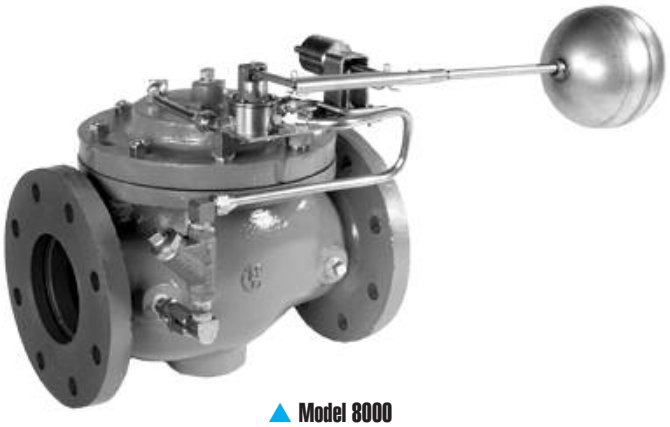


▲ Model 8000

The Model 8000 is applicable anywhere it is necessary to automatically maintain the water level in storage tanks or reservoirs. Such applications occur in:
- Municipal water
- Rural water
- Industrial plants
- Fire protection systems

## SERIES FEATURES

- Automatic tank fill and shut-off
- Accurate shut-off
- Opening and closing levels independently adjustable
- Pilot can be valve-or remote-mounted
- Float pilot design provides air gap to prevent cross connection
- Can be maintained without removal from the line
- Adjustable response speed
- Factory tested

## OPERATION

The model 8000 is designed for tank fill only. A rotary, 3-port, float activated pilot controls the main valve. With the float at the low position on the rod, the pilot shifts to vent water from the diaphragm chamber of the main valve. This allows the valve to open and fill the tank. When the float/fluid level reaches the high position, the pilot shifts to apply full valve inlet pressure to the diaphragm of the main valve, forcing the valve fully closed.

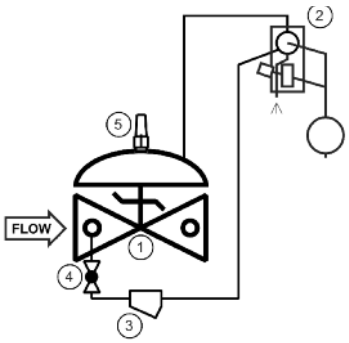
On 6" and smaller valves, the float pilot operates the main valve directly. On 8" and larger valves, the float pilot operates the main valve through a high-capacity, three-way auxiliary pilot for more positive response.

## COMPONENTS

The Model 8000 consists of the following components, arranged as shown on the schematic diagram:

1.) **Model 65 Basic Control Valve**
2.) **Model 814 Float Pilot**
3.) **Model 159 Y-strainer**
Protects pilot system from dirt/debris
4.) **Model 141-4 Isolation Ball Valves**
5.) **Model 155 Visual Indicator** (Optional)

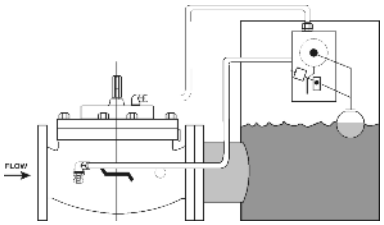
## SCHEMATIC

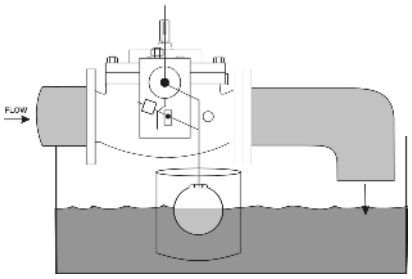



## RECOMMENDED INSTALLATION

- Install the valve with adequate space and around the valve to facilitate servicing. Refer to dimension table.
- Valve should be installed with the bonnet (cover) at the top, particularly 8" and larger valves, and any valve with a limit switch.
- VALVE AT TOP OF TANK (valve mounted float pilot) A shut-off valve should be installed upstream of the control valve to allow for isolation of the valve during startup and maintenance. Install a stilling well to protect the float ball assembly from surface turbulence.
- VALVE AT THE BOTTOM OF TANK (remote mounted float pilot)

Shut-off valves should be installed upstream and downstream of the control valve to allow for isolation of the valve during start and maintenance. If necessary, install a stilling well to protect the float ball assembly from surface turbulence. The float pilot ports must be connected to the main valve via field installed tubing, minimum 3/8" O.D. Refer to Operations/Maintenance Manual for details.




## SIZING

While most Model 8000 Float Valves are line size, there are two factors to check. To keep from using too small a valve, flow rate should be limited to a maximum of 25 ft/sec velocity. Too large a valve 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 8000 section and Engineering section Performance Charts. Consult the factory for assistance and a copy of the OCV ValveMaster Sizing program.

| SIZE | 1 1/4"-1 1/2" | 2" | 2 1/2" | 3" | 4" | 6" | 8" | 10" | 12" | 14" | 16" | 24" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MIN. FLOW GPM | 14 - 23 | 50 | 75 | 115 | 200 | 450 | 780 | 1225 | 1750 | 2100 | 2750 | 6250 |
| MAX. FLOW GPM | 115 - 160 | 260 | 370 | 570 | 1000 | 2250 | 3900 | 6150 | 8700 | 10500 | 13800 | 31300 |

**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



Model 8000 Float Valve

# Model 8000

**SIZES** GLOBE/ANGLE
Screwed Ends - 1 1/4" - 3"
Grooved Ends - 1 1/2" – 6" (globe);
1-1/2"-4" (angle)
Flanged Ends - 1 1/4" - 24" (globe);
1 1/4" - 16" (angle)

**FLOAT PILOT- Rods**
Sizes 1 ¼"-6" supplied with (2) 12" rods; 8" and larger valves supplied with (4) 12" rods

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

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

**MATERIALS**
***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
***Spring:*** Stainless Steel
***Diaphragm:*** EPDM*
***Seat Disc:*** EPDM*
***Pilot:*** low-lead Bronze, Stainless Steel
*Other pilot system components:*
low-lead Bronze/Brass, All Stainless Steel
***Tubing & Fittings:*** Copper/Brass, Stainless Steel

**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.*

# SPECIFICATIONS (Typical Water Application)

The float control valve shall control the level in the tank by (a) opening when the float is down, indicating the tank needs filling, and (b) closing tightly when the float is up, indicating the tank is full. The primary control shall be a three-way, rotary disc, air gap float pilot which is adjustable for both the high and low level points.

**DESIGN**
The float control 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 pistons be used as an operating means. The pilot system shall include a Y-strainer and isolation ball valves. The float pilot shall be furnished separately for remote mounting in the tank. The float control 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. 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.

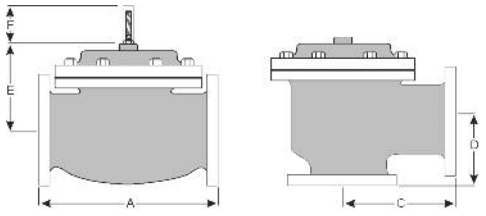
**OPERATING CONDITIONS**
The float control valve shall be suitable for mounting at the base of the tank, with the float pilot remotely mounted inside the tank. Two field-installed lines shall connect the main valve and float pilot. The valve shall be capable of a maximum fill rate of <X> gpm at inlet pressures ranging from <X to X> psi with an outlet tank level of <X> feet.

**ACCEPTABLE PRODUCTS**
The altitude valve shall be a <size> Model 8000, <globe pattern, angle pattern>, with <150# flanged, 300# flanged, threaded, grooved> end connections, as manufactured by OCV Control Valves, Tulsa, Oklahoma, USA.

**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 | -- | -- | -- | -- | -- | -- | -- | -- |
| | GROOVED | 8 3/4 | 9 7/8 | 10 1/2 | 13 | 15 1/4 | 20 | -- | -- | -- | -- | -- | -- |
| | 150# FLGD | 8 1/2 | 9 3/8 | 10 1/2 | 12 | 15 | 17 3/4 | 25 3/8 | 29 3/4 | 34 | 39 | 40 3/8 | 62 |
| | 300# FLGD | 8 3/4 | 9 7/8 | 11 1/8 | 12 3/4 | 15 5/8 | 18 5/8 | 26 3/8 | 31 1/8 | 35 1/2 | 40 1/2 | 42 | 63 3/4 |
| C ANGLE | 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 | 7 1/2 | 10 | 12 11/16 | 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 ANGLE | SCREWED | 3 1/8 | 3 7/8 | 4 | 4 1/2 | -- | -- | -- | -- | -- | -- | -- | -- |
| | GROOVED | 3 1/8* | 3 7/8 | 4 | 4 1/2 | 5 5/8 | -- | -- | -- | -- | -- | -- | -- |
| | 150# FLGD | 3 | 3 7/8 | 4 | 4 | 5 1/2 | 6 | 8 | 11 3/8 | 11 | -- | 15 11/16 | -- |
| | 300# FLGD | 3 1/8 | 4 1/8 | 4 3/8 | 4 3/8 | 5 13/16 | 6 1/2 | 8 1/2 | 12 1/16 | 11 3/4 | -- | 16 1/2 | -- |
| E | ALL | 6 | 6 | 7 | 6 1/2 | 8 | 10 | 11 7/8 | 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"




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 @ **1-888-628-8258** for parts and service.

**How to order your Model 8000 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

QUALITY SYSTEM REGISTERED TO ISO 9001

**Represented by:**

**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