



▲ High Level Shut-Off Valve  
 Sizes: "4 - 24" (DN100-DN600)

The Model 8106 is applicable anywhere it is necessary to automatically control the high level in storage tanks with floating pans, requiring that the float control be mounted on the exterior of the tank.

## SERIES FEATURES

- ▶ Allows tank filling and shuts off on high level
- ▶ Remote float chamber mounted on tank exterior wall
- ▶ 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

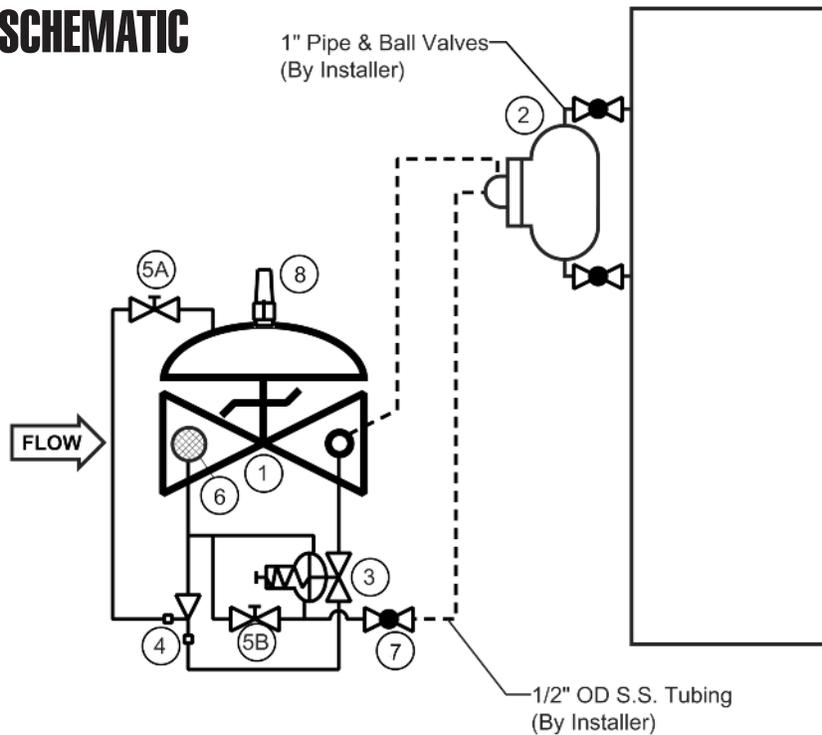
The Model 8106 is designed for tank fill only. A chamber mounted, rotary, float-activated pilot controls the position of the normally closed relay pilot which in turn controls the position of the main valve. With the float in the full down position, the relay pilot is wide open, along with the main valve. When fluid level raises the float to the high level position, flow is blocked, closing the relay pilot and the main valve.

## COMPONENTS

The Model 8106 consists of the following components, arranged as shown on the schematic diagram:

- 1.) Model 65 Basic Control Valve (fail closed)
- 2.) Cage-Mounted Float Pilot
- 3.) Differential Control Pilot
- 4.) Ejector
- 5.) Needle Valve
- 6.) Inline Strainer
- 7.) Ball Valve
- 8.) 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/chamber outside the tank at the required high level. The chamber connections are 1" NPTF. Connect to main valve as shown on the diagram (1/2" O.D. tubing recommended).

## SIZING

While most Model 8106 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, DN	100	150	200	250	300	350	400	600
MIN FLOW, M <sup>3</sup> /HR	45	100	175	280	400	480	625	1420
MAX FLOW, M <sup>3</sup> /HR	225	510	890	1400	1980	2390	3140	7100

phone: (918)627.1942 • fax: (918)622.8916 • 7400 East 42nd Place, Tulsa, OK 74145  
 email: [sales@controlvalves.com](mailto:sales@controlvalves.com) • website: [www.controlvalves.com](http://www.controlvalves.com)

# Model 8106 (Aviation Fueling) METRIC



## SIZES

Globe or Angle

Grooved Ends - 4", 6" (globe)  
(DN100, DN150)  
4", 6" (angle)  
(DN100, DN150)

Flanged Ends - 6" - 24" (globe)  
(DN150 thru DN600)  
6" - 16" (angle)  
(DN150 thru DN400)

For smaller valve sizes, refer to Model 8103.

## 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 -40°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

### Float Chamber:

Steel (epoxy coated), Stainless Steel

### Float 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 high level is reached. The high level shut-off valve shall include a chamber mounted float pilot installed on 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 relay pilot, a speed control, in-line strainer and an isolation ball valve. The float pilot/chamber shall be furnished separately for remote mounting on 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 chamber shall be stainless steel as shall the float pilot, relay pilot, 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> m3/hr at inlet pressures ranging from <X to X> bar.

## ACCEPTABLE PRODUCTS

The high level shut-off valve shall be a <size> Model 8106, <globe pattern, angle pattern>, with <150# flanged, 300# flanged, grooved> end connections, as manufactured by OCV Control Valves, Tulsa, Oklahoma, USA.

METRIC DIMENSIONS - M.M.

DIM	END CONN.	DN100	DN150	DN200	DN250	DN300	DN350	DN400	DN600
A	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	387	508	--	--	--	--	--	--
	150# FLGD	381	451 **	645	756	864	991	1026	1575
C	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	194	--	--	--	--	--	--	--
	150# FLGD	191	254	322	378	432	--	529	--
D	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
E	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
F	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
G	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
H	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
I	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
J	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
K	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
L	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
M	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
N	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
O	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
P	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
Q	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
R	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
S	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
T	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
U	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
V	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
W	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
X	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
Y	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
Z	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AA	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AB	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AC	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AD	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AE	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AF	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AG	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AH	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AI	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AJ	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AK	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AL	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AM	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AN	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AO	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AP	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152	203	289	279	--	398	--
AQ	SCREWED	--	--	--	--	--	--	--	--
	GROOVED	143	--	--	--	--	--	--	--
	150# FLGD	140	152						