

Reliable®

Model LP Dry Pilot Actuator

Product Description

The Reliable Model LP Dry Pilot Actuator is a differential-style diaphragm operated valve designed to separate water and air (or nitrogen) for use as a release mechanism on Reliable dry pipe, deluge, and preaction systems. The Model LP Dry Pilot Actuator is provided with a ½" NPT inlet water inlet for connection to a hydraulic release system, a ½" NPT air/nitrogen inlet, and a ½" NPT water outlet for routing to drain.

In the set-up condition, dry pilot line (or dry pipe system) pneumatic pressure acts on the diaphragm across a larger surface area than the water pressure on the opposite side of the diaphragm. This allows lower pneumatic pressure to seal the diaphragm against higher hydraulic pressure. Table A specifies the air or nitrogen pressure to be constantly applied to the actuator.

When pneumatic pressure is lost (for example, when a dry pilot thermal detector opens), the incoming water pressure overcomes the differentially-applied pneumatic pressure and the diaphragm is forced off the water seat. This allows water to move through the actuator. The release of hydraulic pressure in turn allows the deluge or mechanical dry-pipe valve to operate.

Installation

The Model LP Dry Pilot Actuator shall only be installed as a releasing device on Reliable deluge, preaction, and dry-pipe systems where designated for such use on related technical bulletins.

The Model LP Dry Pilot Actuator shall be installed in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*, as well as the requirements of any authorities having jurisdiction. Failure to follow instructions may result in failure of the valve or system to operate, and may void the warranty and/or listing of the system.

Prior to installation, verify compatibility of the Model LP Dry Pilot Actuator materials with the water supply and the environment where the valve will be installed.

The device must be installed in a readily visible and accessible location where a minimum temperature of 40°F (4°C) or above must be maintained. Heat tracing of the Model LP Dry Pilot Actuator and trim is not permitted.



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Air/Nitrogen Pressure Requirement

Table A

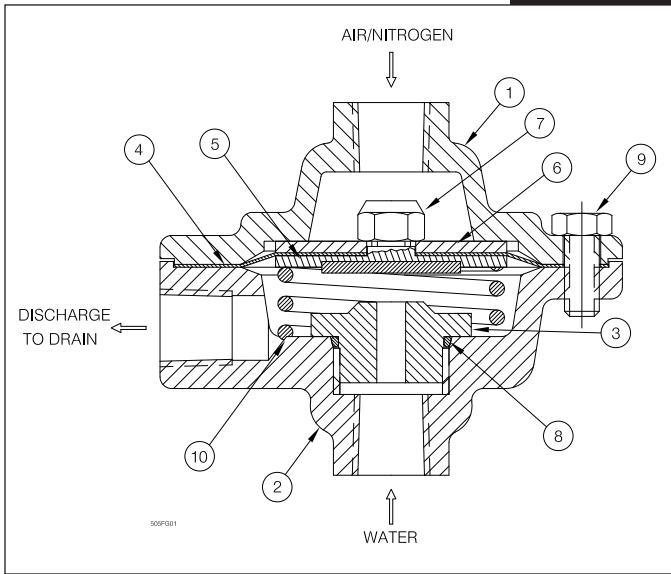
Water Pressure psi (bar)	System Air or Nitrogen Pressure psi (bar)
Maximum	Not Less Than
20 (1.4)	8 (0.6)
30 (2.1)	10 (0.7)
50 (3.4)	12 (.8)
75 (5.2)	13 (.9)
100 (6.9)	15 (1.)
125 (8.6)	16 (1.1)
150 (10.3)	17 (1.2)
175 (12.1)	18 (1.2)
200 (13.8)	19 (1.3)
225 (15.5)	21 (1.4)
250 (17.2)	22 (1.5)
275 (19.0)	23 (1.6)
300 (20.7)	24 (1.7)

Notes:

- Supervisory air or nitrogen pressure should not exceed 30 psi (2.1 bar). Excess pressure may result in damage to the actuator.
- Fastest valve operation is achieved with supervisory air or nitrogen pressure indicated; however, pressure must never be less than the minimum specified in the table above.
- Air maintenance devices that maintain a constant pressure are recommended; however, if a tank-less compressor is used, the "compressor on" setting of the pressure switch must never be lower than the minimum pressure in the table above.

**Model LP Dry Pilot Line Actuator
(shown in open position)**

Figure 1



Model LP Dry Pilot Line Actuator Parts List

Item No.	Description	Qty. Required
1	Lower Housing	1
2	Upper Housing	1
3	Seat	1
4	Diaphragm	1
5	Facing Plate Assembly	1
6	Diaphragm Washer	1
7	Facing Plate Nut	1
8	Seat O-Ring	1
9	Bolt	6
10	Compression Spring	1

Note: Parts list provided for reference only. Individual parts are not available for purchase.

Maintenance

The Reliable Model LP Dry Pilot Actuator shall periodically be given a thorough inspection and test. NFPA 25, *Inspection, Testing, and Maintenance of Water Based Fire Protection Systems*, provides minimum maintenance requirements.

The owner is responsible for maintaining all parts of the fire protection system in proper operating condition. Any system maintenance or testing that involves placing a system component out of service may eliminate the fire protection that is provided by the fire protection system.

Full flow of water through the actuator is required during set-up to flush debris away from the seat. If the actuator does not seal leak-free when pressurized with the correct amount of air/nitrogen pressure, there is a leak at the actuator seat. Inspect, clean, and replace parts as necessary following these steps:

1. Close the main valve controlling water supply to the system.
2. Close the air or nitrogen supply to the system and bleed pneumatic pressure from the system.
3. Remove the actuator from the system.
4. Carefully remove the six bolts holding the actuator together. (**Note:** The actuator incorporates a spring that will be forcing the actuator halves apart.)
5. Inspect and clean internal parts. (**Note:** Use a torque of 8 lbf-ft on the facing plate nut.)
6. Reassemble the actuator using a cross-tightening pattern and a torque of 12 lbf-ft on the bolts.
7. Reinstall the actuator and set up the fire protection system in accordance with the appropriate technical bulletin.

Guarantee

For the Reliable Automatic Sprinkler Co., Inc. guarantee, terms, and conditions, visit www.reliablesprinkler.com.

Ordering Information

Specify:

- Model LP Dry Pilot Actuator (P/N 71030010)