



Two-Stage Preset Valve ▲

The Model 115-5 is specifically designed for fuel loading systems and performs the following functions:

- ▶ Electrical opening - full flow delivery
- ▶ Two-stage shutdown

SERIES FEATURES

- ▶ Opens on signal from preset register
- ▶ Closes in two stages based on signals from preset register
- ▶ Can be maintained without removal from the line
- ▶ Factory tested
- ▶ Explosion-proof pre-wired junction box available
- ▶ Two stage opening (timer) available

OPERATION

On start-up, SW1 energizes the normally closed solenoid, allowing the valve to open. A predetermined number of gallons before the end of the loading run, SW1 switches back to remove power from the normally closed solenoid and make power available to the limit switch. The valve starts closed. At a low flow position, the limit switch N.C. contact energizes/closes the normally open solenoid. This "hydraulically locks" the valve in the low flow position. At the conclusion of the load, SW2 switches back, deenergizing/opening the normally open solenoid and closing the valve fully.

COMPONENTS

The Model 115-5 consists of the following components, arranged as shown on the schematic diagram:

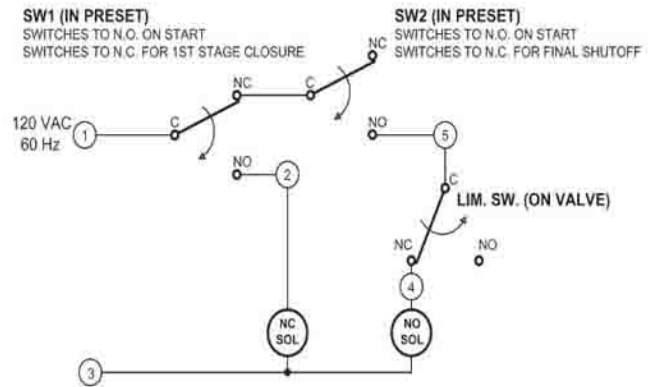
- 1.) **Model 65 Basic Control Valve** (fail closed)
- 2.) **Two-Way Solenoid Pilot, (N.O.)**
- 3.) **Two-Way Solenoid Pilot, (N.C.)**
- 4.) **Ejector**
- 5.) **Needle Valve**
- 6.) **Inline Strainer**
- 7.) **Limit Switch**

SIZING

The 115-5 valve is normally sized to match the meter size; however, in no case should the maximum velocity exceed 20 ft/sec, as shown below.

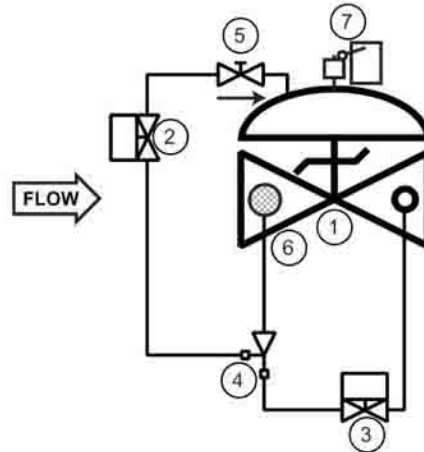
SIZE	1 1/4", 1 1/2"	2"	2 1/2"	3"	4"	6"	8"	10"	12"	14"	16"	24"
MAX. FLOW, GPM	120	200	280	460	800	1800	3000	4200	6000	7200	9600	25000

SCHEMATIC



RECOMMENDED INSTALLATION

- ▶ Install the valve at the appropriate location, typically downstream of the preset meter.
- ▶ Install the valve with adequate space above and around the valve to facilitate servicing. Refer to the Dimension Table.
- ▶ Valve should be installed with the bonnet (cover) at the top, particularly 8" and larger valves.
- ▶ 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.
- ▶ Following main valve installation, the solenoids and limit switch must be wired into the preset register, as shown in the wiring diagram.



MAX. PRESSURE

(Based on ANSI flange ratings.)

Note: Working pressures of solenoids vary greatly, consult factory on application of the OCV Model 115-5 valves.

END CONNECTIONS	DUCTILE IRON	STEEL/STN STL	ALUMINUM
Threaded	640 psi	640 psi	285 psi
Grooved	300 psi	300 psi	200 psi
150# Flanged	250 psi	285 psi	285 psi
300# Flanged	640 psi	740 psi	--

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SIZES

Globe or Angle

Screwed Ends: 1.25" - 3"

Grooved Ends: 1.5" - 6"

Flanged Ends:

(globe): 1.25" - 24"

(angle): 1.25" - 16"

MAX. WORKING PRESSURE

250 psi for 150# ANSI flanged Ductile Iron. 285 psi for Steel and Stainless Steel. 285 psi for Aluminum. 300# ANSI flanges are available.

TEMPERATURE RANGE

Buna-N Elastomers:

-40° F - 180° F

Viton: 0° F - 400° F

SOLENOID VALVE VOLTAGE

Enclosure: Explosion Proof NEMA 4X, 6P, 7, 9

Body: Brass, Stainless Steel

Voltages: 24, 120, 240, 480 VAC; 12, 24 VDC

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

OPTIONAL FEATURES

Two Stage Opening

Pre-wired junction box

SPECIFICATIONS (Typical Fuel Application)

The two-stage preset valve shall open in one stage and close in two stages based on signals from the preset register.

DESIGN

The two-stage preset 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 orifice plate shall be integrally-installed in the valve inlet flange. The pilot system shall be furnished complete, installed on the main valve and include two solenoid pilots, a needle valve and an inline strainer. The two-stage preset 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 CF8M stainless steel.

Elastomers (diaphragms, resilient seats and O-rings) shall be Buna-N. Solenoid pilots shall be Stainless Steel, as shall the needle valve and control line tubing. The solenoid and limit switch enclosures shall be explosion-proof and suitable for operation on <voltage>.

OPERATING CONDITIONS

The two-stage preset valve shall be suitable for operation at <X> psi at flow rates up to <X> gpm.

ACCEPTABLE PRODUCTS

The two-stage preset valve shall be a <size> Model 115-5, <globe pattern, angle pattern>, with <threaded, grooved, 150# flanged, 300# flanged> 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
C	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
	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	--	--	--	--	--	--	--
D	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	--
	SCREWED	3 1/8	3 7/8	4	4 1/2	--	--	--	--	--	--	--	--
E	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	--
F (OPT)	ALL	6	6	7	6 1/2	8	10	11 7/8	15 3/8	17	18	19	27
H	ALL	3 7/8	3 7/8	3 7/8	3 7/8	3 7/8	3 7/8	6 3/8	6 3/8	6 3/8	6 3/8	6 3/8	8
	ALL	10	11	11	11	12	13	14	17	18	20	20	28 1/2

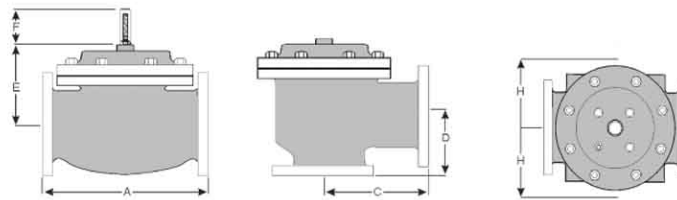
*GROOVED END NOT AVAILABLE IN 1 1/4"

OCV valves can be mounted in the horizontal or vertical position, however 8" and larger valves are best suited to be mounted horizontally. 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 115-5 valve, please provide:

Fluid to be controlled - Model Number - Size - Globe or Angle End Connection - Body Material Trim Material - Solenoid Voltage Special Requirements / Installation Requirements



QUALITY SYSTEM REGISTERED TO ISO 9001

Represented by:

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