

Model 108-34 ▲

The Model 108-34 is applicable anywhere there is a need to maintain a minimum back pressure, combined with the requirement of backflow prevention and an on/off electrical operation.

Typical examples include:

- ▶ Pump systems
- ▶ Fuel distribution systems
- ▶ Hydrant refueling system back pressure control valve (BPCV)

## SERIES FEATURES

- ▶ Pressure Sustaining: Prevents inlet pressure from dropping below a predetermined minimum
- ▶ Electrically operated solenoid allows valve to open (control pressure) or shut off (close)
- ▶ Automatic closure on pressure reversal
- ▶ Operates over a wide flow range
- ▶ Set pressure is adjustable with single screw
- ▶ Quick opening and adjustable closing speed
- ▶ Can be maintained without removal from the line
- ▶ Factory tested and can be pre-set to your requirements

## OPERATION

When closed, a two-way solenoid causes the main valve to close. Opening the solenoid opens the valve and allows the normally closed, spring-loaded pilot to sense upstream pressure and respond to changes in pressure levels, causing the main valve to do the same. The net result is a constant modulating action of the pilot and main valve to hold the upstream pressure constant. The pilot system is equipped with a closing speed control that fine tunes the valve's response to the system variables. The valve closes automatically if outlet pressure becomes greater than inlet pressure.

The solenoid may be supplied normally closed (energize to enable) or normally open (energize to close).

## COMPONENTS

The Model 108-2 consists of the following components, arranged as shown on the schematic diagram:

- 1.) Model 65 Basic Control Valve
- 2.) Model 1330 Pressure Relief Pilot
- 3.) Model 451 Two-Way Solenoid Pilot
- 4.) Model 126 Ejector
- 5.) Model 141-3 Flow Control Valve
- 6.) Model 141-1 Check Valve
- 7.) Model 123 Inline Strainer
- 8.) Model 155L Visual Indicator

## SIZING

Pressure sustaining valves should be limited to a maximum velocity of 25 ft/sec. Definitive sizing information can be found in the OCV Catalog, Series 108 section and Engineering section Performance Charts. Consult the factory for assistance and a copy of the OCV ValveMaster Sizing program.

SIZE	1 1/4", 1 1/2"	2"	2 1/2"	3"	4"	6"	8"	10"	12"	14"	16"	24"
FLOW@25FT/SEC GPM	115-160	260	375	575	1000	2250	3900	6125	8750	10600	13750	31250

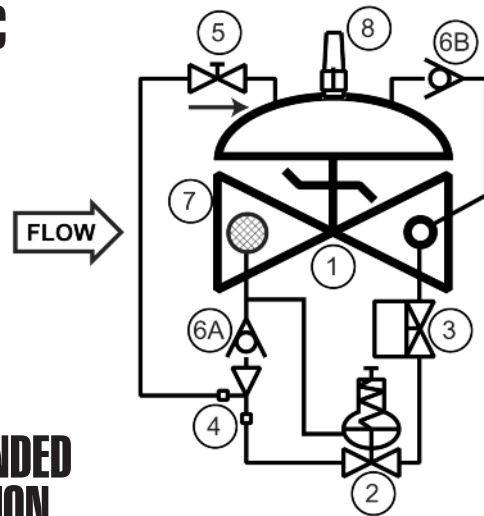
## MAX. PRESSURE

(The pressures listed here are maximum working pressures at 100°F.)

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	---

Note: Working pressures of solenoids vary greatly, consult factory on application of OCV Model 108-34.

## SCHEMATIC



## RECOMMENDED INSTALLATION

- ▶ 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, and any valve with a limit switch.
- ▶ 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 solenoid must be wired into the user's control system. This is a simple two-wire (plus ground) connection.

# Model 108-34 (Aviation Fueling)



## SIZES

Screwed Ends -	1 1/4" - 3"
Grooved Ends -	1 1/2" - 6" (globe)
	1-1/2" - 6" (angle)
Flanged Ends -	1 1/4" - 24" (globe)
	1 1/4" - 16" (angle)

## FLUID OPERATING TEMPERATURE RANGE

(Valve Elastomers)
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

**SPRING RANGES** (inlet setting)  
 5-30 psi, 20-80 psi, 20-200 psi,  
 100-300 psi

## SOLENOID

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

**Body:** Stainless Steel, Brass

**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

# SPECIFICATIONS (Typical Aviation Fueling Application)

The back pressure control valve shall function to prevent the upstream pressure from falling below a predetermined minimum while closing to prevent reverse flow. The valve shall be equipped with a two-way solenoid valve that will allow the valve to open when <energized> <deenergized>.

## DESIGN

The back pressure control 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 be furnished complete, installed on the main valve and include a needle valve, inline strainer and solenoid valve. The back pressure control 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 EPDM. The control pilot, needle valve and control line tubing shall also be Stainless Steel. The solenoid shall have a stainless steel body, explosion-proof enclosure and be suitable for operation on <voltage>.

## OPERATING CONDITIONS

The back pressure control valve shall be suitable for controlling the inlet pressure at <X> psi and flow rates ranging from <X> to <X> gpm.

## ACCEPTABLE PRODUCTS

The back pressure control valve shall be a <size> Model 108-34, <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	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
	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
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	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	--
D	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	6	8	11 3/8	11	--	15 11/16	--
E	ALL	6	6	7	6 1/2	8	10	11 7/8	15 3/8	17	18	19	27
	F (OPT)	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	8
H	ALL	10	11	11	11	12	13	14	17	18	20	20	28 1/2

\*GROOVED END NOT AVAILABLE IN 1 1/4"

\*\*Note: for military fueling valves, 6" 150# flanges have 20" face to face dimensions and 6" 300# flanges have 20-7/8" face to face dimensions.

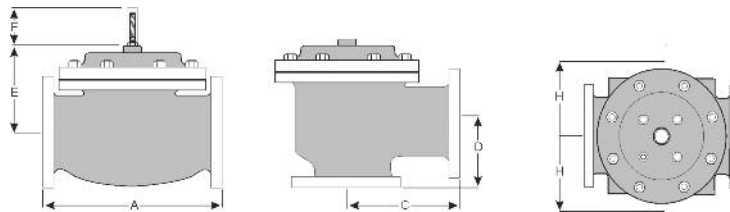
For maximum efficiency, the OCV control valve should be mounted in a piping system so that the valve bonnet (cover) is in the top position. Other positions are acceptable but may not allow the valve to function to its fullest and safest potential. In particular, please consult the factory before installing 8" 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 @ 1-888-628-8258 for parts and service.

## How to order your Model 108-34 valve

When ordering please provide:

Fluid to be controlled - Model Number - Size - Globe or Angle - End Connection - Body Material - Trim Material - Pressure Setting or Spring Range - Solenoid Voltage - Energize to Open or Close Valve - Special Requirements / Installation Requirements



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