

▲ High Level Shut-Off Valve Sizes: "1 1/4 - 4" (DN32-DN40 thru DN100)

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

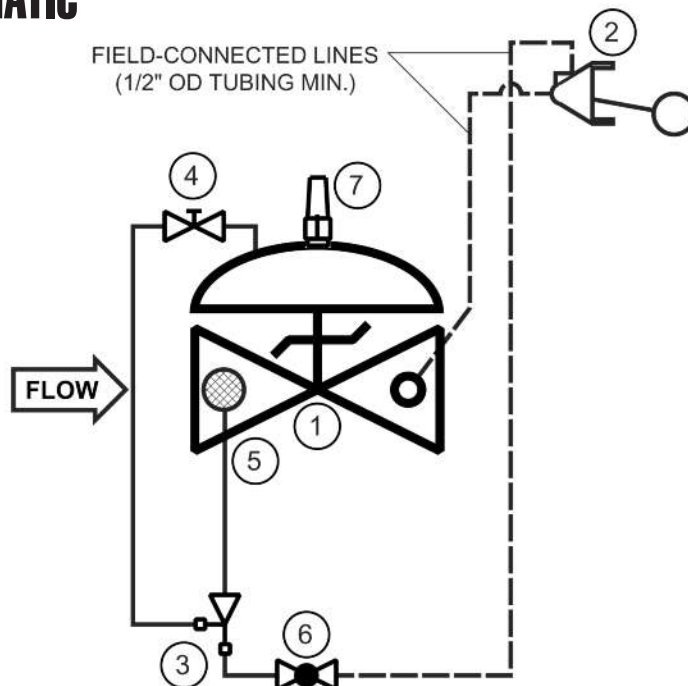
The Model 8101 is designed for tank fill only. A rotary, float-activated pilot controls the position of the main valve. With the float in the full down position, the pilot is wide open, along with the main valve. As the float begins to rise, the pilot begins to restrict flow, causing the main valve to 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 line size, 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 7.5 meters/second velocity. Second, using a valve that is too large can result in the loss of inlet pressure, which is needed to close the valve at high level. Definitive sizing information can be found in the OCV catalog, Series 8100 section, the Engineering Section Performance Charts, or at [www.controlvalves.com](http://www.controlvalves.com). Consult the factory for assistance.

SIZE	DN32-DN40	DN50	DN65	DN80	DN100
MIN. FLOW, M3/HR	3 - 5	11	17	26	45
MAX. FLOW, M3/HR	26 - 36	59	84	130	225

# Model 8101 (Aviation Fueling) METRIC



## SIZES

Globe or Angle

Screwed Ends -

1 1/4" - 3"

(DN32 thru DN80)

Grooved Ends -

1 1/2" - 4" (globe)

(DN40 thru DN150)

1-1/2" - 4" (angle)

(DN40 thru DN100)

Flanged Ends -

1 1/4" - 4" (globe)

(DN32 thru DN100)

1 1/4" - 4" (angle)

(DN32 thru DN100)

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 17 bar by the float pilot.

## FLUID OPERATING TEMPERATURE RANGE

Buna-N -28.89°C to 82.22°C

Viton -6.67°C to 110°C

Fluorosilicone -40°C to 65.56°C

EPDM -17.78°C to 110°C

## 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 Aviation Fueling 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 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> m<sup>3</sup>/hr at inlet pressures ranging from <X to X> bar.

### 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.

METRIC DIMENSIONS - M.M.

DIM	END CONN.	DN32-DN40	DN50	DN65	DN80	DN100
A	SCREWED	222	251	267	330	---
	GROOVED	222	251	267	330	387
	150# FLGD	216	238	267	305	381
	300# FLGD	222	251	283	324	397
C ANGLE	SCREWED	111	121	152	165	---
	GROOVED	111*	121	152	165	194
	150# FLGD	108	121	152	152	191
	300# FLGD	111	127	162	162	198
D ANGLE	SCREWED	79	98	102	114	---
	GROOVED	79*	98	102	114	143
	150# FLGD	76	98	102	102	140
	300# FLGD	79	105	111	111	148
E	ALL	152	152	178	165	203
F	ALL	98	98	98	98	98
H	ALL	254	279	279	279	305

\*GROOVED END NOT AVAILABLE IN DN32

## CE Markings

Applies to fuel valves installed in the European Union in accordance with the Pressure Equipment Directive, 97/23/EC

CE-marked valves are available in LCB steel and CF8M stainless steel only

OCV is registered to the PED through Det Norske Veritas

The following valves will be CE-marked:

- 2" (DN50) thru 4" (DN100) valves, 300# class, liquid fuel
- 1 1/4" (DN32) thru 4" (DN100) valves, 300# class, LPG or Butane service

- 4" (DN100) and smaller valves in class 150# (liquids) are furnished under SEP with no CE-mark

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" (DN200) 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 @

1-918-627-1942 for parts and service.

## When ordering your 8101 valve,

please provide:

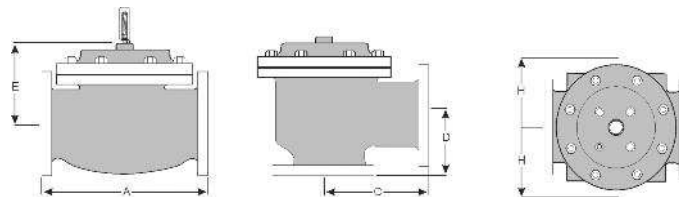
Fluid to be controlled - Model Number - Size - Globe or Angle End Connection

- Body Material Trim Material - Pilot Options - Special Requirements /

Installation Requirements

phone: (918)627.1942 • fax: (918)622.8916 • 7400 East 42nd Place, Tulsa, Oklahoma 74145

email: sales@controlvalves.com • website: www.controlvalves.com



QUALITY SYSTEM  
REGISTERED TO  
ISO 9001