †††  | Advance Hold Return           | Remote Motor         | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Double-Acting              | Pump equipped with 3/4-Way solenoid valve.  | PE554S-50-220            | 3/4-Way    | 9552      | Advance Hold Return           | Remote Motor & Valve | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Double-Acting              | Pump suitable to run multiple Spring return cylinder Meets CE requirement                   | PE554C-E220              | 4-Way      | 9511 †††  | Advance Hold Return           | Remote Motor         | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |
| Double-Acting              | Pump equipped with 3/4-way solenoid valve Meets CE requirement                              | PE554S-E220              | 3/4-Way    | 9552      | Advance Hold Return           | Remote Motor & Valve | 0,84 kW*, 220 V 50 Hz, Single Phase | 8,4                           |

\* Pumps available with 115V, 50 Hz motors. Specify E110 when ordering.

\*\* Holds with motor shut-off.

† Valves have Posi-Check® feature.

†† All remotes are 3,1 m long.

††† Valving allows alternate and independent operation of two different spring return tools. Valve holds pressure only while valve is in "A" or "B" port position with pump motor shut-off.

∞ Not to be used for lifting.

Also available in E110 (meets CE requirement)

Model Shown:  
PE604T, PE604PT

Pumps



▶ The PE60 used for pre-stressing application

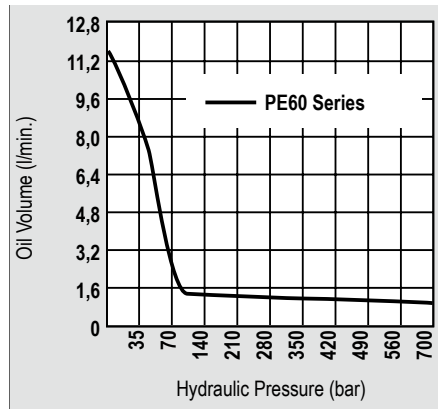


## Features

**COMPACT, LIGHTWEIGHT PUMP. EXCELLENT CHOICE FOR RUGGED APPLICATIONS AND LOW VOLTAGE STARTING.**

- Pump offers long, trouble-free life in the most demanding work environments.
- For operating single or double-acting cylinders, or stressing jacks.
- Powered by 0,84 kW, 220V, 50/60 Hz single-phase motor. Starts under load, even at reduced voltages at construction sites.
- Optional fan-driven external oil cooler includes rollover guard.
- Insulated carrying handle.
- Integral 102 mm. fluid-filled pressure gauge with steel bezel complies with ASME B40.1 Grade A.
- Sealed 4,34 l (usable) reservoir. Reservoir drain port is standard.
- Oil level sight gauge for accurate oil level monitoring.
- External spin-on filter removes contaminants from circulating oil to maximize pump, valve and cylinder/ tool life.
- CSA rated for intermittent duty.
- Non CE.

## Performance Specifications





Optional: Oil Cooler Kit

| For Use With:           | Kit Order No. | Voltage | Wt. (kg) |
|-------------------------|---------------|---------|----------|
| PE604T<br>or<br>PE604PT | 252511        | 115V    | 2,3      |
|                         | 252512        | 220V    | 2,3      |



Hydraulic Fluids



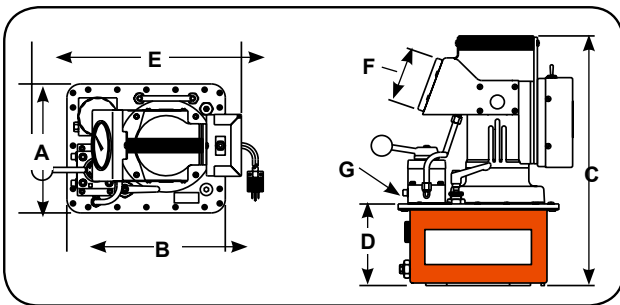
For dependable performance of all your hydraulic pumps and cylinders. Power Team specialty blended oils contains foam suppressant additives and has a high viscosity index. Refer to the Accessories section for complete details



Learn More - About Hydraulic Safety Insight



Looking for great safety suggestions? Visit our Resource Section to get a better understanding of hydraulic and mechanical safety insights on what to look for when working around hydraulics



► Technical Dimensions

| Order No. | A     | B     | C     | D     | E    | F     | G        | Max. Pressure Output (bar) | rpm    | dBA at Idle and 700 (bar) | Amp Draw 220V at 700 (bar) | Oil Del. (l/min. @) |          |           |           | Prod. Wt. with Oil (kg) |
|-----------|-------|-------|-------|-------|------|-------|----------|----------------------------|--------|---------------------------|----------------------------|---------------------|----------|-----------|-----------|-------------------------|
|           | (mm)  | (mm)  | (mm)  | (mm)  | (mm) | (mm)  | (mm)     |                            |        |                           |                            | 0 (bar)             | 50 (bar) | 350 (bar) | 700 (bar) |                         |
| PE604T    | 263,5 | 301,6 | 457,2 | 152,4 | 381  | 101,6 | 3/8 NPTF | 700                        | 10.000 | 80/85*                    | 13                         | 11,3                | 7,1      | 1,2       | 0,9       | 27,2                    |
| PE604PT   | 263,5 | 301,6 | 457,2 | 152,4 | 381  | 101,6 | 3/8 NPTF | 700                        | 12.000 | 80/85*                    | 13                         | 11,3                | 7,1      | 1,2       | 0,9       | 27,2                    |

NOTE: Unloading pressure is 70 bar.

► Ordering Information

| For Use With Cylinder Type                                      | Description   | Order No. | Valve Type        | Valve No.    | Valve Function                | Control Switch | Motor                              | Reservoir Usable Oil Cap. (l) |
|---|---|-----------|-------------------|--------------|-------------------------------|----------------|------------------------------------|-------------------------------|
| Single-Acting, Spring Seat, Stressing Jack or Double-Acting     | 0,84 kW pump with 3,73 liter reservoir & valve for double-acting systems. | PE604T    | 4-Way/ 3 Position | 9500         | Advance Hold Return           | On/Off Pulse   | 0,84 kW, 220 V 50 Hz, Single Phase | 4,34                          |
| Single-Acting or Double-Acting Power Seat, Stressing Jacks Only | PE604T, except has special valve for post tensioning application only.    | PE604PT   | 4-Way/ 3 Position | 9628 Model C | Advance Hold Sequenced Return | On/Off Pulse   | 0,84 kW, 220 V 50 Hz, Single Phase | 4,34                          |

NOTE: Contact Factory for PE60 pump models with other control and valve options.

NOTE: For 220/230V, 50/60 Hz, single-phase models, add -220 suffix.

Model Shown:  
PQ603, PQ604, PQ604S



Pumps

### Features

**PUMP DESIGNED SPECIFICALLY FOR HEAVY- DUTY, EXTENDED CYCLE OPERATION.**

- For operating single or double-acting cylinders.
- Metal shroud keeps dirt and moisture out of motor and electrical components.
- Electrical shut-down feature prevents unintentional restarting of motor following an electrical service interruption.
- Internal relief valve limits pressure to 700 bar.
- External relief valve is adjustable from 70 to 700 bar.
- Pumps operate below maximum OSHA noise limitation (74-76 dBA).
- Start and operate under full load, even with voltage reduced by 10%.
- CSA rated for intermittent duty.
- Non CE.



### Hydraulic Fluids

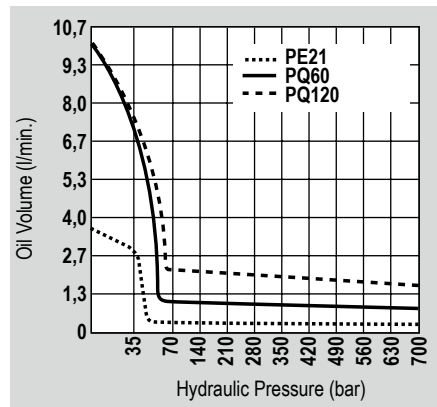


For dependable performance of all your hydraulic pumps and cylinders. Power Team specialty blended oils contains foam suppressant additives and has a high viscosity index. Refer to the Accessories section for complete details

### Hydraulic Machine Press Operation



### Performance Specifications





**Universal Pump Cart**



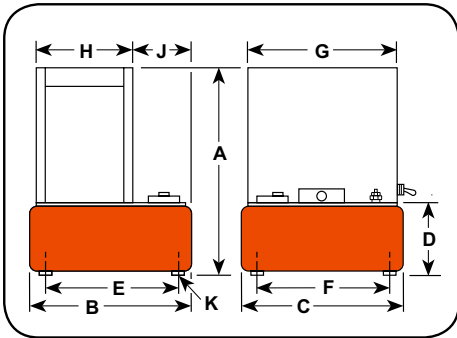
Mobilize your hydraulic pumps with the cart # PC200 - refer to the accessories section for details. Cart can be used with the following pumps; PA60, PA64, PA55/PE55, PE18, PE21, PQ60, PQ120, PG55 series and pumps with optional 5- and 10-gallon reservoirs; Nos. RP50, RP51, RP101 and RP103. (Pump not included)



**Optional: Swivel Casters**



| Order No. | Description                         | Wt. (kg) |
|-----------|-------------------------------------|----------|
| 10494     | 2" dia. swivel casters (4 Required) | 0,1      |



► **Technical Dimensions**

| Order No.   | A    | B    | C    | D    | E    | F    | G    | H    | J     | K          | Max. Pressure Output (bar) | rpm   | dBA at Idle and 700 (bar) | Oil Del. (l/min. @) |          |           |           | Prod. Wt. with Oil (kg) |
|-------------|------|------|------|------|------|------|------|------|-------|------------|----------------------------|-------|---------------------------|---------------------|----------|-----------|-----------|-------------------------|
|             | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm)  | (mm)       |                            |       |                           | 7 (bar)             | 70 (bar) | 350 (bar) | 700 (bar) |                         |
| PQ60 Series | 638  | 362  | 394  | 184  | 308  | 338  | 373  | 237  | 122,2 | 1/2-20 UNF | 700                        | 1,437 | 74/76*                    | 9,7                 | 0,9      | 0,9       | 0,8       | 76,6**                  |

\* Measured at 3 ft. distance, all sides.

\*\* Total weight with oil and 3-way solenoid valve. Subtract 4,5 kg to obtain weight of pump with manual valve.

► **Ordering Information**

| For Use With Cylinder Type | Description   | Order No.     | Valve Type | Valve No. | Valve Function      | Max. Amp Draw @ 700 (bar)      | Motor ††                                 | Reservoir Usable Oil Cap. (l) |
|----------------------------|---|---------------|------------|-----------|---------------------|--------------------------------|--|-------------------------------|
| Single-Acting              | 1,49 kW pump with 21,6 liter reservoir and manual valve | <b>PQ603</b>  | 3-Way      | 9520*     | Advance Hold Return | 115V -22 amps<br>230V -11 amps | 1,49 kW, 220 Volt<br>50 Hz, Single Phase | 20                            |
| Single-Acting              | PQ603, except has solenoid operated remote valve        | <b>PQ603S</b> | 3-Way      | 9599†     | Advance Hold Return | 115V -22 amps<br>230V -11 amps | 1,49 kW, 220 Volt<br>50 Hz, Single Phase | 20                            |
| Double-Acting              | 1,49 kW pump with 21,6 liter reservoir and manual valve | <b>PQ604</b>  | 4-Way      | 9506*     | Advance Hold Return | 115V -22 amps<br>230V -11 amps | 1,49 kW, 220 Volt<br>50 Hz, Single Phase | 20                            |
| Double-Acting              | PQ604, except has solenoid operated remote valve.       | <b>PQ604S</b> | 4-Way      | 9512†     | Advance Hold Return | 115V -22 amps<br>230V -11 amps | 1,49 kW, 220 Volt<br>50 Hz, Single Phase | 20                            |

\* Manual valve. Pump is equipped with RUN/OFF/PULSE switch for control of motor.

† Solenoid valve. Pump is equipped with a remote control switch with 3,1 m cord.

†† PQ60 series also available in 115V, 60 Hz or 220V, 50 Hz. Please specify when ordering. Example: for 60 Hz order PQ603-115; for 50 Hz order PQ603-50-220.

NOTE: Some Power Team pumps are available in special configurations not listed in this catalog. For your special requirements please consult your local distributor or the Power Team factory.

Model Shown:  
**PQ1204S-E380**



Pumps

**Features**

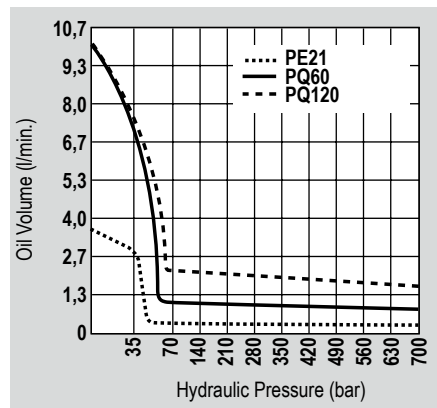
**PUMP DESIGNED SPECIFICALLY FOR HEAVY- DUTY, EXTENDED CYCLE OPERATION.**

- Start and operate under full load, even with voltage reduced by 10%.
- Electrical shut-down feature prevents unintentional restarting of motor following an electrical service interruption.
- Internal relief valve limits pressure to 700 bar.
- External relief valve is adjustable from 70 to 700 bar.
- Pump pre-wired at factory with a 2,24 kW, 400V, 50 Hz, three-phase motor. Other electrical configurations are available. See ordering information on the following page.
- 24 volt control circuit on units with remote control for added user/operator safety.
- Thermal overload protection, motor starter and heater element supplied as **standard equipment**.

▶ **PQ series pump used to drive piers to lift and stabilize building foundation.**



▶ **Performance Specifications**





**Optional: Swivel Casters (4)**



| Order No. | Description            | Wt. (kg) |
|-----------|------------------------|----------|
| 10494     | 2" dia. swivel casters | 0,1      |

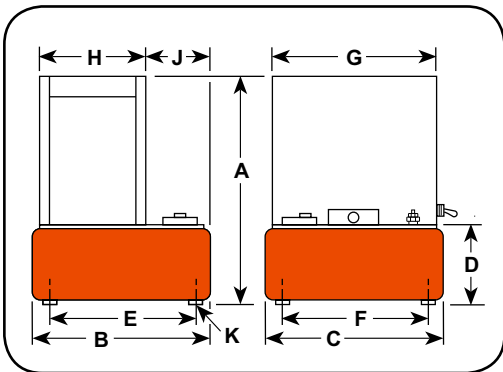


**Analog Gauges**



Improve your system visibility and safety by adding an inline hydraulic gauge to your circuit.

**9040E (63 mm)**  
**9052E (100 mm)**



**Technical Dimensions**

| Order No.           | A    | B    | C    | D    | E    | F    | G    | H    | J    | K          | Max. Pressure Output (bar) | rpm  | dBA at Idle and 700 (dBA) | Oil Del. (l/min. @) |          |           |           | Prod. Wt. ** with Oil (kg) |
|---------------------|------|------|------|------|------|------|------|------|------|------------|----------------------------|------|---------------------------|---------------------|----------|-----------|-----------|----------------------------|
|                     | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm)       |                            |      |                           | 0 (bar)             | 70 (bar) | 350 (bar) | 700 (bar) |                            |
| <b>PQ120 Series</b> | 638  | 362  | 394  | 184  | 308  | 338  | 373  | 237  | 122  | 1/2-20 UNF | 700                        | 1437 | 73/78                     | 9,7                 | 2,1      | 1,7       | 1,6       | 74,3                       |

\*\*Total weight with oil and 3-way solenoid valve. Subtract 4,5 kg to obtain weight of pump with manual valve.

**Ordering Information**

| For Use With Cylinder Type | Description  | Order No.           | Valve Type | Valve No. | Valve Function      | Max. Amp Draw @ 700 (bar)        | Motor                               | Reservoir Usable Oil Cap. (l) |
|----------------------------|--|---------------------|------------|-----------|---------------------|----------------------------------|-------------------------------------|-------------------------------|
| Single-Acting              | 2,24 kW pump with 21,6 liter reservoir and manual valve. | <b>PQ1203-E380</b>  | 3-Way      | 9520*     | Advance Hold Return | 230V -10.5 amps<br>400V - 6 amps | 2,24 kW, 400 Volt<br>50 Hz, 3 Phase | 20                            |
| Single-Acting              | PQ1203, except has solenoid operated remote valve.       | <b>PQ1203S-E380</b> | 3-Way      | 9599†     | Advance Hold Return | 230V -10.5 amps<br>400V - 6 amps | 2,24 kW, 400 Volt<br>50 Hz, 3 Phase | 20                            |
| Double-Acting              | 2,24 kW pump with 21,6 liter reservoir and manual valve. | <b>PQ1204-E380</b>  | 4-Way      | 9506*     | Advance Hold Return | 230V -10.5 amps<br>400V - 6 amps | 2,24 kW, 400 Volt<br>50 Hz, 3 Phase | 20                            |
| Double-Acting              | PQ1204, except has solenoid operated remote valve.       | <b>PQ1204S-E380</b> | 4-Way      | 9512†     | Advance Hold Return | 230V -10.5 amps<br>400V - 6 amps | 2,24 kW, 400 Volt<br>50 Hz, 3 Phase | 20                            |

\* Manual valve. Pump is equipped with RUN/OFF/PULSE switch for control of motor.

† Solenoid valve. Pump is equipped with a remote control switch with 3,1 m cord.

Model Shown:  
**PE4004S**



Pumps

▶ **PE4004S pump and RD3006 cylinder used in a special press which repairs damaged chain links for the shipping industry.**

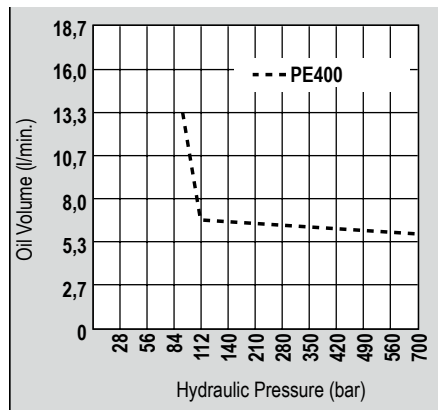


**Features**

**PUMP DESIGNED SPECIFICALLY FOR HEAVY- DUTY, EXTENDED CYCLE OPERATION.**

- Two-speed high output pump delivers up to 16 l/min of oil.
- Low noise level of 73-80 dBA.
- Integral electrical shut-down feature prevents unintentional restarting of motor following an electrical service interruption. Over-current protection prevents damage to motor as a result of overheating.
- “Stop” and “Start” control buttons are 24VDC.
- PE4004 has a 4-way/3-position manual valve.
- PE4004S has a 4-way/3-position solenoid valve with a 24VDC remote hand switch.
- External pressure relief valve is adjustable from 100 to 700 bar.
- Heavy-duty 50,8 mm diameter casters assure easy maneuvering.
- 75,7 l (62,8 l usable) reservoir has a low oil level sight gauge.
- Powered by a dual voltage 7,46 kW, 3 phase, 1437 rpm motor.
- 3 phase motor has all the electrical components necessary to operate the pump. **The customer has no hidden charges when making a purchase.**
- Deliver 16 l/min. of oil @ 15 bar, 5,6 l/min. of oil @ 700 bar.
- CE rated.

▶ **Performance Specifications**







Analog Gauges



Improve your system visibility and safety by adding an inline hydraulic gauge to your circuit.

9040E (63 mm)  
9052E (100 mm)



Load Lowering Valve



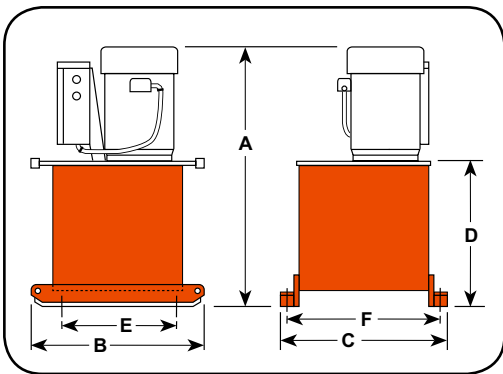
Precision metering for controlled cylinder piston return. Operation: Permits free flow when extending cylinder, built-in pressure relief and Posi-Check® locks and holds load in raised position until operator opens valve. Ordering number: **9596**



Learn More - About Hydraulic Safety Insight



Looking for great safety suggestions? Visit our Resource Section to get a better understanding of hydraulic and mechanical safety insights on what to look for when working around hydraulics



► Technical Dimensions

| Order No.    | A    | B    | C    | D    | E    | F    | Max. Pressure Output | rpm   | dBA at Idle and 700 | Max. Amp Draw @ 700 bar | Oil Del. (l/min. @) |       |       |       | Prod. Wt. * with Oil (kg) |
|--------------|------|------|------|------|------|------|----------------------|-------|---------------------|-------------------------|---------------------|-------|-------|-------|---------------------------|
|              |      |      |      |      |      |      |                      |       |                     |                         | 15                  | 90    | 350   | 700   |                           |
|              | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (bar)                |       | (dBA)               | (A)                     | (bar)               | (bar) | (bar) | (bar) |                           |
| PE4004-E380  | 924  | 635  | 610  | 540  | 394  | 546  | 700                  | 1,437 | 73/80               | 15,5                    | 16                  | 15    | 6     | 5,6   | 223                       |
| PE4004S-E380 | 924  | 635  | 610  | 540  | 394  | 546  | 700                  | 1,437 | 73/80               | 15,5                    | 16                  | 15    | 6     | 5,6   | 229                       |

\* Add 5" and 8 kg when casters are mounted. (Units are supplied with four 4" dia. swivel casters.)

► Ordering Information

| For Use With Cylinder Type | Description  | Order No.    | Valve Type | Valve No. | Valve Function      | Max. Amp Draw @ 700 bar | Motor                             | Reservoir Usable Oil Cap. † (l) |
|----------------------------|--|--------------|------------|-----------|---------------------|-------------------------|-----------------------------------|---------------------------------|
| Double-Acting              | 7,46 kW pump with 75,5 liter reservoir and manual valve. | PE4004-E380  | 4-Way      | 9506      | Advance Hold Return | 400V -15.5 amps         | 7,46 kW, 4000 volt 50 Hz, 3 Phase | 62,8                            |
| Double-Acting              | PE4004, except has solenoid operated remote valve.       | PE4004S-E380 | 4-Way      | 9512*     | Advance Hold Return | 400V -15.5 amps         | 7,46 kW, 4000 volt 50 Hz, 3 Phase | 62,8                            |

\* Solenoid valve with remote control.

† Usable oil is calculated with oil fill at recommended level at 2.25" below cover plate.

NOTE: Valves for spring return cylinders are available upon request. Consult the factory.

Model Shown:  
**MCS-PE554-8**

Pumps



▶ Power Team supplied the lift equipment expertise for this drag line maintenance operation to successfully complete the job on time.



**>Features**

**SYNCHRONIZED POWER UNIT FOR POSITIONING, LIFTING OR LOWERING LOADS, ACCURATE TO +/- 1 MM.**

- Basic systems includes eight (8) jacking points, contact Power Team for larger MCS system requirements.
- Safety features included: full stop due to power failure, sensor failure, pressure overload, tolerance error, uncontrolled load movement, etc.
- Intuitive graphic touch screen control.
- Displayed information includes: startup diagnostics, position of lift points relative to starting position, pressure at each lift point, status of each cylinder and status of alarms.
- MCS works with a wide range of cylinders types, tonnages and strokes to meet your application requirements.
- Operating pressure up to 700 bar.
- Standard system has a 151 l tank.

**i Touch Screen Enclosure**



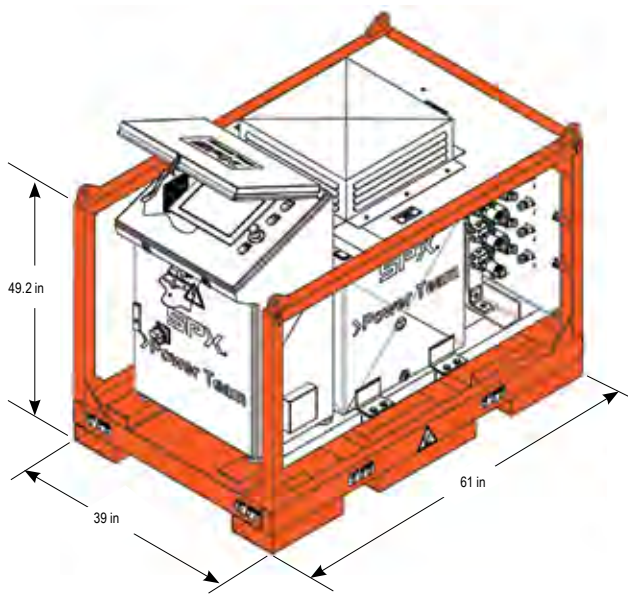
- Weather tight enclosure protects your investment while in storage.
- Hinged cover provides protection for HMI touch screen.
- Designed to act as a sun screen in bright conditions.

**i Cylinder Selection**



Power Team recommends using 80% of the rated capacity and stroke to maximize product performance and safety.

► **Technical Dimensions**



**Training Provided**



Every MCS includes one day of on-site training at one of SPX FLOW's Regional Headquarters (Rockford, IL USA, Singapore or Netherlands). Training includes both classroom and hands-on instruction. Travel & lodging not included.

**Optional Cylinders**

Power Team offers a wide variety of single-acting, double-acting, lock nut, pancake and center hole cylinders to meet your requirements.



► **Hardware Included**



Crate

Motion Control System (MCS) is protected with a robust cage and reusable shipping container.



Sensors

Linear Displacement Sensors have a range of 500 mm. Two cases with four sensors included. Refer to the ordering table for the 1000 mm ordering option.



Cables

Cables for sensors are 30,5 m. in length, eight sets and a hard plastic case.



Plug

Electrical plug female connector allows for quick attachment to your line cord.

► **Ordering Information**

| Order No.           | Max. Lift Points | Pump Flow @ 700 (bar.) (l/ min.) | Reservoir Size (l) | Motor Voltage     | Max. Pressure (bar.) | Valves Included                 | Transducers Included                | Weight with oil (kg) |
|---------------------|------------------|----------------------------------|--------------------|-------------------|----------------------|---------------------------------|-------------------------------------|----------------------|
| MCS-PE554-8         | 8                | 0,9                              | 150                | (230V,1Ø)         | 700                  | 4-Way / 3-Pos. & 2-Way / 2-Pos. | Pressure & Linear Position (500 mm) | 771                  |
| MCS-PQ1204-8        | 8                | 1,97                             |                    | (230V, 3Ø, 60 Hz) |                      |                                 |                                     | 780                  |
| MCS-PQ1204-460-8    | 8                | 1,97                             |                    | (460V, 3Ø, 60 Hz) |                      |                                 |                                     | 780                  |
| MCS-PQ1204-50-220-8 | 8                | 1,97                             |                    | (220V, 3Ø, 50 Hz) |                      |                                 |                                     | 780                  |
| MCS-PQ1204-50-380-8 | 8                | 1,97                             |                    | (380V, 3Ø, 50 Hz) |                      |                                 |                                     | 780                  |

**Note:** To upgrade to a 1000 mm linear position sensor, add "-1M" to the end of the part number. Example MCS-PE554-8-1M.

Pumps

Model Shown:  
**PE-NUT**

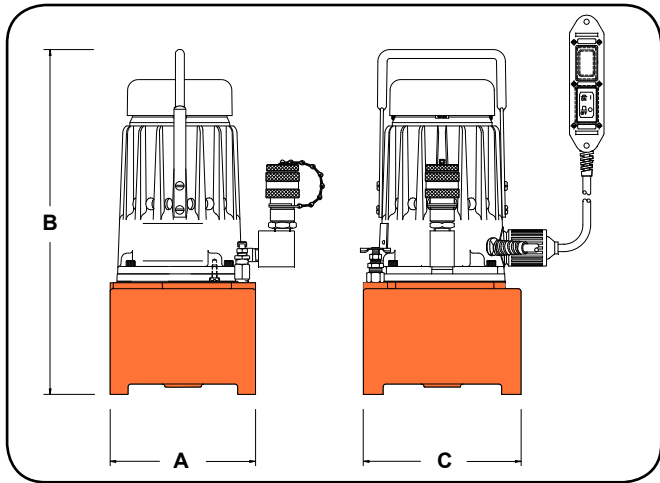
Pumps



**Features**

**EXTREMELY DURABLE YET LIGHTWEIGHT AND OPERATE UNDER LOW-LINE VOLTAGE CONDITIONS.**

- 0,46 kW universal electric motor (50 Hz cycle), intermittent duty pump.
- Two-stage pump for rapid ram advance.
- Operational under low-line voltage conditions.
- Designed for use with spring-returned remote tools.
- High-pressure safety relief valve.
- Remote hand control with 3,1 m cord.
- Carrying handle.
- Factory filled oil reservoir.
- Pressure matched quick-coupler supplied.
- Piston-type high-pressure pump supercharged by a low-pressure pump.
- Optional operating pressures available (consult Power Team factory for details).
- Optional carrying case.
- Non CE.



**CAUTION**

**DESIGNED FOR CRIMPING APPLICATIONS ONLY!**  
This system should not be used for lifting.



**Electrical Data**

| Electric Motor  | Electric Control                  |
|---|-----------------------------------|
| 0,46 kW, 10,000 rpm<br>115V, 50 Hz<br>11 amp current draw<br>(115V @ 700 bar) | Remote control<br>with 3,1 m cord |

**Ordering Information**

| Order No. | Overall Dimensions |             |            | Oil Delivery |           | Reservoir |                 | Prod. Wt. With Oil (kg) |
|-----------|--------------------|-------------|------------|--------------|-----------|-----------|-----------------|-------------------------|
|           | A                  | B           | C          | 7 (bar)      | 700 (bar) | Oil Cap.  | Usable Oil Cap. |                         |
|           | Width (mm)         | Length (mm) | Depth (mm) | (l/min.)     | (l/min.)  | (l)       | (l)             |                         |
| PE-NUT    | 165                | 365         | 210        | 2,62         | 0,49      | 6         | 2,8             | 12,6                    |
| PE-NUTC*  | 165                | 365         | 210        | 2,62         | 0,49      | 6         | 2,8             | 12,6                    |

\* Includes Case

Model Shown:  
**PG1203/4S-CP**



**Features**

**TWO-STAGE PUMP FOR CRIMPING APPLICATIONS  
PG1203-CP**

- 6 hp Briggs & Stratton engine.
- Manual control valve.
- High-pressure safety relief valve.
- Protective roll cage.
- For use with single acting tools.

**PG1203/4S-CP**

- 5.5 hp Honda OHV-type engine.
- Solenoid valve with remote hand control with 3,1 m cord.
- Two-stage pump for rapid advance.
- High-pressure safety relief valve.
- Protective roll cage.
- For use with either single or double-acting tools.

Pumps



**Hydraulic Hoses**



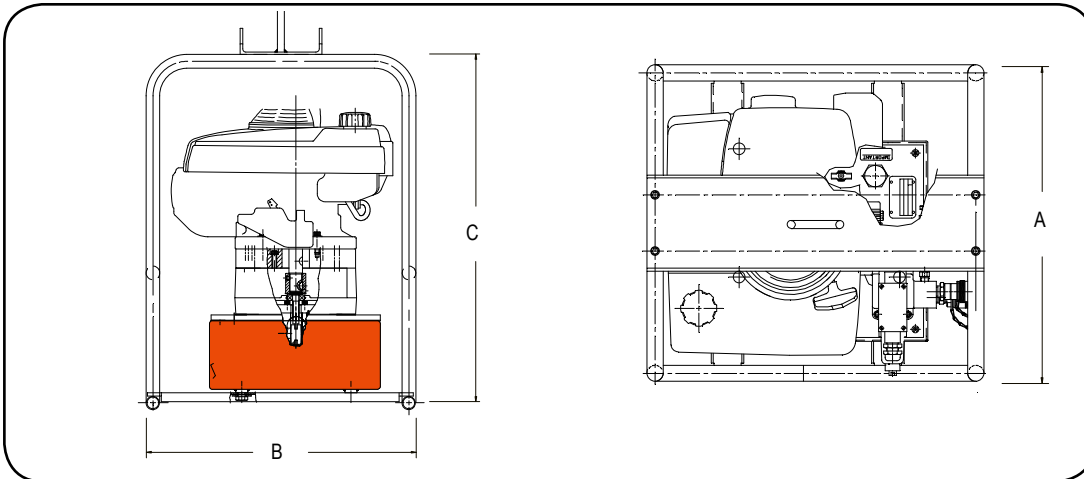
Heavy-duty and thermo plastic hydraulic hoses to meet your requirements and safety factor.

Refer to accessories section for details



**CAUTION**

**DESIGNED FOR CRIMPING APPLICATIONS ONLY!**  
This system should not be used for lifting.



**Ordering Information**

| Order No.    | Overall Dimensions |             |            | Oil Delivery |           | Reservoir |                 | Prod. Wt. With Oil (kg) |
|--------------|--------------------|-------------|------------|--------------|-----------|-----------|-----------------|-------------------------|
|              | A                  | B           | C          | 7 (bar)      | 700 (bar) | Oil Cap.  | Usable Oil Cap. |                         |
|              | Width (mm)         | Length (mm) | Depth (mm) | (l/min.)     | (l/min.)  | (l)       | (l)             |                         |
| PG1203-CP    | 502                | 552         | 622        | 8            | 2,1       | 11,3      | 7               | 25                      |
| PG1203/4S-CP | 502                | 552         | 622        | 8            | 2,1       | 11,3      | 7               | 25                      |

Model Shown:  
**PG304, PG554**



Pumps

▶ **Gasoline Powered Hydraulic Pumps like this PG303 help provide hydraulic force at remote locations.**



▶ **Features**

**GASOLINE POWER IDEAL FOR REMOTE LOCATIONS.**

- A logical choice at work sites where electricity or compressed air are unavailable. For single or double-acting cylinders at operating pressures up to 700 bar.
- All gasoline engine/hydraulic pumps feature Posi-Check® valve to guard against pressure loss when valve is shifted from “advance” to “hold.”

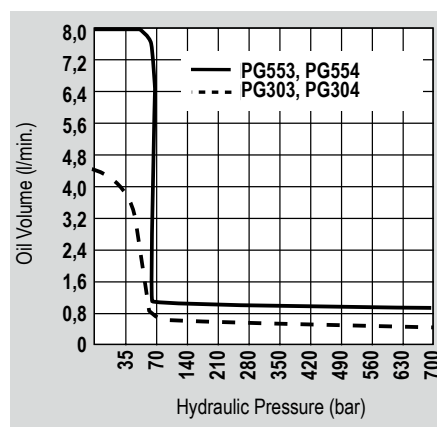
**PG303 AND PG304 (UP TO 75 TON)**


- Powered by a 4-cycle, 1,5 kW Honda engine giving it the lowest weight to horsepower ratio of all gasoline driven pumps.
- Has an aluminum reservoir with 6 l of usable oil.
- PG30 series pumps are equipped with roll cages to protect pump from damage.
- PG303 is for single-acting cylinders, has a 9520 valve with separate internal return line which allows oil from running pump to return to reservoir, independently of cylinder return oil, when valve is in “return” position.
- PG304 is for double-acting cylinders, has a 9506 4-way (tandem center) valve.

**PG553 AND PG554 (UP TO 150 TON)**

- 4,5 kW Intek “Diamond Edge” 4-cycle, by Briggs & Stratton.
- 19 liter reservoir.
- PG553 has a 9520 3-way valve for single-acting cylinders.
- PG554 has a 9506 4-way valve for double-acting cylinders.
- Optional roll cage available.


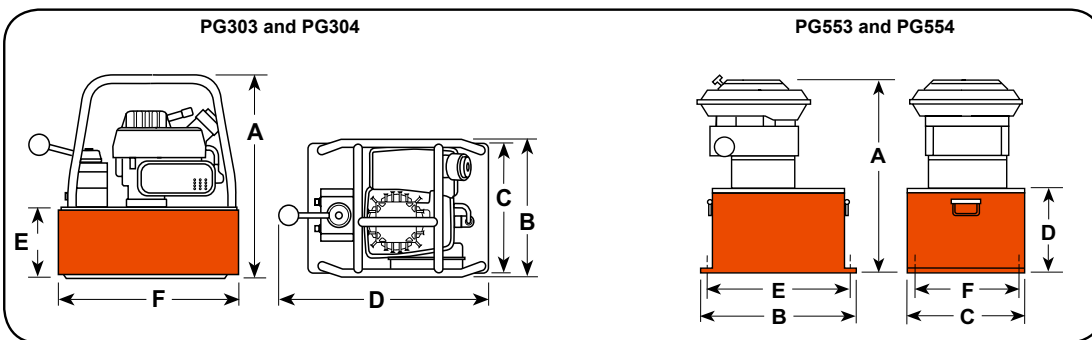
▶ **Performance Specifications**



 **Hydraulic Hoses**

Heavy-duty and thermo plastic hydraulic hoses to meet your requirements and safety factor.

Refer to accessories section for details

► **Technical Dimensions**

| Order No.    | A<br>(mm) | B<br>(mm) | C<br>(mm) | D<br>(mm) | E<br>(mm) | F<br>(mm) | Max. Pressure Output<br>(bar) | rpm  | Oil Del. (l/min. @) |       |       |       | Prod. Wt. with Oil<br>(kg) |
|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-------------------------------|------|---------------------|-------|-------|-------|----------------------------|
|              |           |           |           |           |           |           |                               |      | 7                   | 70    | 350   | 700   |                            |
|              |           |           |           |           |           |           |                               |      | (bar)               | (bar) | (bar) | (bar) |                            |
| PG303, PG304 | 378       | 264       | 241       | 406       | 130       | 343       | 700                           | 6000 | 4,4*                | 0,6   | 0,6   | 0,5   | 14,5                       |
| PG553, PG554 | 559       | 457       | 318       | 219       | 422       | 229       | 700                           | 3600 | 7,7                 | 1,2   | 1,1   | 0,9   | 54,4                       |

\* First stage oil delivery from 27,6 bar @ 3,7 l/min minimum.

► **Ordering Information**

| For Use With Cylinder Type | Description  | Order No. | Valve Type | Valve No. | Valve Function      | Reservoir Usable Oil Cap. (l) | Horsepower | Cycle |
|----------------------------|--|-----------|------------|-----------|---------------------|-------------------------------|------------|-------|
| Single-Acting              | 1,5 kW pump with 7,6 liter reservoir and single-acting valve.  | PG303     | 3-Way      | 9520      | Advance Hold Return | 6                             | 1,5        | 2     |
| Single-Acting              | 4,5 kW pump with 21,6 liter reservoir and single-acting valve. | PG553     | 3-Way      | 9520      | Advance Hold Return | 20,8 **                       | 4,5        | 4     |
| Double-Acting              | PG303, except has double-acting valve                          | PG304     | 4-Way      | 9506      | Advance Hold Return | 6                             | 1,5        | 2     |
| Double-Acting              | PG553, except has double-acting valve                          | PG554     | 4-Way      | 9506      | Advance Hold Return | 20,8 **                       | 4,5        | 4     |

\*\* Usable oil is calculated with oil fill at recommended level at 13 mm below cover plate.

Model Shown:

PG4204S, PG1204S, PG1200M-4D

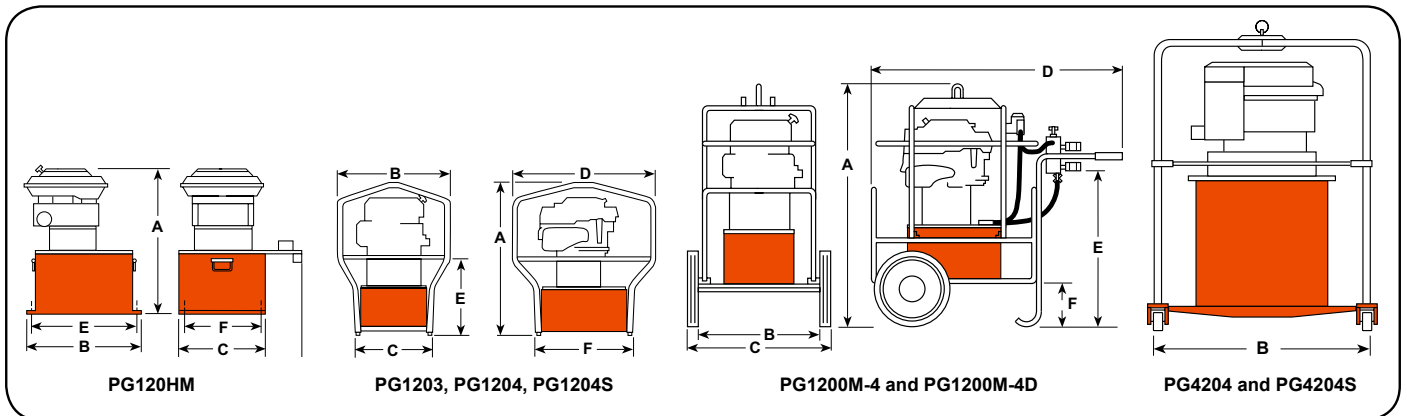
Pumps



**Features**

**TWO-SPEED HIGH-PERFORMANCE PUMPS IDEAL FOR CONSTRUCTION, STRUCTURE MOVING AND RIGGING APPLICATIONS.**

- A logical choice at work sites where electricity or compressed air are unavailable. For single or double-acting cylinders at operating pressures to 700 bar.
- All gasoline engine/hydraulic pumps feature Posi-Check® valve to guard against pressure loss when valve is shifted from “advance” to “hold.”
- PG1200 Series pumps powered by a Honda 4-cycle, 5.5 hp engine with automatic decompression and electronic ignition. Deliver over 2,1 l of oil per minute at 700 bar.
- A 19 liter reservoir means adequate capacity for multi-cylinder applications. Dual element air cleaner protects engine from dusty environments.
- Heavy-duty “roll cage” provides pick-up points for lifting. Horizontal bars on PG1203, PG1204 and PG1204S protect unit, provide hand holds for carrying.
- Rubber anti-skid insulation on bottom of reservoir resists skidding and dampens vibration. PG1200M-4 and PG1200M-4D include a pump cart with 305 mm wheels.
- Adjustable external pressure regulator.
- CSA rated for intermittent duty.



**Technical Dimensions**

| Order No.  | A     | B     | C     | D     | E    | F    | Max. Pressure Output (bar) | rpm  | Oil Del. (l/min. @) |      |     |     | Prod. Wt. with Oil (kg) |
|------------|-------|-------|-------|-------|------|------|----------------------------|------|---------------------|------|-----|-----|-------------------------|
|            | (mm)  | (mm)  | (mm)  | (mm)  | (mm) | (mm) |                            |      | 7                   | 70   | 350 | 700 |                         |
|            | (bar) | (bar) | (bar) | (bar) |      |      |                            |      |                     |      |     |     |                         |
| PG120HM    | 584   | 394   | 362   | 483   | 338  | 308  | 700                        | 3600 | 7,7                 | 2,8  | 2,4 | 2,1 | 68                      |
| PG1203     | 708   | 514   | 362   | 667   | 343  | 464  | 700                        | 3600 | 7,7                 | 2,8  | 2,4 | 2,1 | 70                      |
| PG1204     | 708   | 514   | 362   | 667   | 343  | 464  | 700                        | 3600 | 7,7                 | 2,8  | 2,4 | 2,1 | 70                      |
| PG1204S    | 708   | 514   | 362   | 667   | 343  | 464  | 700                        | 3600 | 7,7                 | 2,8  | 2,4 | 2,1 | 73                      |
| PG1200M-4  | 1070  | 457   | 635   | 1080  | 667  | 184  | 700                        | 3600 | 7,7                 | 2,8  | 2,4 | 2,1 | 118                     |
| PG1200M-4D | 1070  | 457   | 635   | 1080  | 667  | 184  | 700                        | 3600 | 7,7                 | 2,8  | 2,4 | 2,1 | 127                     |
| PG4204     | 1276  | 1321  | 1321  | —     | —    | —    | 700                        | 3600 | 19,8                | 17,9 | 7,6 | 6,4 | 197                     |
| PG4204S    | 1276  | 1321  | 1321  | —     | —    | —    | 700                        | 3600 | 19,8                | 17,9 | 7,6 | 6,4 | 200                     |



**PG1200M-4**

- For single-acting cylinders. Has 9520 3-way/3-position (tandem center) valve, 9596 load-lowering valve and 9644 4-port manifold with individual needle valves at each port.
- Has a 9796 coupler and 9797 dust cap at each port. Valving permits precise individual control of up to four cylinders.
- A 9052 heavy-duty, fluid filled pressure gauge (0-700 bar) is included.

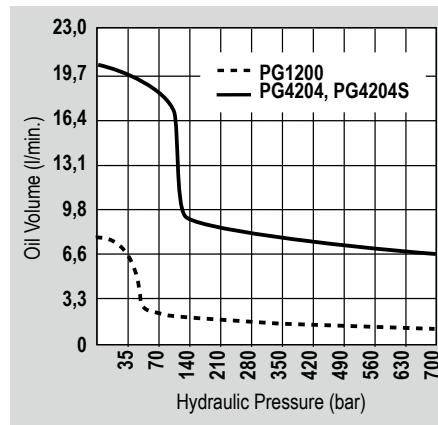
**PG1200M-4D**

- For single or double-acting cylinders with precise individual control of up to four cylinders possible.
- Equipped same as PG1200M-4, except has 9506 4-way/3-position (tandem center) valve, and second 4-port manifold without needle valves mounted beneath 9644 manifold for operating double-acting cylinders.

**PG420 SERIES MAXIMUM OUTPUT  
HYDRAULIC POWER PACKAGE**

- Ideal for single or multiple cylinder applications. Has a 4-cycle, 15 kW Honda engine and 76 l hydraulic reservoir (63 l usable) with low oil level sight gauge.
- Steel roll cage protects pump, has a lifting hook, and 102 mm dia. swivel casters provide mobility.
- Delivers 6,4 l of oil at maximum operating pressure.
- Has a 9506 4-way valve. On/off switch and speed control are protected by a panel. Sturdy molded case protects battery (not included).
- USA EPA Clean Air Act EVAP Certified Product.

► **Performance Specifications**



► **Ordering Information**

| For Use With Cylinder Type      | Description  | Order No.         | Valve Type        | Valve No. | Valve Function        | Reservoir *Usable Oil Cap. (l) | Horsepower | Cycle |
|---------------------------------|--|-------------------|-------------------|-----------|-----------------------|--------------------------------|------------|-------|
| Single-Acting                   | Base model 4,1 kW gasoline pump with 22 liter reservoir.                                     | <b>PG1203</b>     | 3-Way             | 9520      | Advance Hold Return   | 20,8                           | 4,1        | 4     |
| Single-Acting                   | PG1203 with cart, roll cage, load lowering valve, 4 port manifold and gauge.                 | <b>PG1200M-4</b>  | 3-Way Manifold    | 9520 9644 | Advance Hold Return** | 20,8                           | 4,1        | 4     |
| Single-Acting/<br>Double-Acting | PG1200M-4D, except without Roll Cage and cart. Ideal for house moving industry               | <b>PG120HM</b>    | 4-Way Manifold    | 9506 9642 | Advance Hold Return** | 20,8                           | 4,1        | 4     |
| Double-Acting                   | Base model 4,1 kW gasoline pump, with 22 liter reservoir, roll cage and double-acting valve. | <b>PG1204</b>     | 4-Way             | 9506      | Advance Hold Return   | 20,8                           | 4,1        | 4     |
| Double-Acting                   | PG1204, except has roll cage, solenoid valve and 7,6 meter cord.                             | <b>PG1204S</b>    | 4-Way Solenoid*** | 9516      | Advance Hold Return   | 20,8                           | 4,1        | 4     |
| Double-Acting                   | PG1200M-4, except for double-acting systems.   | <b>PG1200M-4D</b> | 4-Way Manifold    | 9506 9642 | Advance Hold Return** | 20,8                           | 4,1        | 4     |
| Double-Acting                   | Base model 15 kW pump with 76 liter reservoir.   | <b>PG4204</b>     | 4-Way             | 9506      | Advance Hold Return   | 62,8 *                         | 15         | 4     |
| Double-Acting                   | PG4204, except has solenoid operated remote valve.   | <b>PG4204S</b>    | 4-Way Solenoid*** | 9516      | Advance Hold Return   | 62,8 *                         | 15         | 4     |

\* Usable oil is calculated with oil fill at recommended level at 57 mm below cover plate.

\*\* Control up to 4 cylinders independently.

\*\*\* Has 7,6 m remote control cord.

Model Shown:  
**HB443**

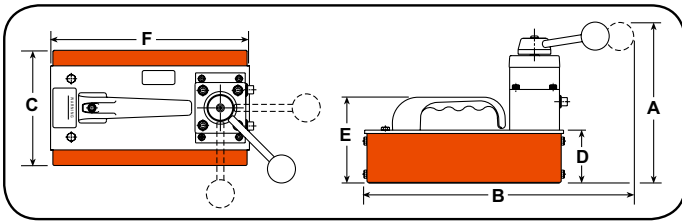
Pumps



**Features**

**CONVERTS LOW-PRESSURE PORTABLE HYDRAULIC PUMPS OR ON-BOARD HYDRAULIC SYSTEMS, INTO HIGH PRESSURE POWER SOURCES.**

- Applications include utilities, railroads, construction, riggers and others.
- Operates single or double-acting cylinders, jacks, and tools such as crimper's, spreaders, cable cutters, or tire tools. Version for use with double-acting torque wrenches available.
- May be used to operate two separate, single-acting tools (with integral valves) independently, without need for additional manifold.
- Compact and rugged for use inside a utility vehicle aerial bucket or stowing in a vehicle.
- No reservoir level to maintain; uses low pressure system as oil supply.
- Has 3/8" NPTF ports; compatible with standard fittings for low and high pressure systems.



**Technical Dimensions**

| Order No. | A    | B    | C    | D    | E    | F    | Output Flow at 700 bar (l/min.) | Prod. Wt. with Oil (kg) |
|-----------|------|------|------|------|------|------|---------------------------------|-------------------------|
|           | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |                                 |                         |
| HB44      | 219  | 368  | 156  | 70   | 114  | 267  | 0,7                             | 7,2                     |

**Ordering Information**

| For Use With Cylinder Type   | Description   | Order No. | Valve Type       | Valve No. | Valve Function      | Input Flow Range (l/min) | Input Flow Pressure (bar) | Output Flow Range (l/min) |
|------------------------------|---|-----------|------------------|-----------|---------------------|--------------------------|---------------------------|---------------------------|
| Single-Acting                | Hydraulic intensifier for single-acting systems             | HB443     | 3-Way 3-Position | 9520*     | Advance Hold Return | 0 - 38                   | 20 - 138                  | 0 - 9,5                   |
| Single-Acting/ Double-Acting | Hydraulic intensifier for double-acting systems             | HB444     | 4-Way 3-Position | 9506*     | Advance Hold Return | 0 - 38                   | 20 - 138                  | 0 - 9,5                   |
| Double-Acting                | Hydraulic intensifier for double-acting torque wrench tools | HB445-RR  | 4-Way 3-Position | -         | Advance Hold Return | 0 - 38                   | 20 - 138                  | 0 - 9,5                   |

† For maximum efficiency, recommended input flow is 18,9 l.min at a maximum pressure of 140 bar. Higher flows and/or pressures must be compensated for at the system pump (e.g., relief valve, variable flow devices, etc.)

\* Posi-Check® valve design, Posi-Check® guards against pressure loss when valve is shifted from "advance" position to "hold" position.



**CAUTION**

This system should not be used for lifting applications.

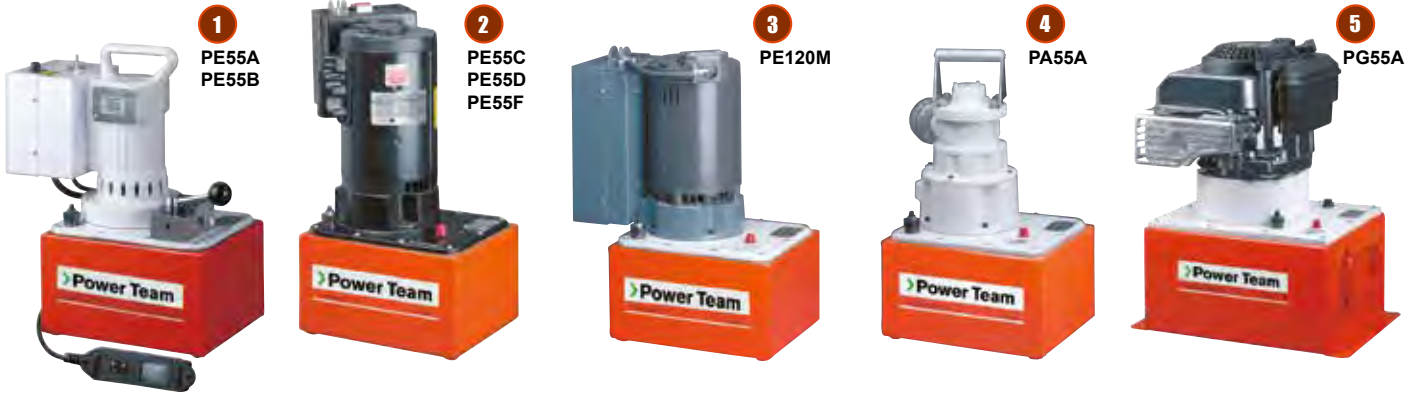


**Torque Wrench Pumps**

For Torque Wrench Pumps, refer to the tool section.



**CHOOSE YOUR BASIC PUMP, SELECT YOUR ACCESSORIES, AND WE WILL ASSEMBLE, TEST AND SHIP YOUR PUMP.**



Pumps

**ORDER A “CUSTOM BUILT” HYDRAULIC PUMP**

“Assemble to Order” means you can choose a basic pump with gas, air or electric motor. Then select the proper valve, gauge, pressure control, motor control and reservoir. You get a two-stage pump that gives high oil volume for fast cylinder approach (and return with double-acting cylinders) in the first stage and high pressure in the second stage.

**1 1-1/8 HP UNIVERSAL MOTOR**

These motors start under full load and are suitable for operation up to 5000 or 700 bar. The motor is 0,83 kW, 12000 rpm, 115 or 230V (specify), 50/60 cycle AC single-phase (25 amp draw at 115V). With proper valve they can be used with single or double-acting cylinders.

**NOTE:** Remote control available.

**2 1-1/2 HP JET MOTOR, SINGLE & THREE-PHASE**

Feature low noise level, moderate speed for long service and are ideal for fixed applications. Motor is 1,12 kW, 3450 rpm, 115 or 230V, 50 or 60 cycle (specify), AC single-phase with thermal overload switch. Can be used with single or double-acting cylinders and equipped with remote control. Also available in 230/460V, three-phase (specify).

**NOTE:** These do not start under full load unless valve is in “neutral” (requires open or tandem center valve) and are not recommended for frequent starting and stopping.

**3 3 HP JET MOTOR, THREE-PHASE**

Gives low noise level and long life due to its moderate operating speed. Ideal for fixed installations. Consists of basic 700 bar pump, jet pump motor: 2,2 kW, 3450 rpm, 230/460V, 60 or 50 cycle (specify). AC three-phase, with thermal overload switch. Equipped with internal and external relief valve. Will start under load.

**4 3 HP AIR MOTOR**

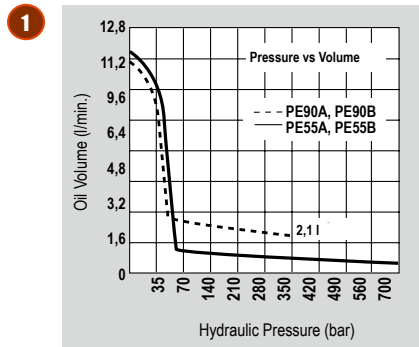
This pump is ideal for use where electricity is unavailable or cannot be used. The 5000 or 700 bar pump has a 2,2 kW air-driven motor at 3000 rpm (optimum performance based on 6 bar air pressure and 50 cfm at the pump). You can drive single or double-acting cylinders with the correct valve.

**NOTE:** 6 bar air supply required to start under full load.

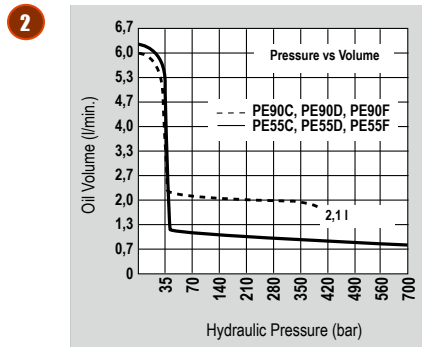
**5 GASOLINE ENGINE**

This version is perfect when electricity and air are unavailable. It is capable of continuous operation at full pressure. Consists of basic 700 bar pump, 4-cycle Briggs & Stratton “Diamond Edge” gasoline engine, developing 6 hp. As with all these pumps, this unit can be valved for use with either single or double-acting cylinders.

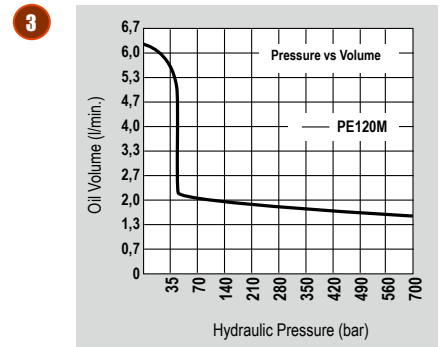
► Performance Specifications



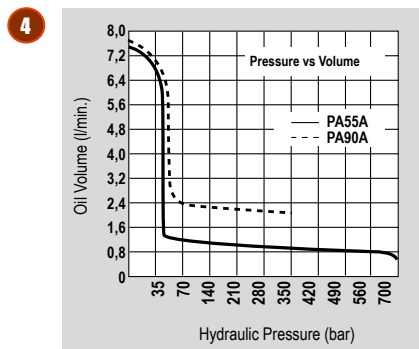
dBA @ Idle and 700 bar - 90/95  
dBA @ Idle and 350 bar - 90/95



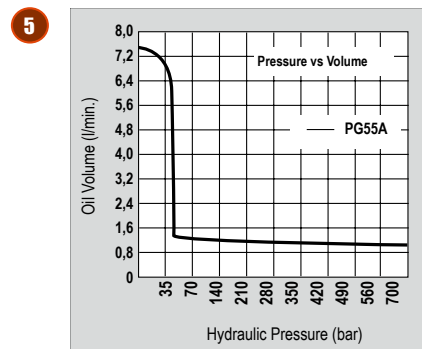
dBA @ Idle and 700 bar - 80/85



dBA @ Idle and 700 bar - 80/85

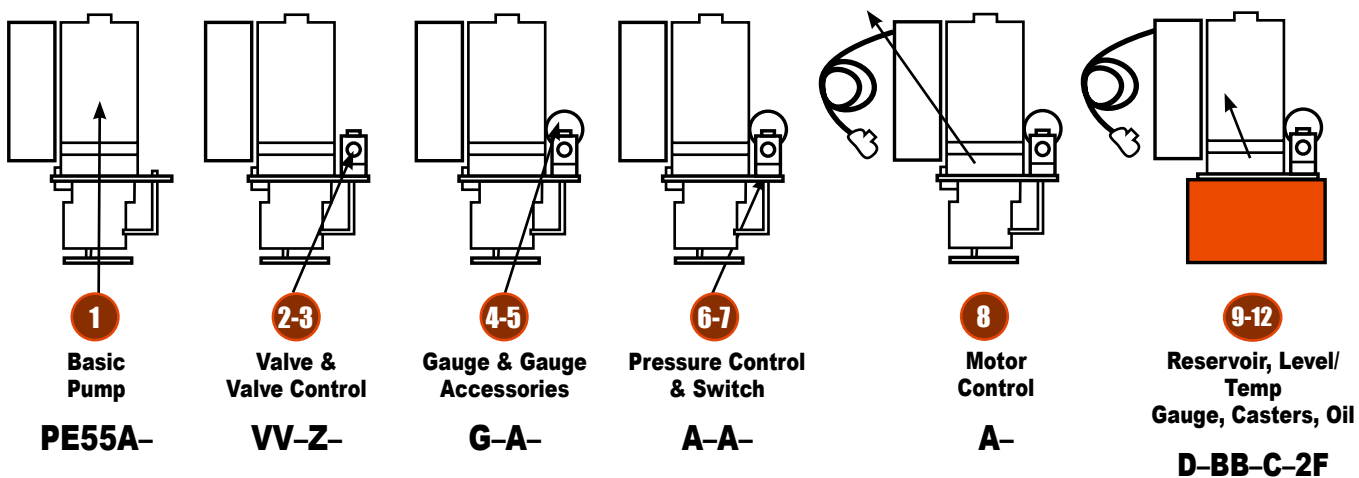


dBA @ Idle and 700 bar - 83/88  
dBA @ Idle and 350 bar - 83/88



► “Assemble to order” pump how to order your “custom” hydraulic pump...

You can choose from pre-engineered, off-the-shelf components to customize your pump. All the components are listed in table form, with key letters or numbers on pages 108-109. Complete instructions guide you so you can determine what is needed to complete a pump assembly. Shown below is an example of a custom-built pump.



Pump No. PE55A-VV-Z-G-A-A-A-A-D-BB-C-2F is a 700 bar two-speed pump with a 115V, 50-60Hz, single-phase, 1,12 kW, 12000 rpm motor; a 9512 4-way solenoid valve with a 202778 remote hand control, a 9041 pressure gauge, no gauge accessories, standard pressure control, standard On/Off/Pulse motor control, 40063OR9 7,6 reservoir, a 350431 oil level/temperature gauge, 10494 casters, and 7,6 l of standard hydraulic oil.

See next two pages for pump components

**TO BUILD YOUR PUMP, FILL IN KEY LETTERS FROM CHARTS**

|                          |                        |                               |                                   |                                 |                           |
|--------------------------|------------------------|-------------------------------|-----------------------------------|---------------------------------|---------------------------|
| <b>1</b> Basic Pump      | <b>2</b> Select Valve  | <b>3</b> Select Valve Control | <b>4</b> Select Gauge             | <b>5</b> Select Gauge Accessory | <b>6</b> Pressure Control |
|                          |                        |                               |                                   |                                 |                           |
| <b>7</b> Pressure Switch | <b>8</b> Motor Control | <b>9</b> Reservoir            | <b>10</b> Oil Level / Temp. Gauge | <b>11</b> Choose Casters        | <b>12</b> Select Oil      |
|                          |                        |                               |                                   |                                 |                           |

Use the charts numbered from 1-12 below to select the pump, valve, gauge and other accessories to suit your needs. For the pump, fill in the basic number plus key letter in block 1 above and the key letter only in the blocks 2-12 above for any of the other items. Refer to the appropriate pages in this catalog for more specific information on the products you need.

**1 BASIC PUMP**

| BASIC PUMP NUMBERS |           |           |             |           | SPECIFICATIONS                                |       |      |
|--------------------|-----------|-----------|-------------|-----------|---|-------|------|
| PE55               | PE120     | PA55      | PA90        | PG55      | NOTE: Customer must specify voltage required. |       |      |
| (700 bar)          | (700 bar) | (700 bar) | (5,000 bar) | (700 bar) | Power Source                                  | rpm   | kW   |
| A                  |           |           |             |           | 115V-60 Hz, 1Ø                                | 12000 | 0,84 |
|                    |           |           |             |           | 110V-50 Hz, 1Ø                                | 12000 | 0,84 |
| B                  |           |           |             |           | 230V-60 Hz, 1Ø                                | 12000 | 0,84 |
|                    |           |           |             |           | 220V-50 Hz, 1Ø                                | 12000 | 0,84 |
| C **               |           |           |             |           | 115V-60 Hz, 1Ø                                | 3450  | 1,12 |
| C50 **             |           |           |             |           | 110V-50 Hz, 1Ø                                | 2850  | 1,12 |
| D **               |           |           |             |           | 230V-60 Hz, 1Ø                                | 3450  | 1,12 |
| D50 **             |           |           |             |           | 220V-50 Hz, 1Ø                                | 2850  | 1,12 |
|                    | M60 *     |           |             |           | 208, 230/460V-60 Hz, 3Ø                       | 3450  | 2,24 |
|                    | M50 *     |           |             |           | 220/380V-50 Hz, 3Ø                            | 2850  | 2,24 |
|                    |           | A         | A           |           | Air Motor                                     | 3000  | 2,24 |
|                    |           |           |             | A         | Gas Engine                                    | 3600  | 4,47 |

\* Voltage Specification Required.

\*\* These pumps do not start under full load unless valve is in "neutral" position (requires open or tandem center valve) and are not recommended for frequent starting and stopping.

**2 VALVE**

| Manifold / Manual / Air-Operated Directional Valves | Function                     |
|---|------------------------------|
| AB 9628 manual, tandem center                       | 4-way, 3-pos. valve          |
| AC 9632 manual "twin" tandem and open center        |                              |
| A None  | —                            |
| B 9626 manifold                                     | Manifold 3-way, 2-pos. valve |
| C 9584 manual                                       |                              |
| D 9582 manual                                       |                              |
| E 9610 automatic, pilot-operated                    |                              |
| G 9504 manual                                       |                              |
| JJ 9594 air-operated                                | 3/4-way, 2-pos. valves       |
| L 9502 manual, closed center "non-interflow"        |                              |
| M 9520 manual, tandem center Posi-Check®            | 3-way, 3-pos. valve          |

| Manifold / Manual / Air-Operated Directional Valves | Function             |
|---|----------------------|
| O 9609 manual, pressure compensated flow control    | 3-way, 4-pos.        |
| R 9506 manual, tandem center Posi-Check®            | 4-way, 3-pos. valves |
| RR 9511 manual, open center                         |                      |
| S 9500 manual, tandem center                        |                      |
| T 9507 manual, closed center Posi-Check®            |                      |
| U 9501 manual, closed center                        |                      |
| Solenoid-Operated Directional Valves                |                      |
| FF 9569 solenoid-operated - 24V                     | 3-way, 2-pos.        |
| HH 9572 solenoid-operated - 24V                     | 3/4-way, 2-pos.      |
| PP 9599 solenoid-operated - 24V                     | 3-way, 3-pos.        |
| VV 9512 solenoid-operated - 24V                     | 4-way, 3-pos. valves |
| WW 9615 solenoid-operated - 24V                     |                      |

**3 VALVE CONTROL**

| Valve Remote Control                 | Use with Valve |
|--------------------------------------|----------------|
| A None                               | —              |
| X 304718 remote hand control, 3,1 m  | 9572           |
| XF 309652 remote foot control, 3,1 m | 9572           |
| Y 202777 remote hand control, 3,1 m  | 9569 or 9599   |

| Valve Remote Control                 | Use with Valve           |
|--------------------------------------|--------------------------|
| Z 202778 remote hand control, 3,1 m  | 9512 or 9615             |
| ZF 309653 remote foot control, 3,1 m | 9512, 9615, 9569 or 9599 |
| ZZ 209593 remote hand control, 3,7 m | 9594                     |

**4 GAUGE**

| Pressure Gauge |   |
|----------------|---|
| A              | None  |
| B              | Other – Specify                                       |
| G              | 9041 0-700 bar – 0-689 Bar (63 mm diameter)           |
| H              | 9040 0-700 bar – 0-689 Bar (Liquid) (63 mm diameter)  |
| J              | 9051 0-700 bar – 0-689 Bar (100 mm diameter)          |
| M              | 9052 0-700 bar – 0-689 Bar (Liquid) (100 mm diameter) |

**5 GAUGE ACCESSORY**

| Gauge Accessories |  |
|-------------------|--|
| A                 | None                                     |
| N                 | 9049 pulsation dampener – All dry gauges |

**6 PRESSURE CONTROL**

| Pressure Controls |   |
|-------------------|---|
| A                 | With standard external pressure regulator   |
| C                 | Other – specify   |
| D                 | 350199 premium external pressure regulator.<br>See Power Team Catalog product No. 9633 for details. |

NOTE: Pressure controls are factory pre-set at 700 bar unless otherwise specified.

**7 PRESSURE SWITCH**

| Pressure Switch |  |
|-----------------|--|
| A               | None   |
| B               | 9625 electric pressure switch (500-700 bar)<br>NOTE: Pressure switch is factory pre-set at 700 bar unless otherwise specified. |
| C               | 9641 pilot-operated air control valve – Normally closed  |
| D               | 9643 pilot-operated air control valve – Normally opened  |

**8 MOTOR CONTROL**

| Electric Motor Controls |   |
|-------------------------|---|
| A                       | Standard On/Off/Pulse control (does not include remote switch) for A, B, C, D, F and M electric pumps. Also used for remote controlled solenoid valves. |
| B                       | None  |
| C                       | 25017 remote motor hand switch, 3,1 m   |
| D                       | 203225 remote motor hand switch, 3,1 m (heavy-duty)   |
| E                       | 10461 remote motor foot switch, 3,1 m   |
| Air Motor Controls      |   |
| AA                      | Other – specify   |
| B                       | None  |
| P                       | 27876 hand motor control (for PA55 & PA90 series)   |
| Q                       | 27877 foot motor control (for PA55 & PA90 series)   |

**9 RESERVOIR**

| Reservoir |   | Capacity |
|-----------|---|----------|
| A         | None  | –        |
| B         | Other – Specify   | –        |
| D         | 40063OR9 – PE55, PE120, PA55 and PA90 series  | 9,5 l    |
| E         | 61165† – PE55, PE120, PA55 and PA90 series<br>(Oil temperatures in excess of 65,5° C. may cause permanent failure of the thermoplastic reservoir) | 7,6 l    |
| F         | RP22‡ – PE55, PE120, PA55 and PA90 series   | 9,5 l    |
| H         | 61799OR9. Same as D except with drain port  | 9,5 l    |
| J         | RP50 – PE55, PE120, PA55 and PA90 series  | 19 l     |
| K         | 40137OR9 – PG55 series  | 19 l     |
| P         | 209124 – PE55, PE120, PA55 and PA90 series  | 26,5 l   |
| V         | RP100 – PE55, PE120, PA55 and PA90 series   | 37,9 l   |
| W         | RP101 – PG55 series   | 37,9 l   |

NOTE: Includes cover adapter and misc. accessories when applicable.

† High density polyethylene.

‡ Aluminum.

**10 OIL LEVEL / TEMP. GAUGE**

| Oil Level / Temperature Gauge |                                    |
|-------------------------------|------------------------------------|
| A                             | None                               |
| BB                            | 350431 oil level/temperature gauge |

**11 CASTERS**

| Casters |  |
|---------|--|
| A       | None   |
| BB      | 10494 caster for use with 40063OR9 reservoir<br>(Specify quantity of four) |

**12 OIL**

| Hydraulic Oil |                                  | Capacity |
|---------------|----------------------------------|----------|
| E             | Ship pump without oil            | –        |
| F             | 9637 Standard hydraulic oil      | 3,8 l    |
| G             | 9638 Standard hydraulic oil      | 9,5 l    |
| Q             | 9639 Flame-Out® hydraulic oil    | 3,8 l    |
| R             | 9640 Flame-Out® hydraulic oil    | 9,5 l    |
| U             | 9645 Biodegradable hydraulic oil | 3,8 l    |
| V             | 9646 Biodegradable hydraulic oil | 9,5 l    |

NOTE: Select type of hydraulic oil and specify quantity.

# HYDRAULIC ACCESSORIES



## SELECT FROM A WIDE RANGE OF HYDRAULIC ACCESSORIES TO COMPLETE YOUR SYSTEM REQUIREMENTS

- Power Team offers the widest selection of pump-mounted, remote or in-line valves to control your hydraulic circuit requirements.
- A wide variety of hose types, sizes and configured arrangements in rubber or polyurethane
- High pressure fittings, gauges, and other miscellaneous accessories to fit your needs







|  | Section          | Page Content  | Pages   |
|--|------------------|---|---|
|   | Introduction     | Choosing the Right Valve and Circuit Schematics   | 113-114   |
|      | Valves           | Valve Selection / Pump Options<br>Pump-Mounted<br>Hydraulic Pump Accessories<br>Remote-Mounted<br>In-Line   | 115-116<br>117-124<br>125-126<br>127-128<br>129-131 |
|   | Fluids           | Standard Hydraulic Oil,<br>Flame Out <sup>®</sup> ,<br>Bio Degradable, Low Temperature  | 132   |
|   | Pump Accessories | Motor Controls, Sub-plates,<br>Air Filter / Regulator / Lubricator,<br>Pressure Switch, Air Control Valves,<br>Oil Cooler Kits, Reservoir Breather Kits,<br>Casters, Fluid Level / Temp. Gauge,<br>Foot Control Guard, Magnetic Strip,<br>Seal Kits, Carts / Roll Cages, Reservoirs | 133-134   |
|   | Hoses            | Rubber, Wire-Braid<br>Polyurethane<br>Non-Conductive  | 135-137   |
|   | Couplers         | Quick-Connect, Flush Face   | 138   |
|   | Gauges           | Heavy-Duty Hydraulic Digital and Analog   | 139-142   |
|   | Manifolds        | Standard Blocks<br>Blocks with Valves   | 143   |
|   | Fittings         | Connectors, Couplings,<br>Crosses, Elbows, Tees,<br>Swivels, Special Adapters   | 144   |



## SELECTING THE RIGHT VALVE:

**Step 1:** What is the tool requirement for valve control - single or double-acting?

**Step 2:** Determine how you intend to plumb the valve in hydraulic circuit - mounted or remote?

**Step 3:** How will you operate it - manual or remote? What type of directional control is needed?


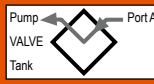
## VALVE SIZING CONSIDERATIONS:

- Will the valve be used with single or double-acting cylinders?
- Will the valve be mounted on the pump, away from the pump or directly into the hydraulic lines?
- Will the valve be manually-operated or is remote control preferred?
- Is independent control of multiple cylinders, or hydraulic tools preferred?
- What directional control and pressure control valve functions are needed for the application?
- Note: Basic valve types include manually-operated, air or solenoid-operated and pilot-operated. Special application valves for pre-stressing and post-tensioning are also offered. Consult valve selection chart on pages 115-116 for listings of all Power Team valves.

## DIRECTIONAL CONTROL VALVES

### 2-WAY, 2-POSITION

(FOR CONTROL OF SINGLE-ACTING CYLINDERS)

| POSITION 1  | CENTER POSITION | POSITION 2   |
|---|-----------------|--|
|  <p>Oil goes from pump to cylinder. Pressure is held from valve to cylinder when pump is shut-off.</p> | None            |  <p>Oil goes from cylinder to pump. Pressure is released to reservoir when motor is turned off.</p> |


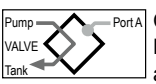

### 3-WAY, 2-POSITION

(FOR CONTROL OF SINGLE-ACTING CYLINDERS)

| POSITION 1  | CENTER POSITION | POSITION 2  |
|---|-----------------|---|
|  <p>Oil goes from pump to cylinder and holds when pump is shut-off. Return line to reservoir is blocked.</p> | None            |  <p>Cylinder retracts, oil returns to reservoir.</p> |

### 3-WAY, 3-POSITION

(FOR CONTROL OF SINGLE-ACTING CYLINDERS)

| POSITION 1  | CENTER POSITION   | POSITION 2   |
|---|---|--|
|  <p>Oil goes from pump to cylinder and holds when pump is shut-off. Return line to reservoir is blocked.</p> |  <p>Cylinder pressure is held. Pump can remain running and oil returns to reservoir.</p> |  <p>All oil is open to reservoir through return line.</p> |



## IN-LINE HYDRAULIC VALVES

**Load-Lowering Valve** – Provides precision metering for controlled return of the cylinder piston.

**Sequence Valve** – Used when a cylinder in a multiple cylinder application must advance before any other.

**Pressure Reducing Valve** – Permits independent pressure control to two or more, clamping systems operated by a single power source.

**Shut-off Valve** – For fine metering of hydraulic oil. Several may be used to control multiple single-acting cylinders.

**Check Valve** – Permits flow of hydraulic oil in one direction only.

**Pressure Relief Valve** – Used at remote locations in a hydraulic circuit where maximum pressure requirements are less than the setting of the basic overload valve in the pump. Protects a hydraulic system against over pressurization.

**Metering Valve** – Restricts surges by restricting flow to a certain level. When flow subsides, valve reopens automatically. For systems using large cylinders or extended lengths of hose.

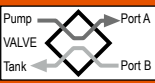

**Pressure Regulator Valve** – Permits external adjustment of operating pressures at various values below the internal relief valve setting of the pump.

**CAUTION:** To prevent sudden, uncontrolled descent of a load as it is being lowered, use a 9596 Load-Lowering Valve or 9720 Counter Balance Valve in conjunction with the directional valve used in your application.

## DIRECTIONAL CONTROL VALVES

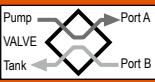


### 4-WAY, 2-POSITION

(FOR CONTROL OF SINGLE-ACTING CYLINDERS)

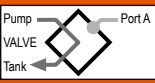


| POSITION 1   | CENTER POSITION | POSITION 2  |
|--|-----------------|---|
|  <p>Oil goes to the "extend" side of the cylinder. The oil from the "retract" side returns to reservoir. Cylinder holds with pump shut-off.</p> | None            |  <p>Oil goes to the "retract" side of the cylinder, oil from the "extend" side returns to reservoir.</p> |

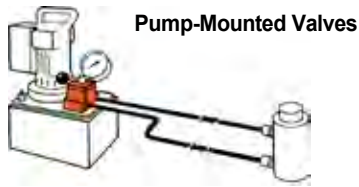
### 4-WAY, 3-POSITION

(FOR CONTROL OF DOUBLE-ACTING CYLINDERS)

| POSITION 1   | CENTER POSITION   | POSITION 2  |
|--|---|---|
|  <p>Oil goes to the "extend" side of the cylinder, oil from the "retract" side returns to reservoir. Cylinder holds with pump shut-off.</p> |  <p>Holds pressure even if pump is running. Oil from pump goes through valve, back to reservoir.</p> |  <p>Oil goes to "retract" side of cylinder. Oil from "extend" side returns to the reservoir.</p> |

### TYPICAL CENTERS

| TANDEM CENTER   | CLOSED POSITION   | OPEN CENTER   |
|---|---|---|
|  <p>Cylinder ports are blocked, oil from pump goes to reservoir. Used when pump remains running. Example: gasoline-driven pumps.</p> |  <p>Generally used when running multiple valves in series from one pump.</p> |  <p>Open Center used when holding is not a requirement, as when running two separate hydraulic tools such as cutters / crimpers.</p> |

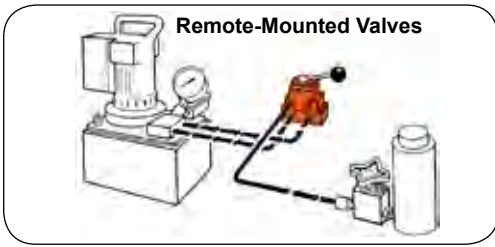


| Order No. | Page No. | Cylinder* Applications | Operation               | Valve Type                  | Volt | Advance / Return | Advance / Hold Return | **Posi-Check® Feature |
|-----------|----------|------------------------|-------------------------|-----------------------------|------|------------------|-----------------------|-----------------------|
| 9500      | 120      | SA / DA                | Manual                  | 4-Way, 3-Pos. Tandem Center | —    | No               | Yes                   | No                    |
| 9501      | 120      | SA / DA                | Manual                  | 4-Way, 3-Pos. Closed Center | —    | No               | Yes                   | Yes                   |
| 9502      | 119      | SA                     | Manual                  | 3-Way, 3-Pos. Closed Center | —    | No               | Yes                   | Yes                   |
| 9504      | 118      | SA / DA                | Manual                  | 3/4-Way, 2-Pos.             | —    | Yes              | Yes                   | No                    |
| 9506      | 120      | DA                     | Manual                  | 4-Way, 3-Pos. Tandem Center | —    | No               | Yes                   | Yes                   |
| 9507      | 120      | DA                     | Manual                  | 4-Way, 3-Pos. Closed Center | —    | No               | Yes                   | Yes                   |
| 9511      | 120      | SA / DA                | Manual                  | 4-Way, 3-Pos. Open Center   | —    | Yes              | Yes                   | No                    |
| 9512      | 123      | DA                     | Solenoid                | 4-Way, 3-Pos. Tandem Center | 24   | No               | Yes                   | Yes                   |
| 9513      | 123      | DA                     | Solenoid                | 4-Way, 3-Pos. Tandem Center | 115  | No               | Yes                   | Yes                   |
| 9516      | 123      | DA                     | Solenoid                | 4-Way, 3-Pos. Tandem Center | 12   | No               | Yes                   | Yes                   |
| 9517      | 118      | SA                     | Manual                  | 2-Way, 2-Pos.               | —    | No               | Yes                   | No                    |
| 9519      | 123      | DA                     | Solenoid                | 4-Way, 3-Pos. Tandem Center | 230  | No               | Yes                   | Yes                   |
| 9520      | 119      | SA                     | Manual                  | 4-Way, 3-Pos. Tandem Center | —    | No               | Yes                   | Yes                   |
| 9522      | 123      | DA                     | Solenoid                | 4-Way, 3-Pos. Open Center   | 230  | Yes              | No                    | No                    |
| 9523      | 123      | SA                     | Pilot-Operated Solenoid | 3-Way, 2-Pos.               | 230  | Yes              | No                    | No                    |
| 9552      | 122      | SA / DA                | Solenoid                | 3/4-Way, 2-Pos.             | 230  | Yes              | No                    | No                    |
| 9553      | 123      | SA                     | Pilot-Operated Solenoid | 3-Way, 2-Pos.               | 24   | Yes              | No                    | No                    |
| 9569      | 122      | SA                     | Solenoid                | 3-Way, 2-Pos.               | 24   | No               | Yes                   | No                    |
| 9570      | 122      | S.A.                   | Solenoid                | 3-Way, 2-Pos.               | 230  | No               | Yes                   | No                    |
| 9572      | 122      | SA / DA                | Solenoid                | 3/4-Way, 2-Pos.             | 24   | Yes              | No                    | No                    |
| 9579      | 122      | SA                     | Solenoid                | 3-Way, 2-Pos.               | 115  | No               | Yes                   | No                    |
| 9582      | 117      | SA                     | Manual                  | 3-Way, 2-Pos.               | —    | No               | Yes                   | No                    |
| 9584      | 117      | SA                     | Manual                  | 3-Way, 2-Pos.               | —    | No               | Yes                   | No                    |
| 9589      | 123      | SA                     | Pilot-Operated Solenoid | 3-Way, 2-Pos.               | 115  | Yes              | No                    | No                    |
| 9590      | 123      | DA                     | Solenoid                | 4-Way, 3-Pos. Open Center   | 115  | Yes              | No                    | No                    |
| 9592      | 122      | SA / DA                | Solenoid                | 3/4-Way, 2-Pos.             | 115  | Yes              | No                    | No                    |
| 9594      | 122      | SA / DA                | Air                     | 3/4-Way, 2-Pos.             | —    | No               | Yes                   | Yes                   |
| 9599      | 121      | SA                     | Pilot-Operated Solenoid | 3-Way, 3-Pos. Tandem Center | 24   | No               | Yes                   | Yes                   |
| 9605      | 121      | SA                     | Pilot-Operated Solenoid | 3-Way, 3-Pos. Tandem Center | 115  | No               | Yes                   | Yes                   |
| 9609      | 121      | SA                     | Manual                  | 3-Way, 3-Pos. Tandem Center | —    | No               | Yes                   | No                    |
| 9610      | 117      | SA                     | Auto Pilot-Operated     | 3-Way, 2-Pos.               | —    | Yes              | No                    | No                    |
| 9610A     | 117      | SA                     | Manual                  | 2/3-Way, 2-Pos.             | —    | No               | Yes                   | No                    |
| 9615      | 123      | DA                     | Solenoid                | 4-Way, 3 Pos. Open Center   | 24   | Yes              | No                    | No                    |
| 9628      | 124      | SA / DA                | Manual                  | Post-Tensioning             | —    | Special          | No                    | No                    |
| 9632      | 124      | SA / DA                | Manual                  | Post-Tensioning             | —    | Special          | No                    | No                    |

**Note:**

\* "SA" represents single-acting cylinders and "DA" represents double-acting cylinders.

\*\* The Posi-Check® feature guards against pressure loss when shifting from "advance" to "hold" position.

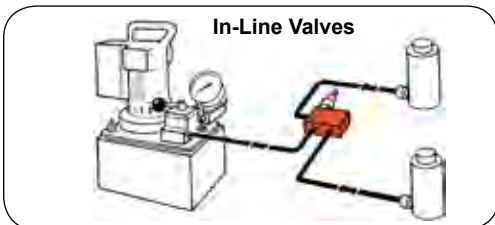


| Order No. | Page No. | Cylinder Applications* | Operation | Valve Type                  | Volt | Advance / Return | Advance / Hold Return | **Posi-Check® Feature |
|-----------|----------|------------------------|-----------|-----------------------------|------|------------------|-----------------------|-----------------------|
| 9508      | 128      | SA / DA                | Manual    | 4-Way, 3-Pos. Closed Center | —    | No               | Yes                   | Yes                   |
| 9509      | 128      | SA / DA                | Manual    | 4-Way, 3-Pos. Tandem Center | —    | No               | Yes                   | Yes                   |
| 9514      | 128      | DA                     | Solenoid  | 4-Way, 3-Pos. Tandem Center | 115  | No               | Yes                   | Yes                   |
| 9524      | 127      | SA / DA                | Solenoid  | 3/4-Way, 2-Pos.             | 230  | No               | Yes                   | No                    |
| 9525      | 128      | DA                     | Solenoid  | 4-Way, 3-Pos. Tandem Center | 230  | No               | Yes                   | Yes                   |
| 9526      | 128      | SA                     | Solenoid  | 3-Way, 2-Pos.               | 230  | No               | Yes                   | No                    |
| 9554      | 127      | SA / DA                | Solenoid  | 3/4-Way, 2-Pos.             | 24   | No               | Yes                   | No                    |
| 9555      | 128      | DA                     | Solenoid  | 4-Way, 3-Pos. Tandem Center | 24   | No               | Yes                   | Yes                   |
| 9556      | 128      | SA                     | Solenoid  | 3-Way, 2-Pos.               | 24   | No               | Yes                   | No                    |
| 9559      | 128      | SA                     | Solenoid  | 3-Way, 2-Pos.               | 115  | No               | Yes                   | No                    |
| 9593      | 127      | SA / DA                | Solenoid  | 3/4-Way, 2-Pos.             | 115  | No               | Yes                   | No                    |
| 9595      | 127      | SA / DA                | Air       | 3/4-Way, 2-Pos.             | —    | No               | Yes                   | No                    |

**Note:**

\* SA™ represents single-acting cylinders and "DA" represents double-acting cylinders.

\*\* The Posi-Check® feature guards against pressure loss when shifting from "advance" to "hold" position.

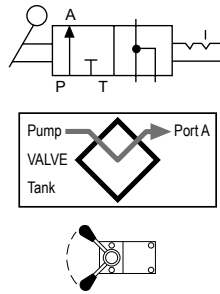
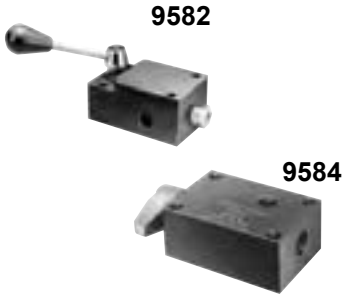


| Order No. | Page No. | Cylinder Applications* | Operation | Valve Type                 |
|-----------|----------|------------------------|-----------|----------------------------|
| 9575      | 131      | SA                     | Manual    | Shut-Off Valve             |
| 9580      | 131      | SA                     | Automatic | One-Way Check Valve        |
| 9581      | 131      | SA / DA                | Automatic | Pilot-Operated Check Valve |
| 9596      | 129      | SA                     | Manual    | Load-Lowering Valve        |
| 9597      | 129      | SA / DA                | Automatic | Sequence Valve             |
| 9608      | 129      | SA / DA                | Automatic | Pressure Reducing Valve    |
| 9623      | 131      | SA / DA                | Automatic | Pressure Relief Valve      |
| 9631      | 130      | SA / DA                | Automatic | Metering Valve             |
| 9633      | 130      | SA / DA                | Automatic | Pressure Regulator Valve   |
| 9720      | 129      | SA / DA                | Automatic | Counter Balance Valve      |
| 9721      | 129      | SA / DA                | Automatic | Counter Balance Valve      |
| RV21278   | 130      | —                      | Automatic | Relief Valve               |

**Note:**

\* "SA" represents single-acting cylinders and "DA" represents double-acting cylinders.

**3-WAY / 2-POSITION MANUAL VALVES**



**Applications:** Single-acting cylinders.

**Actuation:** Lever-operated.

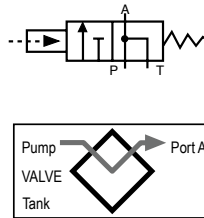
**Functions:** Cylinder piston "advance," "hold" and "return."

**Used on these pumps:** P460, PE17, PE21, PE30, PE46, PE55, and PE120 series.

| Order No. | Description  |
|-----------|--|
| 9582      | 3-Way/2-Position manual valve. Wt., 1,1 kg.                  |
| 9584      | 3-Way/2-Position manual valve "flipper" control. Wt.,0,8 kg. |

Accessories

**3-WAY / 2-POSITION PILOT-OPERATED AUTOMATIC VALVES**



**Applications:** Single-acting cylinders.

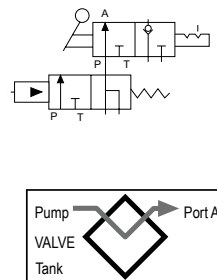
**Actuation:** Pilot oil.

**Functions:** When pump is started, pilot oil automatically closes valve and directs oil to cylinder. When pump is stopped, valve automatically opens and oil returns to reservoir.

**Used on these pumps:** Furnished with pilot lines and adapters for PA55, PA90, PE30, PE55, and PE120 series.

| Order No. | Description  |
|-----------|--|
| 9610      | 3-way/2-position pilot-operated automatic valve. Wt.,1,9 kg. |

**2/3-WAY/2-POSITION MANUAL/PILOT-OPERATED AUTOMATIC VALVE**



**Applications:** Manual operation for load lifting and holding with single-acting cylinders; automatic "dump" for operating hydraulic tools.

**Actuation:** Flipper lever/pilot oil.

**Functions:** With lever in closed position, valve will hold the load. When lever is "open," valve functions as a true automatic "dump" valve..

**Used on these pumps:** Furnished with pilot lines and adapters for PA55, PA90, PE30, PE55, and PE120 series. For application on other pumps, consult factory.

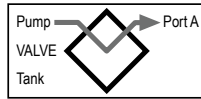
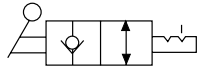
| Order No. | Description  |
|-----------|--|
| 9610A     | 2/3-way/2-position manual/pilot-operated automatic valve. Wt., 2 kg. |

**CAUTION:** To prevent sudden, uncontrolled descent of a load as it is being lowered, use a 9596 Load-Lowering Valve or 9720 Counter Balance Valve in conjunction with the directional valve used in your application.

**IMPORTANT:** Conversion kit 251528 must be used when mounting any of the valves on this page on PA17 or PE17 pumps.

**IMPORTANT:** When ordering any valve for a PE30 or PG30 series pump, 12,7 mm longer mounting screws are required. For valves 9504, 9584, 9610 and 9610A, order four 12001 cap screws. For valve 9582, order two 12001 and two 10856 cap screws.

2-WAY/2-POSITION MANUAL VALVE



**Applications:** Single-acting cylinders.

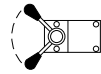
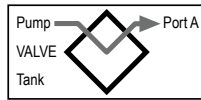
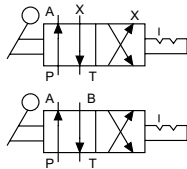
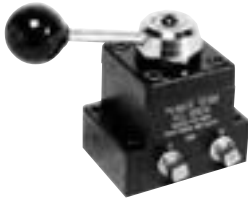
**Actuation:** Flipper lever-operated.

**Functions:** Cylinder piston "advance," "hold" and "retract."

**Used on these pumps:** PE172 and PA172.

| Order No. | Description                                 |
|-----------|---|
| 9517      | 2-way/2-position manual valve. Wt., 1,5 kg. |

3/4-WAY/2-POSITION MANUAL VALVE



**Applications:** Single or double-acting cylinders.

**Actuation:** Lever-operated, detent-positioned.

**Functions:** Pos. 1 – Oil is directed to "advance" side of cylinder, oil from "retract" side goes to reservoir, cylinder "holds" with pump shut-off. Pos. 2 – Oil goes to "retract" side of cylinder, cylinder "holds" with pump shut-off. When using as a 3-way valve for single-acting cylinders, port "A" or "B" is plugged. See note below regarding plugging of ports and resulting heat build-up..

**Used on these pumps:** P460, PA6D, PA17, PA46, PA55, PA60, PE17, PE21, PE30, PE46, PE55, PE120, PE400, PQ60 and PQ120 series.

| Order No. | Description                                   |
|-----------|---|
| 9504      | 3/4-way/2-position manual valve. Wt., 1,9 kg. |

**NOTE:** 9504 can be remote-mounted with a 9510 sub-plate.

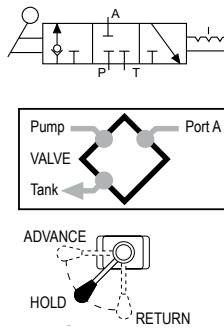
**CAUTION:** To prevent sudden, uncontrolled descent of a load as it is being lowered, use a 9596 Load-Lowering Valve or 9720 Counter Balance Valve in conjunction with the directional valve used in your application.

**IMPORTANT:** Conversion kit 251528 must be used when mounting any of the valves on this page on PA17 or PE17 pumps.

**IMPORTANT:** When ordering any valve for a PE30 or PG30 series pump, 12,7 mm longer mounting screws are required. For valves 9504, 9584, 9610 and 9610A, order four 12001 cap screws. For valve 9582, order two 12001 and two 10856 cap screws.

**NOTE:** Valves 9501, 9502, 9504 and 9507 can have a port blocked or have a closed center position. When a port is blocked and the valve is shifted to the blocked port, the pump will generate excessive heat. An electric or rotary air pump can either be turned off manually or with a pressure switch. Reciprocating air pumps may be adjusted to stall out and stop.

**3-WAY/3-POSITION (CLOSED CENTER) NON-INTER FLOW MANUAL VALVE WITH POSI-CHECK®**



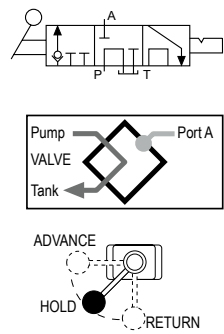
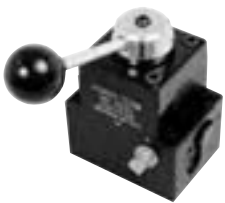
**Applications:** Single-acting cylinders.  
**Actuation:** Lever-operated, detent-positioned.  
**Functions:** Pos. 1 – Oil is directed from pump to cylinder and “holds” with pump shut-off, line to reservoir is blocked. Pos. 2 – All oil is open to reservoir through tank line. Center Pos. – Cylinder pressure is held, and pump should be shut-off.  
**Used on these pumps:** P460, PA17, PA46, PA55, PA60, PE17, PE21, PE30, PE46, PE55, PE120, PE400, PQ60 and PQ120 series.

| Order No. | Description   |
|-----------|---|
| 9502      | 3-way/3-position (closed center) manual valve. Wt., 1,9 kg. |

**NOTE:** A pressure switch and/or gauge may be attached if desired. Also, the 9502 can be remote-mounted if a 9510 sub-plate is used.

Accessories

**3-WAY/3-POSITION (TANDEM CENTER) MANUAL VALVE WITH POSI-CHECK® VALVE**



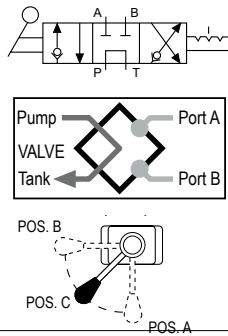
**Applications:** Single-acting cylinders.  
**Actuation:** Lever-operated, detent-positioned.  
**Functions:** “Advance,” “hold” and “return.” When shifted to “return” position, pump and cylinder return oil through their own separate return lines, allowing faster retraction of piston. The Posi-Check® feature guards against pressure loss when shifting from “advance” to “hold” position.  
**Used on these pumps:** P460, PA17, PA46, PA55, PE17, PE21, PE30, PE46, PE55, PE120, PQ60, PQ120, PE400, PG30, PG55, PG120 and PG400 series.

| Order No. | Description   |
|-----------|---|
| 9520      | 3-way/3-position (tandem center) manual valve. Wt., 2,3 kg. |

**CAUTION:** To prevent sudden, uncontrolled descent of a load as it is being lowered, use a 9596 Load-Lowering Valve or 9720 Counter Balance Valve in conjunction with the directional valve used in your application.  
**NOTE:** Valves 9501, 9502, 9504 and 9507 can have a port blocked or have a closed center position. When a port is blocked and the valve is shifted to the blocked port, the pump will generate excessive heat. An electric or rotary air pump can either be turned off manually or with a pressure switch. Reciprocating air pumps may be adjusted to stall out and stop.  
**NOTE:** Gauge ports monitor pump pressure only, not pressure to the hydraulic cylinder(s).  
**IMPORTANT:** Conversion kit 251528 must be used when mounting any of the valves on this page on PA17 or PE17 pumps.  
**IMPORTANT:** When ordering any valve for a PE30 or PG30 series pump, 12,7 mm longer mounting screws are required. For valves 9502 and 9520, order four 12001 cap screws. For valve 9576, order four 17428 cap screws.



4-WAY/3-POSITION (TANDEM CENTER) VALVE WITH POSI-CHECK®



**Applications:** Single or double-acting cylinders.

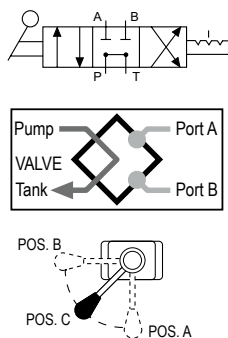
**Actuation:** Lever-operated, detent-positioned.

**Functions:** "Advance," "hold" and "return." The Posi-Check® feature guards against pressure loss when shifting from "advance" to "hold" position.

**Used on these pumps:** P460, PA6D, PA17, PA46, PA55, PE17, PE21, PE30, PE46, PE55, PE84, PE120, PE400, PED, PG30, PG55, PG120, PG400, PQ60 and PQ120 series.

| Order No. | Description   |
|-----------|---|
| 9506      | 4-way/3-position (tandem center) manual valve. Wt., 2,3 kg. |

4-WAY/3-POSITION (TANDEM CENTER) AND (OPEN-CENTER) MANUAL VALVES



**Applications:** Single or double-acting cylinders.

**Actuation:** Lever-operated, detent-positioned.

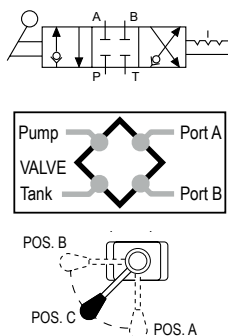
**Functions:** The 9500 provides "advance," "hold" and "return." The 9511 (open center) valve can be used if holding is not a requirement, as when running two separate hydraulic tools. Provides "advance" and "return" only.

**Used on these pumps:** P460, PA17, PA46, PA55, PE17\*, PE21, PE30, PE46, PE55, PE120, PE400, PG30, PG55, PG120, PG400, PQ60 and PQ120 series.

\*Does not mount without 251528.

| Order No. | Description   |
|-----------|---|
| 9500      | 4-way/3-position (tandem center) manual valve. Wt., 1,9 kg. |
| 9511      | 4-way/3-position (open center) manual valve. Wt., 1,9 kg.   |

4-WAY/3-POSITION (CLOSED CENTER) MANUAL VALVE WITH POSI-CHECK®



**Applications:** Single or double-acting cylinders.

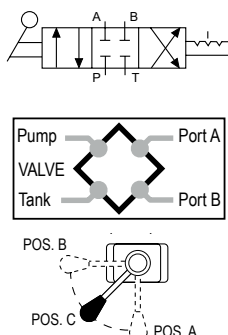
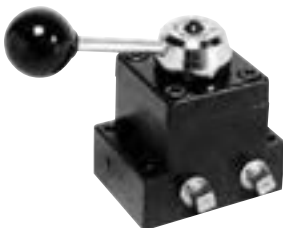
**Actuation:** Lever-operated, detent-positioned.

**Functions:** Similar to 9506, but is a closed center valve with Posi-Check®. Generally used to operate multiple cylinders with a single pump. Provides "advance," "hold" and "return." The Posi-Check® feature guards against pressure loss when shifting from the "advance" to "hold" position. See note below regarding plugging of ports and resulting heat build-up.

**Used on these pumps:** P460, PA17, PA46, PA55, PA60, PA6D, PE17, PE21, PE30, PE46, PE55, PE120, PE400, PQ60 and PQ120 series.

| Order No. | Description   |
|-----------|---|
| 9507      | 4-way/3-position (closed center) manual valve. Wt., 2,3 kg. |

4-WAY/3-POSITION (CLOSED CENTER) MANUAL VALVE



**Applications:** Single or double-acting cylinders.

**Actuation:** Lever-operated, detent-positioned.

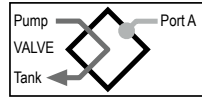
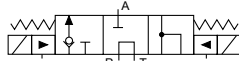
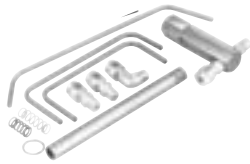
**Functions:** "Advance," "hold" and "return." Closed center design makes valve suitable for operating multiple cylinders from a single pump. See note below regarding plugging of ports and resulting heat build-up.

**Used on these pumps:** P460, PA17, PA46, PA55, PA60, PE17, PE21, PE30, PE46, PE55, PE120, PE400, PQ60 and P120 series.

| Order No. | Description  |
|-----------|--|
| 9501      | 4-way/3-position (closed center) valve. Wt., 1,9 kg. |

**NOTE:** All valves on this page may be remote-mounted with a 9510 sub-plate. Valves 9501, 9502, 9504 and 9507 can have a port blocked or have a closed center position. When a port is blocked and the valve is shifted to the blocked port, the pump will generate excessive heat. An electric or rotary air pump can either be turned off manually or with a pressure switch. Reciprocating air pumps may be adjusted to stall out and stop.

**3-WAY/3-POSITION (TANDEM CENTER) SOLENOID VALVES WITH POSI-CHECK®**



**Applications:** Single-acting cylinders.

**Actuation:** Solenoid-operated: 9605 is 115V, 50/60 Hz; 9599 is 24V, 50/60 Hz.

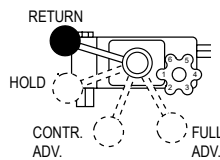
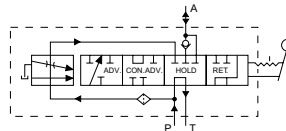
**Functions:** "Advance," "hold" and "return" positions. When in "advance," solenoid "B" is energized and oil goes from pump to cylinder through pressure port. In "return" position, solenoid "A" is energized and oil is directed from cylinder and pump to reservoir. With both solenoids de-energized, in "hold" position, oil from pump is directed back to reservoir while oil is checked in cylinder. The Posi-Check® feature holds load when shifting from "advance" to "hold" position.

**Used on these pumps:** Furnished with pilot lines and adapters for PE55, PE30 (carrying handles must be removed) and PE120 series. For application on other models, consult factory.

| Order No. | Description   |
|-----------|---|
| 9605      | 3-way/3-position (tandem center) solenoid valve, 115V, 50/60 Hz. Wt., 6,4 kg. |
| 9599      | 3-way/3-position (tandem center) solenoid valve, 24V, 50/60 Hz. Wt., 6,4 kg.  |

**NOTE:** Valves above are shipped without controls. Use 202777 remote hand control. Consult factory for field installation.

**3-WAY/4-POSITION MANUAL PRESSURE COMPENSATED VALVE**



**Applications:** Single-acting cylinders. Primarily for use in testing soil, rock, concrete, asphalt and related engineering materials.

**Actuation:** Lever and adjustable, pressure compensated flow control valve.

**Functions:** Cylinder piston "return," "hold," "controlled advance" (pressure compensated) and "advance" (full flow). Will deliver a relatively constant flow regardless of pressure between 70 and 700 Bar.

**Used on these pumps:** PA17, PA46, PA55, PE17, PE21, PE30\*, PE46, PE55, PE200, PE400, PG30\*, PG55, PG120, PG400, PQ60 and PQ120 series. \* NOTE: Adapter kit 252161 is required for mounting this valve to a PE30 or PG30 series pump.

| Order No. | Description  |
|-----------|--|
| 9609      | 3-way/4-position manual pressure compensated valve. Wt., 4 kg. |



**Pressure compensated valve performance chart**

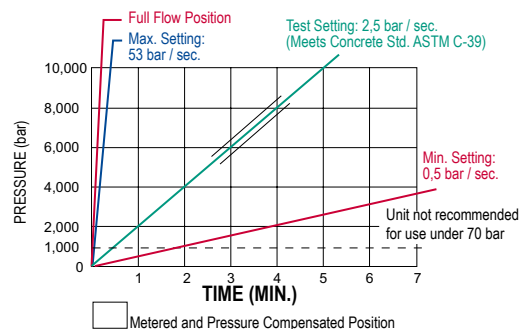
**Flow**

Full flow position - 19 l (Ref.)  
Metered advance position  
1 l/min. (Max.)

**Pressure**

Min. working pressure - 70 bar.  
Max. working pressure - 700 bar.  
Max. valve case pressure - 35 bar.

Chart to the right reflects valve performance when "metered advance" position is selected.

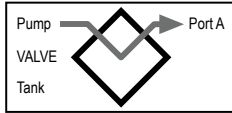
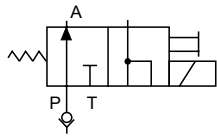


**CAUTION:** To prevent sudden, uncontrolled descent of a load as it is being lowered, use a 9596 Load-Lowering Valve or 9720 Counter Balance Valve in conjunction with the directional valve used in your application.

**IMPORTANT:** Conversion kit 251528 must be used when mounting the 9609 valve on PA17 or PE17 pumps.

**IMPORTANT:** When ordering any valve for a PE30 or PG30 series pump, 12,7 mm longer mounting screws are required. For valves 9500, 9501 and 9511, order four 12001 cap screws. For valve 9552, 9506, and 9507, order four 11956 cap screws. For valves 9599 and 9605, order four 251078 cap screws. For valve 9609, order four 10855 cap screws.

**3-WAY/2-POSITION SOLENOID VALVE**



**Applications:** Single-acting cylinders.

**Actuation:** Solenoid-operated, 115V, 50/60 Hz.

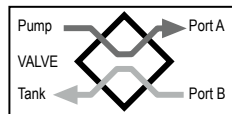
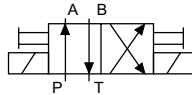
**Functions:** Cylinder piston advances when solenoid is de-energized and pump is running. When solenoid is energized, oil is directed to reservoir, and piston returns. For "hold" position, pump is stopped with solenoid de-energized.

**Used on these pumps:** PE17, PE21, PE30, PE46, PE55, PE120, PE400, PQ60 and PQ120 series.

| Order No. | Description  |
|-----------|--|
| 9579      | 3-way/2-position solenoid valve, 115V, 50/60 Hz., Wt. 4,4 kg |
| 9569      | 3-way/2-position solenoid valve, 24V, 50/60 Hz., Wt. 4,4 kg  |
| 9570      | 3-way/2-position solenoid valve, 230V, 50/60 Hz., Wt. 4,4 kg |

**NOTE:** Valves above are shipped without control switch. Use 202777 remote hand switch. When this valve is mounted, the pump must be equipped with an outlet check valve.

**3/4-WAY/2-POSITION SOLENOID VALVES**



**Applications:** Single or double-acting cylinders. When used with single-acting cylinders, one port should be plugged.

**Actuation:** Solenoid-operated, 115V, 50/60 Hz.

**Functions:** Oil is directed to "extend" side of cylinder, oil from "retract" side goes to reservoir; cylinder "holds" with pump shut-off. Oil is directed to "retract" side of cylinder; oil from "extend" side goes to reservoir. **NOTE:** Cylinder will not "hold" in the "return" position with motor running or shut-off.

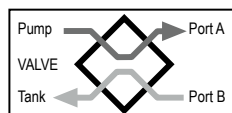
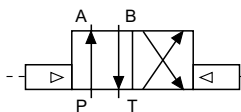
**Used on these pumps:** 9552, 9572 and 9592 are used with PE17, PE30 (with carrying handles removed), PE46, PE55, PE400, PQ60 and PQ120 series.

| Order No. | Description  |
|-----------|--|
| 9592      | 3/4-way/2-position solenoid valve, 115V, 50/60 Hz., Wt. 6,6 kg |
| 9552      | 3/4-way/2-position solenoid valve, 230V, 50/60 Hz., Wt. 6,6 kg |
| 9572      | 3/4-way/2-position solenoid valve, 24V, 50/60 Hz., Wt. 6,6 kg  |

**NOTE:** Valves above are shipped without controls. The 9552, 9572 and 9592 can be used with the 304718 remote hand control.

**NOTE:** Ports are 1/4" NPTF.

**AIR ACTUATED VALVE**



**Applications:** Single or double-acting cylinders. When used with single-acting cylinders, one port should be plugged.

**Actuation:** Air-operated.

**Functions:** Oil is directed to "extend" side of cylinder, oil from "retract" side goes to reservoir, cylinder "holds" with pump shut-off. Oil is directed to "retract" side of cylinder, oil from "extend" side goes to reservoir.

**NOTE:** Cylinder will not "hold" in the "return" position with motor running or shut-off.

**Used on these pumps:** PA17, PA46 and PA55 series.

| Order No. | Description  |
|-----------|--|
| 9594      | 3/4-way/2-position solenoid valve, air-operated (minimum of 4 bar air pressure required). Wt., 5 kg. |

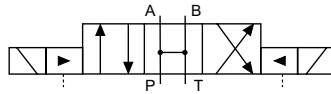
**NOTE:** Valve above is shipped without controls. 9594 can be used with the 209593 remote hand control.

**CAUTION:** To prevent sudden, uncontrolled descent of a load as it is being lowered, use a 9596 Load-Lowering Valve or 9720 Counter Balance Valve in conjunction with the directional valve used in your application.

**IMPORTANT:** Conversion kit 251528 must be used when mounting any of the valves on this page on PA17 or PE17 pumps.

**IMPORTANT:** When ordering any valve for a PE30 or PG30 series pump, 12,7 mm longer mounting screws are required. For valves 9569, 9570 and 9579, order four 10856 cap screws. For valves 9552, 9572 and 9592, order four 12001 cap screws.

**4-WAY/3-POSITION (OPEN CENTER) SOLENOID VALVE**



**Applications:** Double-acting cylinders.

**Actuation:** Solenoid-operated, 115V, 50/60 Hz.

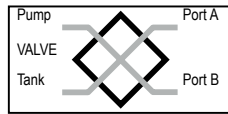
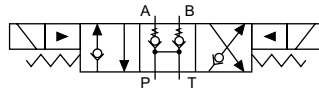
**Functions:** "Advance," open center and "return" positions. Cylinder ports and pump port are open to reservoir in "neutral."

**Used on these pumps:** Furnished with pilot lines and adapters for PE30 (with carrying handles removed), PE55 and PE120 series. For other pump models, consult factory.

**NOTE:** A pressure switch and/or gauge may be attached if desired.

| Order No. | Description   |
|-----------|---|
| 9590      | 4-way/3-position (open center) solenoid valve, 115 volt, 50/60 Hz., Wt. 7 kg. |
| 9522      | 4-way/3-position (open center) solenoid valve, 230 volt, 50/60 Hz., Wt. 7 kg. |
| 9615      | 4-way/3-position (open center) solenoid valve, 24 volt, 50/60 Hz., Wt. 7 kg.  |

**4-WAY/3-POSITION (TANDEM CENTER) PILOT-OPERATED SOLENOID VALVE**



**Applications:** Double-acting cylinders.

**Actuation:** Solenoid-operated, 115V, 50/60 Hz.

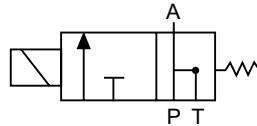
**Functions:** "Advance," "hold" and "return." The Posi-Check® feature holds the load when shifting from the "advance" to the "hold" position.

**Used on these pumps:** PE17, PE21, PE30 (with carrying handles removed), PE46, PE55, PE120, PE400, PQ60 and PQ120 series.

**NOTE:** A gauge may be attached if desired.

| Order No. | Description   |
|-----------|---|
| 9513      | 4-way/3-position (tandem center) solenoid valve, 115V, 50/60 Hz., Wt. 8,2 kg.   |
| 9512      | 4-way/3-position (tandem center) solenoid valve, 24V, 50/60 Hz., Wt. 8,2 kg.  |
| 9516      | 4-way/3-position (tandem center) solenoid valve, 12V, Wt. 8,2 kg. For use on the PG1204S and PG400 series pumps only. |
| 9519      | 4-way/3-position (tandem center) solenoid valve, 230V, 50/60 Hz., Wt. 8,2 kg. Consult factory for field installation. |

**3-WAY/2-POSITION (PILOT-OPERATED, NORMALLY OPEN) SOLENOID VALVE**



**Applications:** Single-acting cylinders.

**Actuation:** Solenoid-operated, 115V, 50/60 Hz.

**Functions:** "Advance" and "return."

**Used on these pumps:** Furnished with pilot lines and adapters for PE30 (with carrying handles removed), PE55 and PE120 series. For other pump models, consult factory.

**NOTE:** A pressure switch and/or gauge may be attached if desired.

| Order No. | Description  |
|-----------|--|
| 9589      | 3-way/2-position (pilot-operated) solenoid valve, 115V, 50/60 Hz., Wt. 3,7 kg. |
| 9523      | 3-way/2-position (pilot-operated) solenoid valve, 230V, 50/60 Hz., Wt. 3,7 kg. |
| 9553      | 3-way/2-position (pilot-operated) solenoid valve, 24V, 50/60 Hz., Wt. 3,7 kg.  |

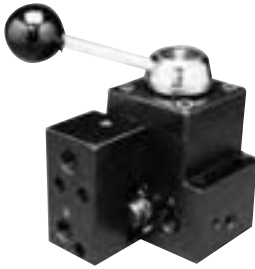
**CAUTION:** To prevent sudden, uncontrolled descent of a load as it is being lowered, use a 9596 Load-Lowering Valve or 9720 Counter Balance Valve in conjunction with the directional valve used in your application.

**IMPORTANT:** Conversion kit 251528 must be used when mounting the 9609 valve on PA17 or PE17 pumps.

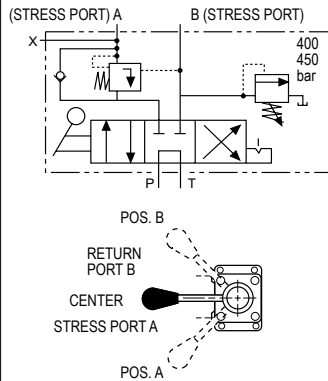
**IMPORTANT:** When ordering any valve for a PE30 or PG30 series pump, 12,7 mm longer mounting screws are required. For valves 9513 and 9519, order four 11956 cap screws. For valves 9523, 9553 and 9589, order four 10855 cap screws. For valves 9522, 9590 and 9615, order four 10854 cap screws.

**NOTE:** Valves above are shipped without control switch.

**4-WAY/3-POSITION (TANDEM CENTER) MANUAL VALVE**



Designed for use with Power Team air, gas-line and electric powered hydraulic pumps.



**Applications:** Single strand, double-acting stressing jacks with Power Wedge seater.

**Actuation:** Lever-operated, detent-positioned.

**Operation:**  
With valve in center position, pump is started.

Cable is inserted into stressing tool, valve is placed in "A" position. "Pull" portion of stressing tool is pressurized to specified level for proper cable tensioning ("A" port is checked internally, can only be released by building pressure in "B" position).

Valve is placed in "B" position, which is pressure controlled and will not exceed 440 bar. "Return" portion of stressing tool is pressurized and will release "A" port when pressure reaches approximately one-half the "A" port pressure. "A" port remains open as long as this pressure differential is maintained.

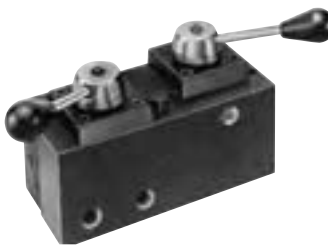
Pump is stopped, valve is placed in "A" position, releasing "B" port pressure.

**Used on these pumps:** PA17\*, PA46\*, PA55, PE17\*, PE21\*, PE30, PE46\*, PE55, PE60, PE120, PE400, PG30\*, PG55, PG120, PG400, PQ60 and PQ120 series.

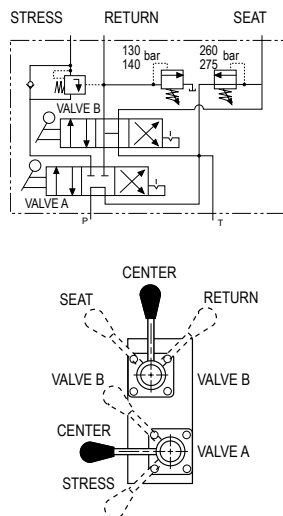
\* These pumps may have reduced first flow stage characteristics due to internal valve restrictions.

| Order No. | Description   |
|-----------|---|
| 9628      | Post-tensioning valve for 700 Bar (max.) single-acting/Power Wedge seater. Wt., 2,4 kg. |

**"TWIN" 4-WAY/3-POSITION (TANDEM CENTER) MANUAL VALVE**



Pump-mounted, 6-position detented 5-way manual dual valve. Rated pressure to valve "A" is 700 Bar and valve "B" is 420 bar. Case pressure is 35 bar max.



**Applications:** Multi-strand, double-acting stressing jacks with an auxiliary seating cylinder.

**Actuation:** Dual lever-operated, detent-positioned.

**Operation:**  
With valves "A" and "B" in center position, pump is started, and cable is inserted into stressing tool.

Valve "A" is placed in "Stress" position and cylinder extends to tension cable. Pump pressure controls force exerted by tensioning cylinder in this position. "Stress" port is checked internally, and can only be released by building pressure in the valve "B" return position.

When desired cable tension is achieved, valve "A" is placed in valve "B" position and valve "B" in "Seat" position. Seating portion of cylinder will be pressurized to seating pressure controlled by "Seat" relief valve (factory set to 275 bar).

Valve "B" is shifted to "Return" position, which is pressure controlled and will not exceed 155 bar. "Return" portion of stressing tool should be pressurized and will release "Stress" port when pressure reaches 15% of "Stress" port pressure.

"Stress" port will remain open and cylinder will return as long as pressure differential is maintained. "Stress" and "Seat" ports are open to reservoir.

When cylinder has fully returned, both valves are shifted to "Center" position and oil will be directed to reservoir. Maximum pressure setting for the "Seat" relief valve is 420 bar.

**Used on these pumps:** PA17\*, PA46\*, PA55, PE17\*, PE21\*, PE30, PE46\*, PE55, PE120, PE400, PG30\*, PG55, PG120, PG400, PQ60 and PQ120 series.\*

\* These pumps may have reduced first flow stage characteristics due to internal valve restrictions.


| Order No. | Description  |
|-----------|--|
| 9632      | Post-tensioning valve for 700 Bar (max.) double-acting systems. Wt., 6,2 kg. |

**CAUTION:** To prevent sudden, uncontrolled descent of a load as it is being lowered, use a 9596 Load-Lowering Valve or 9720 Counter Balance Valve in conjunction with the directional valve used in your application.


**IMPORTANT:** Conversion kit 251528 must be used when mounting any of the valves on this page on PA17 or PE17 pumps.

**IMPORTANT:** When ordering any valve for a PE30 or PG30 series pump, 12,7 mm longer mounting screws are required. For valves 9569, 9570 and 9579, order four 10856 cap screws. For valves 9552, 9572 and 9592, order four 12001 cap screws.


**OIL COOLER KITS**

|   | Order No. | Description  |
|---|-----------|--|
|  | 252511    | Oil cooler kit designed for use with PE604T or PE604PT pumps with 115V. Wt., 2,3 kg. |
|   | 252512    | Oil cooler kit designed for use with PE604T or PE604PT pumps with 220V. Wt., 2,3 kg. |


**FLUID LEVEL/TEMPERATURE GAUGE**

|  | Displays fluid level and temperature of hydraulic oil in reservoir. |  |
|---|---|--|
|   | 0° - 100° C.<br>32 mm wide and 162 mm high.                         |  |
| Order No.   | Description   |  |
| 350431  | Fluid level/temperature gauge.                                      |  |

**RESERVOIR BREATHER KITS**

|   | Order No. | Description  |
|---|-----------|--|
|  | 206767    | Reservoir breather kit designed for use on PA17, PA55, PE17, PE55, PE120, PG55, PG120, PQ60 and PQ120 series pumps. Wt., 0,6 kg.   |
|   | 250175    | Reservoir breather kit designed for use on PE21 and PE46 series pumps. These kits replace the reservoir filler cap when the pump is used in dusty and dirty environments. Wt., 0,6 kg. |


**CASTERS**

|  | 50,8 mm diameter casters attach to the bottom of large reservoir for portability. |  |
|---|---|--|
|   | Sold individually. Order the amount required.                                     |  |
| Order No.   | Description   |  |
| 10494   | Single caster wheel. Wt., 0,1 kg.   |  |


**FOOT CONTROL GUARD**

|  | Order No. | Description   |
|--|-----------|---|
|  | 16339     | Foot Guard for use with 10461 and 251660 foot controls. |

**MAGNETIC STRIP**

|   | Order No. | Description   |
|---|-----------|---|
|  | 207762    | Magnetic strip with adhesive back can be added to No. 25017, 202777, 202778 and 304718 hand controls. Provides 2,7 kg. of holding force. Wt., 50 g. |

**VITON™ \* SEAL KITS**

|  | Viton™* seal kits Can be used in all "C" and "RH" series cylinders, as well as the P12, P55, P59, P157/ P159, P157D/P159D and P300/P300D series of hand pumps. These seals are required when fire resistant hydraulic fluids are used. Not required with Flame-Out® fluid. |                     |       |
|---|--|---------------------|-------|
|   | Order No.  | Use With            | Model |
|   | 300507   | P12                 | All   |
|   | 300472   | P23, P55            | All   |
|   | 300510   | P59                 | All   |
|   | 300508   | P157, P159, P300    | A     |
|   | 300690   | P157, P159          | B     |
|   | 300696   | P300                | B     |
|   | 300508   | P157D, P159D, P300D | A     |
|   | 300693   | P157D, P159D        | B     |
| 300699  | P300D  | B                   |       |

\* Viton™ is a trademark or registered trademark of The Chemours Company

## UNIVERSAL PUMP CART



Mobilize your hydraulic pumps with the PC200. The rugged tubular frame can easily handle pumps weighing up to 91 kg. With 305 mm wheels, the cart rolls easily. Just load the pump onto the cart and wheel it right to the job. The universal mounting hole pattern lets you handle a wide variety of Power Team pumps.

**Cart can be used with the following pumps:** PA60, PA64 and PA554 air/hydraulic pumps; PE55 series, PE183-2 and PE184-2 electric/hydraulic pumps; PE21, PQ60 and PQ120 series "Quiet" pumps; PG55 series gas engine/hydraulic pumps; and pumps with optional 19 L- and 38 L reservoirs; Nos. RP50, RP51, RP101 and RP103.  
**(Shown with pump, pump not included)**

| Order No. | Description   |
|-----------|---|
| PC200     | Universal pump cart with 305 mm wheels. Wt., 12,2 kg. |

## PROTECTIVE PUMP ROLL CAGE

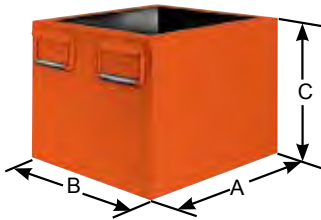


Safeguards pump, gas engine and valves on the job site. Horizontal bars provide convenient hand holds for carrying pump, a pick-up point permits lifting unit with an overhead crane or other device. Standard equipment on PG1203 and PG1204. Can be ordered as an option with any other gas, air, or electrically driven hydraulic pump equipped with a 19 liter reservoir.

**NOTE:** Refer to PG1203/PG1204 pump for details.

| Order No. | Description   |
|-----------|---|
| PC200RC   | Roll cage for use with PC200. (Cannot be used on pumps with 38 liter reservoirs.) Wt., 16,3 kg. |
| RC2GAL    | Roll cage for use with PA46, PA55, PE46, PE55 pumps with 9 liter reservoirs.                    |
| RC5       | Roll cage for PG55 & PG120. For use with PG120 and PG 55 series pumps. Wt., 8,8 kg.             |

## Large capacity reservoirs



Reservoirs are equipped with drain plugs and all necessary conversion items.  
Hydraulic oil is not included with reservoir kits. Please order separately.

| Order No. | Cap. (l) | Usable Oil (l/min) | Use With   | Size (mm.) |     |     |
|-----------|----------|--------------------|--|------------|-----|-----|
|           |          |                    |  | A          | B   | C   |
| RP20**    | 7,6      | 7,1                | PA6, PA50 series (models A-E)                    | 292        | 241 | 165 |
| RP20-F**  | 7,6      | 7,1                | PA6 series (model F), PA 50 series (model F & G) | 292        | 241 | 165 |
| RP20M*    | 9,5      | 7,2                | PA6, PA50 series (models A-E)                    | 292        | 241 | 165 |
| RP20M-F*  | 9,5      | 7,2                | PA6 series (model F), PA50 series (model F & G)  | 292        | 241 | 165 |
| RP21*     | 9,5      | 7,2                | PE18 series                                      | 292        | 241 | 165 |
| RP22†     | 9,5      | 7,1                | PE55, PE120, PA55                                | 292        | 241 | 165 |
| RP50      | 19,0     | 18,4               | PE55, PE120, PA55                                | 457        | 317 | 216 |
| RP51      | 19,0     | 18,4               | PA46, PE21                                       | 457        | 317 | 216 |
| RP100     | 37,9     | 35,1               | PE55, PE120, PA55                                | 457        | 317 | 368 |
| RP101     | 37,9     | 35,1               | PG55, PG120                                      | 457        | 317 | 368 |
| RP103*    | 37,9     | 37,0               | PQ60, PQ120                                      | 392        | 362 | 313 |
| RP104     | 37,9     | 35,1               | PA46, PE46, PE21                                 | 457        | 317 | 356 |

\* Four mounting holes: 1/2"-20, for 50,4 mm diameter swivel casters (No. 10494)

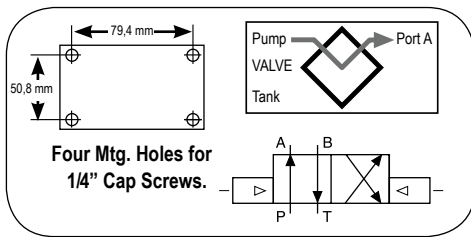
\*\* High density polyethylene reservoir.

† Aluminum reservoir.

## METAL RESERVOIR CONVERSION KITS FOR PUMPS (INCLUDES GASKETS AND FASTENERS)

| Pump Number | Metal Reservoir Order Number | Metal Reservoir Capacity (l) | Reservoir Wt. (kg) | Pump Number | Metal Reservoir Order Number | Metal Reservoir Capacity (l) | Reservoir Wt. (kg) | Pump Number | Metal Reservoir Order Number | Metal Reservoir Capacity (l) | Reservoir Wt. (kg) |
|-------------|------------------------------|------------------------------|--------------------|-------------|------------------------------|------------------------------|--------------------|-------------|------------------------------|------------------------------|--------------------|
| PA6         | 213896                       | 1,7                          | 1,4                | PA50        | 213896                       | 1,7                          | 1,4                | PA174       | 213895                       | 9,5                          | 4,1                |
| PA6A        | 213896                       | 1,7                          | 1,4                | PA50R       | 213896                       | 1,7                          | 1,4                | PE172       | 213895                       | 9,5                          | 4,1                |
| PA6D        | 213896                       | 1,7                          | 1,4                | PA6R        | 213896                       | 1,7                          | 1,4                | PE172A      | 213895                       | 9,5                          | 4,1                |
| PA6-2       | 213895                       | 9,5                          | 4,1                | PA50R2      | 213895                       | 9,5                          | 4,1                | PE172S      | 213895                       | 9,5                          | 4,1                |
| PA6D2       | 213895                       | 9,5                          | 4,1                | PA172       | 213895                       | 9,5                          | 4,1                | PE174       | 213895                       | 9,5                          | 4,1                |

Model Shown:  
**9593**



**3/4-WAY / 2-POSITION SOLENOID ACTUATED VALVES**

**Application:** Single or double-acting cylinders.

**Actuation:** 9593, 9524 and 9554 are solenoid-operated

**Operation with single-acting cylinder:** Either oil port "A" or "B" must be plugged on valve. With port "B" plugged, solenoid is energized to position "A," oil port "A" becomes pressurized. When solenoid is energized to position "B," oil port "A" becomes the return port.

**Operation with multiple single-acting cylinders:** A pressure line from one bank can be connected to oil port "A" and the other to oil port "B" on the valve. Sequence: When energized to position "A," oil port "A" becomes pressurized and clamps the fixture connected to oil port "A". Oil port "B" becomes a "return" port for cylinder connected to oil port "B," and retracts it. The opposite happens when solenoid "B" is energized.

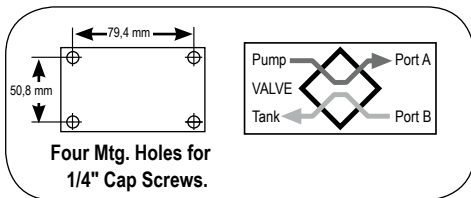
**Operation with double-acting cylinder:** Port "A" is connected to "advance" port of cylinder, oil port "B" connects to cylinder "return" port. Solenoid is energized to position "A," oil port "A" becomes pressurized to extend cylinder piston. The opposite happens when solenoid "B" is energized. Valve does not hold in "retract" position.

**NOTE:** When using more than one valve on a pump, the tank port may require a check valve to permit inadvertent, momentary extension of a retracted cylinder.

**NOTE:** If pump is equipped with an internal outlet check, a "hold" position can be maintained with the pump shut-off.

| Order No. | Description   |
|-----------|---|
| 9593      | 3/4-way 2-position, remote-mounted solenoid valve, 115V, 50/60 Hz., Prod. Wt. 7,0 kg. |
| 9524      | 3/4-way 2-position, remote-mounted solenoid valve, 230V, 50/60 Hz., Wt. 7,0 kg.       |
| 9554      | 3/4-way 2-position, remote-mounted solenoid valve, 24V, 50/60 Hz., Wt. 7,0 kg.        |

Model Shown:  
**9595**



**3/4-WAY / 2-POSITION AIR ACTUATED VALVES**

**Application:** Single or double-acting cylinders.

**Actuation:** 9595 is air-operated.

**Operation with single-acting cylinder:** Either oil port "A" or "B" must be plugged on valve. With port "B" plugged, solenoid is energized to position "A," oil port "A" becomes pressurized. When solenoid is energized to position "B," oil port "A" becomes the return port.

**Operation with multiple single-acting cylinders:** A pressure line from one bank can be connected to oil port "A" and the other to oil port "B" on the valve. Sequence: When energized to position "A," oil port "A" becomes pressurized and clamps the fixture connected to oil port "A". Oil port "B" becomes a "return" port for cylinder connected to oil port "B," and retracts it. The opposite happens when solenoid "B" is energized.

**Operation with double-acting cylinder:** Port "A" is connected to "advance" port of cylinder, oil port "B" connects to cylinder "return" port. Solenoid is energized to position "A," oil port "A" becomes pressurized to extend cylinder piston. The opposite happens when solenoid "B" is energized. Valve does not hold in "retract" position.

**NOTE:** When using more than one valve on a pump, the tank port may require a check valve to permit inadvertent, momentary extension of a retracted cylinder.

**NOTE:** If pump is equipped with an internal outlet check, a "hold" position can be maintained with the pump shut-off.

| Order No. | Description  |
|-----------|--|
| 9595      | 3/4-way 2-position, remote-mounted air-operated solenoid valve (minimum of 3,5 bar air pressure required), Prod. Wt. 5,2 kg. |

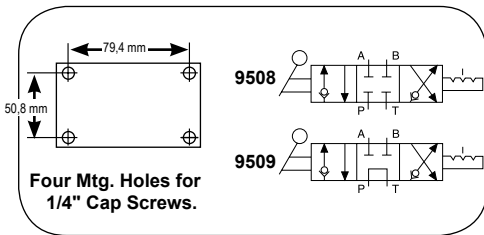
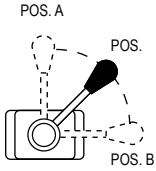
**CAUTION:** To prevent sudden, uncontrolled descent of a load as it is being lowered, use a 9596 Load-Lowering Valve or 9720 Counter Balance Valve in conjunction with the directional valve used in your application.

**CAUTION:** The Posi-Check® feature will not hold the load when shifted directly A to B-B to A or from hold to A or B.

**NOTE:** Maximum tank line pressure for remote-mounted valves is 35 bar.



Model Shown:  
**9508**



**4-WAY / 3-POSITION (CLOSED CENTER) AND (TANDEM CENTER) MANUAL VALVES WITH POSI-CHECK®**

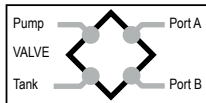
**Application:** Single or double-acting cylinders. When used with single-acting cylinders, one port must be plugged. For double-acting cylinders, either port can be used to "advance" or "return."

**Actuation:** Lever-operated, detent-positioned.

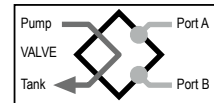
**Functions:** The 9508 provides "advance," "hold" and "return" positions with all ports blocked (closed center) in the "hold" position. The 9509 has "advance," "hold" and "return" with tandem center (cylinder ports are blocked, pump remains running). Both valves have Posi-Check® feature to guard against pressure loss when shifting from "advance" to "hold."

| Order No. | Description  |
|-----------|--|
| 9508      | 4-way 3-position (closed center) manual valve, including sub-plate for remote mounting. Wt., 2,9 kg. |
| 9509      | 4-way 3-position (tandem center) manual valve, including sub-plate for remote mounting. Wt., 2,9 kg. |

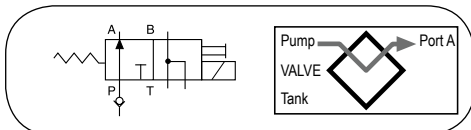
9508



9509



Model Shown:  
**9526**



**3-WAY / 2-POSITION SOLENOID VALVE**

**Application:** Single-acting cylinders.

**Actuation:** Solenoid-operated, 115/230/24V, 50/60 Hz.

**Function:** Advances cylinder piston when solenoid is de-energized, and pump is running. When solenoid is energized, oil is directed back through valve "return" port and cylinder piston returns. To place cylinder in "hold" position, pump must be stopped or its flow held at the valve "pressure" port with the solenoid de-energized.

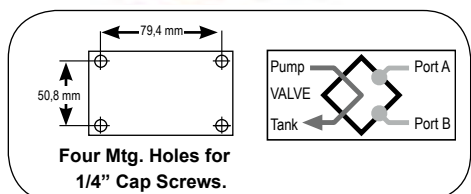
**NOTE:** Valve is equipped with a 9631 snubber valve in port "A." The line from the "return" port of the valve must be unrestricted (100 bar back pressure maximum) back to the reservoir.

**IMPORTANT:** A 9580 in-line check valve must be installed in the "pressure" port if the supply pump is not equipped with an outlet check valve.

**NOTE:** Valves above are shipped without control switch. Use 202777 remote hand switch.

| Order No. | Description  |
|-----------|--|
| 9559      | 3-way 2-position solenoid valve, 115V 50/60 Hz. Includes a remote mounting sub-plate. Wt., 4,4 kg. |
| 9526      | 3-way 2-position solenoid valve, 230V 50/60 Hz. Includes a remote mounting sub-plate. Wt., 4,4 kg. |
| 9556      | 3-way 2-position solenoid valve, 24V 50/60 Hz. Includes a remote mounting sub-plate. Wt., 4,4 kg.  |

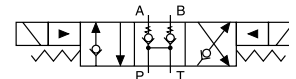
Model Shown:  
**9514**



**4-WAY / 3-POSITION (TANDEM CENTER) SOLENOID VALVE WITH POSI-CHECK®**

**Application:** Double-acting cylinders.

**Actuation:** Solenoid-operated, 115/230/24V, 50/60 Hz.




**Functions:** Push button control of "advance," "hold" and "return." The Posi-Check® feature guards against pressure loss when shifting from "advance" to "hold." With valve in "hold" position, cylinder ports are blocked and oil is directed from pump to reservoir.

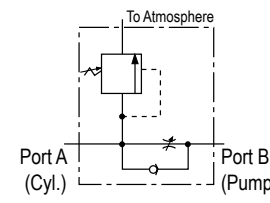
**NOTE:** Do not allow return tank pressure to exceed 500 bar at the valve, Consult factory before installing a pressure switch on any of these valves.

| Order No. | Description   |
|-----------|---|
| 9514      | 4-way 3-position (tandem center) solenoid valve, 115V, 50/60 Hz. Remote hand control included. Wt., 4,6 kg. |
| 9525      | 4-way 3-position (tandem center) solenoid valve, 230V, 50/60 Hz. Remote hand control included. Wt., 4,6 kg. |
| 9555      | 4-way 3-position (tandem center) solenoid valve, 24V, 50/60 Hz. Remote hand control included. Wt., 4,6 kg.  |

Accessories

**LOAD-LOWERING VALVE**





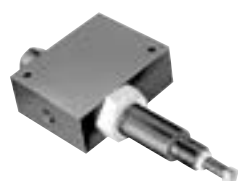
**Application:** Precision metering for controlled cylinder piston return.

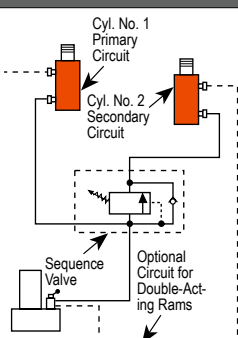
**Operation:** Permits free flow when extending cylinder, built-in pressure relief and Posi-Check® locks and holds load in raised position until operator opens valve. May be pre-set to provide consistent metered return, or operator may select rate of return with each actuation. Has 3/8" NPTF ports.

**NOTE:** Pressure relief valve setting is 830 bar. Operating pressure is 700 Bar and max. flow rate is 19 l/min.

| Order No. | Description                     |
|-----------|---------------------------------|
| 9596      | Load-lowering valve. Wt., 1 kg. |

**SEQUENCE VALVE**






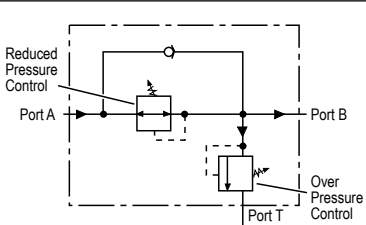
**Application:** Used when one cylinder in a multi-cylinder application must advance before any other.

**Operation:** Pump is connected to port "P" and separate cylinders to ports "A" and "B." When pressure is applied to port "P," cylinder "A" advances. Cylinder "B" will not advance until a predetermined pressure setting is reached in cylinder "A." Pressure setting is adjustable from 35 to 550 bar with adjustment screw (factory preset at 70 bar). Has 3/8" NPTF ports.

| Order No. | Description                                     |
|-----------|---|
| 9597      | Pressure control sequencing valve. Wt., 2,5 kg. |

**PRESSURE REDUCING VALVE**






**Application:** Provides complete, independent pressure control to two or more clamping systems operated by a single power source.

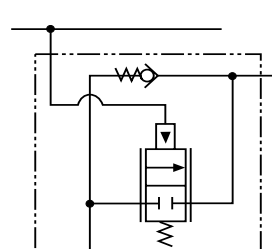
**Operation:** Can be used to provide different pressures in various stages of a single system. Virtually zero leakage across valve means each system can be operated by a single continuous pressure source. Adjustable from 70 to 350 bar at outlet port "B" (secondary). Has 1/4" NPTF ports.

| Order No. | Description                           |
|-----------|---------------------------------------|
| 9608      | Pressure reducing valve. Wt., 2,6 kg. |

**CAUTION:** Over Pressure control must be set at a higher value than operating pressure.

**COUNTER BALANCE VALVE**





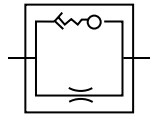
**Application:** Double-acting cylinders. Provides positive holding and controlled, "chatter-free" lowering of a load.

**Operation:** Load is raised at flow rate of pump, and held when pump is shut-off. When the pump is shifted to "retract," the counter balance valve will continue to hold the load until system pressure exceeds pressure caused by load. The load can then be lowered smoothly to the flow rate of the pump. The counter balance valve is designed to operate with pumps having a high pressure flow rate of up to 1,9 l/min. and cylinder ratios of 3 to 1.

| Order No. | Description  |
|-----------|--|
| 9720      | Counter balance valve, including two pairs of fittings (male and female), hydraulic hoses, and dust caps. Wt., 4,5 kg.                               |
| 9721      | Counter balance valve, including two pairs of fittings (male and female), but does not include couplers, hoses, fittings and dust caps. Wt., 4,2 kg. |

**CAUTION:** The 9720 patented counter balance valve has a pilot pressure as high as 210 bar. Because this pressure is applied to the rod end of the cylinder while it is already under load, the system should not be sized for loads greater than 80% of cylinder rated capacity. To prevent sudden, uncontrolled descent of a load as it is being lowered, use a 9596 Load-Lowering Valve or 9720 Counter Balance Valve in conjunction with the directional valve used in your application.

METERING VALVE

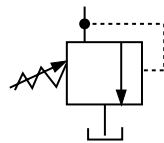


**Application:** For systems using large cylinders or extended lengths of hydraulic hose.

**Operation:** Controls surges by restricting flow if it exceeds 26,5 l/min. When flow subsides, valve reopens automatically. Has 3/8" NPTF male end to thread into return port of system control valve, and a 3/8" NPTF female end, permitting return hose to be directly connected.

| Order No. | Description                  |
|-----------|------------------------------|
| 9631      | Metering valve. Wt., 0,1 kg. |

"IN-LINE" PRESSURE REGULATOR VALVE



**Application:** Single or double-acting cylinders. Permits adjusting operating pressures at various values below relief valve setting of pump.

**Operation:** Regulator valve is easily adjusted to maintain pressures between 20 and 700 Bar. Maintains a given pressure setting within 3% over repeated cycles. Flow range is 0,3 l/min to 23 l/min.

| Order No. | Description  |
|-----------|--|
| 9633      | In-line pressure regulator valve with two 3/8" NPTF inlet ports, one 1/8" NPTF tank port and 1 m drain line kit. Wt., 1.9 kg |

RELIEF VALVE



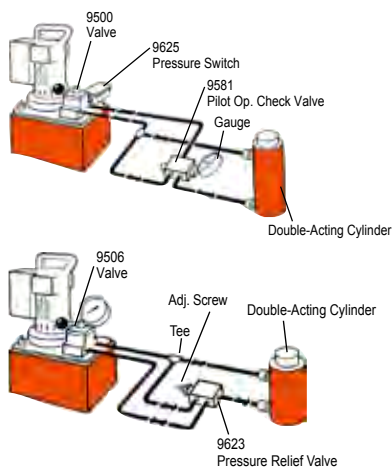
**Application:** Provide an economical means of protecting a hydraulic circuit against over pressurization.

**Operation:** These factory preset valves are designed for maximum flow rate of 19 l/min. Furnished with 1/8" NPTF male port. All valves weigh 0,1 kg. See chart below for ordering information.

NOTE: Care should be exercised to protect workers from hot, pressurized hydraulic oil. Install these valves only in an enclosed or shielded area.





Typical Set-Up


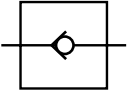


| Relief Valve Order No. | Pressure Setting* (bar) | Relief Valve Order No.                 | Pressure Setting* (bar) |
|------------------------|-------------------------|--|-------------------------|
| RV21278                | 697/738                 | RV21278-50                             | 352/393                 |
| RV21278-6              | 41/44                   | RV21278-52                             | 366/407                 |
| RV21278-10             | 62/69                   | RV21278-55                             | 386/428                 |
| RV21278-15             | 103/117                 | RV21278-57                             | 400/442                 |
| RV21278-17             | 110/124                 | RV21278-60                             | 421/462                 |
| RV21278-20             | 131/152                 | RV21278-65                             | 455/497                 |
| RV21278-25             | 159/186                 | RV21278-70                             | 490/531                 |
| RV21278-27             | 179/193                 | RV21278-75                             | 524/566                 |
| RV21278-28             | 186/207                 | RV21278-80                             | 559/600                 |
| RV21278-30             | 207/235                 | RV21278-83                             | 580/621                 |
| RV21278-32             | 214/228                 | RV21278-86                             | 600/642                 |
| RV21278-35             | 241/262                 | RV21278-88                             | 614/662                 |
| RV21278-38             | 283/310                 | RV21278-90                             | 628/669                 |
| RV21278-40             | 304/331                 | RV21278-114                            | 793/834                 |
| RV21278-43             | 338/366                 | RV21278-6280                           | 440/476                 |
| RV21278-48             | 352/393                 | *All RV's are Preset - Non-Serviceable |                         |


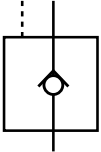
**SHUT-OFF VALVE**

|  |  | <p><b>Application:</b> This needle valve permits fine metering of hydraulic oil</p> <p><b>Operation:</b> Can be used for controlling multiple single-acting cylinders.</p>                           |             |             |      |   |
|---|---|--|-------------|-------------|------|---|
|   |   | <table border="1"> <thead> <tr> <th>Order No.</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>9575</td> <td>Shut off valve with 3/8" NPTF ports. Wt., 0,6 kg.</td> </tr> </tbody> </table> | Order No.   | Description | 9575 | Shut off valve with 3/8" NPTF ports. Wt., 0,6 kg. |
|   |   | Order No.  | Description |             |      |   |
| 9575  | Shut off valve with 3/8" NPTF ports. Wt., 0,6 kg.                                 |  |             |             |      |   |


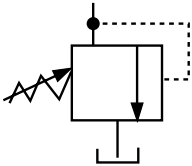
**CHECK VALVE**

|  |  | <p><b>Application:</b> Permits flow of hydraulic oil in one direction only.</p> <p><b>Operation:</b> Installs right in hydraulic line.</p>  |             |             |      |  |
|---|---|---|-------------|-------------|------|--|
|   |   | <table border="1"> <thead> <tr> <th>Order No.</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>9580</td> <td>Check valve with 3/8" NPTF male ends. Wt., 0,2 kg.</td> </tr> </tbody> </table> | Order No.   | Description | 9580 | Check valve with 3/8" NPTF male ends. Wt., 0,2 kg. |
|   |   | Order No.   | Description |             |      |  |
| 9580  | Check valve with 3/8" NPTF male ends. Wt., 0,2 kg.                                |   |             |             |      |  |

**PILOT-OPERATED CHECK VALVE**

|  |  | <p><b>Application:</b> For use with open or tandem center valves. Permits free flow of fluid in one direction.</p> <p><b>Operation:</b> Flow is blocked in opposite direction until pilot oil pressure is applied. This prevents the loss of pressure if the valve is inadvertently shifted or the pump line is broken. Minimum cracking pressure is 4,1 bar. Required pilot pressure is approximately 16% of checked system pressure.</p> |             |             |      |   |
|--|--|--|-------------|-------------|------|---|
|  |  | <table border="1"> <thead> <tr> <th>Order No.</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>9581</td> <td>Pilot-operated check valve with 3/8" NPTF ports. Wt., 1,7 kg.</td> </tr> </tbody> </table>   | Order No.   | Description | 9581 | Pilot-operated check valve with 3/8" NPTF ports. Wt., 1,7 kg. |
|  |  | Order No.  | Description |             |      |   |
| 9581   | Pilot-operated check valve with 3/8" NPTF ports. Wt., 1,7 kg.                      |  |             |             |      |   |

**"IN-LINE" PRESSURE RELIEF VALVE**

|  |  | <p><b>Application:</b> Single or double-acting cylinders. For remote locations in a hydraulic circuit where maximum pressure requirements are less than basic overload valve setting in pump.</p> <p><b>Operation:</b> Adjustable from 70 to 700 Bar. Valve is spring-loaded and direct-acting.</p> |             |             |      |  |
|---|---|---|-------------|-------------|------|--|
|   |   | <table border="1"> <thead> <tr> <th>Order No.</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>9623</td> <td>Pressure relief valve with 3/8"NPTF ports. Wt. 0,9 kg.</td> </tr> </tbody> </table>   | Order No.   | Description | 9623 | Pressure relief valve with 3/8"NPTF ports. Wt. 0,9 kg. |
|   |   | Order No.   | Description |             |      |  |
| 9623  | Pressure relief valve with 3/8"NPTF ports. Wt. 0,9 kg.                              |   |             |             |      |  |

Model Shown:  
9639, 9638



### Performance Requirements

For additional technical information or to order a **Material Safety Data Sheet** call 1-800-477-8326 or go to [www.powerteam.com](http://www.powerteam.com).

### Features

#### STANDARD HYDRAULIC OIL

- For dependable performance of all your hydraulic pumps and cylinders.
- Contains foam suppressant additives and has a high viscosity index.

#### FLAME-OUT® 220 FIRE RESISTANT HYDRAULIC FLUID\*

- Contains anti-rust, anti-foam and anti-sludge additives.
- Provides fire resistant protection. Note: Will burn if heat source is extreme enough. Will not, however, propagate the flame and is self-extinguishing when there is no ignition source.
- Provides maximum lubrication and heat transfer.
- Offers a wider operating temperature range.
- No need to change seals in your Power Team equipment. Just drain the standard oil and replace it with Flame-Out® 220.

#### BIODEGRADABLE HYDRAULIC FLUID

- Biodegradable, non-toxic fluid withstands moderate to severe operating conditions. Provides excellent protection against rust.
- Offers superior anti-wear properties and has excellent multi-metal compatibility.

#### LOW TEMPERATURE OIL

- Provides smooth, reliable operation in the coldest climate conditions.

### Technical Specifications

| Description   | Grade<br>(ASTM) | Specific Gravity<br>@ 16°C<br>(kg/l) | Color<br>(ASTM) | Flash Point | Fire Point | Pour Point | Viscosity  |            | Viscosity Index | Foam Test<br>(ASTM) |
|---------------|-----------------|--------------------------------------|-----------------|-------------|------------|------------|------------|------------|-----------------|---------------------|
|               |                 |                                      |                 |             |            |            | SUS @ 38°C | SUS @ 99°C |                 |                     |
| Standard Oil  | 215             | 0,88                                 | 2 Amber         | 204°C       | 221°C      | -34°C      | 215        | 48         | 100 min.        | Pass                |
| Flame-Out®    | 220             | 0,91                                 | Light Amber     | 260°C       | 288°C      | -26°C      | 220        | 55         | 140 min.        | Pass                |
| Biodegradable | —               | 0,92                                 | 2 Amber         | 224°C       | NA*        | -30°C      | 183        | 53         | 213 min.        | Pass                |
| Low Temp.     | —               | 0,87                                 | 6.5 Red         | 180°C       | 204°C      | -45°C      | 183        | 52         | 190 min.        | Pass                |

### Ordering Information

| Order Number | Oil Description | Quantity |
|--------------|-----------------|----------|
| 9636         | Standard Oil    | 0,9      |
| 9637         |                 | 3,8      |
| 9638         |                 | 9,5      |
| 9616         |                 | 208      |
| 9639         | Flame-Out®      | 3,8      |
| 9640         |                 | 9,5      |
| 9645         | Biodegradable   | 3,8      |
| 9646         |                 | 9,5      |
| 9647         | Low Temperature | 3,8      |

**ON/OFF MOTOR CONTROL**

The following remote control switches will give you momentary "ON" control of your hydraulic pump. These switches are deadman type, spring loaded to the "OFF" position. They can be used with any Power Team electric hydraulic pump.



| Order No. | Description  |
|-----------|--|
| 25017     | Remote hand control. Has a push button switch, with a 3 m cord. Wt., 0,4 kg.   |
| 203225    | Remote hand control. Heavy-duty with single push button switch in a neoprene housing with 3 m cord. Housing seals out dust, lint and liquids (unit is not submersible). Wt., 0,4 kg. |
| 10461     | Remote foot control, with 3 m cord. Wt., 1,4 kg.   |
| 251660    | Remote foot control, with 3 m cord. For use with the PE10 style pumps. Wt., 0,5 kg.  |

**SOLENOID & MOTOR CONTROL**



| Order No. | Description   |
|-----------|---|
| 202777 *  | Remote hand control. Has rocker style switch that is momentary advance, spring center hold and detented retract. It comes with a 3 m cord, for use with 3-way/2 or 3-position valves. Wt., 0,4 kg.  |
| 202778 ** | Remote hand control. Has rocker style switch that is momentary advance, spring center hold and momentary retract. It comes with a 3 m cord, for use with 4-way/3-position valves. Wt., 0,4 kg.  |
| 304718**  | Remote hand control. Has a rocker style switch that is momentary advance, spring center hold and momentary retract. The switch is wired to start and stop the motor when the valve is energized. It comes with a 3 m cord. To be used with 4-way/2-position valves. Wt., 0,4 kg.  |
| 309653    | Remote foot control. Can be used in place of either of the above hand controls to control the same type of valves. The switch is momentary on, both advance and retract position, and is spring centered to the hold position. This foot switch comes with 3 m cord. Wt., 1,8 kg. |
| 17627     | Remote foot control. Same as the 309653, but without a cord. Wt., 0,9 kg.   |
| 309652    | Remote foot control. Has same functions as 304718. Supplied with a 3 m cord. To be used with 4-way/2-position valves. Wt., 1,8 kg.  |
| 216209    | Remote foot control. Same as the 309652, but without a cord. Wt., 0,9 kg.   |

\* For use on solenoid valves that are used on single-acting cylinders  
 \*\* For use on solenoid valves that are used on double-acting cylinders  
**NOTE:** See valves listing to determine which remote to use.

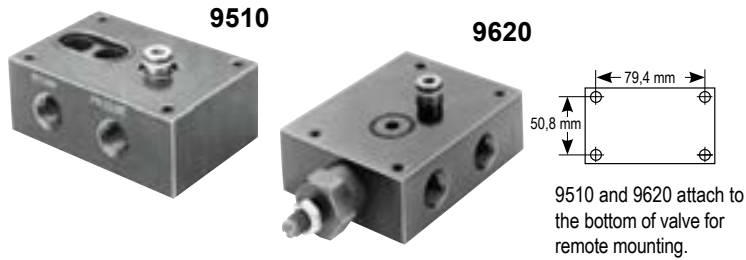
**REMOTE AIR MOTOR CONTROLS**



This remote hand control has two momentary push buttons, one for advance and one for retract with spring offset to hold. To be used with 4-way/2-position air pilot valves.

| Order No. | Description                                       |
|-----------|---|
| 209593    | Remote hand control with 3,7 m cord. Wt., 0,9 kg. |

SUB-PLATES

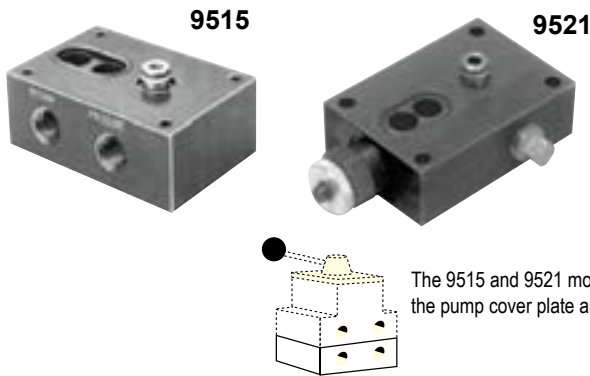


9510 and 9620 attach to the bottom of valve for remote mounting.

For remote mounting of control valves. Sub-plates convert pump-mounted valves to remote-mounted valves quickly and easily.

| Order No. | Description   |
|-----------|---|
| 9510      | Sub-plate for remote mounting the following valves; 9500, 9501, 9502, 9504, 9506, 9507, 9511, 9552, 9572, 9575, 9576, 9592 and 9594. Wt., 0,7 kg. |
| 9620      | For use with 9500, 9501, 9502, 9552, 9572, 9592 and 9594. Same as 9510, but has integral pressure regulating valve. Wt., 1,7 kg.                  |

PUMP-MOUNTED SUB-PLATES



The 9515 and 9521 mount between the pump cover plate and valve.

When fitted between pump cover plate, valve mounting flange, and control valve, provides a separate 3/8" NPTF female port, open to "return" regardless of position of valve. Also provides a separate 3/8" NPTF female pressure port. This sub-plate can be useful when you desire to use one pump with a deck-mounted control valve, plus a separate remote-mounted valve to control another function.

**For use with the following valves:** 9500, 9501, 9502, 9504, 9506, 9507, 9511, 9520, 9552, 9572, 9575, 9576, 9592, 9594, and 9609.

| Order No. | Description   |
|-----------|---|
| 9515      | Sub-plate, Wt., 0,6 kg.   |
| 9521      | Sub-plate for use under most pump-mounted valves to provide adjustable pressure control on units not equipped with an external pressure regulator. Wt., 1,7 kg. |

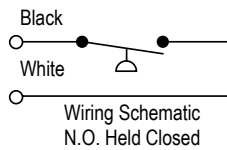
AIR FILTER/REGULATOR/LUBRICATOR



Recommended for use with single-speed air/hydraulic pumps.

| Order No. | Description  |
|-----------|--|
| 9531      | Filter/regulator. 1/4" NPTF inlet and outlet. Wt., 0,4 kg. |

PRESSURE SWITCH



**Application:** Used in a hydraulic circuit where system pressure must be "held." Automatically (electrically) turns off pump motor when predetermined system pressure is reached.

Attaches directly to control valve manifold or can be mounted in-line to read system pressure. Has a 1/4" NPTF male thread, and a 1/4" NPTF fitting for gauge mounting if required. Adjustable from 70 to 700 Bar. Can also be used to actuate other electrical devices in the system. Wired normally open and held closed by spring pressure.

| Order No. | Description   |
|-----------|---|
| 9625      | In-line pressure switch with 1/4" NPTF gauge port. Wt., 0,5 kg. |

**IMPORTANT:** Electrical rating of switch is 5 amps at 250V max. To prevent permanent damage to switch, a control relay must be installed to handle currents or voltage exceeding these limits. Pressure switch should never be used to directly actuate the electrical motor.

PILOT-OPERATED AIR CONTROL VALVES



**Application:** For use when an air pilot signal is required at a set hydraulic pressure. Can be used to shift valves, and start or stop pneumatic pumps.

Attaches directly to control manifold or can be mounted in-line to read system hydraulic pressure. Automatically turns on an air pilot signal when a predetermined system pressure is reached. Has 1/4" NPTF male thread and 1/4" NPTF fitting for gauge mounting if required. Adjustable from 35 - 700 Bar. Maximum rating of 700 l at 700 bar.

| Order No. | Description   |
|-----------|---|
| 9641      | Pilot-operated control valve, normally closed, with 1/4" NPTF male thread. Wt., 0,5 kg. |
| 9643      | Pilot-operated control valve, normally open, with 1/4" NPTF male thread. Wt., 0,5 kg.   |

Model Shown:  
**9755E**



Accessories

**Features**

**REINFORCED WIRE-BRAID RUBBER HOSES OFFER INCREASED DURABILITY**

- Hose reinforced with 4 braids of high tensile steel wire.
- The synthetic rubber covering is oil and weather resistant.
- 3/8" NPTF fittings on both ends.
- Operating pressure is 700 Bar.

**Cylinder Return Time**

| Cylinder No.   | 9769E                     | 9781E                     |
|----------------|---------------------------|---------------------------|
|                | 3,1 m Hose<br>6,4 mm I.D. | 3,1 m Hose<br>9,5 mm I.D. |
| <b>C2514C</b>  | 51 sec.                   | 14 sec.                   |
| <b>C556C</b>   | 1 min., 30 sec.           | 24 sec.                   |
| <b>C5513C</b>  | 4 min., 12 sec.           | 59 sec.                   |
| <b>C10010C</b> | 6 min., 56 sec.           | 1 min. 3 sec.             |

**Hose with Coupler Half**

9754E Hose assembly consisting of 9756E (1,8 m hose) with 9798 (hose half coupler) and 9800 (dust cap)

**Ordering Information**

| Hose Type          | Hose I.D.<br>(mm) | Hose Length<br>(m) | Burst Rating<br>(bar) | Order Number   |
|--------------------|-------------------|--------------------|-----------------------|----------------|
| Rubber, Wire-Braid | 6,5               | 0,9                | 3250                  | <b>9755E</b>   |
| Rubber, Wire-Braid | 6,5               | 1,8                | 3250                  | <b>9756E</b>   |
| Rubber, Wire-Braid | 6,5               | 1,8                | 3250                  | <b>9754E**</b> |
| Rubber, Wire-Braid | 6,5               | 2,4                | 3250                  | <b>9757E</b>   |
| Rubber, Wire-Braid | 6,5               | 3,1                | 3250                  | <b>9758E</b>   |
| Rubber, Wire-Braid | 6,5               | 3,7                | 3250                  | <b>9759E</b>   |
| Rubber, Wire-Braid | 6,5               | 6,1                | 3250                  | <b>9760E</b>   |
| Rubber, Wire-Braid | 6,5               | 9,1                | 3250                  | <b>9761E</b>   |
| Rubber, Wire-Braid | 6,5               | 15,3               | 3250                  | <b>9762E</b>   |

| Hose Type           | Hose I.D.<br>(mm) | Hose Length<br>(m) | Burst Rating<br>(bar) | Order Number |
|---------------------|-------------------|--------------------|-----------------------|--------------|
| Rubber, Wire-Braid* | 9,5               | 0,9                | 2800                  | <b>9733E</b> |
| Rubber, Wire-Braid* | 9,5               | 1,8                | 2800                  | <b>9776E</b> |
| Rubber, Wire-Braid* | 9,5               | 3,1                | 2800                  | <b>9777E</b> |
| Rubber, Wire-Braid* | 9,5               | 4,6                | 2800                  | <b>9734E</b> |
| Rubber, Wire-Braid* | 9,5               | 6,1                | 2800                  | <b>9778E</b> |
| Rubber, Wire-Braid* | 9,5               | 9,1                | 2800                  | <b>9735E</b> |
| Rubber, Wire-Braid* | 9,5               | 12,2               | 2800                  | <b>9736E</b> |
| Rubber, Wire-Braid* | 9,5               | 15,3               | 2800                  | <b>9779E</b> |

\* High Flow

\*\*Furnished with 9798 hose half coupler and 9800 dust cap.



Model Shown:  
9767E



**Features**

**POLYURETHANE HOSES.**

- Nylon core tube with high tensile steel wire reinforcement.
- Hoses are equipped with plastic hose guards.
- Ben radius 70 mm
- Suitable for continuous service at temperatures from -40° to 100° C.



**Cylinder Return Time**

| Cylinder No. | 9769E                     | 9781E                     |
|--------------|---------------------------|---------------------------|
|              | 3,1 m Hose<br>6,4 mm I.D. | 3,1 m Hose<br>9,5 mm I.D. |
| C2514C       | 51 sec.                   | 14 sec.                   |
| C556C        | 1 min., 30 sec.           | 24 sec.                   |
| C5513C       | 4 min., 12 sec.           | 59 sec.                   |
| C10010C      | 6 min., 56 sec.           | 1 min. 3 sec.             |



**BE SAFE!**

1. Inspect before and after each use.
2. Replace if any signs of degradation or wear that may affect safety or performance.
3. Keep the product clean.
4. Store properly.

**Ordering Information**

| Hose Type    | Hose I.D. (mm) | Hose Length (m) | Burst Rating (bar) | Order Number |
|--------------|----------------|-----------------|--------------------|--------------|
| Polyurethane | 6,4            | 0,6             | 2800               | 9765E        |
| Polyurethane | 6,4            | 0,9             | 2800               | 9766E        |
| Polyurethane | 6,4            | 1,8             | 2800               | 9767E        |
| Polyurethane | 6,4            | 1,8             | 2800               | 9764E**      |
| Polyurethane | 6,4            | 2,4             | 2800               | 9768E        |
| Polyurethane | 6,4            | 3,1             | 2800               | 9769E        |
| Polyurethane | 6,4            | 3,6             | 2800               | 9770E        |
| Polyurethane | 6,4            | 6,1             | 2800               | 9771E        |
| Polyurethane | 6,4            | 15,3            | 2800               | 9772E        |
| Polyurethane | 6,4            | 22,9            | 2800               | 9750E        |
| Polyurethane | 6,4            | 30,5            | 2800               | 9751E        |

| Hose Type     | Hose I.D. (mm) | Hose Length (m) | Burst Rating (bar) | Order Number |
|---------------|----------------|-----------------|--------------------|--------------|
| Polyurethane* | 9,5            | 1,8             | 2800               | 9780E        |
| Polyurethane* | 9,5            | 3,1             | 2800               | 9781E        |
| Polyurethane* | 9,5            | 6,1             | 2800               | 9782E        |
| Polyurethane* | 9,5            | 15,3            | 2800               | 9783E        |

\* High Flow

\*\*Furnished with 9798 hose half coupler and 9800 dust cap.

Model Shown:  
**9775**



Accessories

**Features**

**NON-CONDUCTIVE HOSE**

- For applications requiring electrical isolation.
- 3/8" NPTF fittings on both ends
- Leakage factor of less than 50 micro-ampere.
- Orange polyurethane for easy identification.
- Covering is not perforated, preventing moisture from entering the hose and affecting its overall conductivity.
- Hoses feature a minimum 2800 bar burst pressure.



**BE SAFE!**

1. Inspect before and after each use.
2. Replace if any signs of degradation or wear that may affect safety or performance.
3. Keep the product clean.
4. Store properly.



**Torque Wrench Hoses - Non-Conductive Dual Line**



| Order Number | Hose Length (m) | Hose I.D. (mm) |
|--------------|-----------------|----------------|
| TWH15        | 4,6             | 6,4            |
| TWH20        | 6               | 6,4            |
| TWH30        | 15,2            | 6,4            |

For torque wrench tools, refer to the tool section.

**Ordering Information**

| Order Number | Couplers / Fitting | Hose I.D. (in.) | Hose Length (m) | Burst Rating (bar) |
|--------------|--------------------|-----------------|-----------------|--------------------|
| 9773         | 3/8" Fitting NPTF  | 6,4             | 1,8             | 2800               |
| 9774         | 3/8" Fitting NPTF  | 6,4             | 3,1             | 2800               |
| 9775         | 3/8" Fitting NPTF  | 6,4             | 6,1             | 2800               |

**CYLINDER AND HOSE COUPLERS** are designed for use up to 700 bar with hydraulic jacks, cylinders, etc. They are the threaded union type for interchanging cylinders in seconds. Each half is valved with a precision ball for a tight shutoff when disconnected. These couplers also permit the separation of cylinders or hose from pump when at 0 bar with minimal oil loss.

**NO SPILL, PUSH TO CONNECT COUPLERS** are designed to permit high oil flow, the no-spill, push-to-connect couplers with locking collar and flush face design are for high pressure applications. The flush-face concept makes it easy to clean both coupler ends before connecting. Our unique push-to-connect, “dry-break” design eliminates oil spillage. The locking collar makes accidental disconnects a thing of the past. For 700 bar operation.

|   | Order No. | Description   |  | Order No. | Description  |
|---|-----------|---|--|-----------|--|
|    | 9795      | Complete quick coupler with two 9800 dust caps, 3/8" NPTF.                            |     | 251410    | Quick-connect, screw-on female coupling. Used on 700 bar torque wrenches, nut-splitters, hoses, and pumps.<br>1/4" NPT Female Thread |
|   | 9798      | Male (hose) half coupler 3/8" NPTF. Includes half dust cap.                           |    | 251411    | Quick-connect, screw-on male nipple. Used on 700 bar torque wrenches, nut-splitters, hoses, and pumps.<br>1/4" NPT Female Thread     |
|  | 9796      | Female (cylinder) half coupler with 9800 dust cap, 3/8" NPTF.                         |  | 252364    | Metal dust cover for female coupler  |
|  | 9796-V*   | Female (cylinder) half coupler with Viton™ seals and 9797 metal dust cap, 3/8" NPTF.  |  | 252365    | Metal dust cover for male coupler  |
|  | 9796-E    | Female (cylinder) half coupler with EPR seals and No. 9797 metal dust cap, 3/8" NPTF. |  | 9792      | No-spill, push-to-connect, Female (cylinder) half quick coupler only. (Wt., 0,14 kg.)  |
|  | 9799      | Optional metal dust cap (hose half).  |  | 9793      | No-spill, push-to-connect, Male (hose) half quick coupler only. (Wt., 0,14 kg.)  |
|  | 9797      | Optional metal dust cap for cylinder half.  |  | 9794      | No-spill, push-to-connect, Complete quick coupler (male and female). Dust caps not included. (Wt., 0,23 kg.)                         |
|  | 9800      | Dust cap for male or female 3/8" NPTF half couplers. (Wt., 0,14 kg.)                  | * Viton™ is a trademark or registered trademark of The Chemours Company              |           |  |

Model Shown:  
**9040E**



Accessories

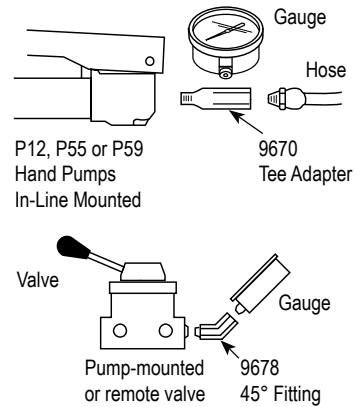
**Features**

**HEAVY-DUTY HYDRAULIC PRESSURE GAUGES**

- Gauges feature an easily readable and highly visible, red Day-glo® needle.
- High strength steel bourdon tube ensures high cycle life.
- Stainless steel cases and lens locking rings.
- Have 1/4" NPT connections.
- Gauges are calibrated and comply to ASME B40.1 GRADE B



**Typical Set-Up - Mounting Situations**



**Accessories for Analog Gauges**



**9046 - Silicone Fill Kit**

Silicone fill kit. 212 gr. Requires one bottle to fill 102 mm gauge; four bottles to fill 152 mm gauge.



**9049 - Dampener Fitting**

High-performance pulsation dampener. 1/4" NPTF male x 1/4" NPTF female.

**Ordering Information**

| Order Number | Face Dia. (mm) | Pressure Range (bar) | Tonnage Range (ton) | Major Graduations (bar)          | Minor Graduations (bar)  | Silicone Filled (Yes/No) | Use With Cylinder Series               |
|--------------|----------------|----------------------|---------------------|----------------------------------|--|--------------------------|--|
| 9040E        | 63,5           | 0 - 690              | -                   | 2000 psi, 100 bar                | 200 psi, 20 bar  | Yes                      | All                                    |
| 9052E        | 101,6          | 0 - 690              | -                   | 1000 psi, 100 bar                | 100 psi, 20 bar  | Yes                      | All                                    |
| 9053E        | 101,6          | 0 - 690              | 0-5                 | 2000 psi, 1 Ton                  | 200 psi, 0,1 Ton   | No                       | C & RLS                                |
| 9055E        | 101,6          | 0 - 690              | 0-10                | 2000 psi, 1 Ton                  | 200 psi, 0,1 Ton   | No*                      | C, RD, RH, RLS & RSS                   |
| 9057E        | 101,6          | 0 - 690              | 0-15                | 2000 psi, 1 Ton                  | 200 psi, 0,2 Ton   | Yes                      | C                                      |
| 9059E        | 101,6          | 0 - 690              | 0-17,5, 0-30, 0-50  | 2000 psi, 5 Ton                  | 200 psi, 0,5 Ton on 30, 50 Ton Scales; 0,2 Ton on 17,5 Ton Scale | No*                      | RT172, RT302, RT503                    |
| 9061E        | 101,6          | 0 - 690              | 0-20                | 2000 psi 5 Ton                   | 200 psi, 0,5 Ton   | Yes                      | RH, RLS, RSS                           |
| 9063E        | 101,6          | 0 - 690              | 0-25                | 2000 psi 5 Ton                   | 200 psi, 0,5 Ton   | No*                      | C & RD                                 |
| 9065E        | 101,6          | 0 - 690              | 0-30                | 2000 psi, 5 Ton                  | 200 psi, 0,5 Ton   | No*                      | RH†, RLS & RSS                         |
| 9067E        | 101,6          | 0 - 690              | 0-50                | 2000 psi, 5 Ton                  | 200 psi, 0,5 Ton   | No*                      | RH†, RLS & RSS                         |
| 9069E        | 101,6          | 0 - 690              | 0-55                | 2000 psi, 5 Ton                  | 200 psi 0,5 Ton  | No*                      | C, R, RA & RD                          |
| 9071E        | 101,6          | 0 - 690              | 0-60                | 2000 psi, 5 Ton                  | 200 psi, 1 Ton   | No*                      | RH, except RH6010                      |
| 9073E        | 101,6          | 0 - 690              | 0-75                | 2000 psi, 5 Ton                  | 200 psi, 1 Ton   | Yes                      | C, RLS & RD8013                        |
| 9075E        | 101,6          | 0 - 690              | 0-100               | 2000 psi, 10 Ton                 | 200 psi, 1 Ton   | No*                      | C, R, RA, RD, RH, RLS†, RSS† & RT1004† |
| 9077E        | 101,6          | 0 - 690              | 0-150               | 2000 psi, Initial 10 Then 20 Ton | 200 psi, 2 Ton   | No*                      | C, R, RD & RLS                         |
| 9079E        | 101,6          | 0 - 690              | 0-200               | 2000 psi, 20 Ton 10 Then 20 Ton  | 200 psi, 2 Ton   | No*                      | R, RD & RH†                            |
| 9089         | 152,4          | 0 - 690              | 0-690               | 1000 psi, 100 bar                | 100 psi, 10 bar  | No                       | All                                    |

\* Shipped "dry." User can convert to "wet" using liquid silicone No. 9046.

† The tonnage scale on the gauge may vary slightly among different series cylinders due to different effective area.

Model Shown:  
**DG100**



### Features

#### DG100 DIGITAL PRESSURE GAUGES

- Accurate to within 1%, Long-life pressure transducer.
- Pressure values are displayed on large red LEDs in 0,7 bar or bar increments.
- “Peak” hold feature with reset toggle switch and “Peak On” indicator; Hi/Low set point feature with relay outputs for Hi/Low alarms and/or control signals.
- A slow flashing display indicates pressure below the low limit. Fast blinking display alerts if limit is exceeded.
- High and low limit relays are rated to 5 amps at 115V.
- Operating temperature of -18 to 60°C for the electronic display and -29 to 82°C for the transducer.
- Gauge housings are extruded aluminum 1/8" DIN enclosures (NEMA 1 rating).
- When power cable is connected to gauge, display will scroll all characters, performing a self- diagnostic routine.
- 1/4" NPTF male threads for the pressure connection.
- 6-foot input signal cable connects to back of display unit.

Accessories



#### Typical Set-Up - Mounting Situations



- **DG100** (bar) digital gauge.
- **DG100B** (bar) digital gauge.

Upgrade to **DG100** or **DG100B** when:

- Hi/Low alarms required.
- Relays triggered by Hi/Low pressure.
- Pressure display needs to be remotely mounted from measurement location.
- Accurate within 1% @ Full Scale.



#### Accessories for DG100



##### 420778 - Digital Gauge Stand

Gauge stand for DG100. Has angled base mounting to hold gauge at a convenient viewing angle. Wt., 0,5 kg.



##### 37045 - Auxiliary Power Cord

Auxiliary power cord for use with any 12 or 24V battery. Wt., 0,1 kg. *Caution: For use on negative ground systems only.*

#### Ordering Information

| Order Number | Description            | Pressure Range (bar) | Prod. Wt. (kg) |
|--------------|------------------------|----------------------|----------------|
| DG100 *      | Digital pressure gauge | 0 - 700              | 1              |
| DG100B *     | Digital pressure gauge | 0 - 700              | 1              |

\* Serviced only at factory.

Model Shown:  
**9042DG, 9042DG1500**



Accessories

**Features**

- Digital gauge is easier to read and offers better accuracy than a conventional analog gauge.
- The laser welded stainless steel sensor & socket and the IP67 weatherproof rating make this product suitable for use in the most demanding of applications.
- Five pre-programmed engineering units allow technicians to read pressure in the unit of measure most applicable to the process.
- The gauge also features a bar graph display feature for enhanced visibility.
- Includes automatic-off battery conservation, pressure tare, minimum pressure memory and maximum pressure.
- Vibration & shock tested to MIL-STD-202G.
- Agency Compliance / Approval: RoHS, CE, ASME B40.7, UL, cUL 61010-1.
- The gauges are calibrated for life at the factory and can be certified in the field, if required.

▶ *Power Team's 9042DG was the perfect choice in accurately monitoring the force applied in this H frame press application.*

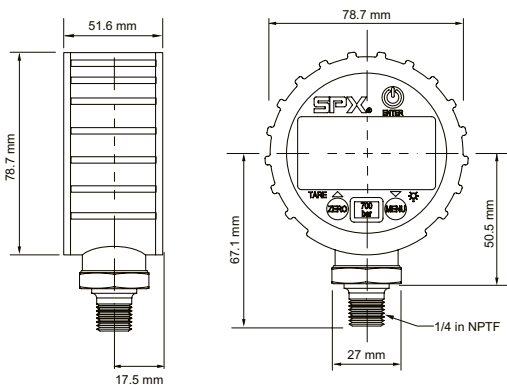


► Technical Attributes



- 1 Protective rubber boot
- 2 Back-light and large 12,2 mm display easy reading
- 3 Displays in multiple engineering units: psi, bar, mPa, inHg, kg/cm<sup>2</sup>
- 4 Weatherproof IP67 enclosure
- 5 2,000 hr. life, (2) AA (LR6) batteries
- 6 Typical Cycle Life: 10,000,000
- 7 1/4" NPTF Male Threads (9042DG); 9/16-18 UNF-2B (9042DG1500). High pressure 60° core port.

► Technical Specifications

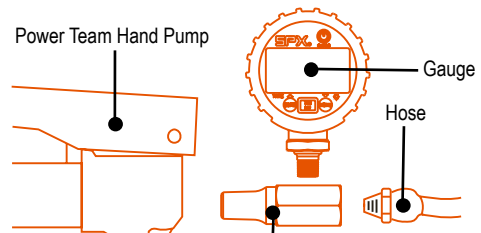


► Ordering Information

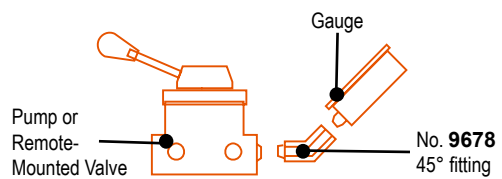
| Order No.  | Face Dia. (mm) | Rated Pressure (bar.) | Temp Range (°C) | Tool Use | IP Rating | Batteries Included | Battery Life (hrs.) | F.S. Accuracy | Prod. Weight (kg) |
|------------|----------------|-----------------------|-----------------|----------|-----------|--------------------|---------------------|---------------|-------------------|
| 9042DG     | 63,5           | 0-700                 | -20 to +60      | All      | IP67      | 2 x AA (LR6)       | 2000                | 0.50%         | 0,24              |
| 9042DG1500 | 63,5           | 0-1500                | -20 to +60      | All      | IP67      | 2 x AA (LR6)       | 2000                | 0.25%         | 0,24              |



Typical Mounting Setups for 9042DG



Tee adapter (No. 9670) is used for installing a gauge in line in a hydraulic circuit.



Hardware Requirements for 9042DG



- Does your pump have a 3/8" or 1/4" NPTF port?
- Are you direct-plumbing the gauge to your tool or seeking to quick-disconnect?
- Refer to the Power Team Catalog under the accessories section for a comprehensive range of fittings and couplers to meet your needs.




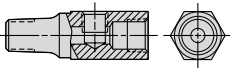
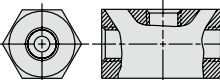
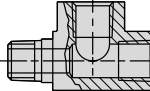
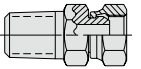
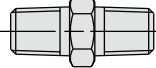
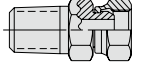
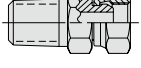
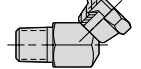
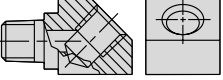
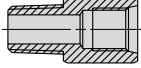
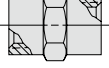
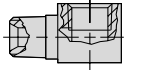
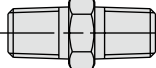
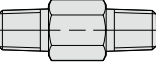
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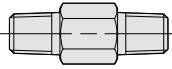

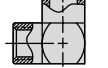
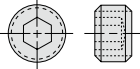
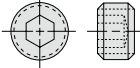
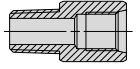
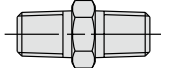
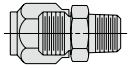
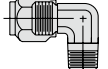

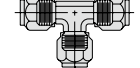
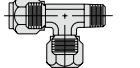
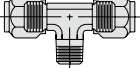
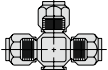
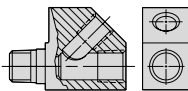
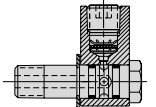
User programmable unit of measure allows you to set a custom scale to have the gauge display torque, force or weight to match the cylinder or tool being used.



Safety Tip

When using couplers to detach the gauge, always use a metal cover (ordered separately) on the pump side (female) coupler when the gauge is removed.

|   | Order No. | Description  |
|---|-----------|--|
|    | 9190      | <b>Hydraulic tubing.</b> 3/8" O.D. x .065" wall, 15,3 m. (10 pieces 1,53 m long.) Wt. 5,5 kg.  |
|    | 9670      | <b>Tee adapter.</b> For installing gauge between pump and hose coupling. Has 1/4" and 3/8" NPTF female and 3/8" NPTF male ports. Wt. 0,2 kg. |
|    | 9671      | <b>Double tee adapter.</b> Permits use of more than one cylinder in series with one pump. Three 3/8" NPTF female ports. Wt. 0,5 kg.          |
|    | 9672      | <b>Service tee.</b> Two 3/8" NPTF female internal, one 3/8" NPTF male external. Wt. 0,3 kg.  |
|    | 9673*     | <b>Swivel connector.</b> 3/8" NPSM male, 1/4" NPSM female. Wt. 0,1 kg.   |
|    | 9674      | <b>Male connector.</b> 43 mm long, 1/4" x 3/8" NPTF. Wt. 0,1 kg.   |
|    | 9675*     | <b>Swivel connector.</b> 3/8" NPTF male, 3/8" NPSM female. Wt. 0,1 kg.   |
|  | 9676*     | <b>Swivel connector.</b> 1/4" NPTF male, 3/8" NPSM female. Wt. 0,1 kg.   |
|  | 9677*     | <b>45° swivel connector.</b> 3/8" NPTF male, 3/8" NPSM female. Wt. 0,1 kg.   |
|  | 9678      | <b>45° fitting.</b> Used when mounting gauge at an angle on connection such as 9670. Male and female 1/4" NPTF ends. Wt. 0,1 kg.             |
|  | 9679      | <b>Connector.</b> 1/4" NPTF female and 3/8" NPTF male. Wt. 0,1 kg.   |
|  | 9680      | <b>Coupling.</b> Both ends 3/8" NPTF female. Wt. 0,1 kg.   |
|  | 9681      | <b>Street elbow.</b> Male and female 3/8" NPTF ends. Wt. 0,1 kg.   |
|  | 9682      | <b>Male connector.</b> 43 mm long, 3/8" NPTF male ends. Wt. 0,1 kg.  |
|  | 9683      | <b>Male connector.</b> 57 mm long, 3/8" NPTF male ends. Wt. 0,1 kg.  |

|  | Order No. | Description  |
|--|-----------|--|
|    | 9684      | <b>Male connector.</b> 57 mm long, 1/4" NPTF male ends. Wt. 0,1 kg.  |
|    | 9685      | <b>Coupling.</b> 1/4" NPTF female and 3/8" NPTF female. Wt. 0,1 kg.  |
|    | 9686      | <b>90° elbow.</b> 3/8" NPTF female ends. Wt. 0,2 kg.   |
|    | 9687      | <b>Pipe plug.</b> Heat-treated, 3/8" NPTF. Wt. 0,1 kg.   |
|    | 9688      | <b>Pipe plug.</b> Heat-treated, 1/4" NPTF. Wt. 0,1 kg.   |
|    | 9689      | <b>Connector.</b> 1/4" NPTF male and 3/8" NPTF female. Wt. 0,1 kg.   |
|    | 9690      | <b>Male connector.</b> 43 mm long, 1/4" NPTF male ends. Wt. 0,1 kg.  |
|   | 9692      | <b>Straight connector.</b> 3/8" tube x 3/8" male NPTF. Wt. 0,1 kg.   |
|  | 9693      | <b>90° elbow.</b> 3/8" tube x 3/8" male NPTF. Wt. 0,1 kg.  |
|  | 9694      | <b>45° elbow.</b> 3/8" tube x 1/4" male NPTF. Wt. 0,1 kg.  |
|  | 9695      | <b>Tee.</b> 3/8" tube. Wt. 0,1 kg.   |
|  | 9696      | <b>Male run tee.</b> 3/8" tube x 1/4" male NPTF. Wt. 0,1 kg.   |
|  | 9697      | <b>Male branch tee.</b> 3/8" tube x 1/4" male NPTF. Wt. 0,1 kg.  |
|  | 9698      | <b>Cross.</b> 3/8" tube. Wt. 0,2 kg.   |
|  | 9699      | <b>45° gauge fitting.</b> 3/8" NPTF male and female, and 1/4" NPTF female at 45°. Wt. 0,3 kg.  |
|  | 9705      | <b>Fitting, swivel.</b> 3/8" NPTF male to 3/8" NPTF female. 90° fitting with internal 370 micron screen. May be rotated 360° about male thread axis. |








\* **CAUTION:** On part numbers 9673, 9675, 9676 and 9677 the female swivel end of these adapters is a straight pipe thread (NPSM) with a 30° seat. All male pipe fittings that are used with these female swivel adapters must have an internal 30° seat in order to effect a proper seal. All Power Team male fittings are manufactured with a 30° seat except 9687 and 9688.

**NOTE:** Power Team hydraulic fittings are intended for use with our high pressure hydraulic products and are suitable for use at max. working pressures of 700 Bar unless otherwise noted.



MANIFOLD BLOCKS

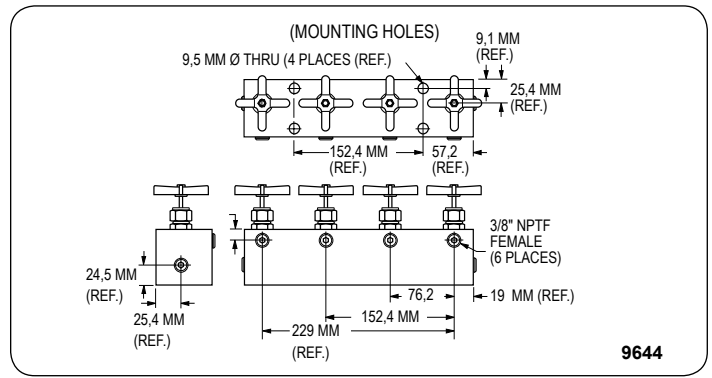
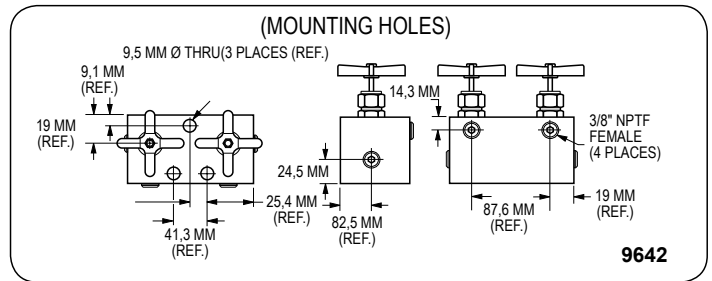
Select from a wide assortment of high pressure manifold blocks to customize your system.

|   | Order No. | Description   |
|---|-----------|---|
|    | 9691      | <b>"Y" Manifold.</b> Extremely useful when connecting two hydraulic cylinders to a single line. Has three 3/8" NPTF ports. Wt. 0,45 kg.   |
|    | 9634      | <b>Manifold block.</b> This manifold is for multiple-cylinder installations, has four 3/8" NPTF ports and two 6,4 mm mounting holes. 2" Square 1.5" thick. Wt. 0,7 kg.  |
|    | 9635      | <b>Manifold block.</b> This hex-shaped manifold offers extra versatility with six 3/8" NPTF ports and two 6,4 mm mounting holes. 2.5" Hex x 1.25 thick. Wt. 0,9 kg.   |
|    | 9617      | <b>Manifold block.</b> When a multiple-cylinder installation is required, this manifold is invaluable. Has six 3/8" NPTF ports to handle larger multiple-cylinder systems. Wt. 1,4 kg.  |
|   | 9648      | <b>Manifold block.</b> This 178 mm long manifold block has seven 3/8" NPTF ports and two 6,4 mm mounting holes. Wt. 1,2 kg.   |
|  | 9627      | <b>Manifold block.</b> This 406 mm long manifold block allows you to mount the 9575 or 9596 valves without interference. Has seven 3/8" NPTF ports and two 6,4 mm mounting holes. Wt. 2,7 kg.   |
|  | 9626      | <b>Pump-mounted, manifold block.</b> Converts pump-mounted valves for use with remote-mounted valves. This manifold block is sub-plate mounted on the pump cover plate and provides 3/8" NPTF pressure and return ports. Maximum recommended flow rate is 19 l/min.<br><b>Note:</b> If used on PE30 or PG30 series pump, 12,7 mm longer mounting screws are required. Order four (4) No. 11956 screws separately. |

MANIFOLD BLOCKS WITH NEEDLE VALVES

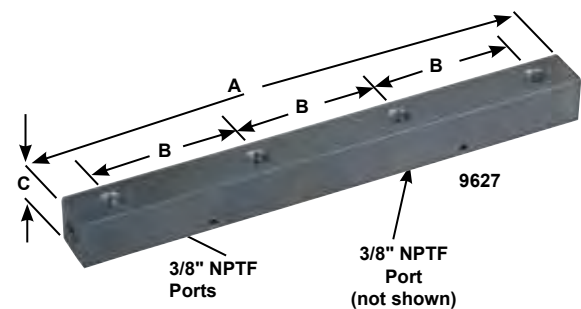
For independent multiple-cylinder operation, feature needle valves for precise manual control.

|  | Order No. | Description  |
|--|-----------|--|
|   | 9642      | <b>2-Port Manifold.</b> Manifold with two needle valves for control of two cylinders. Has four 3/8" NPTF ports. Wt. 3,7 kg.  |
|  | 9644      | <b>2-Port Manifold.</b> Manifold with four needle valves for control of four cylinders. Has six 3/8" NPTF ports. Wt. 7,3 kg. |



Technical Dimensions

| Manifold Number | A (mm) | B (mm) | C (mm) |
|-----------------|--------|--------|--------|
| 9617            | 177,8  | 38,1   | 38,1   |
| 9627            | 406,4  | 114,3  | 38,1   |
| 9648            | 177,8  | 38,1   | 38,1   |



# SHOP PRESSES














## THE PREFERRED CHOICE FOR HEAVY-DUTY, RIGID SHOP EQUIPMENT

Every piece of shop equipment goes through a detailed fabrication and assembly process, and is thoroughly inspected to ensure maximum performance in the field.

- Wide selection of H-Frame, C-Frame, and load positioning equipment to fit a wide range of applications.
- Turnkey models from available with a variety of power units ranging in manual, electric, air, and gas-driven variations.
- Array of reservoir sizes from 0,95 to 208 l.
- Valve configurations, such as dump, 2-way, 3-way and 4-way in manual and solenoid options.
- Hydraulic flow up to 6,9 l. @ 700 bar.





|   | Section / Series | Shop Equipment           | Cylinder Type                | Tonnage Range | Pages   |
|---|------------------|--------------------------|------------------------------|---------------|---------|
|    | Introduction     | —                        | —                            | —             | 147-148 |
|    | SPM, SPX         | C-Frame                  | Single-Acting, Spring Return | 25            | 149     |
|    | SPM, SPH, SPE    | H-Frame                  | Single-Acting Double-Acting  | 10            | 150     |
|   | SPA, SPM, SPE    | H-Frame Economy          | Single-Acting                | 25            | 151     |
|  | SPA, SPM, SPE    | H-Frame Open-End-Access™ | Single-Acting Double-Acting  | 25            | 152     |
|  | SPA, SPM, SPE    | H-Frame                  | Single-Acting Double-Acting  | 55            | 153     |
|  | SPM, SPE         | H-Frame                  | Single-Acting Double-Acting  | 100           | 154     |
|  | SPE              | H-Frame                  | Double-Acting                | 150-200       | 155-156 |
|  | RB               | H-Frame Roll-Bed®        | Double-Acting                | 80-200        | 157-158 |
|  | A                | Accessories              | —                            | —             | 159-160 |
|  | FC               | Floor Cranes             | —                            | —             | 161     |
|  | LR               | Load Rotors®             | —                            | 908-2720 kg   | 162     |



## SELECTING THE RIGHT SHOP EQUIPMENT:

**Step 1:** What is the largest size of material you will be working with on your application?

**Step 2:** What capacity, or pressure, is required to perform the work?

**Step 3:** What is the speed, or frequency, the press will be operated. (ad-hock or production use)?

## SHOP EQUIPMENT SIZING CONSIDERATIONS:

Knowing how a hydraulic press operates can help you determine whether or not you need one for your application. If a press is needed, ask yourself these four questions.

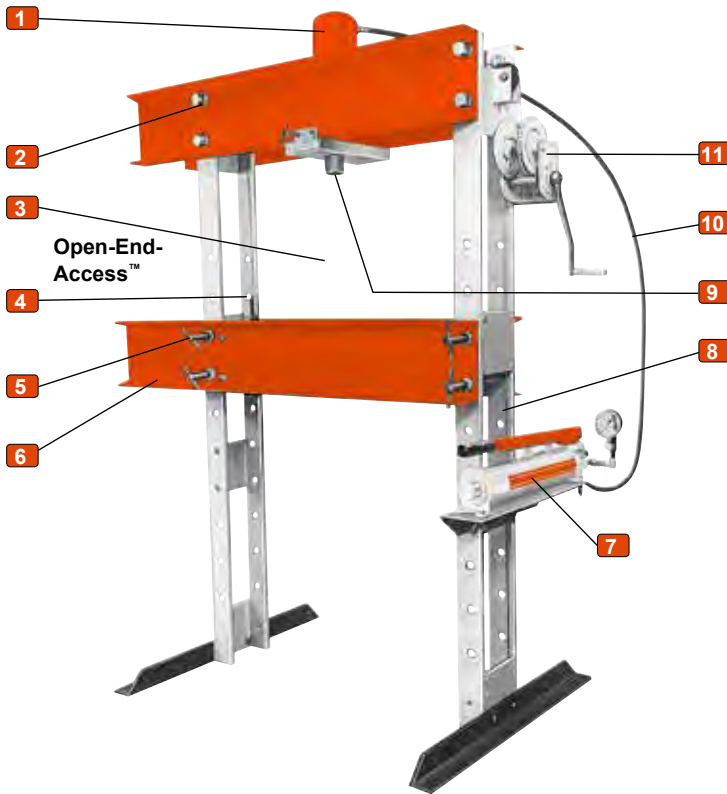
1. What is the size of the largest work piece?  
For arbor and H-Frame presses, this will dictate the throat size (horizontal opening) and daylight (vertical space required).
2. What pressure is required OR what capacity is required?  
For arbor presses and H-Frame presses this will dictate how much force is required to perform the pressing operation. It is recommended to always double the tonnage required.
3. What speed and/or frequency do I need to operate the press?
4. How many parts or operations per shift is required? If the required amounts are quite high, an electric or air model power pump would be more suited verses a manual hand pump.

When selecting Power Team's Shop Equipment, you will need to select the type of press style, cylinder size and prime mover to operate and control the press.

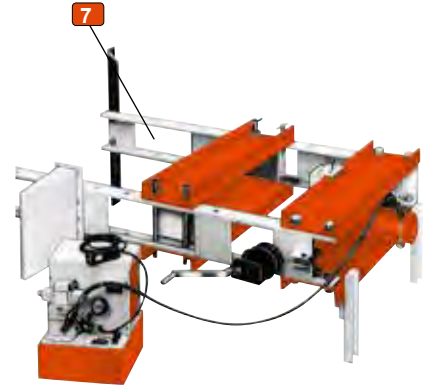
Basic components for our shop equipment:

- A pump (or prime mover) is used to transfer the oil from a reservoir out to the tool. This can be in the form of an electric, air or manual pump.
- A control valve is used to divert or meter the flow / direction / volume of the oil out to the tool.
- A cylinder or work-head is used to fill the area above the piston cap with oil through the A-port. This forces the piston down.
- The control valve then redirects the oil either to the B-port for double-acting cylinders or diverts it back to the reservoir on spring return single-acting cylinders.





Horizontal pressing capabilities



**▲ IMPORTANT SAFETY INFORMATION:**

Power Team has protective blankets available which may afford protection from injury to users and others should part breakage occur. Power Team recommends the use of these blankets for all pushing, pulling, pressing, and lifting applications.

**1 2 to 1 safety factor**

Hydraulic cylinders meet ASME B30.1 standards. Single or double-acting cylinders are available.

**2 Full rated capacity** Across width of upper frame, even with work-head moved to one side. (Heavy-duty presses only).

**3 Larger work area** than most competitors' models.

**4 Alignment lever** for simple pin replacement after raising or lowering the bed.

**5 Close manufacturing tolerance** allows even load distribution over four alloy steel pins, not two, like some competitors. (Heavy-duty presses only).

**6 Open-end-access™ feature**

on 25 ton press provides additional work area by mounting cylinder on outside for C-frame advantage.

**7 Electric, air or hand hydraulic pumps** are available. All are standard Power Team pumps. Externally-adjustable relief valve for precise operator control of working pressure is standard on all electric pumps (except PE10 and PE17 series.) **A 24V hand switch** for remote control on pumps equipped with solenoid valves.

**NOTE:** CSA approved electric pumps are standard on all presses.

**8 Rugged uprights**, 50 % stronger than channel iron. Four post design means open side for easy loading of long material.

**9 Fast cylinder approach** to work provided by 2-speed hand, air or electric pumps.

**10 3/8" I.D. hose** on spring return cylinders on heavy-duty presses provides up to six times faster cylinder return than standard 1/4" I.D. hose.

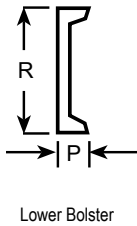
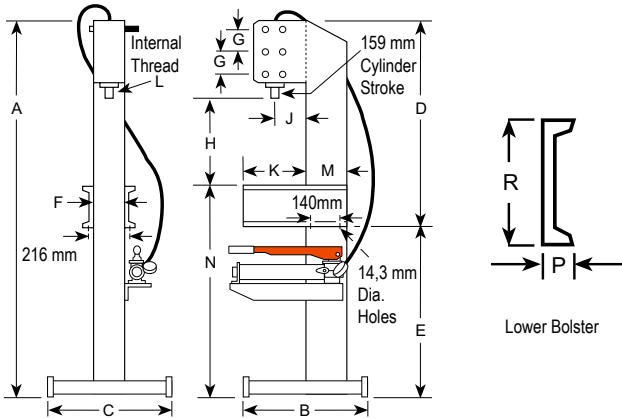
**11 One-Person operation** for bed adjustment. Winch unit quickly raises or lowers bed to desired height. Self-locking winch mechanism prevents bed from dropping when handle is released.

**12 Frames can be used horizontally** for pressing jobs on extra-long shafts.

**NOTE:** Certain features do not apply to Power Team 10 ton, Roll-Bed®, or economy presses.

**NOTE:** Certain press applications may require guarding. Because of the multitude of possible press uses, it is impossible to design a guard that will meet every customer need. The end-user must provide their own guarding where the situations dictate.

Model Shown:  
**SPM256C**



Lower Bolster

**Features**

**C-FRAME PRESSES**

- Open-End-Access™ design makes loading and unloading of work easy.
- Bench mount requires less than 1,4 sq. mm. of space.
- Cylinder head adjusts to three convenient working positions, providing up to 51 cm of “daylight.”
- Can be bench-mounted or mounted on optional base.
- Hydraulic cylinder delivers a 15 cm stroke and is driven by a P59 two-speed hand pump.



**Optional Pedestal Base**



No. 60846 – Provides a stable base for SPM256C. Includes a bracket for mounting the pump on the side of pedestal press. Only 0,37 sq. m. of floor space is needed. Wt., 76 lbs.



**Technical Dimensions**

| A    | B    | C    | D     | E    | F    | G    | Cyl. Retracted |      | J    | K    | L     | M         | N    | P     | R    | Floor Space |           |
|------|------|------|-------|------|------|------|----------------|------|------|------|-------|-----------|------|-------|------|-------------|-----------|
| (mm) | (mm) | (mm) | (mm)  | (mm) | (mm) | (mm) | (mm)           | (mm) | (mm) | (mm) | (in.) | (mm)      | (mm) | (mm)  | (mm) | (mm)        |           |
| 1972 | 622  | 610  | 1.057 | 914  | 152  | 127  | 260            | 387  | 514  | 165  | 318   | 11/2 – 16 | 203  | 1.092 | 51   | 178         | 610 x 622 |

**Ordering Information**

| Order No.        | Cap. (tons) | Type Cyl. Used | Stroke (mm) | Cyl. Model | Speed †† Advance Pressing |               | Type of Pump | Pump Model | Prod. Wt. (kg) |
|------------------|-------------|----------------|-------------|------------|---------------------------|---------------|--------------|------------|----------------|
|                  |             |                |             |            | (mm / stroke)             | (mm / stroke) |              |            |                |
| <b>SPM256C *</b> | 25          | Single-Acting  | 159         | C256C      | 3,3                       | 0,8           | Hand         | P59        | 108            |

\* SPM256C does not include No. 60846 pedestal base.

†† Typical performance based on pump specifications. Actual speeds may vary with operating conditions.

Shop Equip.

Model Shown:

SP1010A, SPM1010



Features

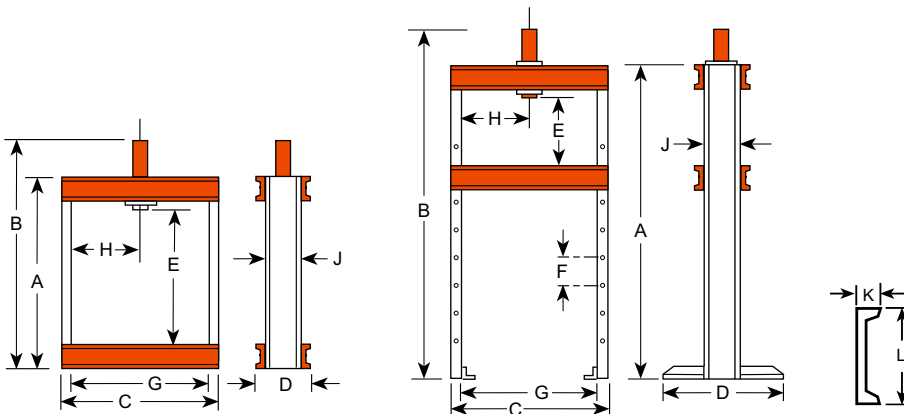
H-FRAME

- Ideal for small pressing jobs, repairing small motor armatures, removing and installing gears, bearings, other press-fit parts.
- Bench press has 391 x 457 mm work area. Floor press bed height is adjustable from 127 to 1041 mm with horizontal "daylight" of 553 mm.
- Choices of power sources include: single-speed hand pump, electric/hydraulic or air/hydraulic.
- Hydraulic gauges, hoses and fittings included.



Pump Electrical Specifications

PE10-220 Series – 1/4 hp, 230V, 50 cycle, single-phase.



Shop Equip.

Technical Dimensions

| Frame | A    | B    | C    | D    | E        | F    | G    | H        | J    | K    | L    | Bench Space<br>(mm) | Floor Space<br>(mm) |
|-------|------|------|------|------|----------|------|------|----------|------|------|------|---------------------|---------------------|
|       | (mm) | (mm) | (mm) | (mm) | (mm)     | (mm) | (mm) | (mm)     | (mm) | (mm) | (mm) |                     |                     |
| Bench | 622  | 841  | 641  | 182  | 391      | —    | 559  | 279      | 102  | 40   | 102  | 182 x 641           | —                   |
| Floor | 1499 | 1718 | 641  | 711  | 127-1041 | 152  | 559  | 63,5-470 | 102  | 40   | 102  | —                   | 711 x 730           |

Ordering Information

| Order No. | Frame        | Cap.<br>(tons) | Type<br>Cyl. Used | Stroke<br>(mm) | Cyl.<br>Model | Speed ††<br>Advance Pressing |               | Type of<br>Pump | Pump<br>Model | Prod.<br>Wt.<br>(kg) |
|-----------|--------------|----------------|-------------------|----------------|---------------|------------------------------|---------------|-----------------|---------------|----------------------|
|           |              |                |                   |                |               | (mm / min.)                  | (mm / min.)   |                 |               |                      |
| SPM1010   | 222481 Bench | 10             | Single-Acting     | 257            | C1010C        | 1,5 mm/stroke                | 1,5 mm/stroke | Hand            | P55           | 41,2                 |
| SPH1010   | 222480 Floor | 10             | Single-Acting     | 257            | C1010C        | 1,5 mm/stroke                | 1,5 mm/stroke | Hand            | P55           | 77,5                 |
| SPE1010   | 222480 Floor | 10             | Single-Acting     | 257            | C1010C        | 55,7                         | 5,1           | Elec. †         | PE102         | 79,3                 |
| SP1010A   | 222480 Floor | 10             | Single-Acting     | 257            | C1010C        | 93,7                         | 7,6           | Air             | PA9H          | 78,1                 |
| SPE1010D  | 222480 Floor | 10             | Double-Acting     | 257            | RD1010        | 55,7                         | 5,1           | Elec. †         | PE10          | 87,0                 |

† "Advance" position holds pressure with motor shut-off. "Return" position advances cylinder with motor running and returns cylinder with motor shut-off.

†† Typical performance based on 7 bar and 700 bar pump specifications. Actual speeds may vary with operating conditions.

Model Shown:  
**SPE256**

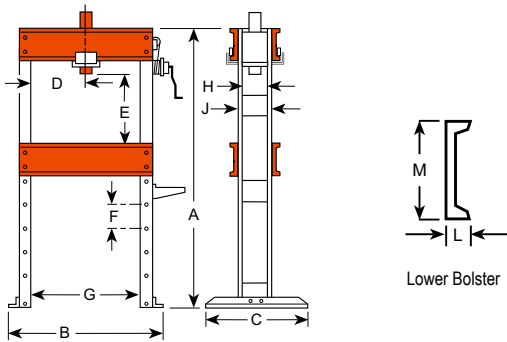


**Features**

**ECONOMY PRESSES**

- Rugged, yet reasonably priced. Handles many “big press” tasks, and perfect for many of the “in-between” jobs you see almost daily.
- Press bed height easily adjustable with winch. Bed will not drop when handle is released.
- Choice of power sources for rapid cylinder advance: two-speed hydraulic hand pump, electric/hydraulic or air/hydraulic. (**Note:** Stroke length limited to 159 mm on economy models).

Shop Equip.



**Pump Electrical Specifications**

| Pump Series | Description                           |
|-------------|---------------------------------------|
| PE17-220    | 0,4 Kw, 230V, 50 cycle, single-phase. |
| PE21-220    | 1 hp, 230V, 50 cycle, single-phase.   |

**Technical Dimensions**

| A    | B    | C    | D*     | E        | F    | G    | H    | J    | K    | L    | M    | Floor Space |
|------|------|------|--------|----------|------|------|------|------|------|------|------|-------------|
| (mm) | (mm) | (mm) | (mm)   | (mm)     | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm)        |
| 1727 | 1092 | 711  | 76-737 | 175-1102 | 114  | 813  | 140  | 165  | 178  | 64   | 203  | 1092 x 711  |

\* Lateral head movement

**Ordering Information**

| Order No. | Cap. (tons) | Type Cyl. Used | Stroke (mm) | Cyl. Model | Speed †† Advance Pressing |               | Type of Pump | Valve Type   | Pump ‡ Model | Prod. Wt. (kg) |
|-----------|-------------|----------------|-------------|------------|---------------------------|---------------|--------------|--------------|--------------|----------------|
|           |             |                |             |            | (mm / min.)               | (mm / min.)   |              |              |              |                |
| SPA256    | 25          | Single-Acting  | 159         | SPA256     | 249                       | 30            | Air.         | 2-Way Foot   | PA6          | 197            |
| SPM256    | 25          | Single-Acting  | 159         | SPM256     | 3,0 mm/stroke             | 0,8 mm/stroke | Hand.        | Load Release | P59          | 205            |
| SPE256    | 25          | Single-Acting  | 159         | SPE256     | 1184                      | 84            | Elec.        | 2-Way †      | PE172        | 210            |

† Holds pressure with motor shut-off. Also has an automatic dump setting. Furnished with a 3,1 m remote motor control.

†† Typical performance based on 7 bar and 700 bar pump specifications. Actual speeds may vary under operating conditions.

‡ Pump standard with press. Other Power Team pumps can be substituted. dBA at idle and 700 bar: PE172-67/81 dBA; PE21-70; dBA measured at 0,9 m distance, all sides.



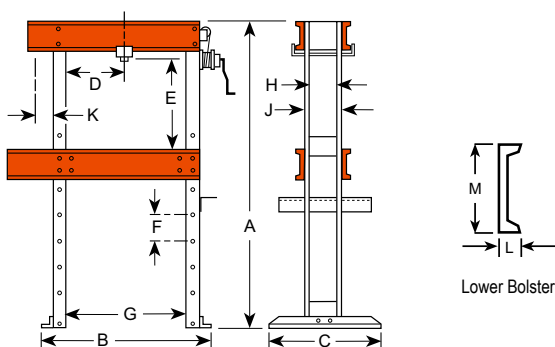
Model Shown:  
SPE2514



Features

OPEN-END-ACCESS™ PRESSES

- Design permits use as both H-Frame and C-Frame press. Cylinder can be mounted on frame extension to handle jobs which won't fit between uprights.
- Open-end-Access™ press models are also available with remote control to enable the operator to view work from all sides with fingertip control of cylinder piston travel.
- Off-center pressing loads of full capacity can be applied across entire width of frame.
- Press bed height easily adjustable with winch. Bed will not drop when handle is released.
- Choice of power sources for rapid cylinder advance: two-speed hydraulic hand pump, electric/hydraulic or air/hydraulic.



Pump Electrical Specifications

| Pump Series | Description                           |
|-------------|---------------------------------------|
| PE17-220    | 0,4 Kw, 230V, 50 cycle, single-phase. |
| PE21-220    | 1 hp, 230V, 50 cycle, single-phase.   |

Shop Equip.

Technical Dimensions

| A    | B    | C    | D*       | E       | F    | G    | H    | J    | K    | L    | M          | Floor Space |
|------|------|------|----------|---------|------|------|------|------|------|------|------------|-------------|
| (mm) | (mm) | (mm) | (mm)     | (mm)    | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm)       | (mm)        |
| 1962 | 1626 | 914  | 178-1092 | 51-1067 | 203  | 1270 | 203  | 254  | 86   | 381  | 914 x 1988 | 43 x 28     |

\* Lateral head movement

Ordering Information

| Order No. | Cap. (tons) | Type Cyl. Used | Stroke (mm) | Cyl. Model | Speed ††† Advance Pressing |               | Type of Pump | Valve Type   | Pump ‡ Model | Prod. Wt. (kg) |
|-----------|-------------|----------------|-------------|------------|----------------------------|---------------|--------------|--------------|--------------|----------------|
|           |             |                |             |            | (mm / min)                 | (mm / min)    |              |              |              |                |
| SPA2514   | 25          | Single-Acting  | 362         | C2514C     | 249                        | 30            | Air          | 2-Way Foot   | PA6          | 309            |
| SPM2514   | 25          | Single-Acting  | 362         | C2514C     | 12,4 mm/stroke             | 0,8 mm/stroke | Hand         | Load Release | P159         | 314            |
| SPE2514   | 25          | Single-Acting  | 362         | C2514C     | 1184                       | 84            | Elec.        | 2-Way ††     | PE172        | 301            |
| SPE2514S  | 25          | Single-Acting  | 362         | C2514C     | 1321                       | 102           | Elec.        | 3-Way †      | PE213S       | 344            |
| SPE2514DS | 25          | Double-Acting  | 362         | RD2514     | 1321                       | 102           | Elec.        | 4-Way †      | PE214S       | 357            |

† Solenoid valve with 24V remote control hand switch.

†† Holds pressure with motor shut-off. Also has an automatic dump setting. Furnished with a 3,1 m remote motor control.

††† Typical performance based on 7 bar and 700 bar pump specifications. Actual speeds may vary under operating conditions.

‡ Pump standard with press.

Other Power Team pumps can be substituted. dBA at idle and 700 bar: PE172-67/81; PE21-70; PQ60-74/76 measured at 0,9 m distance, all sides.

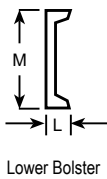
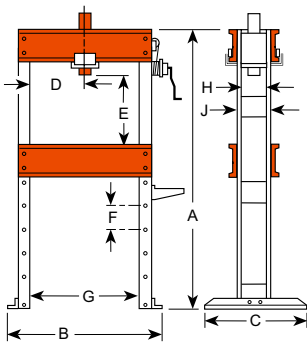
NOTE: Frame is shipped assembled

Model Shown:  
**SPE5513DS**



Hydraulic gauge and hydraulic fittings are included with presses.

Shop Equip.



Lower Bolster

**Features**

**H-FRAME SHOP PRESS**

- Full off-center pressing at full rated capacity across width of upper frame without buckling or bending.
- Maximum "daylight" is 1067 x 914 mm, making positioning of even bulky work pieces easy.
- Height of press bed is easily adjusted with winch. Friction brake prevents bed from dropping and handle from spinning upon release.
- Presses with single-acting cylinders offer choice of 2-speed hand operated, electric/hydraulic, or air/hydraulic pump. Models with double-acting cylinders have an electric/hydraulic pump.
- Press models equipped with remote control enable operator to view work from all sides with fingertip control of cylinder piston travel.
- Press can be used horizontally for special applications with user-supplied support legs.



**Pump Electrical Specifications**

| Pump Series | Description                         |
|-------------|-------------------------------------|
| PQ60-220    | 2 hp, 230V, 50 cycle, single-phase. |



**Straightening Fixtures**



**No. SF50** – Straightening fixtures for use with 55-ton shop or 80-ton Roll-Bed® presses (2 ea). Wt., 47,2 kg.

**Not part of press, order separately.**

**Technical Dimensions**

| A    | B    | C    | D*     | E        | F    | G    | H    | J    | L    | M    | Floor Space |
|------|------|------|--------|----------|------|------|------|------|------|------|-------------|
| (mm) | (mm) | (mm) | (mm)   | (mm)     | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm)        |
| 1829 | 1232 | 914  | 83-832 | 152-1067 | 152  | 914  | 171  | 203  | 76   | 305  | 1232 x 914  |

\* Lateral head movement

**Ordering Information**

| Order No. | Cap. (tons) | Type Cyl. Used | Stroke (mm) | Cyl. Model | Speed ††† Advance Pressing |               | Type of Pump | Valve Type   | Pump ‡ Model | Prod. Wt. (kg) |
|-----------|-------------|----------------|-------------|------------|----------------------------|---------------|--------------|--------------|--------------|----------------|
|           |             |                |             |            | (mm / min)                 | (mm / min)    |              |              |              |                |
| SPA556    | 55          | Single-Acting  | 159         | C556C      | 114                        | 12,7          | Air          | 2-Way Foot   | PA6          | 318            |
| SPM556    | 55          | Single-Acting  | 159         | C556C      | 5,8 mm/stroke              | 0,4 mm/stroke | Hand         | Load Release | P159         | 232            |
| SPM5513   | 55          | Single-Acting  | 337         | C5513C     | 18,9 mm/stroke             | 0,7 mm/stroke | Elec.        | 2-Way        | P460         | 435            |
| SPE556    | 55          | Single-Acting  | 159         | C556C      | 551                        | 38            | Elec.        | 2-Way ††     | PE172        | 333            |
| SPE556    | 55          | Single-Acting  | 337         | C5513C     | 551                        | 38            | Elec.        | 2-Way ††     | PE172        | 444            |
| SPE5513   | 55          | Single-Acting  | 337         | C5513C     | 620                        | 48            | Elec.        | 3-Way †      | PE213S       | 478            |
| SPE5513D  | 55          | Double-Acting  | 337         | RD5513     | 551                        | 38            | Elec.        | 4-Way        | PE174        | 450            |
| SPE5513DS | 55          | Double-Acting  | 337         | RD5513     | 1679                       | 137           | Elec.        | 4-Way †      | PQ604S       | 505            |

† Solenoid valve with 24V remote control hand switch.

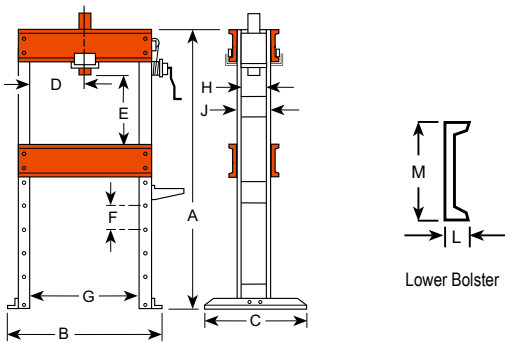
†† Holds pressure with motor shut-off. Also has an automatic dump setting. Furnished with a 3,1 m remote motor control.

††† Typical performance based on 7 bar and 700 bar pump specifications. Actual speeds may vary with operating conditions.

‡ Pump standard with press. Other Power Team pumps can be substituted. dBA at idle and 700 bar: PE172—67/81; PE21 Series—70; PQ60—74/76; measured at 0,9 m distance, all sides.

**NOTE:** Frame is shipped assembled.

Model Shown:  
**SPE10013DS**



► **Features**

**H-FRAME SHOP PRESS**

- Cylinder work-head glides across upper frame on rollers, locks in place for off-center pressing jobs. May be used horizontally for special pressing applications with user-supplied supports.
- Press bed is raised and lowered by winch which locks in place for insertion of bed retaining pins. Upper bolster can be lowered 203 mm for convenient positioning on repetitive jobs.
- Generous “daylight” of 1067 x 1270 mm accommodates bulky work pieces, uprights are placed for easy side entry of bars or shafts for straightening or bending.
- Choice of single or double-acting cylinder. Hydraulic pump options include: 2-speed hand pump with large 7,6 l reservoir, PE172 electric/hydraulic pump or “PQ” series “Quiet” electric/hydraulic pump with low noise level.



**Pump Electrical Specifications**

| Pump Series | Description                           |
|-------------|---------------------------------------|
| PE17-220    | 0,4 Kw, 230V, 50 cycle, single-phase. |
| PQ60-220    | 2 hp, 230V, 50 cycle, single-phase.   |
| PQ120-220   | 2,24 KW, 460V, 60 cycle, three-phase. |

\* To order 380V, 50 cycle, add suffix “-380” to order no.



**Straightening Fixtures**



**No. SF150** – Straightening fixtures for use with 100 ton shop press and 100, 150, and 200 ton Roll-Bed® presses (2 ea).  
Wt., 89 kg.  
**Not part of press, order separately.**

► **Technical Dimensions**

| A    | B    | C    | D*       | E       | F    | G    | H    | J    | L    | M    | Floor Space |
|------|------|------|----------|---------|------|------|------|------|------|------|-------------|
| (mm) | (mm) | (mm) | (mm)     | (mm)    | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm)        |
| 1962 | 1626 | 914  | 178-1092 | 51-1067 | 203  | 1270 | 203  | 254  | 86   | 381  | 914 x 1988  |

\* Lateral head movement

► **Ordering Information**

| Order No.  | Cap. (tons) | Type Cyl. Used | Stroke (mm) | Cyl. Model | Speed ††                    |               | Type of Pump | Valve Type | Pump ‡ Model | Prod. Wt. (kg) |
|------------|-------------|----------------|-------------|------------|-----------------------------|---------------|--------------|------------|--------------|----------------|
|            |             |                |             |            | Advance Pressing (mm / min) | (mm / min)    |              |            |              |                |
| SPM10010   | 100         | Single-Acting  | 260         | C10010C    | 9,0 mm/stroke               | 0,3 mm/stroke | Hand         | 3-Way      | P460         | 769            |
| SPE10010   | 100         | Single-Acting  | 260         | C10010C    | 889                         | 74            | Elec.        | 3-Way      | PQ603        | 813            |
| SPE10010R  | 100         | Single-Acting  | 260         | C10010C    | 292                         | 20            | Elec.        | 2-Way      | PE172        | 766            |
| SPE10013DS | 100         | Double-Acting  | 330         | RD10013    | 889                         | 147           | Elec.        | 4-Way †    | PQ1204S      | 854            |

† Solenoid valve with 24V remote control hand switch.

†† Typical performance based on 7 bar and 700 bar pump specifications. Actual speeds may vary under operating conditions.

‡ Pump standard with press. Other Power Team pumps can be substituted. dBA at idle and 700 bar: PE172—67/81; PQ60—74/76; PQ120—73/78. Measured at 0,9 m distance, all sides.

NOTE: Frame is shipped assembled.

Model Shown:  
**SPE20013DS**



Hydraulic gauge and hydraulic fittings are included with presses.

Shop Equip.

**Features**

**H-FRAME SHOP PRESS**

- Standing 2,3 m tall, these giants handle the really big jobs.
- May be used horizontally for special pressing applications with user-supplied supports.
- Work-head has wide horizontal travel. Rugged press frame withstands load of rated capacity across full width of frame.
- Winch mechanism provides easy positioning of press bed, locks in place for insertion of retaining pins.
- Upper bolster can be lowered 279 mm for convenient positioning on repetitive jobs.
- Uprights are placed for easy side entry of bars or shafts for straightening or bending.
- Fast cylinder approach is provided by PQ1204S "Quiet" electric/hydraulic pump.
- Remote control hand switch, enables operator to view work from all sides with fingertip control of cylinder piston travel.



**Pump Electrical Specifications**

| Pump Series  | Description                       |
|--------------|-----------------------------------|
| PQ1204S-E380 | 2,24 Kw, 400V, 50Hz, three-phase. |

**NOTE:** To order press with 230V, 60 cycle, single-phase pump, order press less PQ1204S. Order pump No. PQ604S separately.



**Optional HD Straightening Fixtures**



**No. SF150** – Straightening fixtures for use with 100 ton shop press and 100, 150, and 200 ton Roll-Bed® presses (2 ea). Wt., 89 kg.

**Not part of press, order separately.**



Adjustable head accommodates a wide array of applications



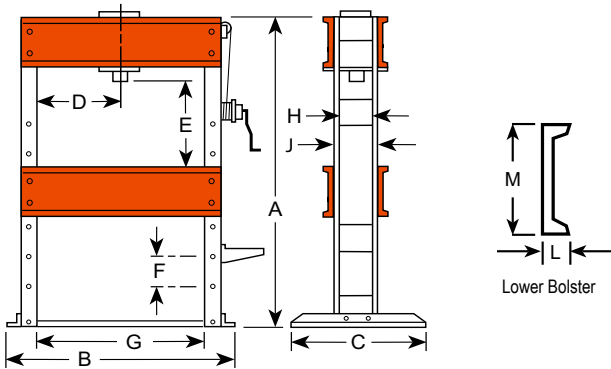
Winch provides easy positioning of press bed



Large footing for a solid base and stability



PQ120 Series pump provides the pressure and control



► Technical Dimensions

| A    | B    | C    | D*      | E        | F    | G     | H    | J    | L    | M    | Floor Space |
|------|------|------|---------|----------|------|-------|------|------|------|------|-------------|
| (mm) | (mm) | (mm) | (mm)    | (mm)     | (mm) | (mm)  | (mm) | (mm) | (mm) | (mm) | (mm)        |
| 2286 | 1803 | 1118 | 279-991 | 228-1111 | 279  | 1.270 | 318  | 381  | 105  | 457  | 1117 x 1803 |

\* Lateral head movement

► Ordering Information

| Order No.  | Cap. (tons) | Type Cyl. Used | Stroke (mm) | Cyl. Model | Speed † Advance Pressing |            | Type of Pump | Valve Type | Pump ‡ Model | Prod. Wt. (kg) |
|------------|-------------|----------------|-------------|------------|--------------------------|------------|--------------|------------|--------------|----------------|
|            |             |                |             |            | (mm / min)               | (mm / min) |              |            |              |                |
| SPE15013DS | 150         | Double-Acting  | 333         | RD15013    | 610                      | 99         | Elec.        | 4-Way *    | PQ1204S-E380 | 1366           |
| SPE20013DS | 200         | Double-Acting  | 333         | RD20013    | 457                      | 74         | Elec.        | 4-Way *    | PQ1204S-E380 | 1484           |

\* Solenoid valve with 24V remote control hand switch.

† Typical performance based on 7 bar and 700 bar pump specifications. Actual speeds may vary under operating conditions.

‡ Pump standard with press. dBA at idle and 700 bar: 73/78, measured at 0,9 m distance, all sides.

NOTE: Frame is shipped assembled.

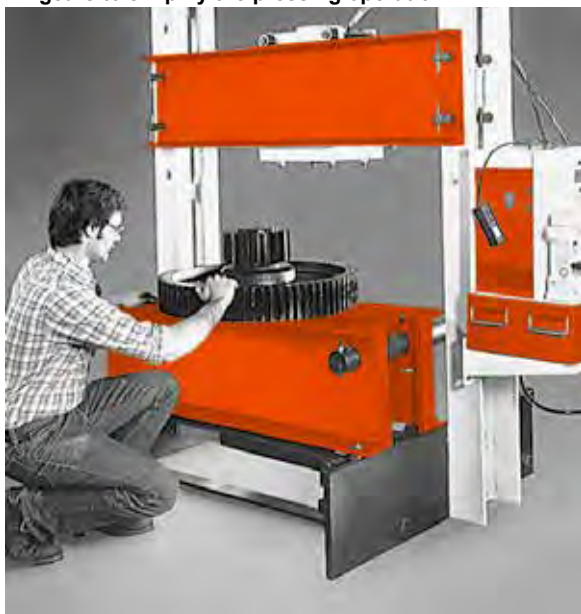
Shop Equip.

Model Shown:  
**RB10013S**



Hydraulic gauge and hydraulic fittings are included with presses.

▶ **Roll-bell enables easy loading and unloading of large gears to simplify the pressing operation**



**Features**

**H-FRAME ROLL-BED® PRESS**

- The original, patented Roll-Bed® extends out for easy loading and unloading with a crane or other lifting device, supporting loads up to 1361 kg.
- Movable work-head glides easily side-to-side for full off-center load capacity across width of upper frame.
- “Daylight” is 1283 x 1524 mm for 80 and 100 ton models; 1302 x 1625 mm on 150 and 200 ton presses.
- Fast approach of double-acting, 334 mm stroke cylinder is provided by PQ1204S “Quiet” electric/hydraulic pump with remote control hand switch. Operator can view work from all sides with fingertip control of cylinder piston travel.
- Adjustable lower bed width for secure balancing and centering of heavy jobs.
- Lifting mechanism has a turn crank handle to raise or lower upper bolster (a heavy-duty 1/2" drill motor can replace handle for automatic adjustment). Four locking pins hold bolster in place for pressing.



**Optional HD Straightening Fixtures**



**No. SF50** – Straightening fixtures for use with 55-ton shop or 80 ton Roll-Bed® presses (2 ea). Wt., 47,2 kg.

**Not part of press, order separately.**



**No. SF150** – Straightening fixtures for use with 100 ton shop press and 100, 150, and 200 ton Roll-Bed® presses (2 ea). Wt., 89 kg.

**Not part of press, order separately.**



**Pump Electrical Specifications**

| Pump Series | Description                           |
|-------------|---------------------------------------|
| PQ120       | 2,24 Kw, 380V, 50 cycle, three-phase. |

**NOTE:** To order press with a 230V, 50 cycle, single-phase pump, order press less PQ1204S. Order pump No. PQ604S separately.

**NOTE:** Different voltage and valve options can be obtained by substituting certain PA, PE or PQ series pumps. Consult the factory.



Lifting screw and locking pins make bolster raising a one-man job.



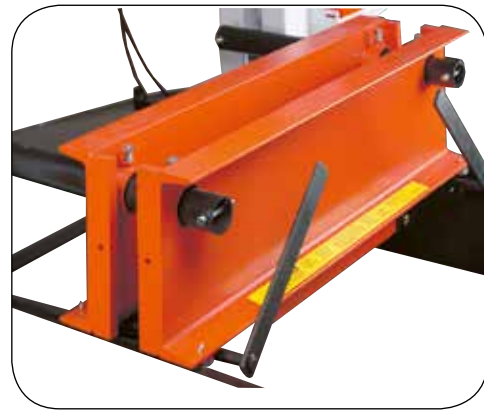
Bearings make bed positioning smooth and easy.



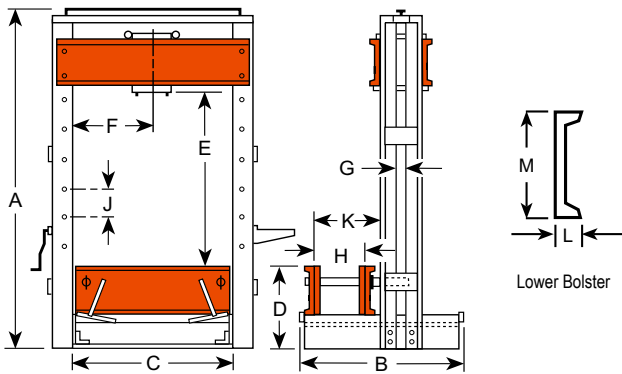
Lever lowers bed for pressing, raises it for rolling.



Cylinder is easily moved across width of upper bolster.



Width adjusts from 102 mm to over 686 mm; is secured with locking bolts.



Lower Bolster

► Technical Dimensions

| Cap.<br>(Tons) | A<br>(mm) | B<br>(mm) | C<br>(mm) | D<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) | H<br>(mm) | J<br>(mm) | K<br>(mm) | L<br>(mm) | M<br>(mm) | Floor Space<br>(mm) |
|----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------------------|
| 80             | 2861      | 1632      | 1283      | 686       | 305-1524  | 368-914   | 76,2      | 102-692   | 203       | 927       | 86        | 381       | 1632-1537           |
| 100            | 2861      | 1632      | 1283      | 686       | 305-1524  | 368-914   | 76,2      | 102-692   | 203       | 927       | 86        | 381       | 1632-1537           |
| 150            | 3131      | 1734      | 1302      | 762       | 229-1626  | 352-949   | 76,2      | 102-689   | 279       | 946       | 105       | 457       | 1734-1607           |
| 200            | 3131      | 1734      | 1302      | 762       | 229-1626  | 352-949   | 76,2      | 102-689   | 279       | 946       | 105       | 457       | 1734-1607           |

► Ordering Information

| Order No. | Cap.<br>(tons) | Type Cyl. Used | Stroke<br>(mm) | Cyl. Model | Speed ††<br>Advance Pressing |            | Type of Pump | Valve Type | Pump ‡ Model | Prod. Wt.<br>(kg) |
|-----------|----------------|----------------|----------------|------------|------------------------------|------------|--------------|------------|--------------|-------------------|
|           |                |                |                |            | (mm / min)                   | (mm / min) |              |            |              |                   |
| RB8013S   | 80             | Double-Acting  | 333            | RD8013     | 1168                         | 190        | Elec.        | 4-Way †    | PQ1204S      | 1307              |
| RB10013S  | 100            | Double-Acting  | 333            | RD10013    | 889                          | 147        | Elec.        | 4-Way †    | PQ1204S      | 1334              |
| RB15013S  | 150            | Double-Acting  | 333            | RD15013    | 610                          | 99         | Elec.        | 4-Way †    | PQ1204S      | 2019              |
| RB20013S  | 200            | Double-Acting  | 333            | RD20013    | 457                          | 74         | Elec.        | 4-Way †    | PQ1204S      | 2059              |

† Solenoid valve with 24V remote control hand switch.

†† Typical performance based on 7 bar and 700 bar pump specifications. Actual speeds may vary with operating conditions. 1361 kg. maximum load can be supported on bed when raised on the rollers.

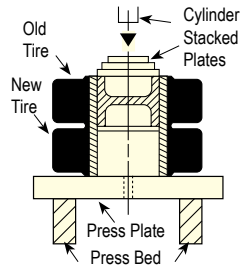
‡ Pump standard with press. dBA at idle and 700 bar: PQ120-73/78; measured at 0,9 m distance, all sides.

NOTE: Frame is shipped assembled.

**RUBBER TIRE REMOVING/INSTALLING SET**



Pressing rim into new tire on Power Team Press.



Now an easy way to press solid rubber tires. The TPP200 uses plates instead of combination rings to press a rim from an old tire into a new one. They can be used on any Power Team press with 55 ton capacity or more.

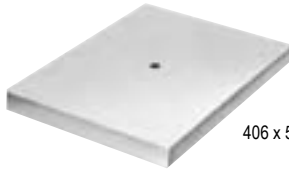
**NOTE:** Many tires require 100 tons of force or more, depending on tire size and condition. These plates withstand maximum force of 150 tons.

| Order No. | Description   |
|-----------|---|
| TPP200    | Tire press plate set. Includes 13 press plates, spacer pushing adapter and press bed plate. |
|           | <b>NOTE:</b> For use on solid rubber tires from 102 mm to 451 mm I.D.                       |

**TIRE PRESS PLATE SET, TPP200**

Model Shown:

**TBP1622, TPP1 - TPP13, TPS6**



406 x 559 x 50,8 mm



98,4 x 448 x 19,1 mm

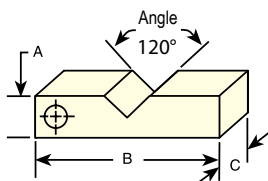


95,3 x 152,4 mm

| Order No. | Tire Size I.D. (mm) | Tire Size O.D. (mm) | Order No. | Tire Size I.D. (mm)    | Tire Size O.D. (mm) |
|-----------|---------------------|---------------------|-----------|------------------------|---------------------|
| TPP1      | 102                 | 98,4                | TPP9      | 305,308                | 301,6               |
| TPP2      | 127                 | 123,8               | TPP10     | 356                    | 352,4               |
| TPP3      | 152,159             | 149,2               | TPP11     | 381                    | 377,8               |
| TPP4      | 165                 | 161,9               | TPP12     | 406                    | 403,2               |
| TPP5      | 203                 | 200,0               | TPP13     | 451                    | 447,7               |
| TPP6      | 254                 | 250,8               | TPS6      | Spacer/Pushing Adapter | 82,6 x 152,4        |
| TPP7      | 267                 | 263,6               | TBP1622   | Bed Plate              | 406 x 559 x 51      |
| TPP8      | 286                 | 282,6               |           |                        |                     |

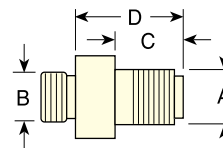
Shop Equip.

**"V" BLOCKS**



| Order No. | Width  |        | Length B (mm) | Thick C (mm) |
|-----------|--------|--------|---------------|--------------|
|           | A (mm) | B (mm) |               |              |
| 1890      | 50,8   | 228,6  | 31,8          |              |
| 1891      | 63,5   | 292,1  | 44,5          |              |
| 1892      | 88,9   | 355,6  | 50,8          |              |
| 1893      | 127,0  | 355,6  | 38,1          |              |
| 207395    | 146,1  | 584,2  | 63,5          |              |

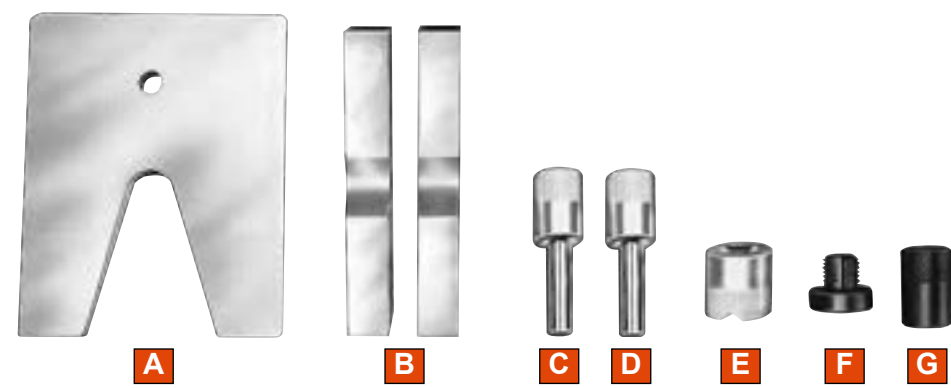
**THREAD ADAPTER**



| Order No. | A (in.)    | B (in.)   | C (mm) | D (mm) |
|-----------|------------|-----------|--------|--------|
|           | 38597      | 1 - 8     | 1 - 8  | 19,1   |
| 38953     | 1.25 - 7   | 1.5 - 16  | 69,9   | 111,1  |
| 37368     | 1.63 - 5.5 | —         | 42,9   | 63,5   |
| 43562     | 2.25 - 12  | —         | 57,2   | 76,2   |
| 38954     | 1.63 - 5.5 | 1.69 - 8  | 82,6   | 106,4  |
| 43563     | 2.25 - 12  | 2.75 - 12 | 57,2   | 81,0   |
| 46070     | 2.25 - 12  | 2 - 4.5   | 57,2   | 81,0   |



PRESS ACCESSORY KIT



Make your Power Team press even more versatile with one of these accessory sets. These sets will eliminate makeshift set-ups. Many of these items can be used with pullers you already have.

► Ordering Information

| Use With Press (Ton) | Order No. | V-Throat Press Plate | V-Blocks   | Pushing Adapter              | Pushing Adapter               | V-Pushing Adapter | Threaded Adapter     |                         | Pushing Adapter |
|----------------------|-----------|----------------------|------------|------------------------------|-------------------------------|-------------------|----------------------|-------------------------|-----------------|
|                      |           | A                    | B          | C                            | D                             | E                 | Single-Acting Cyls.  | Double-Acting Cyls.     |                 |
| 10                   | SPA10     | 1888                 | 1890 (2)   | 201923<br>12,7 mm Dia. Shank | 201454<br>19 mm Dia. Shank    | 34806             | 38597 †              | 38597 †                 | —               |
| 25                   | SPA25     | 1889                 | 1891 (2)   | 34510<br>19 mm Dia. Shank    | 34511<br>25,4 mm Dia. Shank   | 34807 ††          | 38953 ††             | 38953 ††                | —               |
| 55                   | SPA55     | —                    | 1892 (2)   | 34755<br>25,4 mm Dia. Shank  | 34756<br>31,8 mm Dia. Shank   | 34808             | 37368 ††             | 38954 ††                | —               |
| 80/100               | SPA100    | —                    | 1893** (2) | —                            | —                             | 36469             | 43562 ††<br>46070 †† | 43563 ††<br>46070 ††*** | 21332           |
| 150/200              | SPA200    | —                    | 207395 (2) | —                            | 44458 *<br>57,1 mm Dia. Shank | 44457 *           | —                    | —                       | —               |

† Included in Set

†† Not Included, Order Separately

\* Pushing adapters thread directly into RD15013 and RD20013 cylinders.

\*\* V-blocks, 1893, are recommended for use with 80 ton Roll-Bed® press. Not recommended for use with 100 ton Roll-Bed® press.

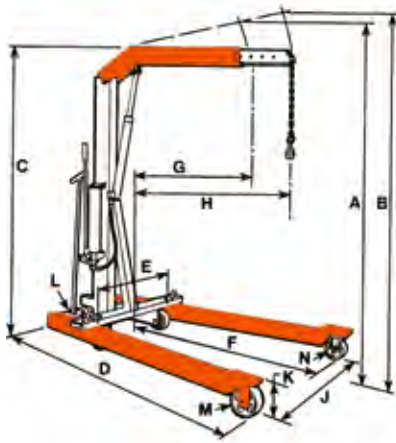
\*\*\* For 80 ton Roll-Bed® press.

**⚠ CAUTION: Pushing adapters are designed for use with specific shaft sizes, and depending on the condition of the shaft ends, the adapter may not withstand the full press tonnage. Always use a protective blanket or other suitable guard when pressing.**

Model Shown:  
**FC2200**



Shop Equip.



**Features**

**MOBILE FLOOR CRANES**

- Adjustable legs spread to clear obstacles (telescoping boom for extra reach)
- Rugged construction, reliable hydraulics.
- Boom collapses completely and legs fold for compact space-saving fold-away storage
- 2-speed hydraulic hand pump provides fast boom travel and precise operator controlled descent.
- Roller bearing wheels and a steering dolly provide ease of mobility. Lifting chain is included.
- U.S. Patent No. 3,367,512

**Technical Dimensions**

|   | Description                          | FC2200                       | FC4400                        |
|---|--------------------------------------|------------------------------|-------------------------------|
| A | Max. boom height, ret (mm)           | 2718                         | 2819                          |
| B | Max. boom height, ext (mm)           | 2972                         | 3099                          |
| C | Overall height, boom horizontal (mm) | 2032                         | 2083                          |
| D | Overall length (mm)                  | 2108                         | 2261                          |
| E | Min. throat width (mm)               | 610                          | 635                           |
| F | Inside leg length (mm)               | 1372                         | 1461                          |
| G | Eff. boom reach -ret. (mm)           | 838                          | 902                           |
| H | Eff. boom reach -ext. (mm)           | 1219                         | 1238                          |
| J | Inside leg width (mm)                | 610-914-1219<br>(3-Position) | 660-1016-1333<br>(3-Position) |
| K | Leg height (mm)                      | 203                          | 241                           |
| L | Dolly wheel diameter (mm)            | 127                          | 127                           |
| M | Wheel diameter (mm)                  | 152                          | 203                           |
| N | Caster diameter (mm)                 | 152                          | 152                           |
|   | Floor space, folded (mm)             | 686 x 965                    | 787 x 1067                    |
|   | Height, folded (mm)                  | 2007                         | 2184                          |
|   | Cap. boom ret. (kg)                  | 1000                         | 2000                          |
|   | Cap. boom ext. (kg)                  | 750                          | 1500                          |

**Ordering Information**

| Order No.     | Description  |
|---------------|--|
| <b>FC2200</b> | 1000 kg. cap. crane with fold-away feature, adj. leg spread, lifting chain and 2-speed hand pump. Wt., 206 kg. |
| <b>FC4400</b> | 2000 kg. cap. crane with fold-away feature, adj. leg spread, lifting chain and 2-speed hand pump. Wt., 293 kg. |

Model Shown:  
**LR2000, LR4000, LR6000**



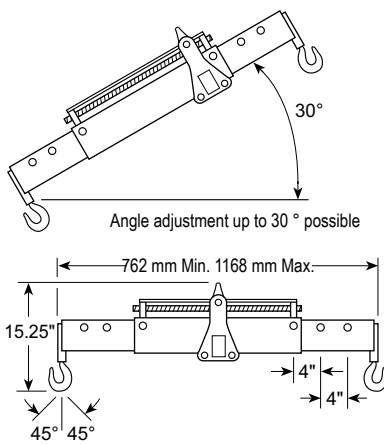
**Features**

- Whenever you have big, heavy components to move or position, nothing helps you get the job done easier and faster than Power Team's Load-Rotors®
- The heavy-duty Load-Rotors®, when used with a crane or hoist, greatly reduce time and effort.
- LR2000 (908 kg. cap.) and LR4000 (1816 kg. cap.) heavy-duty lifting slings are just right, for lifting or positioning components.
- LR6000 has a self-locking worm and gear set in the Spread-Tilter™ head permits rapid angle adjustment of the component being handled.



**CAUTION**

This system should not be used for overhead lifting.



The working length is adjustable in three positions from 762 mm to 1168 mm. Maximum chain angle is 45 °

**Ordering Information**

| Order No. | Cap.<br>(kg) | Chain Size<br>(mm) | Chain Lg. with Swivel Hooks<br>(mm) | Lifting Eye Opening<br>(mm) | Hex Drive End<br>(in.) | Gear Ratio | Prod. Wt.<br>(kg) |
|-----------|--------------|--------------------|-------------------------------------|-----------------------------|------------------------|------------|-------------------|
| LR2000    | 908          | 6,4                | 1422                                | 31,8                        | 5/8                    | 34:1       | 4,1               |
| LR4000    | 1816         | 7,9                | 1650                                | 44,5                        | 5/8                    | 82:1       | 10,4              |
| LR6000    | 2720         | 7,9                | 1650                                | 41,3                        | 5/8                    | 82:1       | 33,1              |

# JACKS

## SELECT FROM A WIDE RANGE OF LIFTING JACK PRODUCTS AND MAINTENANCE SETS TO COMPLETE YOUR SYSTEM REQUIREMENTS

- A hydraulic jack is a powerful lifting or pushing tool designed to provide effective lift over greater distances than a basic mechanical jack.
- Non-inflated air jacks are less than 2,54 mm thick, making lifting tasks in small spaces seem routine, tonnages up to 68 tons.
- Turnkey maintenance sets offer matched hydraulic system components, adapters and hydraulic spreader, contained in a rugged carrying and storage case.
- Specialty hydraulic jacks support post tension, low height or clearance applications.
- Portable high tonnage jacks are totally self-contained, their modular design allows you to change lifting modules to suit your tonnage or height requirements.





|   | Section / Series | Page Content   | Tonnage Range  | Pages   |
|---|------------------|--|----------------|---------|
|   | Introduction     | Choosing the Right Jack                              | —              | 165-166 |
|    | 9                | Sidewinder Mini Jacks                                | 5 - 20         | 167     |
|   |                  | Low Profile Bottle Jacks                             | 12, 20 & 30    | 168     |
|   |                  | Portable Hydraulic Power Bottle Jacks                | 2 - 110        | 169     |
|   |                  | Telescoping Bottle Jacks                             | 6-13           | 170     |
|   | J                | Toe Jacks  | 5.5, 11 & 27.5 | 171     |
|   |                  | Economy Toe Jacks                                    | 2.5 & 10       | 172     |
|  | RJ               | Portable Railroad Edition Jacks and Accessories      | 100            | 173-174 |
|  | JE / JA          | Portable High Tonnage Railroad Jacks and Accessories | 55, 100, 150   | 175-176 |
|  | IJ               | Inflatable Jacks                                     | 1 - 75         | 177-178 |
|  | IJ Accessories   | Inflatable Jack Accessories                          | -              | 179     |
|  | IM               | Maintenance Sets                                     | 10             | 180     |
|  | SK               | 10 and 25 Ton Start-Up Kits                          | 10 & 25        | 181-182 |
|  | SJ               | Post-Tension and Stressing Jacks and Accessories     | 20 & 30        | 183-184 |



## SELECTING THE RIGHT JACK:

**Step 1:** Select the style jack that best suits the application and your intended lift.

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**Step 2:** How much clearance, or open space, is available? What is the minimum height?

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**Step 3:** How much lift, or extension, is required for the load? What is the tonnage needed?

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## JACK SIZING CONSIDERATIONS:

### 1. What do you need to lift?

Depending on the vehicle or machine you need to lift, you will require appropriate equipment. You don't lift a 20 ton truck with the same equipment you would use to lift a 2 ton vehicle.

To choose the right fit, first look at the hydraulic jack capacity. Today, on the market, you can find various sizes of hydraulic jacks, with a lifting capacity going from 1 ton to 300 tons, and even more.

### 2. What is the free space available?

The best jack in the world is useless if you can't place it under the load. Nowadays, application start height is getting lower and lower, requiring a more compact equipment.

Ground clearance is an important parameter to consider, you need to be able to place the jack without damaging the load.

### 3. What is the maximum lifting height you would need?

To make the best choice, compare the number of strokes and maximum height of each hydraulic jack.

In addition, ask the how many extensions are available with the hydraulic jack. Some of the equipment has 1 or 2 additional extensions, which will cover more applications with the same equipment.

## JACK SERIES:

### Hydraulic Bottle Jacks

Choose from this complete line of premium quality, standard bottle jacks. Ideal for use in any number of industrial lifting and pushing applications.

Tonnage Range: 2-110





#### Inflatable Jacks

Inflatable jacks are easy to use, low maintenance, and lightweight enough to be carried under your arm and moved around in any type of equipment, ideal for mining, vehicle and forklift equipment maintenance and many other uses where your start up height is under a couple of inches.

Non-inflated jacks are less than 25 mm thick, making lifting tasks in small spaces seem routine.

Tonnage Range: 1 - 68,4



#### Maintenance Sets

Matched hydraulic system components, adapters and a hydraulic spreader, contained in a rugged carrying and storage case. Portable sets are ideal for pushing, pulling, lifting, straightening, or clamping at remote job sites.

Types: Manual or electric drive maintenance sets

Tonnage Range: 10 - 25



#### Portable High Tonnage Jacks

Totally self-contained, modular design allows you to change lifting modules to suit your tonnage or height requirements.

Tonnage Range: 55 - 300

Model Shown:

9210A, 9220A, 9105A, 9205A



Features

COMPACT SIDEWINDER MINI JACK FITS IN YOUR PALM AND DELIVERS 5, 10 & 20 TONS OF LIFTING FORCE.

- Retracted height of just 63,5 mm for the smallest jack and 130,2 mm for the 20 ton, allows you to slip this jack into the narrowest of crevices.
- Jacks operate either horizontally or vertically. Handles function in line with base for easier use in confined spaces.
- The perfect addition to any toolbox, this remarkable little jack has multiple uses that are limited only by your imagination. Use it as a jack, or a spreader. Use it to turn your mechanical gear puller (note: puller capacity must match jack capacity) into a hydraulic puller.
- High strength piston and pump linkage for long life.
- All models include over-travel protection.
- Lever Bar included on all models.
- All jacks meet ASME B30.1 standards and carry the Power Team PowerThon™ Lifetime Warranty.

9105A Sidewinder jack is the ideal choice for straightening this crushed box steel .



Ordering Information

| Order Number | Cap. (tons) | Stroke (mm) | Retracted Height (mm) | Max. Height (mm) | No. Pump Strokes to Ext. Piston | Saddle Dia. (mm) | Base Size Dia. (mm) | Pump Handle Length (mm) | Handle Effort at Rated Cap. (kg) | Carry Handle | Metric Tons @ 700 bar | Prod. Wt. (kg) |
|--------------|-------------|-------------|-----------------------|------------------|---------------------------------|------------------|---------------------|-------------------------|----------------------------------|--------------|-----------------------|----------------|
| 9105A        | 5           | 19          | 63,5                  | 85,9             | 30                              | 29,0             | 73,9                | 240                     | 26                               | No           | 4,5                   | 1,9            |
| 9205A        | 5           | 38          | 88,9                  | 130,3            | 38                              | 29,0             | 73,9                | 240                     | 26                               | No           | 4,5                   | 2,4            |
| 9210A        | 10          | 30          | 120,7                 | 149,4            | 36                              | 42,2             | 110,0               | 440                     | 28                               | No           | 9,2                   | 5,5            |
| 9220A        | 20          | 30          | 130,3                 | 160,3            | 46                              | 52,8             | 119,9               | 605                     | 35                               | No           | 18,1                  | 8,0            |



Model Shown:  
**9012A, 9020A, 9130A**



**Features**

**THE RIGHT CHOICE FOR THOSE LOWER CLEARANCE JOBS OR APPLICATIONS**

- All the quality, features and lifting capacity of the standard jacks in short form. The 12 ton and 20 ton models feature screw extensions for added versatility.
- All jacks operate both vertically and horizontally for use in a variety of lifting, pushing and spreading applications.
- Large base area for increased strength and stability during lifting.
- High strength piston and pump linkage for long life.
- All models include over-travel protection.
- Lever Bar included on all models.
- All jacks meet ASME B30.1 standards and carry the Power Team PowerThon™ Lifetime Warranty.

▶ **9130A Low Profile Hydraulic Bottle Jack provides the lifting capacity and low height for this underground mining application.**



Jacks

▶ **Ordering Information**

| Order Number | Cap. (tons) | Stroke (mm) | Retracted Height (mm) | Length of Screw Ext. (mm) | Height with Screw Ext. (mm) | No. Pump Strokes to Ext. Piston ‡ | Saddle Dia. (mm) | Base Size (mm) | Pump Handle Length (mm) | Handle Effort at Rated Cap. (kg) | Carry Handle | Metric Tons @ 700 bar | Prod. Wt. (kg) |
|--------------|-------------|-------------|-----------------------|---------------------------|-----------------------------|-----------------------------------|------------------|----------------|-------------------------|----------------------------------|--------------|-----------------------|----------------|
| 9012A        | 12          | 95          | 171                   | 76                        | 343                         | 26                                | 48               | 165x106        | 605                     | 27                               | Yes          | 10,9                  | 6,4            |
| 9020A        | 20          | 85          | 181                   | 40                        | 305                         | 22                                | 51               | 183x129        | 800                     | 32                               | Yes          | 18,1                  | 10,1           |
| 9130A        | 30          | 79          | 181                   | -                         | 260                         | 35                                | 60               | 192x141        | 1000                    | 23                               | Yes          | 27,2                  | 13,7           |

‡ 2 Speed: Rapid advance≈40 strokes; Lift mode≈160 strokes.

Model Shown:  
9030A, 9008A, 9112A



Features

IDEAL FOR INDUSTRIAL LIFTING AND PUSHING APPLICATIONS FOR MRO

- Choose from this complete line of premium quality bottle jacks. Ideal for use in any number of industrial lifting and pushing applications.
- The 9110B, 9015B, 9022B and 9033B feature a beveled base which allows the jack to “follow” the load, reducing the chance of dangerous side-loading.
- Jacks feature a screw extension for quicker setup.
- High strength piston and pump linkage for long life.
- All models include over-travel protection.
- Lever Bar included on all models. All jacks can be used in the vertical, angled or horizontal positions.
- Serrated or contoured saddles help stabilize the load for a safer lift.
- 110 ton jack features dual pumps for time-saving two-speed operation.
- All jacks meet ASME B30.1 standards and carry the Power Team PowerThon™ Lifetime Warranty.

Ordering Information

| Order Number | Cap. (tons) | Stroke (mm) | Retracted Height Min. (mm) | Length of Screw Ext. (mm) | Height with Screw Ext. (mm) | No. Pump Strokes to Ext. Piston | Saddle Dia. (mm) | Base Size (mm) | Pump Handle Length (mm) | Handle Effort at Rated Cap. (kg) | Carry Handle | Metric Tons @ 700 bar | Prod. Wt. (kg) |
|--------------|-------------|-------------|----------------------------|---------------------------|-----------------------------|---------------------------------|------------------|----------------|-------------------------|----------------------------------|--------------|-----------------------|----------------|
| 9002A        | 2           | 114         | 181                        | 49                        | 344                         | 5                               | 25               | 110x65         | 311                     | 34,0                             | No           | 1,8                   | 2,2            |
| 9003A        | 3           | 114         | 191                        | 60                        | 365                         | 10                              | 29               | 114x72         | 489                     | 20,4                             | No           | 2,7                   | 2,6            |
| 9005A        | 5           | 121         | 200                        | 70                        | 391                         | 12                              | 35               | 132x76         | 545                     | 24,9                             | No           | 4,5                   | 3,6            |
| 9008A        | 8           | 121         | 200                        | 70                        | 391                         | 18                              | 38               | 152x89         | 605                     | 34,0                             | No           | 7,3                   | 5,5            |
| 9112A        | 12          | 149         | 241                        | 80                        | 470                         | 26                              | 48               | 165x106        | 605                     | 27,2                             | Yes          | 10,9                  | 7,9            |
| 9015B        | 15          | 156         | 230                        | 114                       | 505                         | 27                              | 60               | 130x140 †      | 700                     | 40,8                             | No           | 13,6                  | 8,3            |
| 9120A        | 20          | 159         | 270                        | 92                        | 521                         | 22                              | 51               | 183x129        | 800                     | 31,8                             | Yes          | 18,1                  | 12,9           |
| 9022B        | 22          | 156         | 240                        | 109                       | 521                         | 36                              | 60               | 165x160 †      | 700                     | 40,8                             | Yes          | 20,0                  | 10,7           |
| 9030A        | 30          | 159         | 279                        | —                         | 438                         | 35                              | 60               | 192x141        | 1000                    | 22,7                             | Yes          | 27,2                  | 18,7           |
| 9033B        | 33          | 143         | 240                        | 106                       | 502                         | 56                              | 65               | 184x176 †      | 700                     | 39,9                             | Yes          | 29,9                  | 14,5           |
| 9050A        | 50          | 171         | 305                        | —                         | 476                         | 36                              | 76               | 237x187        | 1000                    | 38,6                             | Yes          | 45,4                  | 35,4           |
| 9110B        | 110         | 156         | 300                        | —                         | 456                         | 40/160 ‡                        | 111              | 339x291        | 700                     | 35,8                             | Yes          | 99,8                  | 70,0           |

† Comes with a Beveled Base.

‡ 2 Speed: Rapid advance≈40 strokes; Lift mode≈160 strokes.

Model Shown:  
**9006X, 9011X, 9013X**



**Features**

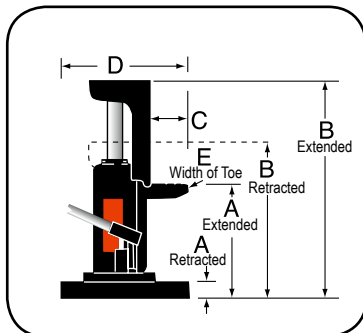
**THE RIGHT CHOICE FOR THOSE LOWER HEIGHT APPLICATIONS FOR MRO.**

- Telescoping jacks offer all of the quality features and capabilities of the standard bottle jack line with a bonus. The super-long stroke of these jacks saves time and effort by eliminating the need to lift or crib. In most applications, the user can place the jack once and complete the lift.
- The 9006X, 9011X and 9013X all feature a unique beveled base that allows the jack to “follow” the load laterally as it is raised, greatly reducing side-loading of the piston.
- High strength piston and pump linkage for long life.
- All models include over-travel protection.
- Lever Bar included on all models.
- All jacks meet ASME B30.1 standards and carry the Power Team PowerThon™ Lifetime Warranty.

**Ordering Information**

| Order Number | Cap.<br>(tons) | Stroke<br>(mm) | Retracted Height<br>(mm) | Length of Screw Ext.<br>(mm) | Height with Screw Ext.<br>(mm) | No. Pump Strokes to Ext. Piston | Saddle Dia.<br>(mm) | Base Size Beveled Base<br>(mm) | Pump Handle Length<br>(mm) | Handle Effort at Rated Cap.<br>(kg) | Carry Handle | Metric Tons @ 700 bar | Prod. Wt.<br>(kg) |
|--------------|----------------|----------------|--------------------------|------------------------------|--------------------------------|---------------------------------|---------------------|--------------------------------|----------------------------|-------------------------------------|--------------|-----------------------|-------------------|
| 9006X        | 6              | 305            | 216                      | —                            | 512                            | 14                              | 44                  | 121x133                        | 700                        | 36                                  | No           | 5,4                   | 6,4               |
| 9011X        | 11             | 262            | 200                      | 68                           | 530                            | 25                              | 41                  | 160x165                        | 700                        | 40                                  | No           | 10,0                  | 8,8               |
| 9013X        | 13             | 254            | 230                      | 84                           | 570                            | 35                              | 48                  | 176x186                        | 700                        | 36                                  | Yes          | 11,8                  | 11,3              |

Model Shown:  
**J24T, J55T, J106T**



**Features**

**LOW HEIGHT INDUSTRIAL LIFTING AND PUSHING APPLICATIONS.**

- These bottle jack-style toe jacks are loaded with many of the same features as our standard bottle jacks, but the toe-lift feature and swiveling pump handle socket make them ideal for machinery lifting and positioning.
- An internal pressure relief provides added safety by limiting the jack's lifting capability to the capacity of the toe.
- Spring return is an added feature on the J55T and J106T jacks.
- Swiveling pump handle assembly available on the 5 and 10 ton models. The swiveling jack assembly allows you to access and pump the unit from numerous positions.
- High strength piston and pump linkage for long life.
- All models include over-travel protection.
- Lever Bar included on all models.
- All jacks meet ASME B30.1 standards and carry the Power Team PowerThon™ Lifetime Warranty.

**Technical Dimensions**

| Order Number | Ret. | Ext.  | Ret.  | Ext.  | C<br>(mm) | D<br>L x W (mm) | E<br>(mm) |
|--------------|------|-------|-------|-------|-----------|-----------------|-----------|
|              | A    |       | B     |       |           |                 |           |
|              | (mm) | (mm)  | (mm)  | (mm)  |           |                 |           |
| J24T         | 16,0 | 139,7 | 235,0 | 355,6 | 47,8      | 283 x 240       | 50,8      |
| J55T         | 25,4 | 149,4 | 292,1 | 416,1 | 47,8      | 283 x 240       | 76,2      |
| J106T        | 31,8 | 181,1 | 327,2 | 476,3 | 63,5      | 283 x 240       | 100,1     |

**Ordering Information**

| Order Number | Cap.<br>(tons) | Max. Lift Stroke<br>(mm) | Strokes to Ext. Piston<br>(25 mm) | Handle Effort at Max. Load<br>(kg) | Carry Handle | Metric Tons at 700 bar | Prod. Wt.<br>(kg) |
|--------------|----------------|--------------------------|-----------------------------------|------------------------------------|--------------|------------------------|-------------------|
| J24T         | 2              | 121                      | 14                                | 19                                 | Yes          | 1,8                    | 8,3               |
| J55T         | 5              | 121                      | 22                                | 27                                 | Yes          | 4,5                    | 24,0              |
| J106T        | 10             | 146                      | 31                                | 33                                 | Yes          | 8,1                    | 38,0              |

Model Shown:  
**J259T, J1095, J58T**

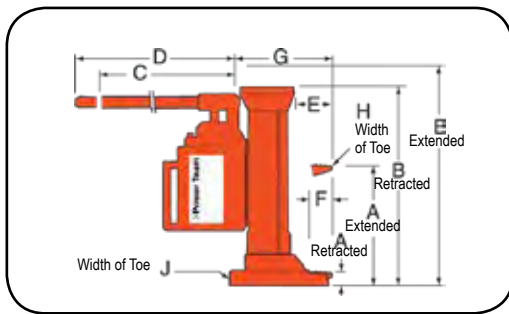


**Features**

**HEAVY-DUTY, LOW HEIGHT INDUSTRIAL LIFTING AND PUSHING APPLICATIONS.**

- With lifting points on the toe and on the top, these extremely rugged jacks are ideal for machine lifting, rigging, lift truck service and much more.
- Choose from 5.5 ton, 11 ton, or the 27.5 ton lifting capacity.
- All jacks operate both vertically and horizontally.
- Base, toe and pumping assembly swivel independently, allowing the jack to work in confined areas.
- High strength piston and pump linkage for long life.
- Lever Bar included on all models.
- All jacks meet ASME B30.1 standards and carry the Power Team PowerThon™ Lifetime Warranty.

▶ **J58T hydraulic toe jack is the perfect choice for the pallet jack application.**



Jacks

▶ **Technical Dimensions**

| Order Number | Ret. | Ext. | Ret. | Ext. | C   | D   | E   | F   | G   | H  | J   |
|--------------|------|------|------|------|-----|-----|-----|-----|-----|----|-----|
|              | A    |      | B    |      |     |     |     |     |     |    |     |
|              | (mm) | (mm) | (mm) | (mm) |     |     |     |     |     |    |     |
| J58T         | 30   | 238  | 375  | 584  | 368 | 451 | 71  | 56  | 176 | 41 | 130 |
| J109T        | 30   | 264  | 419  | 654  | 368 | 451 | 76  | 56  | 183 | 64 | 171 |
| J259T        | 54   | 289  | 505  | 738  | 210 | 756 | 146 | 102 | 267 | 89 | 270 |

▶ **Ordering Information**

| Order Number | Cap.<br>(tons) | Max. Lift Stroke<br>(mm) | Strokes to Ext. Piston<br>(25 mm) | Handle Effort at Max. Load<br>(kg) | Carry Handle | Metric Tons at 700 bar | Prod. Wt.<br>(kg) |
|--------------|----------------|--------------------------|-----------------------------------|------------------------------------|--------------|------------------------|-------------------|
| J58T         | 5,5            | 210                      | 8                                 | 38                                 | Yes          | 5,0                    | 19,5              |
| J109T        | 11,0           | 235                      | 13                                | 40                                 | Yes          | 10,0                   | 29,0              |
| J259T        | 27,5           | 235                      | 21                                | 40                                 | Yes          | 24,9                   | 92,1              |

Model Shown:  
**RJ100T24E**



**Features**

**HEAVY-DUTY SELF-CONTAINED INDUSTRIAL LIFTING JACK FOR RAIL MAINTENANCE.**

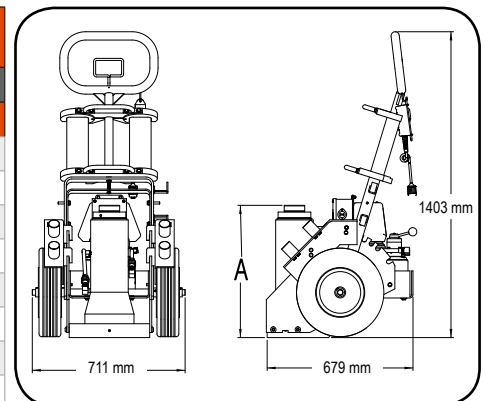
- Wide base cylinder design for stability.
- Double-acting cylinder with locking collar.
- The bottom of the cylinder is a bolted joint, using the base plate as part of the cylinder. This will allow for service of even the oldest or most abused jacks.
- Cribbing storage rack location is such that it allows easy access during cribbing placement and removal.
- Jack has a 6,1 m remote pendant for user safety and control.
- Easy to maneuver, large tires and small footprint make it easy to get into tight spaces.
- Adjustable handle, allows the user to easily to position the jack under loads.

**Technical Specifications**

| Type of Pump    | Low Pressure Pump |                | High Pressure Pump |                | Current Draw at Max. Internal Relief Settings (amps) | Unload Pressure (bar) | Internal Relief Pressure (bar) | Tank (l) | Valving                             |
|-----------------|-------------------|----------------|--------------------|----------------|--|-----------------------|--------------------------------|----------|-------------------------------------|
|                 | Flow (l / min.)   | Pressure (bar) | Flow (l / min.)    | Pressure (bar) |  |                       |                                |          |                                     |
| <b>Electric</b> | 7,2               | 30             | 1,0                | 700            | 28   | 62 - 84,5             | 700                            | 7,6      | 4-Way / 3-Pos. Tandem Center Manual |
| <b>Air</b>      | 5,4               |                | 0,5                |                | NA   |                       |                                |          |                                     |

**Ordering Information**

| Order Number  | Description   | Stroke (mm) | Retracted Height |
|---------------|---|-------------|------------------|
|               |   |             | A (mm)           |
| RJ100T24E     | Jack, 100 Ton RR 610 mm Retracted, Electric             | 356         | 610              |
| RJ100T37E     | Jack, 100 Ton RR 940 mm Retracted, Electric             | 686         | 940              |
| RJ100T24A     | Jack, 100 Ton RR 610 mm Retracted, Air                  | 356         | 610              |
| RJ100T37A     | Jack, 100 Ton RR 940 mm Retracted, Air                  | 686         | 940              |
| RJ100T24A-C*  | Jack, 100 Ton RR 610 Retracted, Air with Crib Block     | 356         | 610              |
| RJ100T24E-C*  | Jack, 100 Ton RR 610 Retracted, Elect with Crib Block   | 356         | 610              |
| RJ100T37A-C*  | Jack, 100 Ton RR 940 Retracted, Air with Crib Block     | 686         | 940              |
| RJ100T37E-C*  | Jack, 100 Ton RR 940 Retracted, Elect with Crib Block   | 686         | 940              |
| RJ100T24A-E** | Jack, 100 Ton RR 610 Retracted, Air with Extension      | 356         | 610              |
| RJ100T24E-E** | Jack, 100 Ton RR 610 Retracted, Elect with Extension    | 356         | 610              |
| RJ100T37A-E†  | Jack, 100 Ton RR 940 Retracted, Air with Extension      | 686         | 940              |
| RJ100T37E-E†  | Jack, 100 Ton RR 940 Retracted, Electric with Extension | 686         | 940              |



\* C models include RJ-CB-S crib set

\*\* 610 mm– E models include RJ-EXT-S1 set

† Shipping weights 940 mm– E version includes RJ-EXT-S set

**EXTENSIONS**



| Order No. | Description  |
|-----------|--|
| RJ-EXT5   | Assembly, Extension 127 mm 100 Ton RR Jack             |
| RJ-EXT7   | Assembly, Extension 178 mm 100 Ton RR Jack             |
| RJ-EXT9   | Assembly, Extension 220 100 Ton RR Jack                |
| RJ-EXT11  | Assembly, Extension 279 mm 100 Ton RR Jack             |
| RJ-EXT14  | Assembly, Extension 356 mm 100 Ton RR Jack             |
| RJ-EXT18  | Assembly, Extension 457 mm 100 Ton RR Jack             |
| RJ-EXT-S  | Set, Extensions 100 Ton RR Jack 178 mm, 229 mm, 356 mm |
| RJ-EXT-S1 | Set, Extensions 100 Ton RR Jack 178 mm, 279 mm, 457 mm |

**CRIBBING BLOCKS**



| Order No. | Description                                 |
|-----------|---|
| RJ-CB1    | Assembly, Crib Block 25 mm 100 Ton RR Jack  |
| RJ-CB3    | Assembly, Crib Block 76 mm 100 Ton RR Jack  |
| RJ-CB5    | Assembly, Crib Block 127 mm 100 Ton RR Jack |
| RJ-CB10   | Assembly, Crib Block 254 mm 100 Ton RR Jack |

**SPACERS**



| Order No. | Description                                    |
|-----------|--|
| RJ-SP-1   | Spacer, 25 mm                                  |
| RJ-SP-2   | Spacer, 51 mm                                  |
| RJ-SP-3   | Spacer, 76 mm                                  |
| RJ-SP-S   | Spacer Set 100 ton RR Jack 25 mm, 51 mm, 76 mm |

**SWIVEL CAPS**



| Order No. | Description                          |
|-----------|--------------------------------------|
| RJ-SC-1   | Assembly, Swivel Cap 100 Ton RR Jack |

Model Shown:  
**JEM5526,PMA55S,PME55S**



Air pump  
and cart module

Electric pump  
and cart module

**Features**

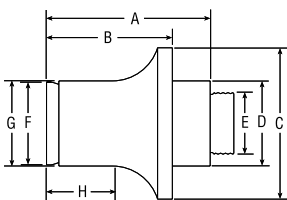
**PORTABLE AND COMPACT, IDEAL FOR LOCOMOTIVE/RAIL CAR, MINING AND HEAVY EQUIPMENT MAINTENANCE.**

- Modular design allows you to change lifting modules to suit your tonnage or height requirements.
- Select the collapsed height to fit your most frequent application and add jacking modules to suit your needs.
- Exclusive load control system provides positive, chatter-free control when lowering the load.
- Remote operation for maximum operator safety and control, motor or/an valve options.
- Easy to maneuver with large tires and small "footprint" make it easy to scoot into the tightest quarters.
- Adjustable, heavy-duty handle makes this jack easy to move, position under vehicles.
- Shielded and sheltered hydraulic lines for safer, longer, trouble-free service.



Jacks

**JACK MODULE EXTENSION**



| Order Number | Cap.   | A     | B     | C     | D     | E            | F     | G     | H    | Prod. Wt. (kg) |
|--------------|--------|-------|-------|-------|-------|--------------|-------|-------|------|----------------|
|              | (tons) | (mm)  | (mm)  | (mm)  | (mm)  | (in.)        | (mm)  | (mm)  | (mm) |                |
| 58945        | 55     | 223,8 | 173,0 | 127,0 | 66,8  | 1 11/18-8UNC | 63,5  | 66,8  | 92,2 | 9,5            |
| 58943        | 100    | 228,6 | 177,8 | 174,8 | 98,6  | 2 3/4-12UNC  | 95,3  | 98,6  | 95,3 | 18,1           |
| 58944        | 150    | 219,2 | 168,4 | 203,2 | 114,3 | 3 1/4-8UNC   | 111,3 | 114,3 | 88,9 | 22,7           |

**Ordering Information - Cribbing Block sets - Includes one Jack Module Extension**

| Order Number         | 55 Ton CBS55 |       | 100 Ton CBS100 |       | 150 Ton CBS150 |       | 200 Ton CBS200 |       |
|----------------------|--------------|-------|----------------|-------|----------------|-------|----------------|-------|
| No. in Set           | (mm)         | (mm)  | (mm)           | (mm)  | (mm)           | (mm)  | (mm)           | (mm)  |
| A                    | 381,1        | 76,2  | 38,1           | 76,2  | 38,1           | 76,2  | 38,1           | 76,2  |
| B                    | 44,4         | 82,5  | 44,4           | 82,5  | 44,4           | 82,5  | 44,4           | 82,5  |
| C                    | 139,7        | 139,7 | 139,7          | 139,7 | 222,2          | 222,2 | 254,0          | 254,0 |
| Jack Module Ext.     | 173,0        |       | 177,8          |       | 168,3          |       | 168,3          |       |
| Total Stack Ht.      | 515,9        |       | 520,7          |       | 512,2          |       | 512,2          |       |
| Product Weight (kg.) | 16,3         |       | 30,9           |       | 38,6           |       | 47,7           |       |





**Pump Module, include Remote Pendant**

| Pump     | Motor Only | Motor & Valve |
|----------|------------|---------------|
| Air      | PMA55      | PMA55S        |
| Electric | PME55      | PME55S        |
| Electric | PME355     | PME355S       |
| Air      | PMA355     | PMA355S       |



**Jack Modules**

| Tonnage | Cylinder Stroke (mm) | Collapsed Height       |          |           |
|---------|----------------------|------------------------|----------|-----------|
|         |                      | 660,4 mm               | 838,2 mm | 1143,0 mm |
| 55      | 333                  | JM25                   | JM35     | JM45      |
| 100     | 333                  | JM210                  | JM310    | JM410     |
| 150     | 461                  | JM215 †                | JM315    | JM415     |
| 200     | 461                  | JM220 *                | JM320    | JM420     |
| 300     | 333                  | <b>Contact Factory</b> |          |           |

\* Collapsed height; 711 mm and stroke 333 mm  
† Stroke 333 mm.

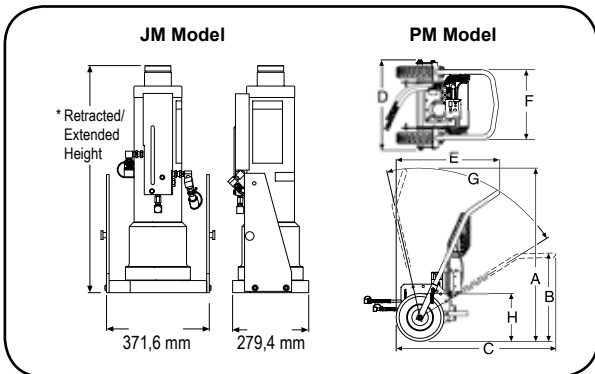


**PUMP & CART MODULES**

Pump and cart modules contain hydraulic pump, cart, remote control and all hoses and fittings required to connect to a jack module.

**JACK MODULES**

Jack modules easily separate from the pump and cart module.



Jacks

**Technical Dimensions**

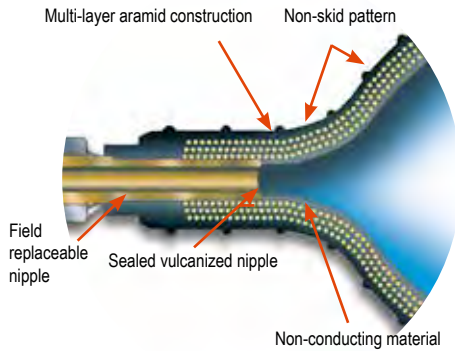
| Model Series | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | G* (deg.) | H (mm)        |
|--------------|--------|--------|--------|--------|--------|--------|-----------|---------------|
| PMA          | 1464   | 752    | 1353   | 762    | 872    | 594    | 70°       | 406 Tire Dia. |
| PME          |        |        |        |        |        |        |           |               |

\* Total range with varying degree increments.

**Ordering Information - Complete with Pump and Jack Modules, Fully Assembled**

| Order Number | Cap. (tons) | Retracted Height (mm) | Extended Height (mm) | Stroke (mm) | Pump Type | Power Required                   | Valve Type | Remote Control |
|--------------|-------------|-----------------------|----------------------|-------------|-----------|----------------------------------|------------|----------------|
| JEM5526      | 55          | 660,4                 | 994                  | 333         | Electric  | 13/25 amps                       | Manual     | Motor Only     |
| JAM10033     | 100         | 838,2                 | 1172                 | 333         | Air       | 1,4 cm <sup>3</sup> /min @ 6 bar | Manual     | Motor Only     |
| JAR10033     | 100         | 838,2                 | 1172                 | 333         | Air       | 1,4 cm <sup>3</sup> /min @ 6 bar | Air Pilot  | Motor & Valve  |
| JEM15026     | 150         | 660,4                 | 994                  | 460,4       | Electric  | 25 amps                          | Manual     | Motor Only     |
| JAM15033     | 150         | 838,2                 | 1173                 | 460,4       | Air       | 1,4 cm <sup>3</sup> /min @ 6 bar | Manual     | Motor Only     |

Model Shown:  
**IJ2211T**



▶ **The non-skid reinforced inflatable jack is perfect for many applications**



**Features**

**LOW HEIGHT, HEAVY-DUTY INDUSTRIAL INFLATABLE AIR JACKS.**

- Non-inflated jacks are less than 25,4 mm thick, making lifting tasks in small spaces seem routine.
- Constructed of non-conducting, high quality rubber material with multi-layer aramid fiber reinforcement.
- The top and bottom surface of the jack has a skid resistant, interlocking pattern to assist in alignment of two jacks being used together.
- Heavy attachment handles are provided on the two largest jacks for attachment of a rope or hook to help in positioning the jack.
- The jacks can be used at ambient temperatures of -20°C to + 50°C.
- The controller, shut-off and air hoses are all equipped with an industrial interchange style quick-disconnect air coupler. Female half coupler bodies have a locking collar to help the operator avoid accidentally disconnecting the jack while under load.
- Single jack controller with “dead man” control (part no. 350090) can be used individually, or in multiples to regulate the number of jacks desired.

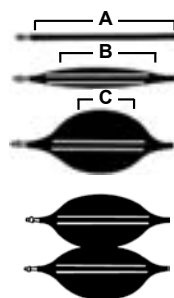


**Safety Hints**

1. Inspect before and after each use.
2. Replace if any signs of degradation or wear that may affect safety or performance.
3. Keep the product clean.
4. Store properly.



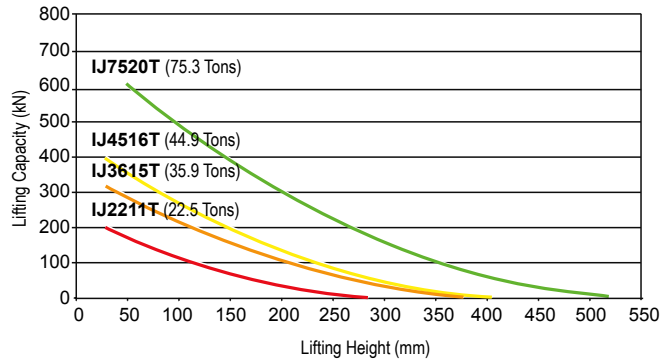
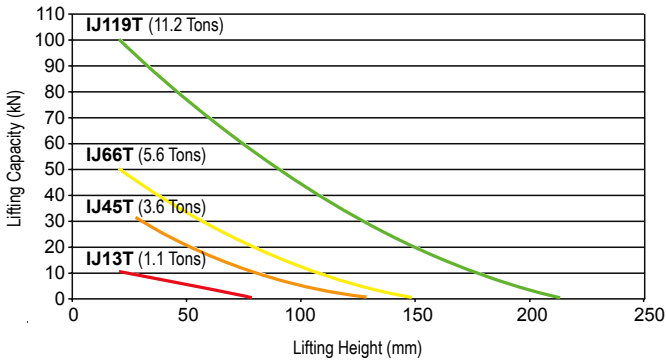
**Maximum Effective Lifting Area**



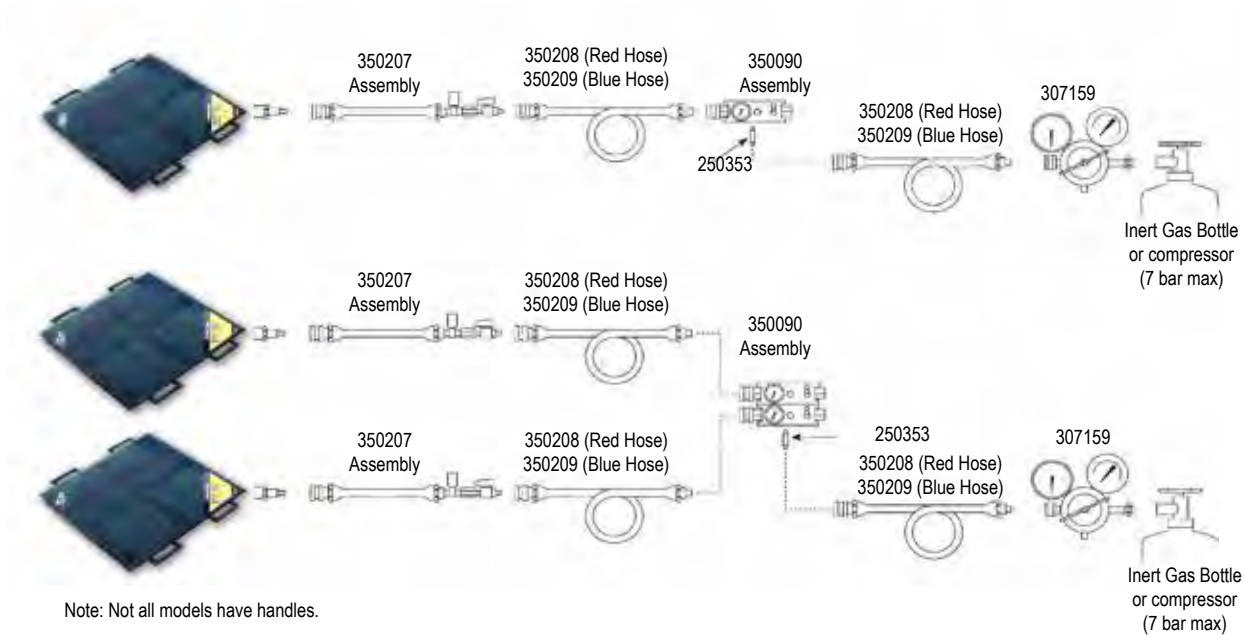
All lifting capacities mentioned in the charts are measured at the maximum effective lifting area (A). As the jack is inflated (B), this effective area decreases (C) due to the rounded shape of the jack. Lifting capacity also decreases (see performance chart).

Stack up to two jacks together to increase effective lifting height.

► **Performance Specifications**



► **Typical Set-Up**




► **Ordering Information**


| Order Number | Lifting Cap.<br>(metric tons) | Lifting Height<br>(mm) | Air Volume<br>(l) | Water Volume<br>(l) | Length<br>(mm) | Width<br>(mm) | Thickness<br>(mm) | Prod. Wt.<br>(kg) |
|--------------|-------------------------------|------------------------|-------------------|---------------------|----------------|---------------|-------------------|-------------------|
| IJ13T        | 1,0                           | 79                     | 3,3               | 0,7                 | 152            | 152           | 22                | 0,6               |
| IJ45T        | 3,3                           | 130                    | 16,2              | 1,8                 | 229            | 229           | 22                | 1,5               |
| IJ66T        | 5,1                           | 150                    | 22,5              | 2,5                 | 279            | 279           | 22                | 2,0               |
| IJ119T       | 10,2                          | 216                    | 76,5              | 8,5                 | 381            | 381           | 25                | 4,1               |
| IJ2211T      | 20,4                          | 290                    | 189               | 21                  | 508            | 508           | 25                | 7,0               |
| IJ3615T      | 32,6                          | 381                    | 450               | 50                  | 660            | 660           | 25                | 13,2              |
| IJ4516T*     | 40,8                          | 404                    | 558               | 62                  | 965            | 965           | 25                | 15,0              |
| IJ7520T*     | 68,3                          | 521                    | 1206              | 134                 | 914            | 914           | 25                | 24,0              |

\* Included molded carry handles.


**PRESSURE REDUCING VALVE**

|  | Order No. | Description   |
|---|-----------|---|
|   | 307159    | Pressure reducing valve. Allows use of bottled gases to operate jacks (works on CGA-580 Nitrogen/Argon/Helium bottles). Contains standard bottle fitting on inlet and 1/4" industrial interchange female outlet. Wt., 1,8 kg. |


**AIR CONTROLLER - SINGLE JACK**

|  | Order No. | Description   |
|--|-----------|---|
|  | 350090    | Air controller for single jack. Equipped with relief valve and pressure gauge. Wt., 0,9 kg. |


**SHUT-OFF HOSE WITH SHUT-OFF VALVE AND PRESSURE RELIEF VALVE**

|  | Order No. | Description   |
|---|-----------|---|
|   | 350207    | Shut-off hose with shut-off valve and pressure relief valve. Includes a female and male quick coupler. Wt., 0,3 kg. |


**AIR HOSES**

|  | Order No. | Description  |
|--|-----------|--|
|  | 350208    | Air hose. Red, 9 m long., 3/8" I.D., includes 250341 female and 250342 male quick coupler. Wt., 2,7 kg.  |
|  | 350209    | Air hose. Blue, 9 m long., 3/8" I.D., includes 250341 female and 250342 male quick coupler. Wt., 2,7 kg. |


**FEMALE QUICK COUPLER**

|  | Order No. | Description  |
|--|-----------|--|
|  | 250343    | Female quick coupler. 1/4" industrial interchange x 1/8" NPT female. Wt., 0,05 kg. |


**MALE QUICK COUPLER**

|  | Order No. | Description  |
|---|-----------|--|
|   | 250353    | Male quick coupler. 1/4" industrial interchange x 1/8" NPT male. Wt., 0,05 kg. |


**FEMALE QUICK COUPLER**

|  | Order No. | Description  |
|---|-----------|--|
|   | 250682    | Female quick coupler. 1/4" industrial interchange x 1/4" NPT male. Wt., 0,05 kg. |


**CONNECTOR 1/8" NPT MALE**

|  | Order No. | Description  |
|--|-----------|--|
|  | 15235     | Connector 1/8" NPT male x 1/4" NPT female. Wt., 0,05 kg. |

**FEMALE QUICK COUPLER**

|  | Order No. | Description  |
|---|-----------|--|
|   | 250341    | Female quick coupler. 1/4" industrial x 3/8" I.D. hose. Wt., 0,2 kg. |

**MALE QUICK COUPLER**

|  | Order No. | Description                                       |
|--|-----------|---|
|  | 250342    | Male Quick coupler. 3/8" I.D. Hose. Wt., 0,05 kg. |

Model Shown:  
**IM10E, IM10H**



NOTE: Actual storage box may differ from photo.

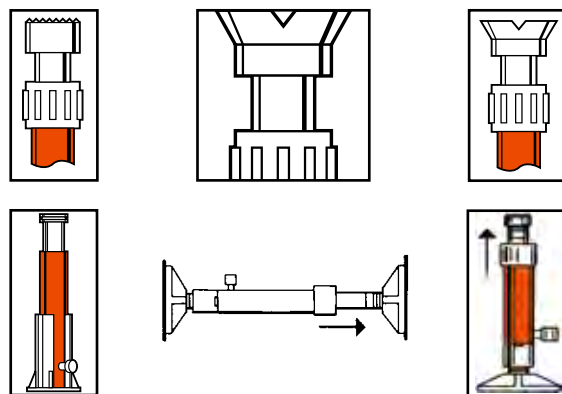
### Features

#### TURNKEY, EXTREMELY VERSATILE MECHANICS MAINTENANCE KIT FITS MANY APPLICATIONS.

- Matched hydraulic system components, adapters and hydraulic spreader, contained in a rugged carrying and storage case.
- Portable sets are ideal for pushing, pulling, lifting, straightening, or clamping at remote job sites.
- Cylinders in set are rated at 10 tons at 700 bar. Set components are designed for full rated capacity of cylinders.
- Set IM10H/IM10L includes hand operated pump. Set IM10E includes the Quarter Horse® electrically driven portable power unit.



### Application Flexibility



Jacks

### Ordering Information

| Order No.                       | IM10E                       |
|---------------------------------|-----------------------------|
| <b>CONTENTS OF SET</b>          | <b>Items Included below</b> |
| Hydraulic spreader              | HS2000                      |
| Hand pump (electric)            | PE102                       |
| Hydraulic gauge (700 bar)       | 9041                        |
| Tee adapter                     | 9670                        |
| Hose & coupler assembly         | 9754                        |
| 90° V base                      | 25395                       |
| Threaded coupler                | 25664                       |
| Serrated saddle                 | 31772                       |
| Flat base                       | 32325                       |
| Extension rod - 127 mm length   | 350897                      |
| Extension rod - 254 mm length   | 38909                       |
| Extension rod - 457 mm length   | 350898                      |
| Cylinder support base           | 420062                      |
| Cylinder, 10 ton, 257 mm stroke | C106CBT                     |
| Cylinder, 10 ton, 156 mm stroke | C1010CBT                    |
| Storage box                     | 350722                      |
| Prod. Weight (kg)               | 48,1                        |

| Order No.                       | IM10H                       | IM10L                       |
|---------------------------------|-----------------------------|-----------------------------|
| <b>CONTENTS OF SET</b>          | <b>Items Included Below</b> | <b>Items Included Below</b> |
| Hydraulic spreader              | HS2000                      | HS2000                      |
| Hand pump                       | P59                         | P59L                        |
| Hydraulic gauge (700 bar)       | 9041                        | 9041                        |
| Tee adapter                     | 9670                        | 9670                        |
| Hose & coupler assembly         | 9754                        | 9754                        |
| 90° V base                      | 25395                       | 25395                       |
| Threaded coupler                | 25664                       | 25664                       |
| Serrated saddle                 | 31772                       | 31772                       |
| Flat base                       | 32325                       | 32325                       |
| Extension rod - 127 mm length   | 350897                      | 350897                      |
| Extension rod - 254 mm length   | 38909                       | 32890                       |
| Extension rod - 457 mm length   | 350898                      | 350898                      |
| Cylinder support base           | 420062                      | 420062                      |
| Cylinder, 10 ton, 156 mm stroke | C106CBT                     | C106CBT                     |
| Storage box                     | 350722                      | 350722                      |
| Prod. Weight (kg)               | 40,4                        | 36,8                        |

Model Shown:  
**SK10TE**



**Features**

**VERSATILE 10 TON MAINTENANCE KIT  
CONVENIENTLY PACKAGED IN A BOX.**

- 10 ton Start-Up Kit covers a range of lifting, shifting, and positioning needs
- Broad range of cylinder types and strokes to fit many applications
- Neatly packaged in a durable, molded storage case to securely house your equipment and is ready to use upon opening
- SK10TE kit is CE Compliant



**Storage Case Dimensions**



Plastic Molded Case, 800 mm (L) x 521 mm (H) x 292 mm (W).

**Ordering Information**

| Kit Contents - Order no: SK10TE |                        |  |                            |
|---------------------------------|------------------------|--|----------------------------|
| Hand Pump                       | Usable Oil Cap.<br>(l) | Volume Per Stroke<br>Low / High Press.<br>(ml) | Weight<br>(kg)             |
| P19L                            | 443                    | 4,1 / 0,9                                      | 2,3                        |
| Gauge                           | Type                   | Primary Units                                  | Face Diameter<br>(mm)      |
| 9040E                           | analog                 | bar  | 63,5                       |
| Hose                            | Length<br>(m)          | Burst Rating                                   | I.D.<br>(mm)               |
| 9754E                           | 1,8                    | 4:1  | 6,5                        |
| Cylinders                       | Metric<br>Tons         | Stroke<br>(mm)                                 | Collapsed Height<br>(mm)   |
| C106C                           | 9,1                    | 155,6  | 247,7                      |
| RSS101                          | 9,1                    | 38,1   | 88,9                       |
| RH123                           | 10,9                   | 76,2   | 184,2                      |
| RLS100                          | 10,9                   | 11,1   | 44,5                       |
| Spreader                        | Min. Clearance<br>(mm) | Max Spread<br>(mm)                             | Weight<br>(kg)             |
| HS2000                          | 14,2                   | 101,6  | 2,2                        |
| Case                            | Material               | L x H x W<br>(mm)                              | Weight w/o Product<br>(kg) |
| 2008632                         | Heavy-Duty Plastic     | 800 x 520 x 292                                | 5,8                        |

Model Shown:  
**SK25T**



**NOTE:** Storage cases are not included with the 25 ton startup kits, they must be ordered separately.

**Features**

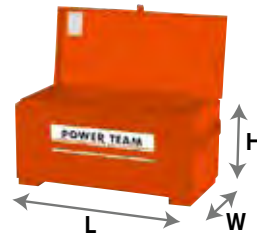
**THE RIGHT CHOICE FOR THOSE HIGHER TON MAINTENANCE KIT NEEDS.**

- 25 Ton Start-Up Kit covers a range of lifting, shifting, and positioning needs
- Broad range of cylinder types and strokes to fit many applications
- SK25TE kit is CE Compliant



**Optional 25 Ton Storage Cases**

**MB5**



**308435OR9**



| Order No.        | Description   |
|------------------|---|
| <b>MB5</b>       | Metal Box Construction, 813 mm (L) x 483 mm (W) x 356 mm (H)  |
| <b>308435OR9</b> | Wooden Box Construction, 914 mm (L) x 445 mm (W) x 356 mm (H) |

**Ordering Information**

| Kit Contents - Order no: SK25TE |                         |   |                          |
|---------------------------------|-------------------------|---|--------------------------|
| Hand Pump                       | Usable Oil Cap.<br>(l)  | Volume Per Stroke<br>Low / High Press.<br>(l) | Weight<br>(kg)           |
| P59L                            | 1082                    | 12 / 2,6                                      | 4,1                      |
| Gauge                           | Type                    | Primary Units                                 | Face Diameter<br>(mm)    |
| 9040E                           | analog                  | bar   | 63,5                     |
| Hose                            | Length<br>(m)           | Burst Rating                                  | I.D.<br>(mm)             |
| 9754E                           | 1,8                     | 4:1   | 6,5                      |
| Cylinders                       | Capacity*<br>Short Tons | Stroke<br>(mm)                                | Collapsed Height<br>(mm) |
| C256C                           | 22,7                    | 158,8   | 273,0                    |
| RSS302                          | 27,2                    | 61,9  | 117,5                    |
| RH302                           | 27,2                    | 63,5  | 158,8                    |
| RLS300                          | 27,2                    | 12,7  | 58,7                     |
| Spreader                        | Min. Clearance<br>(mm)  | Max Spread<br>(mm)                            | Weight<br>(kg)           |
| HS2000                          | 14,2                    | 101,6   | 2,2                      |

\* Values shown in short tons (2,000 lb). To convert to long tons, multiply by 0.893. To convert to metric tons, multiply by 0.907.

Model Shown:  
**SJ2010, SJ3010**



**Features**

**ONE OF THE MOST DURABLE MONO-STRAND JACKS IN THE INDUSTRY.**

- Ideally suited for work on slab-on-grade where dirt, heat and high volume use take their toll.
- Available in single or double-acting models.
- Standard single-acting units have a 254 mm stroke.
- Standard double-acting units have an 152,4 mm stroke.
- Service repair is simple and components are long lasting and easily replaced.
- 76,2 mm detachable seater nose assembly easily replaced with optional 152,4 mm nose assembly.
- The jack of choice for high-rise and elevated work, thanks to fast return time and light weight.
- All hydraulic fluid controls are internal for more efficient and safer operation during tensioning and retraction.



**Optional Dead-end Seater**

Dead-end seaters for production work and field work available on special order. (Part #400120)

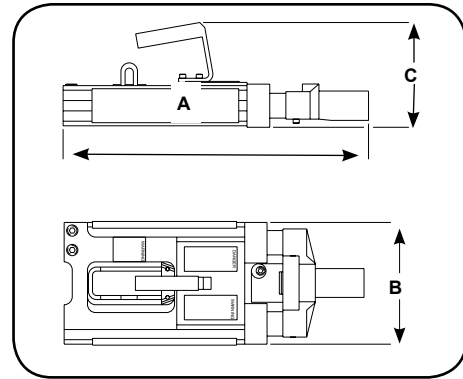
**Multi-strand post-tensioning application**





► **Technical Dimensions**

| Order No. | A     | B     | C     | Wt.<br>(kg) |
|-----------|-------|-------|-------|-------------|
|           | (mm)  | (mm)  | (mm)  |             |
| SJ2010    | 533,4 | 228,6 | 152,4 | 24,9        |
| SJ2010P   | 558,8 | 259,2 | 177,8 | 34,5        |
| SJ3010    | 558,8 | 259,2 | 177,8 | 34,5        |
| SJ3010P   | 558,8 | 259,2 | 177,8 | 34,5        |
| SJ2010DA  | 457,2 | 177,8 | 152,4 | 19,1        |
| SJ3010DA  | 457,2 | 203,2 | 152,4 | 23,6        |



► **Ordering Information**

| Order Number | Cap. (tons) | Stroke (mm) | Oil Cap. (l) | Strand Dia. (mm) | Seater Type (mm) | Int. Press. at Cap. (mm) | Metric Tons at 700 bar | Description  | Recommended Pumps for this Stressing Jack | Prod. Wt. (kg) |
|--------------|-------------|-------------|--------------|------------------|------------------|--------------------------|------------------------|--|---|----------------|
| SJ2010       | 20          | 254         | 0,7          | 11,1 - 12,7      | Spring           | 227,3                    | 20,3                   | Post-tension jack with spring, seater 12,7 mm strand.              | PE554P/PE604T                             | 25             |
| SJ2010P      | 20          | 254         | 0,7          | 11,1 - 12,7      | Power            | 227,3                    | 20,3                   | Post-tension jack with power seater, 12,7 mm strand.               | PE554PT/PE604PT                           | 25             |
| SJ2010DA     | 20          | 216         | 0,9          | 11,1 - 12,7      | Power            | 192,4                    | 23,9                   | Double-acting post-tension jack with power seater, 12,7 mm strand. | PE554PT/PE604PT                           | 19             |
| SJ3010       | 30          | 254         | 1,0          | 11,1 - 15,2      | Spring           | 242,5                    | 28,5                   | Post-tension jack with spring seater, 15,2 mm strand.              | PE554P/PE604T                             | 34,5           |
| SJ3010P      | 30          | 254         | 1,0          | 11,1 - 15,2      | Power            | 242,5                    | 28,5                   | Post-tension jack with power seater, 15,2 mm strand.               | PE554PT/PE604PT                           | 34,5           |
| SJ3010DA     | 30          | 216         | 1,1          | 11,1 - 15,2      | Power            | 191,87                   | 36,0                   | Double-acting post-tension jack with power seater, 15,2 mm strand. | PE554PT/PE604PT                           | 23,6           |

**STRESSING JACK ACCESSORIES AND HOSES**

| Used with Stressing Jack | 76,2 mm<br>Nose Piece # | 76,2 mm<br>Wedge Seater # | 152,4 mm<br>Nose Piece | 152,4 mm<br>Wedge Seater # | 9,5 mm Dia.<br>Gripper Set # | 11,1 mm Dia.<br>Gripper Set # | 12,7 mm<br>Gripper Set # | 15,2 mm<br>Gripper Set # | Replacement Gripper Handle # | Gripper Retainer Plate # (2 used) |
|--------------------------|-------------------------|---------------------------|------------------------|----------------------------|------------------------------|-------------------------------|--------------------------|--------------------------|------------------------------|-----------------------------------|
| SJ2010                   | 252564                  | 252562                    | 252759                 | 252763                     | 252568                       | 252761                        | 252567                   | NA                       | 252570                       | 252565                            |
| SJ2010P                  | 252564                  | 252562                    | 252759                 | 252763                     | 252568                       | 252761                        | 252567                   | NA                       | 252570                       | 252565                            |
| SJ2010DA                 | 252543                  | 252542                    | 252760                 | 252764                     | 252650                       | 252762                        | 252555                   | NA                       | 252556                       | 252544                            |
| SJ3010                   | 252564                  | 252562                    | 252759                 | 252763                     | 252568                       | 252761                        | 252567                   | 252569                   | 252570                       | 252565                            |
| SJ3010P                  | 252564                  | 252562                    | 252759                 | 252763                     | 252568                       | 252761                        | 252567                   | 252569                   | 252570                       | 252565                            |
| SJ3010DA                 | 253363                  | 253361                    | 253364                 | 253362                     | 253390                       | NA                            | 253391                   | 253365                   | 252556                       | 252544                            |

# HYDRAULIC & MECHANICAL TOOLS



## SELECT FROM A WIDE RANGE OF HYDRAULIC & MECHANICAL TOOLS TO COMPLETE YOUR SYSTEM REQUIREMENTS

- Full range of torque wrenches, low clearance in-line drives and pumps for your bolting applications.
- Specialty tools include nut splitters, spreaders, bead breakers and pipe flange tools.
- Hydraulic clamps for those unique applications requiring higher forces.
- Hydraulic testers and accessories to monitor hydraulic circuits.
- Wide selection of mechanical tools, such as pliers, pry bars, O-ring picks, thread chasers and more.





|   | Section / Series              | Page Description  | Page(s)                                  |
|---|-------------------------------|---|--|
|    | <b>TWHC, TWSD, TWLC, TWSL</b> | High Cycle Torque Wrench, Square Drive Torque Wrench, Low Clearance Torque Wrench, SlimLine Torque Wrench | 187-190<br>191-194<br>195-199<br>201-202 |
|    | <b>X1</b>                     | X1E1 - Electric Torque Wrench Pump, X1A1 - Air Torque Wrench Pump   | 203<br>204                               |
|    | <b>PE30 TWP</b>               | Electric Hydraulic Torque Wrench Pump   | 205                                      |
|    | <b>PE55 TWP</b>               | Electric Hydraulic Torque Wrench Pump   | 206                                      |
|    | <b>RWP55</b>                  | Air Hydraulic Torque Wrench Pump  | 207                                      |
|    | <b>HNS</b>                    | Hydraulic Nut Splitter  | 208                                      |
|   | <b>FLS</b>                    | Hydraulic Flange Spreader   | 209-210                                  |
|  | <b>HFS</b>                    | Pipe Flange, Hydraulic Spreader   | 211                                      |
|  | <b>HS</b>                     | Hydraulic Spreaders   | 212                                      |
|  | <b>CC</b>                     | Hydraulic C-Clamps & Accessories  | 213                                      |
|  | <b>BB</b>                     | Bead Breaker, Tire Removing Tool  | 214                                      |
|  | <b>HP35</b>                   | Hydraulic Punches and Accessories   | 215-216                                  |
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|  | <b>PLIERS</b>                 | Retaining Ring Pliers (Internal & External)   | 220                                      |
|  | <b>HAND TOOLS</b>             | Wrenches, Pry Bars, Spanners & Jimmy Bars   | 221                                      |
|  | <b>SERVICE TOOLS</b>          | Pipe Sealant, O-Ring Seal Picks, Thread Chaser, and Magnetic Pick-Up                                      | 222                                      |

Model Shown:  
**TWHC3**



**Features**

**QUALITY MEANS LOWER COST OF OWNERSHIP**

- Designed for high cycle life (2-3x more than existing technology)
- Increased reliability provided by simple drive assembly means less downtime
- Corrosion resistant material for use in harsh environments

**ENHANCED USABILITY:**

- Compact nose radius allows the tool to fit in tighter, hard-to-reach spaces
- Low weight, high strength design
- Fast operation, long stroke and optimum flow
- Multi-direction high flow swivel manifold
- Push-button square drive reversal and reaction arm positioning for all models except TWHC50

**DESIGNED WITH SAFETY IN MIND:**

- Fully-enclosed drive mechanism for operator safety
- Swivel manifold internal relief valve prevents retract side over-pressurization
- Fine tooth pawl prevents tool 'lock-on'

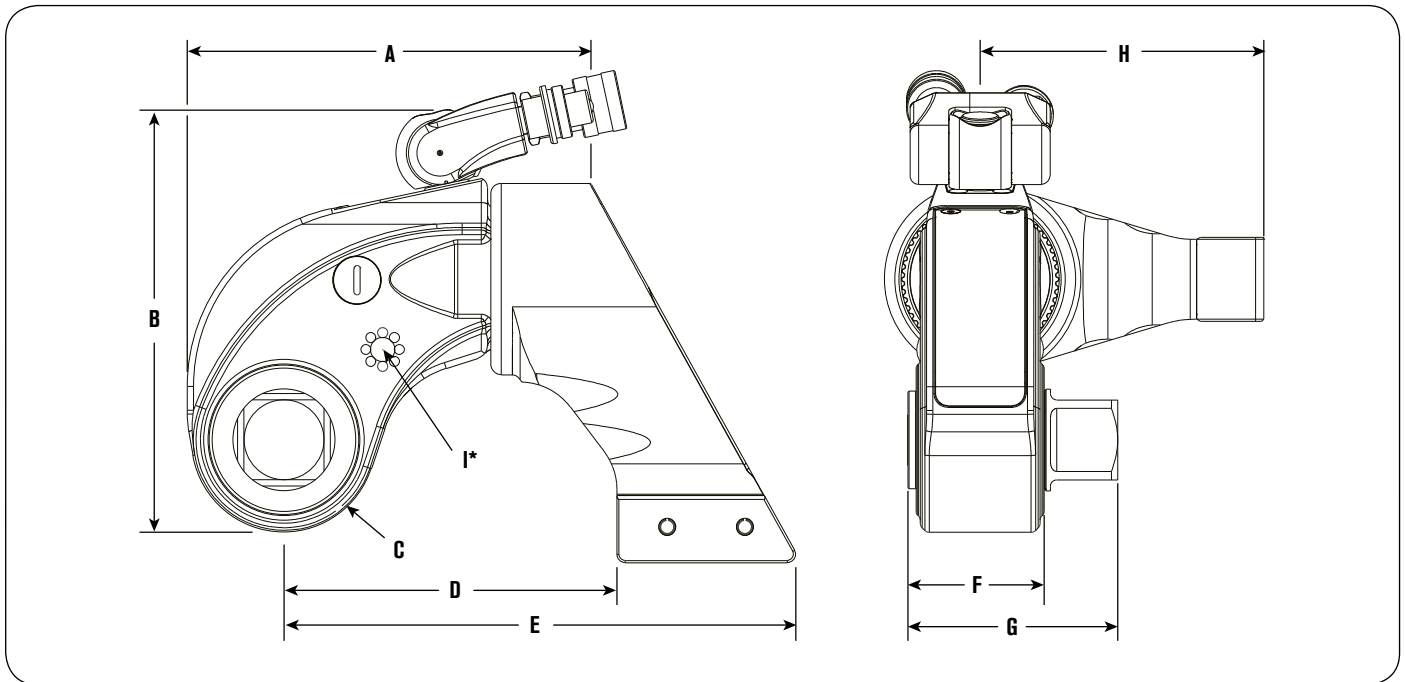
▶ The TWSD50 is the perfect choice in this power generation application.



**HANDLES SOLD SEPARATELY**



The tool's designed long-stroke mechanism imparts a minimum 30 degree nut rotation per stroke while maintaining a tight and compact nose radius. This is a clear advantage over the short stroke and back-up pawl mechanisms of light alloy competitive models. Fewer parts and reduced torsion in operation equals reduced wear, maintenance and associated costs.



\* Dimension I shows thread size (on both sides of the tool) for safety handle or lifting point. TWHC50 model available with lifting points only.

► **Technical Dimensions**

| Tool Model | Min Torque | Max Torque | Square Drive | A     | B     | C    | D     | E     | F     | G     | H     | I          | Prod. Wt.<br>(kg) |
|------------|------------|------------|--------------|-------|-------|------|-------|-------|-------|-------|-------|------------|-------------------|
|            | (Nm)       | (Nm)       | (in.)        | (mm)  | (mm)  | (mm) | (mm)  | (mm)  | (mm)  | (mm)  | (mm)  |            |                   |
| TWHC1      | 230        | 1916       | 3/4          | 132,1 | 145,0 | 27,9 | 111,5 | 169,9 | 39,6  | 67,8  | 86,1  | M6 x 1.0   | 2,8               |
| TWHC3      | 510        | 4252       | 1            | 165,1 | 173,5 | 36,6 | 129,5 | 197,6 | 53,1  | 83,8  | 105,1 | M6 x 1.0   | 5,3               |
| TWHC6      | 984        | 8203       | 1 1/2        | 192,0 | 201,7 | 43,9 | 158,5 | 243,6 | 61,0  | 99,8  | 135,1 | M8 x 1.25  | 8,8               |
| TWHC50     | 8623       | 71859      | 2 1/2        | 404,6 | 356,6 | 87,9 | 266,4 | 446,5 | 115,1 | 192,3 | 258,0 | M12 x 1.75 | 68,9              |

► **Ordering Information**

| Order No. | Description |
|-----------|-------------|
| TWHC1     | Wrench      |
| TWHC3     | Wrench      |
| TWHC6     | Wrench      |
| TWHC50    | Wrench      |

| Order No. | Description        |
|-----------|--------------------|
| TWHC1H    | Wrench with Handle |
| TWHC3H    | Wrench with Handle |
| TWHC6H    | Wrench with Handle |

| Order No.   | Description      |
|-------------|------------------|
| DFTAS000001 | Handle for TWHC1 |
| DFTAS000001 | Handle for TWHC3 |
| DFTAS000002 | Handle for TWHC6 |

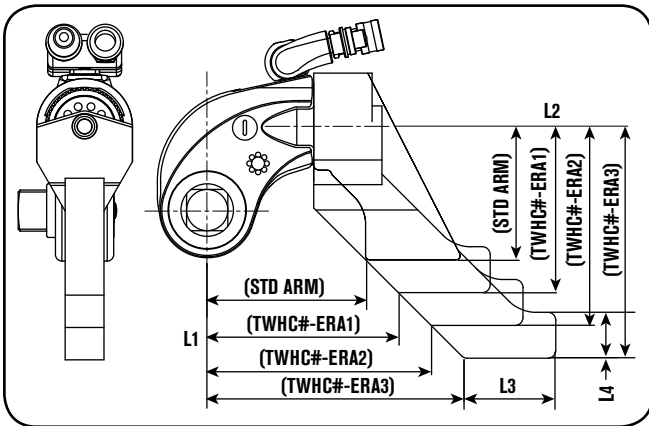
**TWHC EXTENDED REACTION ARM TWHC-ERA**



**>Features**

- Long reach version of TWHC standard reaction arm
- 3 standard sizes per model (25 mm / 50 mm / 75 mm), specials upon request
- Replaces standard reaction arm via quick release locking pin
- Steel alloy construction
- 360° rotation
- Available for full range of tool sizes

**▶ Ordering Information**



| Tool Ref | Order No.  | L1    | L2    | L3   | L4   | Weight (kg) |
|----------|------------|-------|-------|------|------|-------------|
|          |            | (mm)  | (mm)  | (mm) | (mm) |             |
| STD ARM  |            | 112,0 | 86,1  | —    | —    | —           |
| TWHC1    | TWHC1-ERA1 | 136,9 | 111,0 | 59,9 | 30,0 | 2           |
|          | TWHC1-ERA2 | 162,1 | 135,9 |      |      | 2,3         |
|          | TWHC1-ERA3 | 186,9 | 161,0 |      |      | 2,6         |
| STD ARM  |            | 130,0 | 104,9 | —    | —    | —           |
| TWHC3    | TWHC3-ERA1 | 154,9 | 130,0 | 70,1 | 35,1 | 3           |
|          | TWHC3-ERA2 | 180,1 | 154,9 |      |      | 3,5         |
|          | TWHC3-ERA3 | 205,0 | 180,1 |      |      | 3,9         |
| STD ARM  |            | 158,2 | 135,9 | —    | —    | —           |
| TWHC6    | TWHC6-ERA1 | 183,9 | 161,0 | 95,0 | 39,9 | 5           |
|          | TWHC6-ERA2 | 209,0 | 185,9 |      |      | 5,6         |
|          | TWHC6-ERA3 | 233,9 | 211,1 |      |      | 6,2         |

**TW HANDLE**



**>Features**

- Robust steel construction with ribbed polymer grip
- Multi-position on tool for balanced handling
- Cap-screw locking with positive 'docking'
- Is suitable for all wrench models (TWHC, TWSD, TWLC). However, for larger sizes (TWSD25/TWLC 30/TWHC50) we recommend the use of eye-bolt lifting.

**▶ Ordering Information**

| Order No.   | Description   | Tool Ref |
|-------------|---------------|----------|
| DFTAS000001 | Wrench Handle | TWSD1    |
|             |               | TWSD3    |
|             |               | TWHC1    |
|             |               | TWHC3    |
|             |               | TWLC2    |

| Order No.   | Description   | Tool Ref |
|-------------|---------------|----------|
| DFTAS000002 | Wrench Handle | TWSD6    |
|             |               | TWSD11   |
|             |               | TWHC6    |
|             |               | TWLC4    |
|             |               | TWLC8    |
|             |               | TWLC15   |

**TWHC REACTION PAD TWHC-RP**

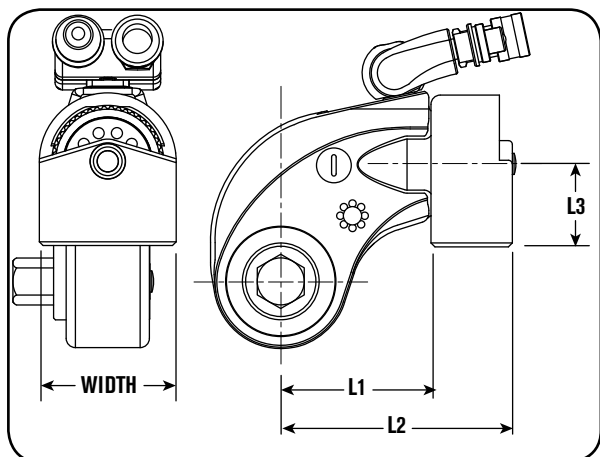


**Features**

- In-Line Reaction Pad for TWHC wrenches used as simple pad, or modified platform for specific application (Machine-able/Weld-able platform)
- Replaces standard reaction arm via quick release locking pin
- Steel alloy construction
- 360° rotation
- Available for full range of tool sizes

**Ordering Information**

| Tool Ref | Order No. | L1   | L2    | L3   | Width | Weight |
|----------|-----------|------|-------|------|-------|--------|
|          |           | (mm) | (mm)  | (mm) | (mm)  | (kg)   |
| TWHC1    | TWHC1-RP  | 72,0 | 116,0 | 49,0 | 64,0  | 1      |
| TWHC3    | TWHC3-RP  | 86,1 | 137,9 | 55,1 | 75,9  | 1,5    |
| TWHC6    | TWHC6-RP  | 99,1 | 162,1 | 62,0 | 88,9  | 2,3    |



**TWHC LONG REACTION ARM TWHC-LRA**

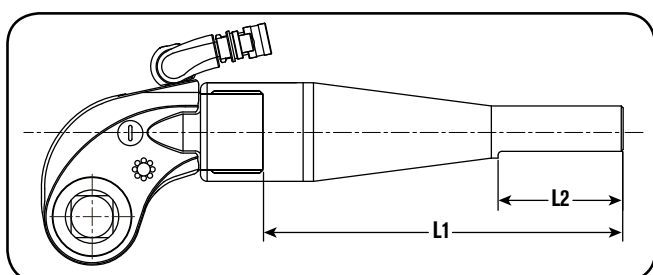


**Features**

- Tubular extension arm for TWHC wrenches for in-line reaction outside wrench profile
- Replaces standard reaction arm via quick release pin locking
- Steel/light alloy construction (reaction flat machined on tube end)
- Can be cut down to suit specific length
- Available for full range of tool sizes

**Ordering Information**

| Tool Ref | Order No. | L1    | L2    | Weight |
|----------|-----------|-------|-------|--------|
|          |           | (mm)  | (mm)  | (kg)   |
| TWHC1    | TWHC1-LRA | 500,9 | 152,4 | 4,5    |
| TWHC3    | TWHC3-LRA |       |       | 6      |
| TWHC6    | TWHC6-LRA |       |       | 8,1    |



Model Shown:  
**TWSD11**



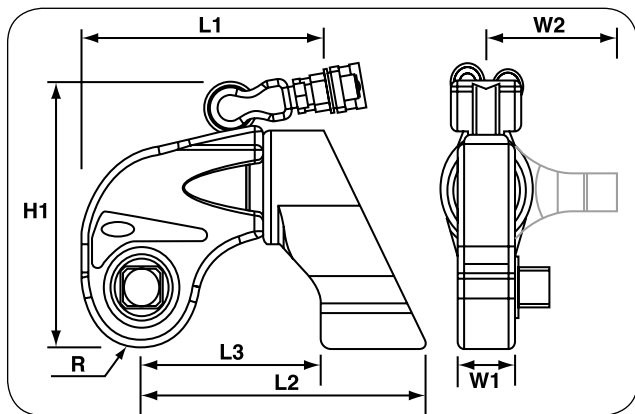
**Features**

**HYDRAULIC SQUARE DRIVE TORQUE WRENCHES**

- Corrosion resistant finish, low weight, high strength steel body construction design with superior torsional strength.
- Fast operation cycle, fine tooth ratchet, with floating piston design.
- Multi-axis high flow swivel manifold with internal relief valve prevents retract side over-pressurization
- Push button reversal of square drive
- 360° reaction arm, with push to lock reaction arm.
- Simple design, fully enclosed drive mechanism, provides accurate torque output

**NOTE:** Standard Reaction Arm included for all models

▶ The TWSD11 is th perfect choice with a large reaction surface to eliminate damage to the gears during the tightening process.



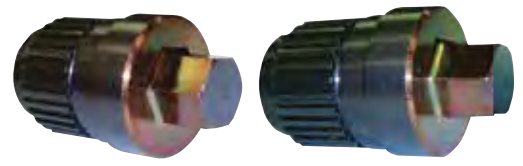
**Technical Dimensions**

| Tool Model | L1    | L2    | L3    | H1    | R    | W1   | W2    | Square Drive | Max. Torque | Tool Wt. |
|------------|-------|-------|-------|-------|------|------|-------|--------------|-------------|----------|
|            | (mm)  | (mm)  | (mm)  | (mm)  | (mm) | (mm) | (mm)  | (in.)        | (Nm)        | (kg)     |
| TWSD11     | 233,9 | 292,1 | 178,1 | 241,0 | 55,9 | 61,0 | 165,1 | 1 1/2        | 14833       | 13,1     |
| TWSD25     | 305,1 | 375,9 | 230,9 | 315,0 | 71,1 | 75,9 | 199,9 | 2 1/2        | 33489       | 29,5     |

**Ordering Information**

| Order No. | Description       | Order No.   | Description                                      |
|-----------|-------------------|-------------|--|
| TWSD11    | Wrench - 14833 Nm | DFTAS000002 | Wrench Handle Size 2 Tool Ref. TWSD06 and TWSD11 |
| TWSD25    | Wrench - 33489 Nm |             |  |





► Ordering Information

**SQUARE DRIVE - ADAPTERS & SOCKETS**

| Torque Wrench      | Hexagon Drive Size AF (mm) | Order No.    |              | Torque Wrench      | Hexagon Drive Size AF (mm) | Order No. |              |
|--------------------|----------------------------|--------------|--------------|--------------------|----------------------------|-----------|--------------|
|                    |                            | TWSD         | TWHC         |                    |                            | TWSD      | TWHC         |
| (TWSD1)<br>(TWHC1) | 17                         |              | TWHCHD01-017 | (TWSD6)<br>(TWHC6) | 30                         |           | TWHCHD06-030 |
|                    | 19                         |              | TWHCHD01-019 |                    | 32                         |           | TWHCHD06-032 |
|                    | 22                         |              | TWHCHD01-022 |                    | 36                         |           | TWHCHD06-036 |
|                    | 24                         |              | TWHCHD01-024 |                    | 41                         |           | TWHCHD06-041 |
| (TWSD3)<br>(TWHC3) | 17                         |              | TWHCHD03-017 |                    | (TWSD11)                   | 27        | TWD11-027    |
|                    | 19                         |              | TWHCHD03-019 | 30                 |                            | TWD11-030 | -            |
|                    | 22                         |              | TWHCHD03-022 | 32                 |                            | TWD11-032 | -            |
|                    | 24                         |              | TWHCHD03-024 | 36                 |                            | TWD11-036 | -            |
|                    | 27                         |              | TWHCHD03-027 | 41                 |                            | TWD11-041 | -            |
|                    | 30                         |              | TWHCHD03-030 | 46                 |                            | TWD11-046 | -            |
|                    | 32                         |              | TWHCHD03-032 | (TWSD25)           | 36                         | TWD25-036 | -            |
|                    | 36                         |              | TWHCHD03-036 |                    | 41                         | TWD25-041 | -            |
| 41                 |                            | TWHCHD03-041 | 46           |                    | TWD25-046                  | -         |              |
| (TWSD6)<br>(TWHC6) | 17                         |              | TWHCHD06-017 |                    | 50                         | TWD25-050 | -            |
|                    | 19                         |              | TWHCHD06-019 |                    | 55                         | TWD25-055 | -            |
|                    | 22                         |              | TWHCHD06-022 | 60                 | TWD25-060                  | -         |              |
|                    | 24                         |              | TWHCHD06-024 | 65                 | TWD25-065                  | -         |              |
|                    | 27                         |              | TWHCHD06-027 | 70                 | TWD25-070                  | -         |              |



► Ordering Information

**SQUARE DRIVE - IMPACT SOCKETS**

| Socket Size (mm) | 3/4" Drive | 1" Drive | 1 1/2" Drive | 2 1/2" Drive | Socket Size (mm) | 3/4" Drive | 1" Drive | 1 1/2" Drive | 2 1/2" Drive |
|------------------|------------|----------|--------------|--------------|------------------|------------|----------|--------------|--------------|
|                  | Part No.   | Part No. | Part No.     | Part No.     |                  | Part No.   | Part No. | Part No.     | Part No.     |
| 22               | TWSIA022   | TWSIB022 | —            | —            | 75               | —          | —        | TWSIC075     | —            |
| 24               | TWSIA024   | TWSIB024 | —            | —            | 80               | —          | TWSIB080 | TWSIC080     | TWSIF080     |
| 32               | TWSIA032   | TWSIB032 | —            | —            | 85               | —          | TWSIB085 | TWSIC085     | TWSIF085     |
| 36               | TWSIA036   | TWSIB036 | —            | —            | 90               | —          | TWSIB090 | TWSIC090     | TWSIF090     |
| 41               | TWSIA041   | TWSIB041 | TWSIC041     | —            | 95               | —          | TWSIB095 | TWSIC095     | TWSIF095     |
| 46               | TWSIA046   | TWSIB046 | —            | —            | 100              | —          | TWSIB100 | —            | TWSIF100     |
| 50               | TWSIA050   | TWSIB050 | —            | —            | 110              | —          | TWSIB110 | TWSIC110     | TWSIF110     |
| 55               | —          | TWSIB055 | —            | —            | 115              | —          | —        | TWSIC115     | TWSIF115     |
| 60               | —          | TWSIB060 | TWSIC060     | —            | 120              | —          | —        | TWSIC120     | —            |
| 65               | —          | TWSIB065 | TWSIC065     | —            | 135              | —          | —        | —            | TWSIF135     |
| 70               | —          | TWSIB070 | TWSIC070     | —            | 150              | —          | —        | —            | TWSIF150     |

NOTE: For Long Reach (Extended Length) sockets add "LR" to the end of the part number. For 12 point (bi-hex) sockets, add "BH" to the end of the part number.

**TWSD EXTENDED REACTION ARM TWSD-ERA**

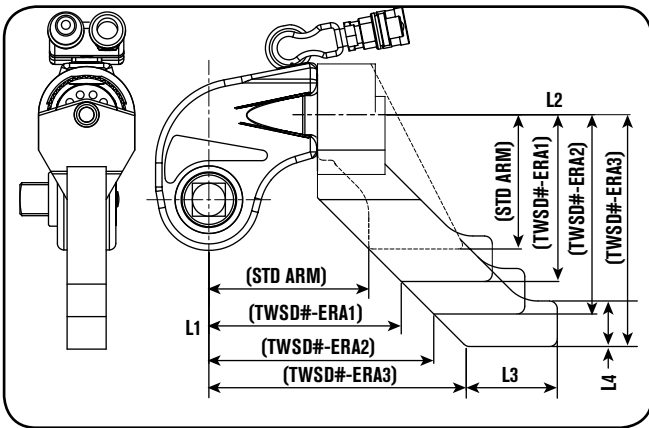


**Features**

- Long reach version of TWSD standard reaction arm
- 3 standard sizes per model (25 mm / 50 mm / 75 mm), specials upon request
- Replaces standard reaction arm via quick release locking pin
- Steel alloy construction
- 360° rotation
- Available for full range of tool sizes

| Tool Ref | Order No.   | L1 (mm) | L2 (mm) | L3 (mm) | L4 (mm) | Weight (kg) |
|----------|-------------|---------|---------|---------|---------|-------------|
| STD ARM  |             | 179,1   | 165,1   |         |         |             |
| TWSD11   | TWSD11-ERA1 | 204,0   | 190,0   | 110,0   | 39,9    | 8           |
|          | TWSD11-ERA2 | 229,1   | 214,9   |         |         | 8,5         |
|          | TWSD11-ERA3 | 254,0   | 240,0   |         |         | 9,5         |
| STD ARM  |             | 230,9   | 199,9   |         |         |             |
| TWSD25   | TWSD25-ERA1 | 256,0   | 225,0   | 145,0   | 50,0    | 18          |
|          | TWSD25-ERA2 | 280,9   | 249,9   |         |         | 20          |
|          | TWSD25-ERA3 | 306,07  | 275,08  |         |         | 21          |

**Ordering Information**



**TW HANDLE**



**Features**

- Robust steel construction with ribbed polymer grip
- Multi-position on tool for balanced handling
- Cap-screw locking with positive 'docking'
- Is suitable for all wrench models (TWHC, TWSD, TWLC). However, for larger sizes (TWSD25/ TWLC30/TWHC50) we recommend the use of eye-bolt lifting.

**Ordering Information**

| Order No.   | Description   | Tool Ref |
|-------------|---------------|----------|
| DFTAS000001 | Wrench Handle | TWHC1    |
|             |               | TWHC3    |
|             |               | TWLC2    |

| Order No.   | Description   | Tool Ref |
|-------------|---------------|----------|
| DFTAS000002 | Wrench Handle | TWSD11   |
|             |               | TWHC6    |
|             |               | TWLC4    |
|             |               | TWLC8    |
|             |               | TWLC15   |

TWSD REACTION PAD TWSD-RP

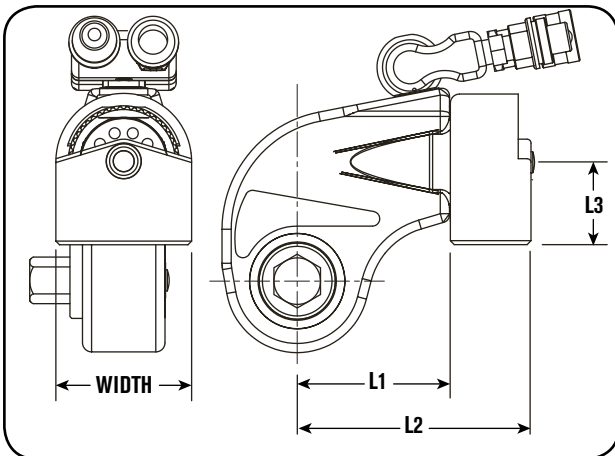


Features

- Wrench In-Line Reaction Pad for TWSD wrenches used as simple pad, or modified platform, for specific application (Machine-able/Weld-able platform)
- Replaces standard reaction arm via quick release locking pin
- Steel alloy construction
- 360° rotation
- Available for full range of tool sizes

Ordering Information

| Tool Ref | Order No. | L1    | L2    | L3   | Width (mm) | Weight (kg) |
|----------|-----------|-------|-------|------|------------|-------------|
|          |           | (mm)  | (mm)  | (mm) |            |             |
| TWSD11   | TWSD11-RP | 109,5 | 184,5 | 65,5 | 105,0      | 4           |
| TWSD25   | TWSD25-RP | 136,5 | 243,5 | 88,5 | 143,0      | 10          |



TWSD LONG REACTION ARM TWSD-LRA

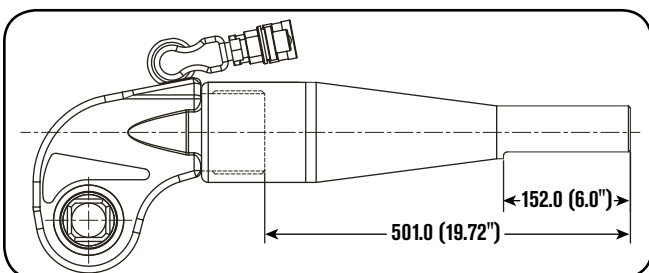


Features

- Tubular extension arm for TWSD wrenches for in-line reaction outside wrench profile
- Replaces standard reaction arm via quick release locking pin
- Steel/light alloy construction (reaction flat machined on tube end)
- Can be cut down to suit specific length
- Available for full range of tool sizes

Ordering Information

| Tool Ref | Order No.  | L1    | L2    | Weight (kg) |
|----------|------------|-------|-------|-------------|
|          |            | (mm)  | (mm)  |             |
| TWSD11   | TWSD11-LRA | 500,9 | 152,4 | 11          |
| TWSD25   | TWSD25-LRA |       |       | 22          |



Model Shown:

**TWLC Body**

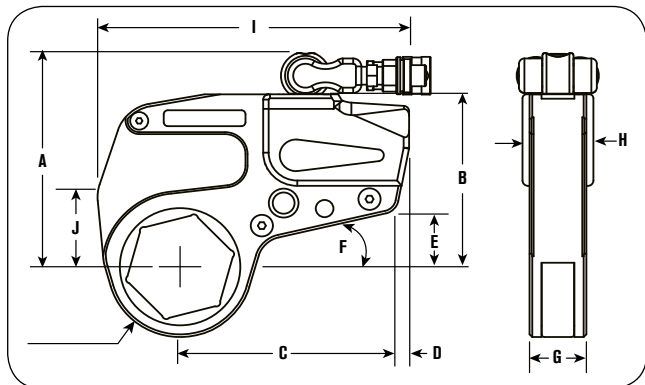


\* Links sold separately.  
Tool is not shipped with link.

**Features**

**THE CLEARANCE TOOL FEATURES A LONG NECK, SHORT HEIGHT, AND SMALL NOSE RADIUS FOR INACCESSIBLE BOLTING AREAS FOUND IN INDUSTRY.**

- Corrosion resistant finish, low weight, high strength steel body construction design with superior torsional strength.
- Fine tooth ratchet with floating piston design with small nose radius, allows for a fast operation cycle.
- Link pin does not fall out.
- Multi-axis high flow swivel manifold with internal relief valve prevents retract side over-pressurization
- “Hardened” steel reaction pad on TWLC8, 15 & 30
- Simple design, auto-connect drive piston quick interchangeable heads, no tools necessary, consistent torque output
- Replaceable reaction pad on larger models
- Power Team PowerThon™ Limited Lifetime Warranty



**Technical Dimensions**

| Body Order No. | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | G (mm) | H (mm) |
|----------------|--------|--------|--------|--------|--------|--------|--------|--------|
| TWLC2          | 96,5   | 104,1  | 127,0  | 7,6    | 35,6   | 12,7   | 33,0   | 43,2   |
| TWLC4          | 119,4  | 129,5  | 160,0  | 10,2   | 43,2   | 12,7   | 43,2   | 50,8   |
| TWLC8          | 147,3  | 157,5  | 177,8  | 25,4   | 40,6   | 15,2   | 53,3   | 66,0   |
| TWLC15         | 175,3  | 185,4  | 200,7  | 27,9   | 43,2   | 15,2   | 63,5   | 76,2   |
| TWLC30         | 223,5  | 238,8  | 266,7  | 25,4   | 61,0   | 15,2   | 81,3   | 94,0   |

**Torque Wrench Hoses - Non-Conductive Dual Line**



| Order No. | Hose Length (m) | Hose I.D. (in.) |
|-----------|-----------------|-----------------|
| TWH15     | 4,6             | 1/4"            |
| TWH20     | 6,1             | 1/4"            |
| TWH30     | 15,2            | 1/4"            |

**Ordering Information**

| Tool Model | Hex Range (mm) | Min.Torque (Nm) | Max.Torque (Nm) | Weight. (Body Only) (kg) |
|------------|----------------|-----------------|-----------------|--------------------------|
| TWLC2      | 26 - 50        | 256             | 2135            | 1,0                      |
| TWLC4      | 33 - 80        | 647             | 5389            | 2,0                      |
| TWLC8      | 49 - 100       | 1293            | 10779           | 3,5                      |
| TWLC15     | 62 - 116       | 2416            | 20134           | 7,0                      |
| TWLC30     | 80 - 115       | 4686            | 39048           | 14,5                     |



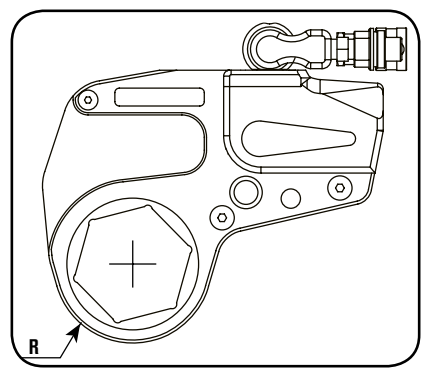
Special sizes available upon request.

**LOW CLEARANCE - REDUCERS**

| Body Order No. | Link      | Nut A/F (mm) | Reducer (mm) | Reducer      | Reducer (mm) | Reducer      | Reducer (mm) | Reducer      |
|----------------|-----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
|                | Part No.  |              |              | Part No.     |              | Part No.     |              | Part No.     |
| TWLC2          | TWL2-032  | 32           | —            | —            | —            | —            | —            | —            |
|                | TWL2-036  | 36           | —            | —            | —            | —            | —            | —            |
|                | TWL2-041  | 41           | 41-36        | TWR2-041036  | 41-32        | TWR2-041032  | —            | —            |
|                | TWL2-046  | 46           | 46-41        | TWR2-046041  | 46-36        | TWR2-046036  | 46-32        | TWR2-046032  |
|                | TWL2-050  | 50           | 50-46        | TWR2-050046  | 50-41        | TWR2-050041  | 50-36        | TWR2-050036  |
|                | TWL2-055  | 55           | 55-50        | TWR2-055050  | 55-46        | TWR2-055046  | 55-41        | TWR2-055041  |
| TWLC4          | TWL2-060  | 60           | 60-55        | TWR2-060055  | 60-50        | TWR2-060050  | 60-46        | TWR2-060046  |
|                | TWL4-041  | 41           | 41-36        | TWR4-041036  | 41-32        | TWR4-041032  | —            | —            |
|                | TWL4-046  | 46           | 46-41        | TWR4-046041  | 46-36        | TWR4-046036  | 46-32        | TWR4-046032  |
|                | TWL4-050  | 50           | 50-46        | TWR4-050046  | 50-41        | TWR4-050041  | 50-36        | TWR4-050036  |
|                | TWL4-055  | 55           | 55-50        | TWR4-055050  | 55-46        | TWR4-055046  | 55-41        | TWR4-055041  |
|                | TWL4-060  | 60           | 60-55        | TWR4-060055  | 60-50        | TWR4-060050  | 60-46        | TWR4-060046  |
|                | TWL4-065  | 65           | 65-60        | TWR4-065060  | 65-55        | TWR4-065055  | 65-50        | TWR4-065050  |
|                | TWL4-070  | 70           | 70-65        | TWR4-070065  | 70-60        | TWR4-070060  | 70-55        | TWR4-070055  |
| TWLC8          | TWL4-075  | 75           | 75-70        | TWR4-075070  | 75-65        | TWR4-075065  | 75-60        | TWR4-075060  |
|                | TWL4-080  | 80           | 80-75        | TWR4-080075  | 80-70        | TWR4-080070  | 80-65        | TWR4-080065  |
|                | TWL8-060  | 60           | 60-55        | TWR8-060055  | 60-50        | TWR8-060050  | 60-46        | TWR8-060046  |
|                | TWL8-065  | 65           | 65-60        | TWR8-065060  | 65-55        | TWR8-065055  | 65-50        | TWR8-065050  |
|                | TWL8-070  | 70           | 70-65        | TWR8-070065  | 70-60        | TWR8-070060  | 70-55        | TWR8-070055  |
|                | TWL8-075  | 75           | 75-70        | TWR8-075070  | 75-65        | TWR8-075065  | 75-60        | TWR8-075060  |
|                | TWL8-080  | 80           | 80-75        | TWR8-080075  | 80-70        | TWR8-080070  | 80-65        | TWR8-080065  |
|                | TWL8-085  | 85           | 85-70        | TWR8-085080  | 85-65        | TWR8-085075  | 85-70        | TWR8-085070  |
| TWLC15         | TWL8-090  | 90           | 90-85        | TWR8-090085  | 90-80        | TWR8-090080  | 90-75        | TWR8-090075  |
|                | TWL8-095  | 95           | 95-90        | TWR8-095090  | 95-85        | TWR8-095085  | 95-80        | TWR8-095080  |
|                | TWL8-100  | 100          | 100-95       | TWR8-100095  | 100-90       | TWR8-100090  | 100-85       | TWR8-100085  |
|                | TWL15-070 | 70           | 70-65        | TWR15-070065 | 70-60        | TWR15-070060 | 70-55        | TWR15-070055 |
|                | TWL15-075 | 75           | 75-70        | TWR15-075070 | 75-65        | TWR15-075065 | 75-60        | TWR15-075060 |
|                | TWL15-080 | 80           | 80-75        | TWR15-080075 | 80-70        | TWR15-080070 | 80-65        | TWR15-080065 |
|                | TWL15-085 | 85           | 85-80        | TWR15-085080 | 85-75        | TWR15-085075 | 85-70        | TWR15-085070 |
|                | TWL15-090 | 90           | 90-85        | TWR15-090085 | 90-80        | TWR15-090080 | 90-75        | TWR15-090075 |
|                | TWL15-095 | 95           | 95-90        | TWR15-095090 | 95-85        | TWR15-095085 | 95-80        | TWR15-095080 |
|                | TWL15-100 | 100          | 100-95       | TWR15-100095 | 100-90       | TWR15-100090 | 100-85       | TWR15-100085 |
| TWLC30         | TWL15-105 | 105          | 105-100      | —            | 105-95       | —            | 105-90       | —            |
|                | TWL15-425 | —            | —            | TWR15-425388 | —            | TWR15-425375 | —            | TWR15-425350 |
|                | TWL15-110 | 110          | 110-105      | —            | 110-100      | —            | 110-95       | —            |
|                | TWL15-115 | 115          | 115-110      | —            | 115-105      | —            | 115-100      | —            |
|                | TWL15-463 | —            | —            | TWR15-463425 | —            | TWR15-463388 | —            | TWR15-463375 |
|                | TWL30-080 | 80           | 80-75        | TWR30-080075 | 80-70        | TWR30-080070 | 80-65        | TWR30-080065 |
|                | TWL30-085 | 85           | 85-80        | TWR30-085080 | 85-65        | TWR30-085075 | 85-70        | TWR30-085070 |
|                | TWL30-090 | 90           | 90-85        | TWR30-090085 | 90-80        | TWR30-090080 | 90-75        | TWR30-090075 |
|                | TWL30-095 | 95           | 95-90        | TWR30-095090 | 95-85        | TWR30-095085 | 95-80        | TWR30-095080 |
|                | TWL30-100 | 100          | 100-95       | TWR30-100095 | 100-90       | TWR30-100090 | 100-85       | TWR30-100085 |
|                | TWL30-105 | 105          | 105-100      | TWR30-105100 | 105-95       | TWR30-105095 | 105-90       | TWR30-105090 |
|                | TWL30-425 | —            | —            | TWR30-425388 | —            | TWR30-425375 | —            | TWR30-425350 |
|                | TWL30-110 | 110          | 110-105      | —            | 110-100      | —            | 110-95       | —            |
|                | TWL30-115 | 115          | 115-110      | —            | 115-105      | —            | 115-100      | —            |
| TWL30-463      | —         | —            | TWR30-463425 | —            | TWR30-463388 | —            | TWR30-463375 |              |
| TWL30-120      | 120       | 120-115      | —            | 120-110      | —            | 120-105      | —            |              |
| TWL30-500      | —         | —            | TWR30-500463 | —            | TWR30-500425 | —            | TWR30-500388 |              |
| TWL30-130      | 130       | 130-120      | —            | 130-115      | —            | 130-110      | —            |              |
| TWL30-135      | 135       | 135-125      | TWR30-135125 | 135-120      | TWR30-135120 | 135-115      | TWR30-135115 |              |
| TWL30-145      | 145       | —            | —            | —            | —            | —            | —            |              |
| TWL30-150      | 150       | —            | —            | —            | —            | —            | —            |              |
| TWL30-155      | 155       | —            | —            | —            | —            | —            | —            |              |

AVAILABLE UPON REQUEST

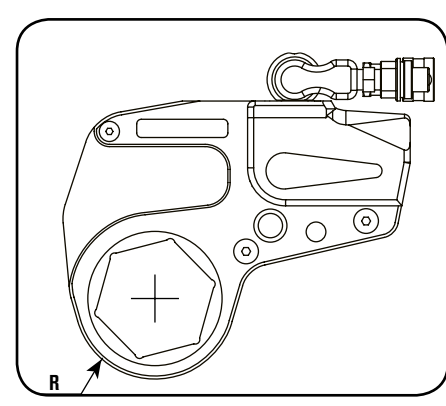
| Nut A/F<br>(mm) | TWLC2          |               |        |        |                         | TWLC4          |               |        |        |                         | TWLC8          |               |        |        |                         |
|-----------------|----------------|---------------|--------|--------|-------------------------|----------------|---------------|--------|--------|-------------------------|----------------|---------------|--------|--------|-------------------------|
|                 | Link Order No. | Radius R (mm) | I (mm) | J (mm) | Weight (Link Only) (kg) | Link Order No. | Radius R (mm) | I (mm) | J (mm) | Weight (Link Only) (kg) | Link Order No. | Radius R (mm) | I (mm) | J (mm) | Weight (Link Only) (kg) |
| 26              | TWL2-026       | 31,5          | 180,1  | 38,1   | 2                       | -              | 36,6          | 227,1  | 53,1   | 224,0                   | -              | 50,5          | 274,1  | 77,0   | 7                       |
| 27              | TWL2-027       |               |        |        |                         | -              |               |        |        |                         |                |               |        |        |                         |
| 29              | TWL2-029       |               |        |        |                         | -              |               |        |        |                         |                |               |        |        |                         |
| 30              | TWL2-030       |               |        |        |                         | -              |               |        |        |                         |                |               |        |        |                         |
| 32              | TWL2-032       |               |        |        |                         | -              |               |        |        |                         |                |               |        |        |                         |
| 33              | TWL2-033       |               |        |        |                         | -              |               |        |        |                         |                |               |        |        |                         |
| 35              | TWL2-035       | -             |        |        |                         |                |               |        |        |                         |                |               |        |        |                         |
| 36              | TWL2-036       | -             |        |        |                         |                |               |        |        |                         |                |               |        |        |                         |
| 38              | TWL2-150       | 34,5          | 181,1  | 39,9   | 2                       | TWL4-150       | 36,6          | 227,1  | 53,1   | 224,0                   | -              | 50,5          | 274,1  | 77,0   | 7                       |
| 40              | TWL2-040       |               |        |        |                         | TWL4-040       |               |        |        |                         |                |               |        |        |                         |
| 41              | TWL2-041       | -             | -      | -      | -                       | TWL4-041       | -             | -      | -      | -                       | -              | -             | -      | -      | -                       |
| 43              | TWL2-043       | 37,1          | 182,9  | 39,9   | 2                       | TWL4-043       | 39,1          | 227,1  | 53,1   | 4                       | -              | 50,5          | 274,1  | 77,0   | 7                       |
| 44              | TWL2-044       |               |        |        |                         | TWL4-044       |               |        |        |                         |                |               |        |        |                         |
| 46              | TWL2-046       | -             | -      | -      | -                       | TWL4-046       | -             | -      | -      | -                       | -              | -             | -      | -      | -                       |
| 48              | TWL2-188       | 39,9          | 184,9  | 42,9   | 2                       | TWL4-188       | 41,9          | 227,1  | 53,1   | 4                       | TWL8-188       | 50,5          | 274,1  | 77,0   | 7                       |
| 49              | TWL2-049       |               |        |        |                         | TWL4-049       |               |        |        |                         | TWL8-049       |               |        |        |                         |
| 50              | TWL2-050       |               |        |        |                         | TWL4-050       |               |        |        |                         | TWL8-050       |               |        |        |                         |
| 52              | TWL2-052       | 42,4          | 184,9  | 42,9   | 2                       | TWL4-052       | 44,5          | 227,1  | 53,1   | 4                       | TWL8-052       | 50,5          | 274,1  | 77,0   | 7                       |
| 54              | TWL2-054       |               |        |        |                         | TWL4-054       |               |        |        |                         | TWL8-054       |               |        |        |                         |
| 55              | TWL2-055       |               |        |        |                         | TWL4-055       |               |        |        |                         | TWL8-055       |               |        |        |                         |
| 57              | TWL2-057       |               |        |        |                         | TWL4-225       |               |        |        |                         | TWL8-057       |               |        |        |                         |
| 59              | TWL2-059       | 45,5          | 184,91 | 42,9   | 2                       | TWL4-059       | 47,5          | 227,1  | 53,1   | 4                       | TWL8-059       | 50,5          | 274,1  | 77,0   | 7                       |
| 60              | TWL2-060       |               |        |        |                         | TWL4-060       |               |        |        |                         | TWL8-060       |               |        |        |                         |
| 62              | -              | -             | -      | -      | -                       | TWL4-062       | 50,0          | 227,1  | 53,1   | 4                       | TWL8-062       | 53,1          | 274,1  | 77,0   | 7,5                     |
| 63              | -              | -             | -      | -      | -                       | TWL4-063       |               |        |        |                         | TWL8-063       |               |        |        |                         |
| 65              | -              | -             | -      | -      | -                       | TWL4-065       | 53,1          | 229,11 | 55,9   | 4                       | TWL8-065       | 55,9          | 274,1  | 77,0   | 7,5                     |
| 67              | -              | -             | -      | -      | -                       | TWL4-067       |               |        |        |                         | TWL8-067       |               |        |        |                         |
| 68              | -              | -             | -      | -      | -                       | TWL4-068       | 55,63         | 229,11 | 55,9   | 4,5                     | TWL8-068       | 58,4          | 274,1  | 77,0   | 7,5                     |
| 70              | -              | -             | -      | -      | -                       | TWL4-070       |               |        |        |                         | TWL8-070       |               |        |        |                         |
| 71              | -              | -             | -      | -      | -                       | TWL4-071       | 58,93         | 230,12 | 57,91  | 4,5                     | TWL8-071       | 62,0          | 277,1  | 71,9   | 8                       |
| 73              | -              | -             | -      | -      | -                       | TWL4-073       |               |        |        |                         | TWL8-073       |               |        |        |                         |
| 75              | -              | -             | -      | -      | -                       | TWL4-075       | 58,93         | 230,12 | 57,91  | 4,5                     | TWL8-075       | 62,0          | 277,1  | 71,9   | 8                       |
| 77              | -              | -             | -      | -      | -                       | TWL4-077       |               |        |        |                         | TWL8-077       |               |        |        |                         |
| 78              | -              | -             | -      | -      | -                       | TWL4-313       | 58,93         | 230,12 | 57,91  | 4,5                     | TWL8-313       | 62,0          | 277,1  | 71,9   | 8                       |
| 80              | -              | -             | -      | -      | -                       | TWL4-080       |               |        |        |                         | TWL8-080       |               |        |        |                         |
| 81              | -              | -             | -      | -      | -                       | -              | 58,93         | 230,12 | 57,91  | 4,5                     | TWL8-081       | 67,1          | 277,11 | 71,9   | 8                       |
| 83              | -              | -             | -      | -      | -                       | -              |               |        |        |                         | TWL8-083       |               |        |        |                         |
| 84              | -              | -             | -      | -      | -                       | -              |               |        |        |                         | TWL8-084       |               |        |        |                         |
| 85              | -              | -             | -      | -      | -                       | -              |               |        |        |                         | TWL8-085       |               |        |        |                         |
| 87              | -              | -             | -      | -      | -                       | -              |               |        |        |                         | TWL8-087       |               |        |        |                         |
| 89              | -              | -             | -      | -      | -                       | -              |               |        |        |                         | TWL8-089       |               |        |        |                         |
| 90              | -              | -             | -      | -      | -                       | -              | TWL8-090      |        |        |                         |                |               |        |        |                         |
| 91              | -              | -             | -      | -      | -                       | -              | TWL8-091      | 73,41  | 277,11 | 71,88                   | 8              |               |        |        |                         |
| 92              | -              | -             | -      | -      | -                       | -              | TWL8-092      |        |        |                         |                |               |        |        |                         |
| 94              | -              | -             | -      | -      | -                       | -              | TWL8-094      |        |        |                         |                |               |        |        |                         |
| 95              | -              | -             | -      | -      | -                       | -              | TWL8-095      |        |        |                         |                |               |        |        |                         |
| 97              | -              | -             | -      | -      | -                       | -              | TWL8-097      |        |        |                         |                |               |        |        |                         |
| 99              | -              | -             | -      | -      | -                       | -              | TWL8-388      |        |        |                         |                |               |        |        |                         |
| 100             | -              | -             | -      | -      | -                       | -              | TWL8-100      |        |        |                         |                |               |        |        |                         |



Tools

NOTE: The sizes listed on these pages encompass both heavy hex and standard hex nut sizes. Check your local SPX FLOW Power Team Office for availability as some items may be special order.

| Nut A/F<br>(mm) | TWLC15         |               |        |        |                         | TWLC30         |               |        |        |                         | Nut A/F<br>(mm) | TWLC30 (Continued) |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
|-----------------|----------------|---------------|--------|--------|-------------------------|----------------|---------------|--------|--------|-------------------------|-----------------|--------------------|---------------|--------|-----------|-------------------------|-------|-------|-------|-----------|-------|-------|-----------|------|--|--|--|
|                 | Link Order No. | Radius R (mm) | l (mm) | J (mm) | Weight (Link Only) (kg) | Link Order No. | Radius R (mm) | l (mm) | J (mm) | Weight (Link Only) (kg) |                 | Link Order No.     | Radius R (mm) | l (mm) | J (mm)    | Weight (Link Only) (kg) |       |       |       |           |       |       |           |      |  |  |  |
| 62              | TWL15-062      |               |        |        |                         | -              |               |        |        |                         | 122             | TWL30-122          |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 63              | TWL15-063      |               |        |        |                         | -              |               |        |        |                         | 123             | TWL30-123          |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 65              | TWL15-065      | 60,5          | 312,9  | 87,9   | 12,5                    | -              |               |        |        |                         | 124             | TWL30-124          | 99,1          | 400,1  | 109,0     | 28,5                    |       |       |       |           |       |       |           |      |  |  |  |
| 67              | TWL15-067      |               |        |        |                         | -              |               |        |        | 125                     | TWL30-125       |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 68              | TWL15-068      |               |        |        |                         | -              |               |        |        | 127                     | TWL30-500       |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 70              | TWL15-070      |               |        |        |                         | -              |               |        |        | 129                     | TWL30-129       |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 71              | TWL15-071      |               |        |        |                         | -              |               |        |        | 130                     | TWL30-130       |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 73              | TWL15-073      | 63,0          | 312,9  | 87,9   | 12,5                    | -              |               |        |        |                         | 132             | TWL30-132          | 104,9         | 400,1  | 109,0     | 28,5                    |       |       |       |           |       |       |           |      |  |  |  |
| 75              | TWL15-075      |               |        |        |                         | -              |               |        |        | 133                     | TWL30-133       |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 77              | TWL15-077      |               |        |        |                         | -              |               |        |        | 135                     | TWL30-135       |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 78              | TWL15-313      | 66,5          | 312,9  | 87,9   | 13                      | -              |               |        |        |                         | 137             | TWL30-538          |               |        |           |                         | 110,0 | 400,1 | 109,0 | 28,5      |       |       |           |      |  |  |  |
| 80              | TWL15-080      |               |        |        |                         | TWL30-080      |               |        |        | 138                     | TWL30-138       |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 81              | TWL15-081      |               |        |        |                         | TWL30-081      |               |        |        | 140                     | TWL30-140       |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 83              | TWL15-083      |               |        |        |                         | TWL30-083      |               |        |        | 141                     | TWL30-141       |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 84              | TWL15-084      |               |        |        |                         | TWL30-084      |               |        |        | 143                     | TWL30-143       |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 85              | TWL15-085      |               |        |        |                         | 71,9           | 312,9         | 87,9   | 13,5   | TWL30-085               | 77,0            | 392,9              | 103,9         | 26,5   | 144       | TWL30-144               |       |       |       |           |       |       |           |      |  |  |  |
| 87              | TWL15-087      |               |        |        |                         |                |               |        |        | TWL30-087               |                 |                    |               |        |           |                         |       |       |       |           |       | 145   | TWL30-145 |      |  |  |  |
| 89              | TWL15-089      |               |        |        |                         |                |               |        |        | TWL30-089               |                 |                    |               |        |           |                         |       |       |       |           |       | 146   | TWL30-146 |      |  |  |  |
| 90              | TWL15-090      |               |        |        |                         |                |               |        |        | TWL30-090               |                 |                    |               |        |           |                         |       |       |       |           |       | 148   | TWL30-148 |      |  |  |  |
| 91              | TWL15-091      |               |        |        |                         |                |               |        |        | TWL30-091               |                 |                    |               |        |           |                         |       |       |       |           |       | 149   | TWL30-149 |      |  |  |  |
| 92              | TWL15-092      | TWL30-092     |        |        |                         |                |               |        |        | 150                     |                 |                    |               |        | TWL30-150 |                         |       |       |       |           |       |       |           |      |  |  |  |
| 94              | TWL15-094      | TWL30-094     |        |        |                         |                |               |        |        | 151                     |                 |                    |               |        | TWL30-151 |                         |       |       |       |           |       |       |           |      |  |  |  |
| 95              | TWL15-095      | 78,0          | 316,0  | 80,0   | 13,5                    |                |               |        |        | TWL30-095               |                 |                    |               |        | 83,1      | 392,9                   | 103,9 | 26,5  | 152   | TWL30-152 | 116,1 | 400,1 | 109,0     | 29,5 |  |  |  |
| 97              | TWL15-097      |               |        |        |                         | TWL30-097      |               |        |        | 154                     | TWL30-154       |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 99              | TWL15-388      |               |        |        |                         | TWL30-388      |               |        |        | 155                     | TWL30-155       |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 100             | TWL15-100      |               |        |        |                         | TWL30-100      |               |        |        |                         |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 102             | TWL15-102      |               |        |        |                         | TWL30-102      |               |        |        |                         |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 103             | TWL15-103      | TWL30-103     |        |        |                         |                |               |        |        |                         |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 105             | TWL15-105      | 82,6          | 316,0  | 80,0   | 14                      | TWL30-105      | 88,9          | 392,9  | 103,9  | 27,5                    |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 106             | TWL15-106      |               |        |        |                         | TWL30-106      |               |        |        |                         |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 108             | TWL15-425      |               |        |        |                         | TWL30-425      |               |        |        |                         |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 110             | TWL15-110      | TWL30-110     |        |        |                         |                |               |        |        |                         |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 111             | TWL15-111      | TWL30-111     |        |        |                         |                |               |        |        |                         |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 113             | TWL15-113      | TWL30-113     |        |        |                         |                |               |        |        |                         |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 114             | TWL15-114      | 87,4          | 316,0  | 80,0   | 14                      | TWL30-114      | 91,9          | 392,9  | 103,9  | 27,5                    |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 115             | TWL15-115      |               |        |        |                         | TWL30-115      |               |        |        |                         |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 116             | TWL15-116      |               |        |        |                         | TWL30-116      |               |        |        |                         |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 117             | TWL15-463      |               |        |        |                         | TWL30-463      |               |        |        |                         |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |
| 119             | -              |               |        |        |                         | TWL30-119      |               |        |        |                         |                 |                    |               | 99,1   | 400,1     | 109,0                   | 28,5  |       |       |           |       |       |           |      |  |  |  |
| 120             | -              |               |        |        |                         | TWL30-120      |               |        |        |                         |                 |                    |               |        |           |                         |       |       |       |           |       |       |           |      |  |  |  |



Tools

- To Specify a TWLC solution:
1. Find a link for your application (nut size)
  2. Choose the appropriate drive body
  3. Add reducers for additional nut sizes

**NOTE:** Please order Drive Body and Link separately and pay attention to the same size, for Example TWLC2 and TWL2-041.

**TWLC REACTION BAR TWLC-RB**



**Features**

- In-Line Extension Reaction Bar for TWLC wrenches allows extended reach on the same plane
- Pin engagement, no tools required
- Available for full range of tool sizes

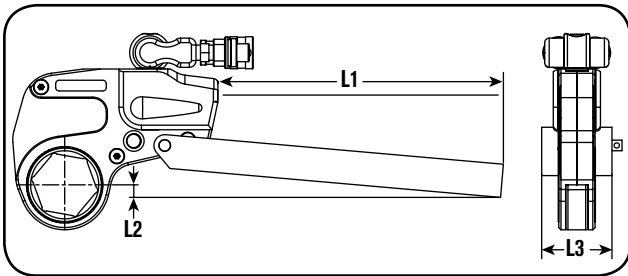


**Reaction Accessories**

Power Team offers a varied range of alternative and optional reaction accessories which help to find a reaction point solution no matter how unusual the bolted application is.

**Ordering Information**

| Tool Ref | Order No. | L1 (mm) | L2 (mm) | L3 (mm) | Weight (kg) |
|----------|-----------|---------|---------|---------|-------------|
| TWLC2    | TWLC2-RB  | 381,0   | 27,9    | 55,1    | 2,6         |
| TWLC4    | TWLC4-RB  | 457,2   | 35,1    | 66,0    | 4,8         |
| TWLC8    | TWLC8-RB  | 457,2   | 37,1    | 85,1    | 9,0         |
| TWLC15   | TWLC15-RB | 508,0   | 40,0    | 102,0   | 14,5        |
| TWLC30   | TWLC30-RB | 508,0   | 35,0    | 127,0   | 27,0        |



**TWLC REACTION PADDLE TWLC-RP**

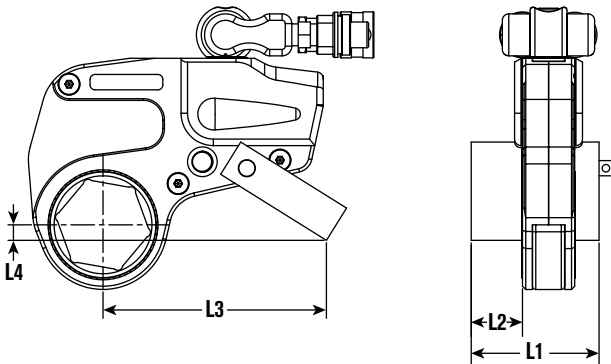


**Features**

- Off-Set Reaction Arm for TWLC wrenches allows off-set reaction within wrench profile
- Pin engagement, no tools required
- Light alloy construction
- Available for full range of tool

**Ordering Information**

| Tool Ref | Order No. | L1 (mm) | L2 (mm) | L3 (mm) | L4 (mm) | Weight (kg) |
|----------|-----------|---------|---------|---------|---------|-------------|
| TWLC2    | TWLC2-RP  | 84,1    | 35,1    | 142,0   | 13,0    | 0,5         |
| TWLC4    | TWLC4-RP  | 109,0   | 46,0    | 178,1   | 19,1    | 0,9         |
| TWLC8    | TWLC8-RP  | 136,4   | 57,2    | 220,0   | 25,9    | 1,8         |
| TWLC15   | TWLC15-RP | 165,1   | 70,1    | 252,0   | 45,0    | 3,5         |
| TWLC30   | TWLC30-RP | 200,0   | 86,1    | 317,0   | 43,9    | 6,0         |





**HAVE A UNIQUE APPLICATION?  
DOES STANDARD PRODUCT NOT FIT?**



**CUSTOM REACTION PADS AND REDUCERS ARE AVAILABLE.**  
Contact SPX FLOW or an authorized Power Team distributor for more details!

**WHEN NOTHING ELSE WILL WORK,  
SPLIT ADAPTERS ARE MADE TO ORDER  
AND AVAILABLE UPON REQUEST.**



TWLC15 split adapter,  
closed position



TWLC15 split adapter,  
open position

Model Shown:

**TWSL4-046 Link (left) & TWSL4-060 Link with TWLC4 Drive Body (right)**



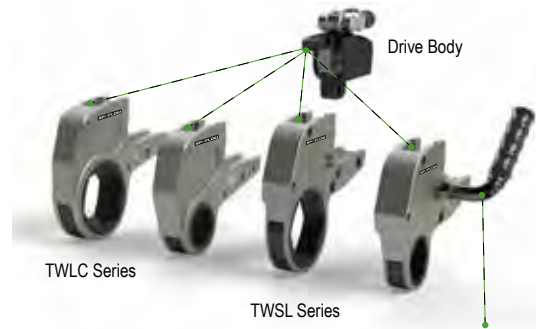
**Features**

**ENGINEERED TO FIT INACCESSIBLE APPLICATIONS WITH MINIMAL CLEARANCE.**

- Dynamic engineering modeling (Finite Element Analysis and optimized tool design to extend life and durability).
- The SlimLine links use the same quick change Drive Body as the existing TWLC links
- Small nose radius, fits all standard API and ANSI flanges.
- Rigid steel body construction with corrosion resistant plating.
- Fully-enclosed drive mechanism for operator safety.
- Swivel manifold has an internal relief valve to prevent retract side over-pressurization.
- Multi-axis swivel technology for free positioning of tool and hoses.



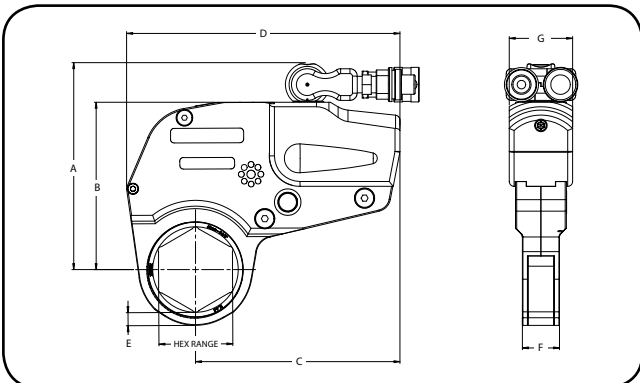
**Drive Body interchanges with the TWLC & TWSL link sizes**



Optional Handle  
Order #: DFTAS000002

The Drive Body is designed to interchange with the TWLC (Low Clearance) and the new TWSL (SlimLine) Links, lowering your tool investment across each series to broaden your application reach.

Tools



**Technical Dimensions**

| Order No. | A<br>(mm) | B<br>(mm) | C<br>(mm) | D<br>(mm) | E<br>(mm) | F<br>(mm) | G<br>(mm) |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| TWSL4     | 167,9     | 136,9     | 167,9     | 224,3     | 10,7      | 30,5      | 51,8      |

NOTE: Sizes; TWSL2-# and TWSL8-#, contact factory for details.

► **Technical Fit Overview**



**SlimLine Application Range**

Due to the compact design, the maximum torque of the TWSL links vary depending on link size, reference the information below for complete details.

New SlimLine\* (TWSL Series)      Standard (TWLC Series)

\*Shown with optional handle, order # DFTAS000002.

► The TWSL's narrow width and reduced radius design enables the tool to fit into tight areas where standard low clearance links cannot.

► **Torque Wrench Drive Body Ordering Information for SlimLine**

| Drive Body Order No. | Hex Range for SlimLine |       | SlimLine Min. Torque (Nm)   | SlimLine Max. Torque (Nm) | Weight (Link Only) (kg) |
|----------------------|------------------------|-------|-----------------------------|---------------------------|-------------------------|
|                      | (mm)                   | (mm)  |                             |                           |                         |
| TWLC2                | 28,7                   | 60,5  | Contact Factory for Details |                           | 1,0                     |
| TWLC4                | 46,0                   | 79,5  | 685                         | 3577 - 5707               | 2,0                     |
| TWLC8                | 57,2                   | 100,1 | Contact Factory for Details |                           | 3,5                     |

Note: Links are sold separately from the drive body, refer to the tables below.

► **Torque Wrench Link Ordering Information for SlimLine**

| Link Order No. | Hex Range for SlimLine |       | SlimLine Min. Torque (Nm)   | SlimLine Max. Torque (Nm) | Weight (Link Only) (kg) |
|----------------|------------------------|-------|-----------------------------|---------------------------|-------------------------|
|                | (mm)                   | (mm)  |                             |                           |                         |
| TWSL2-#        | 28,7                   | 60,5  | Contact Factory for Details |                           |                         |
| TWSL4-#        | 46,0                   | 79,5  | 685                         | 3577 - 5707               | 3,6 - 3,8               |
| TWSL8-#        | 57,2                   | 100,1 | Contact Factory for Details |                           |                         |

Note: The "#" suffix will be replaced with the actual link size in a numeric value.

► **TWSL4 SlimLine Link Reference Table\***

| Nut A/F (mm) | Link Order No. | Max. Torque (Nm) | Weight (Link Only) (kg) |
|--------------|----------------|------------------|-------------------------|
| 46,0         | TWSL4-046      | 3577             | 3,6                     |
| 50,8         | TWSL4-050      | 4434             | 3,7                     |
| 55,6         | TWSL4-055      | 4837             | 3,7                     |
| 60,5         | TWSL4-060      | 5242             | 3,8                     |
| 65,0         | TWSL4-065      | 5708             | 3,8                     |
| 69,9         | TWSL4-070      | 5708             | 3,8                     |
| 74,7         | TWSL4-075      | 5708             | 3,8                     |
| 79,5         | TWSL4-080      | 5708             | 3,8                     |

**Other Related Items**

Contact your nearest Power Team sales representative for assistance in sizing the proper tool for your application, or go to [powerteam.com](http://powerteam.com) website for details about other available link sizes not listed.

**Pumps      Hoses      Tools**

Model Shown:  
**X1E1-PT**



**Features**

**THE POWER TEAM X1E1-PT: SOLD FOR YEARS TO END CUSTOMERS.**

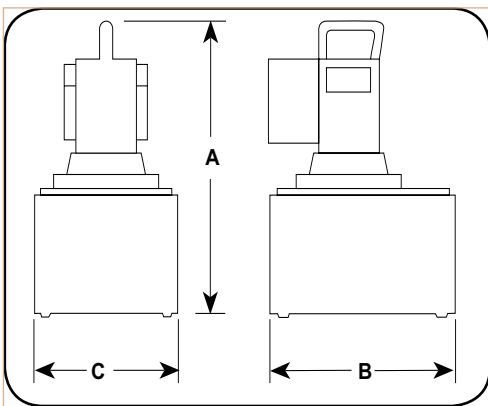
- Base pump unit: Power Team PE55 series – the standard in the industry
- Two-speed high-performance pump
- Retract side internal relief-valve protects tools
- 4-way / 2-position solenoid valve standard
- Utilizes rugged electrical controls
- External adjustable pressure regulator
- Hand remote standard
- For single or double-acting tools



**CAUTION**

**THIS PUMP SHOULD NOT BE USED FOR LIFTING APPLICATIONS, IT'S DESIGN FOR TORQUE WRENCH APPLICATIONS ONLY.**

Tools



**Ordering Information**

| Order No. | A    | B    | C    | Description                         | Electric Motor Volt | Oil Delivery per min. (cm <sup>3</sup> ) | Oil Reservoir Cap. (l) | Prod. Wt. (kg) |
|-----------|------|------|------|-------------------------------------|---------------------|--|------------------------|----------------|
|           | (mm) | (mm) | (mm) |                                     |                     |  |                        |                |
| X1E2-PT   | 457  | 330  | 353  | Electric-Powered Torque Wrench Pump | 220V                | 901                                      | 9,5                    | 33             |

Model Shown:  
**X1A1-PT**



### Features

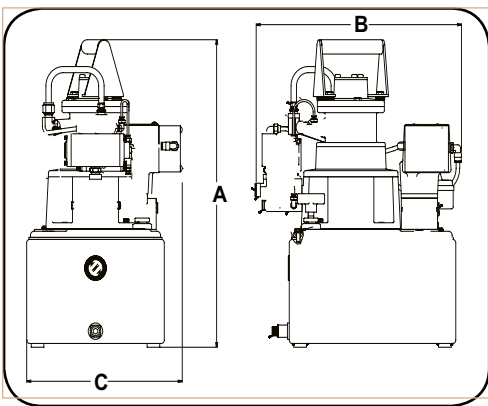
**X1A1-PT FEATURES THE SAME RUGGED TIME-PROVEN DESIGN AS THE POWER TEAM X1E1-PT.**

- Base pump unit, Power Team PA55 series – the standard in the industry
- Two-speed high-performance pump
- Retract side internal relief-valve protects tools
- 4-way / 2-position air valve standard
- External adjustable pressure regulator
- Hand remote standard



### CAUTION

**THIS PUMP SHOULD NOT BE USED FOR LIFTING APPLICATIONS, IT'S DESIGN FOR TORQUE WRENCH APPLICATIONS ONLY.**



### Ordering Information

| Order No. | A    | B    | C    | Description                    | Oil Delivery per min. (cm <sup>3</sup> ) | Oil Reservoir Cap. (l) | Prod. Wt. (kg) |
|-----------|------|------|------|--------------------------------|--|------------------------|----------------|
|           | (mm) | (mm) | (mm) |                                |  |                        |                |
| X1A1-PT   | 477  | 457  | 273  | Air-Powered Torque Wrench Pump | 901                                      | 9,5                    | 40             |

Model Shown:  
**PE30TWP**



**Features**

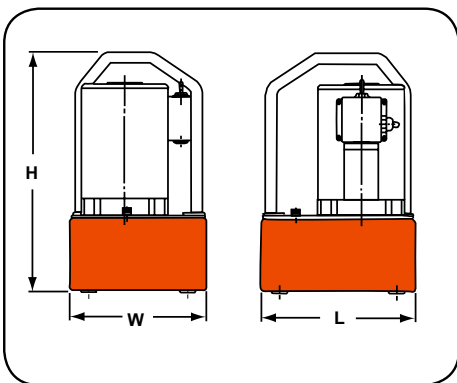
**VANGUARD® ELECTRIC HYDRAULIC TORQUE WRENCH PUMPS.**

- Two-speed general duty pump.
- External adjustable pressure regulator.
- Retract side internal relief valve protects tool.
- Hand remote control with 6,1 m. cord.
- Use for single or double-acting tools.



**CAUTION**

**THIS PUMP SHOULD NOT BE USED FOR LIFTING APPLICATIONS, IT'S DESIGN FOR TORQUE WRENCH APPLICATIONS ONLY.**



Tools

**Ordering Information**

| Order No.     | Width (mm) | Length (mm) | Height (mm) | Electric Motor (4000 rpm)     | Oil Delivery (l/min.)    | Oil Reservoir Cap. (l) | Usable Oil (l) | Prod. Wt. (kg) |
|---------------|------------|-------------|-------------|-------------------------------|--------------------------|------------------------|----------------|----------------|
| PE30TWP       | 356        | 331         | 458         | 4000 rpm                      |                          | 4,75                   | 4,5            | 31             |
| PE30TWP-E110* | 356        | 331         | 458         | 0,75 Kw, 115V / 50Hz, 13 amps | 5 @ 7 Bar<br>0,5 @ 7 Bar | 4,75                   | 4,5            | 31             |
| PE30TWP-E220* | 356        | 331         | 458         | 0,75 Kw, 220V / 50Hz, 7 amps  |                          | 4,75                   | 4,5            | 33             |

\* CE Approved - designed for 50 Hz applications

Model Shown:

**PE55TWP, PE55TWP-4**



**Features**

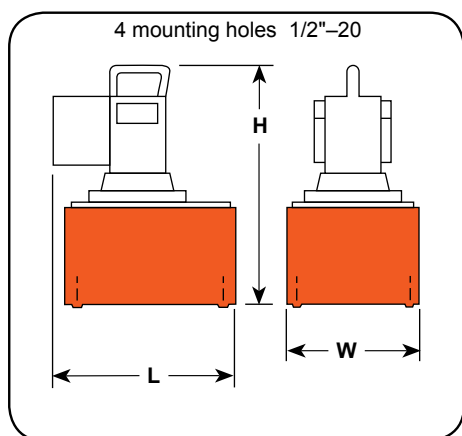
**VANGUARD® ELECTRIC HYDRAULIC TORQUE WRENCH PUMPS.**

- Two-speed high-performance pump.
- External adjustable pressure regulator
- Retract side internal relief valve protects tool.
- Hand remote control with 6,1 m. cord.
- Use for single or double-acting tools.
- Four-tool manifold allows use of up to four tools simultaneously.



**CAUTION**

**THIS PUMP SHOULD NOT BE USED FOR LIFTING APPLICATIONS, IT'S DESIGN FOR TORQUE WRENCH APPLICATIONS ONLY.**



**Ordering Information**

| Order No.       | Width (mm) | Length (mm) | Height (mm) | Electric Motor (12000 rpm) | Oil Delivery (l/min.)         | Oil Reservoir Cap. (l) | Usable Oil (l) | Prod. Wt. (kg) |
|-----------------|------------|-------------|-------------|----------------------------|-------------------------------|------------------------|----------------|----------------|
| PE55TWP         | 435        | 241         | 460         | 0,84 Kw                    |                               | 9,5                    | 8,4            | 34,0           |
| PE55TWP-E110*   | 470        | 241         | 460         | 110V / 50Hz, 25 amps       | 11,5 @ 7 bar<br>0,9 @ 700 Bar | 9,5                    | 8,4            | 34,0           |
| PE55TWP-E220*   | 470        | 241         | 460         | 220V / 50Hz, 13 amps       |                               | 9,5                    | 8,4            | 34,0           |
| PE55TWP-4       | 470        | 241         | 486         | 0,84 Kw                    |                               | 9,5                    | 8,4            | 35,4           |
| PE55TWP-4-E110* | 470        | 241         | 486         | 110V / 50Hz, 25 amps       | 11,5 @ 7 bar<br>0,9 @ 700 Bar | 9,5                    | 8,4            | 35,4           |
| PE55TWP-4-E220* | 470        | 241         | 486         | 220V / 50Hz, 13 amps       |                               | 9,5                    | 8,4            | 35,4           |

\* CE Approved - designed for 50 Hz applications

Model Shown:  
**RWP55-4**



**Features**

**AIR HYDRAULIC TORQUE WRENCH PUMP**

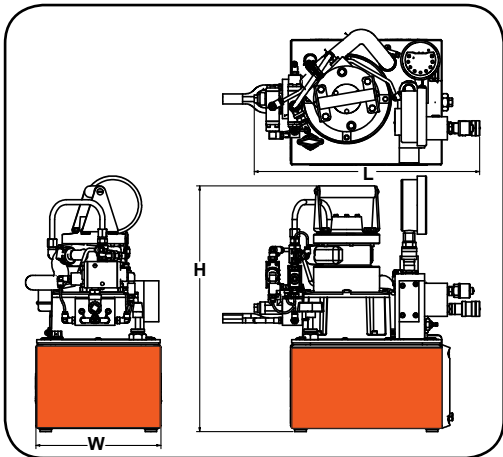
- Use where air is the preferred source of power.
- Powerful 2,2 Kw motor starts under load.
- External adjustable pressure regulator.
- Retract side internal relief valve protects tools.
- Use for single or double-acting tools.
- Four-tool manifold allows use of up to four tools simultaneously.
- 7,6 m. pneumatic remote controller included.



**CAUTION**

**THIS PUMP SHOULD NOT BE USED FOR LIFTING APPLICATIONS, IT'S DESIGN FOR TORQUE WRENCH APPLICATIONS ONLY.**

Tools



**Ordering Information**

| Order No.                 | Width (mm) | Length (mm) | Height (mm) | Air Motor                           | Oil Delivery (l/min.)        | Oil Reservoir Cap. (l) | Usable Oil (l) | Prod. Wt. (kg) |
|---------------------------|------------|-------------|-------------|-------------------------------------|------------------------------|------------------------|----------------|----------------|
| RWP55                     | 450        | 280         | 483         | 2,25 Kw, 1,4 m <sup>3</sup> @ 6 bar | 7,6 @ 7 Bar<br>0,9 @ 700 Bar | 9,5                    | 8,4            | 44             |
| RWP55-4 (4-TOOL MANIFOLD) | 450        | 280         | 483         | 2,25 Kw, 1,4 m <sup>3</sup> @ 6 bar | 7,6 @ 7 Bar<br>0,9 @ 700 Bar | 9,5                    | 8,4            | 44             |



Model Shown:

**HNS150, HNS150A, HNS225**

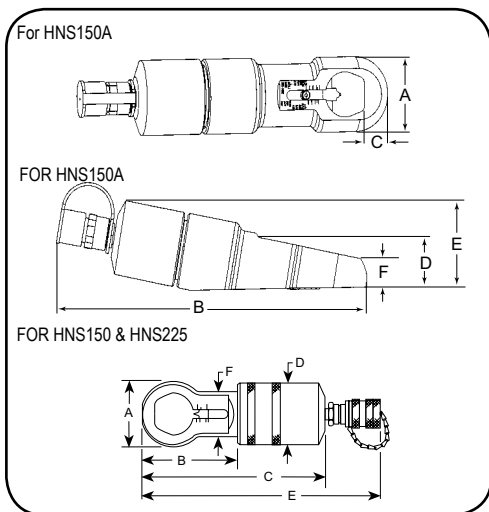


**Features**

**HYDRAULIC NUT SPLITTERS**

- Specially designed “tool steel” cutter blade penetrates the nut to the precise point where it cracks, stopping short of the bolt threads.
- Dial-in” feature on HNS150 makes adjustment of splitter simple, without the worry of damaging the bolt.
- Nut splitter features a dramatically improved cutter blade with an 800% greater resistance to chipping and breaking over previous models.
- Compact size allows you to use it in confined areas where it will deliver enough force to split the toughest “fused” or rusted-on grade 2H nuts.
- All models feature a rugged one-piece cutting frame coupled to a heavy-duty hydraulic cylinder.

▶ **Align mark on cutter blade with scale.**



▶ **Ordering Information**

| Order No. | A    | B    | C    | D    | E    | F    | Head Thickness | Replacement Blade | Prod. Wt. |
|-----------|------|------|------|------|------|------|----------------|-------------------|-----------|
|           | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) | (mm)           |                   | (kg)      |
| HNS150    | 73   | 86   | 200  | 70   | 264  | 53   | 25,4           | 308840            | 3,7       |
| HNS150A   | 77   | 361  | 27   | 54   | 94   | 30   | 25,4           | 351985            | 7,2       |
| HNS225    | 108  | 153  | 366  | 99   | —    | 82   | 38,1           | 308022            | 13,2      |

**NUT GRADE CAPACITIES**

| Order No. | 2 or A             | 5 or B             | 8 or C           | 2DRH             |
|-----------|--------------------|--------------------|------------------|------------------|
| HNS150    | 12,7 - 38,1 mm hex | 12,7 - 38,1 mm hex | 12,7 - 33 mm hex | 12,7 - 29 mm hex |
| HNS150A   | 12,7 - 36 mm hex   | 12,7 - 36 mm hex   | 12,7 - 33 mm hex | 12,7 - 29 mm hex |
| HNS225    | 29 - 57 mm hex     | 54 - 57 mm hex     | 29 - 55 mm hex   | 29 - 43 mm hex   |

Model Shown:

**FLS15, FLS15-ST**

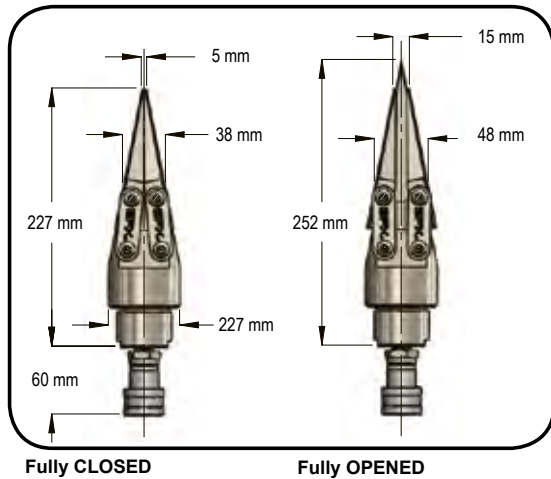


**Features**

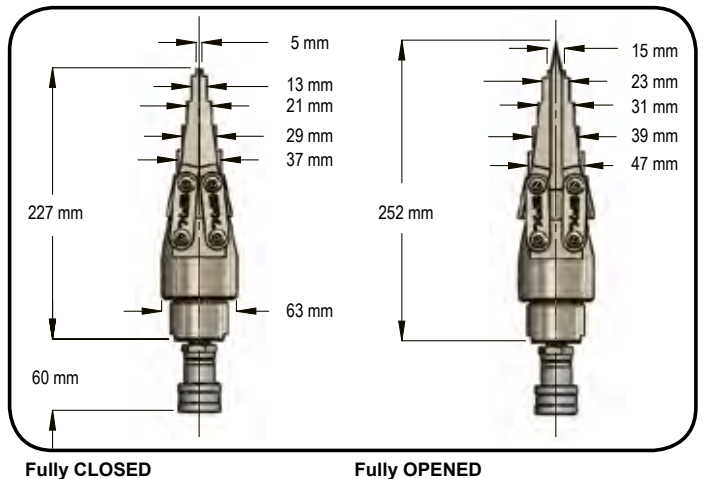
**INTEGRATED WEDGE CONCEPT IDEAL FOR CREATING SPACE FOR FLANGE SURFACE CLEANING AND REPAIR**

- 15 Metric Ton wedge-driven spreader. Jaws fully supported by wedge for excellent durability.
- Low friction provided by heavy-duty extended-life lubricant, ideal for flanges with narrow gaps (only 5 mm required for entry).
- Compact and lightweight design (only 252 mm long at a weight of 3,2 kg).
- Ergonomically balanced handle included.
- Suitable for the offshore environment due to superior corrosion resistance
- Quick adjustments for various tasks due to interchangeable shoes (both stepped and serrated)
- Easy and quick maintenance without special tools required.
- Includes female half coupler & mates to standard 3/8" male half coupler (9798).

**FLS15 Spreader**



**FLS15-ST Spreader**



Tools

| Order No.         | Maximum Spreading Force | Minimum Tip Clearance (mm) | Maximum Tip Spread (mm) | Spreader Type | Oil Cap. (cm <sup>3</sup> ) | Maximum Operating Pressure (bar) | Prod. Weight (kg) |
|-------------------|-------------------------|----------------------------|-------------------------|---------------|-----------------------------|----------------------------------|-------------------|
| FLS15<br>FLS15-ST | 15 ton                  | 5                          | 10 mm pro hub           | Hydraulic     | 16                          | 700                              | 3,2               |



**Features**


**TYPICAL APPLICATIONS:**

- Pipe and flange repair
- Removing elbows
- Couplers & gasket and metal seal replacement
- Heavy equipment maintenance


**OTHER OPTIONAL ACCESSORIES**


| HANDLE  |           |   |
|---|-----------|---|
|   | Order No. | Description   |
|  | 2008410   | Lightweight spreaders handle is designed for use with FLS15 or FLS15-ST. Wt., 55 g. |


| STEPPED BLOCK   |           |   |
|---|-----------|---|
|   | Order No. | Description   |
|  | SB15      | Use to increase the wedge opening. Designed to use with FLS15 or FLS15-ST. (1 piece). |



| STEPPED SHOE   |           |  |
|--|-----------|--|
|  | Order No. | Description  |
|  | 2008083*  | Lightweight spreader stepped shoe with an interlocking friction-free smooth, parallel wedge design. Wt. 290 g. |

| SERRATED SHOE  |           |  |
|--|-----------|--|
|  | Order No. | Description  |
|  | 2008082*  | Lightweight spreader serrated shoe. Part number is for one shoe only. Two shoes required per spreader. |

| PUMP   |           |  |
|--|-----------|--|
|  | Order No. | Description  |
|  | P19L      | Two-speed, single-acting hand pump . 0,5 l oil capacity. Wt. 2,3 kg. |

| HOSE   |           |                          |
|--|-----------|--------------------------|
|  | Order No. | Description              |
|  | 9764E     | Hydraulic hose assembly. |

| ANALOG GAUGE  |           |                 |
|---|-----------|-----------------|
|   | Order No. | Description     |
|  | 9040E     | Pressure gauge. |

| COUPLER & GAUGE ADAPTER  |           |                    |
|--|-----------|--------------------|
|  | Order No. | Description        |
|   | 9798      | Male half coupler. |
|  | 9670      | Gauge adapter      |

\*

Tools

Model Shown:  
**HFS3A**



▶ **HFS6AP59L** spreader offers up to 10 tons of spreading force to safely separate this flange.



**Features**

**CONTROLLED AND GUIDED FLANGE SEPARATION TOOL**

- You'll never again have to resort to "hammer and chisel" methods that waste time and effort. Flange spreaders should be used in pairs to provide even spreading force.
- Use HFS3A for applications where total thickness of flanges and max. spread gap is 76,2 mm or less, and flange bolts are a min. of 17,5 mm diameter.
- Use HFS6A if total thickness of flanges and max. spread gap is 152,6 mm or less, and flange bolts are a min. of 20,7 mm diameter.



**Optional Wedge Ends**

Standard 60° wedge is suitable for most flanges; 30° "thin" and 60° "blunt" wedges are optional.



350823



350822



350549



350550

▶ **Ordering Information**

| Order No. | Cap.<br>(ton) | Standard Wedge Type | Optional Wedges |           | Min. Flange Opening |           |      | Min. Flange Opening |           |      | Min. Combined Flange Opening<br>(mm) | Pin Dia.<br>(mm) | Prod. Wt.<br>(kg) |
|-----------|---------------|---------------------|-----------------|-----------|---------------------|-----------|------|---------------------|-----------|------|--------------------------------------|------------------|-------------------|
|           |               |                     | 30° Thin        | 60° Blunt | 60° Std.            | 60° Blunt | 30°  | 60° Std.            | 60° Blunt | 30°  |                                      |                  |                   |
|           |               |                     |                 |           | (mm)                | (mm)      | (mm) | (mm)                | (mm)      | (mm) |                                      |                  |                   |
| HFS3A     | 5             | 60° Sharp           | 350823          | 350822    | 1,6                 | 25,4      | 1,6  | 38,1                | 38,1      | 18,3 | 76,2                                 | 17,4             | 4,1               |
| HFS6A     | 10            | 60° Sharp           | 350549          | 350550    | 1,6                 | 38,1      | 1,6  | 50,8                | 50,8      | 24,6 | 152,4                                | 20,6             | 8,2               |

Model Shown:

HS2000, HS3000



### Features

HYDRAULIC SPREADERS OFFER A GREATER FORCE THAN TRADITIONAL MECHANICAL TOOLS.

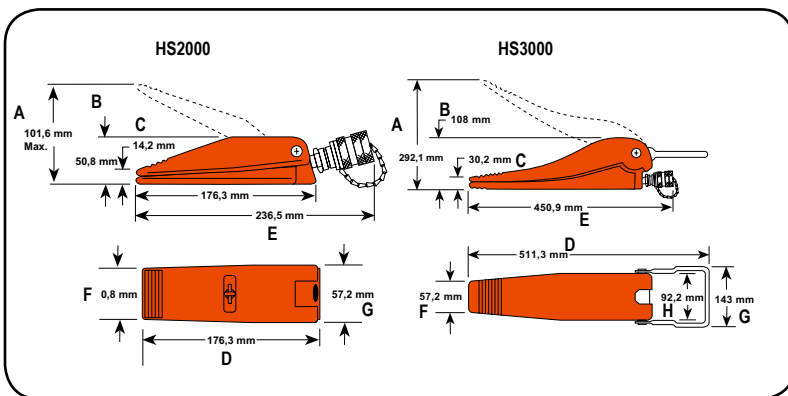
- Use to lift machines to spread concrete forms or rebar and perform straightening jobs.
- Conforms to ASME B30.1 standard.
- High strength alloy steel forged upper and lower jaws on HS2000.
- Jaws are spring-return to retract automatically when pressure is released.

### HS2000 (FORGED STEEL)

- 1 ton capacity spreader, full 908 kg capacity at 700 bar with 102 mm spread.
- Can be “dead-ended” at 102 mm spread under full load.
- Needs only 14,2 mm clearance to engage jaws.

### HS3000 (HIGH GRADE DUCTILE IRON)

- 1.5 ton capacity spreader, full 1362 kg capacity at 700 bar. with 292 mm spread.
- Needs only 30,2 mm clearance to engage jaws.
- Can be “dead-ended” at 292 mm spread at full load.



### Ordering Information

| Order No. | Cap. (ton) | Max. Spread (mm) | A     | B     | C    | D     | E     | F    | G     | H     | Oil Cap. (cm <sup>3</sup> ) | Min. Clearance Required (mm) | Prod. Wt. (kg) |
|-----------|------------|------------------|-------|-------|------|-------|-------|------|-------|-------|-----------------------------|------------------------------|----------------|
|           |            |                  | (mm)  | (mm)  | (mm) | (mm)  | (mm)  | (mm) | (mm)  |       |                             |                              |                |
| HS2000    | 1,0        | 101,6            | 101,6 | 50,4  | 14,3 | 252,5 | 236,5 | 50,8 | 176,0 | 57,0  | 4                           | 14,2                         | 2,2            |
| HS3000    | 1,5        | 292,0            | 292,0 | 108,0 | 30,2 | —     | 451,0 | 57,2 | 511,0 | 143,0 | 92                          | 30,2                         | 10,0           |

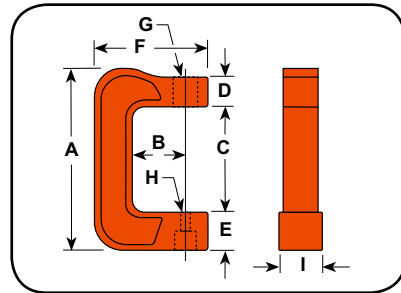
Model Shown:  
**CC10**



**Features**

- In 5, 10 and 25 ton capacities. For use with Power Team general purpose single-acting series cylinders of comparable capacity.
- For clamping, pressing and bending. Ideal for welding and metal fabrication for fit-up of sheet or plate steel.
- Clamps withstand full rated capacity of the cylinders for which they are intended.

**Note:** To minimize the effects of off-center loading, the CC5, CC10 and CC25 should be used with the optional 350144 and 350145 swivel caps.



**Ordering Information**

| Order No. | Cap. (ton) | A     | B     | C     | D    | E     | F     | G                | H    | I     | Use With Cyl. No. | Prod. Wt. (kg) |
|-----------|------------|-------|-------|-------|------|-------|-------|------------------|------|-------|-------------------|----------------|
|           |            | (mm)  | (mm)  | (mm)  | (mm) | (mm)  | (mm)  | (in.)            | (mm) | (mm)  |                   |                |
| CC5       | 5          | 314,0 | 95,3  | 186,0 | 50,8 | 63,5  | 197,0 | 1 1/2" - 16 UN   | 22,2 | 76,2  | C51C-C57C         | 11,3           |
| CC10      | 10         | 403,0 | 152,4 | 240,0 | 50,8 | 85,8  | 273,0 | 2 1/4" - 14 UNS  | 22,2 | 88,9  | C101C-C1010C      | 20,9           |
| CC25      | 25         | 533,0 | 152,4 | 319,0 | 76,2 | 117,3 | 313,0 | 3 5/16" - 12 UNS | 36,5 | 117,5 | C251C-C2514C      | 41,3           |

**OTHER OPTIONAL ACCESSORIES WITH CC5, CC10 & CC25 HYDRAULIC CLAMPS**

**SWIVEL CAPS**

|  | Order No. | Cap. (ton) | A (mm) | B (mm) |
|--|-----------|------------|--------|--------|
|  | 350144 *  | 5 - 10     | 35,0   | 19,0   |
|  | 350145    | 25         | 50,8   | 25,4   |

**PUSHING ADAPTERS**

|  | Order No. | Cap. (ton) | A (mm) | B (in.)   | C (mm) |
|--|-----------|------------|--------|-----------|--------|
|  | 28228**   | 10         | 60,3   | 1 - 8     | 38,1   |
|  | 28229**   | 25         | 73,0   | 1 1/4 - 7 | 44,5   |

**THREADED ADAPTERS**

|  | Order No. | Cap. (ton) | A (in.) | B (in.)   | C (mm) | D (mm) |
|--|-----------|------------|---------|-----------|--------|--------|
|  | 38597     | 10         | 1 - 8   | 1 - 8     | 19,0   | 50,8   |
|  | 38953     | 25         | 1.5-16  | 1 1/4 - 7 | 70,0   | 111,0  |

**PUSHING ADAPTERS**

|  | Order No. | Cap. (ton) | A (mm) | B (mm) | C (mm) | D (mm) | E (in.)   |
|--|-----------|------------|--------|--------|--------|--------|-----------|
|  | 201923**  | 10         | 79,4   | 57,2   | 136,5  | 12,7   | 1 - 8     |
|  | 34510**   | 25         | 82,6   | 66,7   | 149,0  | 19,0   | 1 1/4 - 7 |

**V PUSHING ADAPTERS**

|  | Order No. | Cap. (ton) | A (mm) | B (in.)   | C (mm) | D (mm) |
|--|-----------|------------|--------|-----------|--------|--------|
|  | 34806**   | 10         | 66,7   | 1 - 8     | 38,1   | 25,4   |
|  | 34807**   | 25         | 79,4   | 1 1/4 - 7 | 44,5   | 31,8   |

**PUSHING ADAPTERS**

|  | Order No. | Cap. (ton) | A (mm) | B (mm) | C (mm) | D (mm) | E (in.)   |
|--|-----------|------------|--------|--------|--------|--------|-----------|
|  | 201454**  | 10         | 79,4   | 57,2   | 137,0  | 19,0   | 1 - 8     |
|  | 34511**   | 25         | 82,6   | 66,7   | 149,0  | 25,4   | 1 1/4 - 7 |

\* May be used with CC5

\*\* Must be used with a threaded adapter.

**PUSHING ADAPTERS**

|  | Order No. | Cap. (ton) | A (mm) | B (mm) | C (mm) |
|--|-----------|------------|--------|--------|--------|
|  | 309874*   | 5          | 51,6   | 562,8  | 15,9   |

Model Shown:  
**BB1600**



### Features

#### TIRE REMOVING TOOL

- Made to fit into the pry bar pocket
- Hydraulic pressure does all the unseating.
- Lightweight and portable.



### Recommended Products



P59L hydraulic hand pump and 9764E hose recommended to be used with BB1600.

- ▶ **BB1600 bead breaker and the P59L hand pump is the perfect choice for this tire removal application.**



### Ordering Information

| Order No. | Cylinder Capacity<br>(@ 700 Bar) | Stroke<br>(mm) | Rim Size<br>(in.) | Prod. Wt.<br>(kg) |
|-----------|----------------------------------|----------------|-------------------|-------------------|
| BB1600    | 10                               | 101,6          | 25" - 49"         | 10,3              |
| BB1601    | 10                               | 101,6          | 25" - 49"         | 10,9              |

For use with single, two, or three-piece rims

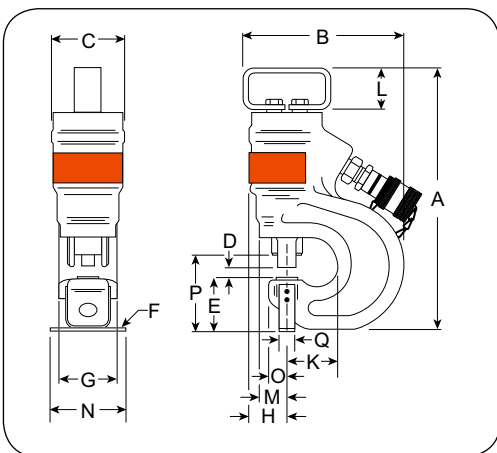
Model Shown:  
**HP35S**



**Features**

- Punch smooth, precise holes in seconds. Much faster than drilling.
- Fully portable for construction, maintenance and service applications, or can be mounted on a workbench for production jobs.
- Has carrying handle for precise locating.
- Rugged, forged steel C-Frame for great strength and durability.
- Dual-action, spring-loaded stripper holds material during punching operation, strips material from punch on return. Scribe lines on stripper aid in locating the punch.

Tools



**Recommended Products**

The PE172 electric/hydraulic pump is an ideal power source, which is included in item # HP35SP.

**Technical Dimensions**

| Order No. | Cap. (ton) | Max. Oper. Press. (bar) | Oil Cap. (cm <sup>3</sup> ) | Max. Material Thickness (mm) | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | F (mm) | G (mm) | H (mm) | K (mm) | L (mm) | M (mm) | N (mm) | O (mm) | P (mm) | Q (mm) |
|-----------|------------|-------------------------|-----------------------------|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| HP35      | 35         | 700                     | 75                          | 12,7                         | 349    | 229    | 95     | 15     | 73     | 6      | 76     | 46     | 71     | 57     | 38     | 89     | 22     | 102    | 19     |

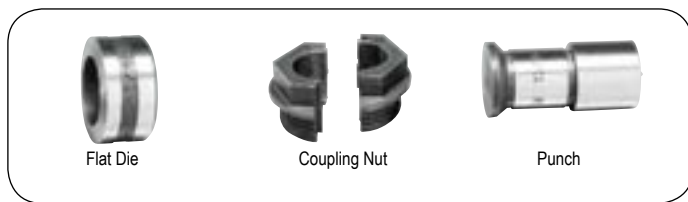


Model Shown:  
**HP35SP**



► **Ordering Information**

| Order No.  | Description   | Prod. Wt.<br>(kg) |
|------------|---|-------------------|
| HP35       | Punch only, includes metal case and die change tools.   | 19                |
| HP35S      | Punch with punches and dies. Includes HP35 punch, metal case and 250459 punch/die set.  | 20                |
| HP35P-220  | Punch set with pump. Same as HP35SP, but does not include punch/die set.  | 39                |
| HP35SP-220 | Punch set with pump. Includes HP35 punch, PE172-E220 electric/hydraulic pump, 9756E hose, 9798 hose half coupler, 250459 punch/die set, metal case.   | 40                |
| 250459     | Punch/die set for round holes. Includes one each: PD437 11,1 mm punch/die, PD562 14,3 mm punch/die, PD688 17,5 mm punch/die, PD812 20,6 mm punch/die. | 0,7               |



**Optional Coupling Nut Wrench**

| Order No. | Description   |
|-----------|---|
| 252000    | Makes punch/die changes easier without "rounding-off" coupling nuts. Wt., 0,3 kg. |

| PUNCH / DIE SETS FOR HP35 HYDRAULIC PUNCHES |             |                |                         |                          |
|---|-------------|----------------|-------------------------|--------------------------|
| Punch Size (mm)                             | Punch Style | Hole Dia. (mm) | Punch with Flat Die Set | Punch with Bevel Die Set |
| 6,4   | ○<br>Round  | 6,4            | —                       | —                        |
| 7,9   |             | 7,9            | PD313                   | —                        |
| 9,7   |             | 9,7            | PD375                   | PD375B                   |
| 11,2  |             | 11,2           | PD437                   | PD437B                   |
| 13,5  |             | 13,5           | PD531                   | PD531B                   |
| 14,2  |             | 14,2           | PD562                   | PD562B                   |
| 17,5  |             | 17,5           | PD688                   | —                        |
| 19,8  |             | 19,8           | PD781                   | —                        |
| 20,6  |             | 20,6           | PD812                   | —                        |

Model Shown:

**HT50A, HT200**



**Features**

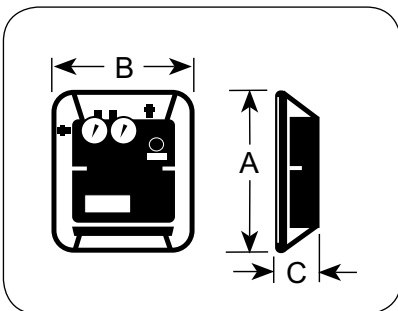
**300 AND 750 L/MIN IN-LINE HYDRAULIC TESTERS**

- Accurately measure oil flow, pressure and temperature on in-plant equipment, forklifts, machine tools and more.
- Temperature and flow readings are in Imperial and Metric and accurate to within  $\pm 2\%$  of full scale.
- Dual pressure gauges for high and low pressure readings. Low pressure gauge is automatically shut-off and protected as pressure rises beyond its maximum reading.
- Automatic pressure compensating feature lets you increase flow without affecting pressure setting.
- Reverse flow through tester will not cause damage. A replaceable safety disc ruptures if pressure exceeds upper limit.
- Solid state voltage regulator eliminates errors caused by voltage change during testing.

**200 L/MIN IN-LINE HYDRAULIC TESTER**

- Troubleshoots systems with capacities to 200 l/min at pressures less than 350 bar. Accurately measure oil flow to  $\pm 5\%$ , pressure to within 2% and temperature readings within 1%.
- Pressure gauge is liquid filled to dampen system pulsation.

Tools



**Ordering Information**

| Order No. | Max. Flow<br>(l/min.) | Scale | Flow Range |           | Max. Oper. Press.<br>(bar) | Temp. Scale Range<br>(°C) | Port Sizes   | A     | B     | C     | Prod. Wt.<br>(kg) |
|-----------|-----------------------|-------|------------|-----------|----------------------------|---------------------------|--|-------|-------|-------|-------------------|
|           |                       |       | (gpm)      | (l/min.)  |                            |                           |  | (mm)  | (mm)  | (mm)  |                   |
| HT50A     | 200                   | —     | 0 - 50     | 0 - 200   | 345                        | -6 - 114                  | 1-1/16-12UN Female O-Ring with Union Adapt 3/4" NPTF female. | 311   | 159   | 255   | 16,8              |
| HT75      | 300                   | High  | 15 - 75    | 50 - 300  | 345                        | 40 - 120                  | 3/4" NPT Swivel  | 349,3 | 301,6 | 146,0 | 8,6               |
|           |                       | Low   | 3 - 15     | 10 - 60   |                            |                           |  |       |       |       |                   |
| HT200     | 750                   | High  | 25 - 200   | 100 - 750 | 345                        | 40 - 120                  | 1 1/2" SAE Split Flange                                      | 403,5 | 336,6 | 171,5 | 13,6              |
|           |                       | Low   | 5 - 40     | 20 - 150  |                            |                           |  |       |       |       |                   |

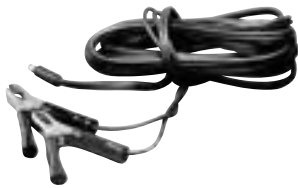
**DUAL GAUGE CONVERSION KIT FOR 50 GPM TESTER.**



Provides more precise low pressure readings. Remove pressure gauge block and gauge from tester and replace it with this block. Install high pressure gauge from tester (350 bar) onto this new block.

| Order No. | Description   |
|-----------|---|
| 307281    | Dual gauge conversion kit. Consists of gauge mounting block, pulsation dampener, thermal overload protector, low pressure gauge and gauge protector. Low pressure gauge calibrated 0-42 bar. Wt. 0,45 kg. |

**AUXILIARY POWER CORDS FOR USE WITH 300 AND 750 L/MIN TESTERS**



**CAUTION:** For use on negative ground systems only.

| Order No. | Description  |
|-----------|--|
| 37045     | Auxiliary power cord. For use with any 12 or 24V battery to remotely power tester. Wt. 0,5 kg. |

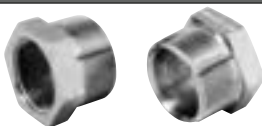
**HOSES**



| Order No. | Description  |
|-----------|--|
| 9785      | Hose, 19,1 mm I.D. x 3/4" NPTF male both ends. 3 m. length. 155 bar working pressure. (2 req'd on 200 and 300 l/min testers). Wt., 3 kg. |
| 9786 *    | Hose, 25,4 mm I.D. x 1-1/4" NPT male both ends. Recommended max. flow 340 l/min., with a working pressure of 280 bar. Wt., 6,3 kg.       |
| 9787 *    | Hose, 31,8 mm I.D. x 1-1/4" NPT male both ends. Recommended max. flow 530 l/min., with a working pressure of 210 bar. Wt., 6,4 kg.       |
| 9788 *    | Hose, 38,1 mm I.D. x 1-1/2" NPT male both ends. Recommended max. flow 750 l/min., with a working pressure of 175 bar. Wt., 11,4 kg.      |

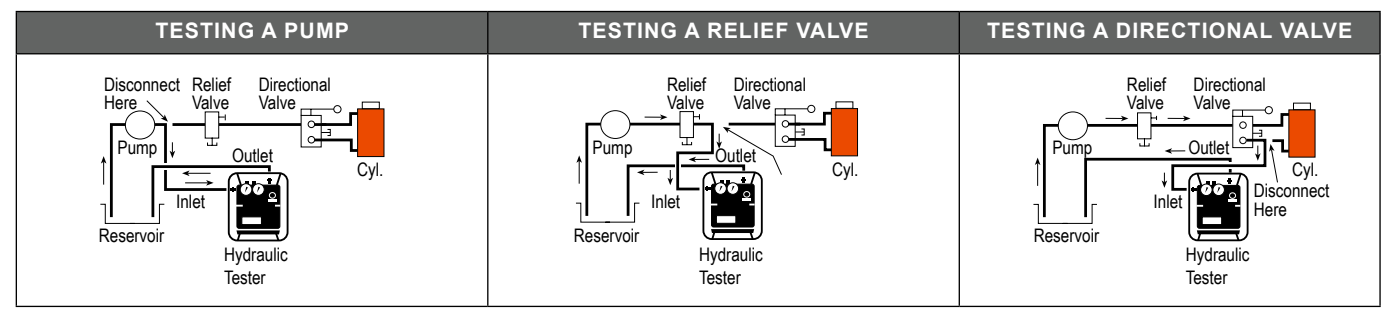
\* Hose assemblies are all 4-ply spiral wound wire, 10 ft. long. For use with 200 gpm testers.

**HOSE REDUCER BUSHINGS**



| Order No. | Description   |
|-----------|---|
| 203264    | Consists of two hose reducer bushings, 1-1/4" NPT female x 1-1/2" NPT male end. Needed to adapt 9786 25,4 mm I.D. hose and 9787 31,8 mm I.D. hose to tester. Wt., 1 kg. |

**Typical Set-up: Testing the pump, relief valve, and directional valve**



**HYDRAULIC FITTINGS FOR USE WITH ALL TESTERS.**

|   |              |  |   |               |   |
|---|--------------|--|---|---------------|---|
|    | <b>16954</b> | <b>90° Swivel Adapter.</b> 3/4" NPTF male x 3/4" NPSM female. Wt., 0,4 kg.   |    | <b>26073</b>  | <b>Swivel adapter.</b> 3/4" NPTF female x 1/2" NPSM female. Wt., 0,1 kg.  |
|    | <b>22041</b> | <b>Coupler.</b> 3/4" NPTF male x 3/4"-16 female ORB. Wt., 0,2 kg.  |    | <b>26074</b>  | <b>45° Swivel Adapter.</b> 3/4" NPSM female x 3/4" NPTF male. Wt., 0,3 kg.                                      |
|    | <b>22042</b> | <b>Coupler.</b> 3/4" -16 female ORB x 1-1/16"-12 female 37° JIC. Wt., 0,2 kg.  |    | <b>26075</b>  | <b>Swivel Adapter.</b> 3/4" NPSM female x 3/4" NPTF female. Wt., 0,2 kg.  |
|   | <b>22043</b> | <b>Coupler.</b> 3/4" -16 female ORB x 9/16"-18 female 37° JIC. Wt., 0,2 kg.  |    | <b>26076</b>  | <b>Swivel Adapter.</b> 3/4" NPTF male x 3/4" NPSM female. Wt., 0,2 kg.  |
|   | <b>22044</b> | <b>Coupler.</b> 3/4" -16 female ORB x 1/2"- 20 female 37° JIC. Wt., 0,2 kg.  |    | <b>26077</b>  | <b>Cap.</b> 3/4" NPTF. Wt., 0,3 kg.   |
|    | <b>27737</b> | <b>Swivel Adapter.</b> 3/4" -16 male x 3/4" NPSM female. For use with No. 9785 hose, which has 3/4" NPTF male thread. Wt., 0,1 kg. |    | <b>26078</b>  | <b>Plug.</b> 3/4" NPTF. Wt., 0,1 kg.  |
|    | <b>27287</b> | <b>Coupler.</b> 3/4" -16 UNF female ORB x 7/8"-14 UNF female 37° JIC. Wt., 0,2 kg.   |    | <b>26079</b>  | <b>Adapter.</b> 3/4" NPTF female x 1-1/16" -12 male ORB. Wt., 0,2 kg.   |
|    | <b>13449</b> | <b>Cap.</b> 1-1/16"-12 UNF female, 3/4" O.D. tube, 37° flare. Wt., 0,1 kg.   |   | <b>208402</b> | <b>45° Union Adapter.</b> 7/8"-14 UNF male 37° JIC x 3/4" NPTF female. 3,000 psi working pressure. Wt., 0,3 kg. |
|   | <b>26068</b> | <b>45° Swivel Adapter.</b> 1" NPTF male x 3/4" NPSM female. Wt., 0,4 kg.   |   | <b>208401</b> | <b>45° Union Adapter.</b> 7/8"-14 UNF male 37° JIC x 3/4" NPTF female. Wt., 0,4 kg.                             |
|  | <b>26069</b> | <b>Swivel Adapter.</b> 1" NPTF female x 3/4" NPSM female. Wt., 0,2 kg.   |  | <b>206753</b> | <b>Coupler.</b> 1-15/16"-12 UNF female 37° JIC x 3/4" NPTF female. Wt., 0,5 kgs.                                |
|  | <b>26070</b> | <b>Adapter.</b> 1" NPTF male x 3/4" NPTF female. Wt., 0,1 kg.  |  | <b>26666</b>  | <b>Connector.</b> 1-5/16"-12 UNF male 37° JIC x 3/4" NPTF male. Wt., 0,2 kg.                                    |
|  | <b>26071</b> | <b>Service Tee.</b> 3/4" NPTF female (2) x 3/4" NPTF male. Wt., 0,4 kg.  |  | <b>28984</b>  | <b>Straight Adapter.</b> 3/4" NPTF female x 1-3/16" -12 UN male 37° JIC. Wt., 0,3 kg.                           |
|  | <b>26072</b> | <b>Swivel Adapter.</b> 3/4" NPSM female x 1/2" NPTF male. Wt., 0,2 kg.   |  | <b>28985</b>  | <b>Straight Adapter Union.</b> 1-3/16"-12 UN female 37° JIC x 3/4" NPTF female. Wt., 0,6 kgs.                   |

NOTE: The recommended maximum working pressure on the above fittings is 350 bar (except the 208402 is 210 bar).

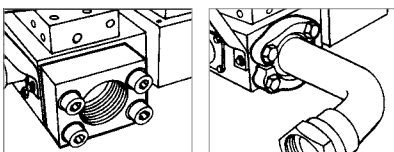
**HT200 HYDRAULIC TESTER ACCESSORIES**

Attach to the HT200 hydraulic tester by the use of flanged-head adapters and split flanges, or by a set of female straight adapters.



**FLANGED HEAD ADAPTER UNIONS & SPLIT FLANGE KIT**

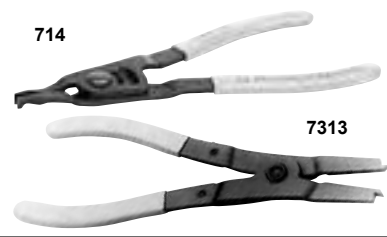
| Order No.     | Description  |
|---------------|--|
| <b>203154</b> | <b>Straight flange adapter.</b> 38,1 mm flanged-head to 1-1/2" NPSM female swivel. Wt., 1 kg.  |
| <b>203155</b> | <b>45° flange adapter.</b> 38,1 mm flanged-head by 1-1/2" NPSM female swivel. Wt., 1,5 kg.   |
| <b>203156</b> | <b>90° flange adapter.</b> 38,1 mm flanged-head by 1-1/2" NPSM female swivel. Wt., 1,9 kg.   |
| <b>203017</b> | <b>Split Flange Kit.</b> Consists of four flange halves and attaching bolts to permit use of 38,1 mm I.D. flange adapters listed at left. Wt., 1,3 kg. |



**FEMALE STRAIGHT FLANGE ADAPTER**

| Order No.     | Description   |
|---------------|---|
| <b>203003</b> | Consists of two female straight flange adapters with attaching bolts. When attached to inlet/outlet ports, allows connection of 1-1/2" NPT male hose ends to tester. Wt., 3,9 kg. |

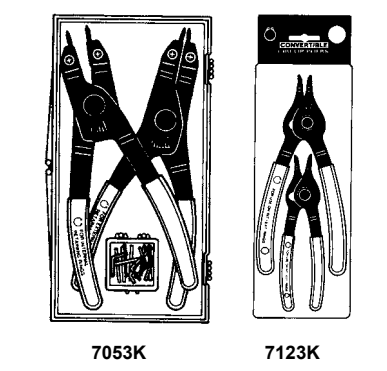
**HORSESHOE LOCK RING PLIER**



For removing horseshoe lock rings used on hydraulic brakes, differentials, etc. Plier is 203 mm long; max. spread: 23,8 mm

| Order No. | Description   |
|-----------|---|
| 714       | Horseshoe lock ring plier. Wt., 0,2 kg.   |
| 7313      | External snap ring plier easily removes snap rings used to retain bearings on shafts. Max. spread: 27 mm. |

**RETAINING RING PLIER KITS**



Choose from four sets; internal ring, external ring and convertible pliers for either internal or external rings.

| Order No. | Description  |
|-----------|--|
| 7053K     | Replaceable tip pliers kit. This versatile kit contains (1) internal and (1) external pliers with (8) tip sets. Two sets each: 0,9 mm dia. 90° bend, 1,2 mm dia. straight, 1,2 mm dia. 90° bend, 1,8 mm dia. straight. Recommended for 6,4 - 51 mm rings. Packaged in plastic storage case. Wt., 0,4 kg. |
| 15702     | Replaceable tip kit (only) for 7053K.  |
| 7123K     | Convertible pliers kit. Contains 1120 (1 mm dia./straight tip) and No. 1340 (1,8 mm dia./straight tip). Each pliers "converts" to handle both internal and external rings. Packaged in a reusable plastic storage case. Wt., 0,4 kg.   |
| 7125K     | Convertible pliers kit. Contains 1125 (.038" dia./45° bent tip) and No. 1345 (.070" dia./45° bent tip). Each pliers "converts" to handle both internal and external rings. Packaged in a reusable plastic storage case. Wt., 0,4 kg.   |



| Order No. | Description   |
|-----------|---|
| 7406K     | Professional pliers kit. Contains (6) retaining convertible pliers to handle both internal and external rings from 6,4 - 51 mm. Includes straight and 90° off-set pliers with 1, 1,2, and 1,8 mm tip diameters. Includes Nos. 1120, 1131, 1320, 1329, 1340 and 1349. Packaged in an impact resistant storage case. Wt., 0,9 kg. |

**REPLACEMENT TIPS FOR 7300 AND 7301 PLIERS**

| Order No. | Description  |
|-----------|--|
| 209201    | Replacement tips (pr.) for the 7300 and 7301 pliers. Wt., 0,1 kg. Fed. Spec.:GGG-P-480 |

**RETAINING RING PLIERS SELECTION GUIDE**

| Order No. | Type of Pliers | Tip Bend | Tip Size Dia. (mm) | For Internal Rings † Bore Dia. (mm) | For External Rings † Shaft Dia. (mm) | Order No. | Type of Pliers | Tip Bend | Tip Size Dia. (mm) | For Internal Rings † Bore Dia. (mm) | For External Rings † Shaft Dia. (mm) |
|-----------|----------------|----------|--------------------|-------------------------------------|--------------------------------------|-----------|----------------|----------|--------------------|-------------------------------------|--------------------------------------|
| 0100      | Internal       | Str.     | 1                  | 9,5 - 26                            | —                                    | 1120      | Convertible    | Str.     | 1                  | 9,5 - 14                            | 6,4 - 17                             |
| 0200      | External       | Str.     | 1                  | —                                   | 6,4 - 22                             | 1125*     | Convertible    | 45°      | 1                  | 9,5 - 14                            | 6,4 - 17                             |
| 0300      | Internal       | Str.     | 1,8                | 27 - 44,5                           | —                                    | 1131**    | Convertible    | 90°      | 1                  | 9,5 - 14                            | 6,4 - 17                             |
| 0400      | External       | Str.     | 1,8                | —                                   | 24 - 36,5                            | 1320      | Convertible    | Str.     | 1,2                | 16 - 26                             | 17 - 22                              |
| 0500      | Internal       | Str.     | 2,3                | 46 - 89                             | —                                    | 1329      | Convertible    | 90°      | 1,2                | 16 - 26                             | 17 - 22                              |
| 0600      | External       | Str.     | 2,9                | —                                   | 38 - 89                              | 1340      | Convertible    | Str.     | 1,8                | 27 - 44,5                           | 24 - 36,5                            |
| 7300      | Internal       | Str.     | 3                  | 78 - 152                            | —                                    | 1345*     | Convertible    | 45°      | 1,8                | 27 - 44,5                           | 24 - 36,5                            |
| 7301      | External       | Str.     | 3                  | —                                   | 38 - 165                             | 1349**    | Convertible    | 90°      | 1,8                | 27 - 44,5                           | 24 - 36,5                            |

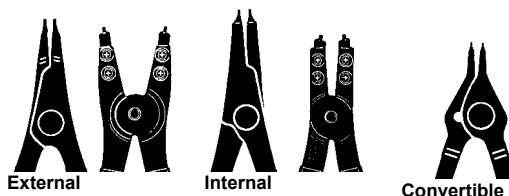
Fed. Spec.:GGG-P-480-E

\* 45° Angled Tips



\*\* 90° Angled Tips

† Capacities are shown for basic style rings.



**CAUTION:** Always wear safety goggles when using pliers




**RATCHETING CHAIN WRENCHES**

|  | Special head design allows you to turn wrench in either direction. Ratcheting action makes it possible to re-grip without removal. Fits parts of most any size and shape. |  |
|---|---|--|
|   | Order No.   | Description  |
| 7400  | Chain wrench, cap. 12,7 to 121 mm O.D. (Capacity= 450 Nm.) Handle length: 317,5 mm. Wt., 0,9 kg.  |  |
|  | 209199  | Replacement chain with pin for 7400 chain wrench (406 mm long).                            |
|   | 7401  | Chain wrench, cap. 76 to 171 mm O.D. (Capacity= 900 Nm) Handle length: 19.00" Wt., 2,3 kg. |
|   | 209200  | Replacement chain with pin for 7401 chain wrench (610 mm long).                            |


**PRY BARS**

|  | Our rolling head pry bars are an extremely popular and useful tool. Head may be used for almost any prying job since a great deal of leverage can be obtained. Long tapered body may be used as a lining-up drift. |  |
|--|--|--|
|  | Order No.  | Description  |
| 7162   | Pry bar; 9,5 mm round, 152 mm long. Wt., 0,1 kg.   |  |
|  | 7163   | Pry bar; 11,1 mm round, 305 mm long. Wt., 0,3 kg.  |
|  | 7164   | Pry bar; 14,3 mm round, 406 mm long. Wt., 0,5 kgs. |
|  | 7165   | Pry bar; 19 mm round, 457 mm long. Wt., 1 kg.      |


**ADJUSTABLE GLAND NUT WRENCH**

|  | Designed to handle 51 to 152 mm dia. hydraulic cylinder gland nuts on many construction vehicles. Fits 6,4 and 7,9 mm dia. pin holes. Features a 3/4" sq. drive. |             |
|--|--|-------------|
|  | Order No.  | Description |
| 1266   | Adjustable gland nut wrench. Wt., 1,4 kg.  |             |
| 204928   | Replacement pin for 1266 (2 required)  |             |


**JIMMY BARS**

|  | Ideal for general lifting or prying. Heat treated chrome alloy steel to resist bending or breaking. |             |
|--|---|-------------|
|  | Order No.   | Description |
| 7166   | Jimmy bar; 15,9 mm round, 457 mm long. Wt., 0,6 kg.   |             |
| 7167   | Jimmy bar; 19 mm round, 610 mm long. Wt., 1,1 kg.   |             |
| 7168   | Jimmy bar; 22,2 mm round, 762 mm long. Wt., 1 kg.   |             |


**ADJUSTABLE HOOK SPANNER WRENCH**

|  | Needed wherever turret adjusting nuts or packing gland nuts are used. Adjust 38 to 102 mm. Handle overall length: 483 mm. |             |
|---|---|-------------|
|   | Order No.   | Description |
| 885   | Adjustable hook spanner wrench. Wt., 1,4 kg.  |             |

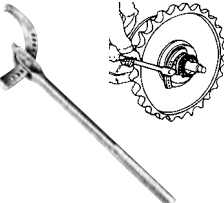
**"MAJOR PERSUADER" JIMMY BARS**

|  | Two big jimmy bars for big jobs. Forged from chrome alloy steel. |             |
|--|--|-------------|
|  | Order No.  | Description |
| 7420   | Jimmy bar; 22,2 mm round, 1168 mm long. Wt., 3,4 kg.             |             |
| 7421   | Jimmy bar; 25,4 mm round, 1372 mm long. Wt., 1,9 kg.             |             |

**ADJUSTABLE HOOK SPANNER WRENCH**

|  | Replace many fixed-size wrenches and cover a range of capacities needed to service industrial tractors and other equipment. Drop-forged jaws adjust to eleven positions for a capacity of 121 to 324 mm O.D. Handle overall length: 610 mm; diameter: 25,4 mm. |             |
|---|--|-------------|
|   | Order No.  | Description |
| 7307  | Spanner wrench with one 9,5 mm thick jaw. Wt., 3,3 kg.   |             |
| 7308  | Spanner wrench with two interchangeable jaws: one 9,5 mm thick, one 19 mm thick. Wt., 5 kg.  |             |

**HEAVY-DUTY ADJUSTABLE SPANNER**

|  | Extra heavy construction. Has one 19 mm thick, eleven-position hook-jaw for a capacity of 131 to 324 mm O.D. Drop-forged. Handle length: 654 mm; handle dia.: 33,3 mm. |             |
|---|--|-------------|
|   | Order No.  | Description |
| 7309  | Heavy-duty adjustable hook spanner wrench. Wt., 5 kg.  |             |

**HTS50 HEAVY-DUTY PIPE SEALANT WITH PTFE**



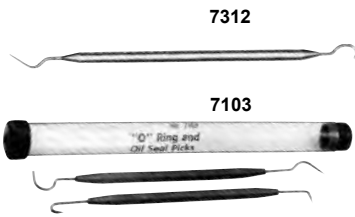
Note: Product labeling may vary from picture.

- Seals new or damaged threads; resists water, chemicals and oils.
- Replaces conventional tape methods; forms a clog-free seal.
- Effective at 700 Bar.

When "plumbing" a hydraulic system, there's now a better answer than tapes which can tear or shred, possibly plugging filters, valves or gauges. This compound combines the lubricating qualities of PTFE with a fast curing anaerobic sealant. Seals all metal fittings, plugs and threaded joints quickly and easily. Cures to form a permanent seal which is inert to hydrocarbons, most acids, chemicals, solvents and steam. Allows adjustment up to 16 hours after assembly; won't loosen under vibration. Prevents galling of mating parts upon disassembly. Withstands temperatures from -54° C to 190° C.

| Order No. | Description                        |
|-----------|------------------------------------|
| HTS50     | Sealant, 50 ml. tube. Wt., 0,2 kg. |

**O-RING SEAL PICKS**



Even the seemingly simple job of removing and installing O-ring seals can be difficult without the aid of the proper tool. The 7312 is constructed with plastic & steel O-ring seal pick does the job with ease. Two special picks in set 7103 get right to the trouble areas.

| Order No. | Description                                |
|-----------|--|
| 7312      | O-ring seal pick. Wt., 0,1 kg.             |
| 7103      | Set of two O-ring seal picks. Wt., 0,1 kg. |

**UNIVERSAL OUTSIDE THREAD CHASER**



Restore damaged threads on shafts, housings, cages, etc., for re-assembly of matching parts. Eliminates need for thread-cutting equipment. Will not harm threads. V-pads and dies can be replaced. Cap. 32 to 127 mm O.D.

| Order No. | Description   |
|-----------|---|
| 7402      | Thread chaser, complete (with 6 dies: threads per inch – 4, 5, 6, 7, 7.5, 8, 9, 10, 11, 11.5, 12, 14, 16, 18, 20 and 24). Wt., 0,2 kg |
| 202817    | Metric die set (3 dies: mm per thread: 1, 1.25, 1.5, 1.75, 2, 2.5, 3, 3.5, and 4). Wt., 0,1 kg.                                       |

**MAGNETIC PICK-UP TOOL**



Has permanent magnetic head for retrieving parts from otherwise inaccessible places.

| Order No. | Description  |
|-----------|--|
| 7395      | Pick-up tool with pocket clip. 152 mm lg. Wt., 0,1 kg. |

Tools

# PULLERS

**POWER TEAM OFFERS THE WORLD'S MOST COMPLETE LINE OF PULLING EQUIPMENT, ENABLING USERS TO REMOVE AND INSTALL PARTS WITH SPEED AND SAFETY, FOR EFFECTIVE REPAIR JOBS.**

Range includes:

- Mechanical Pullers
- Hydraulic Pullers
- Puller Sets
- Bi-Directional™ Pullers
- High Tonnage Pullers
- Accessories & Adapters







|   | Section / Series                         | Page Description   | Page(s) |
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|   | 927-939                                  | Mechanical Bi-Directional™ Pullers   | 231-232 |
|    | 1150-1154, 1165-1166, 1121-1130, 679-680 | Pulling Attachments  | 233-234 |
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|  | 7180,<br>27793-27797                     | Bearing, Bushing, Seal Drivers   | 263     |



## SELECTING THE RIGHT PULLER:

**Step 1:** Determine if you are pulling a shaft or hole out of something?

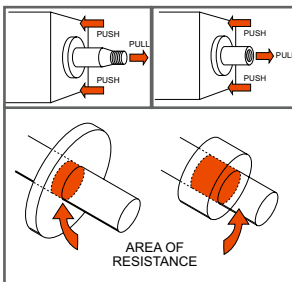
**Step 2:** Is your application requiring pulling and pushing?

**Step 3:** What is the reach, spread, and force required to perform the application?

## PULLER SIZING CONSIDERATIONS:

1. Determine the type of puller or puller combination needed?
2. Which puller type is best suited for gripping the part?
3. Is a combination of puller types required?
4. Determine the reach needed for your particular pulling problem. The puller you select must have a reach equal, or greater than, the corresponding sizes of the part to be pulled.
5. Determine the spread needed. The spread is determined by the width of the part being pulled. The pullers spread should be greater than the width of the part to be pulled
6. Estimate the force needed to solve your pulling problem. A puller with the proper reach and spread will usually have enough capacity to remove the corresponding part. (Note: When in doubt, always use a puller with a larger capacity than what may be needed. Rusted parts, or parts with a large area of resistance, may need more pulling force).

## PULLER SELECTION OPTIONS:



### PULLING A PRESS-FITTED SHAFT FROM A HOUSING

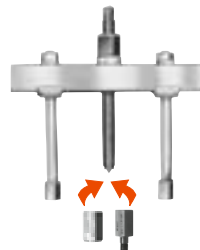
A shaft with a threaded end can be removed without damage by using one of our slide hammer, manual or hydraulic Bi-Directional™ Puller, in conjunction with the proper threaded adapter. Removal is easy! If the shaft to be removed has external threads, simply choose one of our female threaded adapters of proper size/thread. If the shaft has internal threads, simply choose the correct size male threaded adapter.

Note: Manual pullers require that the shaft being pulled is no more than twice the diameter of the pullers forcing screw. To determine the recommended tonnage for hydraulic pullers, multiply the diameter of the shaft to be pulled by ten. Example: For a 25 mm shaft, we recommend 10 tons of pulling force.

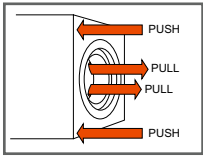
### SUGGESTED TOOLS:



Slide hammer puller matched with a set of threaded adapters is a perfect tool for light duty pulling needs.



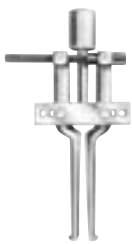
Bi-Directional™ Puller matched with a set of threaded adapters make for an extra versatile pulling tool.



**PULLING INTERNAL BEARING RACES, RETAINER, SEALS, ETC.**

By extending the narrow jaws of an internal pulling attachment through the center of the part to be pulled, a straight pull is insured, and damage to the housing is avoided. While parts within a "blind hole" in a housing do present a problem, Power Team has the internal pulling attachment or a combination of an internal pulling attachment and puller to handle the situation.

**SUGGESTED TOOLS:**



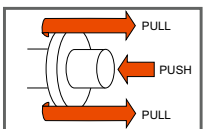
**Internal pulling attachments** have narrow jaws which extend through the center of the part to be pulled. They provide a straight pull and avoid damaging housings. Internal attachments feature adjustable jaws to fit various diameter parts.



**Slide hammer with internal attachment** is ideal for removing parts from blind holes, especially where there is no housing to brace puller legs against.



**Bi-Directional™ Puller** with internal attachment is available in both manual and hydraulic versions.



**PULLING A GEAR, BEARING, WHEEL, PULLEY, ETC., FROM A SHAFT**

In order to perform a proper pull, be certain that you firmly grip the gear, bearing, wheel, pulley, etc., and apply force to the shaft. Use a 3-jaw puller, instead of a 2-jaw, whenever possible for better gripping power and a more uniform displacement of pulling force.

**SUGGESTED TOOLS:**



**Jaw-type pullers:** Either manual or hydraulic. For extra force and convenience, use a hydraulic puller. Both are available in 2 or 3-jaw configurations and are used to grip the outer circumference of a part or can be used with a pulling attachment, such as a bearing / pulley attachment.



**Bi-Directional™ Puller:** Can thread directly into a threaded part for easy and secure removal. Bi-Directional™ Pullers can be used in conjunction with bearing/pulley attachments which grip the part from behind. A wide assortment of male and female threaded adapters are available as well as metric adapters.



**Slide Hammers:** Best suited for light-duty tasks. Slide hammers can be used for multiple pulling problems when combined pulling attachments.



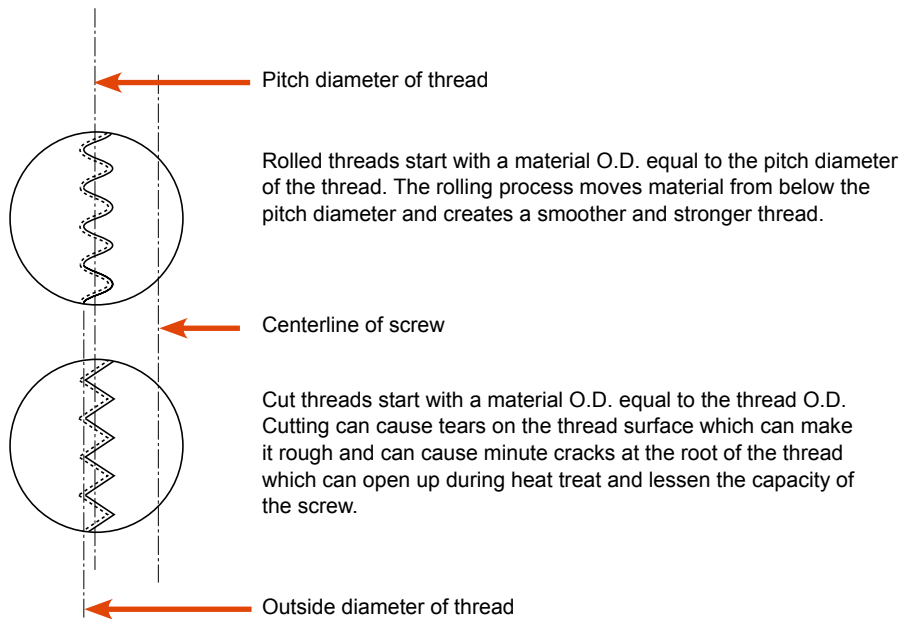
**Bearing/pulley Attachments:** Provide a "knife-like" edge to get behind parts for added versatility and secure removal of parts. Great for parts that don't offer adequate grip with jaw-type pullers.



**Adapters:** Whether you need an adapter compatible with any number of threaded hole sizes, protecting the part to be pulled or for assisting the installation of a component; Power Team offers a variety of adapters to assist in the removal or installation of parts.



**WHY OUR ROLLED PULLER THREADS ARE SUPERIOR:**



► Puller with a bearing pulling attachment was used to take a bearing off a utilities well pump motor.



| Features  | Benefits   |
|---|--|
| <ul style="list-style-type: none"> <li>Lock-Jaw™ feature on jaw-type pullers.</li> </ul>  | <ul style="list-style-type: none"> <li>The harder the pulling force, the tighter the jaws grip.</li> </ul>   |
| <ul style="list-style-type: none"> <li>2-way, 3-way and 2/3-way combination pullers:<br/>1 to 37 ton mechanical pullers<br/>54 mm to 702 mm reach<br/>83 mm to 1118 mm of spread<br/>5 to 50 ton hydraulic pullers</li> </ul> | <ul style="list-style-type: none"> <li>Select a specific puller for a specific application, or select one or more pullers for general applications.</li> </ul> |
| <ul style="list-style-type: none"> <li>Forged alloy steel jaws.</li> </ul>  | <ul style="list-style-type: none"> <li>Strongest possible part. The grain of the material follows the contour of the part.</li> </ul>                          |
| <ul style="list-style-type: none"> <li>Machined puller jaw toes.</li> </ul>   | <ul style="list-style-type: none"> <li>Larger and stronger pulling toe than most competitors!</li> </ul>   |
| <ul style="list-style-type: none"> <li>Alloy steel heads (forged or flame cut).</li> </ul>  | <ul style="list-style-type: none"> <li>Heat treated and designed for maximum strength.</li> </ul>  |
| <ul style="list-style-type: none"> <li>Rolled "V" threads.</li> </ul>   | <ul style="list-style-type: none"> <li>Stronger and smoother than cut threads.</li> </ul>  |
| <ul style="list-style-type: none"> <li>Special coating on threads.</li> </ul>   | <ul style="list-style-type: none"> <li>Resists corrosion, traps lubrication better than black oxide.</li> </ul>  |
| <ul style="list-style-type: none"> <li>Heat treated alloy steel cross bolts.</li> </ul>   | <ul style="list-style-type: none"> <li>Designed for maximum shear strength.</li> </ul>   |

**▲ CAUTION:** The puller application photos shown in this catalog are shown without protective blankets for clarity of photos. Power Team strongly recommends you always make your pull with a protective device in place.

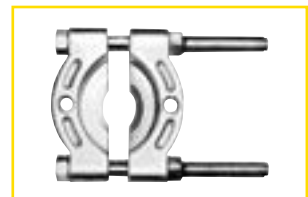
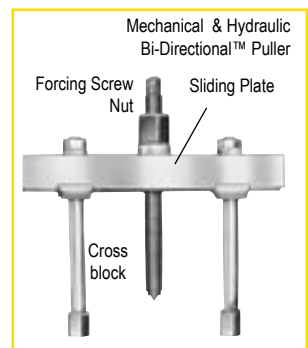


## Operator safety comes first!

High levels of force are being exerted with your pulling system. You must respect this force, and observe safety precautions at all times.

### A few easy tips to remember:

1. **Wear safety glasses at all times!** Protect your eyes from possible flying parts.
2. **Keep your pulling tools in shape!** Clean and lubricate the pullers forcing screw frequently, from threads to tip, to assure long service life and proper operation.
3. **Cover work with a protective blanket!** With high forces being exerted on the part being pulled, breakage may sometimes result. By covering the work with a protective blanket, reduce the danger of flying parts.
4. **Apply force gradually!** The component should give a little at a time. Do not try speed removal by using an impact wrench on the puller screw.
5. **Use the right size puller!** If you have applied maximum force and the part has not moved, go to a larger capacity puller. Resist sledging.
6. **Align puller legs and jaws!** Be sure the setup is rigid and that the puller is square with the work.
7. **Mount puller so grip is tight!** Tighten the adjusting strap-bolts when using a jaw type puller. Always use a 3-jaw puller whenever possible. A 3-jaw puller gives a more secure grip, and pulling power. Apply force gradually. Never use an extension on a wrench. Never use an impact wrench. Never strike the end of the forcing screw.
8. **Do not couple puller legs!** The tonnage capacity of a Bi-Directional™ Puller is reduced when longer than standard legs are used, or when legs are in compression. The chance of breaking, bending or misaligning legs increases. Keep reach to a minimum. Use shortest legs possible to reach the workpiece. Thread legs into workpiece, pulling attachment or adapters evenly. Uneven legs will cause greater pull or push on one side, creating a bending action which could cause damage to workpiece or cause a leg to break. The sliding plates must always be on the opposite side of the cross block from the forcing screw nut or hydraulic cylinder.



### Bearing pulling attachments:

These attachments may not withstand the full tonnage of the pullers with which they are used. The shape and condition of the part being pulled affects the tonnage at which the puller blocks and/or studs may bend or break. Always select the largest attachment which will fit the part to be pulled.



### CAUTION

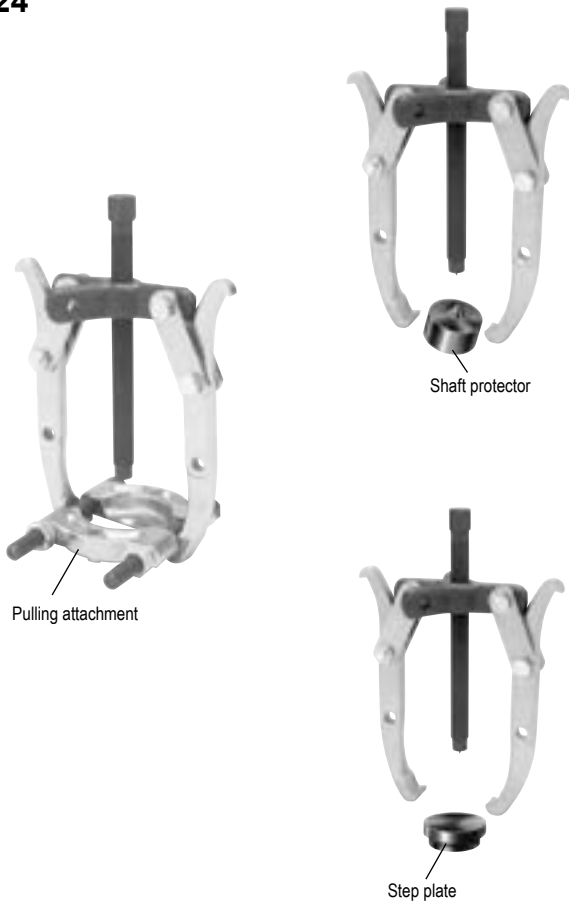
It is impossible to predict the exact force required for every pulling job. Setup requirements and the size, shape and condition of the parts being pulled vary a great deal. In addition, the Power Team pulling system is so versatile, it is possible that components in a pulling setup may have different tonnage ratings. The lowest "capacity" component, then,

determines the capacity of the setup. For example: When an accessory with a 1 ton capacity is used with a 10 ton capacity puller, the setup can be used only at a force of one ton.

These tools should be used only by trained personnel familiar with them.

Always wear eye protection during a job since work parts, or the pulling tool itself, may break and parts may fly. It is recommended to cover the work with a Power Team protective blanket or use a shield while force is being applied. If you are at all unsure which tool or attachment to select, contact the Power Team factory.

Model Shown:  
**1024**

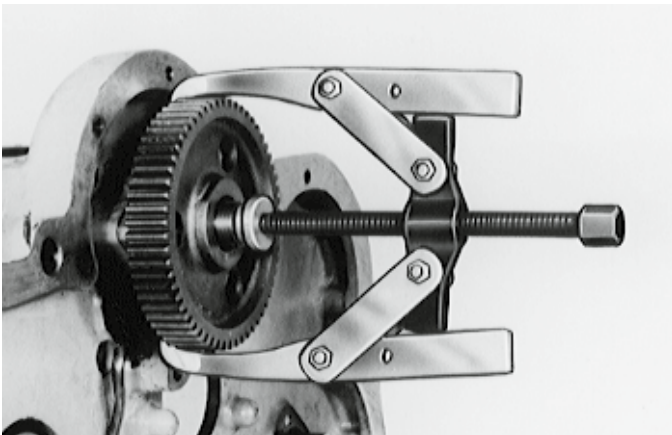


**Features**

**VERSATILE DESIGN OFFER A TIGHT GRIP FOR YOUR PULLING APPLICATIONS.**

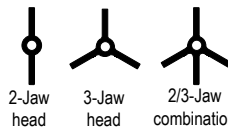
- Lock-Jaw™ feature on all pullers. The harder the pull, the tighter the grip for removing gears, bearings and countless other press fitted parts.
- 2-way, 3-way and 2/3-way combination pullers make it easy to select a specific puller for your application.
- Forged from high quality steel, heat treated and subjected to rigorous tests which exceed rated puller capacity.
- Forcing screw threads are rolled, not cut, creating a smoother and stronger thread.
- Heat treated alloy steel cross bolts for maximum shear strength.
- Machined puller jaw toes produce larger and stronger pulling toes.
- Meets Fed. Spec.: GGG-P-00781-D

**Two-jaw head puller example**

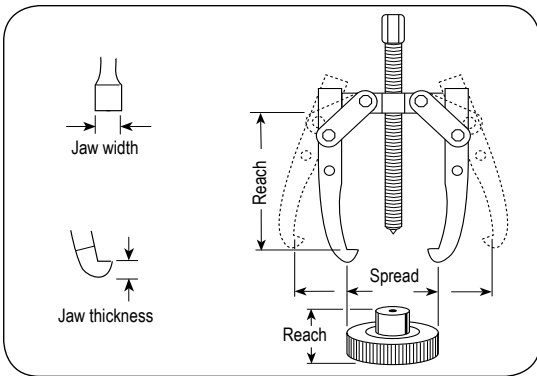


**Choosing the right size puller**

Styles of puller cross heads



Compare the "reach" and "spread" of the pulling job with that of the pullers listed. The puller selected must have dimensions greater than those of the job.



► Ordering Information

| Order No. | Cap. (tons) | Jaw Type       | Max.       |             | Jaw                     |                          | Screw Size (in.)    | Weight (kg) |
|-----------|-------------|----------------|------------|-------------|-------------------------|--------------------------|---------------------|-------------|
|           |             |                | Reach (mm) | Spread (mm) | Thickness (mm)          | Width (mm)               |                     |             |
| 1020      | 1           | 2-Jaw          | 54,0       | 82,6        | 3,6                     | 6,4                      | 5/16 - 24 x 98,4 mm | 0,14        |
| 1021      |             | 3-Jaw          | 54,0       | 82,6        |                         |                          |                     |             |
| 1022      | 2           | 2-Jaw *        | 82,6       | 101,6       | Upper 4,8<br>Lower 3,2  | Upper 6,4<br>Lower 12,7  | 3/8 - 24 x 124 mm   | 0,40        |
| 1023      |             | 2/3-Jaw *      | 85,7       | 120,7       |                         |                          |                     |             |
| 1024      | 5           | 2/3-Jaw *      | 82,6       | 152,4       | Upper 23,8<br>Lower 6,4 | Upper 9,5<br>Lower 19,1  | 9/16 - 20 x 178 mm  | 0,43        |
| 1026      |             | 2/3-Jaw *      | 82,6       | 177,8       |                         |                          |                     |             |
| 1024      | 5           | Long 2-Jaw *   | 139,7      | 152,4       | Upper 23,8<br>Lower 6,4 | Upper 9,5<br>Lower 19,1  | 9/16 - 20 x 178 mm  | 0,19        |
| 1027      |             | Long 2/3-Jaw * | 139,7      | 177,8       |                         |                          |                     | 1,65        |
| 1035      | 7           | 2-Jaw *        | 127,0      | 228,6       | Upper 7,9<br>Lower 8,7  | Upper 25,4<br>Lower 25,4 | 11/16 - 18 x 229 mm | 2,04        |
| 1037      |             | 2/3-Jaw *      | 127,0      | 266,7       |                         |                          |                     | 2,78        |
| 1036      | 7           | Long 2-Jaw     | 222,3      | 241,3       | 8,7                     | 25,4                     | 11/16 - 18 x 229 mm | 2,44        |
| 1038      |             | Long 2/3-Jaw   | 222,3      | 279,4       |                         |                          |                     | 3,69        |
| 1039/1040 | 13          | 2-Jaw          | 279,4      | 304,8       | 14,3                    | 25,4                     | 13/16 - 16 x 305 mm | 4,90        |
| 1040      |             | Long 2-Jaw     | 387,4      | 393,7       |                         |                          |                     | 5,90        |
| 1041      |             | 2/3-Jaw        | 279,4      | 304,8       |                         |                          |                     | 7,37        |
| 1042      |             | Long 2/3-Jaw   | 387,4      | 431,8       |                         |                          |                     | 8,50        |
| 1043/1044 | 17.5        | Long 2-Jaw     | 368,3      | 355,6       | 20,6                    | 32,5                     | 1 - 14 x 343 mm     | 10,43       |
| 1044      |             | Long 2-Jaw     | 476,3      | 406,4       |                         |                          |                     | 11,79       |
| 1045      |             | 3-Jaw          | 368,3      | 355,6       |                         |                          |                     | 14,97       |
| 1046      |             | Long 3-Jaw     | 476,3      | 406,4       |                         |                          |                     | 16,78       |
| 1048      | 25          | Long 2-Jaw     | 565,2      | 508,0       | 27,0                    | 38,1                     | 1 1/4 - 12 x 422 mm | 19,39       |
| 1050      |             | Long 3-Jaw     | 565,2      | 508,0       |                         |                          |                     | 27,22       |

\* Reversible Jaws

Model Shown:  
**927, 938, 939**



**Features**

**VERSATILE DESIGN OFFERS A TIGHT GRIP FOR YOUR PULLING APPLICATIONS.**

- Can apply a pushing or pulling force, depending on how the puller is set up.
- Optional leg kits adapt your Bi-Directional™ Puller to extra long or extra short reach.
- A wide variety of threaded adapters, bearing pulling attachments and internal pulling attachments can be used in combination with our Bi-Directional™ Puller.
- Meets Fed. Spec.: GGG-P-00781-D

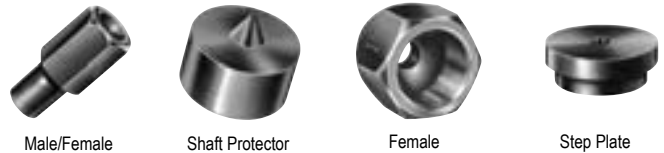


**Selection and Capacity Rating**

Each Bi-Directional™ Puller specified tonnage "capacity" is determined using its standard legs in tension. Using longer legs, or a setup in which the legs are in compression, will reduce the "capacity." Always select the largest "capacity" puller and the shortest legs that will fit the job.



**Puller Adapters**

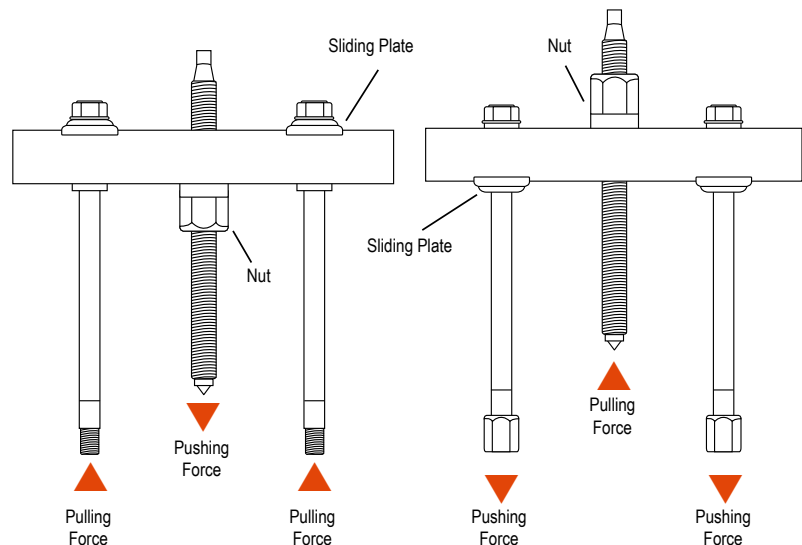


For more information, see page 240.



**ASSEMBLING THE TOOL TO APPLY PUSHING OR PULLING FORCE:**

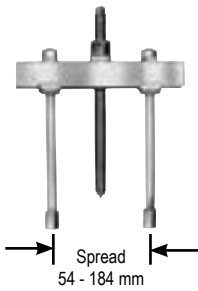
1. Determine if you want the tool's forcing screw to push or pull.
2. To exert pushing force, the forcing nut is installed beneath the cross block, as shown on left.
3. To cause the forcing screw to pull, the forcing nut is placed on top of the cross block.
4. The sliding plates must always be placed on the opposite side of the cross block from the forcing nut.





► Ordering Information

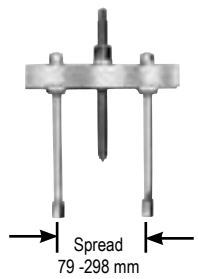
10 TON MECHANICAL BI-DIRECTIONAL™



**10 Ton Capacity** can be used with 1123 bearing pulling attachment or 679 pulley pulling attachment. May also be used with 1150, 1151, 1152, or 1153 internal pulling attachments.

| Order No. | Max.          |                | Screw Size<br>(in.) | Weight<br>(kg) | Notes   |
|-----------|---------------|----------------|---------------------|----------------|---|
|           | Reach<br>(mm) | Spread<br>(mm) |                     |                |   |
| 927       | 210           | 54 - 184       | 3/4" - 16 x 305 mm  | 3,2            | 1/2" of forcing screw tip end is threaded 5/8"-18. 1100 legs and 24827 leg ends included. |

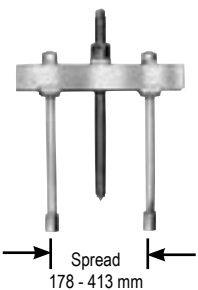
17.5 TON MECHANICAL BI-DIRECTIONAL™



**17.5 Ton Capacity** can be used with 1124 and 1130 bearing pulling attachments or 679 and 680 pulley pulling attachments. May also be used with 1150, 1151, 1153, 1165, or 1166 internal pulling attachments.

| Order No. | Max.          |                | Screw Size<br>(in.) | Weight<br>(kg) | Notes   |
|-----------|---------------|----------------|---------------------|----------------|---|
|           | Reach<br>(mm) | Spread<br>(mm) |                     |                |   |
| 938       | 282           | 79 - 298       | 1"-14 x 336 mm      | 9,4            | Leg ends threaded 5/8"-18. 1106 legs and 24827 leg ends included. |

30 TON MECHANICAL BI-DIRECTIONAL™



**30 Ton Capacity** can be used with 1126 and 1127 bearing pulling attachments or 680 pulley pulling attachment (two 8012 adapters are required to connect 680 to puller). Can be used with 1165 internal pulling attachment.

| Order No. | Max.          |                | Screw Size<br>(in.)  | Weight<br>(kg) | Notes   |
|-----------|---------------|----------------|----------------------|----------------|---|
|           | Reach<br>(mm) | Spread<br>(mm) |                      |                |   |
| 939       | 267           | 178 - 413      | 1 1/2" - 12 x 438 mm | 20,0           | Leg ends threaded 1"-14. 1109 legs and 28390 leg ends included. |

ACCESSORIES - PULLER LEGS

| Order No. | Leg Length (mm)     | Weight (kg) | Order No. | Leg Length (mm)     | Weight (kg) |
|-----------|---------------------|-------------|-----------|---------------------|-------------|
| 927       | 1103<br>121 mm Legs | 0,45        | 938       | 1104<br>419 mm Legs | 3           |
|           | 1100<br>171 mm Legs | 0,45        |           | 1105<br>572 mm Legs | 4,1         |
|           | 1102<br>298 mm Legs | 1           |           | 1108<br>762 mm Legs | 5,2         |
|           | 1101<br>400 mm Legs | 1,5         |           |                     |             |
| 938       | 1107<br>114 mm Legs | 1,1         | 939       | 1109<br>203 mm Legs | 3,6         |
|           | 1106<br>241 mm Legs | 2           |           | 1110<br>457 mm Legs | 6,8         |
|           |                     |             |           | 1111<br>711 mm Legs | 10          |

Pullers

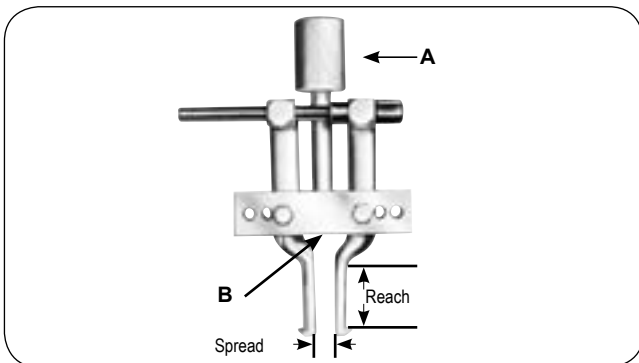
Model Shown:  
**1166**



**Features**

**RECOMMENDED FOR THE REMOVAL OF BEARINGS, BEARING CUPS, BUSHINGS AND OIL SEALS.**

- Handles internal pulling jobs, such as, bearing/bearing cup removal, bushing removal, oil seals, etc.
- Remove hard to get at parts easily and without damage!
- Use with corresponding Power Team Slide Hammer or Bi-Directional™ Puller
- Adjustable jaws fit various diameters
- Meets Fed. Spec.: GGG-P-00781-D



**CAUTION**

These attachments may not withstand the full tonnage of the pullers they are used with. The shape and condition of the part being pulled affects the tonnage at which the jaws may slip off. Always select the largest attachment which will fit behind the part being pulled.

**Ordering Information**

| Order No. | Jaw            |               | A<br>(in.) | B<br>(in.) | Weight<br>(kg) | Application  |
|-----------|----------------|---------------|------------|------------|----------------|--|
|           | Spread<br>(mm) | Reach<br>(mm) |            |            |                |  |
| 1153      | 38,1 - 127     | 54            | 1 - 14     | 5/8 - 18   | 1,9            | Use with 927 and 938 Bi-Directional™ Puller,   |
| 1150      | 38,1 - 152     | 102           | 1 - 14     | 5/8 - 18   | 2              |  |
| 1151      | 38,1 - 178     | 133           | 1 - 14     | 5/8 - 18   | 2              |  |
| 1152      | 38,1 - 152     | 102           | —          | 5/8 - 18   | 1,6            | Use with 927 and 938 Bi-Directional™, 1155 and 1156 slide hammer pullers, or 24832 and 24833 puller screw. |
| 1154      | 38,1 - 152     | 102           | 1 - 8      | 5/8 - 18   | 2              | Use with PPH17.  |
| 1165      | 76,7 - 229     | 149           | 1 1/2 - 12 | 1 - 14     | 6,1            | Use with 939 Bi-Directional™ Puller.   |
| 1166      | 76,2 - 229     | 149           | 1 1/4 - 7  | 1 - 14     | 6,1            | Use with PPH30.  |

| Order No. | Length<br>(in.) | Puller Screws<br>Threads<br>(in. - thd.) | Weight<br>(kg) | Application   |
|-----------|-----------------|--|----------------|---|
| 24832     | 349 mm long     | 5/8 - 18                                 | 0,5            | Use with 1150, 1151, 1152, and 1153. Acts as a regular forcing screw when threaded directly into block of pulling attachment. |
| 24833     | 140 mm long     | 5/8 - 18                                 | 0,2            | Use with 1150, 1152, and 1153. Acts as a regular forcing screw when threaded directly into block of pulling attachment.       |

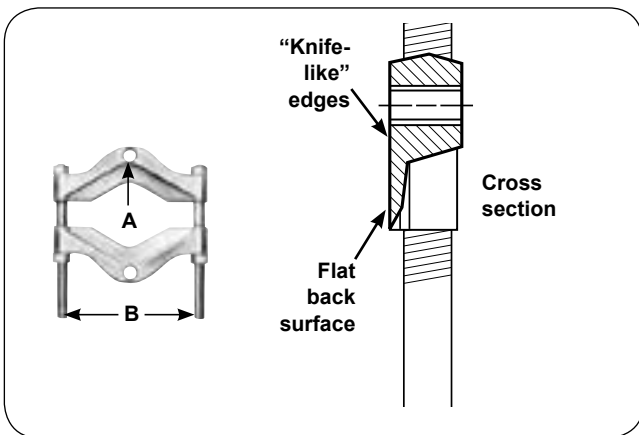
Model Shown:  
**1122**



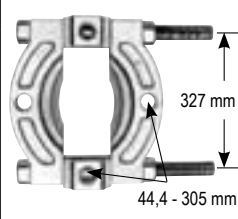
**Features**

**USED WHERE SPACE DOES NOT PERMIT, HOOKING PULLER JAWS DIRECTLY ON PART TO BE PULLED.**

- “Knife-like” edges fit behind bearings and other hard-to-grip parts for easy removal, even where clearance is limited.
- Usable with both Lock-Jaw™ pullers and Bi-Directional™.
- All puller blocks are made from forged alloy steel
- Meets Fed. Spec.: GGG-P-00781-D



| PULLING ATTACHMENT ACCESSORY |  |  |
|------------------------------|--|--|
| Order No.                    | Description  |  |
| 1128                         | “Knife-like” edges of attachment fit behind bearings or other parts for easy removal with “Enforcer 55”, even if space does not permit hooking puller jaws directly to part being pulled.<br><br>Spread: 127 tot 327 mm. Wt., 45.5 kg. |  |



**Ordering Information**

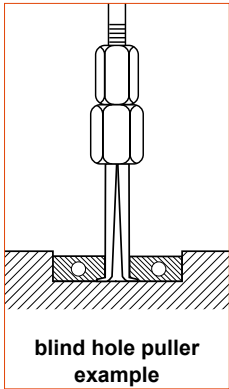
| Order No. | Spread       |              | A<br>(in.) | B<br>(mm) | Weight<br>(kg) | Application   |
|-----------|--------------|--------------|------------|-----------|----------------|---|
|           | Max.<br>(mm) | Min.<br>(mm) |            |           |                |   |
| 1121      | 22,2         | 6,4          | 5/16 - 18  | 43        | 0,3            | 1020, 1022, and 1023.   |
| 1122      | 51,0         | 3,2          | 3/8 - 16   | 62        | 0,6            | 1024, 1025, 1026, 1027, 7392 and 7393.  |
| 1123      | 117,0        | 9,5          | 5/8 - 18   | 111       | 2,3            | 1035, 1036, 1037, 1038, and 927.  |
| 1124      | 5,75         | 12,7         | 5/8 - 18   | 152       | 5,4            | 1035, 1040, 1041, 1042, PH172, PPH17, and 938.  |
| 1126      | 203,0        | 16,0         | 1 - 14     | 181       | 9,0            | 1043, and 939.  |
| 1127      | 340,0        | 19,0         | 1 - 14     | 260       | 18,8           | 939, PH302, and PPH30.  |
| 1128      | 327,0        | 127,0        | 1 3/4 - 12 | 330       | 45,4           | PH302*, PH502*, PH553C, and PPH50. (When using 1128 with PPH50, two 8024 adapter are required to connect PPH50 to the puller tees). |
| 1130      | 219,0        | 12,7         | 5/8 - 18   | 152       | 5,4            | 1035, 1040, 1041, 1042, PH172, PPH17, and 938.  |

**V-BELT PULLEY PULLING ATTACHMENTS**

| Order No. | Spread       |              | A<br>(in.) | B<br>(mm) | Weight<br>(kg) | Application   |
|-----------|--------------|--------------|------------|-----------|----------------|---|
|           | Max.<br>(mm) | Min.<br>(mm) |            |           |                |   |
| 679       | 149,0        | 45,0         | 5/8 - 18   | 152       | 2,0            | 1035, 1036, 1037, 1038, and 927.  |
| 680       | 254,0        | 42,3         | 5/8 - 18   | 257       | 10,0           | 1039, 1040, 1041, 1042, PH172, PPH30* and 938. (When using 680 with PPH30, two 8012 adapters are required). |

\* Indicates discontinued puller model.

**BLIND HOLE PULLER SET**



Removal of bearings, bushings, sleeves and other friction-fitted parts from blind holes can now be accomplished with ease. Set provides selection of expanding collets 8 to 44,5 mm I.D. Collet is placed through bore of part to be removed, then expanded with actuator pin so that lips of collet secure a positive grip for pulling. Pulling force is exerted by means of a forcing screw and bridge assembly or with a slide hammer. Equipped with a plastic case.

| Order No. | Description   |
|-----------|---|
| 6981      | Blind-hole puller set with slide hammer, forcing screw, bridge, actuator pins, collets, and storage box. Wt., 9,5 kg. |

**CONTENTS OF 6981 SET**

| Order No. | Description                 | Order No. | Description                       |
|-----------|-----------------------------|-----------|-----------------------------------|
| 24835     | Forcing Screw               | 2009584   | Slide Hammer Rod                  |
| 24836     | Forcing Screw Nut           | 41331     | Bridge                            |
| 22185     | Hammer 1,1 kg.              | —         | Plastic Case - 508 × 381 × 140 mm |
| 2009583   | Pin Adapter and Thumb Screw |           |                                   |

| Order No. | Description | Order No. | Description           | Reach   |
|-----------|-------------|-----------|-----------------------|---------|
| 2009585   | Pin 3,5 mm  | 2009586   | Collet 7,6 - 8,9 mm   | 38,1 mm |
| 2009587   | Pin 5,1 mm  | 2009588   | Collet 8,9 - 11,1 mm  | 38,1 mm |
| 2009589   | Pin 7,1 mm  | 2009590   | Collet 11,1 - 14,3 mm | 44,5 mm |
| 2009591   | Pin 10,2 mm | 2009592   | Collet 14,3 - 22,0 mm | 63,5 mm |
| 2009593   | Pin 12,7 mm | 2009594   | Collet 22,0 - 76,2 mm | 76,2 mm |

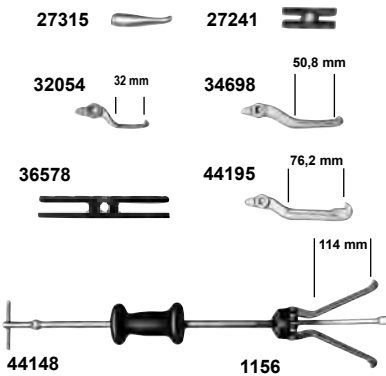
**SLIDE HAMMER PULLER SET**



This very handy set is ideal for close-quarters, inside pulling jobs. The slide hammer puller set is very practical for pulling motor, generator, and magneto bearings. It's good for removing small-bore bushings, bearings, and oil seals.

| Order No. | Description   | Order No. |  | Inch Range |           |
|-----------|---|-----------|--|------------|-----------|
|           |   |           |  | Min. (mm)  | Max. (mm) |
| SS2       | Slide hammer puller set includes both 1172 and 1174. Wt., 2,6 kg. | 1172      |  | 12,7       | 50,8      |
|           |   | 1174      |  | 12,7       | 34,9      |

**SLIDE HAMMER PULLER SET**



This useful set contains a reversible-jaw slide hammer puller with a 1,1 kg. sliding hammer plus an assortment of special jaws (3 of each size) and adapters. In this set, you get all the versatility you demand of a slide hammer puller.

| Order No. | Description   |
|-----------|---|
| 1178      | Slide hammer puller set with 1,1 kg. sliding hammer. Wt., 6,3 kg. |

| Jaw Order No. | 2-Jaw Spread |           |           |           | 3-Jaw Spread |           |           |           |
|---------------|--------------|-----------|-----------|-----------|--------------|-----------|-----------|-----------|
|               | Inside       |           | Outside   |           | Inside       |           | Outside   |           |
|               | Min. (mm)    | Max. (mm) | Min. (mm) | Max. (mm) | Min. (mm)    | Max. (mm) | Min. (mm) | Max. (mm) |
| 44195         | 38,1         | 114,3     | 19,1      | 127       | 38,1         | 120,7     | 25,4      | 114       |
| 32054         | 19,1         | 60,3      | —         | —         | 25,4         | 69,9      | —         | —         |
| 44148         | 69,9         | 139,7     | 19,1      | 191       | 82,6         | 158,8     | 25,4      | 159       |
| 34698         | 31,8         | 88,9      | 25,4      | 114       | 38,1         | 108       | 38,1      | 114       |

**SLIDING HAMMERS ONLY**



| Order No. | Description             |
|-----------|-------------------------|
| 22185     | 1,1 kg. Sliding Hammer. |
| 34331     | 2,3 kg. Sliding Hammer. |

**BEARING CUP REMOVER**



The 7136 is perfect for pulling internal bearing cups, seals, bushings, etc. With a jaw spread of 23,8 to 82,6 mm, and reach to 88,9 mm. Use with any slide hammer having 5/8"-18 thread (1155, 1156 or 927 Bi-Directional™).

| Order No. | Description                                 |
|-----------|---|
| 7136      | Universal bearing cup remover. Wt., 0,7 kg. |

**PILOT BEARING PULLERS**



1170

These very versatile pullers are built especially for inside pulling jobs, and particularly for removing flywheel pilot bearings on machines and construction vehicles. Also very practical for pulling motor, generator and magneto bearings.

Special slide hammer puller – Ideal for pulling jobs in very close quarters, as in removal of small-bore bushings, bearings, oil seals, etc. Internal pulling attachment has jaw spread of 12,7 to 35 mm. The handle end has a 1/2"–20 thread.

| Order No. | Description                                  | Order No. | Reach<br>(mm) | I.D. Spread  |              | Weight<br>(kg) |
|-----------|--|-----------|---------------|--------------|--------------|----------------|
|           |  |           |               | Min.<br>(mm) | Max.<br>(mm) |                |
| 1170      | Slide hammer puller. Wt., 1,6 Kg.            | 1170      | 19,1          | 12,7         | 12,7         | 2,2            |
| 1173      | Slide hammer puller. Wt., 1,6 Kg.            | 1171      | 25,4          | 22,2         | 54,0         | 2,2            |
| 1174      | Puller head, less slide hammer. Wt., 0,4 Kg. | 1172      | 44,5          | 12,7         | 50,8         | 2,2            |

**BASIC SLIDE HAMMER UNITS**



1155



1156

Compatible with internal pulling attachment and compatible with threaded adapters. 610 mm in length, 5/8"-18 threaded end.

| Order No. | Description   |
|-----------|---|
| 1155      | Basic slide hammer unit with 2,3 kg hammer. Wt., 3,3 kg.  |
| 1156      | Basic slide hammer unit with 1,1 kg. hammer. Wt., 2,2 kg. |

**REVERSIBLE-JAW SLIDE HAMMER PULLERS**



1176



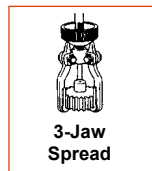
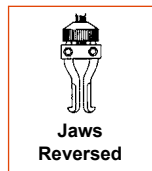
1177

Ideal for pulling gears, bearings, outer races, grease retainers, oil seals, etc. Two or three jaws may be used and positioned for "inside" or "outside" pulling jobs. Both have 5/8"-18 threaded end so attachments and adapters may be used.

| Order No. | Description   |
|-----------|---|
| 1176      | Slide hammer puller with 1,1 kg. hammer, 27241 two-way head and 34698 jaws. |
| 1177      | Slide hammer puller with 2,3 kg. hammer, 27241 two-way head and 34698 jaws. |

| Jaw Order No. | 2-Jaw Spread |              |              |              | 3-Jaw Spread |              |              |              | Length<br>(mm) | Prod. Wt.<br>(kg) |
|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|-------------------|
|               | Inside       |              | Outside      |              | Inside       |              | Outside      |              |                |                   |
|               | Min.<br>(mm) | Max.<br>(mm) | Min.<br>(mm) | Max.<br>(mm) | Min.<br>(mm) | Max.<br>(mm) | Min.<br>(mm) | Max.<br>(mm) |                |                   |
| 1176          | 31,8         | 88,9         | 25,4         | 114,0        | 38,1         | 108,0        | 38,1         | 114,0        | 686,0          | 3,6               |
| 1177          | 31,8         | 88,9         | 25,4         | 114,0        | 38,1         | 108,0        | 38,1         | 114,0        | 686,0          | 4,8               |



**SLIDE HAMMER PULLERS WITH CUP PULLING ATTACHMENTS**

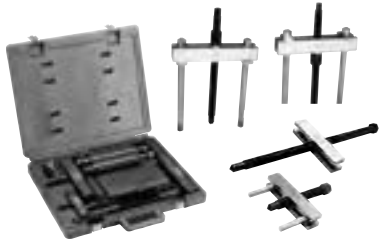


1158

These combine a basic slide hammer with 1152 internal pulling attachment for removing oil seals, outer races, and bearing cups from blind holes.

| Order No. | Description   | Reach<br>(mm) | Spread       |              | Length<br>(mm) | Prod. Wt.<br>(kg) |
|-----------|---|---------------|--------------|--------------|----------------|-------------------|
|           |   |               | Min.<br>(mm) | Max.<br>(mm) |                |                   |
| 1157      | Slide hammer puller consisting of 1156 slide hammer and 1152 internal pulling attachment. | 102,0         | 38,1         | 152,0        | 117,0          | 4,5               |
| 1158      | Slide hammer puller consisting of 1155 slide hammer and 1152 internal pulling attachment. | 102,0         | 38,1         | 152,0        | 117,0          | 5,6               |

**10 TON CAPACITY BI-DIRECTIONAL™ PULLER SET**



Contains three popular Power Team bar-type pullers in one versatile set, packed in a handy plastic storage case. Tools included permit damage-free pulling of gears, bearings, harmonic balancers, and other parts having tapped holes. Ideal for servicing off-road construction equipment and machinery.

| Order No. | Description  |
|-----------|--|
| 1180      | 10 ton Bi-Directional™ puller set in plastic storage case. Wt., 11,4 kg. |

**CONTENTS OF 1180 SET**

| Order No. | Description  |
|-----------|--|
| 927       | 10 ton Bi-Directional™ puller, 213 mm reach, 54 to 184 mm spread. Comes with 171 mm puller legs, other leg sizes are available separately.   |
| 522       | Gear and pulley puller, spread range when used with 12,7 mm cap screws is 50,8 to 197 mm. (Cap screws not included.)   |
| 7393      | Gear and pulley puller with standard 140 mm forcing screw, plus special 330 mm forcing screw. Includes two hex head cap screws, 3/8" - 16 x 3.00" long. Spread range: 38 mm to 108 mm. |

**MULTI-PURPOSE PULLER SET**



This new assortment of pulling tools gives you a wide range of job versatility. You get a 2,2 kg. slide hammer puller, hub puller, two sizes of Power Team Lock-Jaw™ pullers, a bearing pulling attachment plus a cross-bar gear and pulley puller, all contained in a handy plastic storage case.

| Order No. | Description                             |
|-----------|---|
| 1181      | Multi-purpose puller set. Wt., 11,4 kg. |

**CONTENTS OF 1181 SET**

| Order No. | Description  |
|-----------|--|
| 1177      | Slide hammer puller with 2,2 kg. hammer, 2-way and 3-way heads. Reversible: either two or three jaws may be used to handle both "inside" and "outside" pulling jobs. |
| 7208      | Hub puller. Includes a spare locknut which permits use with 1177 slide hammer.   |
| 1023      | 2 ton combination 2- or 3-jaw Lock-Jaw™ puller. Has 86 mm max. reach, 121 mm max. spread   |
| 1027      | 5 ton combination 2- or 3-jaw Lock-Jaw™ puller. Has 140 mm max. reach, 178 mm max. spread.   |
| 7393      | Bar-type gear and pulley puller with 140 mm long screw. Includes two hex head cap screws, 3/8"-16 x 76 mm long. Spread range: 38 to 108 mm.                          |
| 1122      | Bearing pulling attachment for use with 1027 and 7393 pullers. Has 50,8 mm max. spread, 3 mm min. spread.  |

**LOCK-ON, JAW-TYPE PULLER SET**



Components can be assembled to create several versatile puller versions. The puller head is turned to securely lock the jaws onto the part being removed. Both a 2-way and 3-way puller head are included, plus three long-reach and three short-reach puller jaws in a plastic storage box. Easily removes gears, bearings and other press-fitted parts.

| Order No. | Description                       |
|-----------|-----------------------------------|
| 1182      | Jaw-type puller set. Wt., 3,1 kg. |

| Jaw Order No. | 2-Jaw Spread * |           |           |           | 3-Jaw Spread * |           |           |           |
|---------------|----------------|-----------|-----------|-----------|----------------|-----------|-----------|-----------|
|               | Inside         |           | Outside   |           | Inside         |           | Outside   |           |
|               | Min. (mm)      | Max. (mm) | Min. (mm) | Max. (mm) | Min. (mm)      | Max. (mm) | Min. (mm) | Max. (mm) |
| 44195         | 38             | 114       | 19        | 127       | 38,1           | 121       | 25,4      | 114       |
| 44148         | 70             | 140       | 19        | 191       | 83             | 159       | 25,4      | 159       |

\* Can be used for internal pulling tasks when used with a slide hammer.

**10 TON CAPACITY STRONG BOX PULLER SET**



Here's a set of pullers that gives you almost unheard of versatility. This rugged, lockable metal storage cabinet contains pullers, attachments and extra puller jaws good for a variety of applications. Cabinet may be mounted on a wall, stand, or workbench.

| Order No. | Description  |
|-----------|--|
| IPS10B    | Cabinet (654 x 749 x 254 mm) with tool board, adapter board, and tool set. Wt., 44,5 kg. |

**CONTENTS OF IPS10B SET**

| Order No. | Description                                | Order No. | Description                           |
|-----------|--|-----------|---------------------------------------|
| 927       | 10 Ton Push-Puller® with 172 mm legs       | 8013      | Male-Female threaded adapters (2 ea.) |
| 1027      | 2/3 Jaw Puller Manual 5 Ton                | 8015      |                                       |
| 1037      | 2/3 Jaw Puller Manual 7 Ton                | 8019      |                                       |
| 1101      | 15.75" Legs Push/Puller 10 Ton             | 8035      | Female threaded adapters              |
| 1122      | Bearing Pulling Attachment 17.5 Ton        | 8037      |                                       |
| 1123      | Bearing Pulling Attachment 17.5 Ton        | 8038      |                                       |
| 1152      | Internal Pulling Attachment 101,6 mm Reach | 8039      |                                       |
| 7393      | Gear and Pulley Puller 139,7 mm            | 8040      |                                       |
| 8005      | Male-Female threaded adapters              | 8050-8053 | Shaft protectors                      |
| 8006      |  | 8057-8062 | Step plate adapters                   |
| 8007      |  | 43892     | Long jaws for 1037 (3)                |
| 8010      |  | 212867    | Cabinet, tool board and adapter board |

**10 TON CAPACITY HYDRAULIC/MANUAL PULLER SET IN STRONG BOX**



This lockable metal Strong Box contains both hydraulic and manual pullers, plus attachments. The rugged storage cabinet keeps the tools organized and secure from unauthorized borrowers!

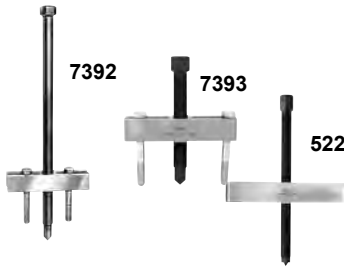
- Have the puller you need on hand, when you need it.
- Almost unheard of versatility
- Rugged, lockable storage cabinet.
- Wall, stand or workbench mountable.

| Order No. | Description  |
|-----------|--|
| IPS10HB   | Cabinet (654 x 749 x 254 mm) with tool board, adapter board, and tool set. Wt., 44,5 kg. |

**CONTENTS OF IPS10HB SET**

| Order No. | Description                                 | Order No. | Description                                       |
|-----------|---|-----------|---|
| PH103C *  | 10 ton combination 2/3-jaw hydraulic puller | 36578     | Slotted cross head for slide hammer puller        |
| 1027      | 5 ton combination 2/3-jaw puller            | 27315     | Seal hook for slide hammer puller                 |
| 1042      | 13 ton combination 2/3-jaw puller           | 1152      | Internal pulling attachment (38 to 152 mm spread) |
| 1177      | Slide hammer puller                         | 24832     | Forcing screw for 1152                            |
| 44148     | 3-jaws for slide hammer puller (114 mm)     | 215315    | Cabinet and tool board                            |
| 44195     | 3-jaws for slide hammer puller (76 mm)      |           |   |

**GEAR AND PULLEY PULLERS**



Ideal for pulling many small parts having tapped holes. The 7392 and 7393 may be used with the 1122 pulling attachment to remove bearings, etc. Pullers include two hex head cap screws, 3/8" - 16 NC x 76 mm long. Spread: 38 - 108 mm. Width of puller block is 124 mm. Cap screws are not included with the 522, but any cap screws up to 12,7 mm diameter may be used. The 522 spread, when used with 12,7 mm dia. cap screws, is 51 - 197 mm. Width of the 522 puller block is 209 mm.

| Order No. | Description   |
|-----------|---|
| 7392      | Puller with 5/8"-18 x 330 mm long screw. Wt., 0,9 kg. |
| 7393      | Puller with 5/8"-18 x 140 mm long screw. Wt., 0,7 kg. |
| 522       | Puller with 3/4"-16 x 295 mm long screw. Wt., 2 kg.   |

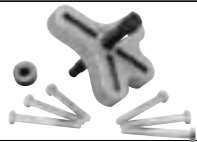
**4-IN-1 PULLER SET**



You can quickly assemble a 2 or 3-jaw puller with standard or long reach jaws.

| Order No. | Description   |
|-----------|---|
| PA7       | Four-In-One puller set, 7 ton capacity. Standard jaw max. reach is 127 mm. Maximum spread is 267 mm. Long jaw maximum reach is 222 mm. Maximum spread is 267 mm. Wt., 4,9 kg. |

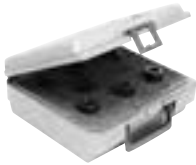
**FLANGE TYPE PULLER**



Slotted holes in puller body permit cap screws to be positioned to handle bolt-circle diameters from 38 - 117 mm.

| Order No. | Description   |
|-----------|---|
| 518       | Flange type puller, includes 3 cap screws, 3/8" - 24 NF x 76 mm long and 3 cap screws 3/8" - 16 NC x 76 mm long. Forcing screw is 5/8" - 18 x 127 mm long. Wt., 4,9 kg. |

**METRIC ADAPTERS**



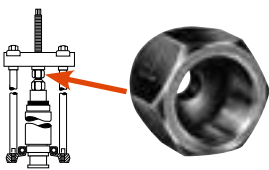
Add metric capability to the Bi-Directional™ Puller legs or forcing screws! Four separate metric kits available with a variety of sizes for the Bi-Directional™ legs or forcing screws! Each packaged in a convenient plastic organizer case.

| Order No. | Description               |
|-----------|---------------------------|
| 8110      | Male Metric. Wt., 1,4 kg. |
| 8120      | Male Metric. Wt., 1,4 kg. |

| CONTENTS OF 8110 SET |                  |                |             |
|----------------------|------------------|----------------|-------------|
| Order No.            | Female End (in.) | Male End (in.) | Length (mm) |
| 8111                 | 5/8" - 18        | M6 x 1.00      | 57,2        |
| 8112                 | 5/8" - 18        | M8 x 1.00      | 57,2        |
| 8113                 | 5/8" - 18        | M8 x 1.25      | 57,2        |
| 8114                 | 5/8" - 18        | M10 x 1.25     | 57,2        |
| 8115                 | 5/8" - 18        | M10 x 1.50     | 57,2        |
| 8116                 | 5/8" - 18        | M12 x 1.25     | 57,2        |
| 8117                 | 5/8" - 18        | M12 x 1.75     | 57,2        |

| CONTENTS OF 8120 SET |                  |                |             |
|----------------------|------------------|----------------|-------------|
| Order No.            | Female End (in.) | Male End (in.) | Length (mm) |
| 8121                 | 5/8" - 18        | M14 x 1.50     | 57,2        |
| 8122                 | 5/8" - 18        | M14 x 2.00     | 57,2        |
| 8123                 | 5/8" - 18        | M16 x 1.50     | 70,0        |
| 8124                 | 5/8" - 18        | M16 x 2.00     | 70,0        |
| 8125                 | 5/8" - 18        | M20 x 1.50     | 2,75        |
| 8126                 | 5/8" - 18        | M20 x 2.50     | 2,75        |

**FEMALE THREADED ADAPTERS**



Use these adapters on the ends of Bi-Directional™ Puller forcing screws, legs, or slide hammers in the removal and installation of shafts, axles, and housings.

| Order No. | Description   |
|-----------|---|
| 8044      | Set No. 8044 - consists of a set of 6 adapters (8037-8042). |

| Order No. | Female End "A" (in.) | Female End "B" (in.) |
|-----------|----------------------|----------------------|
| 8035 *    | 1/2" - 20            | 5/8" - 18            |
| 8036 *    | 1" - 14              | 1" x 14              |
| 8037      | 5/8" - 18            | 5/8" - 18            |
| 8038      | 5/8" - 18            | 3/4" - 16            |
| 8039      | 5/8" - 18            | 7/8" - 14            |

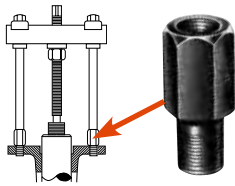
| Order No. | Female End "A" (in.) | Female End "B" (in.) |
|-----------|----------------------|----------------------|
| 8040      | 5/8" - 18            | 1" x 14              |
| 8041      | 5/8" - 18            | 1 1/8" - 12          |
| 8042      | 5/8" - 18            | 1 1/4" - 12          |
| 8043 *    | 5/8" - 18            | 1 1/2" - 12          |

**Note:** All adapters available separately.

\* Not included in set No. 8044. Order separately.



**MALE-FEMALE THREADED ADAPTERS**

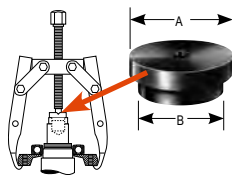


These adapters are used on ends of Bi-Directional™ Puller legs, with forcing screws or slide hammers to assist in pulling shafts, bearing caps, pinions, and many other parts.

| Order No. | Female End (in.) | Male End (in.) | Length (mm) | Order No. | Female End (in.) | Male End (in.) | Length (mm) |
|-----------|------------------|----------------|-------------|-----------|------------------|----------------|-------------|
| 8000      | 5/8" - 18        | 1/4" - 20      | 57,2        | 8015      | 5/8" - 18        | 3/4" - 10      | 57,2        |
| 8001      | 5/8" - 18        | 5/16" - 18     | 57,2        | 8016      | 1" - 14          | 3/4" - 10      | 63,5        |
| 8002      | 5/8" - 18        | 7/16" - 14     | 57,2        | 8017      | 5/8" - 18        | 7/8" - 14      | 57,2        |
| 8003      | 5/8" - 18        | 7/16" - 20     | 57,2        | 8018      | 5/8" - 18        | 7/8" - 9       | 57,2        |
| 8004      | 5/8" - 18        | 3/8" - 24      | 57,2        | 8019      | 5/8" - 18        | 1" - 14        | 57,2        |
| 8005      | 5/8" - 18        | 3/8" - 16      | 57,2        | 8020      | 1" - 8           | 5/8" - 18      | 76,2        |
| 8006      | 5/8" - 18        | 1/2" - 20      | 57,2        | 8021      | 1" - 8           | 1" - 4         | 76,2        |
| 8007      | 5/8" - 18        | 1/2" - 13      | 57,2        | 8022      | 5/8" - 18        | 1/8" pipe      | 57,2        |
| 8008      | 5/8" - 18        | 9/16" - 18     | 57,2        | 8023      | 1 1/4" - 12      | 1" - 14        | 114,3       |
| 8009      | 5/8" - 18        | 9/16" - 12     | 57,2        | 8024      | 1 1/4" - 12      | 1 3/4" - 12    | 114,3       |
| 8010      | 5/8" - 18        | 5/8" - 11      | 57,2        | 8025      | 1 1/4" - 7       | 5/8" - 18      | 101,6       |
| 8011      | 1" - 14          | 5/8" - 11      | 63,5        | 8027      | 1 1/4" - 7       | 1" - 14        | 101,6       |
| 8012      | 1" - 14          | 5/8" - 18      | 81,0        | 8028      | 1 5/8" - 5 1/2   | 1" - 8         | 101,6       |
| 8013      | 5/8" - 18        | 3/4" - 16      | 57,2        | 8029      | 1 5/8" - 5 1/2   | 1" - 14        | 101,6       |
| 8014      | 1" - 14          | 3/4" - 16      | 63,5        |           |                  |                |             |

NOTE: Nos. 8000 - 8029 - each sold individually.

**STEP PLATE ADAPTER SETS**

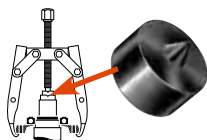


Power Team step plate adapters are necessary for pulling and installing bearings, gears, or other parts on hollow shafts or housings. Puller screw forces against step plate adapter, as shown at right. May be used with Power Team jaw-type pullers, Bi-Directional™ Pullers and shop presses.

| Order No. | Description                     |
|-----------|---------------------------------|
| 8075      | Set of 11 adapters (8057-8067). |
| 8076      | Set of 6 adapters (8068-8073).  |

| CONTENTS OF 8075 SET |               |               |           |               | CONTENTS OF 8076 SET |           |               |               |  |
|----------------------|---------------|---------------|-----------|---------------|----------------------|-----------|---------------|---------------|--|
| Order No.            | Dia. "A" (mm) | Dia. "B" (mm) | Order No. | Dia. "A" (mm) | Dia. "B" (mm)        | Order No. | Dia. "A" (mm) | Dia. "B" (mm) |  |
| 8057                 | 25,4          | 19,1          | 8063      | 47,5          | 38,1                 | 8068      | 66,5          | 53,8          |  |
| 8058                 | 28,4          | 22,1          | 8064      | 50,8          | 41,1                 | 8069      | 69,9          | 57,2          |  |
| 8059                 | 31,8          | 25,4          | 8065      | 53,8          | 44,5                 | 8070      | 72,9          | 60,3          |  |
| 8060                 | 34,8          | 28,4          | 8066      | 60,2          | 47,5                 | 8071      | 76,2          | 63,5          |  |
| 8061                 | 41,1          | 31,8          | 8067      | 63,5          | 50,8                 | 8072      | 82,6          | 69,9          |  |
| 8062                 | 44,5          | 34,8          |           |               |                      | 8073      | 88,9          | 76,2          |  |

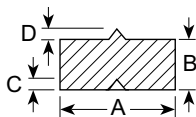
**SHAFT PROTECTOR SET**



Power Team shaft protectors are designed to protect shaft centers from distortion when extreme pressures are applied with jaw-type pullers or Bi-Directional™ Pullers. Shaft protectors are inserted between the end of the puller screw and the shaft.

| Order No. | Description                                 |
|-----------|---|
| 8056      | Set of 6 shaft protectors (8050 thru 8055). |

| CONTENTS OF 8056 SET |               |               |                |                | CONTENTS OF 8056 SET |               |               |                |                |
|----------------------|---------------|---------------|----------------|----------------|----------------------|---------------|---------------|----------------|----------------|
| Order No.            | Dia. "A" (mm) | Dia. "B" (mm) | "C" (60°) (mm) | "D" (60°) (mm) | Order No.            | Dia. "A" (mm) | Dia. "B" (mm) | "C" (60°) (mm) | "D" (60°) (mm) |
| 8050                 | 38,1          | 19,1          | 9,4            | 11,1           | 8053                 | 19,1          | 19,1          | 6,4            | 6,4            |
| 8051                 | 31,8          | 19,1          | 9,4            | 9,4            | 8054                 | 15,7          | 15,7          | 6,4            | 6,4            |
| 8052                 | 25,4          | 19,1          | 9,4            | 7,9            | 8055                 | 15,7          | 15,7          | 4,8            | 4,8            |



**CAUTION:** All the items shown may not withstand the full tonnage of the pullers they may be used with.

**10 TON MANUAL PULLER SET**



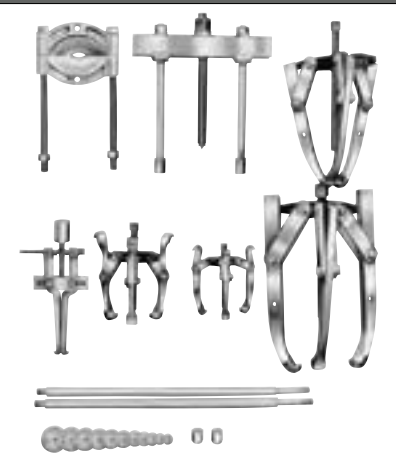
This puller set is just what you need for removing gears, bearings, etc. Includes pullers, attachments, and many accessories.

| Order No. | Description                  |
|-----------|------------------------------|
| IPS10M    | 10 ton capacity. Wt., 24 kg. |

| CONTENTS OF IPS10M - PULLERS |   |
|------------------------------|---|
| Order No.                    | Description                                   |
| 927                          | 10 ton capacity Push-Puller® with 171 mm legs |
| 1023                         | 2 ton combination 2/3-jaw puller              |
| 1026                         | 5 ton combination 2/3-jaw puller              |
| 1027                         | 5 ton combination 2/3-jaw puller              |
| 1037                         | 7 ton combination 2/3-jaw puller              |
| 1178                         | Slide hammer set                              |

| CONTENTS OF IPS10M - ACCESSORIES |  |
|----------------------------------|--|
| Order No.                        | Description                                |
| 8075                             | Step plate adapter set                     |
| 8044                             | Female threaded adapter set                |
| 8035                             | Female threaded adapter: 1/2"-20 x 5/8"-18 |
| 1151                             | Bearing cup pulling attachment             |
| 1121                             | Bearing pulling attachment                 |
| 1122                             | Bearing pulling attachment                 |
| 1123                             | Bearing pulling attachment                 |
| 1101                             | 400 mm long puller legs for 927 (pair)     |

**17.5 TON MANUAL PULLER SET**



The pullers and accessories in this set can be used for hundreds of applications including quick and easy maintenance involving removal and replacement of press-fit parts.

| Order No. | Description                      |
|-----------|----------------------------------|
| IPS10M    | 17.5 ton capacity. Wt., 52,7 kg. |

| CONTENTS OF IPS17M - PULLERS |   |
|------------------------------|---|
| Order No.                    | Description                                       |
| 938                          | 17 1/2 ton capacity Push-Puller® with 241 mm legs |
| 1027                         | 5 ton combo 2/3-jaw puller, with long jaws        |
| 1037                         | 7 ton combination 2/3-jaw puller                  |
| 1041                         | 13 ton combination 2/3 jaw puller                 |
| 1045                         | 17 1/2 ton 3-jaw puller                           |

| CONTENTS OF IPS17M - ACCESSORIES |   |
|----------------------------------|---|
| Order No.                        | Description                                 |
| 8075                             | Step plate adapter set                      |
| 1105                             | 572 mm legs for 938                         |
| 1130                             | Bearing pulling attachment                  |
| 1151                             | Bearing cup pulling attachment              |
| 8038                             | Female adapter: 5/8"-18 F. x 3/4"-16 F. (2) |

POWER TEAM PROTECTIVE BLANKET



Our blankets are designed to contain broken or flying parts from the most extreme forces, thus resulting in a much safer work environment.

**TESTING RESULTS** – In our lab, this style of blanket held the parts of a necked-down grade 8 bolt, which shattered in a 100 ton center-hole hydraulic cylinder. The blanket sustained no visible damage when shot with a force and impact that shattered safety glasses!

**PROTECT YOURSELF AND YOUR EQUIPMENT.**

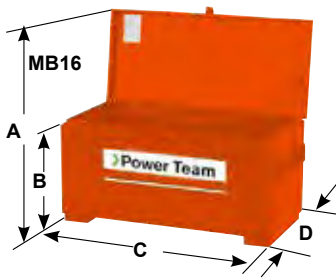
- Made of see-through, high-tensile, tear resistant material.
- The clear protective blankets allow you to visually monitor the job from start to finish.
- Effectively contain broken or flying parts from the most extreme pulling, pressing, pushing or stressing forces.
- Ideal for use with pullers and forcing presses.
- Unlike rigid, fixed guards, these blankets can be wrapped and strapped around a job.
- Protective blankets come in a carrying/storage pouch to reduce aging caused by prolonged exposure to light.

| Order No. | Size (mm)   | Number of Straps | Weight (kg) |
|-----------|-------------|------------------|-------------|
| PB1230C   | 305 x 762   | 2                | 1,3         |
| PB2036C   | 508 x 914   | 2                | 1,9         |
| PB2860C   | 711 x 1524  | 3                | 4,2         |
| PB3372C   | 838 x 1829  | 3                | 5,3         |
| PB44120C  | 1118 x 3048 | 4                | 10,9        |
| PB51156C  | 1295 x 3962 | 4                | 15,5        |



**Note:** Custom sizes are available on a special order basis. Please consult factory.

JOB-SITE AND MAINTENANCE SECURITY CHESTS



Protect your valuable tools and equipment from theft and weather. When the day's work is finished, you want to rest assured that your tools and equipment will be present the next day. These rugged, lockable chests are the answer that many of our customers have been asking for.

- Rugged, 1,6 mm steel construction with fully arc welded seams for extra strength and weather protection.
- Full length piano hinges, mating cover to body, protect against weather and theft.
- Single or double latch security tabs for padlocks.
- Mechanical cover supports, two 57 mm high skirts.
- Fold-down 19 mm pipe handles on each end of chest.
- Pre-drilled for optional casters, which enhance mobility.
- Durable baked enamel finish.

| Order No. | A    | B    | C    | D    | Cap. (m <sup>3</sup> ) | Storage Wt. (kg) | Optional Accessories<br>Caster Wheels   |
|-----------|------|------|------|------|------------------------|------------------|---|
|           | (mm) | (mm) | (mm) | (mm) |                        |                  |   |
| MB5       | 883  | 356  | 813  | 483  | 0,14                   | 30,9             | 251646– Set of four 4" casters (two swivel and two rigid).<br>Furnished with mounting screws. Wt., 5,7 kg.  |
| MB8       | 1010 | 483  | 1670 | 483  | 0,25                   | 40,9             | 251647 – Set of four 6" casters (two swivel and two rigid).<br>Furnished with mounting screws. Wt., 7,0 kg. |
| MB16      | 1264 | 610  | 1219 | 610  | 0,45                   | 57,2             |   |



Pullers

Model Shown:

**Mechanical Pullers (left), Hydraulic Pullers (right)**



- 1 Hydraulic cylinder reacts off shaft enabling jaws to extract object in a controlled manner.
- 2 Mechanical pullers use a center bolt to provide force on the shaft enabling jaws to extract object in a controlled manner.
- 3 T-handle facilitates the opening, closing, locking and aligning of the jaws.
- 4 Safety Cage® guides jaws for quick setup, providing a "vise-like" grip reducing slippage.
- 5 Forged jaws provides superior durability.
- 6 Slim tapered jaws allow for easier gripping and better access to tight spots.
- 7 Optional hydraulic cylinder tips to meet your application needs.
- 8 Wide range of standard and long jaw reach arms to increase your versatility.

**Features**

**SAFETY CAGE® GUIDES JAWS FOR FAST SET-UP, SOLID CONTACT AND SUPERIOR SAFETY**

- With Power Team Posi-Lock®, pulling bearings is a one-person operation. The T-handle and "Safety Cage®" control the jaws at all times. This means that the opening, closing, locking and aligning of the jaws is all done automatically by simply turning the T-handle.
- Hydraulic pullers come with a lift plate for ease of transport and lifting. In addition, ram points of different sizes are available for a variety of applications
- Using a hydraulic puller system adds efficiency and eliminates unsafe practices such as hammering, heating, or prying components to be removed. The cylinder replaces the center bolt function of a manual puller.
- Pullers are used whenever there are tough maintenance challenges. Examples include: Railroads, Steel & Paper Mills, Mines, Oil Fields, Wind Farms, Factories, Power Plants, Shipyards, etc.



Posi-Lock® is a registered trademark of Posi Lock Puller, Inc.

Ordering Information



Optional Accessories

MECHANICAL PULLERS

Long Jaws\*

| Order No. | Cap.    | Jaw  | Bolt Dia. | Reach | Spread | Weight | Order No.           | Reach   | Spread  |
|-----------|---------|------|-----------|-------|--------|--------|---------------------|---------|---------|
|           | S. Tons | Qty. | (mm)      | (mm)  | (mm)   | (kg)   |                     | (mm)    | (mm)    |
| PT202     | 1       | 2    | 7,9       | 57,0  | 82,6   | 0,3    | —                   | —       | —       |
| PT203     | 2       | 2    | 9,4       | 76,2  | 127,0  | 0,5    | —                   | —       | —       |
| PT204     | 2       | 2    | 12,7      | 102,0 | 127,0  | 1,4    | —                   | —       | —       |
| PT206     | 6       | 2    | 15,8      | 152,0 | 178,0  | 3,2    | —                   | —       | —       |
| PT208     | 12      | 2    | 19,0      | 203,0 | 305,0  | 5,0    | PT11054<br>PT11054L | 249/406 | 401/559 |
| PT210     | 14      | 2    | 19,0      | 246,0 | 381,0  | 6,4    | PT11054L            | 406     | 559     |
| PT213     | 25      | 2    | 28,5      | 305,0 | 457,0  | 13,6   | PT11354L            | 508     | 762     |
| PT216     | 35      | 2    | 32,0      | 356,0 | 635,0  | 22,7   | PT11654L            | 660     | 965     |
| PT102     | 1       | 3    | 7,9       | 57,0  | 82,6   | 0,3    | —                   | —       | —       |
| PT103     | 2       | 3    | 9,4       | 76,2  | 114,3  | 0,6    | —                   | —       | —       |
| PT104     | 5       | 3    | 12,7      | 102,0 | 127,0  | 1,8    | —                   | —       | —       |
| PT106     | 10      | 3    | 15,8      | 152,0 | 178,0  | 3,6    | —                   | —       | —       |
| PT108     | 17      | 3    | 19,0      | 203,0 | 305,0  | 5,9    | PT11054<br>PT11054L | 249/406 | 401/559 |
| PT110     | 20      | 3    | 19,0      | 246,0 | 381,0  | 8,2    | PT11054L            | 406     | 559     |
| PT113     | 30      | 3    | 28,5      | 305,0 | 457,0  | 18,1   | PT11354L            | 508     | 762     |
| PT116     | 40      | 3    | 32,0      | 356,0 | 635,0  | 29,5   | PT11654L            | 660     | 965     |

\* Long jaws must be ordered in the quantity required. For example, order two PT11054 for the PT208.



Optional Accessories

HYDRAULIC PULLERS (INCL. CYLINDER)

Long Jaws\*

| Order No. | Cap.    | Cylinder Included | Jaws | Reach | Spread | Weight | Order No.           | Reach   | Spread  |
|-----------|---------|-------------------|------|-------|--------|--------|---------------------|---------|---------|
|           | S. Tons |                   | Qty. | (mm)  | (mm)   | (kg)   |                     | (mm)    | (mm)    |
| PTPHB-206 | 5       | C55C              | 2    | 152,4 | 203,2  | 5,4    | —                   | —       | —       |
| PTPHB-208 | 10      | C106C             | 2    | 203,0 | 305,0  | 12,3   | PT11054<br>PT11054L | 249/406 | 401/559 |
| PTPHB-210 | 15      | C1510C            | 2    | 254,0 | 381,0  | 17,2   | PTPH-<br>11054L     | 406     | 559     |
| PTPHB-213 | 25      | C2514C            | 2    | 305,0 | 457,0  | 34,0   | PT11354L            | 508     | 762     |
| PTPHB-216 | 50      | C5513C            | 2    | 356,0 | 635,0  | 60,3   | PTPH-<br>21654L     | 660     | 965     |
| PTPHB-106 | 5       | C55C              | 3    | 152,5 | 203,2  | 6,4    | —                   | —       | —       |
| PTPHB-108 | 10      | C106C             | 3    | 203,0 | 305,0  | 13,6   | PT11054<br>PT11054L | 249/406 | 401/559 |
| PTPHB-110 | 15      | C1510C            | 3    | 254,0 | 381,0  | 18,1   | PTPH-<br>11054L     | 406     | 559     |
| PTPHB-113 | 25      | C2514C            | 3    | 305,0 | 457,0  | 38,6   | PT11354L            | 508     | 762     |
| PTPHB-116 | 50      | C5513C            | 3    | 356,0 | 635    | 61,2   | PTPH-<br>11654L     | 660     | 965     |

\* Long jaws must be ordered in the quantity required. For example, order three PT11054 for the PTPHB-108.

**HYDRAULIC BUNDLES (INCL. HAND OR ELECTRIC PUMP)**



Hand-Operated



Electric-Operated

Power Team offers a comprehensive line of turnkey Posi-Lock® hydraulic two and three-jaw puller sets.

| 2-Jaw Order No. | 3-Jaw Order No. | Cap. S. Tons | Cylinder Included | Pump Included | Gauge Included | Hose Included | T Adapter Included |
|-----------------|-----------------|--------------|-------------------|---------------|----------------|---------------|--------------------|
| PTPHC-206E      | PTPHC-106E      | 5            | C55C              | P19L          | 9040E          | 9756E         | 9670               |
| PTPHC-208E      | PTPHC-108E      | 10           | C106C             | P19L          | 9040E          | 9756E         | 9670               |
| PTPHC-210E      | PTPHC-110E      | 15           | C1510C            | P59L          | 9040E          | 9756E         | 9670               |
| PTPHC-213E      | PTPHC-113E      | 25           | C2514C            | P159          | 9040E          | 9756E         | 9670               |
| PTPHC-216E      | PTPHC-116E      | 50           | C5513C            | P460          | 9040E          | 9756E         | 9670               |

| 2-Jaw Order No.* | 3-Jaw Order No.* | Cap. S. Tons | Cylinder Included | Pump Included | Gauge Included | Hose Included | T Adapter Included |
|------------------|------------------|--------------|-------------------|---------------|----------------|---------------|--------------------|
| PTPHD-206-E220   | PTPHD-106-E220   | 5            | C55C              | PE172-E220    | 9040E          | 9758E         | 9670               |
| PTPHD-208-E220   | PTPHD-108-E220   | 10           | C106C             | PE172-E220    | 9040E          | 9758E         | 9670               |
| PTPHD-210-E220   | PTPHD-110-E220   | 15           | C1510C            | PE172-E220    | 9040E          | 9758E         | 9670               |
| PTPHD-213-E220   | PTPHD-113-E220   | 25           | C2514C            | PE172-E220    | 9040E          | 9758E         | 9670               |
| PTPHD-216-E220   | PTPHD-116-E220   | 50           | C5513C            | PE172-E220    | 9040E          | 9758E         | 9670               |

\* Also available in E110

**PULLER ACCESSORIES**



Storage Transport Cart

Power Team offers accessories to compliment your puller. These accessories conveniently store, transport and position your hydraulic pullers to maximize your productivity.

| Order No.                     | Puller No. * |
|-------------------------------|--------------|
| <b>Storage Transport Cart</b> |              |
| PTPT-2550                     | PTPHB-213    |
| PTPT-2550                     | PTPHB-216    |
| PTPT-2550                     | PTPHB-113    |
| PTPT-2550                     | PTPHB-116    |

\* Pullers not included

**Note:** Accessories only for models shown above.



**Versatility and Use**



Tapered jaw design allows clamping around bearing for a perfect pull.



Tapered roller bearing on shaft.



Lock on ball grooves and bearing races.

## HIGH TONNAGE PULLERS



Power Team Posi-Lock® 100 and 200 ton hydraulic pullers provide maximum extraction force in applications requiring high force removal of large gears, pulleys, wheels, sleeves and other press fit parts. Lifting brackets allow the puller to be removed from the cart and lifted into work places above 1,5 m.

|               | Order No.*          | Cap.    | Jaws | Reach | Spread | Tip        | Tip            | Tuip       | Weight |
|---------------|---------------------|---------|------|-------|--------|------------|----------------|------------|--------|
|               |                     | S. Tons | Qty. | (mm)  | (mm)   | Width (mm) | Clearance (mm) | Depth (mm) |        |
| Single-Acting | PTPH-102T-E220      | 100     | 2    | 1270  | 1778   | 32         | 88,9           | 88,9       | 771    |
|               | PTPH-100T-E220      | 100     | 3    | 1270  | 1778   | 32         | 88,9           | 88,9       | 885    |
|               | PTPH-123T-E220      | 100     | 2/3  | 1270  | 1778   | 32         | 88,9           | 88,9       | 907    |
|               | PTPH-102TV-E220**   | 100     | 2    | 1270  | 1778   | 32         | 88,9           | 88,9       | 816    |
| Double-Acting | PTPH-102TDA-E220    | 100     | 2    | 1270  | 1778   | 32         | 88,9           | 88,9       | 816    |
|               | PTPH-100TDA-E220    | 100     | 3    | 1270  | 1778   | 32         | 88,9           | 88,9       | 930    |
|               | PTPH-123TDA-E220    | 100     | 2/3  | 1270  | 1778   | 32         | 88,9           | 88,9       | 953    |
|               | PTPH-102DATV-E220** | 100     | 2    | 1270  | 1778   | 32         | 88,9           | 88,9       | 816    |
|               | PTPH-200T-E220      | 200     | 4    | 48.00 | 1778   | 32         | 88,9           | 88,9       | 1882   |

\* Also available in E110

\*\* Vertical mounted puller.

**Note:** Each high tonnage puller is equipped with a E220/PE55 Power Pump and a C Series Cylinder for single-acting or RD Series Cylinder on double-acting models.

**Note:** Pushing adapters sized; 89 mm diameter and lengths 229, 483 & 737 mm are included. Contact factory for other voltage requirements.

## PROMOTIONAL GOODS

Showcase your pullers with a branded, reinforced pegboard display in your showroom or shop.



**Peg Board Only**  
Order No. 2008508



**Peg Board with Pullers**  
Order No. PTPM4L

| Kit Components | Description                                     | Order No. |        |        |       |       |         |
|----------------|---|-----------|--------|--------|-------|-------|---------|
|                |   | PTPM4     | PTPM4L | PTPM4S | PTPM5 | PTPM6 | PTMPS16 |
| PTP13/16       | TIP PROTECTOR for PT113 / PT213 / PT116 / PT216 | —         | —      | —      | —     | —     | 4       |
| PTP10          | TIP PROTECTOR PT108 / PT208 / PT110 / PT21      | 1         | 2      | —      | 1     | 2     | 4       |
| PTP6           | TIP PROTECTOR for PT106 / PT206                 | 2         | 2      | 2      | 2     | 2     | 2       |
| PTP4           | TIP PROTECTOR for PT104 / PT204                 | 1         | —      | 2      | 1     | 2     | 2       |
| PT216          | PULLER, MANUAL 2-JAW - 35 TON                   | —         | —      | —      | —     | —     | 1       |
| PT213          | PULLER, MANUAL 2-JAW - 25 TON                   | —         | —      | —      | —     | —     | 1       |
| PT210          | PULLER, MANUAL 2-JAW - 14 TON                   | —         | 1      | —      | —     | 1     | 1       |
| PT208          | PULLER, MANUAL 2-JAW - 12 TON                   | —         | —      | —      | —     | —     | 1       |
| PT206          | PULLER, MANUAL 2-JAW - 6 TON                    | 1         | 1      | 1      | 1     | 1     | 1       |
| PT204          | PULLER, MANUAL 2 JAW - 2 TON                    | —         | —      | 1      | —     | 1     | 1       |
| PT203          | PULLER, MANUAL 2-JAW - 2 TON                    | —         | —      | —      | —     | —     | 1       |
| PT202          | PULLER, MANUAL 2-JAW - 1 TON                    | —         | —      | —      | —     | —     | 1       |
| PT116          | PULLER, MANUAL 3-JAW - 40 TON                   | —         | —      | —      | —     | —     | 1       |
| PT113          | PULLER, MANUAL 3-JAW - 30 TON                   | —         | —      | —      | —     | —     | 1       |
| PT110          | PULLER, MANUAL 3-JAW - 20 TON                   | 1         | 1      | —      | 1     | 1     | 1       |
| PT108          | PULLER, MANUAL 3-JAW - 17 TON                   | —         | —      | —      | —     | —     | 1       |
| PT106          | PULLER, MANUAL 3-JAW - 10 TON                   | 1         | 1      | 1      | 1     | 1     | 1       |
| PT104          | PULLER, MANUAL 3-JAW - 5 TON                    | —         | —      | —      | —     | —     | 1       |
| PT103          | PULLER, MANUAL 3-JAW - 2 TON                    | —         | —      | —      | 1     | —     | 1       |
| PT102          | PULLER, MANUAL 3-JAW - 1 TON                    | —         | —      | —      | —     | —     | 1       |
| 2008505        | TOOL BOARD KIT, Posi-Lock® TOOL SETS            | 1         | 1      | 1      | 1     | 2     | 2       |

Model Shown:

**PH303C, PH63C, HST11S, PH82K**



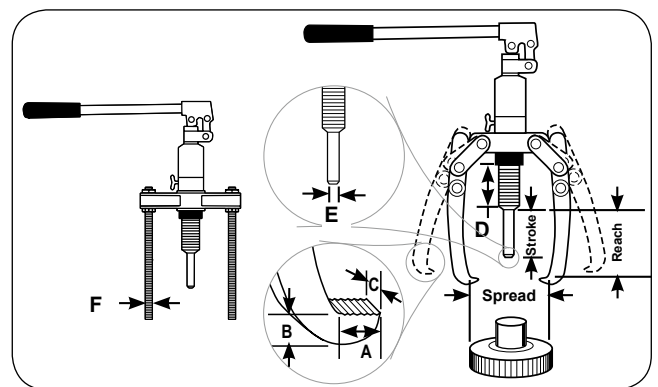
**Features**

**SELF CONTAINED PULLER SYSTEMS ENABLES FAST AND QUICK SETUP**

- Power Team pullers are tested for top performance and reliability at maximum capacity and jaw spread.
- Easily metered release valve control knob.
- Spring loaded live centering cone.
- Bladder type oil reservoir.
- Rapid adjustment.
- Use with 2 or 3-jaws.
- Supplied with a sturdy storage/carrying case.
- Features Power Team's exclusive PowerThon™ Limited Lifetime Warranty.

**HYDRA LOCK-JAW™ PULLING SYSTEM**

These pullers are ideal for pulling a wide variety of press-fitted parts including bushings, bearings, wheels, gears and pulleys. Hydra Lock-Jaw™ pullers have been rigorously tested for top performance and reliability. PH82K is a complete pulling system which includes a hydraulic power module, 2-way puller head, jaws, legs and bearing splitter attachment, all contained in a convenient carrying case.




**Ordering Information**

| Order No. | Cyl. Cap. (ton) | Reach Studs (mm) | Min. Jaws (mm) | Min. Reach (mm) | Max. Studs (mm) | Spread (mm) | Stroke (mm) | A    | B    | C    | D    | E    | F          | Weight (kg) |
|-----------|-----------------|------------------|----------------|-----------------|-----------------|-------------|-------------|------|------|------|------|------|------------|-------------|
|           |                 |                  |                |                 |                 |             |             | (mm) | (mm) | (mm) | (mm) | (mm) | (in.)      |             |
| PH63C     | 6               | —                | 152            | —               | —               | 200         | 80          | 11   | 6,4  | 22   | 83   | 22   | —          | 4,9         |
| PH83C     | 8               | —                | 190            | —               | —               | 249         | 80          | 11   | 9,5  | 25,4 | 83   | 22   | —          | 6,6         |
| PH113C    | 15              | —                | 229            | —               | —               | 280         | 80          | 14,3 | 9,5  | 29   | 83   | 29   | —          | 8,0         |
| PH303C    | 30              | 266,7            | 375            | —               | —               | 540         | 110         | 27   | 36,5 | 38   | 170  | 54   | 5/8-18 UNF | 32,3        |
| PH82K     | 8               | 266,7            | 207            | 125             | 300             | 245         | 80          | 52   | 25,4 | 16   | 83   | 22   | 5/8-18 UNF | 9,5         |
| HST11S*   | 11              | —                | 150            | —               | —               | 409,6       | 80          | —    | —    | —    | 65   | 29   | —          | 14,5        |

\* Max bar size 2.3622"




**LOCK-JAW™ PULLER ACCESSORY KITS FOR THE HYDRA LOCK-JAW™ PULLER NO. PH83C**

|   |                  |   |
|---|------------------|---|
|  | <b>Order No.</b> | <b>Description</b>  |
|   | K82              | Accessory kit for the Hydra Lock-Jaw™ puller PH83C. Includes 2-way puller head, 2-jaws, 2 threaded legs and sturdy carrying/storage case. Wt. 6,2 kg. |


**LOCK-JAW™ PULLER ACCESSORY KITS FOR THE PH83C LOCK-JAW™ HYDRAULIC PULLER**

|  |                  |  |
|--|------------------|--|
|  | <b>Order No.</b> | <b>Description</b>   |
|  | K83              | Accessory kit for PH83C Hydra Lock-Jaw™ hydraulic puller. Includes 2/3-way puller head, 3-jaws, 3 threaded legs (5/8-18 thread) and sturdy carrying/storage case. Also can be used with 1123, 1124, 1130 pulling attachments. 10,4 kg. |

**PULLER ACCESSORY CONVERTS PH113C INTO A HYDRAULIC STRAIGHTENING TOOL**

|  |   |                    |
|--|---|--------------------|
|  <p style="text-align: center;"><b>Shaft adapter<br/>included</b></p> | <p>Good for straightening mechanical shafts, round bars, etc. Simply remove pump and cylinder from puller head and insert them into the straightening tool accessory. This product is widely used in steel mills, wire roll companies, wire extruding companies, textile industry, and any straightening situation where portability and power are required. Contoured heat-treated shaft adapter included.</p> |                    |
|  | <b>Order No.</b>  | <b>Description</b> |
| HST11  | Spread: 89 to 410 mm, Reach: 150 mm. 9,5 kg.  |                    |

**LONG JAW SET FOR PH83C AND PH113C LOCK-JAW™ PULLERS**

|   |   |                    |
|---|---|--------------------|
|  | <p>This long jaw set is the perfect addition to the PH83C or PH113C Lock-Jaw™ hydraulic pullers. The extra long jaws give you the added capability of pulling a wider variety of parts. Jaw capacity is 8 tons when used with the PH83C puller; 15 tons when used with the PH113C puller.</p> |                    |
|   | <b>Order No.</b>  | <b>Description</b> |
| 1188  | Spread: 280 to 317 mm, Reach: 317 mm. Wt. 5,2 kg.   |                    |

Model Shown:

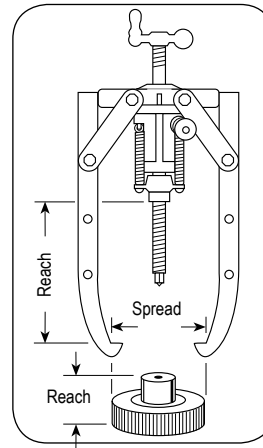
**PH53CR, PH172, PH303**



**Features**

**REMOVE GEARS, BEARINGS, AND OTHER PRESS-FITTED PARTS WITH SPEED AND EASE.**

- Broad capacity range of 5, 10, 17.5, 30 and 50 tons.
- 5 and 10 ton sets include: single-acting, spring return hydraulic cylinder, hose, coupler dust cap, single-speed hydraulic hand pump, and puller.
- 17.5, 30 and 50 tons sets include: Power-Twin® single-acting, spring return hydraulic cylinder, hose, coupler dust cap, single-speed hydraulic hand pump puller, adjusting screw and crank.
- Hydraulic cylinder of all models is readily removable from puller for use with pump in other hydraulic applications. You get maximum maintenance versatility for your investment.
- Fed. Spec.: GGG-P-00781-D



**CAUTION:** Always use a 3-jaw puller where clearance permits in order to provide a more stable setup and a more even pulling force.

**Ordering Information - Puller Only**

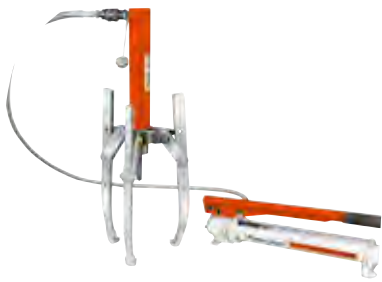
| Order No. | Cap. (ton) | Jaws Qty. | Jaw Reach (mm) | Jaw Spread (mm) | Jaw Thickness (mm) | Jaw Width (mm) | Weight (kg) |
|-----------|------------|-----------|----------------|-----------------|--------------------|----------------|-------------|
| 1057      | 5          | 2/3       | 222            | 292             | 8,7                | 25             | 3,5         |
| 1060      | 10         | 2/3       | 381            | 432             | 14,3               | 25             | 7,7         |
| 1064      | 17 1/2     | 2         | 292            | 406             | 20,6               | 32,5           | 10          |
| 1066      | 17 1/2     | 3         | 292            | 508             | 20,6               | 32,5           | 16,3        |
| 1074      | 30         | 3         | 494            | 864             | 28,6               | 41,3           | 40,9        |
| 1080      | 50         | 3         | 702            | 1118            | 35,7               | 47,6           | 86,7        |

**5 TON CAPACITY, 2/3-JAW PULLER**




| Order No.            | Description  |
|----------------------|--|
| PH53C                | Combination 2-jaw/3-jaw puller set. Includes 1057 5 ton puller, RPS55 hydraulic set (C55C cylinder, P12 hand pump, fittings, coupler, and 1,8 m. hose), and 309874 pushing adapter. Wt., 9,1 kg. |
| PH53CR               | Combination 2-jaw/3-jaw puller set. Includes 1057 5 ton puller, C55C cylinder, and 309874 pushing adapter. Wt., 5,5 kg.  |
| 1057                 | 5 ton cap. 2-jaw/3-jaw puller only. Wt., 3,5 kg.   |
| AVAILABLE COMPONENTS |  |
| Order No.            | Description  |
| 309874               | 15,9 mm diameter pushing adapter. (Included with PH53C and PH53CR hydraulic puller sets). Wt., 0,1 kg.   |
| 309875               | 22,2 mm diameter pushing adapter. Wt., 0,3 kg.   |
| 47997                | 2-way/3-way puller head. (Can be used to convert 1038 7 ton manual puller into a 5 ton hydraulic puller). Wt., 1,1 kg.   |


10 TON CAPACITY, 2/3-JAW PULLER

|    | Order No. | Description  |
|---|-----------|--|
|   | PH103C    | Combination 2-jaw/3-jaw puller, 10 ton capacity. Set includes 1060 10 ton puller, RPS1010 cylinder and pump set, and 202179 threaded adapter. Wt., 23,6 kg.                      |
|   | PH103CR   | Combination 2-jaw/3-jaw puller, 10 ton capacity. Set includes 1060 10 ton puller, 202179 threaded adapter, and C1010C cylinder only. (Pump and hose not included). Wt., 14,5 kg. |
|   | 1060      | Combination 2-jaw/3-jaw puller only. 10 ton capacity. (Cylinder and pump set, hose, coupler, and adapter No. 202179 not included). Wt., 7,7 kg.                                  |
| <p><b>NOTE:</b> This puller may be used with any 10 ton single-acting cylinder having a 2 1/4"-14 straight collar thread.</p> |           |  |


17.5 TON CAPACITY, 2-JAW PULLER

|  | Order No. | Description   |
|---|-----------|---|
|   | PH172     | 2-jaw puller (1064) with RT172 center-hole Power-Twin® cylinder, cylinder half coupler, P55 pump 1,8 meter hose, hose half coupler, 1"- 8 x 508 mm long adjusting screw, and adjusting crank. |
|   | 1064      | Puller only. (Cylinder, pump, hose, coupler, screw, and crank not included). Wt., 10,0 kg.  |


17.5 TON CAPACITY, 3-JAW PULLER

|  | Order No. | Description  |
|---|-----------|--|
|   | PH173     | 3-jaw puller with RT172 center-hole Power-Twin® cylinder, cylinder half coupler, P55 pump, 1,8 m. hose, hose half coupler, 1"- 8 x 508 mm long adjusting screw, and adjusting crank. Wt., 34,0 kg. |
|   | PH173R    | 3-jaw puller with screw and crank, and RT172 center-hole twin cylinder. Wt., 25,4 kg.  |
|   | 1066      | Puller only. (Cylinder, pump, hose, coupler, screw, and crank not included). Wt., 16,3 kg.   |

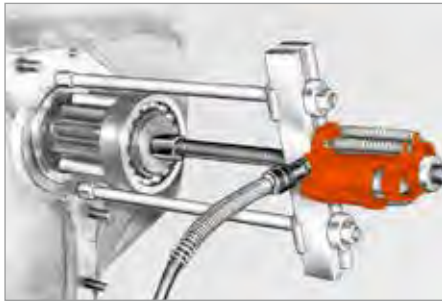
30 TON CAPACITY, 3-JAW PULLER

|  | Order No. | Description   |
|---|-----------|---|
|   | PH303     | 3-jaw puller with RT302 center-hole Power-Twin® cylinder, cylinder half coupler, P55 pump, 1,8 m. hose, hose half coupler, 1 1/4"- 7 x 610 mm large adjusting screw, and adjusting crank. Wt., 67,7 kg. |
|   | PH303R    | 3-jaw puller with screw and crank, and RT302 center-hole twin cylinder. Wt., 59,0 kg.   |
|   | 1074      | Puller only. (Cylinder, pump, hose, coupler, screw, and crank not included). Wt., 40,0 kg.  |

50 TON CAPACITY, 3-JAW PULLER

|  | Order No. | Description   |
|---|-----------|---|
|   | PH503     | 3-jaw puller with RT503 center-hole Power-Twin® cylinder, cylinder half coupler, P55 pump, 1,8 m. hose, hose half coupler, 1 5/8"- 5 1/2 x 722 mm long adjusting screw, and adjusting crank. Wt., 130,0 kg. |
|   | 1080      | 3-jaw puller only. (Cylinder, pump, hose, coupler, screw, and crank not included). Wt., 86,7 kg.  |

Model Shown:  
**PPH50**



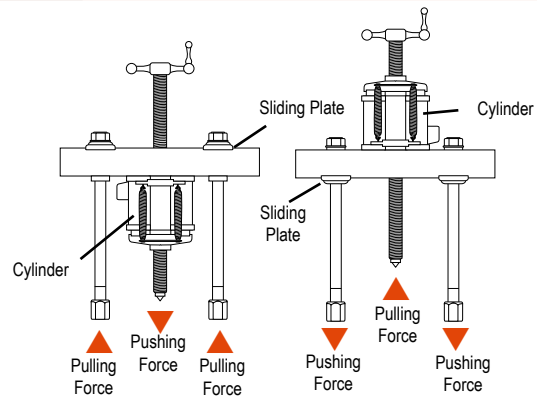
**Features**

**THE POWER TO MAKE IMPOSSIBLE JOBS BECOME ROUTINE.**

- Can apply a hydraulic pushing or pulling force, depending on how the puller is set up.
- Each unit includes perfectly matched hydraulic components that can be detached from the Bi-Directional™ Puller for other tasks requiring dependable power, and assuring maximum return on your investment.
- Optional leg kits adapt your Bi-Directional™ Puller to extra long or extra short reach.
- A wide variety of threaded adapters, bearing pulling attachments and internal pulling attachments can be used in combination with our Bi-Directional™ Pullers.



**Assembling the tool to apply pushing or pulling force:**

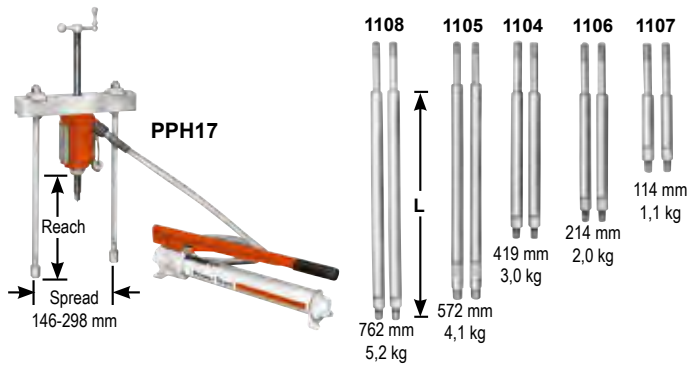


1. Determine if you want the tool's forcing screw to push or pull.
2. To exert pushing force, the forcing nut is installed beneath the cross block, as shown on left.
3. To cause the forcing screw to pull, the forcing nut is placed on top of the cross block.
4. The sliding plates must always be placed on the opposite side of the cross block from the forcing nut.

**SELECTION AND CAPACITY RATING** – Each Bi-Directional™ Puller's specified tonnage "capacity" is determined using its standard legs in tension. Using longer legs, or a setup in which the legs are in compression, will reduce the "capacity." Always select the largest "capacity" puller and the shortest legs that will fit the job.

**POWER-TWIN® CYLINDER** – This unique center-hole cylinder powers each Bi-Directional™ Puller screw runs right between the twin spring cylinder. A basic head allows you to change from a tapped hole to a plain hole by merely changing the head insert.

17.5 TON CAPACITY BI-DIRECTIONAL™ PULLER

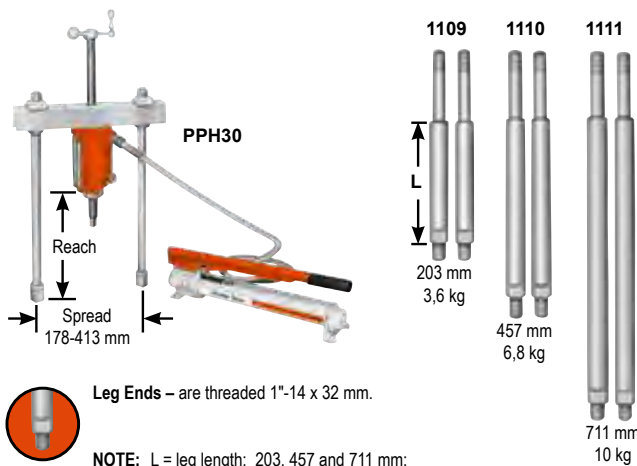


**Leg Ends** – Upper leg ends are threaded 3/4"-16.  
Lower leg ends are threaded 5/8"-25 mm long

**NOTE:** L = leg length: 114, 241, 419, 572 and 762 mm; subtract 124 mm from leg length to determine reach when using leg end caps.

| Order No.                    | Description  |
|------------------------------|--|
| PPH17                        | Bi-Directional™ Puller with RT172 center-hole Power-Twin® cylinder, cylinder half coupler, P55 pump, 9767 1,8 m. hose, 9798 hose half coupler, 419 mm legs, 24827 leg ends, 1"-8 x 508 mm large adjusting screw and adjusting crank. Wt., 26,8 kg. |
| PPH17R                       | Bi-Directional™ Puller with RT172 center-hole Power-Twin® cylinder, cylinder half coupler, but without P55 pump, 9767 1,8 m. hose and 9798 hose half coupler. Wt., 18,1 kg.  |
| 1062                         | Puller only. (Cylinder, pump, hose, coupler, screw and crank not included). Wt., 9,1 kg.   |
| <b>USE WITH:</b>             |  |
| Bearing pulling attachment:  | 1124 and 1130  |
| Pully Pulling attachment:    | 679  |
| Internal Pulling attachment: | 1154   |
| Legs:                        | 1104, 1105, 1106, 1107 and 1108 - Pair of legs for 17.5-ton "capacity" Bi-Directional™ Puller.   |

30 TON CAPACITY BI-DIRECTIONAL™ PULLER

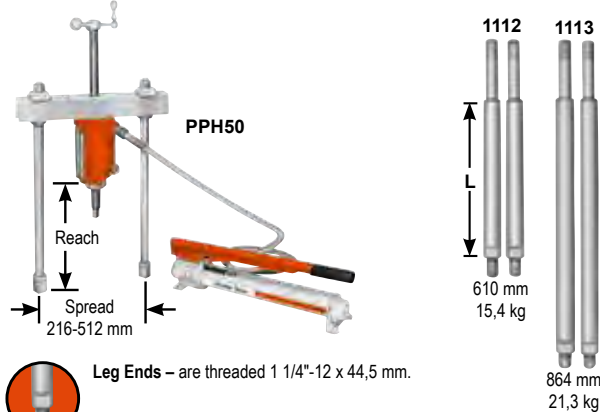


**Leg Ends** – are threaded 1"-14 x 32 mm.

**NOTE:** L = leg length: 203, 457 and 711 mm; subtract 149 mm from leg length to determine reach when using leg end caps.

| Order No.                    | Description  |
|------------------------------|--|
| PPH30                        | Bi-Directional™ Puller with RT302 center-hole Power-Twin® cylinder, cylinder half coupler, P55 pump, 9767 1,8 m. hose, 9798 hose half coupler, 457 mm legs, 28390 leg ends, 1 1/4"-7 x 610 mm lg. adjusting screw and adjusting crank. Wt., 46,3 kg. |
| PPH30R                       | Bi-Directional™ Puller with RT302 center-hole Power-Twin® cylinder, cylinder half coupler, but without P55 pump, 9767 1,8 m. hose and 9798 hose half coupler. Wt., 37,2 kg.  |
| 1070                         | Puller only. (Cylinder, pump, hose, coupler, screw and crank not included). Wt., 19,1 kg.  |
| <b>USE WITH:</b>             |  |
| Bearing pulling attachment:  | 680 (Use two 8012 adapters to connect to puller.)  |
| Pully Pulling attachment:    | 679  |
| Internal Pulling attachment: | 1166   |
| Legs:                        | 1109, 1110 and 1111 - Pair of legs for 30 ton "capacity" Bi-Directional™ Puller.   |

50 TON CAPACITY BI-DIRECTIONAL™ PULLER



**Leg Ends** – are threaded 1 1/4"-12 x 44,5 mm.

| Order No.                   | Description   |
|-----------------------------|---|
| PPH50                       | Bi-Directional™ Puller with RT503 center-hole Power-Twin® cylinder, cylinder half coupler, P55 pump, 9767 1,8 m. hose, 9798 hose half coupler, 610 mm legs, 1 5/8-5 1/2 x 722 mm lg. adjusting screw and adjusting crank. Wt., 91,3 kg. |
| PPH50R                      | Bi-Directional™ Puller with RT503 center-hole Power-Twin® cylinder, cylinder half coupler, but without P55 pump, 9767 1,8 m. hose and 9798 hose half coupler. Wt., 82,2 kg.   |
| 1076                        | Puller only. (Cylinder, pump, hose, coupler, screw and crank not included.) Wt., 48,1 kg.   |
| <b>USE WITH:</b>            |   |
| Bearing pulling attachment: | 1128  |
| Legs:                       | 1112 and 1113 - Pair of legs for 50 ton "capacity" Bi-Directional™ Puller.  |

**17.5 TON HYDRAULIC MASTER PULLER SETS**

Model Shown:

**IPS17**



**WOODEN STORAGE BOX**

308435OR9 is included with the sets listed on this page.

1016 mm L x 406 mm H x 406 mm D. Wt. 20 kg.

MB5 Metal storage boxes also available.

Having this Power Team puller set at your fingertips will not only reduce your downtime, but also increase your profits.

| Order No. | Description  |
|-----------|--|
| IPS17     | 17.5 ton capacity puller set. Includes hydraulics, pullers, wooden storage box and accessories listed below. Wt., 86,7 kg. |
| IPS17B    | Puller set with MB5 metal box. Wt., 96,7 kg.   |

**HYDRAULICS**

| Order No. | Description                            |
|-----------|--|
| P55       | Single-stage hyd. hand. pump assembly  |
| RT172     | 17.5 ton cylinder with threaded insert |
| 9798      | Hose half coupler                      |
| 9767E     | Hydraulic hose – 1,8 m.                |
| 9670      | Tee adapter                            |
| 9059E     | Pressure gauge                         |

**ACCESSORIES**

| Order No. | Description                    |
|-----------|--------------------------------|
| 1154      | Bearing cup pulling attachment |
| 1122      | Bearing pulling attachment     |
| 1123      | Bearing pulling attachment     |
| 1130      | Bearing pulling attachment     |

**PULLERS**

| Order No. | Description   |
|-----------|---|
| 1062      | 17.5 ton cap. Bi-Directional™ Puller with 419 mm legs |
| 24814     | Speed crank   |
| 201923    | Pushing adapter                                       |
| 1105      | 572 mm legs (2)                                       |
| 1066      | 17.5 ton 3-jaw hyd. puller                            |
| 1027      | Combination 2/3-jaw puller                            |
| 41224     | 17.5 ton 2-jaw puller head                            |
| 24832     | Puller screw  |
| 1037      | Combination 2/3-jaw puller                            |
| 1041      | Combination 2/3-jaw puller                            |
| 28228     | Cylinder cap  |

**THREADED ADAPTERS**

| Order No. | Description                            |
|-----------|--|
| 679       | V-belt pulley pulling attachment       |
| 8005      | 5/8" – 18 F. x 3/8" – 16 M. (2)        |
| 8006      | 5/8" – 18 F. x 1/2" – 20 M. (2)        |
| 8007      | 5/8" – 18 F. x 1/2" – 13 M. (2)        |
| 8010      | 5/8" – 18 F. x 5/8" – 11 M. (2)        |
| 8013      | 5/8" – 18 F. x 3/4" – 16 M. (2)        |
| 8015      | 5/8" – 18 F. x 3/4" – 10 M. (2)        |
| 8017      | 5/8" – 18 F. x 7/8" – 14 M. (2)        |
| 8018      | 5/8" – 18 F. x 7/8" – 9 M. (2)         |
| 8019      | 5/8" – 18 F. x 1" – 14 M. (2)          |
| 8020      | 1" – 8 F. x 5/8" – 18 M. (1)           |
| 8021      | 1" – 8 F. x 1" – 14 M. (1)             |
| 8044      | Female threaded adapter set            |
| 8038      | 5/8" – 18 F. x 3/4" – 16 F. (2)        |
| 8056      | Set of 6 shaft protectors (8050-8055)  |
| 1130      | Set of 11 shaft protectors (8057-8067) |

**17.5 TON HYDRAULIC PULLER SET**



This set includes a 3-jaw puller and a Bi-Directional™ Puller. Ideal for heavy-duty applications. Put this set to work wherever large gears, bearings, wheels, pulleys, etc. are found.

| Order No. | Description  |
|-----------|--|
| IPS17H    | 17.5 ton capacity hydraulic puller set. Includes hydraulics, pullers, wooden storage box and accessories listed below. Wt., 62,2 kg. |

**HYDRAULICS**

| Order No. | Description                            |
|-----------|--|
| P55       | Single-stage hyd. hand. pump assembly  |
| RT172     | 17.5 ton cylinder with threaded insert |
| 9798      | Hose half coupler                      |
| 9767E     | Hydraulic hose – 1,8 m.                |
| 9670      | Tee adapter                            |
| 9059E     | Pressure gauge                         |

**ACCESSORIES**

| Order No. | Description                           |
|-----------|---------------------------------------|
| 1154      | Bearing cup pulling attachment        |
| 1130      | Bearing pulling attachment            |
| 1105      | 572 mm legs (2)                       |
| 24814     | Speed crank                           |
| 28228     | Screw cap                             |
| 32118     | Adjusting screw                       |
| 201454    | Pushing adapter                       |
| 41224     | 2-jaw head for 1066 Threaded Adapters |

**PULLERS**

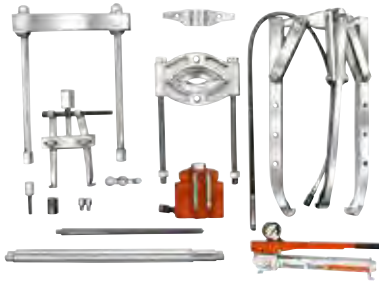
| Order No. | Description   |
|-----------|---|
| 1062      | 17.5 ton cap. Bi-Directional™ Puller with 419 mm legs |
| 24814     | Speed crank   |

**THREADED ADAPTERS**

| Order No. | Description                     |
|-----------|---------------------------------|
| 8020      | 1" – 8 F. x 5/8" – 18 M. (1)    |
| 8038      | 5/8" – 18 F. x 3/4" – 16 F. (2) |

Pullers

30 TON CAPACITY PULLER SET



WOODEN STORAGE BOX

3084380R9 is included with the sets listed on this page.

1180 mm L x 615 mm H x 579 mm D. Wt. 41 kg.

MB16 Metal storage boxes also available.

Just what you need for those big jobs. Not only do you get a 30 ton hydraulic Bi-Directional™ Puller, you also get a 2-jaw and 3-jaw hydraulic puller. Plus, many popular accessories and the hardware to tackle the big jobs right away.

| Order No. | Description   |
|-----------|---|
| IPS30H    | 30 ton capacity hydraulic maintenance puller set. Includes hydraulics, pullers, wooden storage box and accessories listed below. Wt., 150 kg. |

HYDRAULICS

| Order No. | Description                           |
|-----------|---------------------------------------|
| P55       | Single-stage hyd. hand. pump assembly |
| RT172     | 30 ton cylinder with threaded insert  |
| 9798      | Hose half coupler                     |
| 9767E     | Hydraulic hose – 1,8 m.               |
| 9670      | Tee adapter                           |
| 9059E     | Pressure gauge                        |

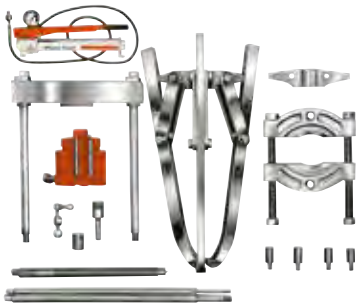
PULLERS

| Order No. | Description   |
|-----------|---|
| 1074      | 30 ton, 3-jaw hyd. puller                                     |
| 41226     | 2-way head for 1074   |
| 1070      | 30 ton cap. hydraulic Bi-Directional™ Puller with 457 mm legs |
| 1111      | 711 mm legs for 1070  |
| 27198     | Speed crank   |
| 28229     | Screw cap   |
| 34510     | Pushing adapter   |
| 34758     | Adjusting screw   |

ACCESSORIES

| Order No. | Description  |
|-----------|--|
| 8036      | Female threaded adapters 1" – 14 F. x 1" – 14 F. (2) |
| 1166      | Bearing cup pulling attach.                          |
| 1127      | Bearing pulling attachment                           |

50 TON CAPACITY PULLER SET



For those really big jobs, this 50 ton puller set is what you need. Just think of the jobs you can do with a 50 ton hydraulic Bi-Directional™ Puller, a 2-jaw and a 3-jaw puller, both with a 50 ton capacity. Of course, you also get many versatile accessories and attachments.

| Order No. | Description   |
|-----------|---|
| IPS50H    | 50 ton capacity hydraulic maintenance puller set. Includes hydraulics, pullers, wooden storage box and accessories listed below. Wt., 261 kg. |

HYDRAULICS

| Order No. | Description                           |
|-----------|---------------------------------------|
| P55       | Single-stage hyd. hand. pump assembly |
| RT172     | 50 ton cylinder with threaded insert  |
| 9798      | Hose half coupler                     |
| 9767E     | Hydraulic hose – 1,8 m.               |
| 9670      | Tee adapter                           |
| 9059E     | Pressure gauge                        |

PULLERS

| Order No. | Description   |
|-----------|---|
| 1080      | 50 ton, 3-jaw hyd. puller                                     |
| 50449     | 2-way head for 1080   |
| 1076      | 50 ton cap. hydraulic Bi-Directional™ puller with 610 mm legs |
| 29595     | Speed crank   |
| 28230     | Screw cap   |
| 34755     | Pushing adapter   |
| 32698     | Adjusting screw   |
| 1128      | Bearing pulling attachment                                    |

THREADED ADAPTERS

| Order No. | Description  |
|-----------|--|
| 8036      | Female threaded adapters 1" – 14 F. x 1" – 14 F. (2) |
| 1166      | Bearing cup pulling attach.                          |
| 1127      | Bearing pulling attachment                           |



**CAUTION:** All the items shown may not withstand the full tonnage specified.  
Example: When an accessory with a 1 ton capacity is used with a 7 ton puller, the setup can be used only at a force of 1 ton.

**17.5 AND 30 TON CAPACITY PULLER SETS**

Model Shown:  
**IPS3017**



**WOODEN STORAGE BOX**

No. 3084360R9 is included with the sets listed on this page.

1016 mm L x 432 mm H x 601 mm D. Wt. 29 kg.

MB8 Metal storage boxes also available.

These heavy-duty maintenance sets will more than pay for themselves, especially in saving you costly damage to parts. This set lets you tackle hundreds of applications where pushing and pulling are required.

| Order No. | Description  |
|-----------|--|
| IPS5317   | 17.5 ton capacity manual and hydraulic puller set. Includes hydraulics, pullers, wooden storage box and accessories listed below. Wt., 244 kg. |
| IPS3017B  | Puller set with MB8 metal box. Wt., 256 kg.  |

**HYDRAULICS**

| Order No. | Description   |
|-----------|---|
| P55       | Single-stage hyd. hand. pump assembly               |
| RT172     | 17.5 ton cylinder with threaded insert              |
| RT302     | 30 ton center-hole twin cylinder w/ threaded insert |
| 9798      | Hose half coupler                                   |
| 9767E     | Hydraulic hose – 1,8 m.                             |
| 9670      | Tee adapter   |
| 9059E     | Pressure gauge                                      |

**PULLERS**

| Order No. | Description  |
|-----------|--|
| 1062      | 17.5 ton cap. Bi-Directional™ Puller w/419 mm legs         |
| 1070      | 30 ton cap. hydraulic Bi-Directional™ Puller w/457 mm legs |
| 1066      | 17.5 ton 3-jaw hyd. puller                                 |
| 1074      | 30 ton 3-jaw hyd. puller                                   |
| 41224     | 17.5 ton 2-jaw puller head                                 |
| 41226     | 30 ton 2-jaw puller head                                   |
| 1027      | Combination 2/3-jaw puller                                 |
| 1037      | Combination 2/3-jaw puller                                 |
| 1041      | Combination 2/3-jaw puller                                 |
| 43892     | Long jaws (3) for 1037                                     |
| 30902     | Long jaws (3) for 1041                                     |
| 1105      | 572 mm legs for 1062                                       |
| 1111      | 711 mm legs for 1070                                       |
| 24814     | Speed crank  |
| 27198     | Speed crank  |
| 28229     | Screw cap  |
| 28228     | Cylinder cap   |
| 32118     | Adjusting screw  |
| 34758     | Adjusting screw  |
| 34510     | Pushing adapter  |
| 201923    | Pushing adapter  |

**ACCESSORIES**

| Order No. | Description                    |
|-----------|--------------------------------|
| 24832     | Special puller forcing screw   |
| 8075      | Step plate adapter set         |
| 8076      | Step plate adapter set         |
| 8056      | Shaft protector set            |
| 679       | Pulley pulling attachment      |
| 680       | Pulley pulling attachment      |
| 1154      | Bearing cup pulling attachment |
| 1166      | Bearing cup pulling attachment |
| 1122      | Bearing pulling attachment     |
| 1123      | Bearing pulling attachment     |
| 1126      | Bearing pulling attachment     |
| 1130      | Bearing pulling attachment     |

**THREADED ADAPTERS**

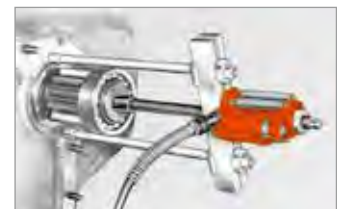
| Order No. | Description                      |
|-----------|----------------------------------|
| 8005      | 5/8" – 18 F. x 3/8" – 16 M. (2)  |
| 8006      | 5/8" – 18 F. x 1/2" – 20 M. (2)  |
| 8007      | 5/8" – 18 F. x 1/2" – 13 M. (2)  |
| 8010      | 5/8" – 18 F. x 5/8" – 11 M. (2)  |
| 8012      | 1" – 14 F. x 5/8" – 18 M. (2)    |
| 8013      | 5/8" – 18 F. x 3/4" – 16 M. (2)  |
| 8015      | 5/8" – 18 F. x 3/4" – 10 M. (2)  |
| 8017      | 5/8" – 18 F. x 7/8" – 14 M. (2)  |
| 8018      | 5/8" – 18 F. x 7/8" – 9 M. (2)   |
| 8019      | 5/8" – 18 F. x 1" – 14 M. (2)    |
| 8020      | 1" – 8 F. x 5/8" – 18 M. (1)     |
| 8021      | 1" – 8 F. x 1" – 14 M. (1)       |
| 8025      | 1 1/4" – 7 F. x 5/8" – 18 M. (2) |
| 8027      | 1 1/4" – 7 F. x 1" – 14 M. (2)   |
| 8036      | 1" – 14 F. x 1" – 14 F. (2)      |
| 8038      | 5/8" – 18 F. x 3/4" – 16 F. (2)  |
| 8044      | Female threaded adapter set      |



2-jaw puller reaches through spokes of gear to grip hub. Hand pump supplies hydraulic power.



Flexible coupler is removed from electric motor shaft with 2-jaw puller.



Typical setup for removing sprocket drive pinion shaft. Puller screw is attached to shaft by threaded adapter. Shaft is now ready to be pulled out hydraulically.



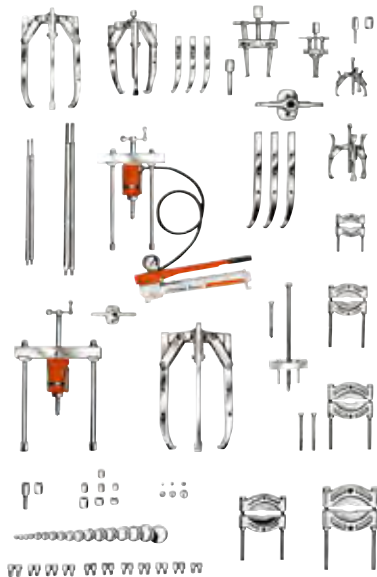
**CAUTION:** All the items shown may not withstand the full tonnage specified.

Example: When an accessory with a 1 ton capacity is used with a 7 ton puller, the setup can be used only at a force of 1 ton.



17.5 AND 50 TON CAPACITY PULLER SETS

Model Shown:  
**IPS5017**



**WOODEN STORAGE BOX**  
No. 308439OR9 is included with the sets listed on this page.

1143 mm L x 572 mm H x 762 mm D. Wt. 47,6 kg.

MB16 Metal storage boxes also available.

If you are looking for a maintenance puller set that will handle a wide variety of applications, this one is for you. The mechanical and hydraulic pullers and attachments are designed to handle most removing and installing jobs with a minimal amount of effort.

| Order No. | Description   |
|-----------|---|
| IPS5017   | 17.5 and 50 ton capacity manual and hydraulic puller set. Includes hydraulics, pullers, wooden storage box and accessories listed below. Wt., 405 kg. |
| IPS5017B  | Puller set with MB16 metal box. Wt., 415 kg.  |

**HYDRAULICS**

| Order No. | Description   |
|-----------|---|
| P55       | Single-stage hyd. hand. pump assembly               |
| RT172     | 17.5 ton cylinder with threaded insert              |
| RT302     | 50 ton center-hole twin cylinder w/ threaded insert |
| 9798      | Hose half coupler                                   |
| 9767E     | Hydraulic hose – 1,8 m.                             |
| 9670      | Tee adapter   |
| 9059E     | Pressure gauge                                      |

**PULLERS**

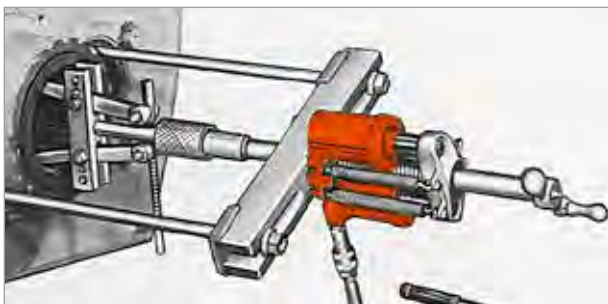
| Order No. | Description   |
|-----------|---|
| 1062      | 17.5 ton cap. Bi-Directional™ Puller with 419 mm legs         |
| 1076      | 50 ton cap. hydraulic Bi-Directional™ Puller with 610 mm legs |
| 1066      | 17.5 ton 3-jaw hyd. puller                                    |
| 1080      | 17.5 ton 3-jaw hyd. puller                                    |
| 41224     | 17.5 ton 2-jaw puller head                                    |
| 50449     | 50 ton 2-jaw puller head                                      |
| 1027      | Combination 2/3-jaw puller                                    |
| 1037      | Combination 2/3-jaw puller                                    |
| 1041      | Combination 2/3-jaw puller                                    |
| 43892     | Long jaws (3) for 1037  |
| 30902     | Long jaws (3) for 1041  |
| 1105      | 572 mm legs for 1062  |
| 1113      | 864 mm legs for 1076  |
| 24814     | Speed crank   |
| 29595     | Speed crank   |
| 28228     | Screw cap   |
| 28230     | Cylinder cap  |
| 32118     | Adjusting screw   |
| 32698     | Adjusting screw   |
| 34755     | Pushing adapter   |
| 201923    | Pushing adapter   |
| 7392      | Gear and pulley puller  |
| 24833     | Forcing screw for 7392  |

**ACCESSORIES**

| Order No. | Description                    |
|-----------|--------------------------------|
| 8075      | Step plate adapter set         |
| 8076      | Step plate adapter set         |
| 8056      | Shaft protector set            |
| 1154      | Bearing cup pulling attachment |
| 1166      | Bearing cup pulling attachment |
| 1122      | Bearing pulling attachment     |
| 1123      | Bearing pulling attachment     |
| 1126      | Bearing pulling attachment     |
| 1127      | Bearing pulling attachment     |
| 1130      | Bearing pulling attachment     |
| 34479     | Reducing adapter for 1166      |
| 10215     | Hex nut; 3/4" – 16 (2)         |
| 24829     | Short bolt                     |

**THREADED ADAPTERS**

| Order No. | Description                        |
|-----------|------------------------------------|
| 8005      | 5/8" – 18 F. x 3/8" – 16 M. (2)    |
| 8006      | 5/8" – 18 F. x 1/2" – 20 M. (2)    |
| 8007      | 5/8" – 18 F. x 1/2" – 13 M. (2)    |
| 8010      | 5/8" – 18 F. x 5/8" – 11 M. (2)    |
| 8013      | 5/8" – 18 F. x 3/4" – 16 M. (2)    |
| 8015      | 5/8" – 18 F. x 3/4" – 10 M. (2)    |
| 8019      | 5/8" – 18 F. x 1" – 14 M. (2)      |
| 8020      | 1" – 8 F. x 5/8" – 18 M. (1)       |
| 8021      | 1" – 8 F. x 1" – 14 M. (1)         |
| 8023      | 1 1/4" – 12 F. x 1" – 14 M. (2)    |
| 8028      | 1 5/8" – 5 1/2 F. x 1" – 8 M. (1)  |
| 8029      | 1 5/8" – 5 1/2 F. x 1" – 14 M. (1) |
| 8038      | 5/8" – 18 F. x 3/4" – 16 F. (2)    |
| 8044      | Female threaded adapter set        |



Combination of 50 ton capacity Bi-Directional™ Puller and cup pulling attachment simplifies the removal of a final drive axle seal.



Hydraulically powered Bi-Directional™ Puller removes drive wheel. Pulling attachment is used to provide gripping surface.



3-jaw puller provides grip while hydraulic hand pump provides power to push shaft from housing. Shaft protector is used on end of puller screw.

Pullers



**CAUTION:** All the items shown may not withstand the full tonnage specified. Example: When an accessory with a 1 ton capacity is used with a 7 ton puller, the setup can be used only at a force of 1 ton.

**17.5, 30 AND 50 TON CAPACITY PULLER SETS**

Model Shown:  
**IPS5317**



**WOODEN STORAGE BOX**

No. 308440OR9 is included with the sets listed on this page.

1168 L x 571 H x 571 D. Wt. 54 kg.

MB16 Metal storage boxes also available.

Here's the ultimate in industrial puller sets! You'll find a puller for just about every job. Included in this "master set" are 17.5, 30 and 50 ton hydraulics, along with an extensive assortment of pullers, attachments and adapters.

| Order No. | Description   |
|-----------|---|
| IPS5317   | 17.5, 30 and 50 ton capacity manual and hydraulic puller set. Includes hydraulics, pullers, wooden storage box and accessories listed below. Wt., 572 kg. |

**HYDRAULICS**

| Order No. | Description  |
|-----------|--|
| P55       | Single-stage hyd. hand. pump assembly                |
| P460      | Two-stage hyd. hand pump w/3-way control valve       |
| RT172     | 17.5 ton center-hole twin cylinder w/threaded insert |
| RT302     | 30 ton center-hole twin cylinder w/threaded insert   |
| RT503     | 50 ton center-hole twin cylinder w/threaded insert   |
| 9798      | Hose half coupler (2)                                |
| 9767E     | Hydraulic hose – 1.8 m (2)                           |
| 9670      | Tee adapter  |
| 9059E     | Pressure gauge                                       |

**PULLERS**

| Order No. | Description  |
|-----------|--|
| 1062      | 17.5 ton cap. Bi-Directional™ Puller w/419 mm legs |
| 1070      | 30 ton cap. Bi-Directional™ Puller w/457 mm legs   |
| 1076      | 50 ton cap. Bi-Directional™ Puller w/610 mm legs   |
| 1066      | 17.5 ton 3-jaw hyd. puller                         |
| 1074      | 30 ton 3-jaw hyd. puller                           |
| 1080      | 50 ton 3-jaw hyd. puller                           |
| 41224     | 17.5 ton 2-jaw puller head                         |
| 41226     | 30 ton 2-jaw puller head                           |
| 50449     | 50 ton 2-jaw puller head                           |
| 1027      | Combination 2/3-jaw puller                         |
| 1037      | Combination 2/3-jaw puller                         |
| 1041      | Combination 2/3-jaw puller                         |
| 43892     | Long jaws (3) for 1037                             |
| 30902     | Long jaws (3) for 1041                             |
| 32136     | Long jaws (2) for 1154                             |
| 1105      | 572 mm legs for 1062                               |
| 1106      | 241 mm legs for 1062                               |
| 1107      | 114 mm legs for 1062                               |
| 1109      | 203 mm legs for 1070                               |
| 1111      | 711 mm legs for 1070                               |
| 1113      | 864 mm legs for 1070                               |

**ACCESSORIES**

| Order No. | Description                  |
|-----------|------------------------------|
| 24832     | Special puller forcing screw |
| 24814     | Speed crank                  |
| 27198     | Speed crank                  |
| 29595     | Speed crank                  |
| 28228     | Screw cap                    |
| 201923    | Pushing adapter              |
| 28229     | Screw cap                    |
| 28230     | Screw cap                    |

**ACCESSORIES**

| Order No. | Description                    |
|-----------|--------------------------------|
| 32118     | Adjusting screw                |
| 32698     | Adjusting screw                |
| 34758     | Adjusting screw                |
| 34510     | Pushing adapter                |
| 34755     | Pushing adapter                |
| 201923    | Pushing adapter                |
| 8075      | Step plate adapter set         |
| 8076      | Step plate adapter set         |
| 8056      | Shaft protector set            |
| 679       | Pulley pulling attachment      |
| 680       | Pulley pulling attachment      |
| 1154      | Bearing cup pulling attachment |
| 1166      | Bearing cup pulling attachment |
| 1122      | Bearing pulling attachment     |
| 1123      | Bearing pulling attachment     |
| 1126      | Bearing pulling attachment     |
| 1127      | Bearing pulling attachment     |
| 1128      | Bearing pulling attachment     |
| 1130      | Bearing pulling attachment     |
| 34479     | Reducing adapter               |

**THREADED ADAPTERS**

| Order No. | Description                         |
|-----------|-------------------------------------|
| 8005      | 5/8" – 18 F. x 3/8" – 16 M. (2)     |
| 8006      | 5/8" – 18 F. x 1/2" – 20 M. (2)     |
| 8007      | 5/8" – 18 F. x 1/2" – 13 M. (2)     |
| 8010      | 5/8" – 18 F. x 5/8" – 11 M. (2)     |
| 8012      | 1" – 14 F. x 5/8" – 18 M. (2)       |
| 8013      | 5/8" – 18 F. x 3/4" – 16 M. (2)     |
| 8015      | 5/8" – 18 F. x 3/4" – 10 M. (2)     |
| 8017      | 5/8" – 18 F. x 7/8" – 14 M. (2)     |
| 8018      | 5/8" – 18 F. x 7/8" – 9 M. (2)      |
| 8019      | 5/8" – 18 F. x 1" – 14 M. (2)       |
| 8020      | 1" – 8 F. x 5/8" – 18 M. (1)        |
| 8021      | 1" – 8 F. x 1" – 14 M. (1)          |
| 8023      | 1 1/4" – 12 F. x 1" – 14 M. (2)     |
| 8024      | 1 1/4" – 12 F. x 1 3/4" – 12 M. (2) |
| 8025      | 1 1/4" – 7 F. x 5/8" – 18 M. (2)    |
| 8027      | 1 1/4" – 7 F. x 1" – 14 M. (2)      |
| 8028      | 1 5/8" – 5 1/2 F. x 1" – 8 M. (1)   |
| 8029      | 1 5/8" – 5 1/2 F. x 1" – 14 M. (1)  |
| 8036      | 1" – 14 F. x 1" – 14 F. (2)         |
| 8038      | 5/8" – 18 F. x 3/4" – 16 F. (2)     |
| 8044      | Female threaded adapter set         |

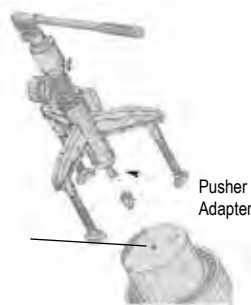


**CAUTION:** All the items shown may not withstand the full tonnage specified.

Example: When an accessory with a 1 ton capacity is used with a 7 ton puller, the setup can be used only at a force of 1 ton.

Model Shown:

**PHP8H, PHP8R**



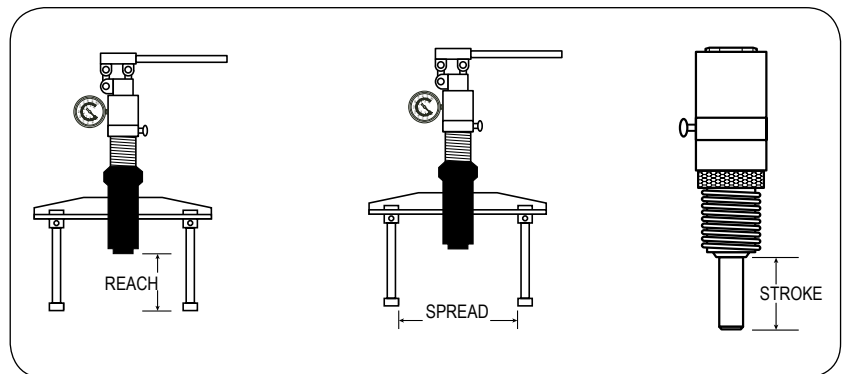
**Features**

**IDEAL FOR INSTALLING A WIDE VARIETY OF PRESS-FIT PARTS.**

- Power Team pushers have been rigorously tested for top performance and reliability at maximum capacity.
- These pushing systems are covered by Power Team's exclusive PowerThon™ Limited Lifetime Warranty — assuring you of the highest quality and reliability.

**BEARING PUSHER KITS**

- Portable pushing kits include an external Lock-Jaw™ puller, an internal puller, hydraulic cylinder, and a tri-section pulling attachment, all in one compact, lightweight unit complete with carrying case.



**Ordering Information**

| Order No. | Description                        | Cylinder Cap.<br>(ton) | Reach<br>(mm) | Spread<br>(mm) | Stroke<br>(mm) | Weight with Case<br>(kg) |
|-----------|------------------------------------|------------------------|---------------|----------------|----------------|--------------------------|
| PHP8H     | Manual-Hydraulic Pusher            | 8                      | 55 - 385      | 58 - 270       | 82             | 33,5                     |
| PHP8R     | Remote Hydraulic Pusher            | 8                      | 55 - 385      | 58 - 270       | 82             | 33,0                     |
| PHP8H-1   | Manual-Hydraulic                   | 8                      | 55 - 385      | 58 - 270       | 82             | 53,0                     |
| PHP8R-1   | Remote Hydraulic Pusher/Puller Kit | 8                      | 55 - 385      | 58 - 270       | 82             | 52,0                     |



**IMPORTANT SAFETY INFORMATION:** Power Team recommends the use of protective blankets for all pushing operations. For ease of visual clarity, we have shown the pusher application photos without these safeguards.

Model Shown:  
**PH553C**



**ENFORCER 55**

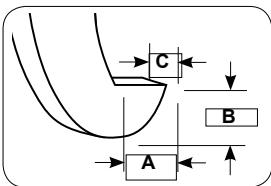
- 1 Puller can be assembled in 2 or 3-jaw configurations.
- 2 Hydraulically-actuated jaws allows cylinder to move in or out with a safe, secure grip on workpiece.
- 3 Hydraulic lift system for easy, precise position of puller.
- 4 Unique dual pump arrangement. Low pressure pump positions, holds and opens jaws. The high pressure pump advances and retracts the pushing cylinder without releasing clamped jaws.
- 5 Swivel casters give ease of mobility.
- 6 Large wheels make movement of cart easy.
- 7 Super Lock-Jaw™ feature means the harder the pull, the tighter the puller jaws grip. No chains or cages required to keep puller jaws from slipping or springing off the part being pulled.
- 8 Guards at pinch points protect operator.
- 9 Puller can be mounted on cart 90 degrees to right or left of puller cart centerline, permitting use in tight quarters, such as between machinery.
- 10 Self-centering design puller jaws will automatically grip work evenly.
- 11 Choice of cylinder with a 169 mm or 337 mm stroke.

**Pushing Adapters**

| Order No. | Qty. * | A<br>(mm) | B<br>(mm) |
|-----------|--------|-----------|-----------|
| 251002    | 1      | 69,9      | 69,9      |
| 350593 ** | 2      | 69,9      | 152,4     |
| 350594    | 1      | 69,9      | 76,2      |
| 350637    | 1      | 69,9      | 254,0     |

\* Number of adapters supplied with each Enforcer.  
\*\* Only 1 for units with 13.25" stroke.

**IMPORTANT SAFETY INFORMATION:** Power Team recommends the use of protective blankets for all pushing operations. For ease of visual clarity, we have shown the pusher application photos without these safeguards.



**Ordering Information**

| Order No.     | Puller Jaw Tip |           |           | Min. Spread<br>(mm) | Reach Min. Spread<br>(mm) | Max. Spread<br>(mm) | Reach Max. Spread<br>(mm) | Overall Length *<br>(mm) | Cyl. Stroke<br>(mm) | Power Source Requirements<br>(mm) | Prod. Wt.<br>(kg) |
|---------------|----------------|-----------|-----------|---------------------|---------------------------|---------------------|---------------------------|--------------------------|---------------------|-----------------------------------|-------------------|
|               | A<br>(mm)      | B<br>(mm) | C<br>(mm) |                     |                           |                     |                           |                          |                     |                                   |                   |
| PH553C-E220   | 22,4           | 31,8      | 47,8      | 101,6               | 559                       | 1,219               | 356                       | 2,286                    | 159                 | 230 V, 50 Hz, 15 Amp Capacity     | 339               |
| PH553C13-E220 | 22,4           | 31,8      | 47,8      | 101,6               | 381                       | 1,219               | 178                       | 2,286                    | 337                 | 230 V, 50 Hz, 15 Amp Capacity     | 352               |
| PH553CL-E220  | 22,4           | 31,8      | 47,8      | 63,5                | 829                       | 1,149               | 737                       | 2,591                    | 159                 | 230 V, 50 Hz, 15 Amp Capacity     | 366               |
| PH553C13-E220 | 22,4           | 31,8      | 47,8      | 63,5                | 651                       | 1,149               | 559                       | 2,591                    | 337                 | 230 V, 50 Hz, 15 Amp Capacity     | 379               |

\* Cart and Puller (cart width = 813 mm)

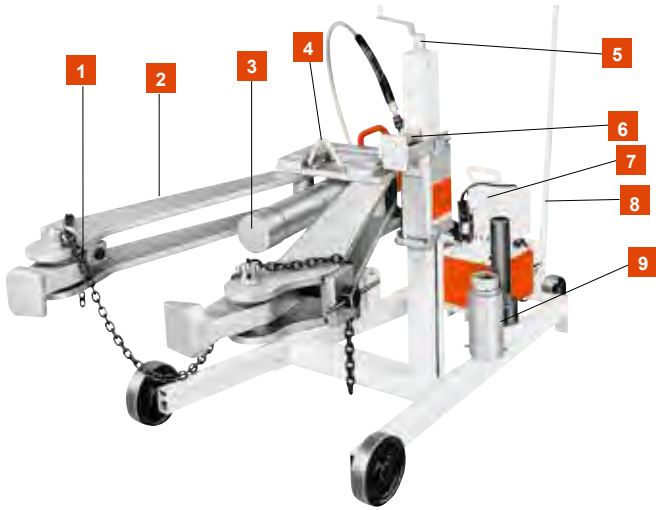
**Conversion Kit**

**Conversion Kit No. 251468.** Kit converts PH553C series to PH553CL series. Jaws are 305 mm longer. Kit contains three jaws and six straps with guards. Wt., 114 kg.



**Note:** Four cylinder extensions (not pictured) are included. The included lifting eyes (not pictured) permit use of an overhead crane to raise entire assembly.

Model Shown:  
**PH1002**

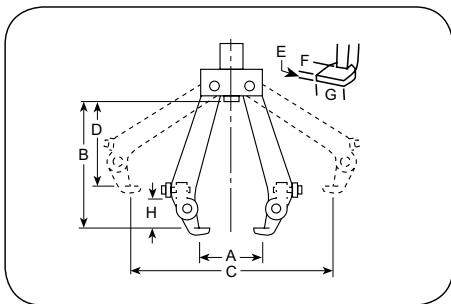


**ENFORCER 100**

- 1 Adjustable jaws mean they always pull on a flat surface. Retaining chain holds jaws in place during positioning.
- 2 Lock-Jaw™ feature means jaws grip progressively tighter as more pulling force is applied.
- 3 100 ton hydraulic cylinder is single-acting, spring return type with a maximum working pressure of 700 bar.
- 4 Lifting bracket allows puller to be lifted if the workpiece center is more than 914 mm off the floor.
- 5 Adjusting screw allows operator to move vertical position of the puller.
- 6 Spring loaded feature means Enforcer 100 will align itself on uneven pulls.
- 7 Hydraulic pump is a 2-stage, high pressure unit controlled by remote hand switch with 7,6 m cord.
- 8 Tow bar provides puller with plenty of mobility.
- 9 Pushing adapters have a diameter of 105 and 63,5 mm.



An ideal puller for steel mills, mines, oil fields, utility projects, paper mills, construction sites, railroads, airline shops, shipyards or anywhere else where large equipment and machinery pose tough maintenance challenges.



► **Ordering Information**

| Order No.   | Min. Spread | Reach Min. Spread | Max. Spread | Reach Max. Spread | Puller Jaw Tip |      |     | Max. Thick. Workpiece | Vertical Stroke Adjust. | Overall Length | Max. Thickness Workpiece | Wheel Dia. | Power Source Requirements     |
|-------------|-------------|-------------------|-------------|-------------------|----------------|------|-----|-----------------------|-------------------------|----------------|--------------------------|------------|-------------------------------|
|             | A           | B                 | C           | D                 | E              | F    | G   | H                     |                         |                |                          |            |                               |
|             | (mm)        | (mm)              | (mm)        |                   |                |      |     | (mm)                  | (mm)                    | (mm)           | (mm)                     | (mm)       |                               |
| PH1002-E110 | 381         | 1067              | 1219        | 864               | 25,4           | 57,1 | 127 | 260                   | 305 - 914               | 2388           | 305                      | 260        | 220 V, 50 Hz, 13 Amp Capacity |
| PH1002J     |             |                   |             |                   |                |      |     |                       |                         |                |                          |            |                               |

| Ram Extensions |              |                          |        |        |        |        |        |
|----------------|--------------|--------------------------|--------|--------|--------|--------|--------|
| Order No.      | Adapter Type | Amount included w/puller | J (mm) | K (mm) | L (mm) | M (mm) | N (mm) |
| 44745          | Push         | 1                        | 105    | —      | 343    | 63,5   | —      |
| 44766          | Ext.         | 4                        | 105    | —      | —      | —      | 203    |
| 303045         | Push         | 1                        | 105    | 79,4   | —      | —      | —      |

| “ENFORCER 100” UNIVERSAL PULLER |  |
|---------------------------------|--|
| Order No.                       | Description  |
| PH1002-E220                     | 100 ton, 2-jaw universal hydraulic puller. Includes: 2-jaw Grip-O-Matic® puller, PE552S-E220 2-speed electric/hydraulic power unit, C10010C 100 ton hydraulic cylinder with 260 mm stroke and six adapters. Wt., 404 kg. |
| PH1002J-E220                    | Same as PH1002-E220, but without hydraulic power unit. Wt., 404 kg.  |
| PE552S-E220                     | Pump only. 0,84 kW, 220 volt, 50 Hz, single phase, draws 13 amps at full load.   |

Note: Also available in E110

Model Shown:

**PR3100J, PR3100S**



**Features**

**UNIVERSAL RAILROAD AXLE JOURNAL ROLLER BEARING PULLER/INSTALLER.**

- Quickly remove or install tapered roller bearings.
- With both sling and jack models available and two pumps to choose from, you can tailor the unit to match your needs.
- The industry standard in most wheel shops.
- Each unit will service a full line of bearings with rotating end caps, from class B thru GG.
- Designed with the cooperation of major bearing manufacturers.
- Fast, simple, one-person operation with 100-tons of pulling force provided.
- Completely portable for easy, convenient positioning and out-of-the-way storage.
- Each unit complete with a heavy-duty 100-ton hydraulic cylinder, 700 bar pump with remote control solenoid valve, hydraulic pressure gauge (11543), a pulling shoe and installing tube.
- CSA certified (LR19814)



Our roller bearing pullers are ideal for replacing tough, worn-out bearings on RR freight cars.



The photo above shows the Universal Puller in position on the roller bearing assembly, which is ready for removal.



**Protective Blankets**



Power Team has protective blankets available which may afford protection from injury to users and others should part breakage occur. For more information, see page 242.



**CAUTION**

Power Team recommends the use of these blankets for all pushing, pulling, pressing, and lifting applications.

**Ordering Information**

| Order No.      | Model Type | Cylinder Type | Valve Type | Kw     | Pump Information Phase | Voltage |
|----------------|------------|---------------|------------|--------|------------------------|---------|
| PR2100J-E220 † | Jack       | Double-Acting | Solenoid   | 1,5 ** | 1                      | 230 V*  |
| PR3100J-E380 † | Jack       | Double-Acting | Solenoid   | 2,2    | 3                      | 400 V*  |
| PR2100S-E220 † | Sling      | Double-Acting | Solenoid   | 1,5    | 1                      | 230 V*  |
| PR3100S-E380 † | Sling      | Double-Acting | Solenoid   | 2,2    | 3                      | 400 V*  |

\* Prewired at factory for these voltages. Other voltages available upon request.

\*\* The 2 hp, 115VAC requires 30 amp service.

† Equipped with hydraulic pressure gauge 11543.

## ▶ Tooling Ordering Information

**IMPORTANT:** This tooling chart applies only to standard AAR configurations for freight car applications. In order to provide adapters needed to service housing-type locomotive and passenger car bearings, as well as metric bearings, Power Team must be provided with the following information. Bearing manufacturer's name and general arrangement drawing number, size of bearing to be serviced, railroad name and location and part numbers of adapters already in your possession if you currently own a Puller/Installer.

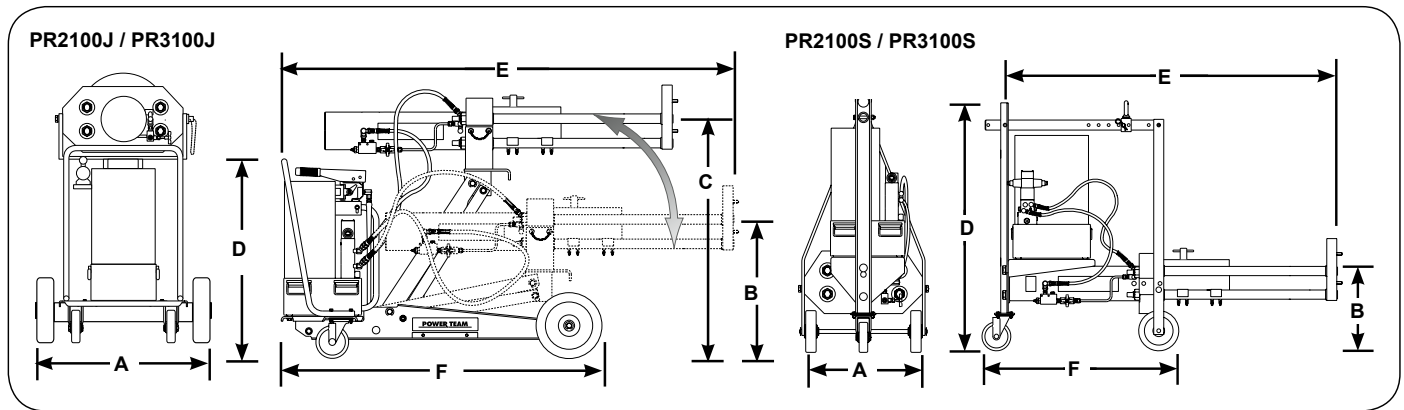
| Tool Description             | Class and size of bearing assembly - TBU & SP "Metric Tooling" |        |        |        |
|------------------------------|--|--------|--------|--------|
|                              | 120  | 130    | 140    | 150    |
| Pulling Shoe, Insert Adapter | 351830   | 30512  | 30521  | 30520  |
| Guide Tube & Cap Screw Assy. | 253341   | 253342 | 253343 | 253344 |
| Cap Screw *                  | 253339   | 253394 | 253339 | 253395 |
| Guide Tube Adapter           | 212247   | 21247  | 21247  | 21247  |
| Installing Tube Adapter Ring | 253335   | 253336 | 253337 | 253338 |

\* Screws are supplied with the guide tube and should be ordered as replacements only.

| Tool Description             | Class and size of bearing assembly to be serviced          |                      |                      |                      |                      |                      |                      |                      |                     |                      |
|------------------------------|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|
|                              | Class B<br>108 x 203                                       | Class C<br>127 x 229 | Class D<br>140 x 254 | Class E<br>152 x 279 | Class EE<br>140 Axle | Class EE<br>152 Axle | Class F<br>165 x 305 | Class G<br>178 x 305 | Class G<br>165 Axle | Class GG<br>165 Axle |
| Pulling Shoe                 | 420845 is included as part of basic machine - Do Not Order |                      |                      |                      |                      |                      |                      | 420846               | 420846              | 420846               |
| Pulling Shoe, Insert Adapter | 30522  | 30512                | 30521                | 30520                | 30520                | 30519                | 30519                | —                    | —                   | —                    |
| Guide Tube & Cap Screw Assy. | 253313   | 253314               | 253317               | 253318               | 253316               | 253327               | 253320               | 253321               | 253319              | 253323               |
| Cap Screw *                  | 253156   | 253349               | 253308               | 253155               | 253307               | 253308               | 253310               | 253326               | 253309              | 253309               |
| Guide Tube, No Adapter       | 23934  | 21248                | 21248                | 21247                | 21247                | 21247                | 21247                | 21247                | 21247               | 21247                |
| Installing Tube              | 30416 is included as part of basic machine - Do Not Order  |                      |                      |                      |                      |                      |                      | 30417                | 30417               | 30417                |
| Installing Tube Adapter Ring | 21242  | 21258                | 21256-1              | 21255-1              | 21255-1              | 21257-1              | 21257-1              | 30586                | 30585               | 30585                |

\* Screws are supplied with the guide tube and should be ordered as replacements only.

**NOTE:** Adapters listed above are for servicing the following roller bearing assemblies: Brenco "Crown-Taper", New Departure-Hyatt "Hy-Roll Taper", SKF "Expediter" and Timken "AP".



## ▶ Technical Dimensions

| Order No. | A    | B    | C    | D    | E    | F    | Stroke<br>(mm) | Capacity       |                 | Advance<br>(mm/min.) | Speed             |                    | Weight<br>(kg) |
|-----------|------|------|------|------|------|------|----------------|----------------|-----------------|----------------------|-------------------|--------------------|----------------|
|           | (mm) | (mm) | (mm) | (mm) | (mm) | (mm) |                | Pull<br>(tons) | Inst.<br>(tons) |                      | Pull<br>(mm/min.) | Inst.<br>(mm/min.) |                |
| PR2100J   | 813  | 383  | 1059 | 912  | 1981 | 1493 | 394            | 100            | 68              | 900                  | 81                | 113                | 528            |
| PR3100J   | 813  | 383  | 1059 | 912  | 1981 | 1493 | 394            | 100            | 68              | 900                  | 81                | 113                | 520            |
| PR2100S   | 619  | 279  | —    | 1283 | 1632 | 985  | 394            | 100            | 68              | 900                  | 81                | 113                | 455            |
| PR3100S   | 619  | 279  | —    | 1283 | 1632 | 985  | 394            | 100            | 68              | 900                  | 81                | 113                | 458            |

**UNIVERSAL BEARING CUP INSTALLER**



This installer adjusts to fit bearing cups from 92 to 165 mm O.D. It replaces over two dozen plates and drivers. Simply adjust the jaws to fit the cup I.D., lock the jaws, slip the new cup on and drive it home with a hammer.

| Order No. | Description                                   |
|-----------|---|
| 7180      | Universal bearing cup installer. Wt., 4,5 kg. |

**ASSEMBLE YOUR OWN "CUSTOM-MADE" DRIVER TOOLS**



These sets include discs and handles for custom seal driver assembly to provide a pilot (to prevent cocking), a spacer (so force is applied on the proper area) and a driver (for even force dist.). Discs range from 12,7 thru 114,3 mm diameters in 1,6 mm increments. Each set includes a handy plastic box with pre-cut tool tray.

| Order No. | Description   |
|-----------|---|
| 27793     | STARTER SET. Contains handle and discs especially selected to provide the driver sizes most frequently needed. Maximum utility at a modest investment! Wt., 1,8 kg. |



27797 Master Set  
(Board not included)

Patent No. 4,429,447

| Order No. | Description   |
|-----------|---|
| 27794     | BASIC SET. Wide coverage, low investment! Includes 41 discs and two handles. Size range: 12,7 thru 76,2 mm diameter. Wt., 10 kg.                            |
| 27795     | BIG JOB SET. Used for servicing large components. You get coverage of 77,8 thru 114,3 mm diameter with the 24 discs and handle provided. Wt., 20,4 kg.      |
| 27797     | MASTER SET. For maximum coverage. Three handle sizes and all 65 discs listed in chart below are included. Range: 12,7 thru 114,3 mm diameter. Wt., 30,9 kg. |
| 212377    | TOOL ORGANIZER BOARD. Will accommodate all components of 27797 Master Set. Tools not included. Wt., 2,3 kg.   |

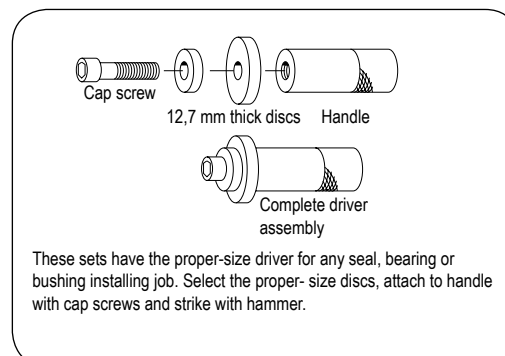
**DISCS**

**SET COMPONENTS**

| Order No. | Discs (mm) | Order No. | Discs (mm) | Order No. | Discs (mm) |
|-----------|------------|-----------|------------|-----------|------------|
| 27491     | 12,7       | 27512     | 46,0       | 27534     | 81,0       |
| 27492     | 14,2       | 27513 †   | 47,8       | 27535     | 82,6       |
| 27493 †   | 16,0       | 27514     | 49,3       | 27536     | 84,1       |
| 27494     | 17,5       | 27515     | 50,8       | 27537     | 85,9       |
| 27495 †   | 19,1       | 27516     | 52,3       | 27538     | 87,4       |
| 27496     | 20,6       | 27517     | 54,1       | 27539     | 88,9       |
| 27497 †   | 22,4       | 27518     | 55,6       | 27540     | 90,4       |
| 27498     | 23,9       | 27519     | 57,2       | 27541     | 92,2       |
| 27499 †   | 25,4       | 27520     | 58,7       | 27542     | 93,7       |
| 27500     | 26,9       | 27521     | 60,5       | 27543     | 95,3       |
| 27501 †   | 28,7       | 27522     | 62,0       | 27544     | 96,8       |
| 27502     | 30,2       | 27523     | 63,5       | 27545     | 98,6       |
| 27503 †   | 31,8       | 27524     | 65,0       | 27546     | 100,1      |
| 27504     | 33,3       | 27525     | 66,8       | 27547     | 101,6      |
| 27505 †   | 35,1       | 27526     | 68,3       | 27548     | 103,1      |
| 27506     | 36,6       | 27527     | 69,9       | 27549     | 104,9      |
| 27507 †   | 38,1       | 27528     | 71,4       | 27550     | 106,4      |
| 27508     | 39,6       | 27529     | 73,2       | 27551     | 108,0      |
| 27509 †   | 41,4       | 27530     | 74,7       | 27552     | 109,5      |
| 27510     | 42,9       | 27531     | 76,2       | 27553     | 111,3      |
| 27511 †   | 44,5       | 27532     | 77,7       | 27554     | 112,8      |
|           |            | 27533     | 79,5       | 27555     | 114,3      |

| Order No. | Description                   |
|-----------|-------------------------------|
| 10012 †   | 1/4"-20 UNC X 22,2 mm *       |
| 10020 †   | 1/4"-20 UNC X 31,8 mm *       |
| 10854 †   | 1/4"-20 UNC X 44,5 mm         |
| 10855 †   | 1/4"-20 UNC X 70 mm *         |
| 12001 †   | 1/4"-20 UNC X 57,1 mm *       |
| 27487 †   | Small Handle 127 x 19 mm Dia. |
| 27488     | Med. Handle 152 x 41 mm Dia.  |
| 27489     | Large Handle 152 x 41 mm Dia. |
| 27490     | Extension Tube                |
| 7350 †    | Allen Wrench                  |

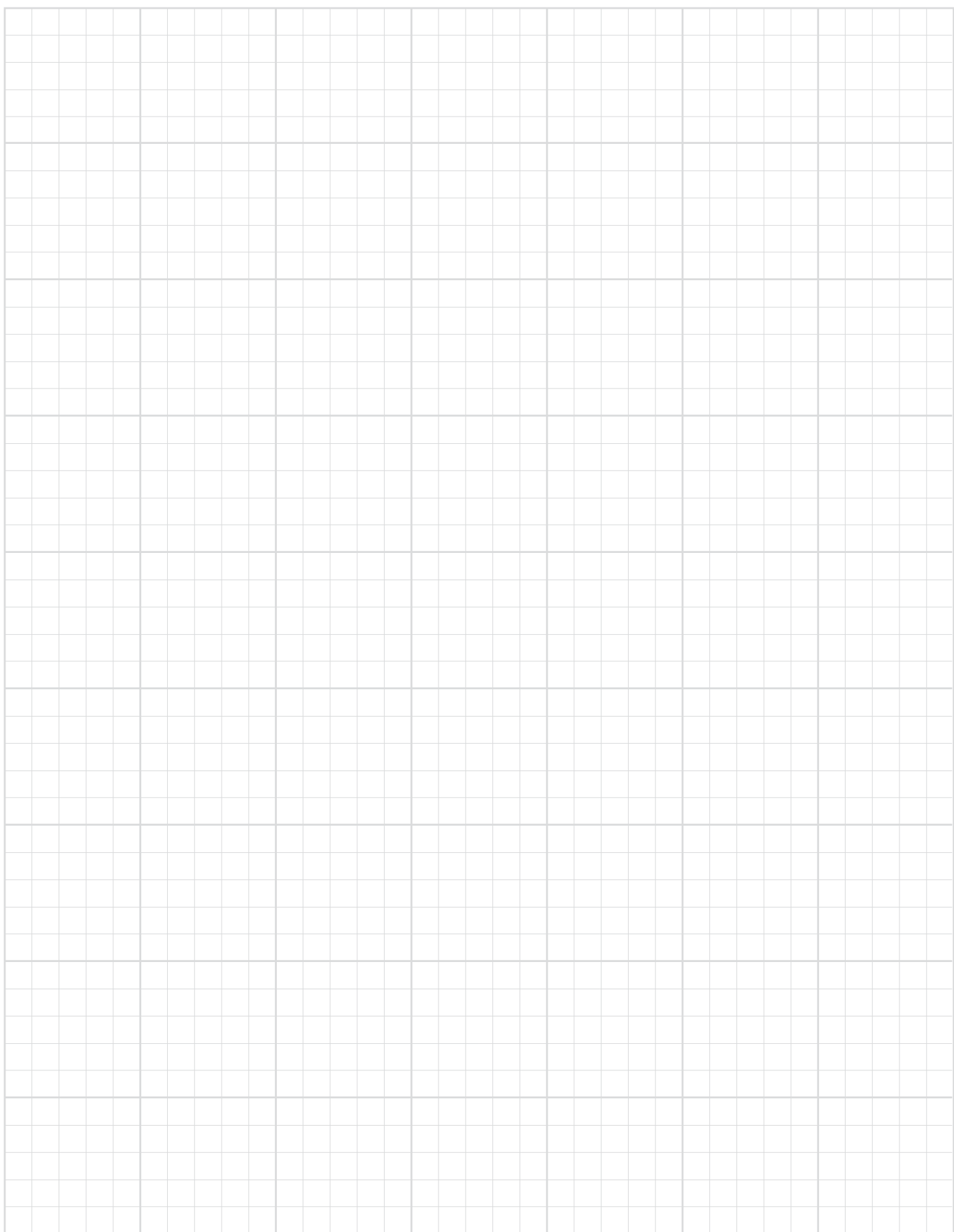
\* Socket head cap screw.



† Items contained in 27793 starter set.

Pullers





Pullers

# RESOURCES

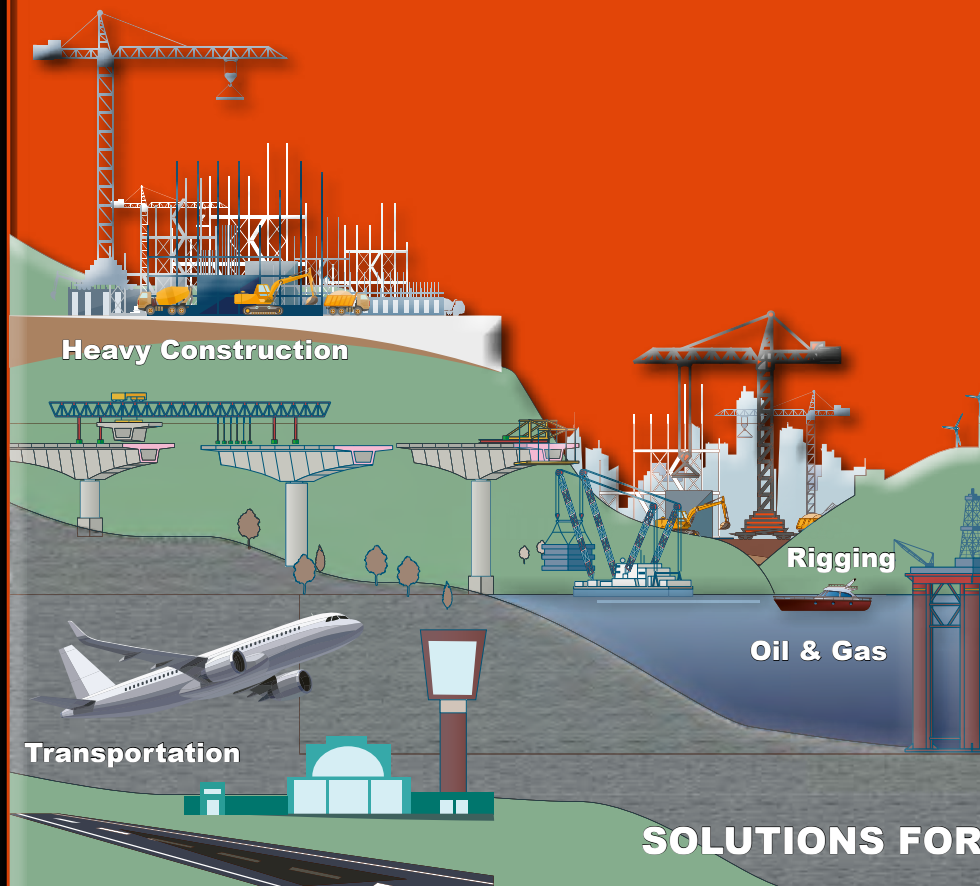


## GET INFORMED AND LEARN MORE ABOUT POWER TEAM PRODUCTS IN OUR RESOURCE SECTION

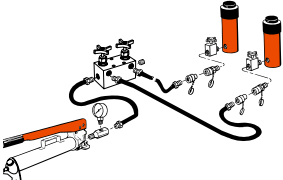
Power Team brings expertise to your application challenges in a variety of industries worldwide.

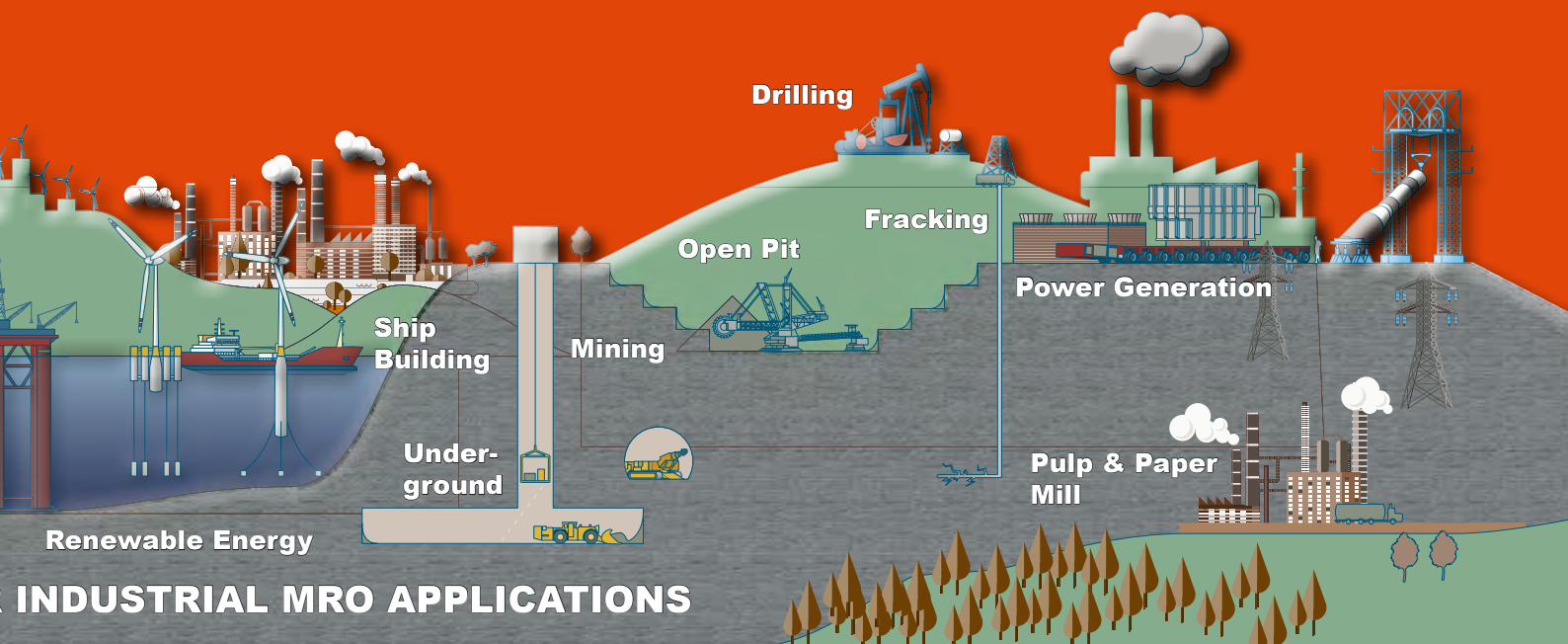
Within your resource section, you will have a variety of tools availability to select and capture information working around our products.

Power Team is a brand of SPX FLOW. Based in Charlotte, North Carolina, SPX FLOW's innovative, world-class products and highly-engineered solutions are helping to meet the needs of a constantly developing world and growing global population. You'll find our innovative solutions in everything from dairy plants and power plants to oil and gas pipelines, the power grid and bus fare collection systems. SPX FLOW is really everywhere you look. We help our customers around the globe expand and enhance their food and beverage, power and energy and industrial production processes. SPX FLOW is traded on the New York Stock Exchange.





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|---|-----------------------------------|---------|
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|    | Hydraulic Safety Insights         | 269-270 |
|    | Application Insights              | 271-272 |
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|   | System Arrangement Workbook       | 277-278 |
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The SPX FLOW commitment to quality, through our Power Team brand, is evident in everything we do. From raw material receipt to how we support our customers years after they purchase our products. The Power Team brand is registered to ISO 9001 international quality standard, which requires compliance with standards for management, administration, product development, manufacturing and continuous improvement. Our registration verifies that the SPX FLOW has adopted and maintains documentation for processes ranging from suppliers to customers, inspection, handling and training. ISO 9001 also requires periodic internal and external audits to ensure all aspects of work affecting quality control are monitored.

#### **ASME B30.1**

Power Team hydraulic cylinders comply with the criteria set forth in the American Society of Mechanical Engineers standard ASME B30.1: Cylinders are tested at 125 percent of rated pressure at full travel and are inspected to assure functionality and freedom from leaks.

#### **ASME B40.1**

Power Team heavy-duty pressure gauges are designed in accordance with the recommendations set forth in the American Society of Mechanical Engineers standard ASME B40.1, Grade B.

#### **CE Mark**

SPX FLOW is committed to designing, manufacturing and marketing products that meet or exceed the needs of the customers we serve. Power Team supplies a Declaration of Incorporation (for Partly Completed Machinery only) or a Declaration of Conformity and CE Marking for products that are within the scope and conform to at least one European Community CE Directive. Note: Not all products are within such scope and subsequently may not be allowed to carry a CE mark. If the CE mark is required or requested, please contact the factory for clarification and note that it must be requested at the time a product is ordered.

#### **CSA**

Where specified in our literature and catalogs and on our web site, Power Team electric power pump assemblies meet the design, assembly and test requirements of the Canadian Standards Association. Note: If CSA certification is required, it must be requested at the time a Power Team pump is ordered.

#### **IJ100**

Power Team hoses meet the criteria set forth in the Material Handling Institutes specification #IJ100 for hydraulic hose. Under the procedures outlined in this standard, hydraulic hose shall:

- Have an average minimum life of 30,000 cycles at full rated capacity.
- Have a minimum burst pressure of at least twice the rated operating pressure.

#### **NEMA**

Where specified in our literature and catalogs and on our web site, Power Team electric power pump assemblies meet the design, assembly and test requirements of NEMA 12, a National Electrical Manufacturers' Association standard relating to electrical components used to resist moisture and dust. Note: If NEMA certification is required, it must be requested at the time a Power Team brand pump is ordered.

#### **Product Design Criteria**

All Power Team hydraulic components are designed and/or tested to be safe for use at maximum operating pressures of 700 bar unless otherwise specifically noted in our literature and catalogs and on our web site.

#### **Quality Assurance**

All of Power Team hydraulic cylinders are subjected to quality checks during production. All steel bar is certified and has material traceability to the mill. Before leaving the factory, all cylinders are pressure tested to 875 bar except the RT series, which are tested to 700 bar to insure on-the-job reliability.



“Power Team” is a registered trademark of the SPX FLOW Hydraulic Technologies division of SPX FLOW Inc. (“SPX FLOW”). All Power Team products and parts, with the exceptions noted below, are warranted against defects in materials and workmanship for the life of the product or part. (The life of the product or part is defined as that point in time when it no longer safely or properly functions due to normal wear). Inflatable jacks, chains, batteries, electric motors, gas engines, knives and cutter blades which are sold with Power Team products are not covered by this warranty and instead are warranted as follows:

- Inflatable jacks and electronics are warranted against defects in materials and workmanship for a period of one year from date of purchase.
- Consumable parts or accessories, including without limitation, chains, batteries, knives and cutter blades are warranted against defects in materials and workmanship for a period of one year from date of purchase.
- All electric motors and gas engines are separately warranted by their respective manufacturer under the terms and conditions stated in their separate warranty.

The foregoing warranties do not cover ordinary wear and tear or any product or part that has been worn out, abused, heated, ground or otherwise altered, used for a purpose other than that for which it was intended or used in a manner inconsistent with any instructions regarding its use.

To qualify for warranty consideration, return the Power Team product, freight prepaid, to a Power Team authorized repair center or to the SPX FLOW factory. If any product or part manufactured by SPX FLOW found to be defective by SPX FLOW, in its sole judgment, SPX FLOW will, at its option, either repair or replace such defective product or part and return it via best ground transportation, freight prepaid. THIS REMEDY SHALL BE THE EXCLUSIVE REMEDY AVAILABLE FOR ANY DEFECTS IN THE PRODUCTS OR PARTS MANUFACTURED AND SOLD BY SPX FLOW OR FOR DAMAGES RESULTING FROM ANY OTHER CAUSE WHATSOEVER, INCLUDING WITHOUT LIMITATION, SPX FLOW’S NEGLIGENCE. SPX FLOW SHALL NOT, IN ANY EVENT, BE LIABLE TO ANY BUYER FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY KIND, WHETHER FOR DEFECTIVE OR NON-CONFORMING GOODS, NEGLIGENCE, ON THE BASIS OF STRICT LIABILITY OR FOR ANY OTHER REASON.

SPX FLOW’s PowerThon™ Warranty is expressly limited to persons who purchase Power Team products or parts for the resale or for use in the ordinary course of the buyer’s business.

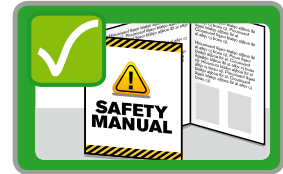
THIS WARRANTY IS EXCLUSIVE, AND SPX FLOW MAKES NO OTHER WARRANTY OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, WITH RESPECT TO THE PRODUCTS MANUFACTURED AND SOLD BY IT, WHETHER AS TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER. No agent, employee, or representative of SPX FLOW has any authority to bind SPX FLOW to any affirmation, representation, or warranty concerning Power Team products or parts, except as stated herein.

The purpose of this exclusive remedy shall be to provide the buyer with repair or replacement of products or parts manufactured by SPX FLOW found to be defective in materials or workmanship or negligently manufactured. This exclusive remedy shall not be deemed to have failed of its essential purpose so long as SPX FLOW is willing and able to replace said defective products or parts in the prescribed manner.

Any inconsistent terms contained in SPX FLOW’s Standard Terms and Conditions, or other SPX FLOW terms or warranty documents shall not be interpreted to modify or limit this PowerThon™ Warranty. For the avoidance of doubt, this PowerThon™ Warranty is applicable only to Power Team products and does not apply to any other SPX FLOW products.



Wear appropriate Personal Protective Equipment (PPE).



Read all instructions.



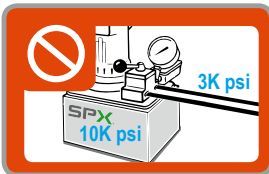
Do not exceed the rated load of any pump, tool or component.



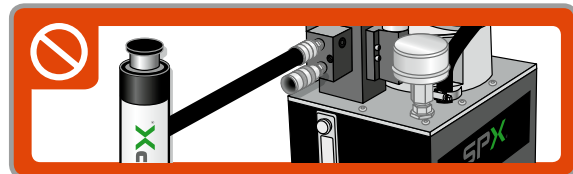
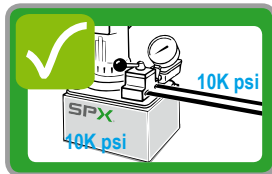
Inspect all components before use. Do not use damaged or worn components. Return to an Authorized Repair Center for repair or replacement.



Never alter internal relief valves.



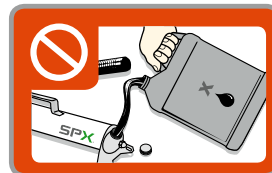
Recognize system pressures. Do not use a 700 bar pump on a system with 207 bar components (hoses, fittings, valves, tools, etc.).



Do not use pumps designed for torque wrenches or tensioners for lifting.



Do not overfill pump reservoirs.



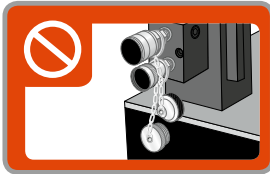
Use only high quality oil, like SPX Power Team hydraulic oil. Using the wrong fluid can lead to equipment damage and premature failure.



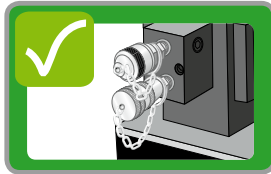
Do not use the same oil in all equipment and in all environments.



Change oil and/or filters at appropriate intervals.



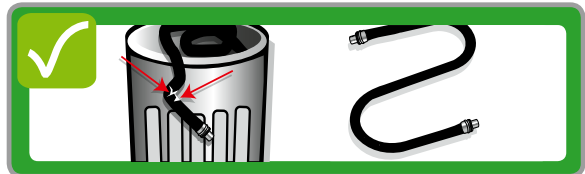
Do not operate a pump with couplers exposed or uncapped.



Clean both ends of the couplers before assembly.



Do not kink hydraulic hoses.



Replace damaged hoses immediately.



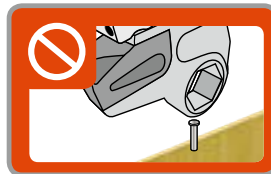
Keep equipment away from excessive temperatures. Do not weld next to unprotected equipment.



Keep couplers capped when not in use.



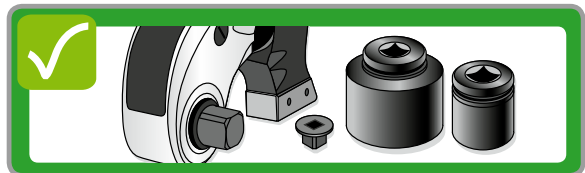
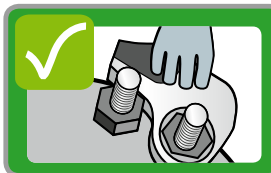
Do not drive over hoses or drop objects onto them.



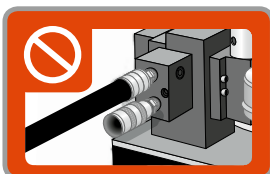
Only use tools for their intended purpose.



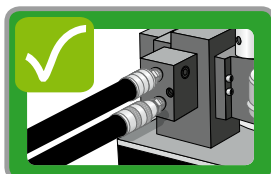
Keep hands clear of pinch points.



Only use high quality impact sockets and reducers with an appropriate load rating and safety factor.



Always connect both torque wrench hoses to the pump. Do not operate with only one hose attached.



Use only the proper size sockets and links.





**Application / Industry Highlight**

Cement Plant, Manufacturing

**Situation:**

Customer asked for 100 Ton Heavy-Duty bearing puller, working with 50Hz power source with a global company. The application required removing bearings and gears in maintenance of shafts and rolling parts.

**Solution:**

Supplied 100T Puller # PTPH-100T-50-220



**Application / Industry Highlight**

Railcar Maintenance, Rail

**Situation:**

Customer needing a more reliable way to lift empty rail cars to install wheels. The cars are empty, but require fast speed for lifting. The standard RJ100T37E was slower than customer desired.

**Solution:**

RJ100T37E modified with a PE1204FR pump



**Application / Industry Highlight**

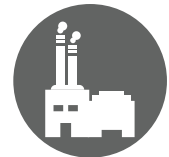
Shipbuilding / Repair, Transportation

**Situation:**

Customer manufactures propeller shafts for large military vessels (Air Craft Carriers, Destroyers, etc). Having trouble with concentricity of dissimilar metals pulling apart during welding process, they needed something to keep them clamped.

**Solution:**

8-PH82K pullers







**Application / Industry Highlight**

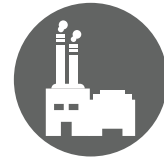
Forklift Maintenance, Manufacturing

**Situation:**

Maintenance Technicians were getting injured lifting and positioning heavy floor jacks for routine maintenance on forklift machinery.

**Solution:**

Supplied IJ3615 Inflatable Jack, 350090 Pendant, (2) 350208 0,7 m Hose



**Application / Industry Highlight**

Power Plant, Energy

**Situation:**

The incinerated coal is mixed with water and transported through several pipelines to the repository by very powerful pumps. These pipelines have flanges of various sizes. These flanges must be opened in certain periods and the seals must be changed.

**Solution:**

Hydraulic Torque Wrench set (TWHC1, TWHC3, PE45)



**Application / Industry Highlight**

Copper Mine, Mining

**Situation:**

Customer needed to lift this 680 Ton structure in a synchronized manner to replace the six-ton slewing bearing for this ship loader.

**Solution:**

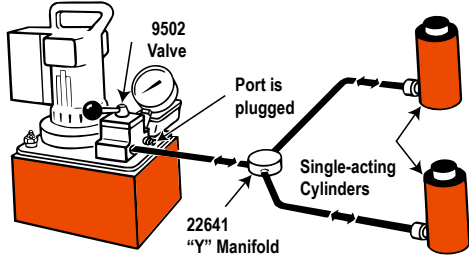
Supplied one Motion Control System and 3 - 280 Ton Lock Nut Cylinders



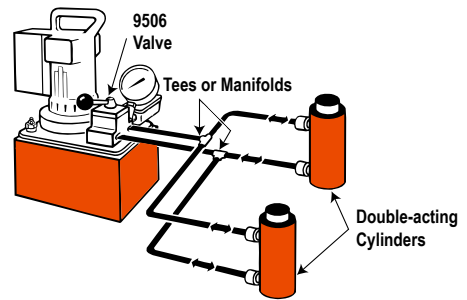


Countless applications are possible with Power Team hydraulic components. From pressing, lifting, and jacking applications to production or maintenance setups. The diagrams are typical electric/hydraulic units. Electric, air or gas-driven pumps are available.

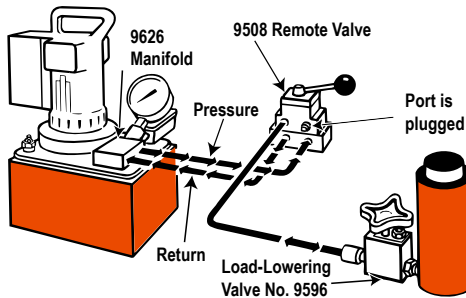
**Single-acting cylinder or cylinders in the circuit, controlled by a pump-mounted valve.**



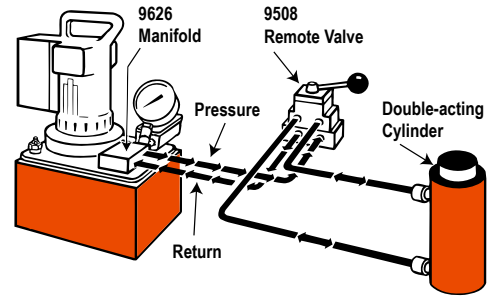
**Double-acting cylinder or cylinders in the circuit, controlled by a pump-mounted valve.**



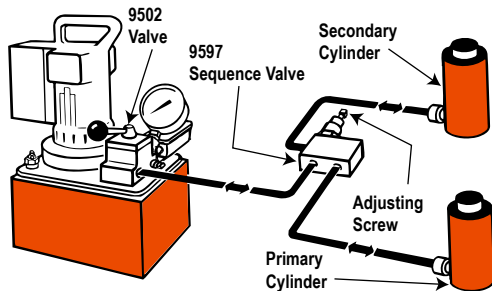
**Single-acting cylinder controlled by a remote-mounted valve.**



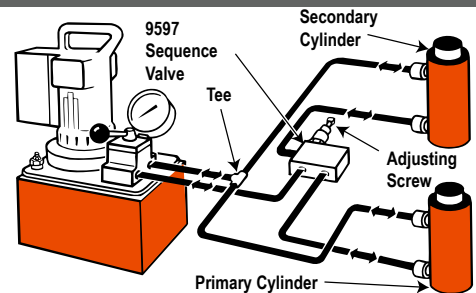
**Double-acting cylinders controlled by a remote-mounted valve.**



**Single-acting cylinders with a sequence valve which controls the primary and secondary cylinder circuits.**



**Double-acting cylinder with a sequence valve which controls the primary and secondary cylinder circuits.**

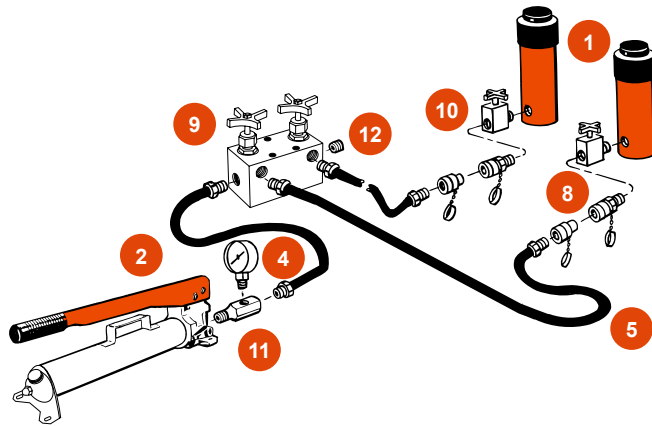




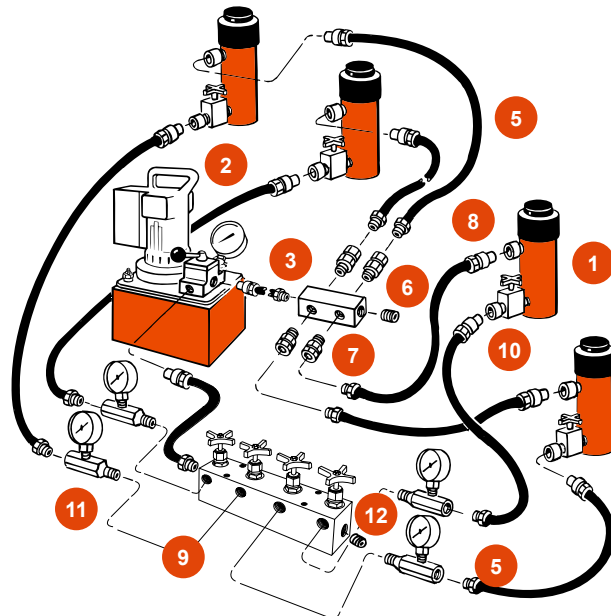
## Hydraulic Circuit Components

- 1 **Cylinder** – applies hydraulic force.
- 2 **Pump** – a device for converting mechanical energy to fluid energy.
- 3 **Directional valve** – controls the direction of hydraulic fluid in the system.
- 4 **Gauge** – measures pressure (PSI - Pounds per Square Inch) and/or force.
- 5 **Hose** – transports hydraulic fluid.
- 6 **Manifold** – allows distribution of hydraulic fluid from one source to several cylinders. (9617)
- 7 **Swivel Connector** – allows proper alignment of valves and/or gauges. Used when units being connected cannot be rotated. (9675)
- 8 **Quick Coupling** – “hose half” and “cylinder half” couplings are used for quick-connection and fluid flow check when separated. (9797 and 9798)
- 9 **Shut-Off Valve** – regulates the flow of hydraulic fluid to or from cylinders. (9642 or 9644)
- 10 **Load-Lowering Valve** – allows metered lowering of cylinder and provides safety when prolonged load holding is required. (9596)
- 11 **T-Gauge Adapter** – allows for installation of pressure/tonnage gauge anywhere in the hydraulic system. (9670)
- 12 **Pipe Plug** – for blocking unused ports within the system. (9687)

Basic single-acting system with a hand pump, gauge, hose, multiple shut-off valves, load-lowering valves and multiple cylinders.



Basic double-acting system with an electric/hydraulic pump, shut-off valves, load-lowering valves and multiple double-acting cylinders.





| FRACTION | DECIMALS | MILLIMETERS | FRACTION | DECIMALS | MILLIMETERS |
|----------|----------|-------------|----------|----------|-------------|
| 1/64     | .015625  | 0,397       | 33/64    | .515625  | 13,097      |
| 1/32     | .03125   | 0,794       | 17/32    | .53125   | 13,494      |
| 3/64     | .046875  | 1,191       | 35/64    | .546875  | 13,891      |
| 1/16     | .0625    | 1,588       | 9/16     | .5625    | 14,288      |
| 5/64     | .078125  | 1,984       | 37/64    | .578125  | 14,684      |
| 3/32     | .09375   | 2,381       | 19/32    | .59375   | 15,081      |
| 7/64     | .109375  | 2,778       | 39/64    | .609375  | 15,478      |
| 1/8      | .1250    | 3,175       | 5/8      | .6250    | 15,875      |
| 9/64     | .140625  | 3,572       | 41/64    | .640625  | 16,272      |
| 5/32     | .15625   | 3,969       | 21/32    | .65625   | 16,669      |
| 11/64    | .171875  | 4,366       | 43/64    | .671875  | 17,066      |
| 3/16     | .1875    | 4,763       | 11/16    | .6875    | 17,463      |
| 13/64    | .203125  | 5,159       | 45/64    | .703125  | 17,859      |
| 7/32     | .21875   | 5,556       | 23/32    | .71875   | 18,256      |
| 15/64    | .234375  | 5,953       | 47/64    | .734375  | 18,653      |
| 1/4      | .2500    | 6,350       | 3/4      | .7500    | 19,050      |
| 17/64    | .265625  | 6,747       | 49/64    | .765625  | 19,447      |
| 9/32     | .28125   | 7,144       | 25/32    | .78125   | 19,844      |
| 19/64    | .296875  | 7,541       | 51/64    | .796875  | 20,241      |
| 5/16     | .3125    | 7,938       | 13/16    | .8125    | 20,638      |
| 21/64    | .328125  | 8,334       | 53/64    | .828125  | 21,034      |
| 11/32    | .34375   | 8,731       | 27/32    | .84375   | 21,431      |
| 23/64    | .359375  | 9,128       | 55/64    | .859375  | 21,828      |
| 3/8      | .3750    | 9,525       | 7/8      | .8750    | 22,225      |
| 25/64    | .390625  | 9,922       | 57/64    | .890625  | 22,622      |
| 13/32    | .40625   | 10,319      | 29/32    | .90625   | 23,019      |
| 27/64    | .421875  | 10,716      | 59/64    | .921875  | 23,416      |
| 7/16     | .4375    | 11,113      | 15/16    | .9375    | 23,813      |
| 29/64    | .453125  | 11,509      | 61/64    | .953125  | 24,209      |
| 15/32    | .46875   | 11,906      | 31/32    | .96875   | 24,606      |
| 31/64    | .484375  | 12,303      | 63/64    | .984375  | 25,003      |
| 1/2      | .5000    | 12,700      | 1        | 1.000    | 25,400      |

NOTE: 1 mm = .03937" .001" = .0254 mm



|          | MULTIPLY<br>SI* UNIT                        | BY<br>CONVERSION FACTOR | TO GET OR MULTIPLY<br>NON-SI UNIT | BY CONVERSION<br>FACTOR | TO GET<br>SI* UNIT               |
|----------|---|-------------------------|-----------------------------------|-------------------------|----------------------------------|
| LENGTH   | Millimeter (mm)                             | X 0,03937               | = inch                            | X 25,4                  | = mm (1 inch = 25.4 mm exactly)  |
|          | Centimeter (cm) 10 mm                       | X 0,3937                | = inch                            | X 2,54                  | = cm                             |
|          | Meter (m) 1000 mm                           | X 3,28                  | = foot                            | X 0,305                 | = m                              |
|          | meter (m)                                   | X 1,09                  | = yard                            | X 0,914                 | = m                              |
|          | kilometer (km) 1000 m                       | X 0,62                  | = mile                            | X 1,61                  | = km                             |
| AREA     | millimeter <sup>2</sup> (mm <sup>2</sup> )  | X 0,00155               | = inch <sup>2</sup>               | X 645                   | = mm <sup>2</sup>                |
|          | centimeter <sup>2</sup> (cm <sup>2</sup> )  | X 0,155                 | = inch <sup>2</sup>               | X 6,45                  | = cm <sup>2</sup>                |
|          | meter <sup>2</sup> (m <sup>2</sup> )        | X 10,8                  | = foot <sup>2</sup>               | X 0,0929                | = m <sup>2</sup>                 |
|          | meter <sup>2</sup> (m <sup>2</sup> )        | X 1,2                   | = yard <sup>2</sup>               | X 0,836                 | = m <sup>2</sup>                 |
|          | hectare (ha) 10,000 m <sup>2</sup>          | X 2,47                  | = acre                            | X 0,405                 | = ha                             |
|          | kilometer <sup>2</sup> (km <sup>2</sup> )   | X 0,39                  | = mile <sup>2</sup>               | X 2,59                  | = km <sup>2</sup>                |
| VOLUME   | centimeter <sup>3</sup> (cm <sup>3</sup> )  | X 0,061                 | = inch <sup>3</sup>               | X 16,4                  | = cm <sup>3</sup>                |
|          | liter (L)                                   | X 61                    | = inch <sup>3</sup>               | X 0,016                 | = L                              |
|          | milliliter (mL)                             | X 0,034                 | = oz-liq                          | X 29,6                  | = mL (1 mL = 1 cm <sup>3</sup> ) |
|          | liter (L) 1000 mL                           | X 1,06                  | = quart                           | X 0,946                 | = L                              |
|          | liter (L)                                   | X 0,26                  | = Gallon                          | X 3,79                  | = L                              |
|          | meter <sup>3</sup> (m <sup>3</sup> ) 1000 L | X 1,3                   | = yard <sup>3</sup>               | X 0,76                  | = m <sup>3</sup>                 |
| MASS     | Gram (g)                                    | X 0,035                 | = ounce                           | X 28,3                  | = g                              |
|          | kilogram (kg) 1000 g                        | X 2,2                   | = pound                           | X 0,454                 | = kg                             |
|          | metric ton (t) 1000 kg                      | X 1,1                   | = ton (short)                     | X 0,907                 | = t                              |
| FORCE    | Newton (N)                                  | X 0,225                 | = pound                           | X 4,45                  | = N                              |
|          | kilo-newton (kN)                            | X 225                   | = pound                           | X 0,00445               | = kN                             |
|          | newton meter (Nm)                           | X 8,9                   | = lb. in.                         | X 0,113                 | = Nm                             |
|          | newton meter (Nm)                           | X 0,74                  | = lb. ft.                         | X 1,36                  | = Nm                             |
| PRESSURE | kilo-pascal (kPa)                           | X 4,0                   | = in. H <sub>2</sub> O            | X 0,249                 | = kPa                            |
|          | kilo-pascal (kPa)                           | X 0,30                  | = in. Hg                          | X 3,38                  | = kPa                            |
|          | kilo-pascal (kPa)                           | X 0,145                 | = psi                             | X 6,89                  | = kPa                            |
|          | mega-pascal (MPa)                           | X 145                   | = psi                             | X 0,00689               | = MPa                            |
|          | bar   | X 14,5                  | = psi                             | X 0,0680                | = bar                            |
| POWER    | kilowatt (kw)                               | X 1.34                  | = hp                              | X 0,746                 | = kw                             |
|          | kilowatt (kw)                               | X 0.948                 | = Btu/s                           | X 1,055                 | = kw                             |
|          | watt (w)                                    | X 0.74                  | = ft. lb/s                        | X 1,36                  | = w                              |
| FLOW     | cu cm/min                                   | X 0.061                 | = cu in/min                       | X 16,4                  | = cu cm/min                      |
|          | liters/min                                  | X 0.2642                | = GPM                             | X 3,785                 | = liters/min                     |

\* SYSTEM INTERNATIONAL (MODERN METRIC SYSTEM)



Selecting the appropriate equipment for your application can be accomplished by following these three steps.

**1) Understanding the “Pain Points”**

**2) Connect “Application” to a Function**

**3) Select the correct tool for the function required**



**STEP 1: Determine the type of lift or tool required for your application:**

- Single or multiple-point lift?
- Balanced or unbalanced load?
- Guided or unguided load?
- Pulling, pressing, punching, spreading or torquing?

**STEP 2: Choose the right cylinder or tool for your specific application:**

- Determine the force required. (Power Team recommends using 80% of the rated capacity and stroke to maximize product performance and safety.)
- Determine the total amount of oil required for each cylinder(s) and/or tool(s).
- Determine the closed height, stroke requirement and diameter footprint allowable.
- Push and/or pull requirement. For cylinders, single-acting, load return, spring return or double-acting hydraulically driven both ways.

**STEP 3: Choose the right pump source for your application based on your cylinder /tools and oil / speed requirements:**

- What is the maximum system operating pressure requirement?
- What is the volume of oil required? Add all of the cylinder(s) and/or tool(s) cubic volume requirements and add 1 cubic inch per 1.66 foot of hose.
- What is the preferred source of power? (hand, air, electric, or gas). If hand pump is selected, choose between single or two-speed.
- Do you need this to be portable? (consider weight and size).





| Cylinder Order Number | Seal Kit* | Viton™ Seal Kit | Cylinder Order Number | Seal Kit* | Viton™ Seal Kit | Cylinder Order Number | Seal Kit* | Viton™ Seal Kit | Cylinder Order Number | Seal Kit* | Viton™ Seal Kit |
|-----------------------|-----------|-----------------|-----------------------|-----------|-----------------|-----------------------|-----------|-----------------|-----------------------|-----------|-----------------|
| C51C                  | 300404    | 300210          | R1502C                | 300676    | —               | R10010L               | 300675    | —               | RD10013               | 300120    | —               |
| C53C                  | 300404    | 300210          | R1506C                | 300676    | —               | R1502L                | 300676    | —               | RD10020               | 300120    | —               |
| C55C                  | 300404    | 300210          | R15010C               | 300676    | —               | R1506L                | 300676    | —               | RD1506                | 300007    | —               |
| C57C                  | 300404    | 300210          | R2002C                | 300677    | —               | R15010L               | 300676    | —               | RD15013               | 300007    | —               |
| C59C                  | 300404    | 300210          | R2006C                | 300677    | —               | R2002L                | 300677    | —               | RD15018               | 300007    | —               |
| C101C                 | 300116    | 300211          | R20010C               | 300677    | —               | R2006L                | 300677    | —               | RD2006                | 300008    | —               |
| C102C                 | 300116    | 300211          | R2802C                | 300678    | —               | R2008L                | 300677    | —               | RD20013               | 300008    | —               |
| C104C                 | 300116    | 300211          | R2806C                | 300678    | —               | R20010L               | 300677    | —               | RD3006                | 300466    | —               |
| C106C                 | 300116    | 300211          | R28010C               | 300678    | —               | R2802L                | 300678    | —               | RD30013               | 300466    | —               |
| C108C                 | 300116    | 300211          | R3552C                | 300679    | —               | R2806L                | 300678    | —               | RD4006                | 300467    | —               |
| C1010C                | 300116    | 300211          | R3556C                | 300679    | —               | R28010L               | 300678    | —               | RD40013               | 300467    | —               |
| C1012C                | 300116    | 300211          | R35510C               | 300679    | —               | R3552L                | 300679    | —               | RD5006                | 300468    | —               |
| C1014C                | 300116    | 300211          | R4302C                | 300680    | —               | R3556L                | 300679    | —               | RD50013               | 300468    | —               |
| C1016C                | 300116    | 300211          | R4306C                | 300680    | —               | R35510L               | 300679    | —               | RDG552                | 3000906   | —               |
| C151C                 | 300453    | 300471          | R43010C               | 300680    | —               | R4302L                | 300680    | —               | RDG554                | 3000906   | —               |
| C152C                 | 300453    | 300471          | R5652C                | 300681    | —               | R4306L                | 300680    | —               | RDG556                | 3000906   | —               |
| C154C                 | 300453    | 300471          | R5656C                | 300681    | —               | R43010L               | 300680    | —               | RDG558                | 3000906   | —               |
| C156C                 | 300453    | 300471          | R56510C               | 300681    | —               | R5652L                | 300681    | —               | RDG5510               | 3000906   | —               |
| C158C                 | 300453    | 300471          | R1002D                | 300928    | —               | R5656L                | 300681    | —               | RDG5512               | 3000906   | —               |
| C1510C                | 300453    | 300471          | R1006D                | 300928    | —               | R56510L               | 300681    | —               | RDG5513               | 3000906   | —               |
| C1512C                | 300453    | 300471          | R10010D               | 300928    | —               | RA202                 | 300631    | —               | RDG5514               | 3000906   | —               |
| C1514C                | 300453    | 300471          | R1502D                | 300929    | —               | RA204                 | 300631    | —               | RDG752                | 3000908   | —               |
| C1516C                | 300453    | 300471          | R1506D                | 300929    | —               | RA206                 | 300631    | —               | RDG754                | 3000908   | —               |
| C251C                 | 300147    | 300213          | R15010D               | 300929    | —               | RA302                 | 300632    | —               | RDG756                | 3000908   | —               |
| C252C                 | 300147    | 300213          | R2002D                | 300930    | —               | RA304                 | 300632    | —               | RDG758                | 3000908   | —               |
| C254C                 | 300147    | 300213          | R2006D                | 300930    | —               | RA306                 | 300632    | —               | RDG7510               | 3000908   | —               |
| C256C                 | 300147    | 300213          | R20010D               | 300930    | —               | RA552                 | 300391    | —               | RDG7512               | 3000908   | —               |
| C258C                 | 300147    | 300213          | R2802D                | 300931    | —               | RA554                 | 300391    | —               | RDG7513               | 3000908   | —               |
| C2510C                | 300147    | 300213          | R2806D                | 300931    | —               | RA556                 | 300391    | —               | RDG7514               | 3000908   | —               |
| C2512C                | 300147    | 300213          | R28010D               | 300931    | —               | RA5510                | 300391    | —               | RDG1002               | 3000876   | —               |
| C2514C                | 300147    | 300213          | R3552D                | 300932    | —               | RA1002                | 300444    | —               | RDG1004               | 3000876   | —               |
| C552C                 | 300114    | 300215          | R3556D                | 300932    | —               | RA1006                | 300444    | —               | RDG1006               | 3000876   | —               |
| C554C                 | 300114    | 300215          | R35510D               | 300932    | —               | RA10010               | 300444    | —               | RDG1008               | 3000876   | —               |
| C556C                 | 300114    | 300215          | R4302D                | 301047    | —               | RA556L                | 300395    | —               | RDG10010              | 3000876   | —               |
| C5510C                | 300114    | 300215          | R4306D                | 301047    | —               | RA1006L               | 300396    | —               | RDG10012              | 3000876   | —               |
| C5513C                | 300114    | 300215          | R43010D               | 301047    | —               | RD106                 | 300017    | —               | RDG10013              | 3000876   | —               |
| C756C                 | 300647    | 300846          | R5652D                | 300681    | —               | RD1010                | 300017    | —               | RDG10014              | 3000876   | —               |
| C7513C                | 300647    | 300846          | R5656D                | 300681    | —               | RD256                 | 300018    | —               | RDG1502               | 3000881   | —               |
| C1002C                | 300112    | 300216          | R56510D               | 300681    | —               | RD2514                | 300018    | —               | RDG1504               | 3000881   | —               |
| C1006C                | 300112    | 300216          | R552L                 | 300674    | —               | RD556                 | 300005    | —               | RDG1506               | 3000881   | —               |
| C10010C               | 300112    | 300216          | R556L                 | 300674    | —               | RD5513                | 300005    | —               | RDG1508               | 3000881   | —               |
| C55CBT                | 300404    | 300210          | R5510L                | 300674    | —               | RD5518                | 300005    | —               | RDG15010              | 3000881   | —               |
| C106CBT               | 300116    | 300211          | R1002L                | 300675    | —               | RD8013                | 300410    | —               | RDG15012              | 3000881   | —               |
| C256CBT               | 300147    | 300213          | R1006L                | 300675    | —               | RD1006                | 300120    | —               | RDG15013              | 3000881   | —               |

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\* Nitrile seals come standard on all cylinders.

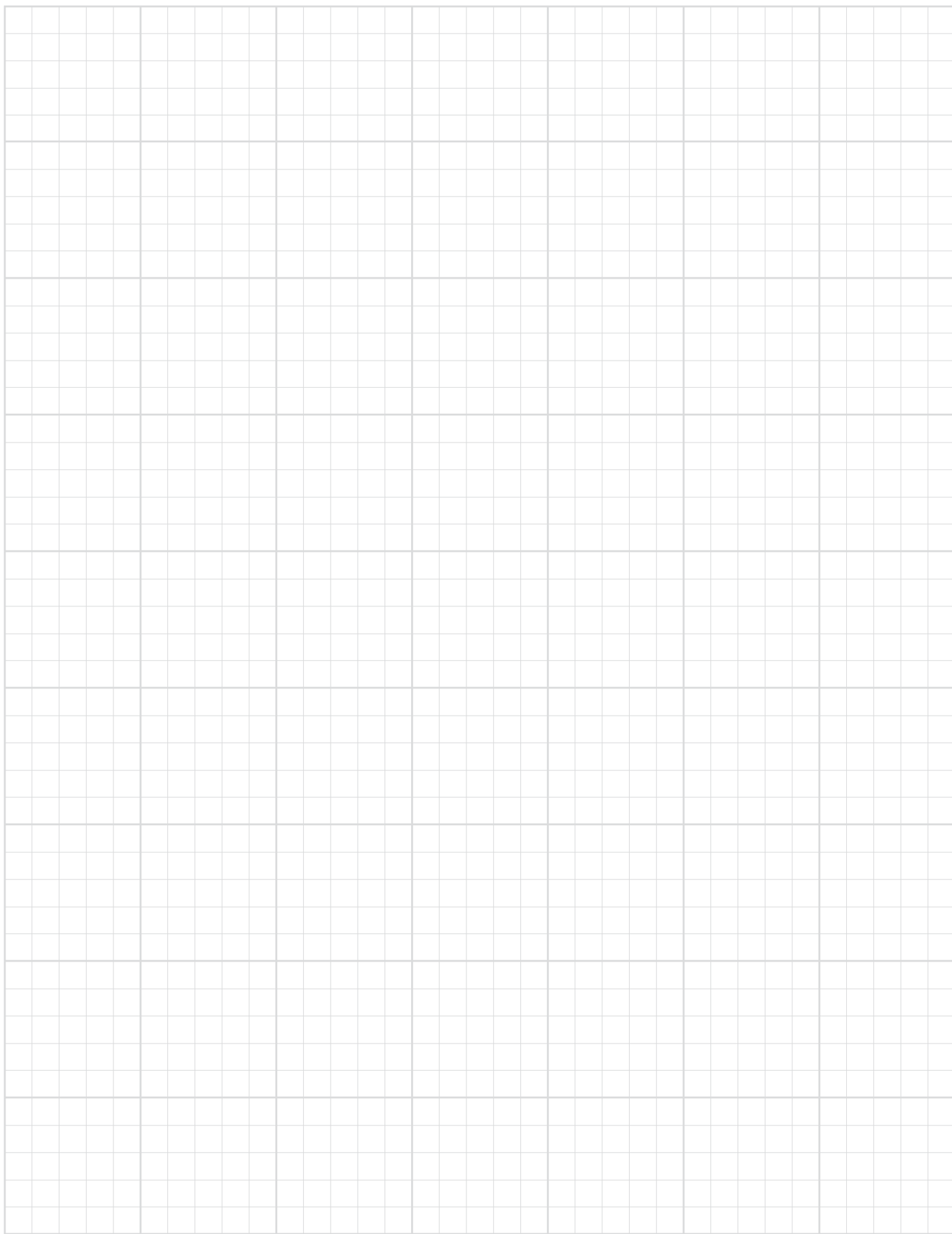




| Cylinder Order Number | Seal Kit* | Viton™ Seal Kit | Cylinder Order Number | Seal Kit* | Viton™ Seal Kit | Cylinder Order Number | Seal Kit* | Viton™ Seal Kit | Cylinder Order Number | Seal Kit* | Viton™ Seal Kit |
|-----------------------|-----------|-----------------|-----------------------|-----------|-----------------|-----------------------|-----------|-----------------|-----------------------|-----------|-----------------|
| RDG15014              | 3000881   | —               | RDG6008               | 3000901   | —               | RGG2504               | 3001051   | —               | RH123                 | 300576    | —               |
| RDG2002               | 3000891   | —               | RDG60010              | 3000901   | —               | RGG2506               | 3001051   | —               | RH202                 | 300615    | —               |
| RDG2004               | 3000891   | —               | RDG60012              | 3000901   | —               | RGG2508               | 3001051   | —               | RH203                 | 300069    | 300222          |
| RDG2006               | 3000891   | —               | RDG60013              | 3000901   | —               | RGG25010              | 3001051   | —               | RH206                 | 300615    | —               |
| RDG2008               | 3000891   | —               | RDG60014              | 3000901   | —               | RGG25012              | 3001051   | —               | RH302                 | 300037    | 300223          |
| RDG20010              | 3000891   | —               | RGG556                | 3001016   | —               | RGG25013              | 3001051   | —               | RHA306                | 300867    | 300868          |
| RDG20012              | 3000891   | —               | RGG558                | 3001016   | —               | RGG25014              | 3001051   | —               | RH306                 | 300037    | 300223          |
| RDG20013              | 3000891   | —               | RGG5510               | 3001016   | —               | RGG3002               | 3001022   | —               | RH503                 | 300059    | 300225          |
| RDG20014              | 3000891   | —               | RGG5512               | 3001016   | —               | RGG3004               | 3001022   | —               | RH603                 | 300477    | 300476          |
| RDG2502               | 3000911   | —               | RGG5513               | 3001016   | —               | RGG3006               | 3001022   | —               | RH606                 | 300477    | 300476          |
| RDG2504               | 3000911   | —               | RGG5514               | 3001016   | —               | RGG3008               | 3001022   | —               | RH1003                | 300485    | 300585          |
| RDG2506               | 3000911   | —               | RGG752                | 3001049   | —               | RGG30010              | 3001022   | —               | RH303                 | 300077    | 300224          |
| RDG2508               | 3000911   | —               | RGG754                | 3001049   | —               | RGG30012              | 3001022   | —               | RH306D                | 300822    | 300224          |
| RDG25010              | 3000911   | —               | RGG756                | 3001049   | —               | RGG30013              | 3001022   | —               | RH3010                | 300625    | —               |
| RDG25012              | 3000911   | —               | RGG758                | 3001049   | —               | RGG30014              | 3001022   | —               | RHA604D               | 300269    | 300226          |
| RDG25013              | 3000911   | —               | RGG7510               | 3001049   | —               | RGG4002               | 3001023   | —               | RH605                 | 300269    | 300226          |
| RDG25014              | 3000911   | —               | RGG7512               | 3001049   | —               | RGG4004               | 3001023   | —               | RH6010                | 300626    | —               |
| RDG3002               | 3000920   | —               | RGG7513               | 3001049   | —               | RGG4006               | 3001023   | —               | RH1001                | 300927    | —               |
| RDG3004               | 3000920   | —               | RGG7514               | 3001049   | —               | RGG4008               | 3001023   | —               | RH1006                | 300295    | 300227          |
| RDG3006               | 3000920   | —               | RGG1002               | 3001018   | —               | RGG40010              | 3001023   | —               | RH10010               | 300629    | —               |
| RDG3008               | 3000920   | —               | RGG1004               | 3001018   | —               | RGG40012              | 3001023   | —               | RH1505                | 300154    | —               |
| RDG30010              | 3000920   | —               | RGG1006               | 3001018   | —               | RGG40013              | 3001023   | —               | RH1508                | 300583    | —               |
| RDG30012              | 3000920   | —               | RGG1008               | 3001018   | —               | RGG40014              | 3001023   | —               | RH2008                | 300582    | —               |
| RDG30013              | 3000920   | —               | RGG10010              | 3001018   | —               | RGG5002               | 3001024   | —               | RLS50                 | 300454    | —               |
| RDG30014              | 3000920   | —               | RGG10012              | 3001018   | —               | RGG5004               | 3001024   | —               | RLS100                | 300455    | —               |
| RDG4002               | 3000903   | —               | RGG10013              | 3001018   | —               | RGG5006               | 3001024   | —               | RLS200                | 300456    | —               |
| RDG4004               | 3000903   | —               | RGG10014              | 3001018   | —               | RGG5008               | 3001024   | —               | RLS300                | 300457    | —               |
| RDG4006               | 3000903   | —               | RGG1502               | 3001019   | —               | RGG50010              | 3001024   | —               | RLS500S               | 300458    | —               |
| RDG4008               | 3000903   | —               | RGG1504               | 3001019   | —               | RGG50012              | 3001024   | —               | RLS750S               | 300459    | —               |
| RDG40010              | 3000903   | —               | RGG1506               | 3001019   | —               | RGG50013              | 3001024   | —               | RLS1000S              | 300460    | —               |
| RDG40012              | 3000903   | —               | RGG1508               | 3001019   | —               | RGG50014              | 3001024   | —               | RLS1500S              | 300461    | —               |
| RDG40013              | 3000903   | —               | RGG15010              | 3001019   | —               | RGG6002               | 3001025   | —               | RP25                  | 300628    | —               |
| RDG40014              | 3000903   | —               | RGG15012              | 3001019   | —               | RGG6004               | 3001025   | —               | RP55                  | 300627    | —               |
| RDG5002               | 3000921   | —               | RGG15013              | 3001019   | —               | RGG6006               | 3001025   | —               | RSS101                | 300010    | —               |
| RDG5004               | 3000921   | —               | RGG15014              | 3001019   | —               | RGG6008               | 3001025   | —               | RSS202                | 300011    | —               |
| RDG5006               | 3000921   | —               | RGG2002               | 3001050   | —               | RGG60010              | 3001025   | —               | RSS302                | 300297    | —               |
| RDG5008               | 3000921   | —               | RGG2004               | 3001050   | —               | RGG60012              | 3001025   | —               | RSS502                | 300292    | —               |
| RDG50010              | 3000921   | —               | RGG2006               | 3001050   | —               | RGG60013              | 3001025   | —               | RSS1002               | 300293    | —               |
| RDG50012              | 3000921   | —               | RGG2008               | 3001050   | —               | RGG60014              | 3001025   | —               | RSS2503               | —         | —               |
| RDG50013              | 3000921   | —               | RGG20010              | 3001050   | —               | RH102                 | 300071    | 300221          | RSS1002D              | 300578    | —               |
| RDG50014              | 3000921   | —               | RDG20012              | 3001050   | —               | RH108                 | 300071    | 300221          | RT172                 | 300358    | —               |
| RDG6002               | 3000901   | —               | RGG20013              | 3001050   | —               | RH120                 | 300657    | —               | RT302                 | 300359    | —               |
| RDG6004               | 3000901   | —               | RGG20014              | 3001050   | —               | RH121                 | 300576    | —               | RT503                 | 300360    | —               |
| RDG6006               | 3000901   | —               | RGG2502               | 3001051   | —               | RH121T                | 300576    | —               | RT1004                | 300024    | —               |

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\* Nitrile seals come standard on all cylinders.



# POWER TEAM TECHNICAL TRAINING ACADEMY

Maintaining and repairing mining equipment can be a cumbersome task, count on Power Team Tools and Equipment to get the job done safely and efficiently, keeping your downtime to a minimum.

Our tools are used in a variety of tasks to support virtually any MRO application. Look to Power Team for the expertise and technical support to perform a variety of functions to simply your task while enhancing your safety.

Our broad product portfolio of solutions will enable you to:



Power Team offers a range of classes to help you safely operate and maintain your tools.



## On-site Safety Training

Workplace safety should be a high priority to assure high-pressure hydraulic tools are used in accordance with recommended safety procedures. Power Team Safety Training Seminars demonstrate the proper methods for operating high-pressure hydraulic tools to avoid equipment damage and lost time accidents. Safety seminars can be conducted at a customer facility, job site or at Power Team headquarters.

## Factory Maintenance & Repair Training

Maintaining Power Team products in good operating condition enhances operating efficiency and extends service life. This seminar explains the proper methods for keeping Power Team products operating at peak levels of performance and reliability. Topics include understanding hydraulic circuits, product maintenance, troubleshooting, and field repairs. Three and five day seminars are structured to meet your product knowledge requirements.

Class schedules are posted on [powerteam.com](http://powerteam.com). Contact your district sales manager for more information.

**>Power Team®**

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