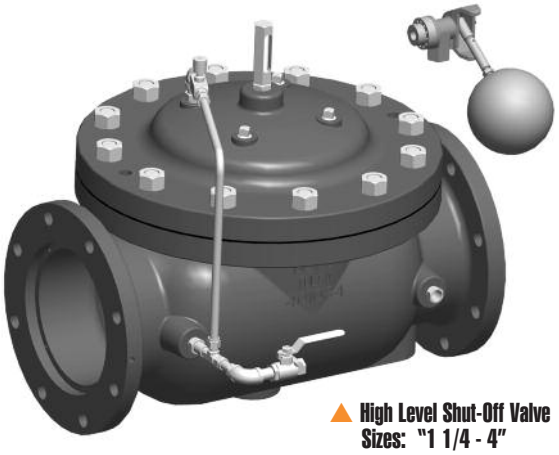
Model 8101 (Fueling Service)



▲ **High Level Shut-Off Valve Sizes: "1 1/4 - 4"**

The Model 8101 is applicable anywhere it is necessary to automatically control the high level in storage tanks where the float pilot can be mounted inside the tank.

SERIES FEATURES

- Allows tank filling and shuts off on high level
- Remote-mounted float pilot (inside tank)
- Two field-installed lines between valve and float pilot
- Can be maintained without removal from the line
- Adjustable response speed
- Manual tester available on float pilot
- Factory tested and can be pre-set to your requirements

OPERATION

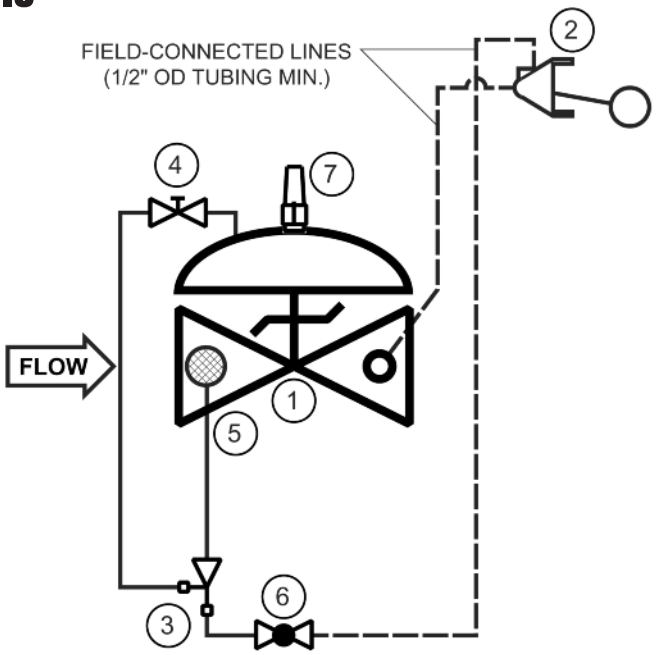
The Model 8101 is designed for tank fill only. A rotary, float-activated pilot controls the position of the main valve. With the float in the full down position, the pilot is wide open, along with the main valve. As the float begins to rise, the pilot begins to restrict flow, causing the main valve to throttle further closed. When fluid level raises the float to the full up position, flow is blocked and the main valve is closed.

COMPONENTS

The Model 8101 consists of the following components, arranged as shown on the schematic diagram:

1.) **Model 65 Basic Control Valve** (fail closed)
2.) **Two-Way Float Pilot**
3.) **Ejector**
4.) **Needle Valve**
5.) **Inline Strainer**
6.) **Isolation Ball Valve**
7.) **Visual Indicator**

SCHEMATIC



RECOMMENDED INSTALLATION

- Install the valve with adequate space above and around the valve to facilitate servicing. Refer to the Dimension Table.
- Shut-off valves should be installed upstream and downstream of the control valve. These are used to isolate the valve during start-up and maintenance.
- Install the float pilot inside the tank at the required high level and connect to main valve as shown on the diagram (1/2" O.D. tubing recommended).

SIZING

While most Model 8101 Float Valves are linesize, there are two factors to check.
First, to avoid using a valve that is too small, flow rate should be limited to a maximum of 25 ft/sec velocity. Second, using a valve that is too large can result in the 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, Engineering Section Performance Charts, or www.controlvalves.com. Consult the factory for assistance.

SIZE	1 1/4", 1 1/2"	2"	2 1/2"	3"	4"
MIN. FLOW, GPM	14 - 23	50	75	115	200
MAX. FLOW, GPM	115 - 160	260	370	570	1000

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 8101 (Fueling Service)

SIZES Globe or Angle
Screwed Ends - 1 1/4" - 3"
Grooved Ends - 1 1/2" - 4"(globe)
1-1/2" - 4" (angle)
Flanged Ends - 1 1/4" - 4" (globe)
1 1/4" - 4" (angle)
For larger valve sizes,refer to Model 8104.

MAX. WORKING PRESSURE
(at 100°F/37.78°C)
Maximum Pressure on all materials and end connections is limited to 250 psi by the float pilot.

FLUID OPERATING TEMPERATURE RANGE
Buna-N -20°F to 180°F
Viton 20°F to 230°F
Fluorosilicone -40°F to 150°F
EPDM 0°F to 230°F

MATERIALS (Consult factory for others)
Body/Bonnet:
-Ductile Iron (epoxy coated), Carbon Steel (epoxy coated),
Stainless Steel, Aluminum
Seat Ring: Stainless Steel, Bronze
Stem: Stainless Steel, Monel
Spring: Stainless Steel
Diaphragm: Buna-N, Viton (Nylon reinforced)
Seat Disc: Buna-N, Viton
Pilot: Stainless Steel, Bronze
Other pilot system components: Stainless Steel, Bronze/Brass
Tubing & Fittings: Stainless Steel, Copper/Brass

SPECIFICATIONS (Typical Fuel Application)

The high level shut-off valve shall be installed on the inlet line to the tank and shall close when the high level is reached. The high level shut-off valve shall include a simple, two-way, non-adjustable float pilot to be installed in the tank at the desired tank level and be connected to the main valve by two, customer-installed sense lines.

DESIGN
The high level shut-off 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 include a speed control, in-line strainer and an isolation ball valve. The float pilot shall be furnished separately for remote mounting in the tank. The high level shut-off valve shall be operationally and hydrostatically tested prior to shipment.

MATERIALS OF CONSTRUCTION
The main valve body and bonnet shall be ductile iron. All ferrous surfaces shall be coated with 4 mils of epoxy. The main valve seat ring shall be stainless steel. Elastomers (diaphragms, resilient seats and O-rings) shall be Buna-N. The float pilot shall be stainless steel as shall the the 5" spherical float, pilot system accessories and control line tubing.

OPERATING CONDITIONS
The high level shut-off valve shall be suitable for a maximum flow rate of <X> gpm at inlet pressures ranging from <X to X> psi.

ACCEPTABLE PRODUCTS
The high level shut-off valve shall be a <size> Model 8101, <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

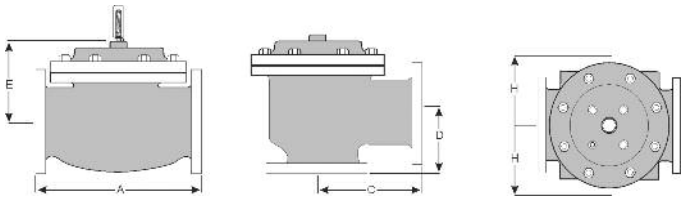
DIM	END CONN.	1 1/4-1 1/2	2	2 1/2	3	4
A	SCREWED	8 3/4	9 7/8	10 1/2	13	--
	GROOVED	8 3/4	9 7/8	10 1/2	13	15 1/4
	150# FLGD	8 1/2	9 3/8	10 1/2	12	15
	300# FLGD	8 3/4	9 7/8	11 1/8	12 3/4	15 5/8
C ANGLE	SCREWED	4 3/8	4 3/4	6	6 1/2	--
	GROOVED	4 3/8*	4 3/4	6	6 1/2	7 5/8
	150# FLGD	4 1/4	4 3/4	6	6	7 1/2
	300# FLGD	4 3/8	5	6 3/8	6 3/8	7 13/16
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
	300# FLGD	3 1/8	4 1/8	4 3/8	4 3/8	5 13/16
E	ALL	6	6	7	6 1/2	8
H	ALL	10	11	11	11	12

*GROOVED END NOT AVAILABLE IN 1 1/4"

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.

When ordering your 8101 valve,
please provide:
Fluid to be controlled - Model Number - Size - Globe or Angle - End Connection - Body Material - Trim Material - Pilot Options - Special Requirements / Installation Requirements



QUALITY SYSTEM REGISTERED TO ISO 9001

United States/Canada Joint Certification Program (JCP) Certification Number 0073030

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