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/minute. Excessive flows may cause damage or erratic behavior. General industrial products are intended for use in large flow applications (typically 7.6 l/minute +). 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 downstream 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 a series, they have to work harder than if they are fed parallel from a single main feed line. 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.

Explain why I might select one filter over another.

Vektek offers three styles of filter. The first type is In-line Filter (available in 10 or 25 micron filtration), designed and sized to be used in-line where fine filtration is desired to help protect devices (restricted to a maximum flow rate of 3 gpm) making this unit particularly flexible in meeting your design criteria. You can also mount these filters directly into the device ports of sensitive valves and components to guard against contamination.

The second style is the Basic Filter which is also available in 10 and 25-micron filter ratings. These filters catch small debris and are intended for high contamination systems. The larger filtering surface allows this unit to accept up to 7 gpm and handle larger quantities of chip contamination before maintenance. The frequency of maintenance is determined by the amount of contamination present in your system. Simple flushing will often improve the flow through these filters when performance becomes obviously limited.

Our third type of filter element is an In-line Screen Mesh. This filter is intended to catch the big chips (180 micron rating). At fixture assembly, it is easy to forget to clean the I.D. (inside diameter) of the tubing before introducing oil to the plumbing. Tubing and manifold passages may contain chips, dirt, cobwebs, tape or paper. These contaminants will break loose and lodge in a valve resulting in valve failure. By using these “chip catchers” you can reduce expense and can make your system more dependable.

Standard Features

Common Features: Sequence, Pressure Relief and Pressure Reducing Valves

- Material: All cartridge components are steel, operating parts are hardened.
- Operating Media: Conventional, petroleum based, premium quality hydraulic fluid such as VektorFlo® Model No. 65-0010-01, see page J-1.
- Recommended Filtration: 25 Micron (NOM) / 40 Micron (ABS) (minimum).
- Adjustments: Turning adjustment screw clockwise (when viewed from adjustment end of cartridge) increases pressure setting on all three valve styles.

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

Excess flow voids warranty.
Precision Flow Control
- Precision flow adjustment with 0.4 mm pitch needle valve.
- Protect sensitive components from excessive flow.
- Use as master control for system control.
- Control flow as a meter-in device in clamping systems to prevent damage.
- Flows up to 11.3 l/min at 350 bar maximum pressure.
- Check valve for reverse free flow.
- Stainless steel inner valve construction.
- Fluorocarbon seals are standard.
- Locking adjustment knob preventing change in flow.

<table>
<thead>
<tr>
<th>In-Line Flow Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.</td>
</tr>
<tr>
<td>47-0200-14</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Check Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model No.</td>
</tr>
<tr>
<td>47-0340-01</td>
</tr>
<tr>
<td>47-0340-11</td>
</tr>
</tbody>
</table>
In The Port Sequence Valves

- Installs directly into device port, requires manifold mounting.
- Works with Top Flange, Bottom Flange Swing Clamps, Link Clamps and High Capacity Work Supports.
- Controls timing of individual devices on your fixture.
- Each valve can be individually adjusted from the factory preset.
- True sequencing design allows full system pressure downstream of valve after opening.
- Maintains pressure upstream while device actuates.
- Three pressure ranges available with adjustability within each range.*
- Can be added after the fixture is built to assure proper sequencing.
- Use with single or double acting clamps; in clamp port, unclamp port, or both.
- Internal reverse free flow check valve allows for faster return.
- Accessories available; Pressure pre-set block and in-line adapter block.

Valve Pressure Pre-Set Block

In the Port Sequence Valve In-Line Adapter Block

Dimensions

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Factory Preset Pressure</th>
<th>Set Pressure Range</th>
<th>Port Size X Depth</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0443-30</td>
<td>50 bar</td>
<td>20-60 bar</td>
<td>G 1/8 x 15.16</td>
<td>28</td>
<td>16</td>
<td>20.3</td>
<td>17.5</td>
<td>5.6</td>
<td>14</td>
</tr>
<tr>
<td>47-0443-31</td>
<td>100 bar</td>
<td>35-150 bar</td>
<td>G 1/4 x 18.72</td>
<td>34.5</td>
<td>19</td>
<td>27.4</td>
<td>21.0</td>
<td>5.0</td>
<td>17</td>
</tr>
</tbody>
</table>

*Number of sequences within each range depends on number of devices, pump flow & operating pressure.

Note: Max flow not to exceed the individual device rating or 3.8 l/min whichever is lower.

Maximum inlet pressure for in-port sequence valve is 350 Bar, excess voids warranty.
Consult the double acting work support, high capacity work support, the swing clamp or link clamp specifications page for the valve that is appropriate for your application.

In the Port Cavity Dimensions

Note: Max flow rate not to exceed the individual device rating or 3.8 l/min whichever is lower.
NEW

**Air Sensing Control Kit for Pneumatic Confirmation Systems**

- Adjustable air pressure and flow gives you the ability to monitor most confirmation valves, part present or clamp position systems.
- Easy electronic pressure switch adjustment with 2 PNP* digital set points and 1 analog output to meet your specific needs.
- Can be used with Pallet Decouplers, Pneumatic Confirmation Valves, Part Present Sensing Work Supports or self-made part location orifices.
- Ready-to-use kit with everything you need to feed back a confirmation signal of your choice!

**Specifications**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Max Air Pressure(KPa)</th>
<th>Operating Pressure Range (KPa)</th>
<th>Max Air Flow Rate (CM/H)</th>
<th>Filtration Element (micron)</th>
<th>Power Supply (VDC)</th>
<th>Power Consumption (mA)</th>
<th>2 Digital Contacts</th>
<th>1 Analog Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>45-0824-00</td>
<td>1379</td>
<td>0-172</td>
<td>20</td>
<td>5</td>
<td>50</td>
<td>N/O or N/C</td>
<td>0-10V or 4-20 mA</td>
<td></td>
</tr>
</tbody>
</table>

* For NPN applications order signal converter cable 27-8420-00.

**Subplate isolation filters to protect your valves from debris and contamination**

- Compact sandwich subplate design adds only 11.4 mm to the device height.
- Filter Plate dimensions match the mating product footprint. (See mating product catalog specifications)
- 25 micron filters are easily replaceable.
- Service kits available for easy and simple maintenance.

**Filter Plates**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Valve Type</th>
<th>A (in.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0842-01</td>
<td>Combination Sequence &amp; Pressure Reducing Valve</td>
<td>12</td>
</tr>
<tr>
<td>47-0842-02</td>
<td>Pressure Reducing Valve</td>
<td>12</td>
</tr>
<tr>
<td>47-0842-03</td>
<td>Sequence Valve</td>
<td>12</td>
</tr>
<tr>
<td>45-0842-04</td>
<td>Sequence Valve Manifold Mount Only</td>
<td>12</td>
</tr>
<tr>
<td>47-0842-05</td>
<td>Pallet Decoupler Bottom Mount</td>
<td>18</td>
</tr>
<tr>
<td>47-0842-06</td>
<td>Pallet Decoupler Rear Mount</td>
<td>18</td>
</tr>
</tbody>
</table>

*Shown with Sequence Valve as an example*
Accessory Valves

Flow Control

In The Port Precision Flow Control

- Use with single or double acting clamps.
- Meter-in flow control with 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.
- Adjusting screw is positively retained and will not come out under pressure.
- Integral reverse free flow check valve for use with single or double acting clamps.
- Flow control requires the use of manifold mount ports.

Consult the Swing Clamp or Link Clamp specifications page for the valve that is appropriate for your application.

Dimensions

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Port Size X Depth</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0203-71</td>
<td>G 1/8 x 15.16</td>
<td>20.7</td>
<td>14</td>
<td>11.1</td>
<td>15.9</td>
</tr>
<tr>
<td>47-0203-74</td>
<td>G 1/4 x 18.72</td>
<td>20.9</td>
<td>19</td>
<td>11.2</td>
<td>21</td>
</tr>
</tbody>
</table>

Note: Max flow rate not to exceed the individual device rating or 3.8 l/min whichever is lower.

Cavity Dimensions

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0203-71</td>
<td>G 1/8</td>
<td>8.84</td>
<td>15.16</td>
<td>9.9</td>
<td>16.5</td>
<td>1/8-28 BSP</td>
<td>8.5</td>
<td>6</td>
<td>12.83</td>
<td>7</td>
</tr>
<tr>
<td>47-0443-3X</td>
<td>G 1/4</td>
<td>11.89</td>
<td>18.72</td>
<td>13.3</td>
<td>21.5</td>
<td>1/4-19 BSP</td>
<td>12.5</td>
<td>10</td>
<td>16.39</td>
<td>10</td>
</tr>
</tbody>
</table>

Temporary Hold Parts During Unclamp

- Set delay to control unclamp in single acting devices. Use in single or double acting systems.
- Eliminate workpiece movement, caused by backpressure, when unclamping over a work support.
- Normally open valve allows free fluid flow through the valve during clamping.
- Does not require “B” pilot line to open.
- Stainless steel internal components for superior corrosion resistance.
**Unclamp Delay Valve**

**Time delays pressure release in a critical circuit while unclamping**

- Adjust the delay to control unclamp timing in single-acting devices. May be used with single or double-acting clamping systems.
- Eliminate workpiece movement, caused by residual pressure when unclamping over a work support.
- Normally open valve (with crossover plate) allows free fluid flow through the valve during clamping, delays release timing during unclamping.
- Conveniently mounts between the Vektek Sequence Valve and the fixture manifold (for sequenced operation downstream) or can be ported with fittings and tubing.
- Stainless steel internal components for superior corrosion resistance.

**Operation:** The VektorFlo® Unclamp Delay Valve operates as a normally open element in a hydraulic clamping system. Low pressure fluid flows freely through the valve to downstream devices. As pressure in the system builds, the mechanical pilot piston moves away from the check valve allowing it to close. Full system pressure is reached and flow in the system stops. If pressure leaks off in downstream devices, the check valve will re-open and replenish pressure. During unclamping, inlet pressure falls with main system pressure but downstream pressure is held constant by the check valve.

### 4 Mounting Options

1. **USE AS STANDALONE VALVE EXTERNALLY PLUMBED**
2. **EXTERNALLY PLUMBED PAIRED TO SEQUENCE VALVE**
3. **USE AS STANDALONE VALVE MANIFOLD MOUNTED TO FIXTURE USING CROSSEOVER PLATE**
4. **USE IN NEW OR EXISTING APPLICATIONS UNDER SEQUENCE VALVE MANIFOLD MOUNTED TO FIXTURE**
5. **2X M6 MOUNTING HOLES THREAD 10 MINIMUM THREAD DEPTH**

For proper sealing, the mating surface must be flat within 0.08 mm with a maximum surface roughness of 1.6 µm Ra.
PO Check Cartridge

Model No.
47-0333-70

NOTE:
Field repair requires a special Check Valve Installation Tool. Please order Model No. 65-6000-00

VEKTEK CARTRIDGE MOUNT
PILOT OPERATED CHECK VALVE
P/N 47-0333-70

VEKTEK CARTRIDGE MOUNT PILOT OPERATED CHECK VALVE CAVITY DIMENSIONS*

M20 X 1.5-6g THREAD

OPTIONAL 61/8 PILOT PORT

VEKTEK CARTRIDGE MOUNT PILOT OPERATED CHECK VALVE

PILOT PORT

6.88 MIN

24.38 X 90°

17.6 MAX

27.33 MIN

44.81 MAX

INLET PORT

OUTLET

Ø17.48 ± 0.02
52.93 ± 0.12

Ø 0.05 A

Ø21.84 ± 0.02
17.81

Ø 0.05 A

SEE DETAIL A

M20 X 1.5-6H THREAD

12.7 MFT FROM BOTTOM OF Ø20.65 BORE

Ø20.65 ± 0.02
21.77

Ø 0.05 A

DETAIL A

SCALE 6.000

* STANDARD PORT CAVITY.
VEKTEK TOOLING AVAILABLE

M-7

NOTE: Field repair requires a special Check Valve Installation Tool. Please order Model No. 65-6000-00

Inside US 1-800-992-0236
www.vektek.com
Pilot Operated Check Valve

- Cartridge and Manifold Mount versions.
- Sealed pilot piston eliminates cross circuit leakage.
- 5:1 Ratio of Pilot to Check pressure for release.
- Unclamp device sequencer, provides a way to sequence single circuit unclamp timing.
- Flows up to 5.7 l/min at 350 bar maximum pressure.
- Stainless steel cartridge construction.

**Dimensions**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Mounting Style</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0331-71</td>
<td>Manifold G 1/4</td>
<td>50.8</td>
<td>41.3</td>
<td>25.4</td>
<td>42.1</td>
<td>39.7</td>
<td>8.7</td>
<td>G 1/4</td>
<td>26.9</td>
<td>28.6</td>
<td>7.1</td>
<td>11.1</td>
<td></td>
</tr>
<tr>
<td>47-0331-70</td>
<td>Manifold Only</td>
<td>44.5</td>
<td>38.1</td>
<td>22.2</td>
<td>38.9</td>
<td>36.5</td>
<td>5.5</td>
<td>N/A</td>
<td>N/A</td>
<td>23.8</td>
<td>N/A</td>
<td>7.1</td>
<td>11.1</td>
</tr>
</tbody>
</table>

For proper sealing, the mating surface must be flat within 0.08 mm with a maximum surface roughness of 1.6 µm Rₐ.
Sequence Valve

- Valve is 100% stainless steel construction and resists the corrosion which can cause other styles to “misfire.”
- Direct acting poppet style, adjustable cartridge type construction.
- The cartridge may be installed directly into your manifold.
- 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.
- Recommended Filtration: 25 Micron (NOM) / 40 Micron (ABS) (minimum).

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 allowing fluid flow through the valve. After downstream devices have positioned and clamped, and pressure has increased to equal upstream pressure, the entire system pressure rises 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.

Sequence Valve

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Set Range</th>
<th>A</th>
<th>B</th>
<th>Max. Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0440-02</td>
<td>52 to 350 bar</td>
<td>105</td>
<td>44.2</td>
<td>5.7 l/min</td>
</tr>
<tr>
<td>47-0440-03</td>
<td>20 to 62 bar</td>
<td>120.3</td>
<td>60.0</td>
<td>11.4 l/min</td>
</tr>
</tbody>
</table>

Maximum inlet pressure for SEQ valves is 350 bar
Excess flow voids warranty

Recommended filtration: 25 Micron (NOM)/40 Micron (ABS) (min.)

NOTE: When using multiple sequence valves.
For pressure set range 20 to 62 bar a 7 bar spread between pressures is recommended.
For pressure set range 52 to 350 bar a 35 bar spread between pressures is recommended.

Order a Filter Plate to protect valve from debris.
(More details on M-4)

Filter Plate

<table>
<thead>
<tr>
<th>Model No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0842-03</td>
</tr>
</tbody>
</table>

For proper sealing, the mating surface must be flat within 0.08 mm with a maximum surface roughness of 1.6 µm Rₐ.

*M3 Ports are counterbored for O-Rings that are used in manifold mounting applications.
∅ 2.29/ 3.30 feed holes
Sequence Valve for Tight Spaces

- 20% narrower than standard sequence valve.
- Valve is 100% stainless steel construction and resists the corrosion which can cause other styles to "misfire."
- The valve is the same one used in the larger block.
- Direct acting poppet style, adjustable cartridge type construction.
- The cartridge may be installed directly into your manifold.
- Pressure adjustment ranges are: 52 bar (5.2 MPa) to 350 bar (3.5 MPa) and 20 bar (2.0 MPa) to 62 bar (6.2 MPa).
- True sequence design allows full system pressure downstream of valve after opening.
- Recommended Filtration: 25 Micron (NOM) / 40 Micron (ABS) (min.)

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Set Pressure Range</th>
<th>A</th>
<th>Maximum Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0440-10</td>
<td>52 to 350 bar</td>
<td>101</td>
<td>5.7 l/min</td>
</tr>
<tr>
<td>47-0440-11</td>
<td>20 to 62 bar</td>
<td>116</td>
<td>11.4 l/min</td>
</tr>
</tbody>
</table>

Maximum inlet pressure for sequence valves is 350 bar
Excess flow voids warranty

For proper sealing, the mating surface must be flat within 0.08 mm with a maximum surface roughness of 1.6 µm Ra.
**Sequence Valve Cartridge**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Set Range A</th>
<th>B</th>
<th>Max. Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0440-00</td>
<td>52 to 350 bar</td>
<td>82.3</td>
<td>5.7 l/min</td>
</tr>
<tr>
<td>47-0440-01</td>
<td>20 to 62 bar</td>
<td>96.5</td>
<td>11.4 l/min</td>
</tr>
</tbody>
</table>

Maximum inlet pressure for SEQ valves is 350 bar

Excess flow voids warranty

**NOTE:**
For cavity tooling (multi-step Reamer and M20 x 1.5 Tap), order kit 62-7040-00
If a sequence valve is no longer needed, use 30-6011-20 plug, to cap cavity for free fluid pass through.
Accessory Valves

Combination SEQ/PRV Block

Timing and Regulated Pressure in One Unit

Sequence/PRV Block

- Control both timing and pressure with this dual purpose combination block.
- Common inlet port feeds both sequence and reducing valves.
- 3 (M8) manifold ports: Inlet, Sequenced and Sequenced + Reduced Pressure.
- 6 (G1/4) ports: 2 x Inlet, 2 x Sequenced and 2 Sequenced + Reduced Pressure.
- Use with single or double acting devices.
- Block includes standard Sequence and PRV cartridges.
- Direct acting poppet style valve construction.
- Sequence Pressure adjustment range: 20 bar to 350 bar
- PRV adjustment range: 10 to 310 bar.
- Elements spaced to accommodate Gauge for setup or trouble shooting.
- Recommended Filtration: 25 Micron (NOM) / 40 Micron (ABS) (minimum).

<table>
<thead>
<tr>
<th>Assembly Model No.</th>
<th>Sequence Valve Model No.</th>
<th>Sequence Valve Set Pressure Range</th>
<th>PRV Model No.</th>
<th>PRV Set Pressure Range</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0940-00</td>
<td>47-0440-00</td>
<td>52 - 350 bar</td>
<td>47-0540-00</td>
<td>52 - 310 bar</td>
<td>117.9</td>
<td>157.4</td>
</tr>
<tr>
<td>47-0940-01</td>
<td>47-0440-00</td>
<td>52 - 350 bar</td>
<td>47-0540-04</td>
<td>10 - 62 bar**</td>
<td>117.9</td>
<td>174.5</td>
</tr>
<tr>
<td>47-0940-02</td>
<td>47-0440-01</td>
<td>20 - 62 bar</td>
<td>47-0540-00</td>
<td>52 - 310 bar</td>
<td>133.0</td>
<td>157.4</td>
</tr>
<tr>
<td>47-0940-03</td>
<td>47-0440-01</td>
<td>20 - 62 bar</td>
<td>47-0540-04</td>
<td>10 - 62 bar**</td>
<td>133.0</td>
<td>174.5</td>
</tr>
</tbody>
</table>

* M8 Ports are counterbored for O-Rings that are used in manifold mounting applications. Ø 2.29/3.30 feed holes.
** PRV set pressure is: 10 - 60 bar with an inlet pressure of < 200 bar
20 - 60 bar with an inlet pressure > 200 bar

Order a Filter Plate to protect valves from debris. (More details on M-4)

Filter Plate
For above Valves
Model No. 47-0842-01

For proper sealing, the mating surface must be flat within 0.08 mm with a maximum surface roughness of 1.6 µm Ra.
**Pressure Reducing Valve**

- Use this valve in double or single acting systems.
- Direct acting, poppet style, adjustable, cartridge construction.
- Cartridge construction is the adjustable, direct acting, poppet style.
- Model 47-0540-01 set the pressure range from 52 bar (5.2 MPa) to 310 bar (31 MPa). Repeatability ± 7%.
- Model 47-0540-03 set the pressure range from 10 bar (1 MPa) to 62 bar (6.2 MPa). Repeatability ± 10%.
- Maximum inlet pressure is 350 bar (35 MPa).
- Two-port design eliminates the need for third fluid line to drain bypass flow (internal leakage) back to the system reservoir.
- Recommended Filtration is 25 Micron (NOM) / 40 Micron (ABS) (minimum).

**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 downstream 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.

**Pressure Drop vs Flow**

The graph shows the pressure drop through a PRV and manifold mount block.

**Pressure Reducing Valve**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Inlet Pressure</th>
<th>Set Pressure Range</th>
<th>Repeat A</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0540-01</td>
<td>350 bar (35 MPa)</td>
<td>52-310 bar (5.2 - 31.0 MPa)</td>
<td>± 7% 14B</td>
</tr>
<tr>
<td>47-0540-03</td>
<td>&lt; 200 bar (20 MPa)</td>
<td>10 - 62 bar (1 - 6.2 MPa)</td>
<td>± 10% 165</td>
</tr>
<tr>
<td></td>
<td>&gt; 200 bar (20 MPa)</td>
<td>20-62 bar (2.0 - 6.2 MPa)</td>
<td></td>
</tr>
</tbody>
</table>

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

Excess flow voids warranty.

Order a Filter Plate to protect valve from debris. (More details on M-4)

**Filter Plate**

For above Valves

| Model No. | 47-0842-02 |

For proper sealing, the mating surface must be flat within 0.08 mm with a maximum surface roughness of 1.6 µm Rₐ.
# Pressure Reducing Valve Cartridge

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Inlet Pressure</th>
<th>Set Pressure Range</th>
<th>Repeatability</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0540-00</td>
<td>350 bar (35 MPa)</td>
<td>52-310 bar (5.2 - 31.0 MPa)</td>
<td>± 7%</td>
<td>127</td>
<td>82.6</td>
</tr>
<tr>
<td>47-0540-04</td>
<td>&lt; 200 bar (20 MPa)</td>
<td>10 - 62 bar (1.0 - 6.2 MPa)</td>
<td>± 10%</td>
<td>144</td>
<td>100.7</td>
</tr>
</tbody>
</table>

**Note:**
For cavity tooling (multistep Reamer), order kit 62-7050-00.

---

**Pressure Reducing Valve Cartridge**

ILMV705408 REV B

---

**Minor Dia 20.62±0.25**
**M22x1.5-6h**
**STEP REAMER**

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**Note:**
For cavity tooling (multistep Reamer), order kit 62-7050-00.
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.
- Serviceable for cleaning or filter replacement.
- Maximum flow of 11.3 l/minute.
- Maximum ambient temperature of 93° C.

### Gauges

**Model No.**
- 47-2210-00
- 47-2210-01
- 47-2210-02
- 47-2210-03
- 47-2212-00

**Pressure Rating**
- 0-350 bar
- 0-700 bar
- 0-350 bar
- 0-100 bar

**Filter Rating**
- 10 Micron
- 25 Micron
- 10 Micron
- 25 Micron

### Back Mount Gauge

**Model No.**
- 47-2122-00
- 47-2222-00

**Pressure Range**
- 0-100 bar
- 0-100 bar

**A**
- 70
- 42.2

**B**
- 52
- 47.2

**C**
- 33.5
- 28

### Over Pressure Relief

**Model No.**
- 47-0638-71-02
- 47-0638-71-03
- 47-0638-71-04
- 47-0638-71-05
- 47-0638-71-06
- 47-0638-71-07
- 47-0638-71-08
- 47-0638-71-09
- 47-0638-71-10
- 47-0638-71-12
- 47-0638-71-14
- 47-0638-71-16
- 47-0638-71-18
- 47-0638-71-20
- 47-0638-71-22
- 47-0638-71-24

**Set Point (bar)**
- 20
- 30
- 40
- 50
- 60
- 70
- 80
- 90
- 100
- 120
- 140
- 155
- 175
- 310
- 345
- 380
- 415

**A (mm)**
- 47
- 61

### NEW

**Protect Your Low Pressure Devices running within a High Pressure System**

- Valve cartridge will open to bleed off excess pressure in the event of over-pressurization.
- Screw in valve cartridge adds an extra element of insurance in systems where you must use a pressure sensitive device.
- G1/4 male connection.
- Valve cartridge has a tamper proof plug.
- Leak-free operation before and after reseat condition.
- The only valve cartridge designed to bleed off excess pressure and re-seat at approximately 80% of set point.
**Mechanical Waterproof Pressure Switch**

- Switch tested over 1,000,000 cycle lifetime.
- New sealed collar and micro-switch design guard against leaks; making this switch ideal for use in wet environments.
- M8 connectors afford more standard wiring options.
- Superior reinforced cable connections that withstand stress, seal securely and are easily changed or serviced.
- Pressure range between 55 bar (5.5 MPa) to 350 bar (35 MPa).
- Electrical Rating:
  - 1 amp @ 28 VDC resistive
  - 5 amp @ 125/250 VAC
- Reset deadband: approximately 5% of the set pressure.
- Sealed switch for operating in high moisture environments. (Complies with IP 67.)
- Pressure Adjustment Collar:
  - Rotate clockwise to increase set pressure
  - Rotate counter clockwise to decrease set pressure

### Pressure Switch

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Pressure Range</th>
<th>Electrical Connection</th>
<th>Wiring Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0700-74</td>
<td>55 bar (5.5 MPa) to 350 bar (35.0 MPa)</td>
<td>M8 Male Connection only</td>
<td>Pin 1 ... N/O Pin 4 ... N/C Pin 3 ... Common</td>
</tr>
<tr>
<td>47-0700-75</td>
<td>55 bar (5.5 MPa) to 350 bar (35.0 MPa)</td>
<td>Part No. 27-7424-03 cordset, 1 m long with M8 male and female connections</td>
<td>Brown ... N/O Black ... N/C Blue ... Common</td>
</tr>
<tr>
<td>47-0700-76</td>
<td>55 bar (5.5 MPa) to 350 bar (35.0 MPa)</td>
<td>Part No. 27-7424-00 cordset, 0.5 m long with M8 male and female connections</td>
<td>Pin 1 ... N/O Pin 4 ... N/C Pin 3 ... Common</td>
</tr>
<tr>
<td>47-0700-77</td>
<td>55 bar (5.5 MPa) to 350 bar (35.0 MPa)</td>
<td>Part No. 27-7424-01 cordset, shielded, 0.5m long with M8 male and female connections</td>
<td>Brown ... N/O Black ... N/C Blue ... Common</td>
</tr>
<tr>
<td>47-0700-78</td>
<td>55 bar (5.5 MPa) to 350 bar (35.0 MPa)</td>
<td>Part No. 27-7424-01 cordset, shielded, 0.5m long with M8 male and female connections</td>
<td>Pin 1 ... N/O Pin 4 ... N/C Pin 3 ... Common</td>
</tr>
</tbody>
</table>
**Powered LED Display Electronic Pressure Switch**

- Large 4 digit LED pressure display.
- Requires power (15-32 VDC), not functional unpowered.
- Programmable deadband.
- Easy 3-Button programmable electronic pressure switch.
- 2 digital switching outputs, 500 mA Rating, PNP only.
- Single analog output, 0-10 V or 4-20 mA.
- Set pressure range of 0-413 Bar.
- Programmable reset pressure for each output.
- Environmental rating of IP 67.

### Pin Configuration

- **Pin 1,** Brown +15 - 32 VDC
- **Pin 2,** White Analog
- **Pin 3,** Blue 0 V
- **Pin 4,** Black SP1 0.5 A MAX
- **Pin 5,** Gray SP2 0.5 A MAX

### Model Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Pressure Range</th>
<th>Electrical Connection</th>
<th>Power Supply</th>
<th>Power Consumption</th>
<th>2 Digital Contacts</th>
<th>1 Analog Output</th>
<th>Media Temp. Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>47-0740-74</td>
<td>0-413 Bar</td>
<td>M12 Male 5 Pin</td>
<td>15 - 32 VDC</td>
<td>50 mA</td>
<td>Programmable N/O or N/C</td>
<td>Programmable 0-10 V or 4-20 mA</td>
<td>-25 to +100°C</td>
</tr>
</tbody>
</table>

### Additional Information

- **Model No.**
  - 27-7422-00
  - 27-7422-01
  - 27-7422-03
  - 27-9422-02

### Contact Information

- www.vektek.com
- Outside US +1-913-365-1045

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Confirm Clamp Stroke Position Pneumatically

The pneumatic confirmation valve confirms the stage of loading before or after clamping. It is adaptable to multiple devices including: Swing clamps, link clamps, cylinders and work supports. Avoid machine crashes by confirming specific actions before you cycle your machine. It is designed to be used in both coolant and dry environments, and is easily mounted either vertically or horizontally. Confirmation at its finest!

- Easily fine tune to your fixture giving you a choice of set and differential pressure.
- Confirm signal is based on restricting air flow when tested function is present.
- Over-travel sensing will reopen if a device depresses plunger too far on over travel models.
- Can help you detect missing or misloaded parts.
- Remote venting recommended in coolant applications.

Pneumatic Confirmation Valve can be used with almost any clamping device.

1/8 Tube - M3 Connector - Part No. P3-0370-20, (Order Separately).

NOTE: Mounting hardware not included.

For proper sealing, the mating surface must be flat within 0.08 mm with a maximum surface roughness of 1.6 µm.

Pneumatic Confirmation Valve

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
<th>Max Air Pressure (kPa)</th>
<th>Operating Pressure Range (kPa)</th>
<th>Air Flow Rate (L/Min)</th>
<th>Differential Pressure* @ 140 kPa Air Pressure (kPa)</th>
<th>@ 480 kPa Air Pressure (kPa)</th>
<th>Plunger Stroke (mm)</th>
<th>Spring Force (N)</th>
<th>Feed Port Nominal Diameter (mm)</th>
<th>Port Types</th>
<th>Transition Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>45-0485-00</td>
<td>Over-Travel Sensing</td>
<td>1000</td>
<td>70-480</td>
<td>10-20</td>
<td>80 Min.</td>
<td>310 Min.</td>
<td>10 Max</td>
<td>6.6-13.3</td>
<td>2</td>
<td>Manifold and M3</td>
<td>8.5 Stroke NO AIR FLOWS</td>
</tr>
<tr>
<td>45-0485-01</td>
<td>Standard</td>
<td>1000</td>
<td>70-480</td>
<td>10-20</td>
<td>80 Min.</td>
<td>310 Min.</td>
<td>10 Max</td>
<td>6.6-13.3</td>
<td>2</td>
<td>Manifold and M3</td>
<td>1.2 Stroke NO AIR FLOWS</td>
</tr>
</tbody>
</table>

* Pressure drop when one or more valves are open. All valves must be closed for pressure confirmation. Plumb multiple valves in parallel.
## Pneumatic Confirmation Valve Cartridge

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
<th>Max Air Pressure (kPa)</th>
<th>Operating Pressure Range (kPa)</th>
<th>Air Flow Rate (L/Min)</th>
<th>Differential Pressure*</th>
<th>Spring Force (N)</th>
<th>Plunger Stroke (mm)</th>
<th>Nominal Diameter (mm)</th>
<th>Max Torque (Nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>45-0495-00</td>
<td>Over-Travel Sensing</td>
<td>1000</td>
<td>70-480</td>
<td>10-20</td>
<td>80 Minimum</td>
<td>310 Minimum</td>
<td>10</td>
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<td>310 Minimum</td>
<td>10</td>
<td>6.6-13.3</td>
<td>2</td>
</tr>
</tbody>
</table>

* Pressure drop when one or more valves are open. All valves must be closed for pressure confirmation. Plumb multiple valves in parallel.

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**Notes:**
- Inlet port allowable to connect at any angle to these surfaces.
- Outlet port allowable to connect at any angle to these surfaces.