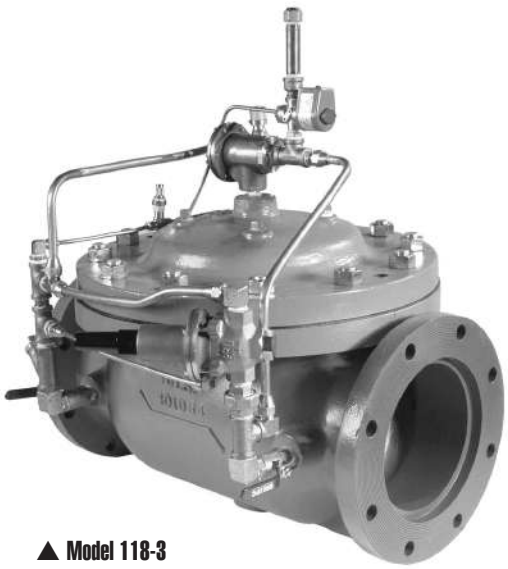


▲ Model 118-3

The Model 118-3 operates as a pressure relief valve by opening at a pressure above its set point. In addition, it provides extra protection against surges associated with power failure or other pump failure by opening in "anticipation" of the high pressure wave to follow. By being already open when the high pressure wave hits, any potential surge is harmlessly bypassed to atmosphere.
Typical examples include:
●Pump systems ●Municipal distribution systems ●Irrigation systems

SERIES FEATURES

▶Opens on power failure - remains open for preset time - slowly recloses
▶Opens on low pressure - remains open for preset time - slowly recloses
▶Opens on high pressure - closes slowly when pressure returns to normal
▶Operates over a wide flow range
▶Low and high pressures are adjustable
▶Quick opening and adjustable closing speed
▶Adjustable time delay for automatic reclose (power failure and low pressure modes)
▶Can be maintained without removal from the line
▶Factory tested and can be pre-set to your requirements

OPERATION

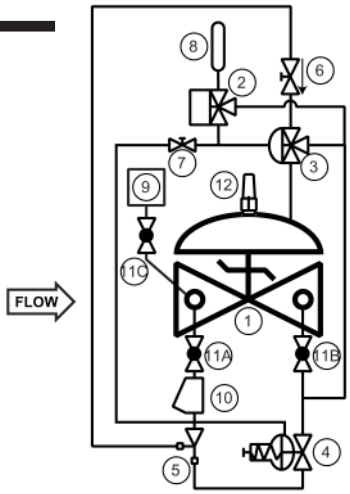
The control of the Model 118-3 is via a three-way solenoid and a pressure switch. The solenoid may be electrically wired to either pump power or the pump starter. Wired to pump power, the valve opens on any power failure. Wired to the pump starter, the valve opens on each pump shutdown. In either mode, the valve opens when the solenoid is de-energized - either directly on power failure or through the pressure switch on low pressure - remains open a predetermined time (accumulator fill), and then slowly closes. The valve also opens when the set point of the normally closed, high pressure relief pilot is exceeded. The valve slowly closes (adjustable closing) when system pressure returns to normal.

COMPONENTS

The Model 118-3 consists of the following components, arranged as shown on the schematic diagram:

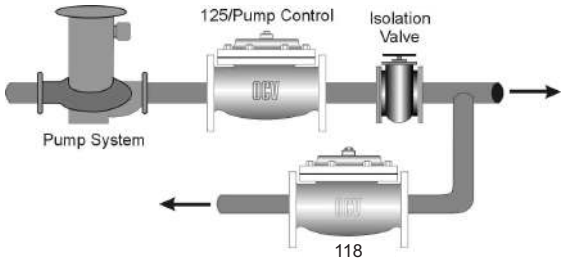
1.) Model 65 Basic Control Valve
2.) Model 452 Three-way Solenoid Pilot
3.) Model 3600 Three-way Auxiliary Pilot
4.) Model 1330 Pressure Relief Pilot
5.) Model 126 Ejector
6.) Model 141-3 Flow Control Valve (Closing Speed Control)
7.) Model 141-2FM Metering Valve
8.) Accumulator
9.) Model 589080 Pressure Switch
10.) Model 159 Y-Strainer
11.) Model 141-4 Isolation Ball Valves
12.) Model 155 Visual Indicator (Optional)

SCHEMATIC



RECOMMENDED INSTALLATION

Installed in the bypass line the valve discharges to atmosphere. Valve opens on power failure, low pressure signal or as a high pressure relief valve.



SIZING

Definitive sizing information can be found in the OCV Catalog, Series 118 section and Engineering section Performance Charts. Consult the factory for assistance and a copy of the OCV ValveMaster Sizing program.

MAX. PRESSURE

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

END CONNECTIONS	DUCTILE IRON	STEEL/STN STL	LOW-LEAD BRONZE
Threaded	400 psi	400 psi	400 psi
Grooved	300 psi	300 psi	300 psi
150# Flanged	250 psi	285 psi	225 psi
300# Flanged	400 psi	400 psi	400 psi

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Model 118-3 Surge Anticipation Valve - Electro-Hydraulic Type

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)
SPRING RANGES (For high pressure pilot)
5-30 psi, 20-80 psi, 20-200 psi, 100-300 psi
FLUID OPERATING TEMPERATURE RANGE
(Valve Elastomers)
EPDM 32° F - 230°F*
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:
low-lead Bronze/Brass, All Stainless Steel
Tubing & Fittings: Copper/Brass, Stainless Steel
Solenoid:
Enclosure: Weatherproof NEMA 4X / Explosion Proof NEMA 4X, 6P, 7, 9
Body: Brass, Stainless Steel
Voltages: 24, 120, 240, 480 VAC/12, 24 VDC
Note: Working pressures of solenoids vary greatly, consult factory on application of OCV Model 118-3 valves.
**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 Water Application)

The surge anticipation valve shall be installed on a bypass line downstream of the pump check valve(s). It shall function to prevent potentially damaging pressure surges by (a) opening immediately in the event of an electrical power failure, remaining open for a predetermined period of time, then slowly reclosing whether or not power is restored, (b) opening rapidly if main line pressure should exceed a predetermined set point, then slowly reclosing after pressure has returned to normal, and (c) opening rapidly in the event of a downsurge in pressure below a predetermined set point, remaining open for a predetermined period of time, then slowly reclosing whether or not pressure returns to normal. The power failure opening cycle shall be controlled by a three-way solenoid pilot, a metering valve, a small accumulator and a closing speed control. The high pressure opening cycle shall be controlled by an adjustable, normally closed pressure relief pilot which opens when the sensed pressure exceeds the spring setting. The low pressure opening cycle shall be controlled by a pressure switch wired in series with the solenoid, thus simulating a power failure when a downsurge in pressure occurs.

DESIGN
The surge anticipation valve shall be a single seated, diaphragm actuated, pilot controlled globe valve. The valve shall seal by means of a corrosion-resistant seat, and resilient, rectangular seat disc. These and other parts shall be replaceable in the field 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 main valve and its control system shall contain no packing glands or stuffing boxes. The diaphragm shall not be used as a seating surface, nor shall pistons be used as an operating means. The pilot system shall be complete and installed on the main valve, and shall include a closing speed control, a Y-strainer, and ball valves for isolating the pilot system from the main valve. The surge anticipation 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 solenoid pilot, closing speed control, and isolation ball valves shall be brass and control line tubing shall be copper. The solenoid coil shall be suitable for operation on 110/120 VAC, 50-60 Hz, and shall be weatherproof per NEMA 4.

OPERATING CONDITIONS
The surge anticipation valve shall be capable of limiting main line pressure to a maximum of <X> psi, based on a main line maximum flow rate of <X> gpm and a static pressure of <X> psi, with valve discharge to atmosphere.

ACCEPTABLE PRODUCTS
The surge anticipation valve shall be a <size> Model 118-3, <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

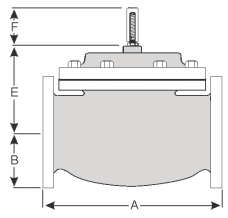
DIM	END CONN.	1 1/4-1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	24
	SCREWED	8 3/4	9 7/8	10 1/2	13	--	--	--	--	--	--	--	--
A	GROOVED	8 3/4	9 7/8	10 1/2	13	15 1/4	20	--	--	--	--	--	--
	150# FLGD	8 1/2	9 3/8	10 1/2	12	15	17 3/4	25 3/8	29 3/4	34	39	40 3/8	62
	300# FLGD	8 3/4	9 7/8	11 1/8	12 3/4	15 5/8	18 5/8	26 3/8	31 1/8	35 1/2	40 1/2	42	63 3/4
	SCREWED	4 3/8	4 3/4	6	6 1/2	--	--	--	--	--	--	--	--
C	GROOVED	4 3/8*	4 3/4	6	6 1/2	7 5/8	--	--	--	--	--	--	--
ANGLE	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	--	--	--	--	--	--	--	--
D	GROOVED	3 1/8*	3 7/8	4	4 1/2	5 5/8	--	--	--	--	--	--	--
ANGLE	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	--
E	ALL	6	6	7	6 1/2	8	10	11 7/8	15 3/8	17	18	19	27
F	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
H	ALL	10	11	11	11	12	13	14	17	18	20	20	28 1/2

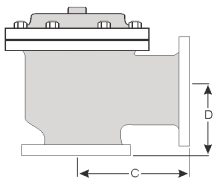
*GROOVED END NOT AVAILABLE IN 1 1/4"

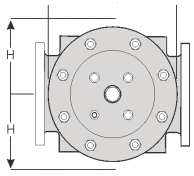
For maximum efficiency, the OCV control valve should be mounted in a piping system so that the valve bonnet (cover) is in the top position. Other positions are acceptable but may not allow the valve to function to its fullest and safest potential. In particular, please consult the factory before installing 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 118-3 valve
When Ordering please provide:
Fluid to be controlled -Model Number -Size Globe or Angle -End Connection -Body Material Trim Material -Pilot Options -High Pressure Setting or Spring Range -Static Pressure (used to determine low pressure setting) -Solenoid Voltage -Special Requirements / Installation Requirements







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