The Model 8105 is applicable anywhere it is necessary to automatically maintain an essentially constant level in storage tanks or reservoirs. Such applications occur in:
- Municipal water
- Rural water
- Water treatment facilities
- Fuel storage tanks
- Fire protection systems

If the valve is to be primarily used for high level shut-off, consult factory.

**SERIES FEATURES**

- Maintains tank level within narrow limits
- Can also be used for high level shut-off
- Float pilot can be provided valve-mounted or remote-mounted
- Float pilot design allows air gap to prevent cross connection
- Vertical rod and stops allow for adjustable level
- Single field-installed line between valve and float pilot
- Can be maintained without removal from the line
- Adjustable response speed
- Factory tested

---

**OPERATION**

The Model 8105 is designed for tank fill only. A rotary, float-activated pilot controls the position a relay pilot, which in turn controls the position of the main valve. With the float in the full down position, the pilot is wide open, as are the relay and the main valve. As the float begins to rise, the pilot begins to restrict flow, causing the main valve to throttle further closed. When fluid level raises the float to the full up position, flow is blocked and the main valve is closed.

By positioning the float on the vertical rods by means of the stop collars, the fluid level (distance between float ball and the pilot itself) can be selected.

**COMPONENTS**

The Model 8105 consists of the following components, arranged as shown on the schematic diagram:
1. Model 65 Basic Valve
2. Model 813 Two-way Float Pilot
3. Model 1356 Differential Control Pilot
4. Model 126 Ejector
5. Model 141-2 Needle Valve
6. Model 159 Y-strainer
7. Model 141-4 Isolation Ball Valves
8. Model 155 Visual Indicator (Optional)

---

**SIZING**

While most Model 8100 Float Valves are line size, there are two factors to check. To keep from using a valve that is too small, flow rate should be limited to a maximum of 25 ft/sec velocity. A valve that is larger than necessary can result in loss of inlet pressure, which is needed to close the valve on high level.

Definitive sizing information can be found in the OCV Catalog, Series 8100 section and Engineering section Performance Charts. Consult the factory for assistance and a copy of the OCV ValveMaster Sizing program.

<table>
<thead>
<tr>
<th>SIZE</th>
<th>8”</th>
<th>10”</th>
<th>12”</th>
<th>14”</th>
<th>16”</th>
<th>24”</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIN. FLOW GPM</td>
<td>780</td>
<td>1225</td>
<td>1750</td>
<td>2100</td>
<td>2750</td>
<td>6250</td>
</tr>
<tr>
<td>MAX. FLOW GPM</td>
<td>3900</td>
<td>6150</td>
<td>8700</td>
<td>10500</td>
<td>13800</td>
<td>31300</td>
</tr>
</tbody>
</table>

For smaller sizes, refer to Model 8102.

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
**SIZES**
- GLOBE 8"-24"
- ANGLE 8"-16"

**MAX. PRESSURE**
Limited by float pilot to 250 psi maximum, all materials and end connections (maximum pressures at 100°F).

**FLUID OPERATING TEMPERATURE RANGE**
(Valve Elastomers)
- EPDM 32°F - 230°F

**MATERIALS**
- Consult factory for others.
- Body/Bonnet: Ductile Iron (epoxy coated), Carbon Steel (epoxy coated), Stainless Steel, low-lead Bronze
- Others available (consult factory)
- Seat Ring: low-lead Bronze, Stainless Steel
- Stem: Stainless Steel, Monel
- Diaphragm: EPDM*
- Seat Disc: EPDM*
- Pilot: low-lead Bronze, Stainless Steel
- Other pilotsystem components: low-lead Bronze/Brass, All Stainless Steel
- Tubing & Fittings: Copper/Brass, Stainless Steel

**Float Pilot- Rods:**
 Sizes 8"-24" supplied with (4) 12" rods

*Others available upon request.

****Valves 1-1/4" through 24" are certified to NSF/ANSI 372. Valves 4" through 24" are also certified to NSF/ANSI 61-G.

### DESIGN
- The modulating float valve shall be installed on the inlet line to the tank and shall modulate to hold a constant level in the tank, thus balancing inflow and outflow levels. The modulating float valve shall include a simple, two-way, adjustable, air-gap type float pilot to be installed in the tank and be connected to the main valve by a single, customer-installed sense line.

**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. The float pilot shall be low-lead Bronze, with stainless steel internals. The 5" spherical float shall be stainless steel, as shall the float rods and linkage. The isolation ball valves shall be brass, and control line tubing shall be copper.

**OPERATING CONDITIONS**
- The modulating float valve shall be suitable for a maximum flow rate of <X> gpm at inlet pressures ranging from <X to X> psi.

**ACCEPTABLE PRODUCTS**
- The modulating float valve shall be a <size> Model 8105, <globe pattern, angle pattern>, with <150# flanged, 300# flanged, > end connections, as manufactured by OCV Control Valves, Tulsa, Oklahoma, USA.

### SPECIFICATIONS**
(Typical Water Application)
- Formaximum 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 @ 1-888-628-8258 for parts and service.

**How to order your Model 8105 valve**
- When Ordering please provide:
  - Fluid to be controlled - Model Number - Size
  - Globe or Angle - End Connection - Body Material
  - Trim Material - Pilot Options - Pilot Mounting: on valve or remote - Special Requirements / Installation Requirements

**TOLL FREE 1.888.628.8258**
- phone: (918)627.1942
- fax: (918)622.8916
- 7400 East 42nd Place, Tulsa, Oklahoma 74145
- email: sales@controlvalves.com
- website: www.controlvalves.com

**U.S. DIMENSIONS - INCHES**

| DIM | END CONN. | 1 1/4-1 1/2 | 2 | 2 1/2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 24 |
|-----|-----------|------------|---|-------|---|---|---|---|----|----|----|----|----|----|
| A   | SCREWED   | 8 3/4      | 9 7/8 | 10 1/2 | 13 | 15 1/4 | 17 | 19 3/4 | 22 | 25 | 28 | 30 3/4 | 33 |
|     | GROOVED   | 8 3/4      | 9 7/8 | 10 1/2 | 13 | 15 1/4 | 17 | 19 3/4 | 22 | 25 | 28 | 30 3/4 | 33 |
|     | 150# FLGD | 8 1/2      | 9 3/8 | 10 1/2 | 12 | 15 1/4 | 17 | 19 3/4 | 22 | 25 | 28 | 30 3/4 | 33 |
| C   | SCREWED   | 4 3/8      | 4 3/4 | 6 | 6 1/2 | -- | -- | -- | -- | -- | -- | -- | -- |
|     | GROOVED   | 4 3/8*     | 4 3/4 | 6 | 6 1/2 | 7 5/8 | -- | -- | -- | -- | -- | -- | -- |
|     | 150# FLGD | 4 1/4      | 4 3/4 | 6 | 6 1/2 | 7 1/2 | 10 | 12 1/16 | 14 7/8 | 17 | 20 13/16 | -- | -- |
|     | 300# FLGD | 4 3/8      | 5 | 6 3/8 | 6 3/8 | 7 13/16 | 10 1/2 | 13 3/16 | 15 9/16 | 17 3/4 | 21 5/8 | -- | -- |
| D   | SCREWED   | 3 1/8      | 3 7/8 | 4 | 4 1/2 | 5 5/8 | -- | -- | -- | -- | -- | -- | -- |
|     | GROOVED   | 3 1/8*     | 3 7/8 | 4 | 4 1/2 | 5 5/8 | -- | -- | -- | -- | -- | -- | -- |
|     | 150# FLGD | 3 3/8      | 4 1/2 | 6 | 5 1/2 | 6 8 | 11 3/8 | 11 | 15 11/16 | -- | -- | -- | -- |
|     | 300# FLGD | 3 1/8      | 4 1/2 | 6 | 5 1/2 | 6 8 | 11 3/8 | 11 | 15 11/16 | -- | -- | -- | -- |
| E   | ALL       | 6          | 6     | 7 | 6 1/2 | 8 10 | 11 7/8 | 13 | 15 3/8 | 17 | 18 | 19 | 27 |
| H   | ALL       | 10         | 11    | 11 | 11    | 12   | 13 | 14 | 17 | 18 | 20 | 20 | 28 1/2 |

*GROOVED END NOT AVAILABLE IN 1 1/4*