

Installation & Maintenance Instructions

2-WAY AUXILIARY-OPERATED PILOT-CONTROLLED PISTON VALVES
 NORMALLY CLOSED OR NORMALLY OPEN OPERATION
 1/2, 3/4, 1, 1 1/4, 1 1/2, 2 OR 2 1/2 NPT
 BRONZE OR STAINLESS STEEL CONSTRUCTION

SERIES

8290

Form No.V6941R3

NOTICE: See separate Installation and Maintenance Instructions for information on *Solenoid Pilot Valve* used in conjunction with Series 8290 valves.

DESCRIPTION

Series 8290 valves are 2-way auxiliary-operated, pilot-controlled piston valves designed for air, water, light oil or steam service. Valves are normally closed or normally open construction, as required. Valve bodies are made of bronze or Type 316L stainless steel; elastomers are made of PTFE. Series 8290 valves are supplied with a piston type operator having a diameter of 50, 63, 90 or 125 mm depending upon customer requirements. Valves have an integral position indicator, providing visual indication of *Open* and *Closed* positions; with the exception of the 50mm operator.

OPERATION

Refer to operating instructions (to follow) and the graphs *Auxiliary Pilot Pressure vs Main Line Pressure*. Use these graphs to determine the minimum auxiliary pressure (filtered air or water) required for a given main line pressure.

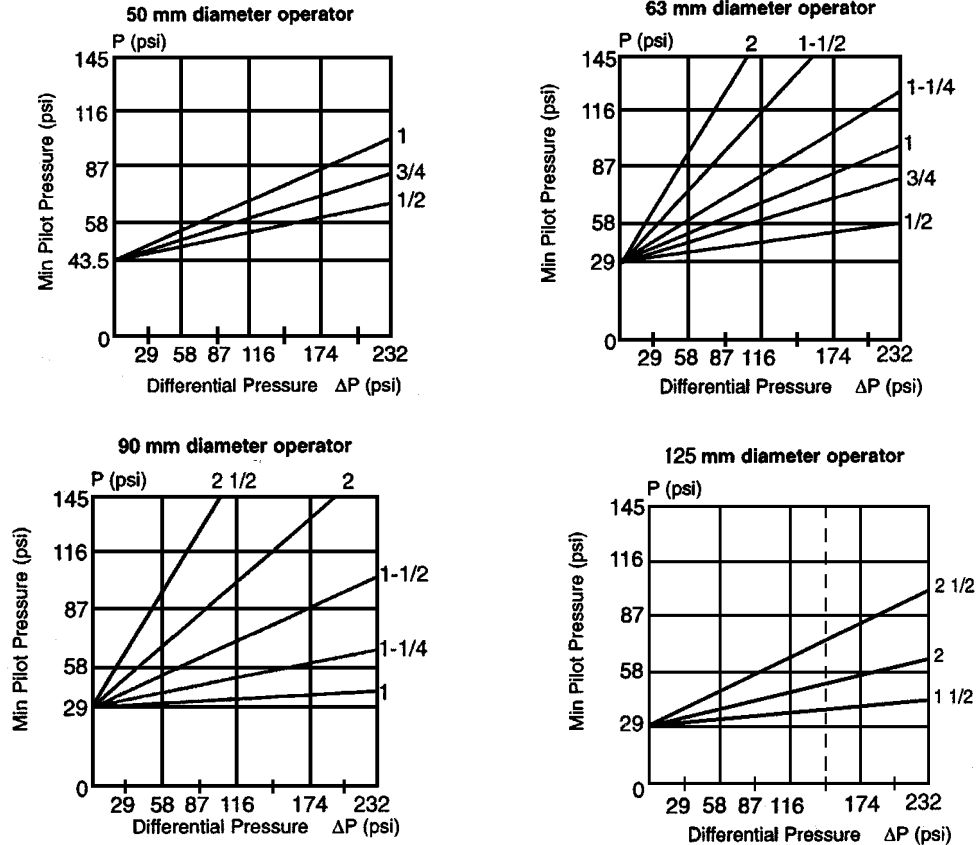
Normally Closed Operation: With auxiliary pressure removed valve is closed. With auxiliary pressure applied valve is open.

Normally Open Operation: With auxiliary pressure removed valve is open. With auxiliary pressure applied valve is closed.

IMPORTANT: Pressure is at Port 2 (entry under disc) for all liquids and gases. For rapid cycling steam valves pressure is at Port 1 (entry above disc).

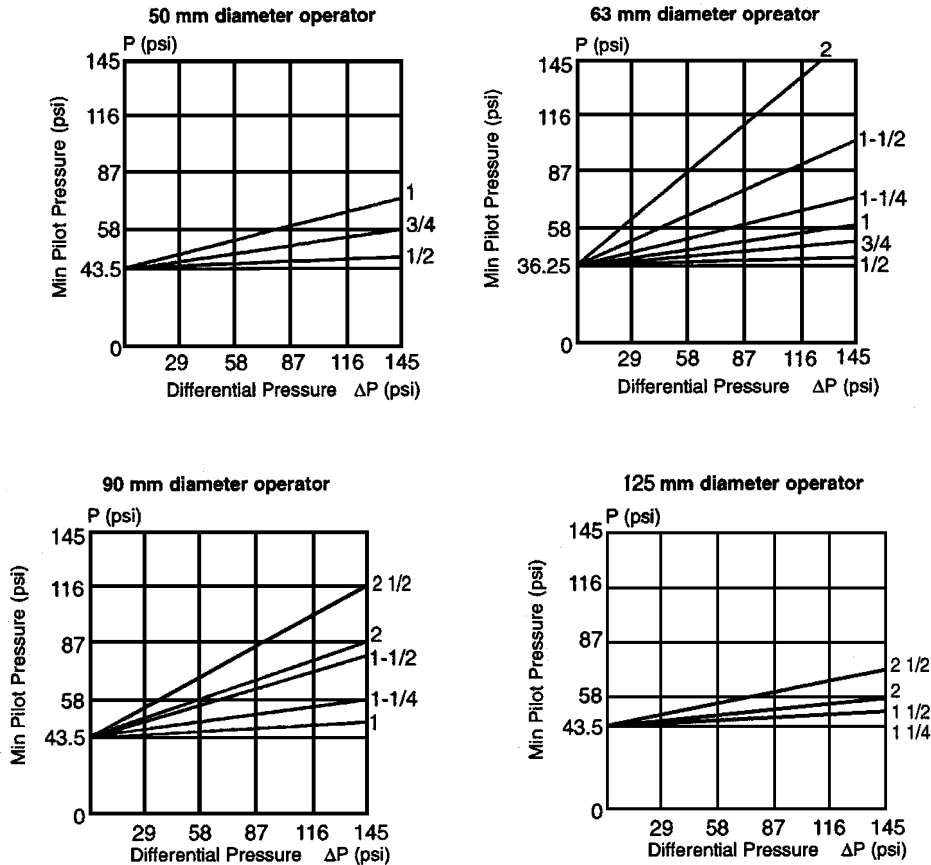
NOTICE: See corresponding product leaflets (on valves and pilot valves) for minimum and maximum pilot pressure, operating pressure differential and fluid temperature.

Normally Open Valves (entry under disc)



Normally closed – (entry under disc) Minimum pilot pressure is 58 psi; maximum 145 psi.

Normally Closed Valves – Steam Service (entry above disc)



INSTALLATION

Check nameplate for correct catalog number, pressure (main and auxiliary), temperature and service. Never apply incompatible fluids or exceed pressure rating of the valve. Installation and valve maintenance to be performed by qualified personnel.

Future Service Considerations

Provision should be made for performing seat leakage, external leakage and operational tests on the valve with a nonhazardous, noncombustible fluid after disassembly and reassembly.

Temperature Limitations – Main Valve

- Ambient Temperature Range:
12°F (–10°C) to 140°F (60°C)
- Fluid Temperature Range:
12°F (–10°C) to 356°F (180°C)

Positioning

This valve is designed to perform properly when mounted in any position.

Pilot Valve Installation (General)

For ease of access to solenoid pilot valve and auxiliary piping alignment, the piston operator with the pilot port connection may be rotated 360°.

Remove the plastic protective plug from the pilot port. See separate instructions and drawings covering normally closed and normally

open operation. Then follow the connection procedures for the appropriate version:

Connection of the pilot valve

- to the 1/8" NPT port (for 50 or 63 mm operator), see separate instructions for pilot valves.
- to the 1/4" NPT port (for 90 or 125 mm operator), see separate instructions for pilot valves.

⚠ CAUTION: The exhaust port plug mounted by the manufacturer must never be removed.

Connect piping to valve according to markings on valve body. Pressure is at Port 2 (entry under disc) for all liquids and gases. For rapid cycling steam valves pressure is at Port 1 (entry above disc). Apply pipe compound sparingly to male pipe threads only. If applied to valve threads, the compound may enter the valve and cause operational difficulty. Avoid pipe strain by properly supporting and aligning piping. When tightening the pipe, do not use valve or piston operator head as a lever. Locate wrenches, applied to valve body or piping, as close as possible to connection point.

⚠ CAUTION: To protect the piston operated valve, install a strainer or filter suitable for the service involved in the inlet side as close to the valve as possible. Clean periodically depending on service conditions. See ASCO Series 8600, 8601 and 8602 for strainers.

MAINTENANCE

⚠ WARNING: To prevent the possibility of death, serious injury or property damage, turn off electrical power, depressurize valve (main and auxiliary), and vent fluid to a safe area before servicing the valve.

NOTE: It is not necessary to remove the main valve from the pipeline for repairs. However, the piping or tubing and electrical connections must be disconnected from the solenoid pilot valve. See separate instructions.

Cleaning

All valves should be cleaned periodically. The time between cleanings will vary depending on the medium and service conditions. In general, sluggish valve operation, excessive noise or leakage will indicate that cleaning is required. In the extreme case, faulty valve operation will occur and the valve may fail to open or close. Clean strainer or filter when cleaning the valve.

Preventive Maintenance

- Keep medium flowing through the valve as free from dirt and foreign material as possible.
- Periodic exercise of the valve should be considered if ambient or fluid conditions are such that corrosion, elastomer degradation, fluid contamination build up, or other conditions that could impede solenoid valve shifting are possible. The actual frequency of exercise necessary will depend on specific operating conditions. A successful operating history is the best indication of a proper interval between exercise cycles.
- Depending on the medium and service conditions, periodic inspection of internal valve parts for damage or excessive wear is recommended. Thoroughly clean all parts. If parts are worn or damaged, install a complete rebuild kit.

Causes of Improper Operation

- **Incorrect Pressure:** Check valve pressure. Pressure to valve must be within range specified on nameplate.
- **Excessive Leakage:** Disassemble valve and clean all parts. If parts are worn or damaged, install a complete ASCO Rebuild Kit.

Valve Disassembly and Reassembly

1. Disassemble valve in an orderly fashion using exploded view for identification and placement of parts.
2. Disconnect piping and wiring from solenoid pilot valve. See separate instructions.
3. For normally closed valves, the operator must be pressurized prior to unscrewing the stuffing box. It should remain pressurized during reinstallation.
4. Remove the piston operator and stuffing box packing with a wrench (a).
5. Unscrew the disc nut with a wrench (b).
6. Clean all accessible parts.
7. Replace parts numbers 1, 2, 3 and 4 with the corresponding parts from the ASCO Rebuild Kit.
8. Reassemble the parts and observe the indicated tightening torques.
9. Reinstall piping and make electrical connection to solenoid pilot valve. See separate instructions.

⚠ WARNING: To prevent the possibility of death, serious injury or property damage, check valve for proper operation before returning to service. Also perform internal seat and external leakage tests with a nonhazardous, noncombustible fluid.

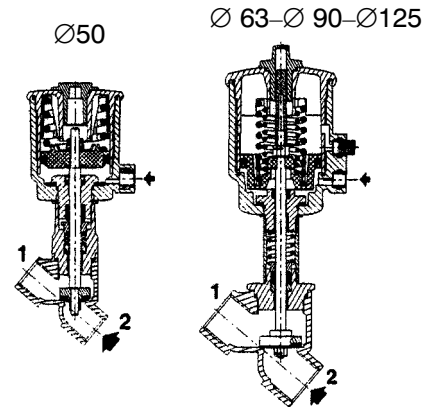
10. Restore pressure (main and auxiliary) and electrical power supply to solenoid pilot valve.
11. After maintenance is completed, operate the valve a few times to be sure of proper operation.

Form No.V6941R3

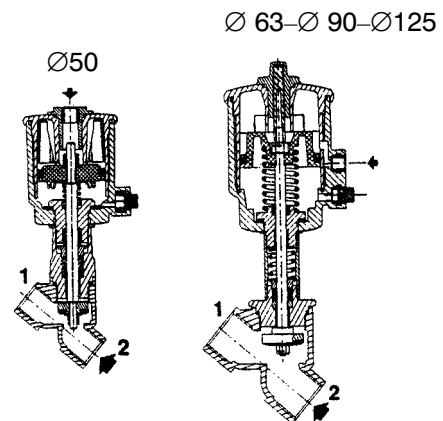
ORDERING INFORMATION FOR ASCO REBUILD KITS

When Ordering Rebuild Kits for ASCO valves, order the Rebuild Kit number stamped on the valve nameplate. If the number of the kit is not visible, order by indicating the number of kits required, and the Catalog Number and Serial Number of the valve(s) for which they are intended.

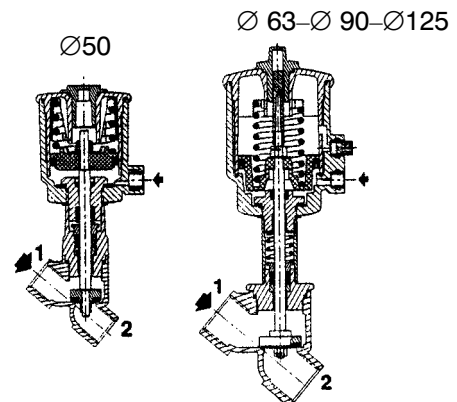
Normally Closed Pilot (entry under disc)



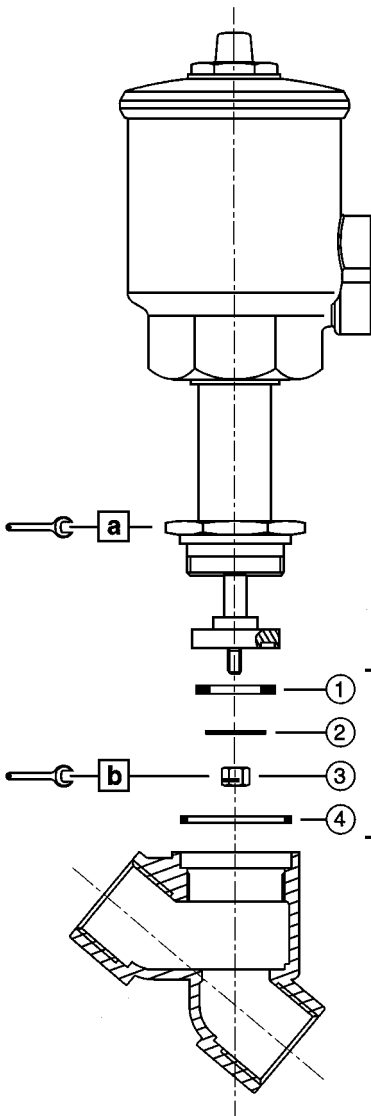
Normally Open Pilot (entry under disc)




Normally Closed Pilot (entry above disc)



Page 3 of 4



• Valves: bronze, st.st, AISI 316L

TORQUES								
Ø	(mm)	N.m		in.Lb		 (mm)		
		a	b	a	b	a	b	
1/2	15	100	5	880	44	32*	8	
3/4	20	100	5	880	44	36*	8	
1	25	120	5	1060	44	46*	10	
1" 1/4	32	120	5	1060	44	36	10	
1" 1/2	40	150	5	1320	44	46	10	
2	50	150	5	1320	44	46	10	
2" 1/2	65	200	5	1770	44	46	10	

* Ø 50 bronze : a = 30

CATALOGUE NUMBER - CODES		
Ø	(mm)	• Disc seal (1) + washer (2) + disc nut (3) + seal (4)
1/2	15	C131204
3/4	20	C131205
1	25	C131206
1" 1/4	32	C131207
1" 1/2	40	C131208
2	50	C131209
2" 1/2	65	C131622

• Valves: bronze, st.st, AISI 316L