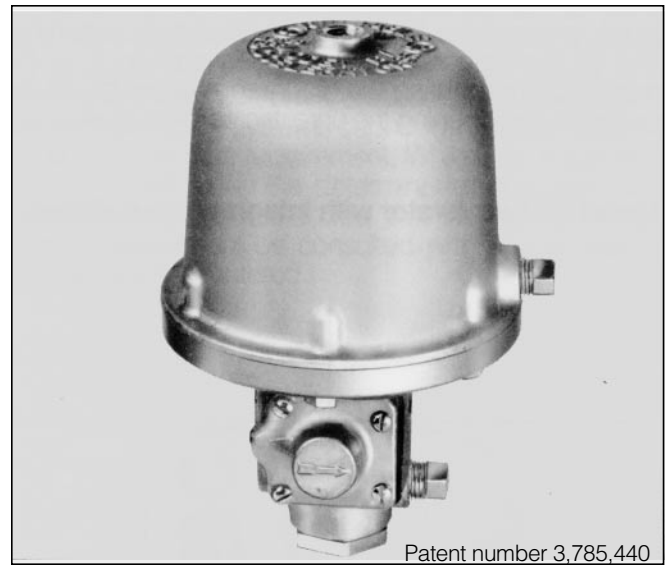




Model B1 Accelerator with Integral Accelo-Check

Features

1. Quickens operation of dry pipe valves.
2. Increase number of automatic sprinklers controlled by one dry pipe valve.
3. Equalizes rapidly as dry system is being filled with air to required pressure.
4. Adjusts without operation for small fluctuations in system air pressure.
5. Dependable in operation, compact and light-weight construction.
6. Accelo-Check prevents water and debris from entering critical areas, minimizing the need of removing cover plates, etc. to reset or clean internal mechanisms.
7. Tested and approved for use with all Reliable Dry Pipe Valves.



Description

The Reliable Model B1 Accelerator with its integral Accelo-Check (anti-flooding device) is used to speed the operation of dry pipe valves in dry type automatic sprinkler systems. Dry systems use air under pressure instead of water because of freezing temperatures that may prevail.

The accelerated operation of the dry pipe valve floods the sprinkler system with water permitting substantial increase in both the number of sprinklers that can be controlled by one dry pipe valve and the volume of the dry system that can be installed.

The anti-flooding device prevents any water or contamination from entering the internal restriction areas of the Accelerator, increasing reliability while decreasing required maintenance.

Approval Organizations

1. Listed by Underwriters Laboratories, Inc.
2. Underwriters' Laboratories of Canada for up to 1500 gal. (5678 liters) systems.
3. Approved by Factory Mutual Research Corporation
4. Loss Prevention Council.
5. NYC BS&A No. 587-75-SA.

Operation of the Accelerator

The Model B1 Accelerator is a pressure sensitive device that is normally closed. It is designed to open when the system air pressure begins to drop at predetermined rate, such as when an automatic sprinkler operates. The air under pressure passes through the accelerator to the intermediate chamber of the dry pipe valve forcing that valve to open and flood the system.

Figure 1 depicts the accelerator in the closed position while being pressurized Figure 3 shows the accelerator connected to the sprinkler system. The accelerator to the sprinkler system. The accelerator is filled by air from the system entering the accelerator inlet, passing through the filter assembly where the pressure build-up opens the Accelo-Check diaphragm assembly. The air then proceeds through Passageway E to the middle chamber lifting the diaphragm assembly off the push rod and opening the unrestricted Passageway G.

The air then completely fills the top chamber within a few seconds. When completely filled, the diaphragm assembly rests again on the push rod closing off the passageway G except for minor leakage, which compensates for small system air pressure fluctuations.

When system air pressure decays due to one or more automatic sprinklers operating, the top chamber pressure remains entrapped and cannot drop as quickly; the resulting difference in pressure creates a downward force that opens the poppet and hence the accelerator.

The accelerator outlet pressure then builds up and flows up through Passageway F to Cavity H where the air pressure closes the Accelo-Check diaphragm assembly. This shuts off Passageway E preventing any water or contamination from proceeding upward to the restriction area. The accelerator is reset by removing the drain plugs to vent the accelerator.

Model B1 Accelerator with Integral Accelo-Check

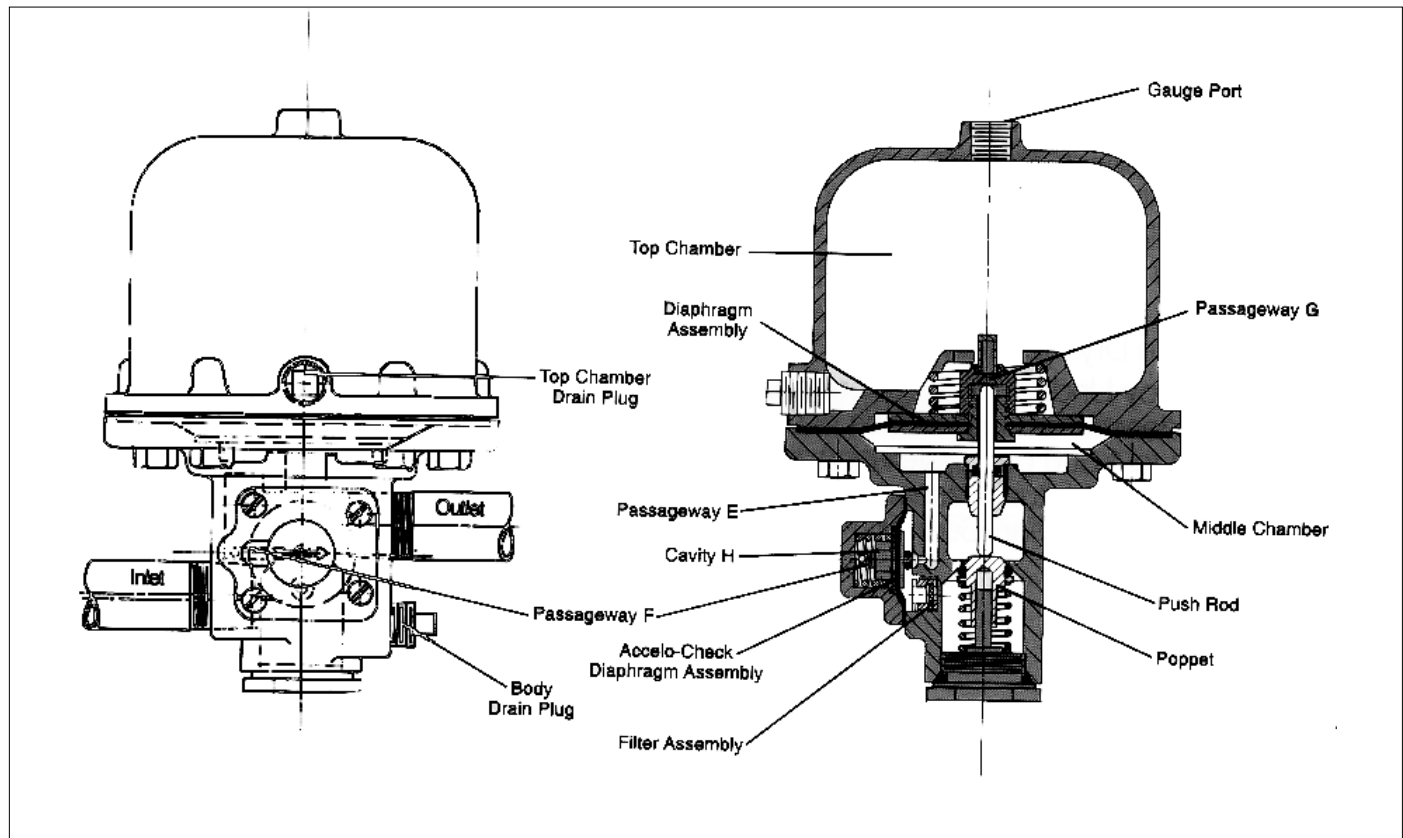


Figure 1

Installation of Accelerator

The Reliable Model B1 Accelerator is quickly attached to the Reliable Model D 4" and 6" Dry Pipe Valve by using the BD-2 Accelerator Trimmings. No alterations are required to the original sprinkler system for this installation.

For connection to Reliable Models B, C1 or C2 Dry Pipe Valves or other dry pipe valves, the general principle of the reliable Accelerator Trimmings should be used as far as pipe size, accelerator and trim component location are concerned. For connection to Model LDX Dry Pipe Valves, refer to Bulletin 323.

The Model B1 Accelerator, although capable of use with other makes of dry pipe valves of intermediate chamber design, has been tested and approved only with Reliable Dry Pipe Valves.

Figure 2 provides an approximate graph of actual accelerator operating time versus system size when one sprinkler head opens. The time of operation of the accelerator is relatively unaffected by inlet pressures so the graph applies for all normal dry system pressures from 25 psi to 50 psi (1.7 bar to 3.4 bar). As described in the following section, water delivery time will significantly exceed the accelerator operating time shown in Figure 2.

Note: 1 bar=100 kPa

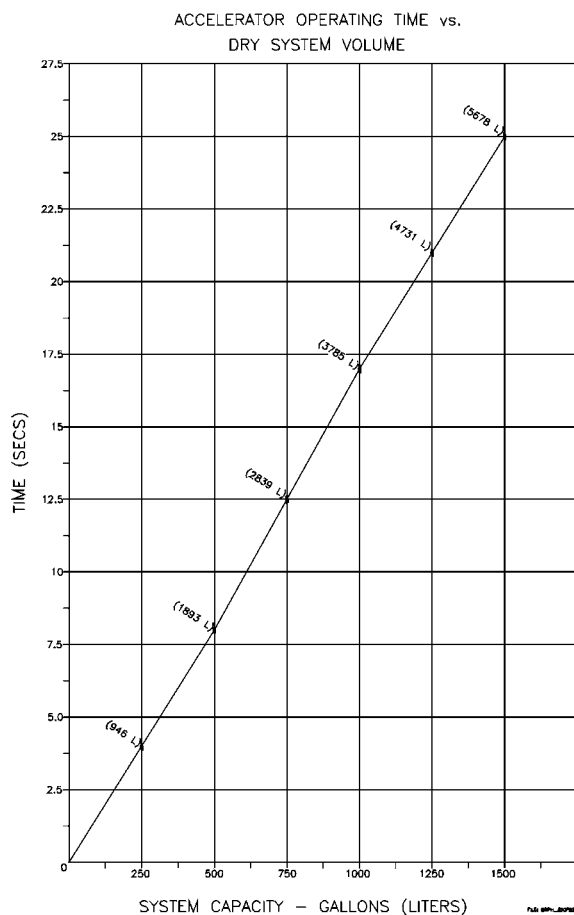


Figure 2

System Requirements

NFPA 13, Installation of Sprinkler Systems, specifies that accelerators (Quick-Openings Devices) are required in dry systems having the capacities of more than 500 gallons (1890 liters). However, exceptions permit the omission of quick-opening devices for larger systems when water can be delivered to the inspectors test connection in less than 60 seconds.

It must be cautioned that accelerator operation and water delivery at the inspectors test connection does not occur at the same time. There is a delay while the air is being expelled through the inspectors test connection in front of the water. This time delay depends on the piping configuration system size, available water supply and other factors, which are beyond the control of the accelerator and restrict the system's capability to deliver water in the 60 second time requirement. While field installation experience will aid in the determination of system size limitations, it is recommended that Reliable Technical Services be consulted when large volume systems are encountered.

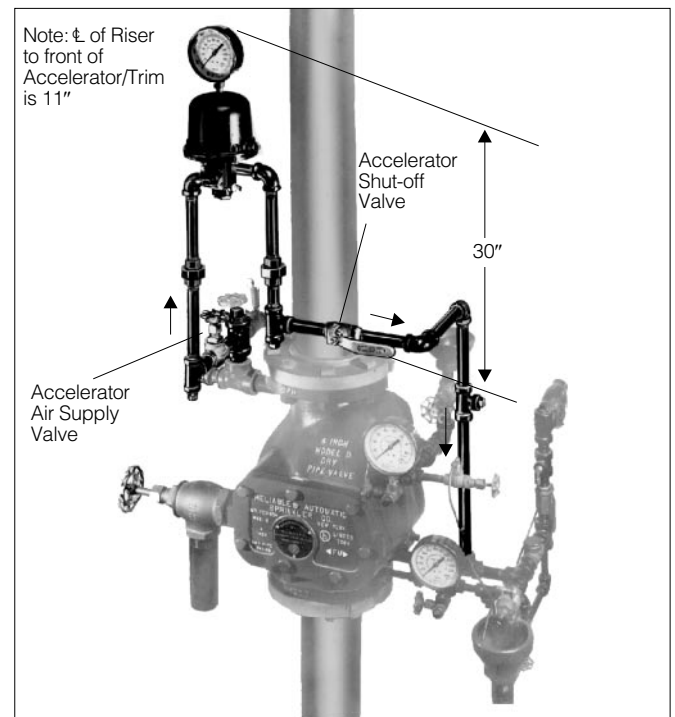


Figure 3

Reliable...For Complete Protection

Reliable offers a wide selection of sprinkler components. Following are some of the many precision-made Reliable products that guard life and property from fire around the clock.

- Automatic sprinklers
- Flush automatic sprinklers
- Recessed automatic sprinklers
- Concealed automatic sprinklers
- Adjustable automatic sprinklers
- Dry automatic sprinklers
- Intermediate level sprinklers
- Open sprinklers
- Spray nozzles
- Alarm valves
- Retarding chambers
- Dry pipe valves
- Accelerators for dry pipe valves
- Mechanical sprinkler alarms
- Electrical Sprinkler alarm switches
- Water flow detectors
- Deluge valves
- Detector check valves
- Check valves
- Supertrol electrical system
- Sprinkler emergency cabinets
- Sprinkler wrenches
- Sprinkler escutcheons and guards
- Inspectors test connections
- Sight drains
- Ball drips and drum drips
- Control valve seals
- Air maintenance devices
- Air compressors
- Pressure gauges
- Identification signs
- Fire department connections

The equipment presented in this bulletin is to be installed in accordance with the latest pertinent 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.

Products manufactured and distributed by RELIABLE have been protecting life and property for over 80 years, and are installed and serviced by the most highly qualified and reputable sprinkler contractors located throughout the United States, Canada and foreign countries.

Manufactured by



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