

Energpac hydraulic valves are available in a wide variety of models and configurations.

Whatever your requirements... directional control, flow control, or pressure control... you can be sure that Energpac has the correct valve to match your application exactly.

Designed and manufactured for safe operation up to 10,000 psi, the range of Energpac valves allows for direct pump mounting, remote mounting, manual or solenoid actuation, and in-line installation, giving you flexible solutions to control your hydraulic system.

Valve Type	Series		Page
Pump-Mounted Directional Control Valves	VM, VE		124 ▶
Remote-Manual Directional Control Valves	VC		126 ▶
Valve Dimensions	VC, VM, VE		127 ▶
Modular/Solenoid Operated Directional Control Valves	VE		128 ▶



Pressure and Flow Control Valves

For more hydraulic system control with pressure relief valves, shut-off valves, check valves and sequence valves see our "System Components" section.

Page: 130



Valving Help

See Basic System Set-Up and Valve Information in our 'Yellow Pages'

Page: 278



Pump Mounted Directional Control Valves



▼ Shown from left to right: VM32, VE33, VM33, VM43L, VE43-115

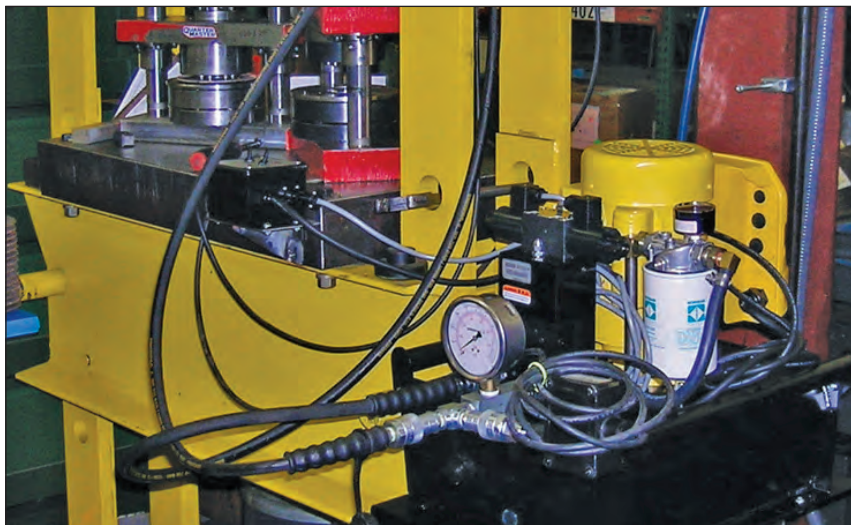


For Reliable Control of Single and Double-Acting Cylinders

- Advance/Retract and Advance/Hold/Retract operation of single-acting and double-acting cylinders
- Manual or solenoid operation
- Pump mounting will retrofit on most Enerpac pumps
- Available “locking” option on VM Series valves for load-holding applications
- Standard “locking” feature on VE Series 3-position valves
- User adjustable relief valves allow the operator to easily set the working pressure

Valve Operation	Used with Cylinder	Valve Type	
Manual	Single-acting	3-Way 2 Position	
Manual	Single-acting	3-Way 2 Position	
Manual	Single-acting	3-Way 3 Position, Tandem Center	
Manual	Single-acting ONLY	3-Way 3 Position, Tandem Center, Venturi Return Assist	
Manual	Double-acting	4-Way 3 Position, Tandem Center	
Manual	Single-acting	3-Way 3 Position, Tandem Center, Locking	
Manual	Double-acting	4-Way 3 Position, Tandem Center, Locking	
Solenoid 24 VDC	Single-acting	3-Way 2 Position	
Solenoid 24 VDC	Single-acting	3-Way 2 Position, Dump	
Solenoid 24 VDC	Single-acting ONLY	3-Way 3 Position, Tandem Center, Venturi Return Assist	
Solenoid 24 VDC	Single-acting	3-Way, 3 Position, Tandem Center	
Solenoid 115 VAC	Single-acting	3-Way, 3 Position, Tandem Center	
Solenoid 24 VDC	Double-acting	4-Way, 3 Position, Tandem Center	
Solenoid 115 VAC	Double-acting	4-Way, 3 Position, Tandem Center	

▼ ZE4420SB-FH Z-Class pump is mounted next to an Enerpac H-frame press, includes VE43 electric valve to control cylinder operation.



For remote valve applications, see page 126.



All valves feature several gauge ports for “system”, A port and B port pressure monitoring. User-adjustable relief valves are included on all models to allow the operator to easily set the optimum working pressure for each application. VM33 and VE43 valves include “System Check” feature, for more precise pressure holding and improved system control. The VM33 has improved porting which provides faster cylinder retraction while motor is running.

VM, VE Series



Flow Capacity:

4.5 gal/min.

Maximum Operating Pressure:

10,000 psi



Assisted Return Pumps

To improve productivity and plunger retraction, Enerpac offers valve configurations designed to accelerate your cylinder retraction speeds. ZU4 and ZE-Series pumps feature Venturi valve technology to facilitate the faster return of single-acting gravity return cylinders. See details on www.enerpac.com



Locking Valves

For applications that require positive load holding, VM Series valves (except the VM22 and VM32 valve) are available with a pilot-operated check valve. This option provides hydraulic locking of the load until the valve is shifted into the retract position.

To order this feature, place an “L” at the end of the model number.



Pendants for VE-Series Solenoid Valves

When ordering Enerpac VE-Series solenoid valves, the pendant must be ordered separately for Z-Class pumps. Pendant connection to be plugged into electric box of pump.

To be used with solenoid valves:	Pendant
VE32D	ZCP-1
VE32, VE33, VE43	ZCP-3

Model Number	Hydraulic Symbol	Schematic Flowpath			Weight (lbs)
		Advance	Neutral	Retract	
VM22					5.6
VM32					5.6
VM33					6.7
VM33VAC					7.5
VM43					6.8
VM33L					10.7
VM43L					10.8
VE32					8.7
VE32D					8.7
VE33VAC					22
VE33					20.3
VE33-115					20.3
VE43					20.3
VE43-115					20.3

See page 127 for product dimensions.

▼ Shown from left to right: VC-20, VC-4L



Reliable Remote Control



Locking Valves

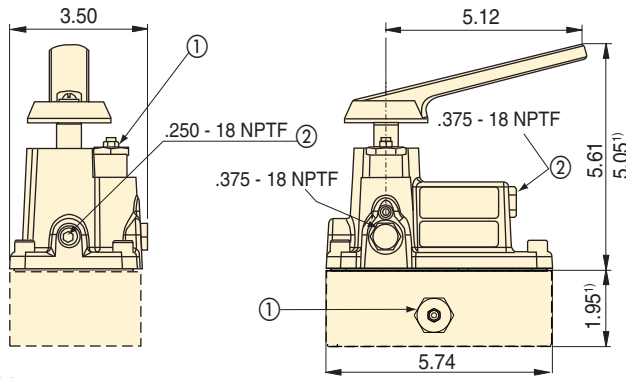
For applications that require positive load holding, VC and VM Series valves are available with a pilot-operated check valve. This option provides hydraulic locking of the load until the valve is shifted into the retract position.

- Advance/Hold/Retract operation for use with single-acting or double-acting cylinders

Valve Operation	Used with Cylinder	Valve Type	Model Number	Hydraulic Symbol	Schematic Flowpath			Weight (lbs)
					Advance	Hold	Retract	
Manual	Single Acting	3-Way, 3 Position, Tandem Center	VC-3					6.4
Manual	Single Acting	3-Way, 3 Position, Tandem Center, Locking	VC-3L					10.3
Manual	Single Acting	3-Way, 3 Position, Closed Center	VC-15					6.4
Manual	Single Acting	3-Way, 3 Position, Closed Center, Locking	VC-15L					10.3
Manual	Double Acting	4-Way, 3 Position, Tandem Center	VC-4					6.4
Manual	Double Acting	4-Way, 3 Position, Tandem Center, Locking	VC-4L					10.3
Manual	Double Acting	4-Way, 3 Position, Closed Center	VC-20					6.4
Manual	Double Acting	4-Way, 3 Position, Closed Center, Locking	VC-20L					10.3

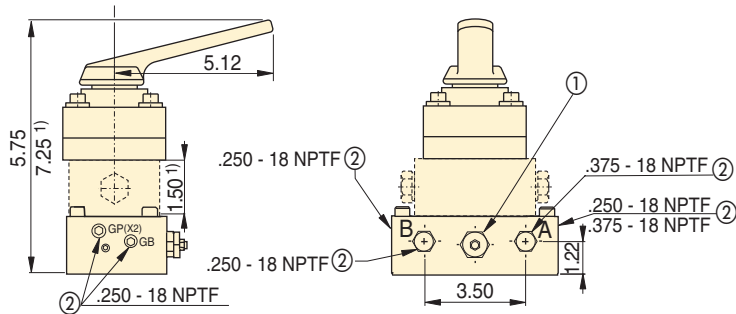
Return line kit included with remote valves

Valve dimensions in inches.



VM22, VM32

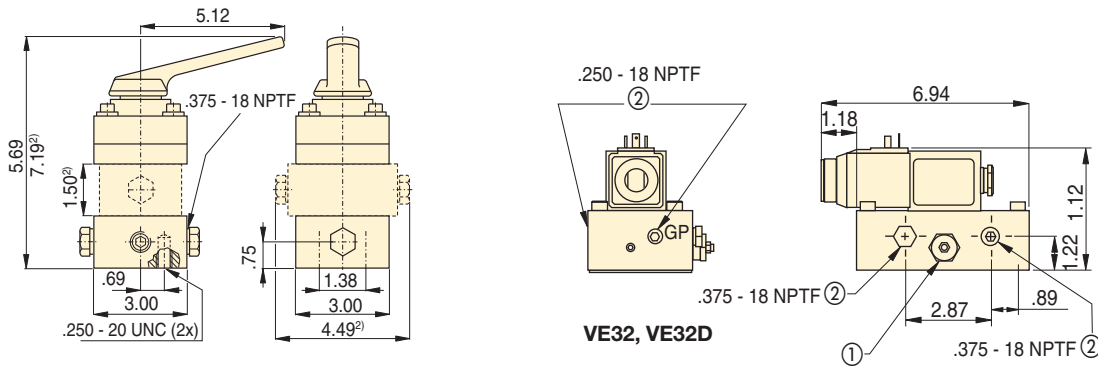
¹⁾ VM22 only



VM33, VM33L

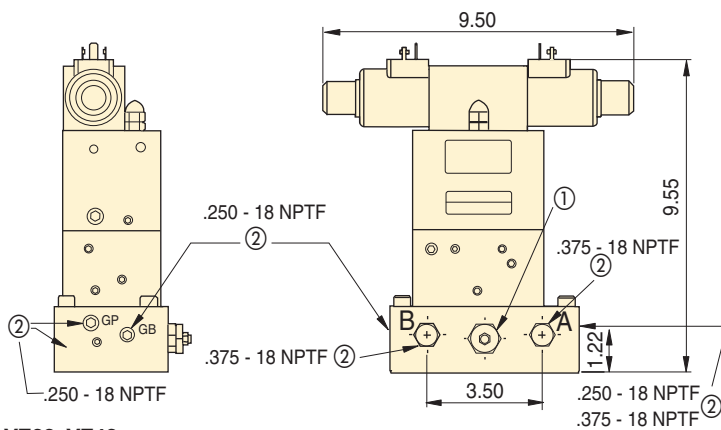
VM43, VM43L

¹⁾ VM33L and VM43L only



VC3, VC3L, VC-15, VC15L, VC-4, VC4L, VC20, VC20L

²⁾ VC3L, VC15L, VC4L and VC20L only



VE33, VE43

**VC,
VM,
VE
Series**



Flow Capacity:

4.5 gal/min.

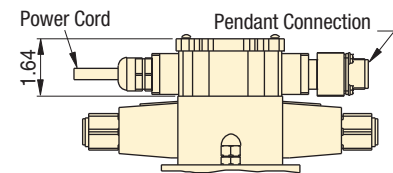
Maximum Operating Pressure:

10,000 psi



User Adjustable Relief Valve

All VM- and VE-Series have a user adjustable relief valve to allow the operator to easily set the optimum working pressure.



**VE33-115
VE43-115**

- ① User Adjustable Relief Valve
- ② Auxiliary Port

▼ Shown top to bottom: VEC-15600D, VEK-15000B, VEC-15000B



- Ideal for independent control of multiple cylinders or functions
- Relief valve and pilot-operated check accessory valves are stackable between manifold and valve body
- Remote and pump mounting

Valve Flow Path	Used with Cylinder	Valve Code	Hydraulic Symbol
4-Way, 3-Position (4/3) Open Center	Double-acting	A	
4-Way, 3-Position (4/3) Closed Center	Double-acting	B	
4-Way, 3-Position (4/3) Tandem Center	Double-acting	C	
4-Way, 3-Position (4/3) Float Center	Double-acting	D	
4-Way, 2-Position (4/2) Crossover Offset	Double-acting	E	
3-Way, 3-Position (3/3) Tandem Center	Single-acting	F	
3-Way, 3-Position (3/3) Closed Center	Single-acting	G	
2-Way, 2-Position (2/2) Normally Closed	System	H*	
2-Way, 2-Position (2/2) Normally Open	Un-loading	K*	
4-Way, 2-Position (4/2) Float Offset	Double-acting	M	
3-Way, 2-Position (3/2) Normally Open	Single-acting	P	

* Requires use of tank port for dump or unloading.

Unmatched Combinations and Possibilities



3-Way Check Valve

Use a **VS-51** 3-way pilot operated check valve assembly to convert your 3-way modular valve into a load-holding valve.



4-Way Check Valve

Use a **VS-61** 4-way pilot operated check valve assembly to convert your 4-way modular valve into a load-holding valve.



System Pressure Control

To add system pressure control to your modular valve, order **VS-11 Relief Valve** assembly.



Bolt Kits for Accessory Valves With No Manifold

Order Bolt Kit **BK-2** when adding one of the accessory valves. Order Bolt Kit **BK-3** when adding any combination of two accessory valves.

How to order one of the 1,300 possible model numbers?

With over 1,300 possible model numbers, Enerpac has the perfect valve for you. Use the "chart" to build your own valve for the specific application you require. This is the complete guide to all the Modular valves that are available.

CUSTOM BUILD YOUR MODULAR VALVES

▼ This is how a Modular Valve Model Number is built up:



1	2	3	4	5	6
Solenoid Operated Valve	Valve Flow Path	Flow Capacity	Voltage	Accessory Valves	Manifold

1 Product Type

VE = Solenoid Operated Valve

2 Valve Code

- A** = 4/3 Open Center
- B** = 4/3 Closed Center
- C** = 4/3 Tandem Center
- D** = 4/3 Float Center
- E** = 4/2 Crossover Offset
- F** = 3/3 Tandem Center
- G** = 3/3 Closed Center
- H** = 2/2 Normally Closed
- K** = 2/2 Normally Open
- M** = 4/2 Float Offset
- P** = 3/2 Normally Open

3 Flow Capacity

1 = 4 gallons per minute

4 Voltage

- 1** = 24 VDC
- 2** = 220/240 V, 1 ph, 50 Hz
- 5** = 115 V, 1 ph, 60 Hz
- 6** = 230 V, 1 ph, 60 Hz

5 Accessory Valves

- 000** = No accessory valves
- 100** = Relief Valve only
- 150** = Relief Valve and 3-way pilot operated check valve
Only for VEF/VEG
- 160** = Relief Valve and 4-way pilot operated check valve
Only for VEA/VEB/VEC/VED
- 500** = 3-way pilot operated check valve
Only for VEF/VEG
- 600** = 4-way pilot operated check valve
Only for VEA/VEB/VEC/VED

6 Manifold

- A** = No manifold**
- B** = Remote Mounted
- D** = Pump Mounted*

* Only for valve code: **VEA/VEC/VEF**

** Must order Bolt Kit separately.

Example: VEA-15600-D

VEA-15600-D is a Modular Valve with a 4-way, 3-position open center flowpath, 115 VAC, and an integral pilot-operated check valve, for mounting on an Enerpac pump.

VE Series



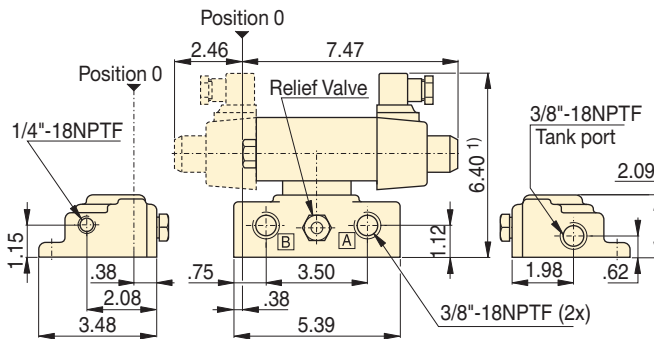
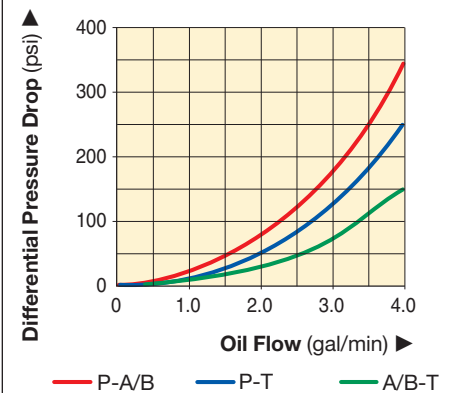
Flow Capacity:

4 gal/min.

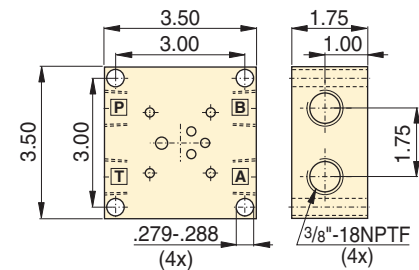
Maximum Operating Pressure:

10,000 psi

Pressure Drop versus Oil Flow



Modular Valve Pump Mounted ¹⁾ add 1.85 inch for each Accessory Valve



Modular Valve Remote Mount Manifold

Maximum Operating Pressure (psi)	Amperage Draw			Seal Material	Valve Plug
	24 VDC	115 VAC 60 Hz	230 V 60 Hz		
0 - 10,000	N/A Inrush	3.6 A Inrush	1.8 A Inrush	Buna-N, Polyurethane	DIN 43650
	2.5 A Holding	1.0 A Holding	.5 A Holding		