

Operating Manual

Model #: 8102-2

Size:

Serial #:

Sales Order:

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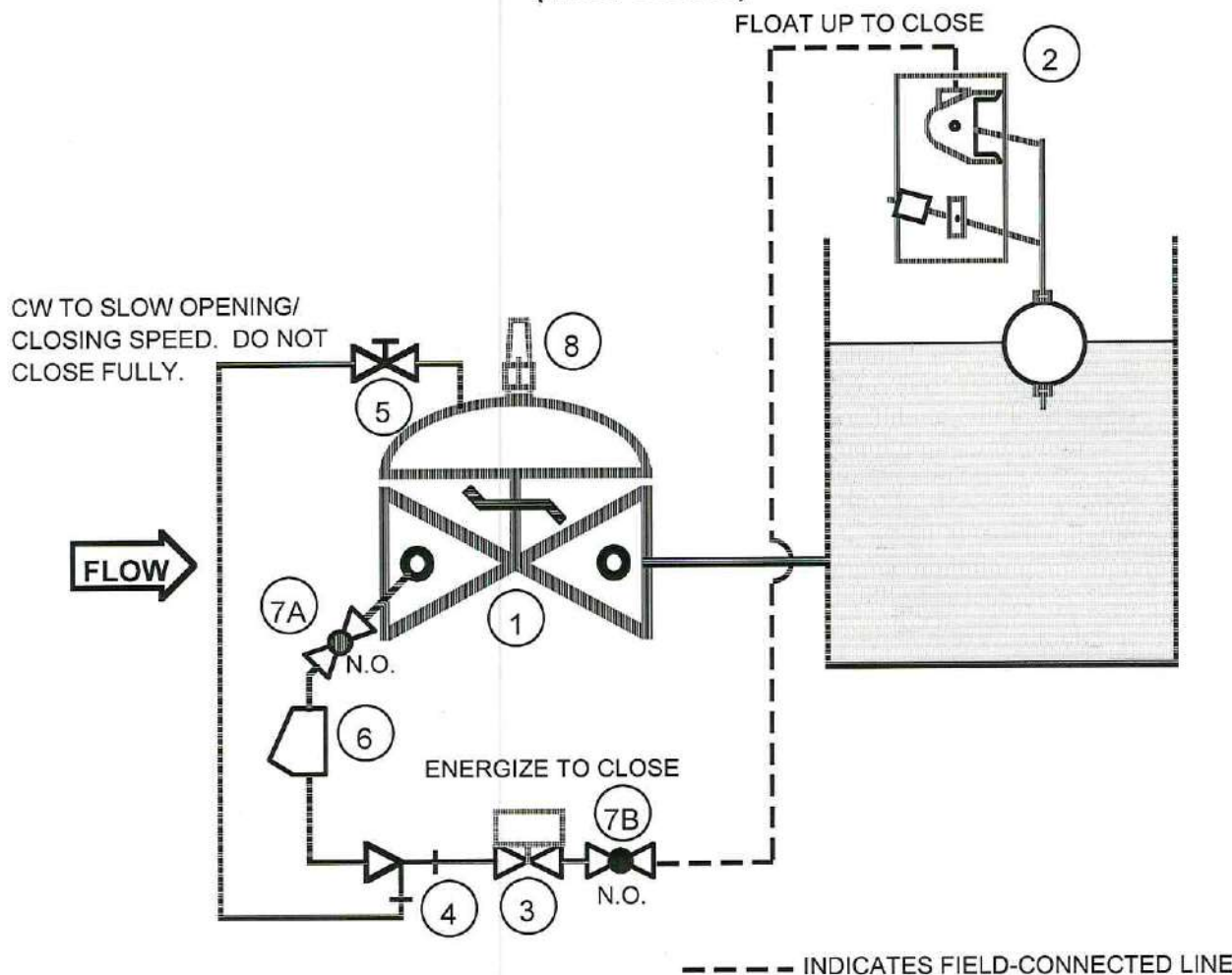
Global performance. **Personal** touch.

MODEL 8102-2

RON
12-9-05

MODULATING FLOAT AND SOLENOID SHUTOFF VALVE

Energize-to-Close
(Water Service)



ITEM	PART NO.	QTY	DESCRIPTION
1	65	1	BASIC VALVE ASSEMBLY
2	813	1	FLOAT PILOT
3	450	1	TWO-WAY SOLENOID PILOT, N.O.
4	126	1	EJECTOR
5	141-2	1	NEEDLE VALVE
6	159	1	Y-STRAINER
7	141-4	2	ISOLATION BALL VALVE
8	155	1	VISUAL INDICATOR (OPTIONAL)

THIS VALVE IS A DIAPHRAGM ACTUATED, PILOT OPERATED, SOFT SEATED, AUTOMATIC CONTROL VALVE DESIGNED TO CONTROL THE WATER LEVEL IN A TANK. THE VALVE HAS A MODULATING FLOAT PILOT WITH SOLENOID SHUTOFF. THE VALVE IS EQUIPPED WITH A MANUAL OVERRIDE (ITEM 7B) TO CLOSE THE VALVE OVERRIDING THE FLOAT PILOT IF NEEDED. A NEEDLE VALVE IS PROVIDED TO CONTROL OPENING/CLOSING SPEED OF THE MAIN VALVE.

modulating float control valve with adjustable air gap float pilot

installation, operating,
and
maintenance instructions

model 8102 or 8112

GENERAL DESCRIPTION

The OCV Models 8102 and 8112 are designed to hold a constant level in a tank or reservoir by modulating the flow either into (Model 8102) or out of (Model 8112) the tank. They can also be used for on-off service where it is acceptable or advantageous to throttle the valve over the last few inches of level change.

Both models include the Model 813 Air Gap type Float Pilot, especially designed for those applications where it is necessary to have an air gap between the float pilot and the fluid level and/or it is desirable to be able to adjust the float.

INSTALLATION

The main valve and pilot are installed as shown in the attached drawings. The main valve is installed in either the inlet or discharge line of the tank, depending on the application.

NOTE: For proper operation, the modulating float valve requires an inlet pressure at least 5 psi greater than tank head. This is particularly significant for the Model 8112 controlling flow out of the tank. It means simply that a gravity feed situation will not work! In any event, if the proper operating differential cannot be provided, contact the factory about converting your valve to one that will operate under low or zero differential conditions.

The 813 Float Pilot may be easily installed in the tank by means of the slotted holes in its mounting plate. It is of course installed at the desired distance above the fluid level. The only requirement in installation is that the float be kept clear of the tank walls or other obstacles within the tank. Once the pilot is installed the float may then be adjusted to any desired position on the float rod by means of the stop collars on either side of the float.

Finally a single, customer-supplied, sense line is installed between the ejector of the main valve and the float pilot, as shown. For proper operation, this line should have an I. D. of 3/8" or larger.

THEORY OF OPERATION

Operation of the 8102 and 8112 may be seen by referring to the schematic diagram.

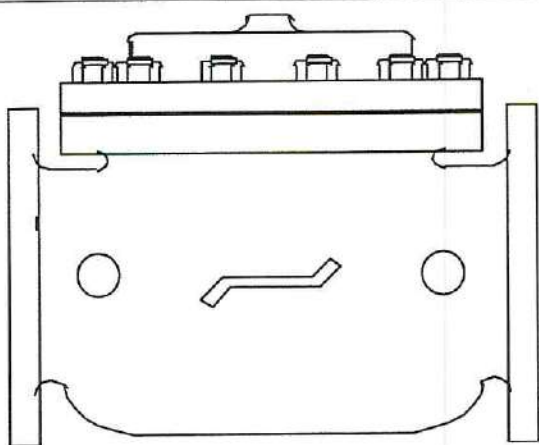
The positioning (modulation) of the main valve (1) is governed by the amount of pressure applied to the upper side of its diaphragm. The amount of pressure is, in turn, determined by the balance of flows on and off the main valve bonnet. A fixed supply is provided to the bonnet from the ejector (3). A variable exhaust from the bonnet is provided by the float pilot (2). A movement of the float toward the "open" position causes an excess of exhaust over supply, which allows pressure acting under the seat of the main valve (1) to open the valve wider. Conversely, movement of the float toward the "closed" position re-

stricts the exhaust relative to the supply, which forces the main valve further closed. While the valve can be driven full open or full closed in this manner, in most applications the actual modulation will be over a narrow range in order to hold the tank level constant.

For flow into a tank (Model 8102), the float pilot is built so that increasing level tends to **close** the valve. For flow out of a tank (Model 8112), the float pilot is built so that increasing level tends to **open** the valve.

CONTROLS ADJUSTMENT

The only adjustable control on the 8102 and 8112 is the speed control, or needle valve (4). Turning the needle valve counterclockwise will allow the valve to open and close faster. Turning the needle valve clockwise will slow down both the closing and opening speeds. **CAUTION:** Never close the needle valve all the way, less the main valve be rendered inoperative.



installation, operating, and maintenance instructions

series 65

basic control valve

GENERAL DESCRIPTION

The OCV Series 65 is a hydraulically-operated, diaphragm-actuated valve. It is available in either a globe (Model 65) or angle (Model 65A) configuration. The diaphragm is nylon-fabric bonded with synthetic rubber and forms a sealed chamber in the upper portion of the valve, separating operating pressure from line pressure. An elastomeric seat disc forms a tight seal with the valve seat when pressure is applied above the diaphragm.

FUNCTIONAL DESCRIPTION

Because the Series 65 is a hydraulically operated valve, it requires a minimum line pressure of approximately 5 psig in order to function. The valve functions on a simple principle of pressure differential. The line pressure at the inlet of the valve is bypassed through the pilot control piping to the diaphragm chamber of the valve. This pressure, together with the valve spring, works against the pressure under the valve seat. Because the effective area of the diaphragm is greater than that of the seat, the valve is held tightly closed. As the controlling pilot(s) allow the pressure to bleed off the diaphragm chamber, the two opposing pressures begin to balance and the valve will begin to open. The valve can be used to perform a simple on-off function, or with the proper pilot system, a modulating, or regulating function.

In cases where the line fluid is unusually dirty, or is otherwise unsuitable for operating the valve, an independent operating pressure source may be employed. The pressure available from such a source must be equal to, or greater than, line pressure.

INSTALLATION

In order to insure safe, accurate and efficient operation of the OCV control valve, the following list of checkpoints and procedures should be followed when installing the

valve.

1. Make a careful visual inspection of the valve to insure that there has been no damage to the external piping, fittings or controls. Check that all fittings are tight.
2. Thoroughly flush all interconnecting piping of chips, scale and foreign matter prior to mounting the valve.
3. Install the valve in the line according to the flow arrow on the inlet flange. The arrow should point downstream.
4. Allow sufficient room around the valve for ease of adjustment and maintenance service.

In addition, it is highly recommended that:

1. Isolation valves (eg., gate or butterfly) be installed on the inlet and discharge sides of the valve to facilitate isolating the valve for maintenance.
2. Pressure gauges be installed at the inlet and outlet sides of the valve to provide monitoring of the valve during initial start-up and during operation. The body side ports, if unused by the pilot system, provide a convenient connection for the gauges.
3. All valves larger than 6" be installed horizontally, i.e., with the bonnet pointed up, for ease of adjustment and maintenance servicing.

MAINTENANCE

The OCV control valve requires no lubrication and a minimum of maintenance. However, a periodic inspection should be established to determine how the fluid being handled is affecting the efficiency of the valve. In a water system, for example, the fluid velocity as well as the substances occurring in natural waters, such as dissolved minerals and suspended particles, vary in every installation. The effect of these actions or substances must be determined by inspection. It is recommended that an annual inspection, which includes ex-

amination of the valve interior, be conducted. Particular attention should be paid to the elastomeric parts, i.e., the diaphragm and seat disc. Any obviously worn parts should be replaced.

REPAIR PROCEDURES

In the event of malfunction of the OCV control valve, troubleshooting should be conducted according to the procedures outlined for the specific model of valve. Then, if those steps indicate a problem with the main valve, this section will outline the procedures necessary to correct the problem.

Problems with the main valve can be classed in three basic categories:

1. VALVE FAILS TO OPEN
 - a. Diaphragm damaged* - See Procedure A
 - b. Stem binding - See Procedure B
2. VALVE FAILS TO CLOSE
 - a. Diaphragm damaged* - See Procedure A
 - b. Stem binding - See Procedure B
 - c. Object lodged in valve - See Procedure B
3. VALVE OPENS AND CLOSES BUT LEAKS WHEN CLOSED
 - a. Seat disc damaged - See Procedure C
 - b. Seat ring damaged - See Procedure D

**A diaphragm failure can prevent the valve from either opening or closing, depending on the flow direction. Most water service valves flow "under the seat", in which case a diaphragm failure will keep the valve from closing. On the other hand, most fuel service valves flow "over the seat", in which case a diaphragm failure will keep the valve from opening. To determine which you have, examine the bridge mark cast into the side of the valve body, then compare it with the figures below.*

PROCEDURE A : DIAPHRAGM REPLACEMENT

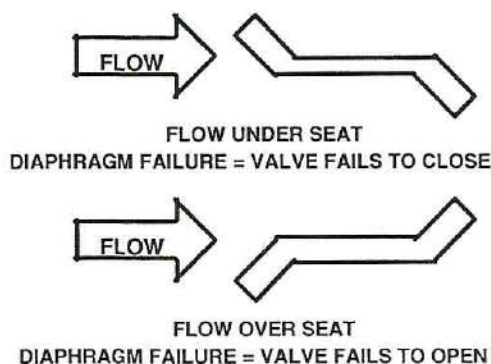
1. Isolate the valve from the system by closing upstream and downstream block valves.
2. Loosen one of the tubing connections on the bonnet. Allow any residual pressure to bleed off.
3. Remove all tubing connected at the bonnet.
4. Remove the bonnet nuts.
5. Remove the bonnet. If the bonnet sticks in place, it may be loosened by rapping sharply around its edge with a rubber-headed mallet. **NOTE:** 8" and larger valves are equipped with eye bolts through which a chain can be fastened to aid in

lifting the bonnet.

6. Remove the spring.
7. Remove the diaphragm plate capscrews and the diaphragm plate.
8. Remove the old diaphragm.
9. Making sure the dowel pin holes are in the proper location, place the new diaphragm over the studs and press down until it is flat against the body and spool.
10. Replace the diaphragm plate and the diaphragm plate capscrews.
11. Tighten all diaphragm plate capscrews snugly.
12. Replace the spring.
13. Replace the bonnet and reinstall the bonnet nuts.
14. Tighten the bonnet nuts snugly using a criss-cross tightening pattern.
15. Reinstall the control tubing.
16. Reopen the upstream and downstream block valves.
17. Before placing the valve back in service, perform the air bleed procedure described in the first section of this manual.

PROCEDURE B: CORRECTION OF BINDING STEM

1. Perform Steps 1 thru 6 of Procedure A, above.
2. Remove the spool assembly from the valve. **NOTE:**



On smaller valves, this can be accomplished simply by grasping the stem and pulling upward. Valves 6" and larger have the top of the stem threaded to accept an eyebolt to aid in lifting the spool out of the body. 6" thru 12" valves are threaded 3/8-16. 14" and 16" valves are threaded 5/8-11.

3. Carefully examine both ends of the stem for deep scratches, scoring or buildup of mineral deposits.

Polish the stem if necessary using a fine grade of emery cloth.

4. Similarly, examine and polish the upper bushing (in the bonnet) and the lower guide (in the seat ring).
5. Reinstall the spool assembly.
6. Reassemble the valve, following Steps 12 thru 17 in Procedure A.

PROCEDURE C: SEAT DISC REPLACEMENT

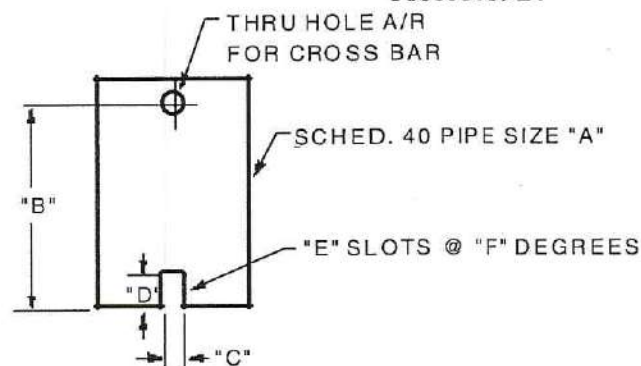
1. Perform Steps 1 and 2 of Procedure B, above.
2. With the spool assembly removed from the body, remove the seat retainer screws.
3. Slide the seat retainer off the lower end of the stem.
4. Remove the seat disc from its groove in the spool.
NOTE: The seat disc may fit quite tightly in the groove. If necessary, it may be pried out using a thin-bladed screwdriver or similar tool.
5. Install the new seat disc in the groove.
6. Reinstall the seat retainer and tighten the seat retainer screws.
7. Reassemble the valve, following Steps 5 and 6 of Procedure B.

PROCEDURE D: SEAT RING REPLACEMENT

NOTE: It is rare for a seat ring to require replacement. Minor nicks and scratches in the seating surface can usually be smoothed out with emery cloth.

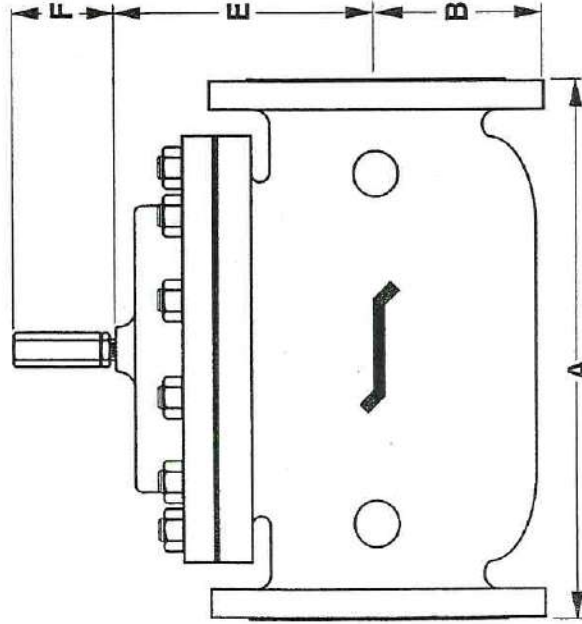
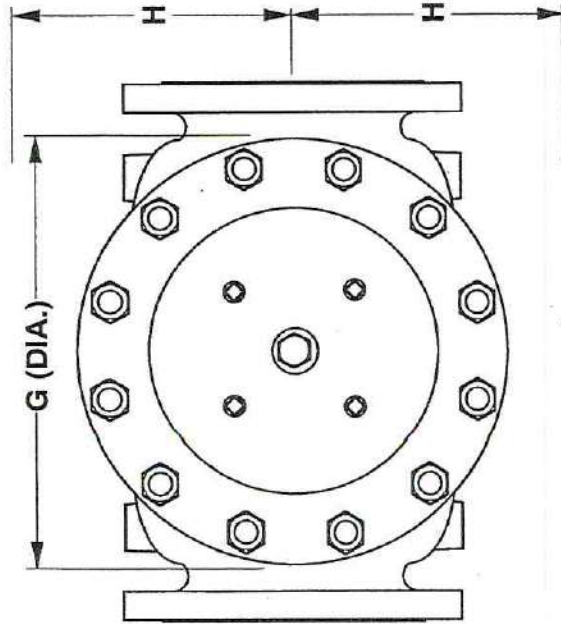
1. Perform Steps 1 and 2 of Procedure B, above.
2. If you are working on a 4" or smaller valve, follow Steps 3 thru 9, below.
3. If you are working on a 6" or larger valve, follow Steps 10 thru 16, below.

4. Seat rings in valves 4" and smaller are threaded into the valve body. To remove, you will need a special seat ring tool. You may fabricate one using standard pipe as shown in the sketch below, or one may be purchased from OCV.
5. Using the seat ring tool, unthread the seat ring from the body.
6. Remove the old o-ring from the counterbore in the body.
7. Install the new o-ring in the counterbore.
8. Using the seat ring tool, install the new seat ring.
9. Reassemble the valve, following Steps 5 & 6 of Procedure B.
10. Seat rings in valves 6" and larger are bolted into the body with socket head capscrews. In addition you will note that the seat ring is equipped with additional threaded holes that may be used for "jacking" the seat ring out of the body.
11. Remove the socket head capscrews.
12. Remove the old seat ring from the body by temporarily installing two or more of the capscrews in the "jacking" holes.
13. Install a new o-ring in the groove of the new seat ring. Lubricate the o-ring and outer seat ring wall with Vaseline® or similar lubricant.
14. Install the new seat ring in the body, making sure that the capscrew holes line up.
15. Replace and tighten all the capscrews.
16. Reassemble the valve, following Steps 5 and 6 of Procedure B.



VALVE SIZE	"A" PIPE SIZE	"B" MIN. LENGTH	"C" SLOT WIDTH	"D" SLOT DEPTH	"E" NO. OF SLOTS	"F" SLOT SPACING
1-1/4"	3/4"	6"	3/8"	3/8"	2	180°
1-1/2"	3/4"	6"	3/8"	3/8"	2	180°
2"	1-1/2"	7"	3/8"	3/8"	2	180°
2-1/2"	2"	8"	1/2"	1/2"	3	120°
3"	2-1/2"	9"	5/8"	5/8"	2	180°
4"	3"	10"	5/8"	5/8"	2	180°

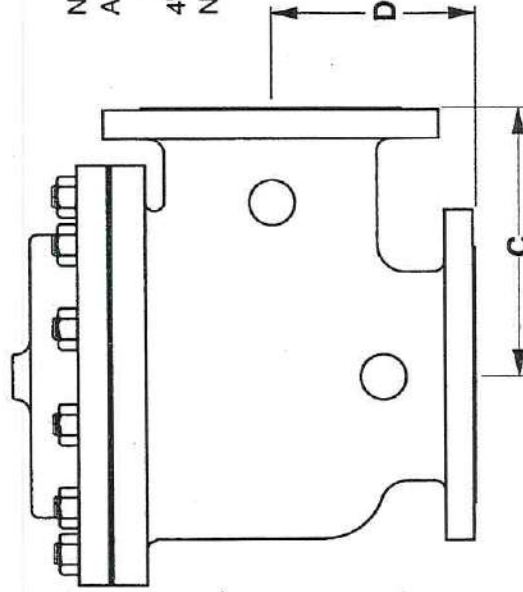
REVISED 3-17-97



DIM CLASS	ANSI CLASS	VALVE SIZE													
		1 1/4	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	24	
A	S.E	8.75	8.75	9.88	10.50	13.00	—	—	—	—	—	—	—	—	
	150	8.50	8.50	9.38	10.50	12.00	15.00	17.75	25.38	29.75	34.00	39.00	40.38	62.00	
	300	8.75	8.75	9.88	11.12	12.75	15.62	18.62	26.38	31.12	35.50	40.50	42.00	63.75	
B	SE	1.44	1.44	1.69	1.88	2.25	—	—	—	—	—	—	—	—	
	150	2.31	2.50	3.00	3.50	3.75	4.50	5.50	6.75	8.00	9.50	10.62	11.75	16.00	
	300	2.62	3.06	3.25	3.75	4.12	5.00	6.25	7.50	8.75	10.25	11.50	12.75	18.00	
C	SE	4.38	4.38	4.75	6.00	6.50	—	—	—	—	—	—	—	—	
	150	4.25	4.25	4.75	6.00	6.00	7.50	10.00	12.69	14.88	17.00	—	20.81	—	
	300	4.38	4.38	5.00	6.38	6.38	7.81	10.50	13.19	15.56	17.75	—	21.62	—	
D	SE	3.12	3.12	3.88	4.00	4.50	—	—	—	—	—	—	—	—	
	150	3.00	3.00	3.88	4.00	4.00	5.50	6.00	8.00	11.38	11.00	—	15.69	—	
	300	3.25	3.25	4.12	4.38	4.38	5.81	6.50	8.50	12.06	11.75	—	16.50	—	
E	ALL	6.00	6.00	6.00	7.00	6.50	7.92	10.00	11.88	15.38	17.00	18.00	19.00	27.00	
F	ALL	3.88	3.88	3.88	3.88	3.88	3.88	3.88	6.38	6.38	6.38	6.38	6.38	8.00	
G	ALL	6.00	6.00	6.75	7.69	8.75	11.75	14.00	21.00	24.50	28.00	31.25	34.50	52.00	
H	ALL	10.00	10.00	11.00	11.00	11.00	12.00	13.00	14.00	17.00	18.00	20.00	20.00	28.50	

NOTE: 3" VALVE DIMENSIONS
ARE FOR NEW MODEL 3100

4" VALVE DIMENSIONS ARE FOR
NEW MODEL 4400



TOLERANCES

UNLESS NOTED
FRACTIONAL $\pm 1/64$
DECIMAL $\pm .005$
MACH. FINISH 125/
ANGULAR $\pm 1/2^\circ$

DRAWN BY
SDJ

DATE
10-6-97

CHKD. BY
DATE

OCV Control Valves
TULSA, OKLAHOMA U.S.A.

GENERAL VALVE DIMENSIONS

SIZE	DRAWING NUMBER	REV.
A	65D	B

REV. A SDJ 6-6-02
REV. B SDJ 2-3-03

INSTALLATION AND MAINTENANCE INSTRUCTIONS

2-WAY INTERNAL PILOT OPERATED SOLENOID VALVES

DIAPHRAGM TYPE — 3/8, 1/2 AND 3/4 N.P.T.

NORMALLY OPEN OPERATION

BULLETINS

8210

8211

ASCO

FORM NO. V-5983

DESCRIPTION

Bulletin 8210 valves are 2-way, normally open internal pilot operated solenoid valves. Valve bodies and bonnets are of brass or stainless steel construction. Standard valves have a General Purpose, NEMA Type 1 Solenoid Enclosure.

Bulletin 8211's are the same as the 8210's except the solenoids are equipped with an enclosure which is designed to meet NEMA Type 4 - Watertight, NEMA Type 7 (C or D) Hazardous Locations - Class I, Groups C or D and NEMA Type 9 (E, F or G) Hazardous Locations - Class II, Groups E, F or G. Installation and Maintenance Instructions for Explosion-Proof/Watertight Solenoid Enclosures are shown on Form No. V-5709.

OPERATION

Normally Open: Valve is open when solenoid is de-energized. Valve closes when solenoid is energized.

INSTALLATION

Check nameplate for correct catalog number, pressure, voltage and service.

TEMPERATURE LIMITATIONS

For maximum valve ambient and fluid temperatures, refer to chart below. For higher ambient and fluid temperature limitations, consult factory. Check catalog number on nameplate to determine maximum temperatures.

Construction	Coil Class	Catalog Number Prefix	Maximum Ambient Temp. °F	Maximum Fluid Temp. °F
A-C Construction (Alternating Current)	A	None	77	200
	F	FT	122	200
	H	HT	140	200
D-C Construction (Direct Current)	A, F or H	None, FT or HT	77	180

POSITIONING

This valve is designed to perform properly when mounted in any position. However, for optimum life and performance, the solenoid should be mounted vertical and upright so as to reduce the possibility of foreign matter accumulating in the core tube area.

MOUNTING

For mounting bracket (optional feature) dimensions, refer to Figure 1.

PIPING

Connect piping to valve according to markings on valve body. Apply pipe compound sparingly to male pipe threads only; if applied to valve threads, it may enter the valve and cause operational difficulty. Pipe strain should be avoided by proper support and alignment of piping. When tightening the pipe, do not use valve as a lever. Wrenches applied to valve body or piping are to be located as close as possible to connection point.

IMPORTANT: For the protection of the solenoid valve, install a strainer or filter suitable for the service involved in the inlet side as close to the valve as possible. Periodic cleaning is required depending on service conditions. See Bulletins 8600, 8601 and 8602 for strainers.

WIRING

Wiring must comply with Local and National Electrical Codes. Housings for all solenoids are provided with connections or accommodations for 1/2 inch conduit. The general purpose solenoid enclosure may be rotated to facilitate wiring by removing the retaining cap or clip. **CAUTION:** When metal retaining clip disengages, it will spring upward. Rotate enclosure to desired position. Replace retaining cap or clip before operating.

NOTE: Alternating Current (A-C) and Direct Current (D-C) solenoids are built differently. To convert from one to the other, it is necessary to change the complete solenoid including the solenoid base sub-assembly, core, plugnut assembly and coil.

SOLENOID TEMPERATURE

Standard catalog valves are supplied with coils designed for continuous duty service. When the solenoid is energized for a long period, the solenoid enclosure becomes hot and can be touched with the hand only for an instant. This is a safe operating temperature. Any excessive heating will be indicated by the smoke and odor of burning coil insulation.

MAINTENANCE

WARNING: Turn off electrical power supply and depressurize valve before making repairs. It is not necessary to remove the valve from the pipe line for repairs.

CLEANING

A periodic cleaning of all solenoid valves is desirable. The time between cleanings will vary depending on media and service conditions. In general, if the voltage to the coil is correct, sluggish valve operation, excessive noise or leakage will indicate that cleaning is required. Clean valve strainer or filter when cleaning solenoid valve.

PREVENTIVE MAINTENANCE

1. Keep the medium flowing through the valve as free from dirt and foreign material as possible.
2. While in service, operate the valve at least once a month to insure proper opening and closing.
3. Periodic inspection (depending on media and service conditions) of internal valve parts for damage or excessive wear is recommended. Thoroughly clean all parts. Replace any parts that are worn or damaged.

ASCO Valves



IMPROPER OPERATION

1. **Faulty Control Circuit:** Check the electrical system by energizing the solenoid. A metallic click signifies the solenoid is operating. Absence of the click indicates loss of power supply. Check for loose or blown-out fuses, open-circuited or grounded coil, broken lead wires or splice connections.
2. **Burned-Out Coil:** Check for open-circuited coil. Replace coil if necessary.
3. **Low Voltage:** Check voltage across the coil leads. Voltage must be at least 85% of nameplate rating.
4. **Incorrect Pressure:** Check valve pressure. Pressure to valve must be within range specified on nameplate.
5. **Excessive Leakage:** Disassemble valve and clean all parts. Replace worn or damaged parts with a complete Spare Parts Kit for best results.

COIL REPLACEMENT (Refer to Figure 1)

Turn off electrical power supply and disconnect coil lead wires. Proceed in the following manner:

1. Remove retaining cap or clip, spacer, nameplate and housing. CAUTION: When metal retaining clip disengages, it will spring upward.
2. Slip spring washer, insulating washer, coil and insulating washer off the solenoid base sub-assembly. Insulating washers are omitted when a molded coil is used.
3. Reassemble in reverse order of disassembly paying careful attention to exploded view provided for identification and placement of parts.

CAUTION: Solenoid must be fully reassembled as the housing and internal parts are part of and complete the magnetic circuit. Place an insulating washer at each end of the coil, if required.

VALVE DISASSEMBLY

Depressurize valve and turn off electrical power supply. For brass construction, refer to Figure 2. For stainless steel construction, refer to Figure 3. Proceed in the following manner:

1. Disassemble valve in an orderly fashion paying careful attention to exploded views provided for identification of parts.
2. Remove retaining cap or clip and slip the entire solenoid enclosure off the solenoid base sub-assembly. CAUTION: When metal retaining clip disengages, it will spring upward.
3. Unscrew solenoid base sub-assembly and remove core, plugnut gasket, plugnut assembly and solenoid base gasket.
4. For stainless steel construction, remove adapter and adapter gasket.
5. Remove bonnet screws (4), valve bonnet, disc holder sub-assembly, disc holder spring, diaphragm/spring sub-assembly and body gasket.
6. All parts are now accessible for cleaning or replacement. Replace worn or damaged parts with a complete Spare Parts Kit for best results.

VALVE REASSEMBLY

1. Reassemble in reverse order of disassembly paying careful attention to exploded views provided for identification and placement of parts.
2. Replace body gasket and diaphragm/spring sub-assembly. Locate bleed hole in diaphragm/spring sub-assembly approximately 45° from valve outlet. NOTE: Should diaphragm/spring sub-assembly become disassembled, be sure to replace the diaphragm/spring support with lip facing upward towards the valve bonnet.
3. Replace disc holder spring and disc holder sub-assembly.
4. Replace valve bonnet and bonnet screws. Torque bonnet screws in a crisscross manner to 95 ± 10 inch-pounds.

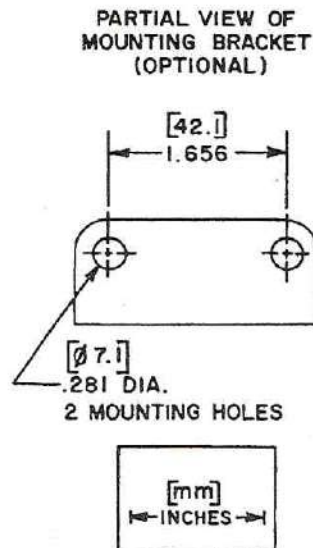
5. For stainless steel construction, replace adapter gasket and adapter. Torque adapter to 175 ± 25 inch-pounds.
6. Install solenoid base gasket, plugnut assembly and plugnut gasket. Position core (small end up for A-C Construction) on plugnut assembly. For D-C Construction, be sure plugnut assembly and core are installed with mated ends together.
7. Replace solenoid base sub-assembly and torque to 175 ± 25 inch-pounds.
8. Replace solenoid enclosure and retaining cap or clip.
9. After maintenance, operate the valve a few times to be sure of proper opening and closing.

SPARE PARTS KITS

Spare Parts Kits and Coils are available for ASCO valves. Parts marked with an asterisk (*) are supplied in Spare Parts Kits.

ORDERING INFORMATION FOR SPARE PARTS KITS

When Ordering Spare Parts or Coils,
Specify Valve Catalog Number,
Serial Number and Voltage.



Dimensions for Mounting Bracket
(Optional Feature)

Figure 1.



ASCO Valves
Automatic Switch Co.

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FLORHAM PARK, NEW JERSEY 07932

Form No. V-5983

PRINTED IN MEXICO

1978

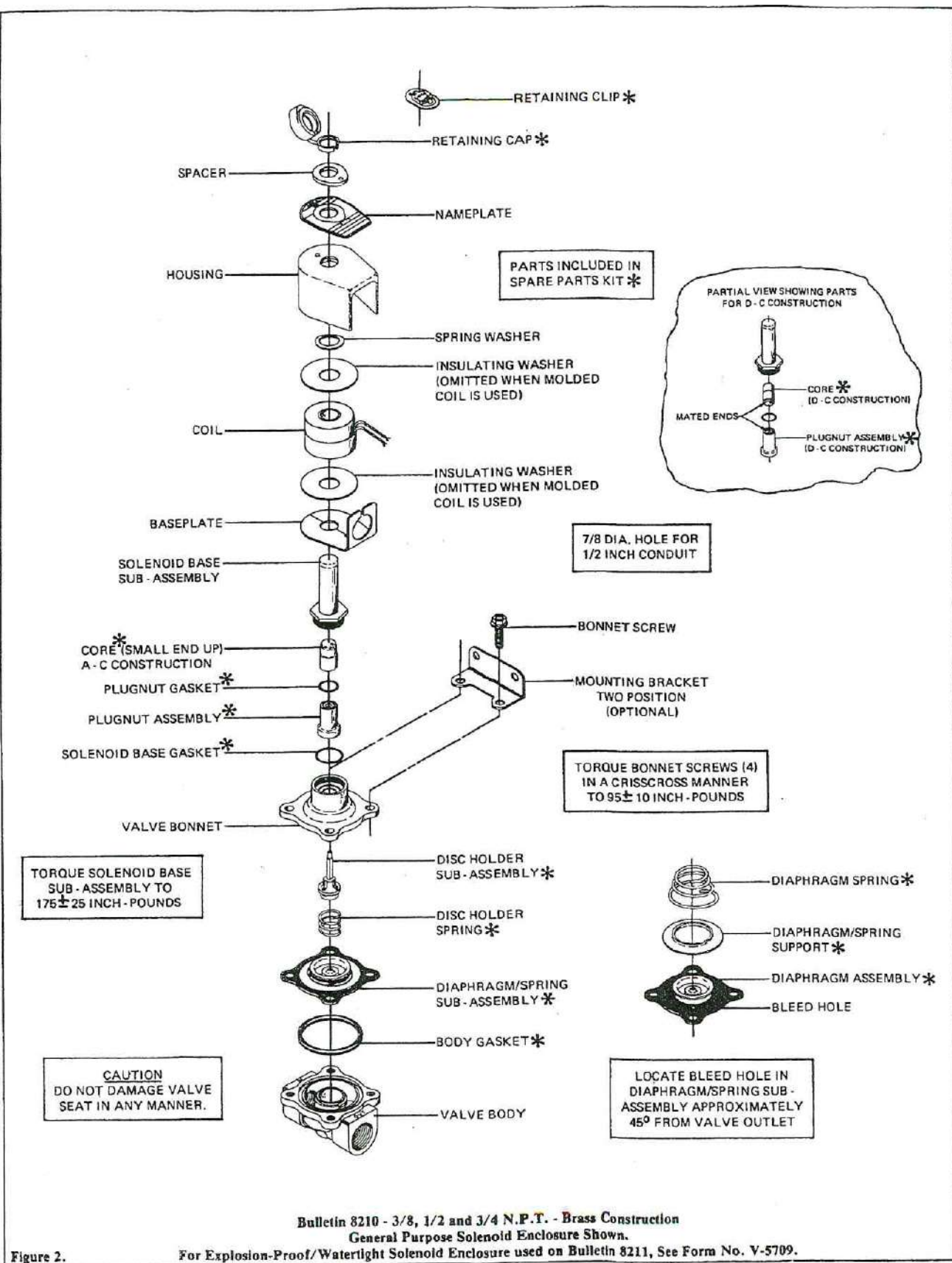
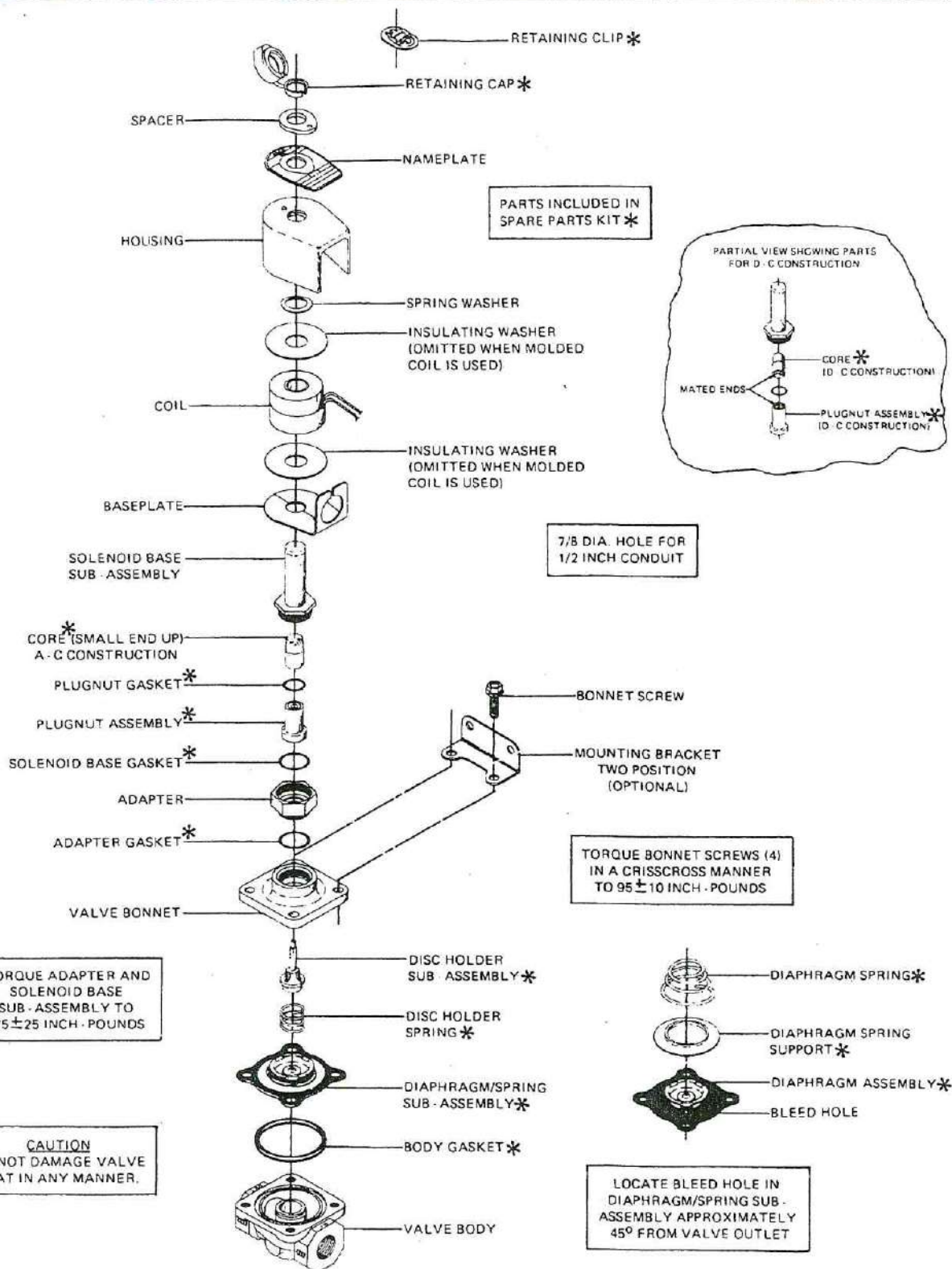


Figure 2. Bulletin 8210 - 3/8, 1/2 and 3/4 N.P.T. - Brass Construction
 General Purpose Solenoid Enclosure Shown.
 For Explosion-Proof/Watertight Solenoid Enclosure used on Bulletin 8211, See Form No. V-5709.

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Bulletin 8210 - 1/2 and 3/4 N.P.T. - Stainless Steel Construction
General Purpose Solenoid Enclosure Shown.

Figure 3.

For Explosion-Proof/Watertight Solenoid Enclosure used on Bulletin 8211, See Form No. V-5709.



ASCO Valves
Automatic Switch Co.

FLORHAM PARK, NEW JERSEY 07932

Form No. V-5983

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DESCRIPTION



MODEL 126 EJECTOR

The Model 126 ejector is a simple tee fitting with a fixed orifice in its inlet port. It provides the proper supply pressure to the main valve diaphragm chamber, allowing various two-way control pilots to control the valve position.

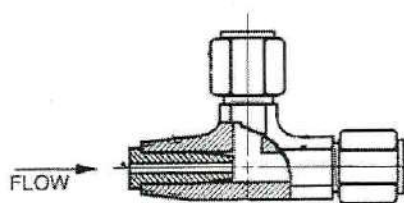
MODEL 126 EJECTOR DIAGRAM

Brass Construction / Stainless
Steel Construction

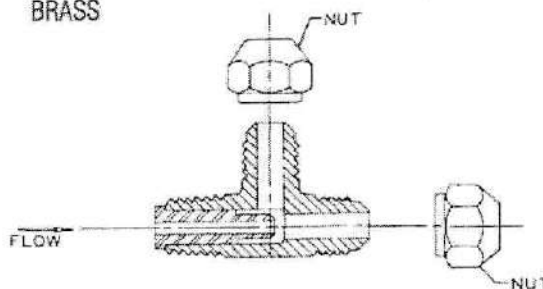
MATERIAL	PART NUMBER	P (NPT)	T-TUBE O.D.	STD. ORIFICE	USED ON VALVE SIZES
Brass	213100	3/8"	3/8"	.125"	1 1/4"-6"
Brass	214100	1/2"	1/2"	.188"	8"-10"
Brass	215100	3/4"	3/4"	.188"	12"-16"
316 Stn. Steel	213700	1/4"	3/8"	.090"	1 1/4"-6"
316 Stn. Steel	214700	3/8"	1/2"	.125"	8"-10"
316 Stn. Steel	215700	1/2"	3/4"	.188"	12"-16"

Orifice bushings are stainless steel.

STAINLESS

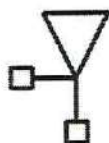


BRASS

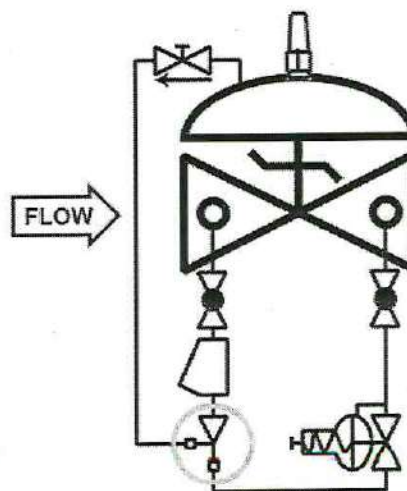


SCHEMATIC SYMBOL

The Model 126 Ejector is shown on OCV
Valve Schematics as:



EXAMPLE: Shown here on a MODEL 127-3 Pressure Reducing Valve



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Ejector 126

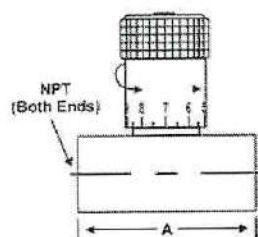
DESCRIPTION

The Model 141-2 Needle Valve is an adjustable restriction device installed in the control circuit tubing. The setting of the needle valve meters the flow into and out of the main valve diaphragm chamber, thus controlling the response speed of the main valve. Depending on the application, the needle valve may be used as a closing speed control, opening speed control, or both simultaneously.



Needle Valves shown
Sizes: 3/4" & 1/4"

MODEL 141-2 MATRIX

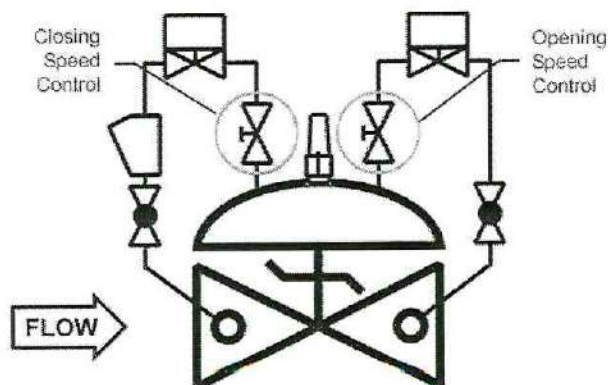


MATERIAL	PART NUMBER	INLET/OUTLET (NPT)	A	USED ON VALVE SIZE*
Brass	683100	1/4	2	1 1/4"-2"
Brass	683101	3/8	2 1/4	2 1/2"-6"
Brass	683102	1/2	2 5/8	8"-10"
Brass	683103	3/4	3 1/4	12"-16"
Stn. Steel	683700	1/4	2	1 1/4"-2"
Stn. Steel	683702	3/8	2 1/4	2 1/2"-6"
Stn. Steel	682704	1/2	2 5/8	8"-10"
Stn. Steel	683703	3/4	3 5/8	12"-16"

Note: Needle valve size may vary on valve application. Consult factory.

SCHEMATIC SYMBOL

The Model 141-2 Needle Valve is shown on OCV Valve Schematics as:



EXAMPLE: Shown here on a MODEL 115-3 DIGITAL VALVE as separate opening and closing speed controls.



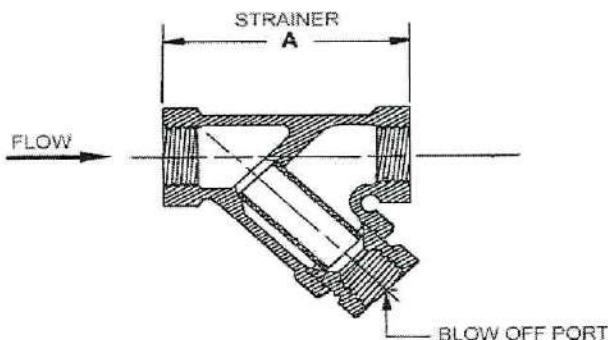
DESCRIPTION

MODEL 159 Y-STRAINER

The 159 Y-Strainer installs in the inlet piping of the pilot system and protects the pilot system from solid contaminants in the line fluid. It is the standard strainer for water service valves.

MODEL 159 Y-STRAINER MATRIX

MATERIAL	PART NUMBER	INLET/OUTLET (NPT)	BLOW OFF PORT (NP)	A	STD. MESH	USED ON VALVE SIZE
Bronze	660100	3/8	3/8	2 11/16	24	1 1/4"-6"
Bronze	660101	1/2	3/8	2 5/8	24	8"-10"
Bronze	660102	3/4	3/8	3 5/16	24	12"-16"
Str. Steel	660700	3/8	1/4	2 1/2	20	1 1/4"-6"
Str. Steel	660701	1/2	1/4	2 1/2	20	8"-10"
Str. Steel	660702	3/4	1/4	3 1/8	20	12"-16"



MATERIALS

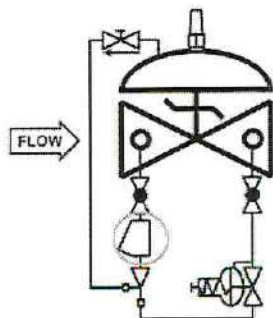
Bronze, ASTM B62
Optional mesh sizes: 50, 100

Stainless Steel, CF8-M (316)
Optional mesh sizes: 60, 80, 100

Screens are stainless steel

SCHEMATIC SYMBOL

The Model 159 Y-Strainer is shown on OCV Valve Schematics as:



EXAMPLE: Shown here on a
MODEL 127-3 Pressure
Reducing Valve

MAINTENANCE

Routine cleaning and checking of the Y-Strainer will aid in keeping the control valve functioning properly. Pilot system isolation ball valves are supplied on valves equipped with the Model 159 Y-Strainer. These allow flushing of the screen through the blow off port, or removal of the screen itself for manual cleaning.

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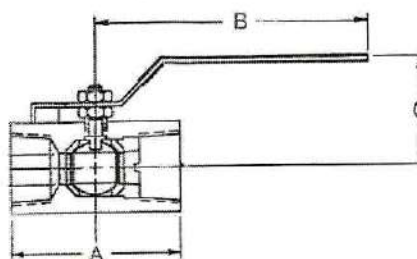
Y-Strainer 159

DESCRIPTION



The Model 141-4 Ball Valve is a ¼-turn shutoff device used for isolating the pilot system from the main valve. They are extremely useful for performing routine maintenance and troubleshooting.

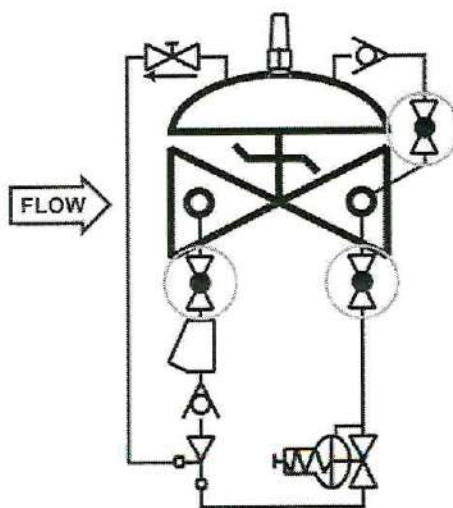
Ball valves are standard on water service valves; optional on fuel service valves.



MODEL 141-4 MATRIX

MATERIAL	PART NUMBER	INLET/OUTLET (NPT)	A	B	C	USED ON VALVE SIZE*
Bronze	680100	3/8	1 3/4	3 1/2	1 7/8	1 1/4"-6"
Bronze	680101	1/2	2	3 1/2	2 1/4	8"-10"
Bronze	680102	3/4	3	4 3/4	2 1/4	12"-16"
Stn. Steel	680700	3/8	2	3 3/4	2 1/8	1 1/4"-6"
Stn. Steel	680701	1/2	2 1/4	3 3/4	2 1/2	8"-10"
Stn. Steel	680702	3/4	3	4 3/4	2 1/4	12"-16"

SCHEMATIC SYMBOL



The Model 141-4 Ball Valve is shown on OCV Valve Schematics as:



EXAMPLE: Shown here on a MODEL 127-4 Pressure Reducing / Check Valve.



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