The OCV Series 94 check valve is a simple on-off valve that opens to allow forward flow when inlet pressure exceeds outlet and closes tightly to prevent backflow when outlet pressure exceeds inlet pressure.

**Global performance. Personal touch.**

TOLL FREE 1.888.628.8258

phone: (918)627.1942  |  fax: (918)622.8916

7400 East 42nd Place, Tulsa, OK 74145

e-mail: sales@controlvalves.com  |  website: www.controlvalves.com

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**SERIES FEATURES**

- Non-surge opening and/or closing when equipped with adjustable opening and/or closing speed controls.
- Equipped with valve position indicator on all models.

---

**DIMENSIONS**

| DIM | END CONN | 1.144-1.1/2 | 2 | 2.1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 | 24 |
|-----|----------|--------------|---|-------|---|---|---|---|---|----|----|----|----|----|----|----|
| A   | SCREWED  | 8.3/4       | 8.7/8 | 10.1/2 | 13 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| B   | SCREWED  | 8.3/4       | 8.7/8 | 10.1/2 | 13 | 18.1/4 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
|     | 15# PLUG | 5.1/2       | 5.3/4 | 10.1/2 | 13 | 18.1/4 | 20 | -- | -- | -- | -- | -- | -- | -- | -- |
| C   | SCREWED  | 1.7/8       | 11/16 | 1.7/8 | 2.1/4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
|     | 15# PLUG | 3.1/2       | 3/4   | 3/4   | 4/1/2 | 5/1/2 | 6/1/2 | 8/1/2 | 8/3/4 | 9/16 | 10 | 11.1/2 | 12 | 15 | 18 |
|     | 30# PLUG | 3.1/2       | 3/4   | 3/4   | 4/1/2 | 5/1/2 | 6/1/2 | 8/1/2 | 8/3/4 | 9/16 | 10 | 11.1/2 | 12 | 15 | 18 |
|     | 60# PLUG | 3.1/2       | 3/4   | 3/4   | 4/1/2 | 5/1/2 | 6/1/2 | 8/1/2 | 8/3/4 | 9/16 | 10 | 11.1/2 | 12 | 15 | 18 |
|     | 100# PLUG| 3.1/2       | 3/4   | 3/4   | 4/1/2 | 5/1/2 | 6/1/2 | 8/1/2 | 8/3/4 | 9/16 | 10 | 11.1/2 | 12 | 15 | 18 |
|     | 150# PLUG| 3.1/2       | 3/4   | 3/4   | 4/1/2 | 5/1/2 | 6/1/2 | 8/1/2 | 8/3/4 | 9/16 | 10 | 11.1/2 | 12 | 15 | 18 |
|     | 15# PLUG | 3.1/2       | 3/4   | 3/4   | 4/1/2 | 5/1/2 | 6/1/2 | 8/1/2 | 8/3/4 | 9/16 | 10 | 11.1/2 | 12 | 15 | 18 |
|     | 30# PLUG | 3.1/2       | 3/4   | 3/4   | 4/1/2 | 5/1/2 | 6/1/2 | 8/1/2 | 8/3/4 | 9/16 | 10 | 11.1/2 | 12 | 15 | 18 |
|     | 60# PLUG | 3.1/2       | 3/4   | 3/4   | 4/1/2 | 5/1/2 | 6/1/2 | 8/1/2 | 8/3/4 | 9/16 | 10 | 11.1/2 | 12 | 15 | 18 |
|     | 100# PLUG| 3.1/2       | 3/4   | 3/4   | 4/1/2 | 5/1/2 | 6/1/2 | 8/1/2 | 8/3/4 | 9/16 | 10 | 11.1/2 | 12 | 15 | 18 |
|     | 150# PLUG| 3.1/2       | 3/4   | 3/4   | 4/1/2 | 5/1/2 | 6/1/2 | 8/1/2 | 8/3/4 | 9/16 | 10 | 11.1/2 | 12 | 15 | 18 |
|     | 200# PLUG| 3.1/2       | 3/4   | 3/4   | 4/1/2 | 5/1/2 | 6/1/2 | 8/1/2 | 8/3/4 | 9/16 | 10 | 11.1/2 | 12 | 15 | 18 |

**DIMENSIONS - INCHES**

**DIMENSIONS - MILLIMETERS (M.M.)**

**RE VISE D 10/01/15**

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**TYPICAL APPLICATION**

**Check Valve Series 94**

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**Model 94 Shown**

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**VALVE FEATURES**

- Operates automatically off line pressure.
- Heavy-duty, nylon-reinforced diaphragm isolates top chamber operating pressure from bottom chamber line pressure.
- 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.
- Diagram replaced without removing internal stem assembly.
- Replaceable seat ring.
- Alignment pins assure proper realignment after maintenance.
- Center-tapped bonnet facilitates installation of position indicator or valve-actuated switches.
- Ductile iron and steel valves are epoxy-coated inside and out, for maximum corrosion protection.
- 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.

---

**Check Valve Series 94**

---

**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 - Special needs /or installation requirements.

**TOLL FREE 1.888.628.8258**

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---

**Used in conjunction with the Model 126, the Series 94 provides start-up and shut-down surge protection for deep well pumps.**

---

**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.**

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**VALVE OPERATION**

The OCV Model 94-1 check valve, with adjustable opening speed, is a simple on-off valve that opens to allow forward flow and closes tightly to prevent backflow. The valve operates on the differential between two pressures—upstream or inlet pressure acting under the seat of the valve, and downstream or discharge pressure acting on the diaphragm via the single hydraulic line. When upstream pressure is greater than the valve opening, or forward flow, the valve opens at an adjustable rate to allow flow. When downstream pressure is greater (backflow), the valve is forced fully closed.

The Model 94-1 consists of the following:

1. Model 65 Basic Valve
2. Model 141-3 Opening Speed Control
3. Model 159 Y-Strainer
4. Model 141-4 Ball Valve
5. Model 155 Valve Position Indicator

**SIZING CONSIDERATIONS**

For the most comprehensive procedure in sizing Series 94 control valves, it is best to use our ValveMaster software or the guidelines shown here in conjunction with the Performance Charts in the Engineering Section of the OCV catalog.

Check valves are nearly always linesized, however there are some limitations. Model 94, with no speed controls, should be used only where flow velocities will not exceed 6 ft/sec. Check valves with speed controls (94-1, 94-2, etc.) may be used at flow velocities up to 15 ft/sec.

<table>
<thead>
<tr>
<th>SIZE</th>
<th>1 ½”</th>
<th>2”</th>
<th>2 ½”</th>
<th>3”</th>
<th>4”</th>
<th>5”</th>
<th>6”</th>
<th>8”</th>
<th>10”</th>
<th>12”</th>
<th>14”</th>
<th>16”</th>
<th>24”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow @ 6 ft/sec (USGPM)</td>
<td>28</td>
<td>38</td>
<td>50</td>
<td>60</td>
<td>90</td>
<td>140</td>
<td>240</td>
<td>540</td>
<td>940</td>
<td>1470</td>
<td>2100</td>
<td>2500</td>
<td>3300</td>
</tr>
<tr>
<td>Flow @ 15 ft/sec (USGPM)</td>
<td>70</td>
<td>95</td>
<td>150</td>
<td>225</td>
<td>345</td>
<td>600</td>
<td>1350</td>
<td>2350</td>
<td>3675</td>
<td>5250</td>
<td>6300</td>
<td>8250</td>
<td>18750</td>
</tr>
</tbody>
</table>

**GLOBAL PERFORMANCE. PERSONAL TOUCH.**

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**VALVE SELECTION GUIDE**

Series 94 Check Valves are available with various combinations of speed controls. Select the desired features and then the model number.

This chart shows only a sample of those most often specified valves. Consult the factory for specific data on the model you selected.

**ABOUT YOUR VALVE**

OCV Control Valves was founded more than 60 years ago with a vision and commitment to quality and reliability. From modest beginnings, the company has grown to be a global leader just a half century later. This growth has enabled OCV Control Valves to place valves in many countries around the world from fire protection systems in Malaysia to aircraft fueling systems in Africa and from oil refineries in Russia to water supply systems in the US and Canada. You will also find our valves in irrigation systems in Europe, South America and the Middle East.

The original foundation on which the company was built was an all-employee team of professionals to not only provide the service required to be a worldwide supplier, but more importantly the opportunity to afford the personal touch necessary to be each of our customers’ best partner. Simply stated, we take pride in all that we do.

Committed to the work they do, our employees average over 15 years of service. This wealth of knowledge allows us to provide quality engineering, expert support, exacting control and the know-how to create valves known for their long life.

Being ISO 9001 certified means we are committed to a quality assurance program. Our policy is to supply each customer with consistent quality products and ensure that the process is right every time. Our valves meet and exceed industry standards around the world. Including approvals by:

**SPECIFICATIONS**

- **Material Specification**: ASTM A516/515/20 (flame control) / ASTM A516MC (flame control)
- **ALL GRADES**

<table>
<thead>
<tr>
<th>END CONNECTIONS</th>
<th>Flange Standard (where applicable in metric)</th>
<th>ANSI B16.12</th>
<th>ANSI B16.5</th>
<th>ANSI B16.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange Class</td>
<td>150# 300# 150# 300# 150# 300#</td>
<td>150# 300#</td>
<td>150# 300#</td>
<td></td>
</tr>
<tr>
<td>Flange Face</td>
<td>Flat Raised Raised Raised Raised Raised</td>
<td>Flat</td>
<td>Raised</td>
<td></td>
</tr>
<tr>
<td>Screwed Working Pressure</td>
<td>80 psi 175 psi 240 psi 640 psi 940 psi 1470 psi</td>
<td>140 psi</td>
<td>Raised</td>
<td></td>
</tr>
<tr>
<td>Grooved End Working Pressure</td>
<td>300 psi</td>
<td>Grooved</td>
<td>End</td>
<td>Working</td>
</tr>
</tbody>
</table>

**ELECTRICAL SOLENOIDS**

- **Brass** / Optional – Stainless Steel
- **Endurance**: 50,000 – 24, 120, 240, 480 Volts
- **Operation**: Energi-to-Open (Normally Closed) / De-Energize-to-Open (Normally Open)

**CONTROL PILOTS**

- **Bodies**: Low-Lead Bronze / STN. STL
- **Internal**: Stainless Steel / Stainless Steel
- **Tubing**: Copper / Stainless Steel
- **Fittings**: Low-Lead Brass / STN. STL

**GLOBE FLANGED SIZES**

- 1 ½” x 1 ½” x 2 ½” x 3” x 4” x 6” x 8” x 10” x 12” x 14” x 16” x 20”
- 250 mm x 250 mm x 350 mm x 450 mm x 600 mm x 900 mm x 1200 mm x 1500 mm x 1800 mm x 2100 mm x 2400 mm x 3000 mm

**GLOBE ANGLE SCREWED SIZES**

- 1 ½” x 1 ½” x 2 ½” x 3” x 4” x 6” x 8” x 10”
- 250 mm x 250 mm x 350 mm x 450 mm x 600 mm x 900 mm x 1200 mm x 1500 mm

**GLOBE ANGLE GROOVED SIZES**

- 1 ½” x 1 ½” x 2 ½” x 3” x 4” x 6” x 8” x 10”
- 250 mm x 250 mm x 350 mm x 450 mm x 600 mm x 900 mm x 1200 mm x 1500 mm

**ELECTROPLATING**

-阴极化镀
-阴极化镀
-阴极化镀
-阴极化镀

**VALVE BODY & GASKET**

- **Flange Standard**: ANSI B16.12 / ANSI B16.5
- **Flange Class**: 150# / 300# / 150# / 300# / 150# / 300#
- **Flange Face**: Flat / Raised / Raised / Raised / Raised / Raised

**FOR MORE INFORMATION, VISIT OUR WEBSITE:**

www.controlvalves.com

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<table>
<thead>
<tr>
<th>SIZE</th>
<th>Flow @ 6 ft/sec (USGPM)</th>
<th>Flow @ 15 ft/sec (USGPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ¼&quot;</td>
<td>28</td>
<td>70</td>
</tr>
<tr>
<td>1 ½&quot;</td>
<td>38</td>
<td>95</td>
</tr>
<tr>
<td>2&quot;</td>
<td>60</td>
<td>150</td>
</tr>
<tr>
<td>2 ½&quot;</td>
<td>90</td>
<td>225</td>
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<tr>
<td>3&quot;</td>
<td>140</td>
<td>345</td>
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<tr>
<td>4&quot;</td>
<td>240</td>
<td>500</td>
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<tr>
<td>6&quot;</td>
<td>540</td>
<td>940</td>
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<tr>
<td>8&quot;</td>
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<td>1470</td>
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<td>10&quot;</td>
<td>1470</td>
<td>2100</td>
</tr>
<tr>
<td>12&quot;</td>
<td>2100</td>
<td>2500</td>
</tr>
<tr>
<td>14&quot;</td>
<td>2500</td>
<td>3300</td>
</tr>
<tr>
<td>16&quot;</td>
<td>3300</td>
<td>4250</td>
</tr>
<tr>
<td>24&quot;</td>
<td>7500</td>
<td></td>
</tr>
</tbody>
</table>

Check Valve Series 94

The OCV Model 94-1 check valve, with adjustable opening speed, is a simple on-off valve that opens to allow forward flow and closes tightly to prevent backflow. The 94 operates on the differential between two pressures: upstream or inlet pressure acting under the seat of the valve, and downstream or discharge pressure acting on the diaphragm via the single hydraulic line. When upstream pressure is greater, the valve opens at an adjustable rate to allow flow. When downstream pressure is greater (backflow), the valve is forced fully closed.

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SIZING CONSIDERATIONS

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NSF, FM, and UL Listed

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Global performance. Personal touch.
The OCV Series 94 check valve is a simple on-off valve that opens to allow forward flow when inlet pressure exceeds outlet and closes tightly to prevent backflow when outlet pressure exceeds inlet pressure.

**SERIES FEATURES**

- Non-surge opening and/or closing when equipped with adjustable opening and/or closing speed controls.
- Equipped with valve position indicator on all models.

**TYPICAL APPLICATION**

- Equipped with controlled opening speed pump discharge pressure is gradually introduced to the system. Pump is protected from reverse flow.
- Used in conjunction with the Model 126, the Series 94 provides start up and shutdown surge protection for deep well pumps.

**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 FULL 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 VALVE WHEN ORDERING PLEASE PROVIDE: SERIES NUMBER - VALVE SIZE - GLOBE OR ANGLE - PRESSURE CLASS - SCREWED, FLANGED, GROOVED - TRIM MATERIAL - ADJUSTMENT RANGE - PILOT OPTIONS - SPECIAL NEEDS / OR INSTALLATION REQUIREMENTS. TOLL FREE 1.888.628.8258 **

**Check Valve Series 94**

**DIMENSIONS**

<table>
<thead>
<tr>
<th>DIM</th>
<th>END</th>
<th>1 1/4-1 1/2</th>
<th>2</th>
<th>2 1/2</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>14</th>
<th>16</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>SCREWED</td>
<td>8 3/4</td>
<td>8 3/4</td>
<td>10 1/2</td>
<td>10 1/2</td>
<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
</tr>
<tr>
<td>B</td>
<td>SCREWED</td>
<td>8 3/4</td>
<td>8 3/4</td>
<td>10 1/2</td>
<td>10 1/2</td>
<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
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<tr>
<td>C</td>
<td>SCREWED</td>
<td>8 3/4</td>
<td>8 3/4</td>
<td>10 1/2</td>
<td>10 1/2</td>
<td>13 1/4</td>
<td>13 1/4</td>
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<td>13 1/4</td>
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<td>13 1/4</td>
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<tr>
<td>D</td>
<td>SCREWED</td>
<td>8 3/4</td>
<td>8 3/4</td>
<td>10 1/2</td>
<td>10 1/2</td>
<td>13 1/4</td>
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<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
<td>13 1/4</td>
</tr>
</tbody>
</table>

**DIAMETRIC DIMENSIONS - INCHES**

**Series 94 Model 94 Shown**

**VALVE FEATURES**

- Operates automatically off line pressure.
- Heavy-duty, nylon-reinforced diaphragm isolates top chamber operating pressure from bottom chamber line pressure.
- Rectangular-shaped, soft seat seal provides drip-tight Class VI closure.
- Diaphragm assembly guided top and bottom.
- Thrusting seat rail for flow and pressure stability.
- Easily maintained without removal from the line.
- Diaphragm replaced without removing internal stem assembly.
- Replaceable seat ring.
- Alignment pins assure proper reassembly after maintenance.
- Center-tapped bonnet facilitates installation of position indicator or valve-actuated switches.
- Ductile iron and steel valves are epoxy-coated inside and out, for maximum corrosion protection.
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**REVISED 09/27/15**