The OCV Pressure-Reducing Valve is used in many applications worldwide. The primary function of the 127 series is to provide a constant discharge pressure, regardless of changes in the demand or in upstream supply pressure. This is achieved without regard to either upstream supply or downstream demand.

### SERIES FEATURES
- Reduces higher inlet pressure to a constant lower outlet pressure.
- Outlet pressure is accurate over wide range of flow. 
- Control valve is not subject to pressure fall-off characteristics of direct-acting PRVs.
- Outlet pressure is adjustable over complete range of control spring. (see pilot features).

### VALVE FEATURES
- Operates automatically at low pressure.
- House-made, nylon-reinforced diaphragm.
- Diaphragm-shaped soft seat provides dry tight Class VI closure.
- Diaphragm assembly Gasketed top and bottom.
- Throttling seat resistant to flow and pressure variation.
- Easily maintained without removal from the line.
- Replaceable seat ring.
- Alignment pins assure proper alignment of the seat assembly.
- Valves are factory tested.
- Valves are serial numbered and registered to facilitate replacement parts and factory support.

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.

### DIMENSIONS

<table>
<thead>
<tr>
<th>Type</th>
<th>Pressure Range</th>
<th>Dimensions A</th>
<th>Dimensions B</th>
<th>Dimensions C</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**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.

### CONTROL AIR SPECIFICATIONS

- **Regulating:** 14" dia. by 39.5" long
- **Inlet:** 23" dia. by 24" long
- **Outlet:** 16" dia. by 23" long
- **Pressure Class:** 250 psi
- **Temperature:** 200°F
- **Valve Size:** 10" dia.
- **Capacity:** 1500 gpm

### ADVANTAGES

- **Rugged:** Designed for maximum efficiency and durability.
- **Compact:** Provides a compact solution for pressure reduction applications.
- **Low Maintenance:** Requires minimal maintenance due to the use of nylon-reinforced diaphragm.
- **High Flow Capacity:** Allows for high flow rates without sacrificing pressure control.
- **Customizable:** Can be customized to meet specific application needs.

### APPLICATIONS

- **Process Control:** Used in process control systems to maintain a constant discharge pressure.
- **Flow Control:** Used to control flow rates in a wide range of applications.
- **Pressure Reduction:** Used to reduce high pressures to a lower, manageable pressure.
- **Energy Efficiency:**有助于提高能源效率，适用于多种工业应用。

### TOLL FREE: 1-800-628-8258

**Phone:** (918) 627-1942
**Fax:** (918) 622-8916

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

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Global performance. Personal touch.
**VALVE OPERATION**

- Model 127-3 Basic Control Valve: A high-pressure, proprietary, diaphragm-actuated valve or single valve, which comes with an electric or pneumatic actuator.
- Model 1270 Pressure Reducing Pilot: A pneumatically or electrically operated valve which operates at the required downstream pressure. The valve will maintain this pressure regardless of changes in demand or inlet pressure.
- Model 126 Ejector: A diaphragm-operated ejector valve which is designed to maintain a constant discharge pressure. It is suitable for use in systems where the pressure drop is small and the flow rate is relatively constant.

**STAGING PRESSURE REDUCING VALVES**

For the most comprehensive information on pressure reducing valves, it is best to use ValveMaster software or the Performance Charts in the catalog. The following procedure will help you select the correct valve and ensure that you are selecting the most effective valve for your application.

**Procedure**

1. **Step 1:** Calculate Cv Minimum
   - Open the desired flow rate to maintain a constant minimum pressure. As the pressure decreases, the flow will also decrease. The minimum pressure should be set to allow for any upstream pressure fluctuations.
   - For example, if the minimum pressure is 10 psi, the flow should be set to allow for a pressure drop of 2 psi.
   - Using the flow chart, find the minimum flow rate that will allow for a pressure drop of at least 2 psi.

2. **Step 2:** Calculate Cv Maximum
   - As the pressure increases, the flow will also increase. The maximum pressure should be set to allow for any downstream pressure fluctuations.
   - Using the flow chart, find the maximum flow rate that will allow for a pressure drop of at least 2 psi.

3. **Step 3:** Size the Valve
   - Using the flow chart, find the valve size that will allow for the desired pressure drop. The valve size should be selected to ensure that the pressure drop is at least 2 psi.

4. **Step 4:** Check Valve Size
   - Using the flow chart, find the valve size that will allow for the desired pressure drop. The valve size should be selected to ensure that the pressure drop is at least 2 psi.

**CAUTION CONCERNS**

Pressure reducing valves are, by their application, subject to pressure differentials that may induce cavitation. Certain features are required to avoid cavitation and minimize its effects.

- **Characteristics of Valves:**
  - The valve should be sized to allow for a pressure drop of at least 2 psi. This will help to minimize cavitation and ensure proper operation.
- **Flow Rate:**
  - The valve should be sized to allow for a flow rate that is at least 2 to 3 times the flow rate that is expected to be required. This will help to ensure proper operation and minimize cavitation.
- **Pressure Drop:**
  - The pressure drop should be at least 2 psi to ensure proper operation and minimize cavitation.

**ABOUT YOUR VALVE**

OCV Control Valves has been in operation for more than 60 years with a commitment to quality and performance. From modest beginnings, the company has grown to be a global leader in the design and manufacture of control valves, pressure reducing valves, and other related valve products. OCV Controls is dedicated to providing customers with the highest quality products and services. OCV Controls is committed to providing customers with the highest quality products and services. OCV Controls is dedicated to providing customers with the highest quality products and services.
VALVE OPERATION

6.) Two Model 141-4 Ball Valves
5.) Model 159 Y-Strainer
4.) Model 141-3 Flow Control Valve

Pressure Reducing Valve Series 127

PILOT 1240 2420

Step 1: Calculate Cv Minimum

\[ \text{Cv Minimum} = \frac{Q_{\text{Minimum}}}{2420 - \text{Ps}} \]

Ps = Desired outlet pressure, psi
Q = Flow rate

Step 2: Calculate Cv Maximum

\[ \text{Cv Maximum} = \frac{Q_{\text{Maximum}}}{2420 - \text{Ps}} \]

Ps = Desired outlet pressure, psi
Q = Maximum anticipated flow, GPM

Step 3: From the table, find the size that includes both the Cv Min. and the Cv Max. you have calculated in the previous steps.

Step 4: From the line that includes the Cv you calculated at Step 3, look for the Cv listed.

PILOT Operation

1.) VALVE SIZE 2.) INLET PRESSURE - OUTLET PRESSURE

<table>
<thead>
<tr>
<th>Size</th>
<th>16&quot;</th>
<th>14&quot;</th>
<th>12&quot;</th>
<th>10&quot;</th>
<th>8&quot;</th>
<th>4&quot;</th>
<th>2 ½&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>285-2570</td>
<td>--------</td>
<td>250-2250</td>
<td>150-1350</td>
<td>100-900</td>
<td>27-243</td>
<td>7.8-70</td>
</tr>
<tr>
<td>Cv Min.</td>
<td>13,800</td>
<td>--------</td>
<td>8,700</td>
<td>6,150</td>
<td>3,900</td>
<td>1,000</td>
<td>370</td>
</tr>
<tr>
<td>Cv Max.</td>
<td>--------</td>
<td>10,500</td>
<td>6,150</td>
<td>4,500</td>
<td>3,000</td>
<td>850</td>
<td>250</td>
</tr>
</tbody>
</table>

For the most comprehensive procedure in sizing pressure reducing valves, it is best to use ValveMaster software or the Performance Charts in the catalog. The following procedure will get you very close and leave you to decide if you need to move forward with sizing PRV's as an existent valve.

COUNTERACTING CONCERNS

Pressure reducing valves, by their application, subject to pressure differentials that may induce cavitation. Often when these conditions exist, it may be very different from an identified back pressure. To ensure maximum Cv, the following points should be considered:

1.) Flow stability
2.) Proper selections of Cv
3.) Adequate and proper design
4.) Adequate and proper protection
5.) Fist Datum

PILOT Operation

1.) Adjusting Screw Cover
2.) Gasket
3.) Screws
4.) Needle Valve
5.) O-Ring
6.) Electrode
7.) Pressure Reducing Pilot

CUTOUT TYPES

1.) LOW FLOW BY-PASS / LF
2.) FIXED WASTE / FW
3.) VARIABLE WASTE / VW
4.) VARIABLE BY-PASS / VB

SIZING PRESSURE REDUCING VALVES

For the most comprehensive procedure in sizing pressure reducing valves, it is best to use ValveMaster software or the Performance Charts in the catalog. The following procedure will get you very close and leave you to decide if you need to move forward with sizing PRV's as an existent valve.

Step 1: Calculate Cv Minimum

\[ \text{Cv Minimum} = \frac{Q_{\text{Minimum}}}{2420 - \text{Ps}} \]

Ps = Desired outlet pressure, psi
Q = Flow rate

Step 2: Calculate Cv Maximum

\[ \text{Cv Maximum} = \frac{Q_{\text{Maximum}}}{2420 - \text{Ps}} \]

Ps = Desired outlet pressure, psi
Q = Maximum anticipated flow, GPM

Step 3: From the table, find the size that includes both the Cv Min. and the Cv Max. you have calculated in the previous steps.

Step 4: From the line that includes the Cv you calculated at Step 3, look for the Cv listed.

ABOUT YOUR VALVE

DCV Control Valves was founded more than 60 years ago with a vision to combine quality and reliability, from modest beginnings, the company has grown to be a global leader just a half century later. The company is today a world-recognized and globally respected manufacturer of industrial process control valves and associated systems. OCV Valves has been a leader in the development of pressure reducing systems in Malaysia to aircraft seating systems in Dubai, and from the refineries to Russia in water supply systems in the USA and Canada. We are proud to be one of the leading players in Singapore and Malaysia and have sold our valves in many countries in Europe, South America, and the Middle East.

Due to the work we do, our team consists of over 150 people. We are proud to support each customer with quality products and services. We use the most recent technology and standards to ensure our products are reliable and dependable.

Global performance. Personal touch.
6.) Two Model 141-4 Ball Valves maintains a constant downstream pressure despite fluctuations in demand and inlet pressure.

7.) Flushing pilots, useful for isolating the pilot system for maintenance or troubleshooting.

8.) Pressure-reducing pilot. An increase in downstream pressure tends to make the pilot close.

9.) An increase in downstream pressure under its diaphragm and balances it against an adjustable spring load.

10.) From solid contaminants in the line fluid.

11.) Accurate sensing of outlet pressure.

12.) Simple, single-stage.

13.) All parts replaceable while mounted on valve.

14.) Visual indication of diaphragm condition.

15.) A simple “tee” fitting with a fixed orifice in its upstream port. It provides the accurate pressure to the diaphragm chamber of the main valve, depending on the position of the pressure-reducing pilot.

16.) A two-way, normally-open pilot valve which senses and controls the main valve in the event of a change in downstream pressure.

17.) Valve maintains a constant downstream pressure despite fluctuations in demand and inlet pressure.

18.) The Model 1340 & 2420 Pressure Reducing Valve Series 127

<table>
<thead>
<tr>
<th>VALVE SELECTION</th>
</tr>
</thead>
</table>
| 1.) VALVE SIZE | 2.) INLET PRESSURE - OUTLET PRESSURE | 3.) FLOW RANGE - Minimum - Maximum | 4.) FLUID VAPOR PRESSURE (if other than water) | 5.) FLUID 

<table>
<thead>
<tr>
<th>Value</th>
<th>Sliding Valve Ch. Range</th>
<th>Equalizing Valve Ch. Range</th>
<th>Flow for 250 FPM</th>
<th>Ps = Design outlet pressure, psi</th>
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<tbody>
<tr>
<td>4&quot;</td>
<td>20-180</td>
<td>27-243</td>
<td>1,000</td>
<td>127-3LP</td>
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</table>
| 2 ½   | 6.8-61                  | 7.8-70                    | 370            | 127-3LF

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<thead>
<tr>
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<th>Lowflow, LP</th>
<th>Lowflow, LP</th>
<th>Lowflow, LP</th>
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<tbody>
<tr>
<td>1½-2</td>
<td>2.3-21</td>
<td>3.7-33</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>1 ¼</td>
<td>2.3-21</td>
<td>3.7-33</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2.3-21</td>
<td>3.7-33</td>
<td>115</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cv. min.</th>
<th>Cv. max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,900</td>
<td>10,500</td>
</tr>
<tr>
<td>8,700</td>
<td>25,000</td>
</tr>
<tr>
<td>10,500</td>
<td>40,000</td>
</tr>
<tr>
<td>25,000</td>
<td>40,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model &amp; Size</th>
<th>Minimum</th>
<th>Maximum</th>
<th>250 FPM</th>
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</thead>
<tbody>
<tr>
<td>2 ½</td>
<td>370</td>
<td>370</td>
<td>370</td>
</tr>
<tr>
<td>1 ¼-1 ½</td>
<td>115</td>
<td>115</td>
<td>115</td>
</tr>
<tr>
<td>1</td>
<td>115</td>
<td>115</td>
<td>115</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
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<tbody>
<tr>
<td>Pressure Reducing Valve</td>
<td>Series 127</td>
</tr>
<tr>
<td>Pilot</td>
<td>Pilot</td>
</tr>
<tr>
<td>Machined valve</td>
<td>Machined valve</td>
</tr>
<tr>
<td>Stainless Steel</td>
<td>Low-Lead Bronze</td>
</tr>
</tbody>
</table>

| Pressure Reducing Valve Series 127

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<tr>
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</tr>
<tr>
<td>Stainless Steel</td>
<td>Low-Lead Bronze</td>
</tr>
<tr>
<td>PP</td>
<td>PP</td>
</tr>
</tbody>
</table>

| ABOUT YOUR VALVE |

| DCV Control Valves was founded more than 40 years ago with a vision to conceive and create the best, engineering, expert support, exactly the kind of company that could be a global leader in fluid control. From that very beginning, we have grown to become the world leader in fluid control, serving the power generation, transportation, mining, oil and gas, water and wastewater, and other industries around the world. Our team of engineers and technicians is ready to provide the service and support you need to keep your operation up and running. We welcome the challenge of solving your problems and are confident in the quality of our products and services.

| All valves are not created equal. DCV Control Valves is dedicated to providing products that stand the test of time. We believe that our valves are not only durable, but also built to last. We invest in high-quality materials and advanced manufacturing processes to ensure that every valve we produce meets our stringent standards. Our team of experts works closely with customers to customize our products to meet their unique needs, resulting in reliable and cost-effective solutions. Whether you need a simple valve for a small project or a complex valve for a large-scale installation, we have the expertise and capabilities to deliver. Contact us today to learn more about our range of valves and how we can help you achieve your goals.

<table>
<thead>
<tr>
<th>TOLL FREE</th>
<th>1.800.628.8258</th>
<th>phone: (918)627.1042</th>
<th>fax: (918)622.8916</th>
</tr>
</thead>
<tbody>
<tr>
<td>email: <a href="mailto:sales@controlvalves.com">sales@controlvalves.com</a></td>
<td>phone: (918)622.8916</td>
<td>website: <a href="http://www.controlvalves.com">www.controlvalves.com</a></td>
<td>email: <a href="mailto:sales@controlvalves.com">sales@controlvalves.com</a></td>
</tr>
</tbody>
</table>
Chemical Valve Co. www.controlvalves.com

Pressure Reducing Valve Series 127

Series Features

- Reduces higher inlet pressure to a constant lower outlet pressure.
- Outlet pressure is accurate over wide range of flow.
- Pilot-operated main valve is not subject to pressure fall off characteristic of direct-acting PRV's.
- Outlet pressure is adjustable over complete range of control spring (see pilot features).
- Operates automatically off line pressure.
- Heavy-duty, nylon-reinforced diaphragm.
- Rectangular-shaped, soft seat seal provides drip-tight Class VI closure.
- Diaphragm assembly guided top and bottom.
- Throttling seat retainer for flow and pressure stability.
- Easily maintained without removal from the line.
- Replaceable seat ring.
- Alignment pins assure proper reassembly after maintenance.
- Valves are factory tested.
- Valves are serial numbered and registered to facilitate replacement parts and factory support.

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. Valves are acceptable mounted in any position other than the top, although the valve should be hanging downward in order to prevent any water with a liquid component from accumulating in the valve. 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 Valve

When ordering please provide:

- Series Number
- Valve size
- Globe or Angle
- Pressure Class
- Screwed, Flanged, Grooved
- Trim Material
- Adjustment Range
- Pilot Options (see catalog)
- Special needs / or installation requirements.

Dimensions

Pressure Reducing Valve Series 127

| Model | Series | Size | Trim Material | Adjustment Range | Pressure Class
|-------|--------|------|---------------|------------------|-----------------|
| 127-6 | 15     | 1-1/4" | Stainless Steel | 9-57"            | 250 psi (Cetan)
| 127-8 | 20     | 2"     | Stainless Steel | 9-57"            | 500 psi (Cetan)
| 127-10| 25     | 2-1/2" | Stainless Steel | 9-57"            | 300 psi (Cetan)
| 127-12| 3"     | 3"     | Stainless Steel | 9-57"            | 500 psi (Cetan)

Related Resources

- See Series 372
- See Series 121

Valve Features

Regardless of the source of high pressure, the 127-3 reduces that pressure to a constant discharge pressure, despite fluctuations in the demand or inlet pressure. Here, a parallel valve arrangement is used to handle a wide range of demand.

(see Sizing Pressure Reducing Valves)

Model 127-3 shown

For more information, please contact the factory at 1-888-628-8258.
The OCV Pressure-Reducing Valve is used in many applications worldwide. The primary function of the 127-3 series is to reduce or control pressures in a process without regard to either upstream supply or downstream demand.

**SERIES FEATURES**
- Reduces higher inlet pressure to a constant lower discharge pressure, despite fluctuations in demand or inlet pressure.
- Pilot-operated main valve eliminates pressure drop characteristic of direct-acting PRVs.
- Outlet pressure is adjustable over complete range of controlspring (see pilot features).
- Operates automatically, at any demand.
- Heavy-duty, nylon-reinforced diaphragm.
- Rectangular shaped, soft seat seal provides drip-tight Class VI closure.
- Guided top and bottom throttling seat retainers for flow and pressure stability.
- Easily maintained without removal from the line.
- Replaceable seat ring.
- Alignment pins assure proper reassembly after maintenance.
- Valves are factory tested.
- Valves are serial numbered and registered to facilitate replacement parts and factory support.

Regardless of the source of high pressure, the 127-3 reduces that pressure to a constant discharge pressure, despite fluctuations in the demand or set point pressure. When a pilot valve arrangement is used to handle a wide range of demand, see Series Pressure Reducing Valves.