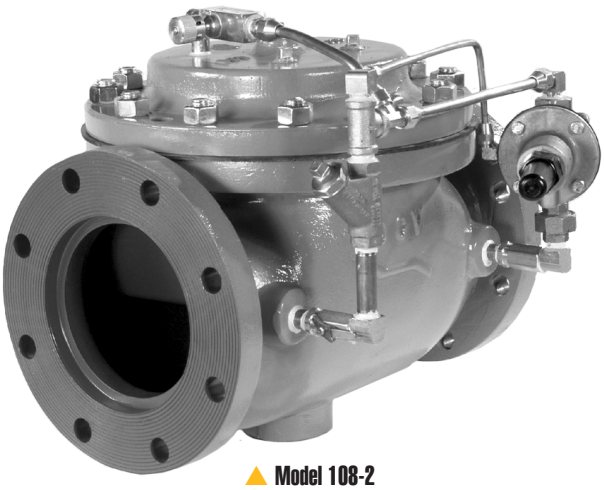


▲ Model 108-2

The Model 108-2 has a wide range of applications: anywhere a system must be protected from pressures that are too high (relief) or too low (sustaining).
Typical examples include:
- Pump systems
- Municipal distribution systems
- Irrigation systems

SERIES FEATURES

- Relief Valve: Limits inlet pressure by relieving excess pressure
- Pressure Sustaining: Prevents inlet pressure from dropping below a predetermined minimum
- Operates over a wide flow range
- Inlet 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

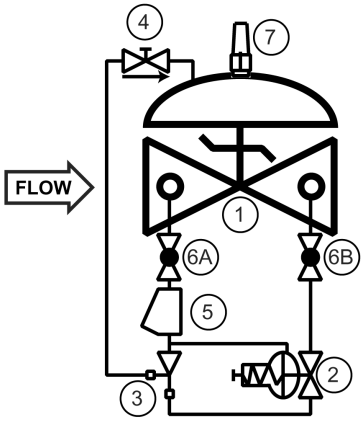
The normally closed, spring-loaded pilot, sensing upstream pressure, responds to changes in pressure and causes the main valve to do the same. The net result is a constant modulating action of the pilot and main valve to hold the upstream pressure constant. The pilot system is equipped with a closing speed control that fine tunes the valve response to the system variables.

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/Back Pressure Pilot**
3.) **Model 126 Ejector**
Fixed orifice pilot system supply restrictor
4.) **Model 141-3 Flow Control Valve**
Adjustable closing speed control
5.) **Model 159 Y-strainer**
Protects pilot system from dirt/debris
6.) **Model 141-4 Isolation Ball Valves**
7.) **Model 155 Visual Indicator** (Optional)

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 startup and maintenance.
- Install a pressure gauge upstream of the valve to enable adjustment to the required pressure setting. This gauge may be installed in the upstream side port of the valve body.

MAX. PRESSURE

The pressures listed below are maximum pressures at 100°F.

END CONNECTIONS	DUCTILE IRON	STEEL/STN STL	LOW-LEAD BRONZE
Threaded	640 psi	640 psi	500 psi
Grooved	300 psi	300 psi	300 psi
150# Flanged	250 psi	285 psi	225 psi
300# Flanged	640 psi	740 psi	500 psi

SIZING

Pressure sustaining valves and pressure relief valves that operate frequently should be limited to a maximum velocity of 25ft/sec.
Pressure relief valves that operate intermittently may be extended to 45 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
FLOW @ 45FT/SEC GPM	210-280	460	650	1000	1800	4000	7000	11000	16000	19000	25000	56000

Cavitation Note: Relief valves by their application are subject to pressure differentials that may induce cavitation. When these conditions exist, it may be only on an intermittent basis, causing minimum concern for valve deterioration. Charts indexing only inlet and outlet pressures do not address the complexity of this phenomenon. OCV can assist you in validating your application.

TOLL FREE 1.888.628.8258 • **phone:** (918)627.1942 • **fax:** (918)622.8916 • 7400 East 42nd Place, Tulsa, Ok 74145
email: sales@controlvalves.com • **website:** www.controlvalves.com

Model 108-2 Pressure Relief/Pressure Sustaining Valve

Model 108-2

SIZES GLOBE/ANGLE
Screwed Ends - 1 1/4" - 3"
Grooved Ends - 1 1/2" – 6" (globe)
1-1/2"-4" (angle)
Flanged Ends - 1 1/4" - 24" (globe);
1 1/4" - 16" (angle)
FLUID OPERATING TEMPERATURE RANGE (Valve Elastomers)
EPDM 32°F to 230°F*
SPRING RANGES (inlet setting)
5-30 psi, 20-80 psi, 20-200 psi, 100-300 psi
MATERIALS
Consult factory for others.
Body/Bonnet: Ductile Iron (epoxy coated), Carbon Steel (epoxy coated), Stainless Steel, low-lead Bronze, Others available (consult factory)
Seat Ring: low-lead Bronze, Stainless Steel
Stem: Stainless Steel, Monel
Spring: Stainless Steel
Diaphragm: EPDM*
Seat Disc: EPDM*
Pilot: low-lead Bronze, Stainless Steel
Other pilot system components: Bronze/Brass, All stainless steel
Tubing & Fittings: Copper/brass, Stainless steel

**Others available upon request.*
***Valves 1-1/4" through 24" are certified to NSF/ANSI 372. Valves 4" through 24" are also certified to NSF/ANSI 61-G.*

SPECIFICATIONS (Typical Commercial Plumbing Application)

The <pressure relief><pressure/sustaining> valve shall function to <prevent main line pressure from exceeding a predetermined maximum><prevent the upstream pressure from falling below a predetermined minimum.>

DESIGN
The 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 and installed on the main valve. It shall include a closing speed control, Y-strainer and isolation ball valves. The <pressure relief><pressure/ sustaining> 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 low-lead Bronze. Elastomers (diaphragms, resilient seats and O-rings) shall be EPDM. Control pilots shall be low-lead Bronze. The closing speed control and isolation ball valves shall be brass, and control line tubing shall be copper.

OPERATING CONDITIONS
The <pressure relief><pressure/sustaining> valve shall be suitable for controlling the inlet pressure to a <maximum><minimum> of <X> psi at flow rates ranging from <X to X> gpm.

ACCEPTABLE PRODUCTS
The <pressure relief><pressure/sustaining> valve shall be a <size> Model 108-2, <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

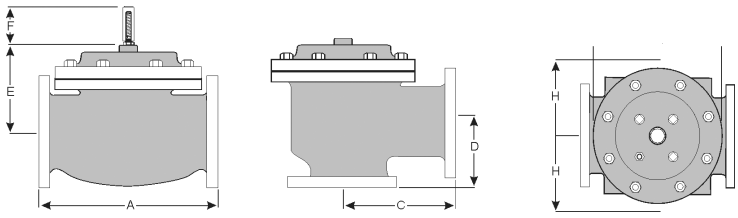
DIM	END CONN.	1 1/4-1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	24
A	SCREWED	8 3/4	9 7/8	10 1/2	13	--	--	--	--	--	--	--	--
	GROOVED	8 3/4	9 7/8	10 1/2	13	15 1/4	20	--	--	--	--	--	--
	150# FLGD	8 1/2	9 3/8	10 1/2	12	15	17 3/4	25 3/8	29 3/4	34	39	40 3/8	62
	300# FLGD	8 3/4	9 7/8	11 1/8	12 3/4	15 5/8	18 5/8	26 3/8	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 ANGLE	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	--
	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	--
H	ALL	10	11	11	11	12	13	14	17	18	20	20	28 1/2

*GROOVED END NOT AVAILABLE IN 1 1/4"

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 108-2 valve
When Ordering please provide:
Fluid to be controlled - Model Number - Size
Globe or Angle - End Connection
Body Material - Trim Material - Pilot Options
Pressure Setting or Spring Range
Special Requirements / Installation requirements



QUALITY SYSTEM REGISTERED TO ISO 9001

Represented by:

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