

108FPS

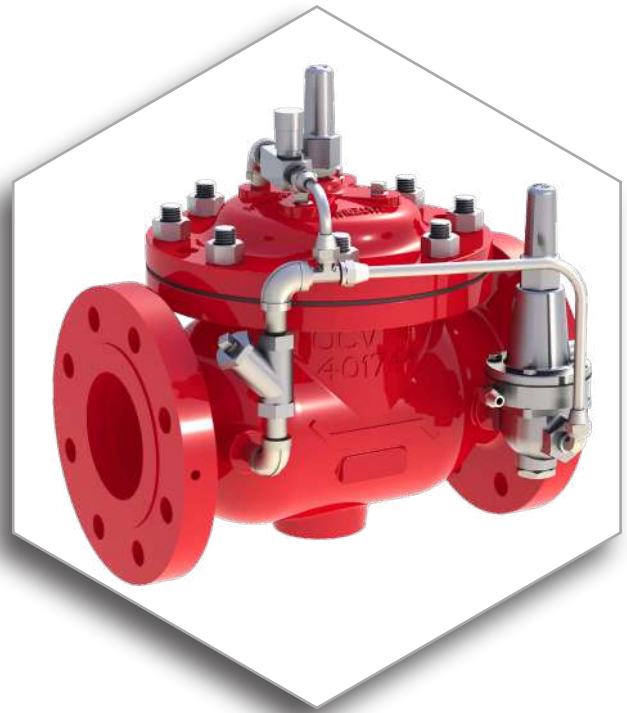
Pump Suction Control Valve

This valve prevents the fire pump from outdrawing the available supply. It protects the pump suction supply from damage associated with low pressure and assures adequate supply pressure to the fire system components.

CERTIFICATION & COMPLIANCE



- Factory Mutual Approved
- ANSI FCI 70-2 Class VI seat leakage class
- ABS type approval



* General representation of valve

FEATURES & BENEFITS

- Maintains minimum pump suction pressure
- Installs on fire pump discharge; senses pump suction
- Suction pressure is adjustable with single screw
- Adjustable range 5psi - 30psi (.34 - 2.0 bar)
- Pilot operated main valve
- Easily maintained without removal from the line
- Adjustable opening speed
- Factory tested & preset to requirements
- Applicable for water & seawater

TYPICAL APPLICATIONS



Pump & Water Tanks



Fire Suppression Systems



Petrochemical, Oil & Gas Installations



Tunnels



Power Generation, Transformer & Transmission Plants



Onshore / Offshore



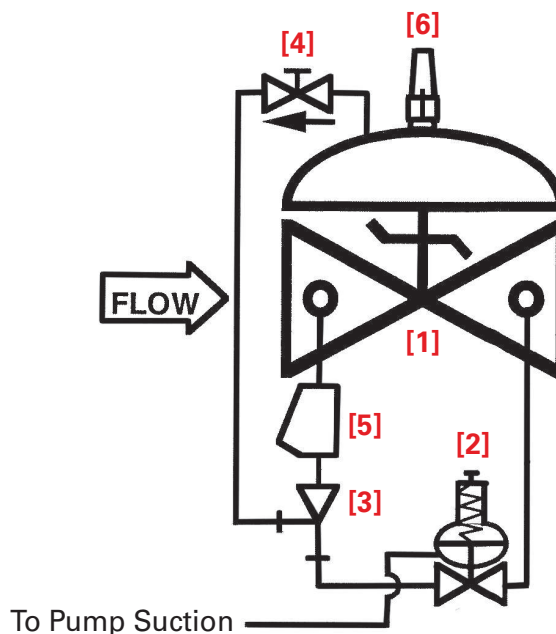
Mining

OPERATION

The normally closed, spring loaded pilot, sensing pump suction pressure, opens when supply pressure exceeds the spring setting, allowing the main valve to open. Should suction pressure lower to the set point, the pilot and the main valve will begin modulating (throttling) to prevent the suction pressure from falling any lower. The pilot system is equipped with an opening speed control that fine tunes the valve response to the system variables.

The Model 108FPS consists of the following components, arranged as shown on the schematic diagram:

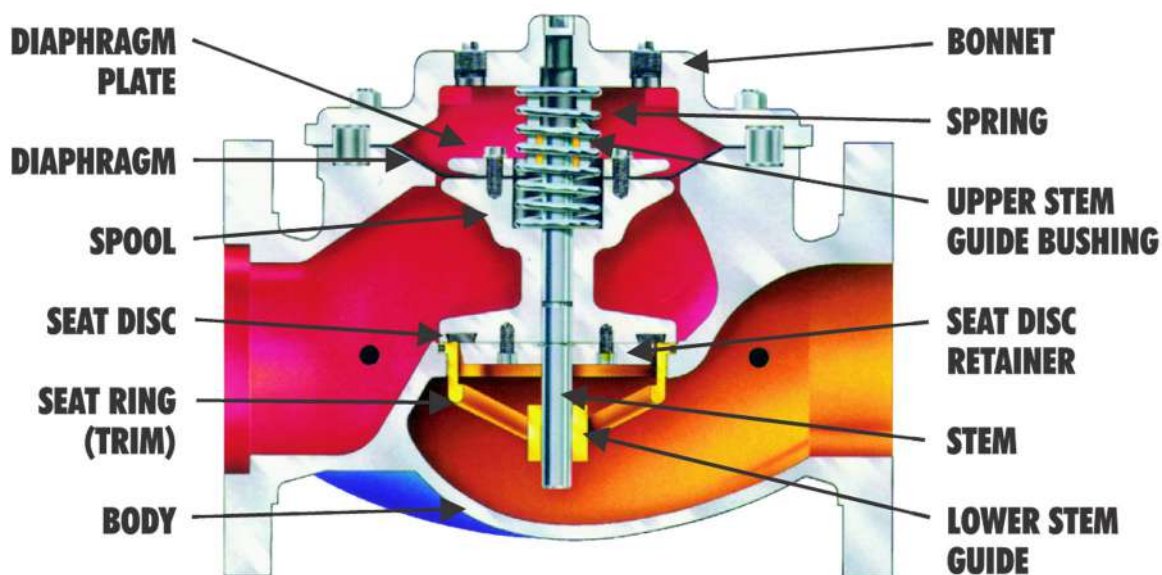
- [1] Model 65 Basic Control Valve**, a hydraulically operated, diaphragm actuated, globe or angle valve which closes with an elastomer-on-metal seal.
- [2] Model 1330HB Pressure Relief Pilot**, a 2-way, normally closed pilot valve which senses upstream pressure under its diaphragm and balances it against an adjustable spring load. An increase in upstream pressure tends to make the pilot open.
- [3] Model 126 Ejector**, a “tee” fitting with a fixed orifice in its inlet port. It provides the proper pressure to the diaphragm chamber of the main valve depending on the position of the pressure relief pilot.
- [4] Model 141-3 Flow Control Valve**, a needle type valve which provides adjustable, restricted flow in one direction, and free flow in the opposite direction. On the 108FPS, the flow control valve is connected as an opening speed control.
- [5] Model 159 Y-Strainer**, protects the pilot system from solid contaminants in the line fluid.
- [6] Model 155 Visual Indicator**, (optional) provides indication of the valve’s position at a glance.



Resetting, maintenance and periodic testing instructions must be followed as described in detail in the applicable OCV IOM (Installation, Operation & Maintenance) Manual.

TYPICAL MATERIALS

Description	Standard	Optional
Valve Body	Ductile Iron	Cast Steel, Stainless Steel, NAB
Seat Ring	Bronze	Stainless Steel, NAB
Stem	Stainless Steel	Monel
Spring	Stainless Steel	Elgiloy / MP35N
Diaphragm	Buna-N	EPDM
Seat Disc	Buna-N	EPDM
Pressure Relief Pilot	Bronze	Stainless Steel, NAB
Tubing / Fittings	Copper, Bronze/Brass	Stainless Steel



* General representation of valve

GENERAL ARRANGEMENT & DIMENSIONS

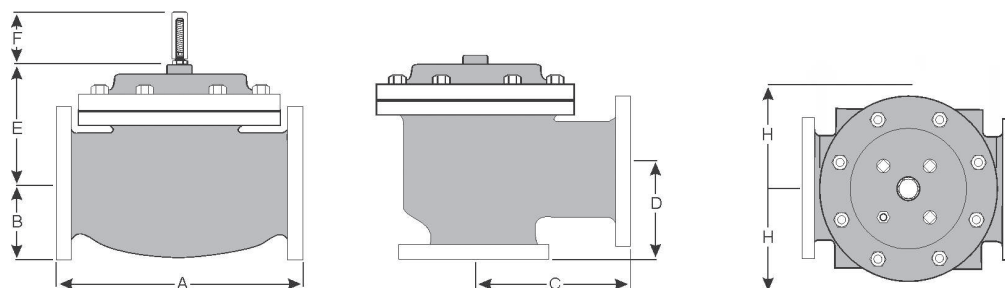
U.S. DIMENSIONS - INCHES

Valve DIM	END CONN.	3"	4"	6"	8"
A	150# FLGD	12	15	17 ³ / ₄	25 ³ / ₈
	300# FLGD	12 ³ / ₄	15 ⁵ / ₈	18 ⁵ / ₈	26 ³ / ₈
B	150# FLGD	3 ³ / ₄	4 ¹ / ₂	5 ¹ / ₂	6 ³ / ₄
	300# FLGD	4 ¹ / ₈	5	6 ¹ / ₄	7 ¹ / ₂
C	150# FLGD	6	7 ¹ / ₂	10	12 ¹¹ / ₁₆
	300# FLGD	6 ³ / ₈	7 ¹³ / ₁₆	10 ¹ / ₂	13 ³ / ₁₆
D	150# FLGD	4	5 ¹ / ₂	6	8
	300# FLGD	4 ³ / ₈	5 ¹³ / ₁₆	6 ¹ / ₂	8 ¹ / ₂
E	ALL	6 ¹ / ₂	8	10	11 ⁷ / ₈
F	ALL	3 ⁷ / ₈	3 ⁷ / ₈	3 ⁷ / ₈	6 ³ / ₈
H	ALL	11	12	13	14

* Approximate dimensions

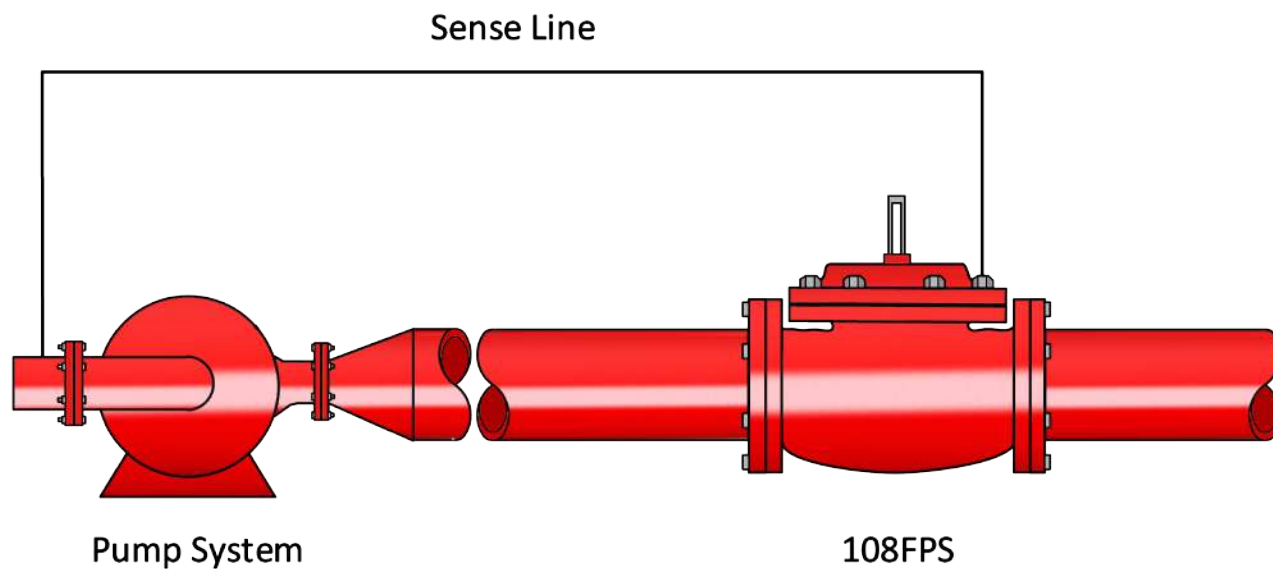
METRIC DIMENSIONS - M.M.

Valve DIM	END CONN.	DN80	DN100	DN150	DN200
A	150# FLGD	305	381	451	645
	300# FLGD	324	397	473	670
B	150# FLGD	95	114	140	171
	300# FLGD	105	127	159	191
C	150# FLGD	152	191	254	322
	300# FLGD	162	198	267	335
D	150# FLGD	102	140	152	203
	300# FLGD	111	148	165	216
E	ALL	165	203	254	302
F	ALL	98	98	98	162
H	ALL	279	305	330	356



* General representation of valve

TYPICAL INSTALLATION



FLOW CHARACTERISTICS

Valve Size		3"	4"	6"	8"
		DN80	DN100	DN150	DN200
Globe Cv	US	120	200	450	760
Globe Kv	Metric	103.8	173	389.3	657.4
Angle Cv	US	160	270	550	1000
Angle Kv	Metric	138.4	233.6	432.5	865

* Not all items pictured reflect products sold by OCV

TECHNICAL DATA**Temperature:**

- Buna-N 32°F to 180°F
- EPDM 32°F to 230°F

Sizes:

- Globe or Angle:
Flanged Ends 3" - 8"

End Connections:

- 150# Flanged
- 300# Flanged
- 300# x 150# Flanged

Pressure Rating (Ductile Iron at 100°F):

- 150# ANSI: 250psi
- 300# ANSI: 450psi
- 300# x 150# ANSI: 250psi

Body and Cover Material:

- Ductile Iron
- Cast Steel
- Stainless Steel
- NAB

Trim Material:

- Bronze/Brass - Copper
- Stainless Steel
- Monel

Optional Components:

- Visual Indicator
- Pressure Switch

Items to Specify:

- Control trim material other than standard
- Required standards, certifications and approvals
- Series Number
- Valve Size
- Globe or Angle
- Pressure Class
- Adjustment Range
- Special needs or Installation Requirements

ENGINEERING SPECIFICATIONS

The fire pump suction control valve shall be a single-seated, line pressure operated, diaphragm actuated, pilot-controlled globe or angle valve. The fire pump suction control valve shall seal by means of a corrosion-resistant seat and resilient, rectangular seat disc. Maintenance, disassembly and reassembly of all the valve's components shall be made possible on-site and in-line, without the need to remove 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 valve shall be fully trimmed, hydrostatically and operationally tested at the factory. Change of factory preset pressure setting can always be performed in-line following simple IOM instructions, without special tools or system down time. The main valve body and bonnet shall be ductile iron (other materials available upon request). All internal ferrous surfaces shall be coated with epoxy. External surfaces shall be coated with epoxy and fire red paint. The main valve seat ring shall be bronze (other materials available upon request). Elastomers (diaphragms, resilient seats, and O-rings) shall be Buna-N or E.P.D.M. Control pilot shall be bronze or stainless steel. The control line tubing shall be copper (other materials available upon request). Additional coatings and special materials are available upon request. The fire pump suction control valve shall be a Model 108FPS, Factory Mutual Approved under 1363 category, as manufactured by OCV Fluid Solutions, Tulsa, OK, USA.

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