pressure control valve for fire protection service

installation, operating, and maintenance instructions

model 127-3FC

GENERAL DESCRIPTION

The OCV Model 127-3FC Pressure Control Valve is designed to reduce a higher upstream pressure into a lower, constant downstream pressure. The valve is UL-listed for use in fire protection systems in sizes 2" through 6", globe or angle pattern. It is designed to control downstream pressure in the range of 65-165 psi.

The 127-3FC consists of the following components, arranged as shown on the schematic diagram.

1. **Model 65 Basic Control Valve,** a hydraulically-operated, diaphragm-actuated globe or angle valve which closes with an elastomer-on-metal seal.

2. **Model 1340FC Pressure Reducing Pilot,** a two-way, normally-open pilot valve which senses downstream pressure under its diaphragm and balances it against an adjustable spring load. An increase in downstream pressure tends to make the pilot close.

3. **Model 126 Ejector,** a simple "tee" fitting with a fixed orifice in its upstream port. It provides the proper pressure to the diaphragm chamber of the main valve depending on the position of the pressure reducing pilot.

4. **Model 159 Y-Strainer** which protects the pilot system from solid contaminants in the line fluid.

At user option, the 127-3FC may also be equipped with a **Model 155 Visual Indicator.**

Theory of Operation (Refer to schematic diagram

To understand how the 127-3FC operates, it is best to start with the **Ejector (3).** Due to the orifice in its upstream port, the ejector creates a pressure drop proportional to the flow through it. The flow through the ejector is in turn controlled by the degree of opening of the **Pressure Reducing Pilot (2).** The wider the pilot opens, the greater the flow through the ejector and the lower the pressure downstream of the orifice. Conversely, the more the pilot closes, the lower the flow through the ejector and the greater the pressure downstream of the orifice.

Now note that the diaphragm chamber of the **Main Valve (1)** is connected to the branch port of the ejector and is thus downstream of the orifice. In this manner, the pressure in the diaphragm chamber of the main valve is in fact controlled by the pressure reducing pilot. As the diaphragm pressure decreases the main valve opens; as the diaphragm pressure increases the main valve closes.

Putting it all together, as downstream pressure tends to increase above the set point of the pressure reducing pilot, the pilot moves further closed. This results in an increase in pressure in the diaphragm chamber of the main valve. The main valve then closes slightly to restore downstream pressure to the set point. Conversely, as the downstream pressure tends to decrease below the set point, the pilot moves further open. This results in a decrease in pressure in the diaphragm

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chamber of the main valve. The main valve then opens wider to bring the downstream pressure back up to the set point. The net result of all this is a constant modulating action by the pilot and main valve and a downstream pressure which remains constant despite fluctuations in demand or inlet pressure.

INSTALLATION

The 127-3FC is furnished fully factory-assembled and ready for installation at the appropriate point in the system. In order to ensure safe, accurate and efficient operation of the 127-3FC, these guidelines should be followed.

1. Make sure you have a properly sized valve based on the Operating Parameters shown on Page 1 of this manual.

2. Make a careful inspection of the valve to insure that there has been no damage to the external piping, fittings and controls. Check that all fittings are tight.

3. It is recommended that either gate or block valves be installed on the inlet and discharge sides of the valve for preventive and/or corrective maintenance.

4. Prior to mounting the valve, all interconnecting piping should be thoroughly flushed of chips, scale, and foreign matter.

5. Install the valve in the line according to the flow arrow on the inlet flange. The arrow should point downstream.

6. Allow sufficient room around the valve for ease of adjustment and maintenance service.

7. **For system protection, a pressure relief valve, at least 1/2" in size, must be installed downstream of the Pressure Control Valve. Be sure to provide adequate drainage for the relief valve.**

STARTUP AND ADJUSTMENT

The following procedures should be followed in the order presented in order to effect an initial startup of the 127-3FC.

1. Install pressure gauges of the proper range upstream and downstream of the 127-3FC. The unused side ports on the main valve body may be used for this purpose if there is no convenient location in the piping.
2. Remove the plastic cap from the pressure reducing pilot and loosen the adjusting screw jam nut. Turn the adjusting screw counterclockwise until it is loose enough to be turned by hand.
3. Start the pump, or otherwise start the system flowing. The main valve will at this time be either fully closed or open only a very small amount.
4. Carefully loosen one of the pipe plugs in the main valve bonnet until fluid appears around the threads. When only clear fluid (no air) is discharging, retighten the plug.
5. Open valves downstream of the 127-3FC to establish a minimum flow rate as shown in the table below.

VALVE SIZE	MIN. FLOW
2"	50 GPM
2-1/2"	70 GPM
3"	100 GPM
4"	200 GPM
6"	450 GPM

6. Slowly turn the adjusting screw of the pressure reducing pilot **clockwise** until the downstream pressure rises to the desired set point. Tighten the adjusting screw jam nut and replace the plastic cap.

7. Slowly close downstream valves to reduce flow to zero, while observing the pressure gauge. The pressure will rise above the set point a few psi. **This is normal.** However, the magnitude of this pressure rise should not exceed **10 psig.**

8. If pressure readjustment should ever be required, the pressure reducing pilot is adjusted **clockwise** to **increase** pressure; **counterclockwise** to **decrease** pressure.

MAINTENANCE

Due to the simplicity of design of the 127-3FC, required maintenance is minimal. However, the following checks, periodically performed, will do much to keep the valve operating properly and efficiently.

1. Check for chipped or peeling paint.

2. Check for leaks at fittings and around flanges and connections. Tighten as required.

3. Check the screen of the Y-strainer for build-up of solid material. Clean as required. This point is most important, as a clogged strainer can keep the valve from operating properly. On new installations, it is recommended that the strainer be checked every day or two until experience dictates a greater or lesser interval.

TROUBLESHOOTING

In the event of malfunction of the 127-3FC, the following guide should enable the technician to isolate the specific cause of the problem.

A. Main Valve Fails to Open:

1. Valve closed downstream of 127-3FC. Open as required.
2. Pressure reducing pilot adjusted too far counterclockwise. See Adjustment instructions.
3. Stem of pressure reducing pilot binding. See 1340FC section of this manual.
4. Stem of main valve binding. See Basic Valve section of this manual.

B. Main Valve Fails to Close:

1. Strainer clogged. Clean as required.
2. Pressure reducing pilot adjusted too far clockwise. See Adjustment instructions.
3. Diaphragm of pressure reducing pilot ruptured. This will be evidenced by a discharge of fluid from the vent port in the pilot bonnet. Disassemble pilot and replace diaphragm.
4. Pressure reducing pilot stem binding or seat badly deteriorated. Disassemble pilot and determine cause. See 1340FC section of this manual.
5. Main valve diaphragm ruptured. Replace diaphragm. See Basic Valve section of this manual.
6. Main valve stem binding or object in valve. Disassemble valve and determine cause. See Basic Valve section of this manual.

C. Main Valve Opens and Closes, But Does Not Control Pressure:

1. If the pressure remains too high despite adjustment of the pressure reducing pilot, refer to Main Valve Fails to Close, above.
2. If pressure remains too low despite adjustment of the pressure reducing pilot, refer to Main Valve Fails to Open, above.
3. If pressure oscillates, you may likely be in a period of very low demand. Frequently this problem will disappear as demand increases. In an extreme case, try adjusting the pressure slightly higher.

D. Downstream Pressure Builds Too High When Demand Is Zero.

1. Pressure Reducing Pilot leaking. Disassemble pilot and determine cause. See the 1340FC section of this manual.
2. Main valve leaking. Disassemble main valve and determine cause. See the Model 65 Basic Valve section of this manual.

MODEL 127-3FC

PRESSURE REDUCING VALVE
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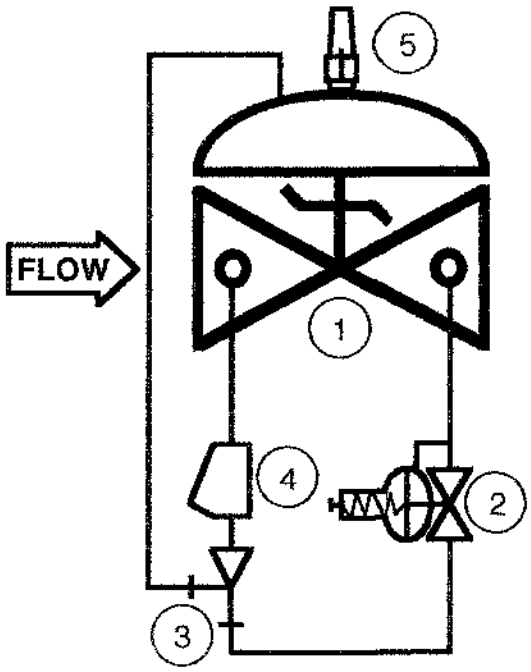

ITEM	PART NO.	QTY	DESCRIPTION
1	65	1	BASIC VALVE ASSEMBLY
2	1340FC	1	PRESSURE REDUCING PILOT (60-165 PSI)
3	126	1	EJECTOR
4	159	1	Y-STRAINER
5	155	1	VISUAL INDICATOR (OPTIONAL)

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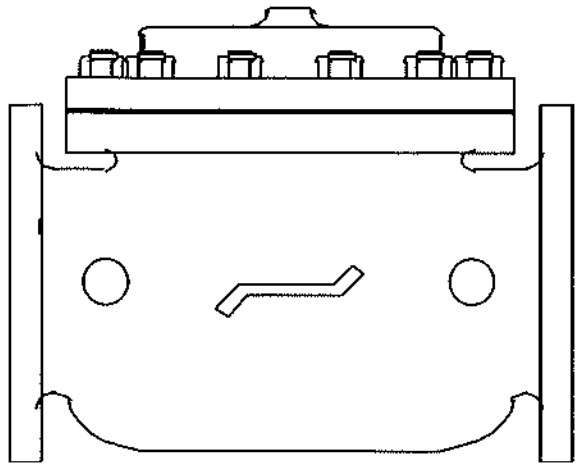

installation, operating, and maintenance instructions

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-

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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

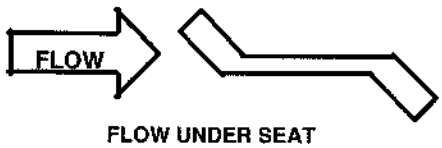
**A diaphragm failure can prevent the valve from either opening or closing, depending on the flow direction. Most water service valves flow "under the seat", in which case a diaphragm failure will keep the valve from closing. On the other hand, most fuel service valves flow "over the seat", in which 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

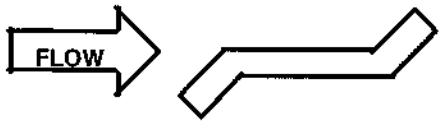
1. Isolate the valve from the system by closing upstream amd downstream block valves.
2. Loosen one of the tubing connections on the bonnet. Allow any residual pressure to bleed off.
3. Remove all tubing connected at the bonnet.
4. Remove the bonnet nuts.
5. Remove the bonnet. If the bonnet sticks in 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:*



FLOW UNDER SEAT
DIAPHRAGM FAILURE = VALVE FAILS TO CLOSE



FLOW OVER SEAT
DIAPHRAGM FAILURE = VALVE FAILS TO OPEN

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.

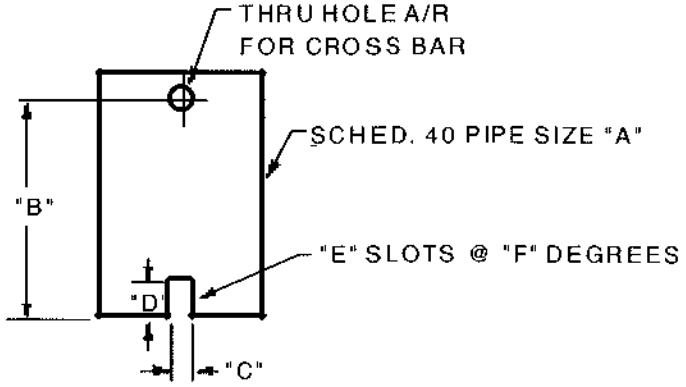
PROCEDURE C: SEAT DISC REPLACEMENT

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

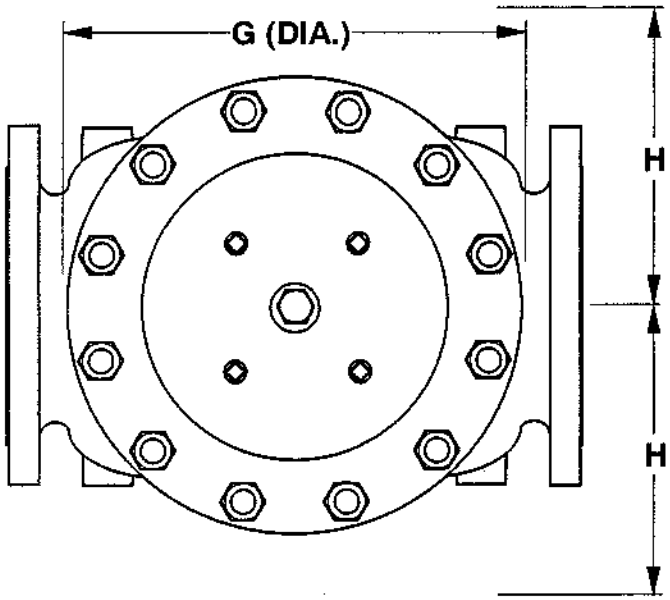
NOTE: It is rare for a seat ring to require replacement. Minor nicks and scratches in the seating surface can usually be smoothed out with emery cloth.

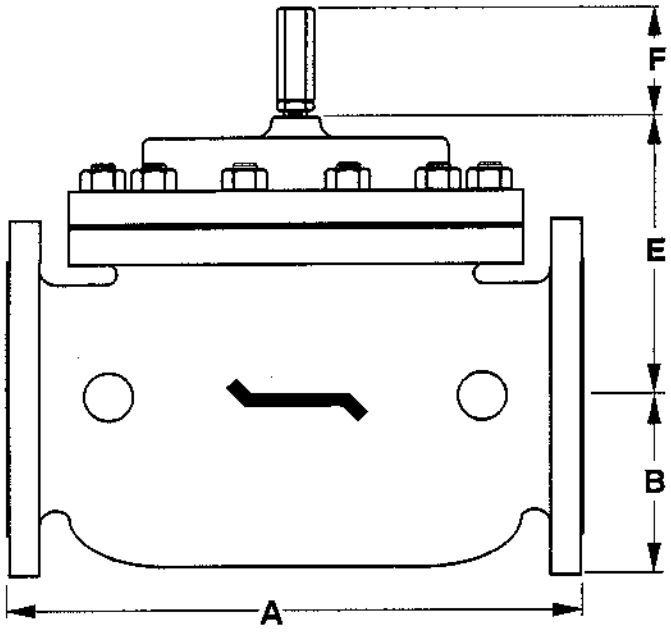
1. Perform Steps 1 and 2 of Procedure B, above.
2. If you are working on a 4" or smaller valve, follow Steps 3 thru 9, below.
3. If you are working on a 6" or larger valve, follow Steps 10 thru 16, below.
4. Seat rings in valves 4" and smaller are threaded into the valve body. To remove, you will need 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.



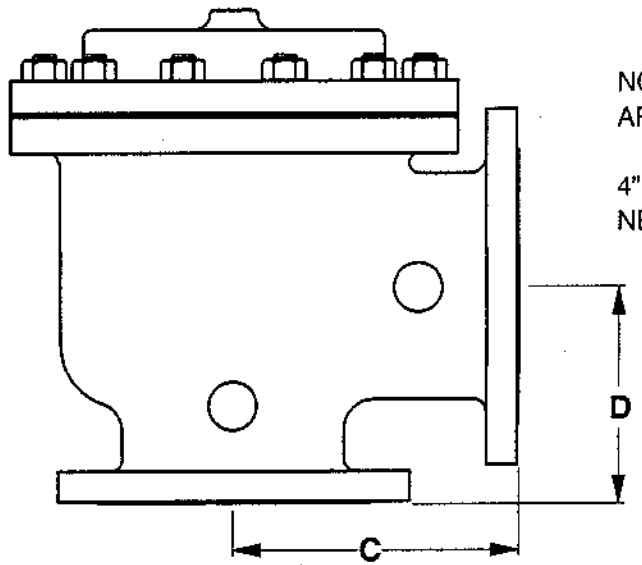
VALVE SIZE	"A" PIPE SIZE	"B" MIN. LENGTH	"C" SLOT WIDTH	"D" SLOT DEPTH	"E" NO OF SLOTS	"F" SLOT SPACING
1-1/4"	3/4"	6"	3/8"	3/8"	2	180°
1-1/2"	3/4"	6"	3/8"	3/8"	2	180°
2"	1-1/2"	7"	3/8"	3/8"	2	180°
2-1/2"	2"	8"	1/2"	1/2"	3	120°
3"	2-1/2"	9"	5/8"	5/8"	2	180°
4"	3"	10"	5/8"	5/8"	2	180°

REVISED 3-17-97





DIM	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 3/8	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

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

TOLERANCES
UNLESS NOTED
FRACTIONAL ±1/64
DECIMAL ±.005
MACH. FINISH 125
ANGULAR ±1/2°

DRAWN BY	DATE
SDJ	10-6-97
CHKD. BY	DATE

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

GENERAL VALVE DIMENSIONS

SIZE	DRAWING NUMBER	REV.
A	65D	B

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OCV MODEL 1340FC
PRESSURE REDUCING PILOT

GENERAL DESCRIPTION:

The Model 1340FC Pressure Reducing Pilot is a normally open, direct-acting, spring-loaded, diaphragm-type control pilot. It is designed to maintain a constant pre-set discharge pressure on the Main Valve. It is manually adjustable by means of an adjustment screw located under the cap on top of the pilot. It is a constant throttling device, maintaining precise positive control of the Main Valve.

FUNCTIONAL DESCRIPTION:

Basically, the Model 1340FC Pressure Reducing Pilot controls the amount of pressure in the upper chamber of the Main Valve hence, the degree of opening or closing of the Main Valve. The downstream system pressure is sensed under the pilot diaphragm and balances against the spring-loading above the diaphragm. As the downstream pressure increases, the pilot begins to close, increasing the amount of pressure in the upper chamber of the Main Valve causing it to close a proportionate amount to maintain a constant discharge pressure. As the downstream pressure decreases the pilot begins to open, allowing the pressure in the upper chamber of the Main Valve to decrease causing the Main Valve to open. This is a constant modulating action compensating for any change in downstream system pressure.

INSTALLATION & ADJUSTMENT:

The Model 1340FC Pressure Reducing Pilot should be installed in the Main Valve Control Piping between the ejector and the downstream body tap. Flow should be in the direction indicated on the pilot body. Pilot adjustment is achieved with the adjustment screw located on top of the bonnet. Increase downstream pressure by turning the screw clockwise; decrease pressure by turning the screw counter-clockwise.

OCV PRESSURE REDUCING PILOT

MAINTENANCE:

Because of the simplicity of design of the 1340FC Pilot, required maintenance is minimal. Fittings and bolts should be periodically checked and the body should be inspected for damage or excessive build-up of foreign material.

TROUBLESHOOTING:

Troubleshooting the 1340FC Pilot is equally simple. Major trouble-shooting points are as follows:

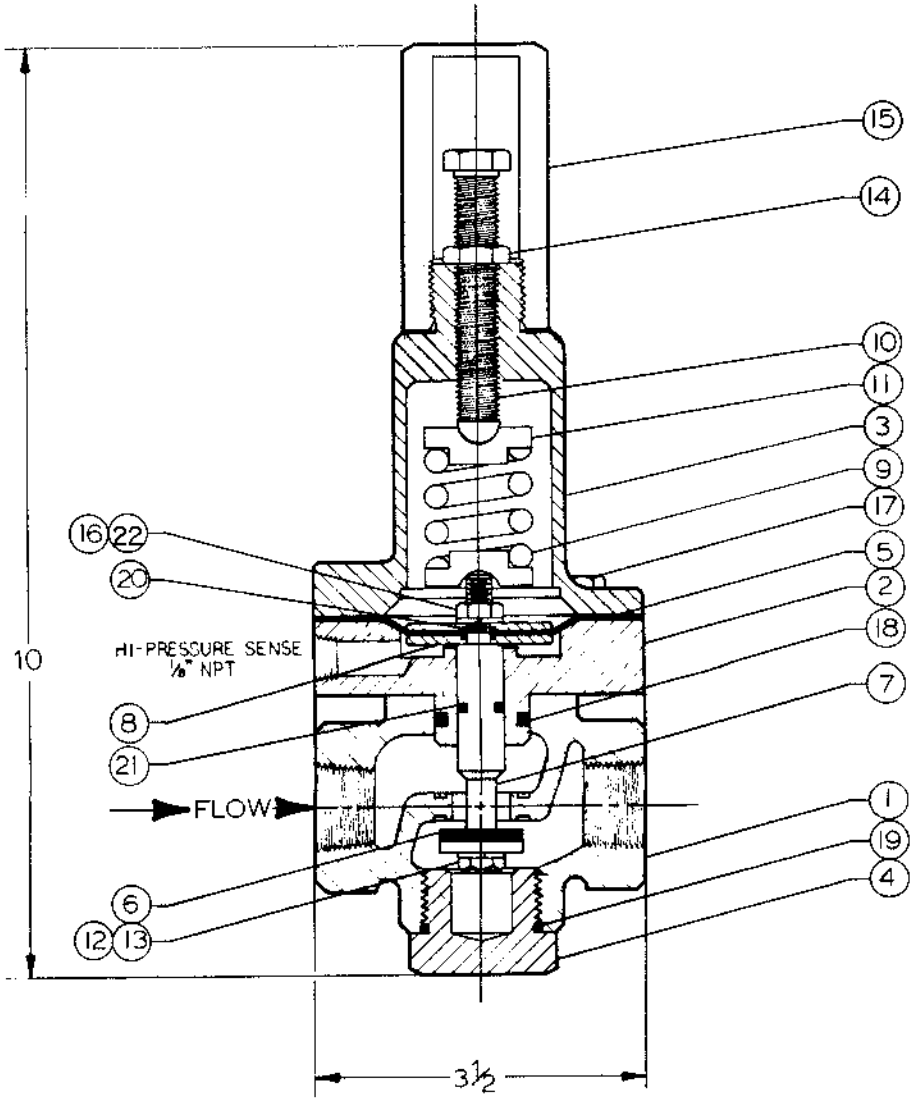
1. A ruptured pilot diaphragm is readily evident by the discharge of fluid at the vent hole in the pilot bonnet.

2. An indication of the pilot stem binding may be checked by removing the pilot bonnet and moving the stem by hand. If excessive drag is evident, disassemble the pilot and determine the cause.

3. A suspected leak in the pilot seat area can be checked by disassembling the pilot and inspecting the seat disc and the seat in the pilots body.

MODEL 1340FC

1. UNDERWRITERS LABORATORY LISTED FOR FIRE-PROTECTION SERVICE
2. ADJUSTMENT RANGE 60-165 PSI
3. ▲ = RECOMMENDED SPARE PARTS



	ITEM	PART NO.	QTY.	DESCRIPTION	MATERIAL
	22	685700	1	LOCKWASHER	STN. STEEL
▲	21	611012	1	O-RING	VITON
▲	20	611010	2	O-RING	VITON
▲	19	610119	1	O-RING	BUNA-N
▲	18	611116	1	O-RING	VITON
	17	531701	4	CAPSCREW	STN. STEEL
	16	590712	1	HEX NUT	STN. STEEL
	15	692002	1	CAP	PVC
	14	590717	2	HEX NUT	STN. STEEL
▲	13	685760	1	LOCK WASHER	STN. STEEL
	12	531700	1	CAPSCREW	STN. STEEL
	11	300134	2	SPRING RETAINER	BRASS
	10	300700	1	ADJUSTING SCREW	STN. STEEL
	9	651704	1	SPRING	STN. STEEL
	8	308102	2	DIAPHRAGM PLATE	BRASS
	7	314704	1	STEM	STN. STEEL
▲	6	310718	1	SEAT DISC	STN. STL./BUNA-N
▲	5	694002	1	DIAPHRAGM	NYLON/BUNA-N
	4	692502	1	PLUG	CAD. PLTD. STEEL
	3	304102	1	BONNET	BRONZE
	2	300129	1	ADAPTER	BRONZE
	1	302102	1	BODY	BRONZE

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

PRESSURE REDUCING PILOT

1340FC REV. A

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.

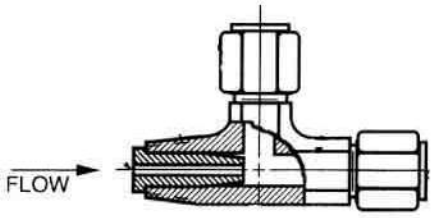
MODEL 126 EJECTOR DIAGRAM

Brass Construction / Stainless Steel Construction

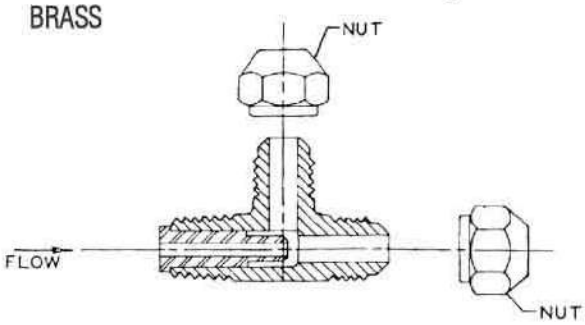
MATERIAL	PART NUMBER	P (NPT)	T-TUBE O.D.	STD. ORIFICE	USED ON VALVE SIZES
Brass	213100	3/8"	3/8"	.125"	1 ¼"-6"
Brass	214100	1/2"	1/2"	.188"	8"-10"
Brass	215100	3/4"	3/4"	.188"	12"-16"
316 Stn. Steel	213700	1/4"	3/8"	.090"	1 ¼"-6"
316 Stn. Steel	214700	3/8"	1/2"	.125"	8"-10"
316 Stn. Steel	215700	1/2"	3/4"	.188"	12"-16"

Orifice bushings are stainless steel.

STAINLESS

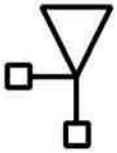


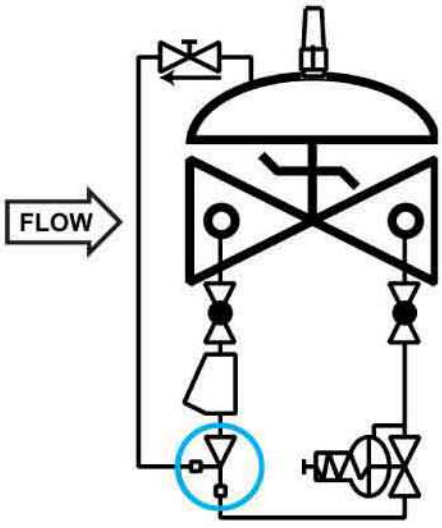
BRASS



SCHEMATIC SYMBOL

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





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

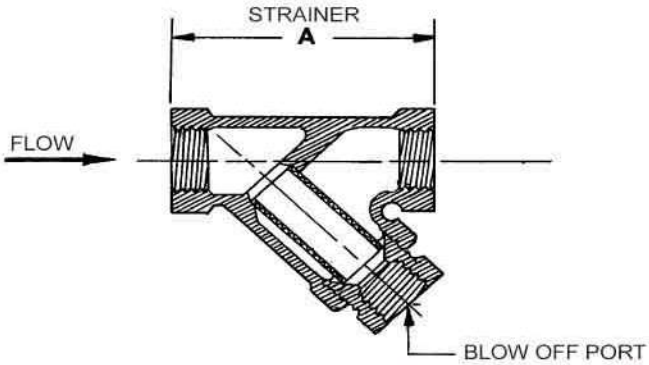
TOLL FREE 1.888.628.8258 • **phone:** (918)627.1942 • **fax:** (918)622.8916 • 7400 East 42nd Place, Tulsa, OK 74145
email: sales@controlvalves.com • **website:** www.controlvalves.com

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.

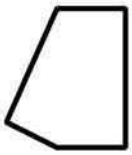
MODEL 159 Y-STRAINER MATRIX

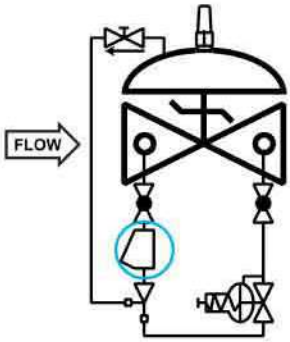
MATERIAL	PART NUMBER	INLET/OUTLET (NPT)	BLOW OFF PORT (NP)	A	STD. MESH	USED ON VALVE SIZE
Bronze	660100	3/8	3/8	2 11/16	24	1 ¼"-6"
Bronze	660101	1/2	3/8	2 5/8	24	8"-10"
Bronze	660102	3/4	3/8	3 5/16	24	12"-16"
Stn. Steel	660700	3/8	1/4	2 1/2	20	1 ¼"-6"
Stn. Steel	660701	1/2	1/4	2 1/2	20	8"-10"
Stn. Steel	660702	3/4	1/4	3 1/8	20	12"-16"



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

MATERIALS

Bronze, ASTM B62
Optional mesh sizes: 50,100

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

Screens are stainless steel

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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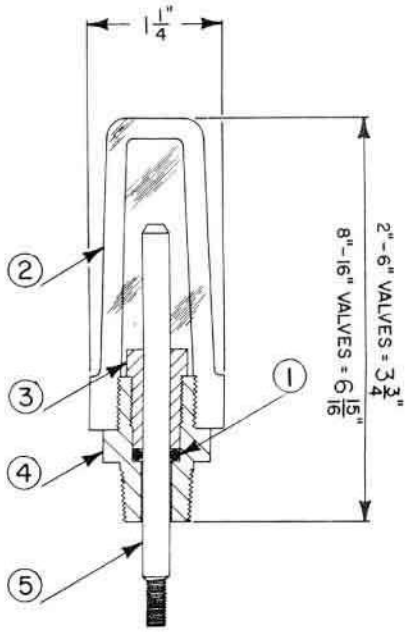
DESCRIPTION

The Model 155 Visual Indicator is a device that enables the user to determine the extent of opening of a control valve. It consists of an adaptor threaded into the center port of the valve bonnet, a rod threaded into the main valve stem, a sealing O-ring, and a protective clear plastic housing. The indicator rod moves as the valve opens and closes. It may be installed on virtually any OCV control valve, and can be done so without any disassembly of the valve itself.

WHERE USED - Standard on Series 94 Check Valves, Series 3330 Altitude Valves, and Series 22 Digital Control Valves. Optional on any other valve not employing a limit switch or position transmitter.

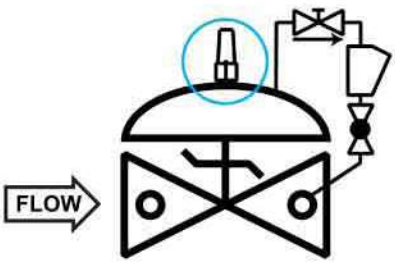
MODEL 155 MATRIX



MATERIAL	PART NO. (BRASS\ ADAPTOR)	PART NO. (STAINLESS ADAPTOR)	VALVE TRAVEL (FULL STROKE)
1 1/4" - 1 1/2"	255100	255700	3/8"
2"	255100	255700	1/2"
2 1/2"	255100	255700	3/4"
3"	255100	255700	1"
4"	255101	255701	1 3/8"
6"	255102	255702	1 1/2"
8" - 10"	255103	255703	2 1/2"
12"	255104	255704	3"
14" - 16"	255105	255705	3 1/2", 4"
24"	255109	255709	6"

ITEM	DESCRIPTION
1	O-Ring
2	Housing
3	Bushing
4	Adaptor
5	Stem

SCHEMATIC SYMBOL



EXAMPLE: Shown here on a Model 94-1 Check Valve

The Model 155 is shown on OCV Valve Schematic as:

MATERIALS

Indicator Rod:	Monel
Adapter:	Brass (std.), Stainless Steel (optional)
Housing:	Butyrate (1 ¼" - 6") Acrylic (8" and larger)
O-Ring:	Viton® (std.) Buna-N, EPDM (optional)

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