

### Frequently Asked Questions

What is the difference between your accessory valves and others I already use?

Vektek accessory valves are sized for the normal flows and conditions present in hydraulic clamping systems. They are not intended for use in general industrial equipment as they are specifically intended for clamping. Maximum intended flow rate on any Vektek accessory valve is 5,7 l/min. Excessive flows may cause damage or erratic behavior. General industrial products are intended for use in large flow applications (typically 7,6 l/min +). These general industrial products do not normally work well in clamping systems.

What is the function of a pressure reducing valve? Relative to a pressure relief valve?

Pressure reducing valves limit the pressure that can pass through the valve. The valve remains open and fluid flows freely to downstream devices until the pressure in the valve reaches the pressure (adjustable) set-point. At the set-point pressure, the valve closes blocking further flow and pressure rise to the downstream devices. If there is sufficient down stream pressure loss, the PRV will re-open and allow flow to pass through the valve until the pressure returns to the valve set-point.

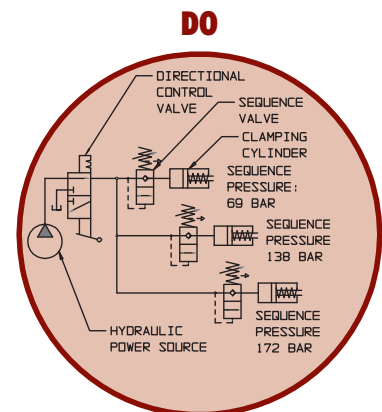
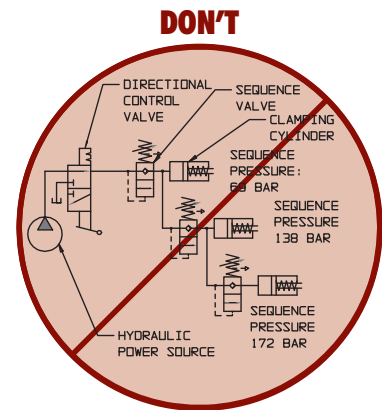
Pressure relief valves (sometimes known as pressure regulating valves) are intended to guard against excess pressure. When a circuit builds beyond the setting of a pressure relief valve, it opens and excess fluid is returned to tank through a return line. If a relief valve is set below the pressure adjustment of a pump, the pump will kick on and off frequently. Incorrect adjustment of a pressure relief valve can cause expensive damage to your pump.

Explain why you don't want me to put a group of sequence valves in series?

When a group of sequence valves is put in sequence they have to work harder than if they are fed parallel from a single main feed line (see illustration). If they are stacked in a series, each modulates trying to maintain pressure while feeding downstream valves. This will cause premature wear. Many "series" sequence valves are in a parallel circuit stacked side by side. You may put as many sequence valves in parallel as you wish. We recommend approximately 35 bar (3,5 MPa) difference in their settings.

What is the difference between your ball valve and the "screw down" valves I can buy locally?

Our ball valves shut off a circuit and maintain that seal until rotated and pressure is released later. They are intended for applications that will not allow for leakage or are repetitive. They change from closed to full open with 1/4 turn of the handle.



ILMVSCHAA REV A



CAD drawings available at  
[www.vektek.com](http://www.vektek.com)

 **VEKTEK**  
VEKTEK, INC.  
+1-913-365-1045

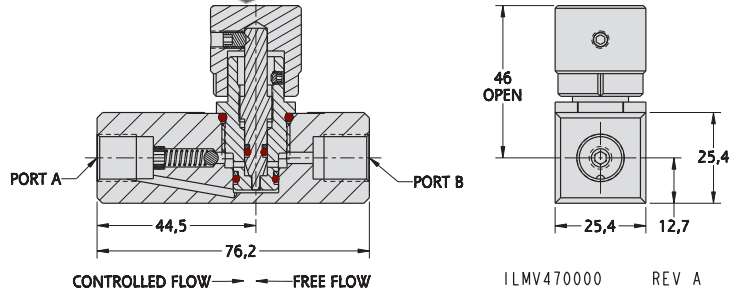
© Vektek, Inc. June 2011

# Accessory Valves

## Flow Control and Check Valves

### Precision Flow Control

- Precision flow adjustment with 0,4 mm pitch needle valve
- Protect sensitive components from excessive flow
- For single component or system control
- Flows up to 11,3 l/min at 350 bar maximum pressure
- Check valve for reverse free flow
- Available in G 1/4 port size
- Stainless steel inner valve construction
- Fluorocarbon seals are standard



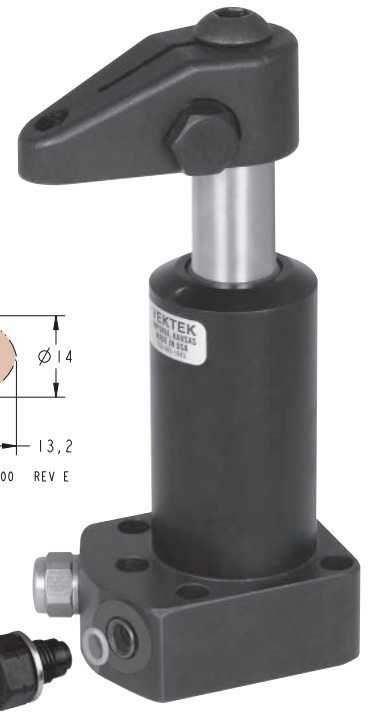
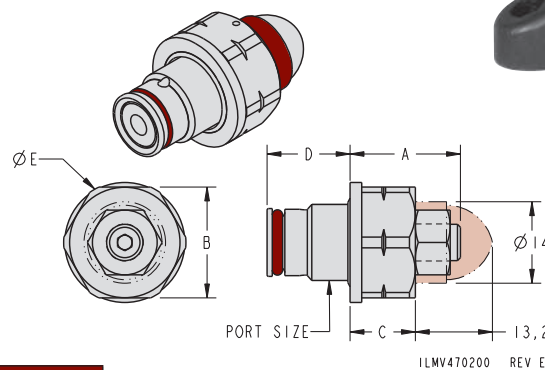
### In-line Flow Control

Model No.	A Port	B Port
47-0200-14	G 1/4	G 1/4

### In-port Precision Flow Control

- Use with Single or Double Acting clamps
- Reverse free flow check valve
- Smallest high-pressure flow control valve on the market
- Prevent component cam damage from unexpected or accidental surges in flow rate
- Available in US Customary and Metric measures
- BHC™ (Black hard Coating)

Flow control requires the use of manifold mount ports.



### Dimensions

Model No.	Port Size	A Max	B Hex	C Hex	D	E
47-0203-70	G 1/8	20,7	14	11,1	10,67	15,9
47-0203-71	G 1/8	20,7	14	11,1	15,16	15,9
47-0203-73	G 1/4	20,9	19	11,2	14,22	21
47-0203-74	G 1/4	20,9	19	11,2	18,72	21

M-2

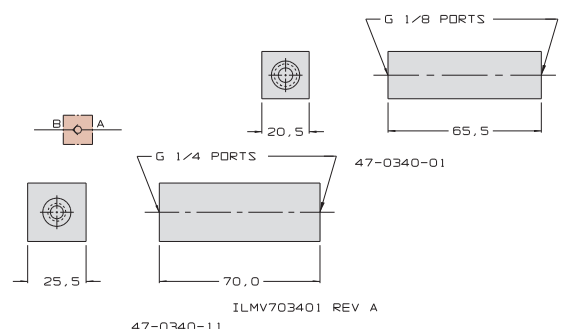
Consult the swing clamp specifications page for the valve that is appropriate for your application.

### Check Valves

Permits flow in one direction only. Cannot be adjusted for reverse flow.



Check Valve	
Model No.	Port
47-0340-01	G 1/8
47-0340-11	G 1/4



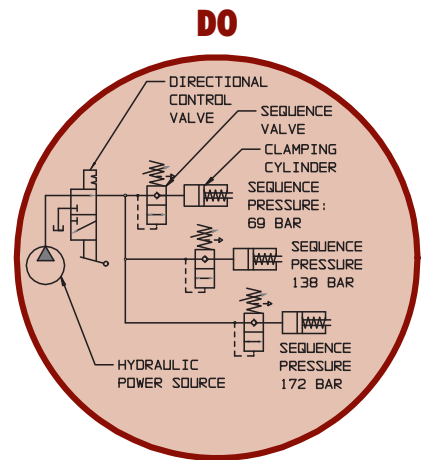
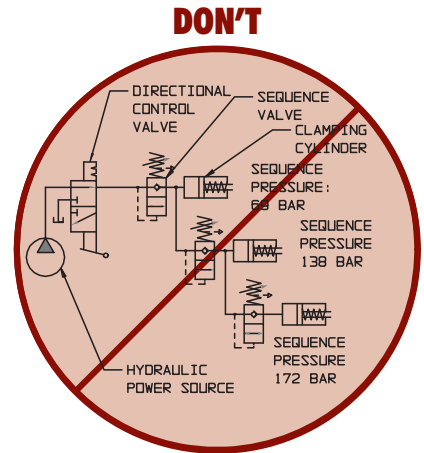
### Sequence Valve

- 100% stainless steel construction resists corrosion which can cause other styles to "misfire"
- Direct acting poppet style, adjustable, cartridge type construction
- Cartridge may be installed directly into your manifold
- Pressure adjustment range: 35 bar (3,5 MPa) to 350 bar (35 MPa)
- Two-port design eliminates need for third fluid line to drain bypass flow (internal leakage) back to system reservoir
- True sequence design allows full system pressure downstream of valve after opening



Sequence Valve	
Model No.	Description
47-0440-02	Assembly
47-0440-00	Cartridge Only

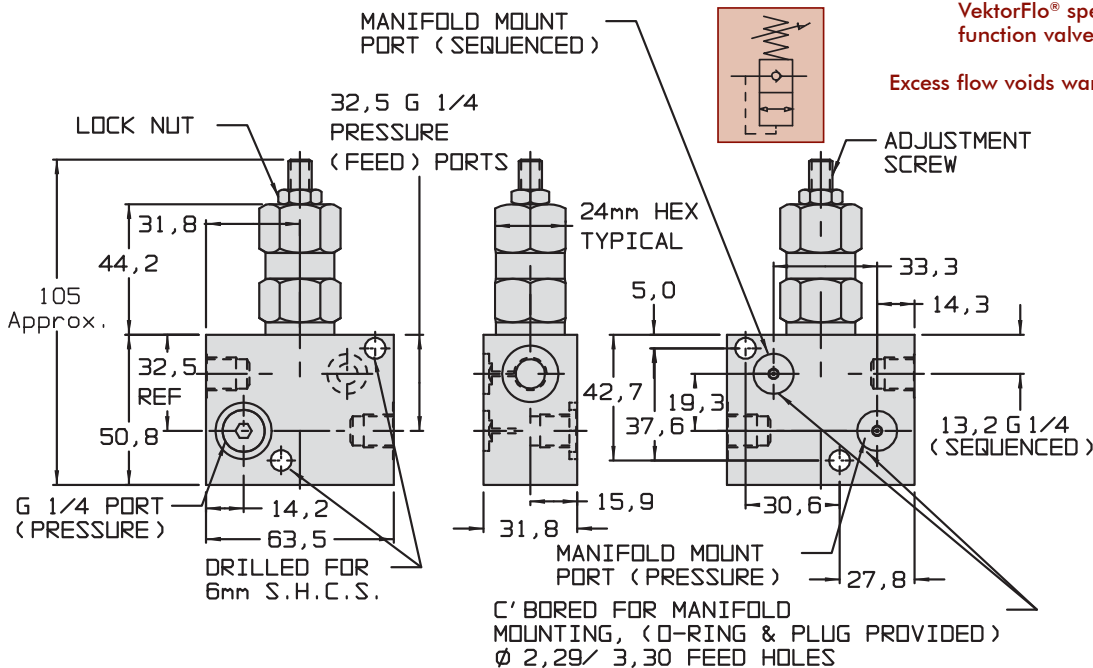
**Operation:** The VektorFlo® sequence valve operates as a pressure sensitive, normally closed element in a clamping system. When fluid first enters the system at low pressure, the valve is closed, blocking the flow of fluid to devices downstream. After devices upstream of the valve have moved into position and pressure begins to increase, the increasing pressure overcomes the spring force holding the valve closed, forcing the poppet off its seat, and allowing fluid flow through the valve. After downstream devices have positioned and clamped, and downstream pressure has increased to equal upstream pressure, pressure throughout the system increases to the maximum level setting on the hydraulic power supply. When unclamping, as pressure falls, force from the adjustment spring pushes the poppet back onto its seat. Fluid trapped in the downstream circuit flows back through the check valve to return to the power unit reservoir.



ILMVSCHAA REV A

**NOTE:** Maximum system flow rate is 5.7 l/min. for all VektorFlo® special function valves.

Excess flow voids warranty.



47-0440-02 SEQUENCE VALVE WITH MANIFOLD

ILMV704400 REV D

CAD drawings available at  
www.vektek.com

For proper sealing, the mating surface must be flat within 0,08 mm with a maximum surface roughness of 1,6  $\mu\text{m}$   $R_a$ .

**VEKTEK**  
VEKTEK, INC.  
+1-913-365-1045

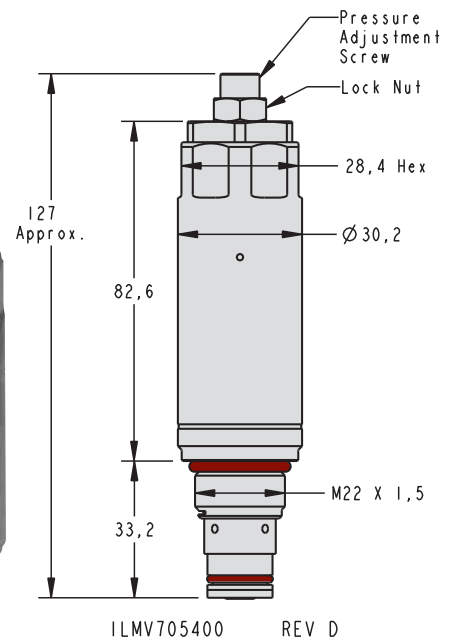


# Accessory Valves

## Pressure Reducing Valve

### Pressure Reducing Valve:

- For use in double or single acting systems
- Direct acting, poppet style, adjustable, cartridge construction
- Cartridge may be installed directly into your manifold
- Set the Range from 69 bar ( 6.9 MPa) to 310.3 bar (31 MPa) recommended
- Repeatability is +/- 7% of set pressure.
- Maximum inlet pressure 350 bar (35 MPa)
- Two-port design eliminates need for third fluid line to drain bypass flow (internal leakage) back to system reservoir

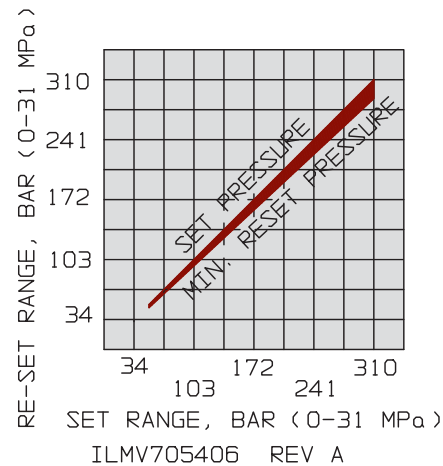


### Pressure Reducing Valve

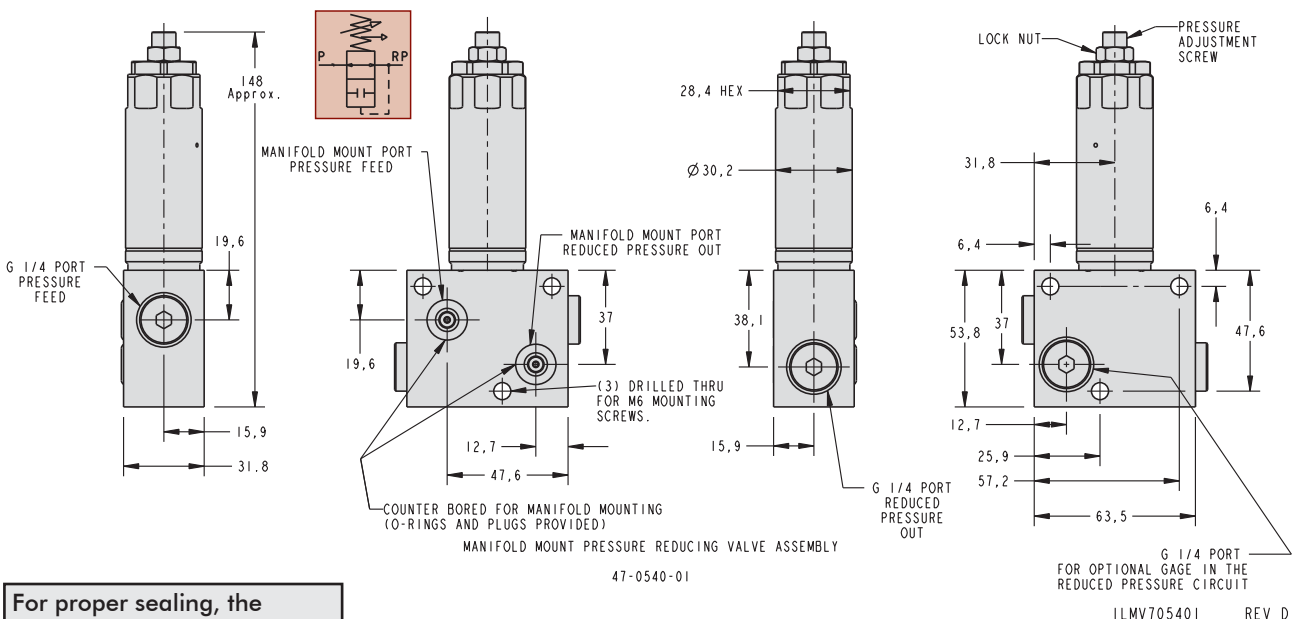
Model No.	Description
47-0540-01	Assembly
47-0540-00	Cartridge Only

**Operation:** The Pressure Reducing Valve (PRV) is a Normally Open (N/O) pressure control device. The valve remains open and fluid flows freely to downstream devices (from the valve to devices) until the pressure in the valve reaches the pressure (adjustable) set-point. At the set-point pressure, the valve closes blocking further flow and pressure rise to the downstream devices. If there is a sufficient down stream pressure loss (from the valve to devices), the PRV will re-open, allowing flow to pass through the valve until the pressure again reaches the valve set-point. The PRV is designed for use in both single-acting and double-acting systems.

Once the PRV closes, it will re-open in the event of a downstream pressure loss, allowing the pressure to again build to the intended system set-point.



U. S. Patent Nos.  
6,581,628  
5,931,182



For proper sealing, the mating surface must be flat within 0,08 mm with a maximum surface roughness of 1,6  $\mu\text{m}$   $R_a$

M-5

**VEKTEK, INC.**  
+1-913-365-1045

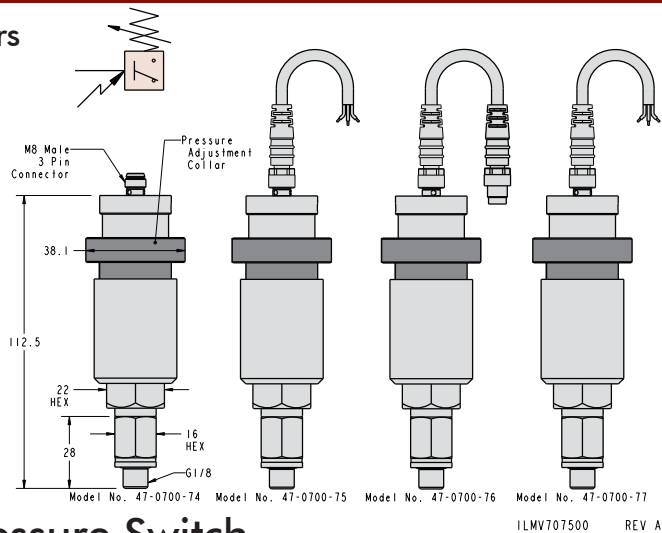
© Vekttek, Inc. June 2011

# Accessory Valves

Pressure Switch, Gauges, In-line Filters

## NEW

And Improved



## Waterproof Pressure Switch

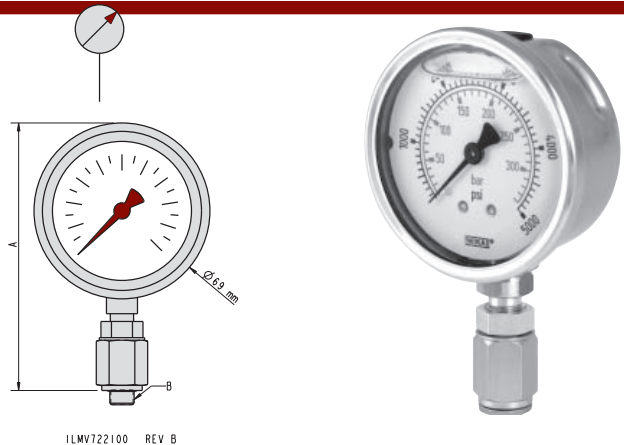
- New sealed collar and micro-switch designs guard against liquid ingress; making this switch ideal for use in moisture environments.
- New electrical sub-assembly uses standard M8 connectors for simplified custom applications.
- Superior cable connections that withstand stress, seal securely and are easily changed or serviced.
- Switch tested well beyond 1,000,000 cycles.
- Pressure range between 750 and 5000 psi.
- Electrical Rating
  - 1 amp @ 28 VDC resistive
  - 5 amp @ 125/250 VAC
- Reset deadband : approximately 5% of the set pressure.

## Pressure Switch

Model No.	Pressure Range	Electrical Connection	Wiring Instructions
47-0700-74		M8 Male Connection only	N/A
47-0700-75	55 bar (5.5 MPa)	Part No. 27-6424-03 cordset, 1 m long with female M8 connector and bare ends	Brown ... N/O Black ... N/C Blue ... Common
47-0700-76	to 350 bar (35,0 MPa)	Part No. 27-7424-00 cordset, 0,5 m long with M8 male and female connections.	N/A
47-0700-77		Part No. 27-6424-00 cordset, 5 m long with M8 female connector and bare ends.	Brown ... N/O Black ... N/C Blue ... Common

## Standard Gauges

- Liquid filled gauges up to 700 bar (70 MPa) analog readouts
- Conform to ANSI standard B40.1 Grade B
- G 1/8 male connection

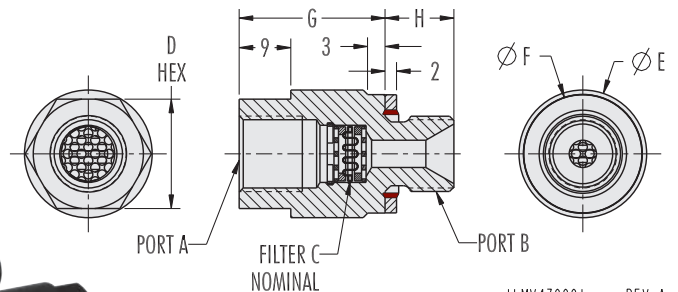


Gauges			
Model No.	Pressure Range	A	B
47-2210-00	0-350 bar	107	G 1/8
47-2210-01	0-700 bar		
47-2210-02	0-350 bar	106	G 1/4
47-2210-03	0-700 bar		

M-6

## In-line Filter

- Available in 2 filter ratings; 10 and 25 Micron
- Filters at 350 bar (35 MPa) in either flow direction
- Compact in-line design for maximum flexibility
- Protect sensitive valves and devices
- Serviceable for cleaning or filter replacement
- Maximum Flow of 11.3 l/m
- Maximum Ambient temperature of 93° C



In-line Filters								
Model No.	A	B	C	D	E	F	G	H
47-0048-80	G 1/4	G 1/4	10 Micron	19	22,2	18,8	25,4	11,9
47-0048-81	G 1/4	G 1/4	25 Micron	19	22,2	18,8	25,4	11,9

