The Model 127-420 has a wide range of applications: anywhere a pressure must be reduced to a manageable level and the upstream system must be protected from low pressure. Typical examples include:
- High rise and commercial buildings
- Pump systems
- Zone pressure control in municipal and industrial water
- Irrigation systems

**OPERATION**

The normally open, spring-loaded pilot, sensing downstream pressure, responds to changes in pressure and causes the main valve to do the same. The net result is a constant modulating action of the pilot and main valve to hold the downstream pressure constant. The pilot system is equipped with an opening speed control that fine tunes the valve response to the system variables.

A normally closed, spring-loaded pilot, sensing upstream pressure, is installed in series with the reducing pilot. If upstream pressure falls to the set point of this pilot, it will begin to close and throttle the main valve to prevent the upstream pressure from falling any lower. At that point, downstream pressure will also begin to fall.

If downstream pressure becomes greater than upstream pressure, the valve will fully close to prevent reverse flow.

**COMPONENTS**

The Model 127-420 consists of the following components, arranged as shown on the schematic diagram:

1.) Model 65 Basic Control Valve
2.) Model 1340 Pressure Reducing Pilot
3.) Model 1330 Pressure Sustaining Pilot
4.) Model 126 Ejector - Fixed orifice pilot system supply restrictor
5.) Model 141-3 Flow Control Valve - Opening speed control
6.) Model 141-1 Check Valve
7.) Model 159 Y-Strainer - Protects pilot system from dirt/debris
8.) Model 141-4 Isolation Ball Valves
9.) Model 155 Visual Indicator (Optional)

**SIZING**

Sizing is a critical issue in the selection of pressure reducing valves. Definitive sizing information can be found in the OCV Catalog, Series 127 section and Engineering section Performance Charts. Consult the factory for assistance and a copy of the OCV ValveMaster Sizing program.

**MAX. PRESSURE**

(The pressures listed below are maximum pressures at 100°F)

<table>
<thead>
<tr>
<th>END CONNECTIONS</th>
<th>DUCTILE IRON</th>
<th>STEEL/STN STL</th>
<th>BRONZE</th>
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<tbody>
<tr>
<td>Threaded</td>
<td>640 psi</td>
<td>640 psi</td>
<td>500 psi</td>
</tr>
<tr>
<td>Grooved</td>
<td>300 psi</td>
<td>300 psi</td>
<td>300 psi</td>
</tr>
<tr>
<td>150# Flanged</td>
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<tr>
<td>300# Flanged</td>
<td>640 psi</td>
<td>740 psi</td>
<td>500 psi</td>
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</table>

TOLL FREE 1.888.628.8258  •  phone: (918)627.1942  •  fax: (918)622.8916  •  7400 East 42nd Place, Tulsa, Ok 74145
email: sales@controlvalves.com  •  website: www.controlvalves.com
**SPECIFICATIONS** *(Typical Water Application)*

The pressure reducing/sustaining/check valve shall function to reduce a higher upstream pressure to a constant, lower downstream pressure, and prevent the upstream pressure from falling below a predetermined minimum. If downstream pressure becomes greater than upstream pressure, the valve will close fully to prevent reverse flow.

**DESIGN**

The pressure reducing/sustaining/check valve shall be a single-seated, line pressure operated, diaphragm actuated, pilot controlled globe valve. The valve shall seal by means of a corrosion-resistant seat and a resilient, rectangular seat disc. These, and other parts, shall be replaceable without removing the valve from the line. The stem of the main valve shall be guided top and bottom by integral bushings. Alignment of the body, bonnet and diaphragm assembly shall be by precision dowel pins. The diaphragm shall not be used as a seating surface, nor shall the pistons be used as an operating means. The pilot system shall be furnished complete and installed on the main valve. It shall include an opening speed control, Y-strainer, check valves and isolation ball valves. The pressure reducing/sustaining/check valve shall be operationally and hydrostatically tested prior to shipment.

**MATERIALS OF CONSTRUCTION**

The main valve body and bonnet shall be ductile iron per ASTM A536, Grade 65-45-12. All ferrous surfaces shall be coated with 4 mils of epoxy. The main valve seat ring shall be low-lead Bronze. Elastomers (diaphragms, resilient seats and O-rings) shall be EPDM. Control pilots shall be low-lead Bronze. The opening speed control and isolation ball valves shall be brass, and control line tubing shall be copper.

**OPERATING CONDITIONS**

The pressure reducing/sustaining/check valve shall be suitable for reducing inlet pressures of \(<X\) psi to a constant outlet pressure of \(<X\) psi at flow rates ranging from \(<X\) to \(>X\) gpm, and sustain inlet pressure to a minimum of \(<X\) psi.

**ACCEPTABLE PRODUCTS**

The pressure reducing/sustaining/check valve shall be a <size> Model 127-420, <globe pattern, angle pattern>, with <150# flanged, 300# flanged, threaded, grooved> end connections, as manufactured by OCV Control Valves, Tulsa, Oklahoma, USA.

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**For maximum efficiency, the OCV control valve should be mounted in a piping system so that the valve bonnet (cover) is in the top position. Other positions are acceptable but may not allow the valve to function to its fullest and safest potential. In particular, please consult the factory before installing 8" and larger valves, or any valves with a limit switch, in positions other than described. Space should be taken into consideration when mounting valves and their pilot systems.**

A routine inspection & maintenance program should be established and conducted yearly by a qualified technician. Consult our factory at 1-888-628-8258 for parts and service.

How to order your Model 127-420 valve

When Ordering please provide:

- Fluid to be controlled - Model Number - Size
- Globe or Angle - End Connection - Body Material
- Trim Material - Pilot Options - Outlet Pressure Setting or Spring Range - Inlet Pressure Setting or Spring Range - Special Requirements / Installation Requirements.

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- 7400 East 42nd Place, Tulsa, Oklahoma 74145
- email: sales@controlvalves.com
- website: www.controlvalves.com

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**U.S. DIMENSIONS - INCHES**

<table>
<thead>
<tr>
<th>DIM</th>
<th>A</th>
<th>B</th>
<th>C</th>
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<tbody>
<tr>
<td>END</td>
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