

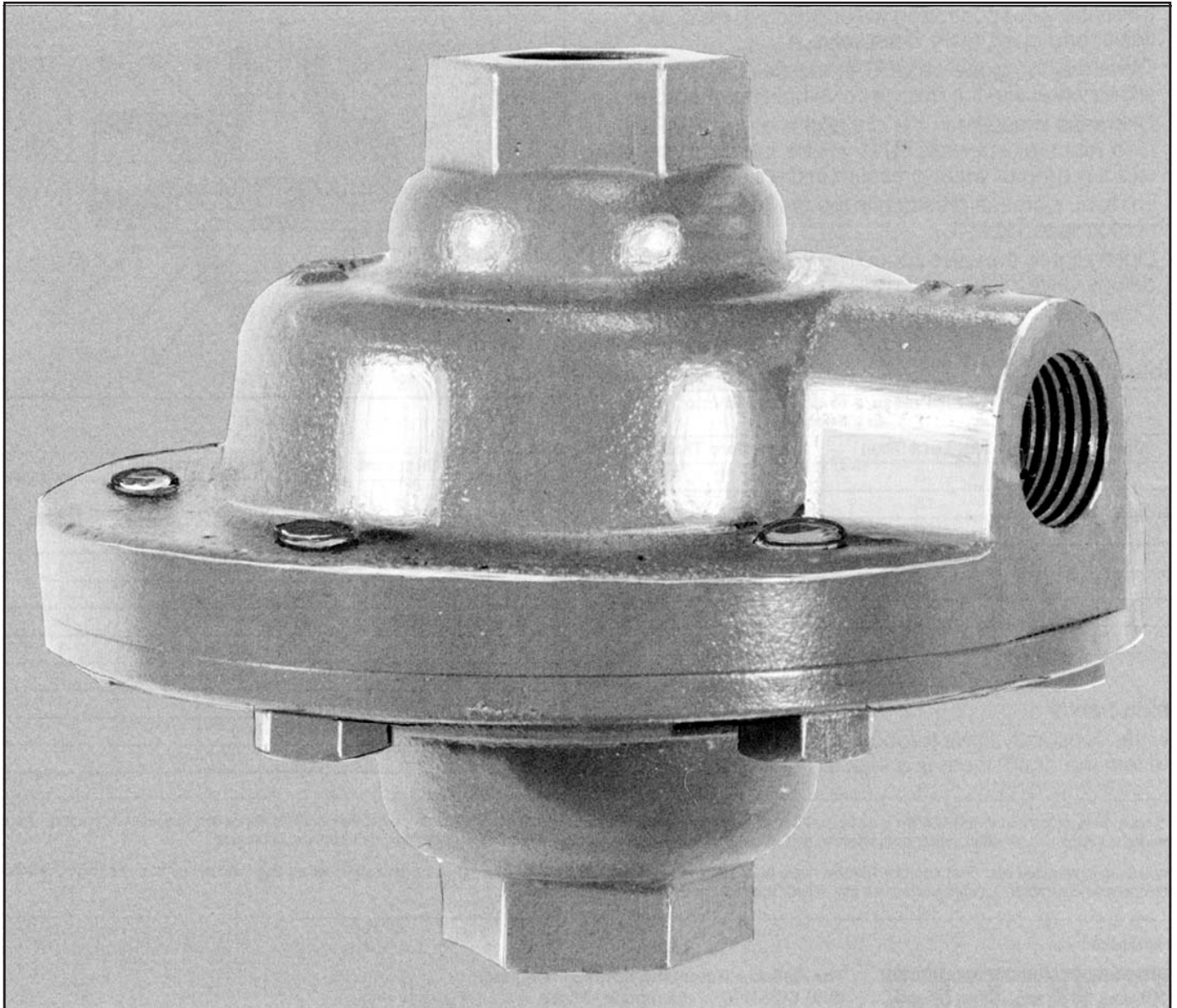


# Model A Dry Pilot Line Actuator

## Instructions for Installation, Operation, Care and Maintenance

### For Use With Models A, B & BX Deluge Valves

Listed by Underwriters Laboratories, Inc.  
Approved by Factory Mutual Research Corporation, and  
other fire insurance and government agencies in the United  
States and foreign countries.



## Installation

Refer to Deluge Valve Bulletins 501 and 503.

## Operation

The Reliable Model A Pilot Line Actuator is the device that separates the water pressure, used in a deluge valve, from the air pressure used in a dry pilot line. The Pilot Line Actuator is a quick opening valve that is held closed by the air pressure in the dry pilot line. When the Actuator is in the closed position, the deluge valve is held closed by the water pressure contained in the top chamber or pushrod chamber of the deluge valve. (See separate bulletins for deluge valve operation). When heat fuses one or more of the automatic pilot line detector installed on the dry pilot, the air pressure drops allowing the Pilot Line Actuator to open. When the Actuator opens, the deluge valve immediately opens.

## Testing Without Operating Deluge Valve

1. Close the valve controlling water supply to the deluge valve, and open main drain valve.
2. Open the 1/4" (6.35 mm) valve in the deluge trim that allows water to flow into the deluge valve holding chamber.
3. Decrease pressure in the dry pilot line until the Pilot Line Actuator operates. This will be indicated by a sudden drop of water pressure in the deluge valve.
4. To reset, increase pressure in the dry pilot line until it conforms to Table 1.
5. Open slightly the valve controlling water supply to the deluge valve, closing the drain valve when water flows.
6. Confirm that the deluge valve holding chamber is pressurized and that all valves are in the correct position in accordance with the appropriate deluge valve bulletin.

**Table 1**

Supply Water		Air Pressure to be Pumped into Dry Pilot Line			
Maximum		Not Less Than		Not More Than	
psi	bar	psi	bar	psi	bar
20	1.38	10	0.69	20	1.38
50	3.44	15	1.03	25	1.72
75	5.17	20	1.38	30	2.06
100	6.88	25	1.72	35	2.41
125	8.61	30	2.06	40	2.75
150	10.34	35	2.41	45	3.10
175	12.06	40	2.75	50	3.44

## Maintenance

When performing annual trip tests of deluge and preaction system valves in accordance with NFPA 25, the diaphragm assembly of the Pilot Line Actuator should also be examined. Any cracking or tearing of the diaphragm or significant compression set in the rubber on the facing plate requires replacement of these components.

If water constantly flows through the closed Pilot Line Actuator there is a leak at the seat, proceed as follows:

1. Perform "Testing Without Operating Deluge Valve." As explained above. This will allow water to flow through the Pilot Line Actuator and may flush dirt, scale, etc. If leakage still occurs, proceed as follows.
2. Close the valve controlling water supply to the deluge valve, and open drain valve.
3. Drop pressure in the dry pilot line, and remove the Pilot Line Actuator from the system.
4. Remove 6 Bolts (9) holding the Actuator together. Clean or replace Facing Plate Assembly (5) and Brass Seat (3). When reassembling, tighten the Facing Plate Nut (7) to a torque of 8 ft. lbs (10.84 Nm) and the 6 Bolts (9) to torque of 12 ft. lbs. (16.27 Nm) using a cross tightening pattern.
5. Return the Pilot Line Actuator to the trimming arrangement, and follow the "Resetting Deluge Valve" procedure in either Bulletin 501 or Bulletin 503

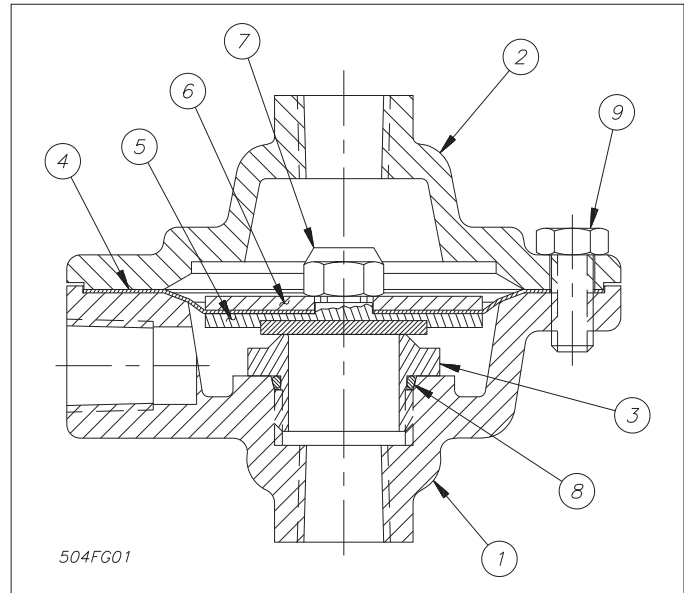


Figure 1

Pilot Line Actuator Bill of materials			
Item No.	Part No.	Description	No. Req'd
1	94106905	Upper Housing	1
2	94106906	Lower Housing	1
3	96006904	Seat	1
4	92206311	Diaphragm	1
5	95106911	Facing Plate Assembly	1
6	96906311	Diaphragm Washer	1
7	94906406	Facing Plate Nut	1
8	95406901	Seat O-Ring	1
9	95606305	Bolts	6

The equipment presented in this bulletin is to be installed in accordance with the latest published Standards of the National Fire Protection Association, Factory Mutual Research Corporation, or other similar organizations and also with the provisions of governmental codes or ordinances whenever applicable.

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Revision lines indicate updated or new data.

E.G. Printed in USA 04/01.

P/N 9999970056