

Power Units and Valves

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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.

Vertical Power Unit Features

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

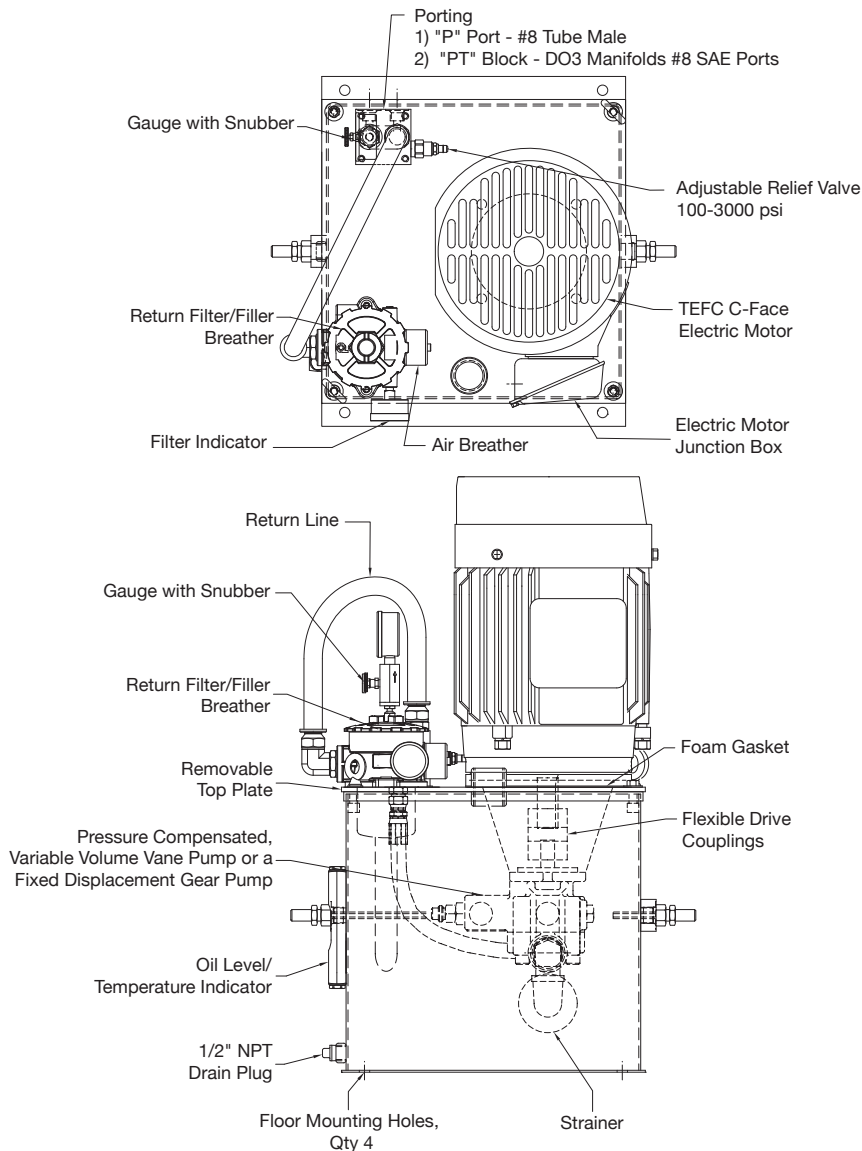
- P & T manifold for use with remote mounted valves
- D03 valve manifolds: 1, 2 or 4 station
- Manifold mounted gauge and snubber

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.

Series H

Series MH

Series LH

Series A

Series MN

Hyd-Pneu Devices

Cyl Accessories

Manipulators

Power Units/Valves

Max. Operating Pressure:

3000 psi

Flow Rates:

.545-10.00 gpm

Reservoir Capacities:

10-30 gallons

Standard Motor:

1725 rpm

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)

Series H

GEAR PUMP

Max. Operating Pressure:

3000 psi

Flow Rates:

.545-10.00 gpm

Reservoir Capacities:

10-30 gallons

Standard Motor:

1725 rpm

Series MH

Series LH

VANE PUMP

Max. Operating Pressure:

2000 psi

Flow Rates:

4-8 gpm

Reservoir Capacities:

20 gallons

Series A

Series MN

Hyd-Pneu Devices

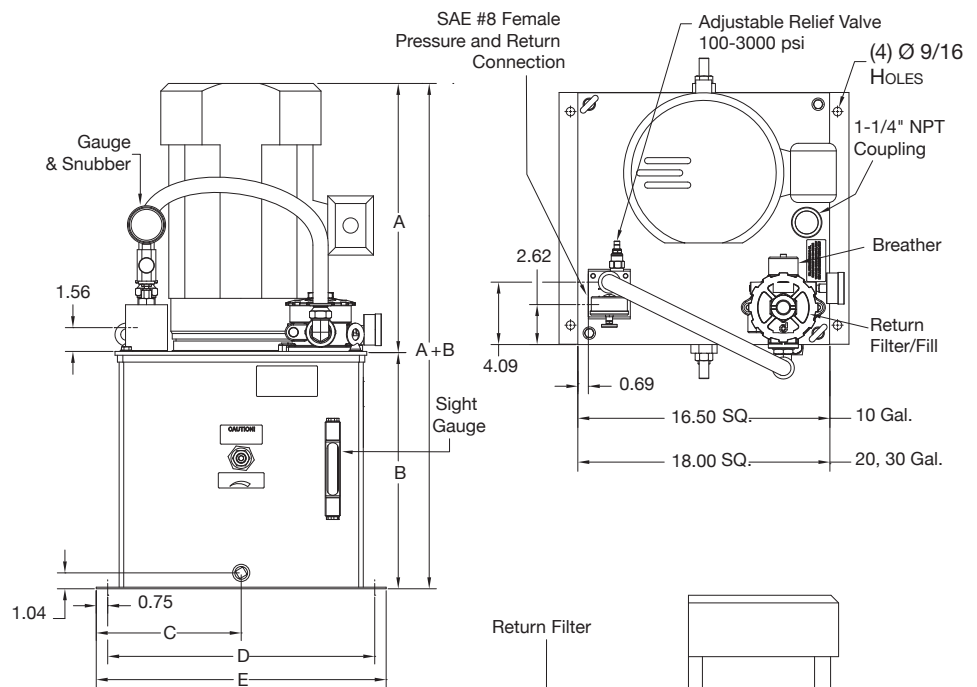
Cyl Accessories

Manipulators

Power Units/Valves

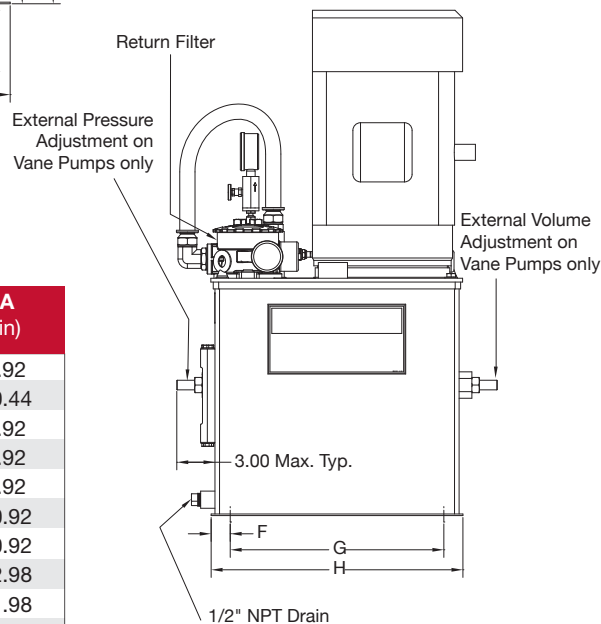
POWER UNIT WITH P & T MANIFOLDS

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

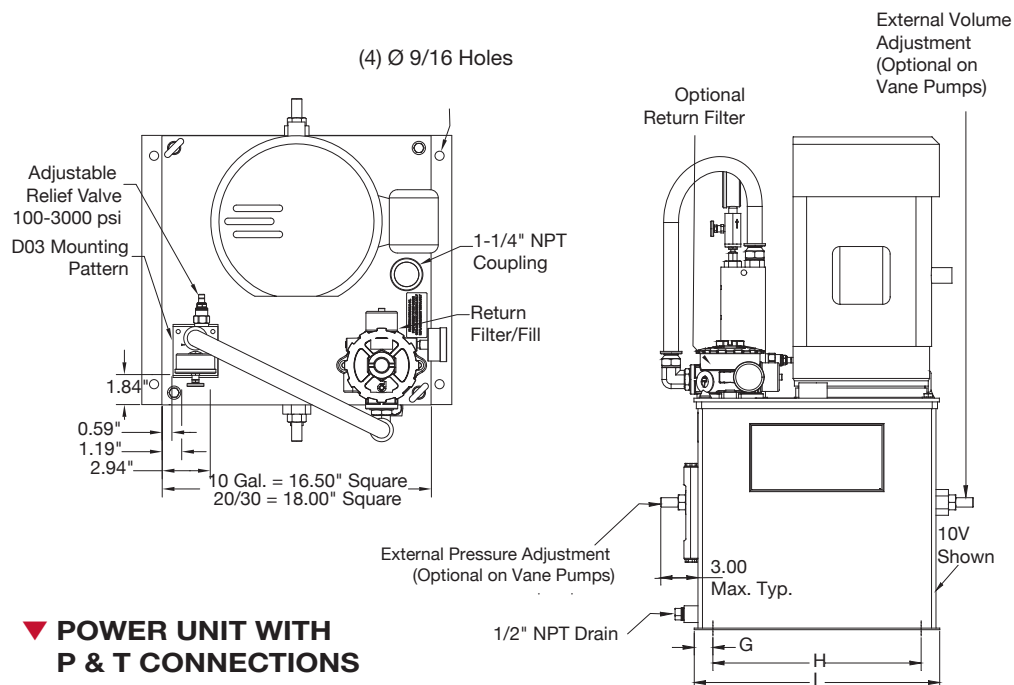
| Reservoir Size (gal) | B (in) | C (in) | D (in) | E (in) | F (in) | G (in) | H (in) |
|----------------------|--------|--------|--------|--------|--------|--------|--------|
| 10 | 15.44 | 9.50 | 17.50 | 19.00 | 1.25 | 14.00 | 16.50 |
| 20 | 18.44 | 10.25 | 19.00 | 20.50 | 1.50 | 15.00 | 18.00 |
|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

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.milwaukee-cylinder.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:

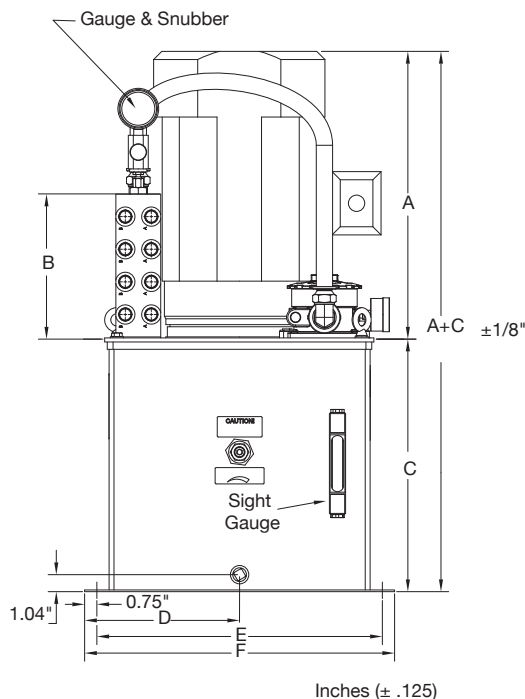
4-8 gpm

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

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

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:

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

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

$$\text{hp} = 17.16$$

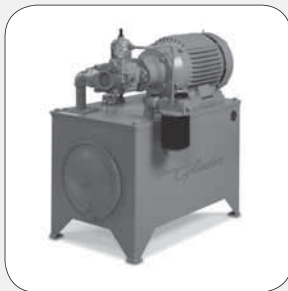
Motor size recommendation:

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:

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| 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 |

Series H

Series MH

Series LH

Series A

Series MN

Hyd-Pneu Devices

Cyl Accessories

Manipulators

Power Units/Valves

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

D03 ACCESSORY VALVES

| MODEL NUMBER | MAXIMUM PRESSURE | FUNCTION | SCHEMATIC SYMBOL |
|-----------------------|------------------|--|------------------|
| ALUMINUM | | | |
| MCCV3-P-A | 3000 | Pressure Port Check Valve | |
| MCCV3-AB-A | 3000 | Dual Pilot Operated Check Valve | |
| MCFC3-AB-A | 3000 | Dual Flow Control Valve (A & B ports) Pressure Compensated with Reverse Check Valve | |
| MCFCP3-P-A | 3000 | Proportional Flow Control (solenoid operated, P port) | |
| MCRRV3-P1530-A | 3000 | Reducing/Relieving Valve on Pressure Port (1500-3000 psi) | |
| MCRRV3-P0415-A | 3000 | Reducing/ Relieving Valve on Pressure Port (400-1500 psi) | |
| DUCTILE | | | |
| MCCV3-P-D | 5000 | Pressure Port Check Valve | |
| MCCV3-AB-D | 5000 | Dual Pilot Operated Check Valve | |
| MCFC3-AB-D | 5000 | Dual Flow Control Valve (A & B ports) Pressure Compensated with Reverse Check Valve | |
| MCRRV3-P1530-D | 5000 | Reducing/Relieving Valve on Pressure Port (1500-3000 psi) | |
| MCRRV3-P0415-D | 5000 | Reducing/ Relieving Valve on Pressure Port (400-1500 psi) | |

D03 Mounting Kits and Manifolds

D03 MOUNTING KITS AND MANIFOLDS

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

Series H

Series MH

Series LH

Series A

Series MN

Hyd-Pneum Devices

Cyl Accessories

Manipulators

Power Units/Valves

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-BK300 | | | | ■ | | |
| MCSV3-BK250 | | | | | ■ | |
| MCSV3-BK250 | | | | | | ■ |
| MCSV3-BK4125 | ■ | | ■ | | | |
| MCSV3-BK575 | ■ | | ■ | | ■ | |
| MCSV3-BK575 | ■ | | ■ | | | ■ |
| MCSV3-BK450 | ■ | | | ■ | | |
| MCSV3-BK4125 | | ■ | ■ | | | |
| MCSV3-BK575 | | ■ | ■ | | ■ | |
| MCSV3-BK575 | | ■ | ■ | | | ■ |
| MCSV3-BK450 | | ■ | | ■ | | |
| MCSV3-BK4125 | | | ■ | | ■ | |
| MCSV3-BK4125 | | | ■ | | | ■ |
| MCSV3-BK450 | | | | ■ | ■ | |
| MCSV3-BK450 | | | | ■ | | ■ |

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 |
| MCSV5-43C-24 | 4600 | 4 Way, 3 Position, Closed Center | | 24 VDC |
| MCSV5-43C-120 | 4600 | 4 Way, 3 Position, Closed Center | | 120 VAC |
| MCSV5-43O-24 | 4600 | 4 Way, 3 Position, Open Center | | 24 VDC |
| MCSV5-43O-120 | 4600 | 4 Way, 3 Position, Open Center | | 120 VAC |
| MCSV5-43F-24 | 4600 | 4 Way, 3 Position, Float Center | | 24 VDC |
| MCSV5-43F-120 | 4600 | 4 Way, 3 Position, Float Center | | 120 VAC |
| MCSV5-43T-24 | 4600 | 4 Way, 3 Position, Tandem Center | | 24 VDC |
| MCSV5-43T-120 | 4600 | 4 Way, 3 Position, Tandem Center | | 120 VAC |
| MCSV5-42-24 | 4600 | 4 Way, 2 Position | | 24 VDC |
| MCSV5-42-120 | 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 |
| ALUMINUM, 3000 PSI MAXIMUM | | | | |
| 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-P1530-A | D05 | 3000 | Reducing/Relieving Valve on Pressure Port (1500-3000 psi) | |
| MCRRV5-P0415-A | D05 | 3000 | Reducing/ Relieving Valve on Pressure Port (400-1500 psi) | |
| DUCTILE, 5000 PSI MAXIMUM | | | | |
| 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-P1530-D | D05 | 5000 | Reducing/Relieving Valve on Pressure Port (1500-3000 psi) | |
| MCRRV5-P0415-D | D05 | 5000 | Reducing/ Relieving Valve on Pressure Port (400-1500 psi) | |

D05 Mounting Kits & Manifolds

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

Valve & Manifold Matrix

▼ 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 |
|-----------------------------------|--|--------------------|--|---|---|--|
| DIRECTIONAL VALVE | MCSV = Solenoid Valve | 3 = D03 5 = D05 | 43 = 4 Way/3 Pos. 42 = 4 Way/2 Pos. | N/A | <u>Center Function</u> C = Closed O = Open F = Float T = Tandem | 24 = 24 VDC Solenoid 120 = 120 VAC Solenoid 24D = 24 VDC Detented Solenoid 120D = 120 VAC Detented Solenoid SC = Spring to Center (Manual Valve) DSC = Detented/Spring to Center (Manual Valve) |
| | MCMV = Manual Valve | | | | | |
| CHECK VALVE | MCCV = Check Valve | 3 = D03 5 = D05 | P = P Port (inlet) AB = A & B Ports (dual PO) | N/A | <u>Body Material</u> A = Aluminum (3000 psi max) D = Ductile Iron (5000 psi max) | N/A |
| FLOW CONTROL VALVE | 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 |
| REDUCING / RELIEVING VALVE | MCRRV = Reducing / Relieving | 3 = D03 5 = D05 | P = P Port | 0415 = 400-1500 psi 1530 = 1500-3000 psi 3050 = 3000-5000 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 5 - D05 | 01 = Single Station 02 = Two Station 03 = Three Station 04 = Four Station 05 = Five Station 06 = Six Station | A - Aluminum D - Ductile Iron |

Series H

Series MH

Series LH

Series A

Series MN

Hyd-Pneu Devices

Cyl Accessories

Manipulators

Power Units/Valves

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: sales@milwaukeeecylinder.com Fax: 414-769-0157 | |

▼ CHOOSE YOUR VALVE STACKS

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