

## Power Units and Valves

		Page
<b>Power Units</b>	<i>Features</i>	<b>161</b>
	<i>Gear Pump</i>	<b>162</b>
	<i>Vane Pump</i>	<b>163</b>
	<i>With P &amp; T Manifolds</i>	<b>164</b>
	<i>With D03 Manifolds</i>	<b>165</b>
	<i>Power Unit Matrix</i>	<b>166</b>
	<b>Valves, Mounting Kits &amp; Manifolds</b>	<i>D03 Valves</i>
<i>D03 Accessory Valves</i>		<b>168</b>
<i>D03 Mounting Kits &amp; Manifolds</i>		<b>169</b>
<i>D03 Valve Mounting Kits</i>		<b>170</b>
<i>D05 Valves</i>		<b>171</b>
<i>D05 Accessory Valves</i>		<b>172</b>
<i>D05 Mounting Kits &amp; Manifolds</i>		<b>173</b>
<i>D05 Valve Mounting Kits</i>		<b>174</b>
<i>Valve and Manifold Matrix (how to build a pump)</i>		<b>175</b>
<b>Worksheet</b>	<i>Milwaukee Cylinder Power Unit Worksheet</i>	<b>176</b>

**Milwaukee Cylinder Vertical Power Units** are powerful performers for your general hydraulic power unit needs. Available in either Gear Pump (3000 psi) or Vane Pump (2000 psi) designs, these units really deliver with standard features and options needed to do the job right. These units are fully featured to give you the performance and value that you need. Available options and directional valves help you to customize the power unit for your application.

## STANDARD FEATURES

### Vertical Steel Reservoir with Sight Glass and In-tank Filter

- Return filter / breather with indicator gauge
- Locating the pump inside of the reservoir reduces noise

### TEFC Motor

- Quality motor with fan cooling for durable performance

### Pump Mounted Manifold

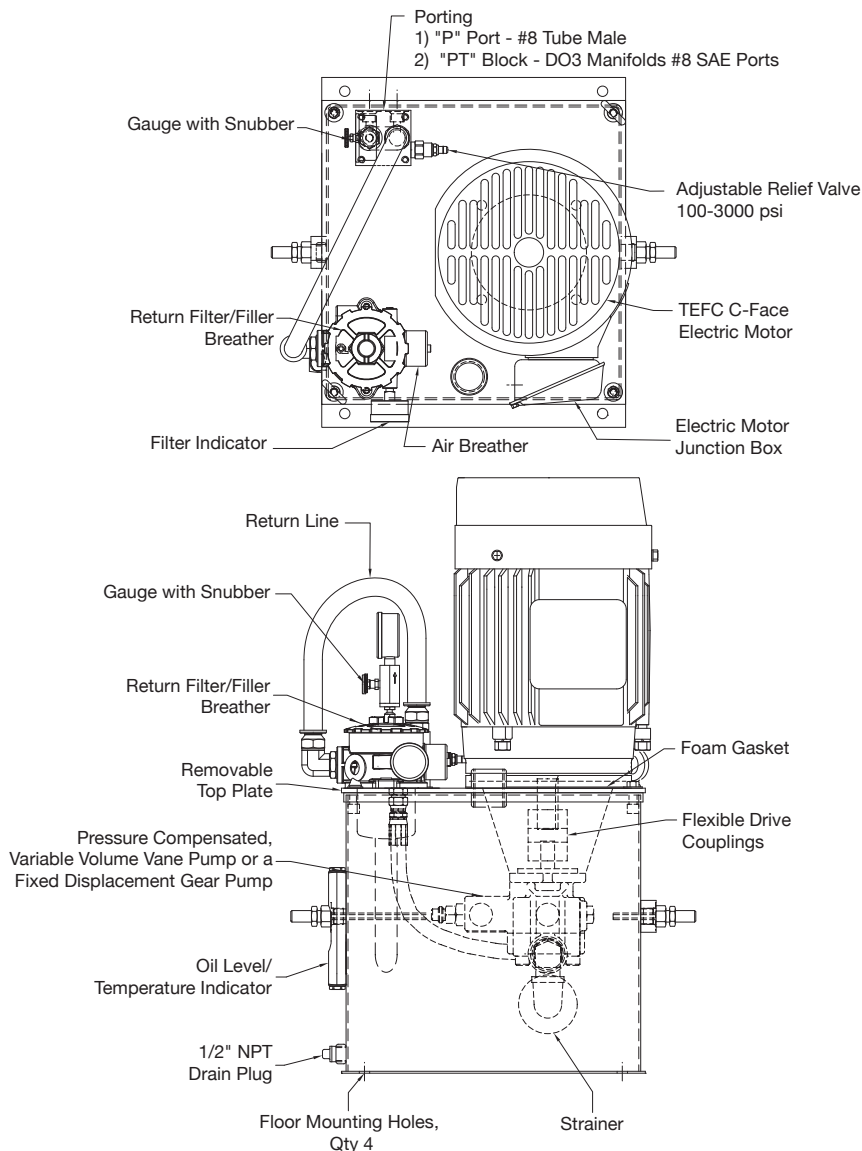
- P & T manifold for use with remote mounted valves
- D03 valve manifolds: 1, 2 or 4 station
- Manifold mounted gauge and snubber

### Pressure Control

- Gear Pump Units have a relief valve in the valve manifold
- Vane Pumps Units have tank mounted pressure and volume controls

## POPULAR OPTIONS

- Low oil level switch with high temperature (140° F)
- Heat exchanger



## GEAR PUMPS

Maximum Pressure:

**3000 psi**

Flow Rates:

**.545-10.00 gpm**

Reservoir Capacities:

**10-30 gallons**

Standard Motor:

**TEFC 1725 rpm**

## VANE PUMPS

Maximum Pressure:

**2000 psi**

Flow Rates:

**4-8 gpm**

Reservoir Capacities:

**20 gallons**

Standard Motor:

**TEFC 1725 rpm**



Due to manufacturing processes and product improvements, please check website for the latest updates of products.

Max. Operating Pressure:

**3000 psi**

Flow Rates:

**.545-10.00 gpm**

Reservoir Capacities:

**10-30 gallons**

Standard Motor:

**1725 rpm**

**i** For additional details on gear pump and vane pump designs see:

Page 190

## VERTICAL GEAR PUMP POWER UNITS

A **Vertical Gear Pump Power Unit** from *Milwaukee Cylinder* provides an effective solution for your production requirements. With a pressure range up to 3000 psi, these units serve as powerful partners for our H Series tie rod cylinders. Available flow ranges are .5 gpm, 1 gpm, 2 gpm, 5 gpm and 10 gpm. Other models with higher flow are available upon request (see Power Unit Matrix, page 166).

### ▼ SINGLE-STAGE GEAR PUMP POWER UNITS

* Model Number	HP	Electrical	GPM	Reservoir (gal)	Valve Manifold -Relief valve standard - #8 SAE porting standard
MCVEG-15-1-.5-10-PT	1.5	120/240/1/60	0.545	10	P & T
MCVEG-15-3-.5-10-PT	1.5	208/230/460/3/60	0.545	10	P & T
MCVEG-15-1-.5-10-D31	1.5	120/240/1/60	0.545	10	Single Station D03
MCVEG-15-3-.5-10-D31	1.5	208/230/460/3/60	0.545	10	Single Station D03
MCVEG-15-1-.5-10-D32	1.5	120/240/1/60	0.545	10	Two Station D03
MCVEG-15-3-.5-10-D32	1.5	208/230/460/3/60	0.545	10	Two Station D03
MCVEG-15-1-.5-10-D34	1.5	120/240/1/60	0.545	10	Four Station D03
MCVEG-15-3-.5-10-D34	1.5	208/230/460/3/60	0.545	10	Four Station D03
MCVEG-30-3-1-10-PT	3	208/230/460/3/60	1.14	10	P & T
MCVEG-30-3-1-10-D31	3	208/230/460/3/60	1.14	10	Single Station D03
MCVEG-30-3-1-10-D32	3	208/230/460/3/60	1.14	10	Two Station D03
MCVEG-30-3-1-10-D34	3	208/230/460/3/60	1.14	10	Four Station D03
MCVEG-50-3-2-10-PT	5	208/230/460/3/60	1.96	10	P & T
MCVEG-50-3-2-10-D31	5	208/230/460/3/60	1.96	10	Single Station D03
MCVEG-50-3-2-10-D32	5	208/230/460/3/60	1.96	10	Two Station D03
MCVEG-50-3-2-10-D34	5	208/230/460/3/60	1.96	10	Four Station D03
MCVEG-100-3-5-20-PT	10	208/230/460/3/60	5.01	20	P & T
MCVEG-100-3-5-20-D31	10	208/230/460/3/60	5.01	20	Single Station D03
MCVEG-100-3-5-20-D32	10	208/230/460/3/60	5.01	20	Two Station D03
MCVEG-100-3-5-20-D34	10	208/230/460/3/60	5.01	20	Four Station D03
MCVEG-200-3-10-30-PT	20	208/230/460/3/60	10.02	20	P & T
MCVEG-200-3-10-30-D31	20	208/230/460/3/60	10.02	20	Single Station D03
MCVEG-200-3-10-30-D32	20	208/230/460/3/60	10.02	20	Two Station D03
MCVEG-200-3-10-30-D34	20	208/230/460/3/60	10.02	20	Four Station D03

\*Please refer to Power Unit Matrix, page 166, for non catalog configurations.

Available Options (add option code to the end of the power unit model number):

**HEG** Heat Exchanger for Gear Style Pump

**LOL** Low Oil Level Switch with High Temperature (140° F)

**MS** Motor Starter (specify voltage)

# Vertical Power Units - Vane Pump

## VERTICAL VANE PUMP POWER UNITS

A Vertical Vane Pump Power Unit from Milwaukee Cylinder provides a flexible solution for your hydraulic power unit needs.

When the system is at pressure and the volume requirement falls to zero, the pump automatically adjusts the output volume –

- Less heat
- Less wear and tear on the pump

### Set Your Pressure!

- Pressure Compensated Pump
- Pump can be adjusted to provide the pressure that your system requires
  - Externally accessible user adjustable pressure setting
  - Maximum pressure 2000 psi

### Set Your Flow!

- Variable Displacement Pump
- Pump can be adjusted to provide the flow that your system requires
  - Externally accessible user adjustable flow volume setting

Max. Operating Pressure:

**2000 psi**

Flow Rates:

**4-8 gpm**

Reservoir Capacities:

**20 gallons**

Standard Motor:

**1725 rpm**



For additional details on gear pump and vane pump designs see:

Page 190

## ▼ SINGLE-STAGE VANE PUMP POWER UNITS

* Model Number	HP	Electrical	GPM	Reservoir (gal)	Valve Manifold - Relief valve standard - #8 SAE porting standard
MCVEV-50-3-4-20-PT	5	208/230/460/3/60	4	20	P & T
MCVEV-50-3-4-20-D31	5	208/230/460/3/60	4	20	Single Station D03
MCVEV-50-3-4-20-D32	5	208/230/460/3/60	4	20	Two Station D03
MCVEV-50-3-4-20-D33	5	208/230/460/3/60	4	20	Four Station D03
MCVEV-75-3-6-20-PT	7.5	208/230/460/3/60	6	20	P & T
MCVEV-75-3-6-20-D31	7.5	208/230/460/3/60	6	20	Single Station D03
MCVEV-75-3-6-20-D32	7.5	208/230/460/3/60	6	20	Two Station D03
MCVEV-75-3-6-20-D34	7.5	208/230/460/3/60	6	20	Four Station D03
MCVEV-100-3-8-20-PT	10	208/230/460/3/60	8	20	P & T
MCVEV-100-3-8-20-D31	10	208/230/460/3/60	8	20	Single Station D03
MCVEV-100-3-8-20-D32	10	208/230/460/3/60	8	20	Two Station D03
MCVEV-100-3-8-20-D34	10	208/230/460/3/60	8	20	Four Station D03

\*Please refer to Power Unit Matrix, page 166, for non catalog configurations.  
Available Options (add option code to the end of the power unit model number):

- HEV Heat Exchanger for Vane Style Pump
- LOL Low Oil Level Switch with High Temperature (140° F)
- MS Motor Starter (specify voltage)

## GEAR PUMP

Max. Operating Pressure:

**3000 psi**

Flow Rates:

**.545-10.00 gpm**

Reservoir Capacities:

**10-30 gallons**

Standard Motor:

**1725 rpm**

## VANE PUMP

Max. Operating Pressure:

**2000 psi**

Flow Rates:

**4-8 gpm**

Reservoir Capacities:

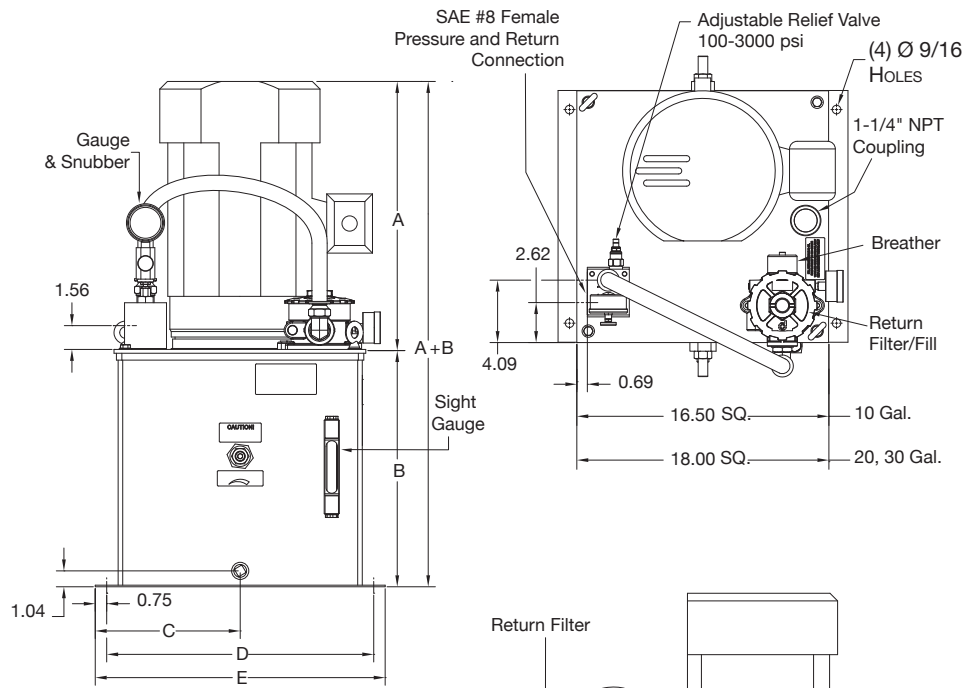
**20 gallons**

Standard Motor:

**1725 rpm**

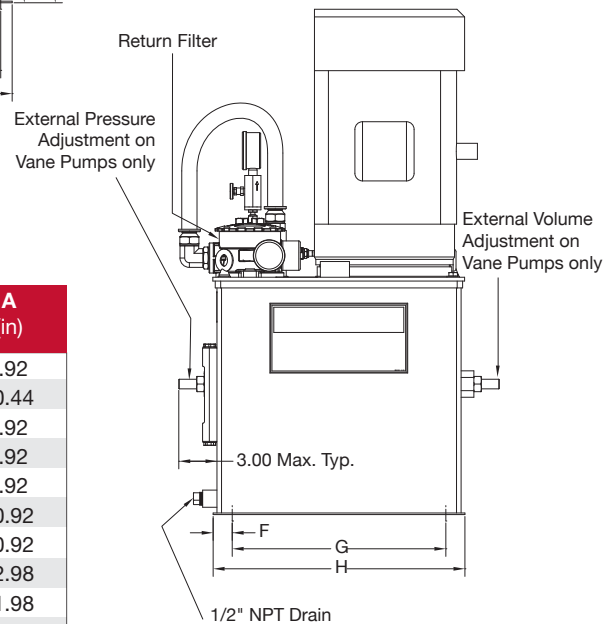
## POWER UNIT WITH P & T MANIFOLDS

For use with remote mounted valves.



### ▼ POWER UNIT WITH P & T CONNECTIONS

Motor hp	Voltage	A (in)
0.5	115/208/230/1/60	9.92
0.5	208/230/460/3/60	10.44
0.75	115/208/230/1/60	9.92
0.75	208/230/460/3/60	9.92
1	115/208/230/1/60	9.92
1	208/230/460/3/60	10.92
1.5	115/208/230/1/60	10.92
1.5	208/230/460/3/60	12.98
2	115/208/230/1/60	11.98
2	208/230/460/3/60	12.97
3	115/208/230/1/60	13.37
3	208/230/460/3/60	14.43
5	208/230/460/3/60	15.06
7.5	208/230/460/3/60	17.56
10	208/230/460/3/60	17.56
15	230/460/3/60	23.03
20	230/460/3/60	23.03



### ▼ POWER UNIT RESERVOIRS

Reservoir Size (gal)	B (in)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)
10	15.44	9.50	17.50	19.00	1.25	14.00	16.50
20	18.44	10.25	19.00	20.50	1.50	15.00	18.00
30	26.44	10.25	19.00	20.50	1.50	15.00	18.00

Due to manufacturing processes and product improvements, please check website for the latest updates of products.

Series H

Series MH

Series LH

Series A

Series MN

Hyd-Pneu Devices

Cyl Accessories

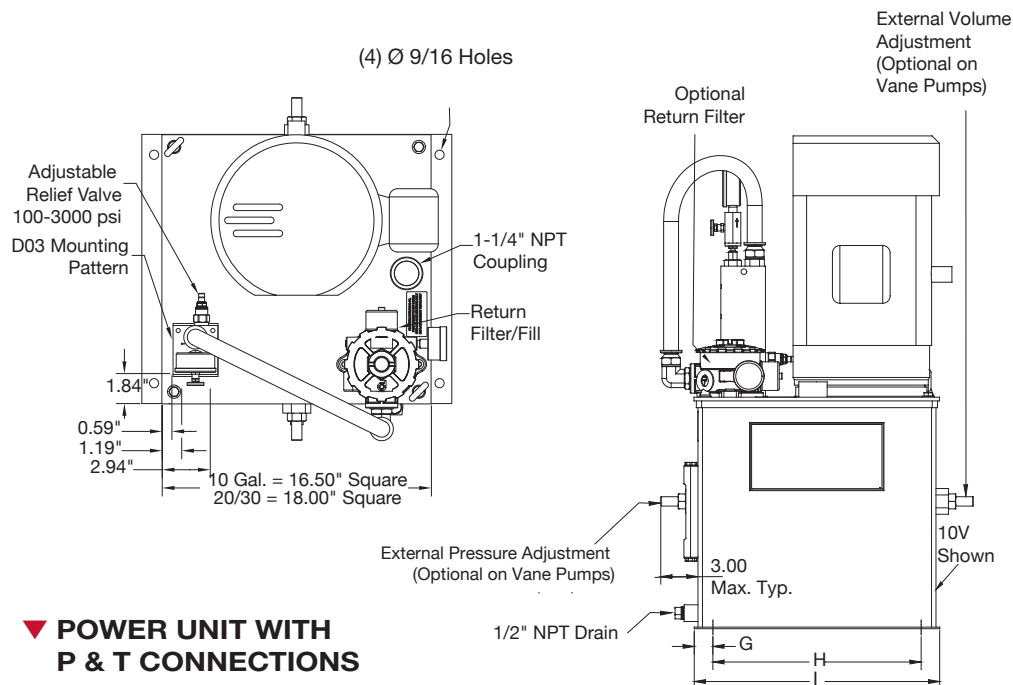
Manipulators

Power Units/Valves

# Vertical Power Units With D03 Manifold

## POWER UNIT WITH D03 MANIFOLD

For use with 1, 2, or 4 station.



## ▼ POWER UNIT WITH P & T CONNECTIONS

Motor hp	Voltage	A (in)
0.5	115/208/230/1/60	9.92
0.5	208/230/460/3/60	10.44
0.75	115/208/230/1/60	9.92
0.75	208/230/460/3/60	9.92
1	115/208/230/1/60	9.92
1	208/230/460/3/60	10.92
1.5	115/208/230/1/60	10.92
1.5	208/230/460/3/60	12.98
2	115/208/230/1/60	11.98
2	208/230/460/3/60	12.97
3	115/208/230/1/60	13.37
3	208/230/460/3/60	14.43
5	208/230/460/3/60	15.06
7.5	208/230/460/3/60	17.56
10	208/230/460/3/60	17.56
15	230/460/3/60	23.03
20	230/460/3/60	23.03

## ▼ D03 MANIFOLD

No. of Stations	B (in)
1	10.25
2	12.38
4	16.63

## ▼ POWER UNIT RESERVOIRS

Reservoir Size (gal)	C (in)	D (in)	E (in)	F (in)	G (in)	H (in)	I (in)
10	15.44	9.50	17.50	19.00	1.25	14.00	16.50
20	18.44	10.25	19.00	20.50	1.50	15.00	18.00
30	26.44	10.25	19.00	20.50	1.50	15.00	18.00

Due to manufacturing processes and product improvements, please check website for the latest updates of products.  
[www.milwaukeecylinder.com](http://www.milwaukeecylinder.com)

## GEAR PUMP

Max. Operating Pressure:

**3000 psi**

Flow Rates:

**.545-10.00 gpm**

Reservoir Capacities:

**10-30 gallons**

Standard Motor:

**1725 rpm**

## VANE PUMP

Max. Operating Pressure:

**2000 psi**

Flow Rates:

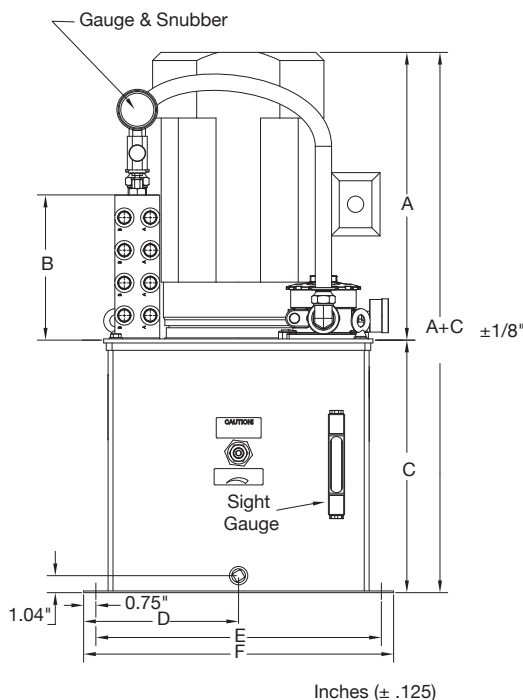
**4-8 gpm**

Reservoir Capacities:

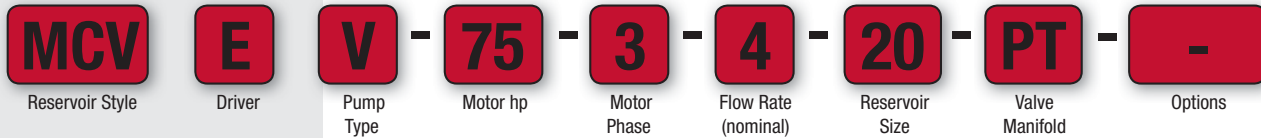
**20 gallons**

Standard Motor:

**1725 rpm**



## ▼ CONFIGURE YOUR POWER UNIT



RESERVOIR STYLE	DRIVER	PUMP TYPE	MOTOR HP	MOTOR PHASE	FLOW RATE (NOMINAL) GPM	RESERVOIR SIZE (GAL)	VALVE MANIFOLD TYPE	OPTIONS
<b>MCV</b> = Vertical	<b>E</b> = Electric	<b>G</b> = Gear	<b>05</b> = .5	<b>1</b> = Single (.5-3.0 hp)	<b>.5</b> = .545	<b>03</b>	<b>PT</b> = Pressure and Tank Connections	<b>HEG</b> = Heat Exchanger for Gear Style Pump
<b>MCH</b> = NFPA/JIC (Horizontal)	<b>D</b> = Diesel	<b>V</b> = Vane	<b>075</b> = .75	<b>3</b> = Three	<b>0.75</b> = .769	<b>05</b>		
<b>MCLP</b> = Low Profile	<b>G</b> = Gas	<b>P</b> = Piston	<b>10</b> = 1.0		<b>1</b> = 1.14	<b>10</b>	<b>D31</b> = D03 Single Station	<b>HEV</b> = Heat Exchanger for Vane Style Pump
<b>MCL</b> = L-shaped			<b>15</b> = 1.5		<b>1.5</b> = 1.59	<b>20</b>	<b>D32</b> = D03 Two Station	
			<b>20</b> = 2.0		<b>2</b> = 1.96	<b>30</b>	<b>D34</b> = D03 Four Station	<b>LOL</b> = Low Oil Level Switch with High Temp
			<b>30</b> = 3.0		<b>2.25</b> = 2.28	<b>35♦</b>	<b>D51</b> = D05 Single Station	<b>MS</b> = (Voltage) – Motor Starter (specify voltage)
			<b>50</b> = 5.0		<b>3</b> = 2.87	<b>40</b>	<b>D52</b> = D05 Two Station	
			<b>75</b> = 7.5		<b>3.5</b> = 3.44	<b>50</b>	<b>D54</b> = D05 Four Station	
			<b>100</b> = 10		<b>3.75</b> = 3.78	<b>60</b>		
			<b>150</b> = 15		<b>4</b> = 4.0	<b>75</b>		
			<b>200</b> = 20		<b>5</b> = 5.01	<b>100</b>		
			<b>250</b> = 25		<b>6</b> = 6.0	<b>125</b>		
			<b>300</b> = 30		<b>7</b> = 6.83			
			<b>400</b> = 40		<b>8</b> = 8.0			
			<b>500</b> = 50		<b>8.5</b> = 8.65			
			<b>600</b> = 60		<b>10</b> = 10.0			
			<b>750</b> = 75		<b>12</b> = 11.84			
			<b>1000</b> = 100					
			<b>1250</b> = 125					

\* Not all configuration combinations are possible with every reservoir style. Other configurations also available. Please consult factory for assistance.

- Available on vane pumps only.
- ♦ Available on gear pumps only.

### Calculating hp Requirement

$$\text{hp} = \frac{\text{Pressure (psi)} \times \text{Flow (gpm)}}{1457}$$

### Recommended Reservoir Size

$$\text{Gal} = \text{Flow rate (gal)} \times 3$$

### Example:

$$\text{hp} = \frac{2500 \text{ (psi)} \times 10 \text{ (gpm)}}{1457}$$

### Example:

$$10 \text{ gpm} \times 3 = 30 \text{ gallon reservoir}$$

$$\text{hp} = \frac{2500}{1457}$$

$$\text{hp} = 17.16$$

### Motor size recommendation:

20 hp

Contact *Milwaukee Cylinder* for a quote on the power unit configuration that meets your application.



Vertical



NFPA/JIC Style



Low Profile




L-Shaped

## D03 VALVES

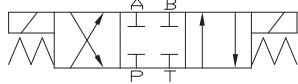
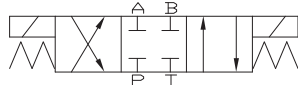
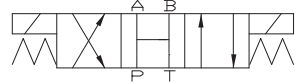
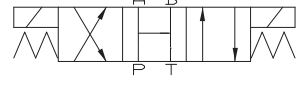
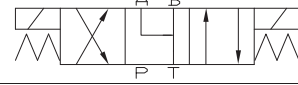

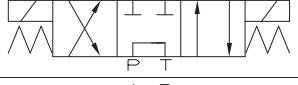
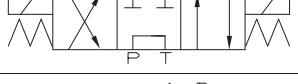
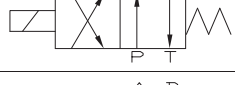
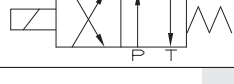
For a complete Power Unit solution, use *Milwaukee Cylinder* D03 spool valves and accessory valves. Choose the valve style required for each circuit and add the accessory valves required to control flow rate, circuit pressure or hold pressure in a circuit.

- Mounting Pattern: **D03**
- Solenoid Connection: **DIN**



For additional details on D03 and D05 valves see:

Page 191

D03 VALVES				
MODEL NUMBER	MAXIMUM PRESSURE	FUNCTION	SCHEMATIC SYMBOL	ELECTRICAL REQUIREMENTS
MCSV3-43C-24	5000	4 Way, 3 Position, Closed Center		24 VDC
MCSV3-43C-120	5000	4 Way, 3 Position, Closed Center		120 VAC
MCSV3-43O-24	5000	4 Way, 3 Position, Open Center		24 VDC
MCSV3-43O-120	5000	4 Way, 3 Position, Open Center		120 VAC
MCSV3-43F-24	5000	4 Way, 3 Position, Float Center		24 VDC
MCSV3-43F-120	5000	4 Way, 3 Position, Float Center		120 VAC
MCSV3-43T-24	5000	4 Way, 3 Position, Tandem Center		24 VDC
MCSV3-43T-120	5000	4 Way, 3 Position, Tandem Center		120 VAC
MCSV3-42-24	5000	4 Way, 2 Position		24 VDC
MCSV3-42-120	5000	4 Way, 2 Position		120 VAC



## D03 ACCESSORY VALVES

Add accessory valves to your valve stack to:

- Control flow
- Reduce pressure in a valve circuit
- Lock pressure in a valve circuit
- Aluminum body rated to 3000 psi maximum
- Ductile body rated to 5000 psi maximum

Series H

Series MH

Series LH

Series A

Series MN

Hyd-Pneu Devices

Cyl Accessories

Manipulators

Power Units/Valves

### D03 ACCESSORY VALVES

MODEL NUMBER	MAXIMUM PRESSURE	FUNCTION	SCHEMATIC SYMBOL
<b>ALUMINUM</b>			
<b>MCCV3-P-A</b>	3000	Pressure Port Check Valve	
<b>MCCV3-AB-A</b>	3000	Dual Pilot Operated Check Valve	
<b>MCFC3-AB-A</b>	3000	Dual Flow Control Valve (A & B ports) Pressure Compensated with Reverse Check Valve	
<b>MCFCP3-P-A</b>	3000	Proportional Flow Control (solenoid operated, P port)	
<b>MCRRV3-P4003-A</b>	3000	Reducing/Relieving Valve on Pressure Port (400-3000 psi)	
<b>DUCTILE</b>			
<b>MCCV3-P-D</b>	5000	Pressure Port Check Valve	
<b>MCCV3-AB-D</b>	5000	Dual Pilot Operated Check Valve	
<b>MCFC3-AB-D</b>	5000	Dual Flow Control Valve (A & B ports) Pressure Compensated with Reverse Check Valve	
<b>MCRRV3-P4003-D</b>	5000	Reducing/Relieving Valve on Pressure Port (400-3000 psi)	

# D03 Mounting Kits and Manifolds

## D03 MOUNTING KITS AND MANIFOLDS

MODEL NUMBER	DESCRIPTION
<b>MCSV3-BK100</b>	Valve Mounting Kit, 1.00"
<b>MCSV3-BK250</b>	Valve Mounting Kit, 2.50"
<b>MCSV3-BK300</b>	Valve Mounting Kit, 3.00"
<b>MCSV3-BK4125</b>	Valve Mounting Kit, 4.125"
<b>MCSV3-BK450</b>	Valve Mounting Kit, 4.50"
<b>MCSV3-BK575</b>	Valve Mounting Kit, 5.75"
<b>ALUMINUM MANIFOLD, 3000 PSI MAXIMUM</b>	
<b>MCVM3-01A</b>	D03 Parallel Valve Manifold, One Station, Aluminum, SAE ports (#10 P & T, #8 A & B), 3000 psi Max.
<b>MCVM3-02A</b>	D03 Parallel Valve Manifold, Two Station, Aluminum, SAE ports (#10 P & T, #8 A & B), 3000 psi Max.
<b>MCVM3-03A</b>	D03 Parallel Valve Manifold, Three Station, Aluminum, SAE ports (#10 P & T, #8 A & B), 3000 psi Max.
<b>MCVM3-04A</b>	D03 Parallel Valve Manifold, Four Station, Aluminum, SAE ports (#10 P & T, #8 A & B), 3000 psi Max.
<b>MCVM3-05A</b>	D03 Parallel Valve Manifold, Five Station, Aluminum, SAE ports (#10 P & T, #8 A & B), 3000 psi Max.
<b>MCVM3-06A</b>	D03 Parallel Valve Manifold, Six Station, Aluminum, SAE ports (#10 P & T, #8 A & B), 3000 psi Max.
<b>MCVM3-COPA</b>	D03 Cross-over Cover Plate, Aluminum (P to A, T to B)
<b>MCVM3-CPA</b>	D03 Parallel Manifold Cover Plate, Aluminum, 3000 psi Max.
<b>DUCTILE MANIFOLD, 5000 PSI MAXIMUM</b>	
<b>MCVM3-01D</b>	D03 Parallel Valve Manifold, One Station, Ductile, SAE ports (#10 P & T, #8 A & B), 5000 psi Max.
<b>MCVM3-02D</b>	D03 Parallel Valve Manifold, Two Station, Ductile, SAE ports (#10 P & T, #8 A & B), 5000 psi Max.
<b>MCVM3-03D</b>	D03 Parallel Valve Manifold, Three Station, Ductile, SAE ports (#10 P & T, #8 A & B), 5000 psi Max.
<b>MCVM3-04D</b>	D03 Parallel Valve Manifold, Four Station, Ductile, SAE ports (#10 P & T, #8 A & B), 5000 psi Max.
<b>MCVM3-05D</b>	D03 Parallel Valve Manifold, Five Station, Ductile, SAE ports (#10 P & T, #8 A & B), 5000 psi Max.
<b>MCVM3-06D</b>	D03 Parallel Valve Manifold, Six Station, Ductile, SAE ports (#10 P & T, #8 A & B), 5000 psi Max.
<b>MCVM3-CPD</b>	D03 Parallel Manifold Cover Plate, Ductile, 5000 psi Max.

## D03 VALVE MOUNTING KITS

Select the proper valve mounting kit from the chart below. Combine the directional and sandwich valves to determine the required kit. Using these kits simplifies the installation of the valve stack components onto the manifold, whether pump or remote mounted.

### ▼ D03 VALVE MOUNTING KIT SELECTION CHART

D03 DIRECTIONAL VALVES AND ACCESSORY VALVES						
RECOMMENDED MOUNTING KIT	MCCV3-P-A-P PORT CHECK	MCCV3-AB-D DUAL P.O. CHECK	MCFC3-AB-A DUAL FLOW CONTROL	MCFCP3-P-A PROPORTIONAL FLOW CONTROL	MCRRV3-P1530-A REDUCING/ RELIEVING VALVE	MCRRV3-P0415-A REDUCING/ RELIEVING VALVE
MCSV3-BK100*						
MCSV3-BK250	■					
MCSV3-BK250		■				
MCSV3-BK250			■			
MCSV3-BK317				■		
MCSV3-BK250					■	
MCSV3-BK250						■
MCSV3-BK4125	■		■			
MCSV3-BK575	■		■		■	
MCSV3-BK575	■		■			■
MCSV3-BK460	■			■		
MCSV3-BK4125		■	■			
MCSV3-BK575		■	■		■	
MCSV3-BK575		■	■			■
MCSV3-BK460		■		■		
MCSV3-BK4125			■		■	
MCSV3-BK4125			■			■
MCSV3-BK460				■	■	
MCSV3-BK460				■		■


**EXAMPLE:** D03 Spool Valve with Dual P.O. Check (MCCV3-AB-D) and Dual Flow Control (MCFC3-AB-A)= MCSV3-BK4125 Mounting Kit

\* Mounting kit included with D03 directional valve.

## D05 VALVES

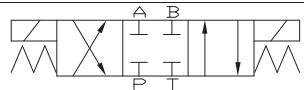
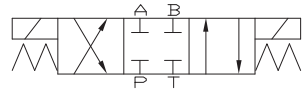
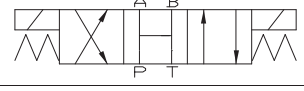



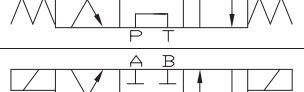
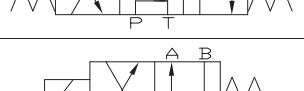
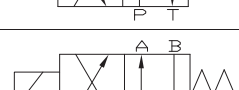
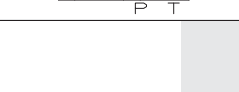
For a complete Power Unit solution for higher flow systems, use *Milwaukee Cylinder* D05 spool valves and accessory valves. Choose the valve style required for each circuit and add the accessory valves required to control flow rate, circuit pressure or hold pressure in a circuit.

- ◆ Mounting Pattern: **D05**
- ◆ Solenoid Connection: **DIN**



For additional details on D03 and D05 valves see:

Page 191

D05 VALVES				
MODEL NUMBER	MAXIMUM PRESSURE	FUNCTION	SCHEMATIC SYMBOL	ELECTRICAL REQUIREMENTS
<b>MCSV5-43C-24</b>	4600	4 Way, 3 Position, Closed Center		24 VDC
<b>MCSV5-43C-120</b>	4600	4 Way, 3 Position, Closed Center		120 VAC
<b>MCSV5-43O-24</b>	4600	4 Way, 3 Position, Open Center		24 VDC
<b>MCSV5-43O-120</b>	4600	4 Way, 3 Position, Open Center		120 VAC
<b>MCSV5-43F-24</b>	4600	4 Way, 3 Position, Float Center		24 VDC
<b>MCSV5-43F-120</b>	4600	4 Way, 3 Position, Float Center		120 VAC
<b>MCSV5-43T-24</b>	4600	4 Way, 3 Position, Tandem Center		24 VDC
<b>MCSV5-43T-120</b>	4600	4 Way, 3 Position, Tandem Center		120 VAC
<b>MCSV5-42-24</b>	4600	4 Way, 2 Position		24 VDC
<b>MCSV5-42-120</b>	4600	4 Way, 2 Position		120 VAC

## D05 ACCESSORY VALVES

Add accessory valves to your valve stack to:

- Control flow
- Reduce pressure in a valve circuit
- Lock pressure in a valve circuit
- Aluminum body rated to 3000 psi maximum
- Ductile body rated to 5000 psi maximum

D05 ACCESSORY VALVES				
MODEL NUMBER	MOUNT	MAX PRESSURE	FUNCTION	SCHEMATIC SYMBOL
<b>ALUMINUM</b>				
MCCV5-P-A	D05	3000	Pressure Port Check Valve	
MCCV5-AB-A	D05	3000	Dual Pilot Operated Check Valve	
MCFC5-AB-A	D05	3000	Dual Flow Control Valve (A & B ports) Pressure Compensated with Reverse Check Valve	
MCFCP5-P-A	D05	3000	Proportional Flow Control (solenoid operated, P port)	
MCRRV5-P1753-A	D05	3000	Reducing/Relieving Valve on Pressure Port (175-3000 psi)	
<b>DUCTILE</b>				
MCCV5-P-D	D05	5000	Pressure Port Check Valve	
MCCV5-AB-D	D05	5000	Dual Pilot Operated Check Valve	
MCFC5-AB-D	D05	5000	Dual Flow Control Valve (A & B ports) Pressure Compensated with Reverse Check Valve	
MCRRV5-P1753-D	D05	5000	Reducing/Relieving Valve on Pressure Port (175-3000 psi)	

Series H

Series MH

Series LH

Series A

Series MN

Hyd-Pneu Devices

Cyl Accessories

Manipulators

Power Units/Valves

## D05 MOUNTING KITS & MANIFOLDS

When using accessory valves with your *Milwaukee Cylinder* D05 directional valves, use the proper mounting kits for each valve stack. For remote mounted valve applications at 3000 psi maximum pressure, choose an aluminum manifold with the number of valve stations required. For pressures up to 5000 psi maximum pressure, use the ductile iron manifolds.

D05 MOUNTING KITS & MANIFOLDS	
MODEL NUMBER	DESCRIPTION
<b>MCSV5-BK175</b>	Valve Mounting Kit, 1.75"
<b>MCSV5-BK4.00</b>	Valve Mounting Kit, 4.00"
<b>MCSV5-BK6125</b>	Valve Mounting Kit, 6.125"
<b>MCSV5-BK825</b>	Valve Mounting Kit, 8.25"
<b>ALUMINUM MANIFOLD, 3000 PSI MAXIMUM</b>	
<b>MCVM5-01A</b>	D05 Parallel Valve Manifold, One Station, Aluminum, SAE ports (#12 P & T, #8 A & B), 3000 psi Max.
<b>MCVM5-02A</b>	D05 Parallel Valve Manifold, Two Station, Aluminum, SAE ports (#12 P & T, #8 A & B), 3000 psi Max.
<b>MCVM5-03A</b>	D05 Parallel Valve Manifold, Three Station, Aluminum, SAE ports (#12 P & T, #8 A & B), 3000 psi Max.
<b>MCVM5-04A</b>	D05 Parallel Valve Manifold, Four Station, Aluminum, SAE ports (#12 P & T, #8 A & B), 3000 psi Max.
<b>MCVM5-05A</b>	D05 Parallel Valve Manifold, Five Station, Aluminum, SAE ports (#12 P & T, #8 A & B), 3000 psi Max.
<b>MCVM5-06A</b>	D05 Parallel Valve Manifold, Six Station, Aluminum, SAE ports (#12 P & T, #8 A & B), 3000 psi Max.
<b>MCVM5-COPA</b>	D05 Cross-over Cover Plate, Aluminum (P to A, T to B)
<b>MCVM5-CPA</b>	D05 Parallel Manifold Cover Plate, Aluminum, 3000 psi Max.
<b>DUCTILE MANIFOLD, 5000 PSI MAXIMUM</b>	
<b>MCVM5-01D</b>	D05 Parallel Valve Manifold, One Station, Ductile Iron, SAE ports (#12 P & T, #8 A & B), 5000 psi Max.
<b>MCVM5-02D</b>	D05 Parallel Valve Manifold, Two Station, Ductile Iron, SAE ports (#12 P & T, #8 A & B), 5000 psi Max.
<b>MCVM5-03D</b>	D05 Parallel Valve Manifold, Three Station, Ductile Iron, SAE ports (#12 P & T, #8 A & B), 5000 psi Max.
<b>MCVM5-04D</b>	D05 Parallel Valve Manifold, Four Station, Ductile Iron, SAE ports (#12 P & T, #8 A & B), 5000 psi Max.
<b>MCVM5-05D</b>	D05 Parallel Valve Manifold, Five Station, Ductile Iron, SAE ports (#12 P & T, #8 A & B), 5000 psi Max.
<b>MCVM5-06D</b>	D05 Parallel Valve Manifold, Six Station, Ductile Iron, SAE ports (#12 P & T, #8 A & B), 5000 psi Max.
<b>MCVM5-CPD</b>	D05 Parallel Manifold Cover Plate, Ductile, 5000 psi Max.

## D05 VALVE MOUNTING KITS

Select the proper valve mounting stud kit from the chart below. Combine the directional and sandwich valves to determine the required kit. Using these kits simplifies the installation of the valve stack components onto the manifold, whether pump or remote mounted.

### ▼ D05 Valve Mounting Kit Selection Chart

D05 DIRECTIONAL VALVES AND ACCESSORY VALVES						
RECOMMENDED MOUNTING KIT	MCCV5-P-A-P PORT CHECK	MCCV5-AB-D DUAL P.O. CHECK	MCFC5-AB-A DUAL FLOW CONTROL	MCFCP5-P-A PROPORTIONAL FLOW CONTROL	MCRRV5-P1530-A REDUCING/RELIEVING VALVE	MCRRV5-P0415-A REDUCING/RELIEVING VALVE
MCSV5-BK175						
MCSV5-BK400	■					
MCSV5-BK400		■				
MCSV5-BK400			■			
MCSV5-BK400				■		
MCSV5-BK400					■	
MCSV5-BK400						■
MCSV5-BK6125	■		■			
MCSV5-BK825	■		■		■	
MCSV5-BK825	■		■			■
MCSV5-BK6125		■	■			
MCSV5-BK825		■	■		■	
MCSV5-BK825		■	■			■
MCSV5-BK6125		■		■		
MCSV5-BK825		■		■	■	
MCSV5-BK825		■		■		■
MCSV5-BK6125			■		■	
MCSV5-BK6125			■			■
MCSV5-BK6125				■	■	
MCSV5-BK6125				■		■

**EXAMPLE:** D03 Spool Valve with Dual P.O. Check (MCCV5-AB-D) and Dual Flow Control (MCFC5-AB-A)= MCSV5-BK6125 Mounting Kit

\* Mounting kit included with D05 directional valve.

## ▼ CONFIGURE YOUR VALVE\*

MCSV  
 3 - 43  
    
 C - 24

Valve Type Series      Size      Function      Adjustment Range (for MCRRV only)      Center Function or Body Material      Solenoid Voltage

VALVE TYPE	SERIES	SIZE	FUNCTION	ADJUSTMENT RANGE	CENTER FUNCTION OR BODY MATERIAL	SOLENOID VOLTAGE
<b>DIRECTIONAL VALVE</b>	MCSV = Solenoid Valve	3 = D03 5 = D05	43 = 4 Way/3 Pos. 42 = 4 Way/2 Pos.	N/A	<b>Center Function</b> C = Closed O = Open F = Float T = Tandem  <b>Body Material</b> A = Aluminum (3000 psi max) D = Ductile Iron (5000 psi max)	24 = 24 VDC Solenoid 120 = 120 VAC Solenoid 24D = 24 VDC Detented Solenoid 120D = 120 VAC Detented Solenoid SC = Spring to Center (Manual Valve or Air PO) DSC = Detented/Spring to Center (Manual Valve or Air PO)
	MCMV = Manual Valve MCAV = Air Pilot Operated					
<b>CHECK VALVE</b>	MCCV = Check Valve	3 = D03 5 = D05	P = P Port (inlet) AB = A & B Ports (dual PO)	N/A		N/A
<b>FLOW CONTROL VALVE</b>	MCFC = Flow Control MCFCP = Flow Control Proportional	3 = D03 5 = D05	P = P Port (inlet) AB = A & B Ports	N/A	A = Aluminum D = Ductile Iron (not available with MCFCP)	N/A 24 = 24 VDC Solenoid
<b>REDUCING / RELIEVING VALVE</b>	MCRRV = Reducing / Relieving	3 = D03 5 = D05	P = P Port	4003 = 400-3000 psi 1753 = 175-3000 psi	A = Aluminum (3000 psi max) D = Ductile Iron (5000 psi max)	N/A

\* For additional valve needs please contact the factory.

## ▼ CONFIGURE YOUR MANIFOLD (Remote Mount)

MCVM  
 3  
 01 - A

Manifold Series      Size      Function      Body Material

SERIES	SIZE	FUNCTION	BODY MATERIAL
MCVM = Valve Manifold	3 - D03	01 = Single Station	A - Aluminum
	5 - D05	02 = Two Station 03 = Three Station 04 = Four Station 05 = Five Station 06 = Six Station	D - Ductile Iron



## MILWAUKEE CYLINDER POWER UNIT WORKSHEET

(PLEASE REFER TO MATRIX PAGES AS AN EXAMPLE OF HOW THE UNIT IS BUILT)

### ▼ COMPLETE THE FOLLOWING INFORMATION TO CHOOSE THE RIGHT UNIT

DATE: _____	PROJECT TITLE: _____
REQUESTOR: _____	CUSTOMER DRAWING #: _____
DISTRIBUTOR: _____	USER: _____
DISTRIBUTOR CONTACT: _____	USER CONTACT: _____
PHONE #: _____	USER PHONE#: _____
EMAIL: _____	USER EMAIL: _____

### ▼ CHOOSE YOUR POWER UNIT

BASIC POWER UNIT SPECIFICATIONS	OPTIONS OR SPECIAL FEATURES:
Reservoir Style: _____	_____
Driver: _____	_____
Pump Type: _____	_____
Motor hp: _____	_____
Motor Electrical: Volts: _____ Phase: _____ Hz: _____	_____
Flow Rate (nominal) GPM: _____	_____
Reservoir Size (gal): _____	_____
Valve Manifold Type (if pump mount): _____	_____
Email: <a href="mailto:sales@milwaukeeecylinder.com">sales@milwaukeeecylinder.com</a> Fax: 414-769-0157	

### ▼ CHOOSE YOUR VALVE STACKS

VALVE STACK #	MC MODEL NUMBER	FUNCTION
<b>Manifold Model # (if remote mount):</b>		
<b>VALVE STACK #1</b>	Directional Valve:	
	Module #1:	
	Module #2:	
	Module #3:	
	Bolt Kit:	
<b>VALVE STACK #2</b>	Directional Valve:	
	Module #1:	
	Module #2:	
	Module #3:	
	Bolt Kit:	
<b>VALVE STACK #3</b>	Directional Valve:	
	Module #1:	
	Module #2:	
	Module #3:	
	Bolt Kit:	
<b>VALVE STACK #4</b>	Directional Valve:	
	Module #1:	
	Module #2:	
	Module #3:	
	Bolt Kit:	

Series H

Series MH

Series LH

Series A

Series MN

Hyd.-Pneu Devices

Cyl Accessories

Manipulators

Power Units/Valves