

VIZOR Electronic Dry Pipe Accelerator (EDPA) Quick-Opening Device for Dry Pipe Systems

IMPORTANT

Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.

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General Description

The TYCO VIZOR Electronic Dry Pipe Accelerator (EDPA) is a quick-opening device intended to reduce the operating time of the dry pipe valves listed in Table A following operation of one or more automatic sprinklers.

Unlike traditional mechanically operated quick-opening devices, the VIZOR accelerator is a microprocessor-based, electronic, quick-opening device. The VIZOR accelerator automatically adjusts to both small and slow changes in system air pressure, but trips when there is a steady drop in system air pressure upon sprinkler operation.

The VIZOR accelerator features the following:

- Direct mounting to the riser
- Installation consistent with the installation of mechanical devices
- Easy test-and-reset function, as compared to mechanical accelerators
- Operation of a dry pipe valve within four seconds — over a wide range of system volumes, system initial air pressures, and sprinkler K-factors
- Built-in low-pressure and high-pressure alarm supervision
- Electronically self-supervising technology, similar to that used in typical alarm panels for alarm and detection systems
- Battery back-up in the event of primary power failure

The VIZOR Electronic Dry Pipe Accelerator utilizes a unique, patented system air pressure monitoring design that continuously samples the system air pressure.

When the VIZOR accelerator detects a sustained drop in air pressure, the VIZOR accelerator energizes its internal solenoid valve.

The energized solenoid valve then opens to permit system air pressure into the intermediate chamber of the dry pipe valve.

The pressurized intermediate chamber neutralizes the differential pressure holding the dry pipe valve closed and permits the dry pipe valve to trip and flow water into the system piping.



NOTICE

The VIZOR Electronic Dry Pipe Accelerator described herein must be installed and maintained in compliance with this document and with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION, in addition to the standards of any authorities having jurisdiction. Failure to do so may impair the performance of this device.

The owner is responsible for maintaining their fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.

Technical Data

NOTICE

Quick operation of the TYCO VIZOR Electronic Dry Pipe Accelerator does not ensure that the fire protection system will meet the water delivery time requirement of the authority having jurisdiction (following opening of the Inspector's test connection). The sprinkler system designer has to be aware that water delivery time is primarily determined by the configuration and volume of the piping network, system air pressure at the time of accelerator trip, number and orifice size of open sprinklers, and water supply characteristics. It is essential for the designer to verify the impact of these site-specific factors on water delivery time.

Approvals

Listings and approvals are under the name of Potter Electric Signal Company Electric Dry Pipe Accelerator (EDPA). See Table A for Listings and Approvals for use of the VIZOR accelerator with specific dry pipe valves.

- UL and ULC Listed

The VIZOR accelerator is UL and ULC Listed per UL1486 for a maximum system capacity of 1690 gallons (6397 liters) for a single nominal 5.6 K-factor sprinkler and a maximum working water pressure of 300 psi (20,7 bar).

- FM Approved

The VIZOR accelerator is FM Approved for TYCO Model DPV-1 Valves and can be used with the following discontinued models: Central Models AG and AF, GEM Models F302 and F3021, and Star Models A and A1.

Maximum Water Pressure

300 psi (20,7 bar)

Air Pressure

10 to 65 psi (0,69 to 4,48 bar)

Pressure Decay For Trip

0.1 psi/sec. (0,007 bar/s)

High/Low Pressure Settings

See Table B

VIZOR Environmental

Specifications

- VIZOR accelerator
- NEMA 2, Indoor use
40°F to 120°F (4°C to 49°C)
- Battery Cabinet
NEMA 1, Indoor use
32°F to 120°F (0°C to 49°C)

Power Requirements

Maximum 0.75 A @ 120/220 AC

Batteries (Ordered Separately)

- STANDARD** 24-hour battery back-up provided by two 12-volt (1.3 AH) batteries
- OPTIONAL** 90-hour battery back-up provided by two 12-volt (5 AH) batteries

Battery Current Draw

Standby: 43 ma; Alarm: 440 ma

Dry Contact Rating

Trouble: 5 A @ 30 VDC
High/Low: 5 A @ 30 VDC

Installation Dimensions

See Figure 6

NOTICE

When the VIZOR accelerator is installed in accordance with these instructions, the equipment's design provides reasonable protection against limited radio frequency sources. Intentionally subjecting the equipment to radio frequency sources could result in unintended operation of the dry pipe system.

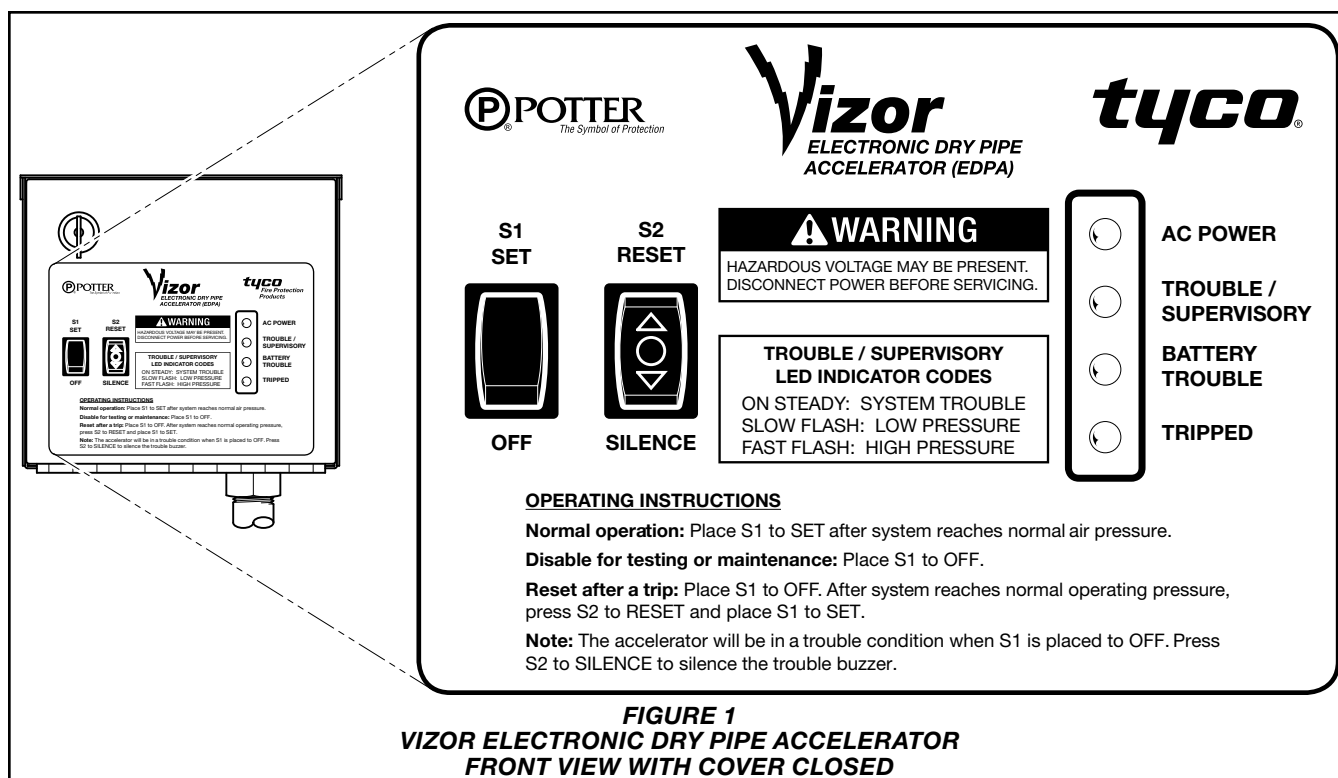
VIZOR Accelerator Indicators and Controls

See Figures 1 and 2.

- AC Power (Green LED):** On steady when AC power is present
- Trouble/Supervisory (Amber LED):** On steady for Trouble, 1 flash per second (slow) for low pressure, 4 flashes per second (fast) for high pressure
- Battery Trouble (Amber LED):** On steady for low battery
- Tripped (Red LED):** Flashes for 30 seconds to indicate the solenoid is open and the VIZOR accelerator is tripped; lights steady after 30 seconds indicating the solenoid is closed
- S1 (Two-Position Switch):** Up to SET to place the VIZOR accelerator in service when air pressure matches rotary switch setting; down to OFF to take the VIZOR accelerator out of service
- S2 (Two-Position Momentary Switch):** Up to RESET to reset the VIZOR accelerator after activation; down to SILENCE to silence the buzzer
- Buzzer:** Indicates any trouble or supervisory condition by sounding an audible alarm
- Trouble Dry Contacts (Normally Open):** Activate on any trouble condition such as low batteries or when S1 is pushed into the OFF position; activate on a loss of AC power after 60 minutes
- High/Low Dry Contacts (Normally Open):** Activate when system pressure is outside of the normal setting of the rotary switch

Manufacturer Valve Model	Valve Size ANSI Inches (DN)	Laboratory	
		UL	FM
TYCO Model DPV-1	4, 6 (DN100, DN150)	•	•
Central Models AG, AF	3, 4, 6 (DN80, DN100, DN150)	•	See note
Gem Models F302, F3021	4, 6 (DN100, DN150)	•	See note
Star Models A, A1	4, 6 (DN100, DN150)	•	See note
Note: For retrofit applications, the FM Approved Model DPV-1 application of EDPA Electronic Accelerator Systems can be used for the specified discontinued valves. TABLE A LABORATORY LISTINGS AND APPROVALS FOR DRY PIPE VALVE COMPATIBILITY			

Switch Setting	Pressure		
	Nominal psi (bar)	Threshold	
		Low Air psi (bar)	High Air psi (bar)
0	10 (0,69)	7 (0,48)	15 (1,04)
1	15 (1,04)	7 (0,48)	20 (1,38)
2	20 (1,38)	15 (1,04)	25 (1,72)
3	25 (1,72)	15 (1,04)	35 (2,41)
4	30 (2,07)	20 (1,38)	40 (2,76)
5	35 (2,41)	25 (1,72)	45 (3,10)
6	40 (2,76)	30 (2,07)	50 (3,45)
7	45 (3,10)	35 (2,41)	55 (3,79)
8	55 (3,79)	45 (3,10)	65 (4,48)
9	65 (4,48)	55 (3,79)	75 (5,17)
TABLE B VIZOR ELECTRONIC DRY PIPE ACCELERATOR HIGH/LOW PRESSURE SETTINGS			



Operation

The TYCO VIZOR Electronic Dry Pipe Accelerator provides a microprocessor-based, electronic, dry pipe valve accelerator designed to monitor the air pressure in a dry pipe system and reduce the time it takes for the dry pipe valve to operate following the opening of one or more sprinklers. The VIZOR accelerator can be used in new installations or to replace mechanical type accelerators in existing systems.

The VIZOR accelerator operates upon detection of a steady drop in air pressure of 0.1 psi per second (0,007 bar/s) or greater, or if the pressure drops to 5.5 psi (0,38 bar). The VIZOR accelerator typically responds to an open sprinkler in approximately 2 seconds.

In order to minimize false trips and high/low air trouble conditions, the use of a tank mounted air compressor or plant air in conjunction with the TYCO AMD-1 Air Maintenance Device is strongly recommended. The compressor, or plant air, should be set to maintain a minimum of 10 psi greater than the required system air pressure.

Note: Although the VIZOR accelerator is designed to respond to an open sprinkler in approximately 2 seconds, operation of the dry pipe valve is expected within 4 seconds. The difference of 2 seconds is a conservative estimation for the dry pipe valve to physically trip.

Upon detection of a drop in air pressure, the VIZOR accelerator opens an internal solenoid valve allowing system air pressure into the intermediate chamber of the dry pipe valve. The pressurized intermediate chamber neutralizes the differential pressure holding the dry pipe valve closed and permits the valve to open. The solenoid valve automatically closes after 30 seconds.

The VIZOR accelerator contains two sets of normally open, dry contacts. The high/low supervisory contacts close if the normal system air pressure in the system increases or decreases beyond a given point, see Table B. The ten-position rotary switch, see Figure 2, provides ten preset pressure settings. The factory setting is position #4 for a normal system air pressure of 30 psi.

The trouble dry contacts close during any one of the following conditions:

- Low-battery condition (up to a 1-minute delay is normal)
- AC power loss (after a 60-minute delay)
- SET/OFF switch in the OFF position

An internal buzzer sounds during any off-normal condition.

Installation

The TYCO VIZOR Electronic Dry Pipe Accelerator must be installed in accordance with this section.

NOTICE

When working on the VIZOR accelerator or the dry pipe valve, S1 should be in the OFF position; otherwise, the dry valve can inadvertently trip.

Make all pipe fitting connections to the VIZOR accelerator inlet and outlet ports by using the wrench flats on the VIZOR accelerator. DO NOT tighten connections by grasping the VIZOR accelerator housing. Failure to do so may result in damage to the components within the device.

Install all required conduits and make all connections with AC power off. The VIZOR accelerator must be hard-wired to complete the installation.

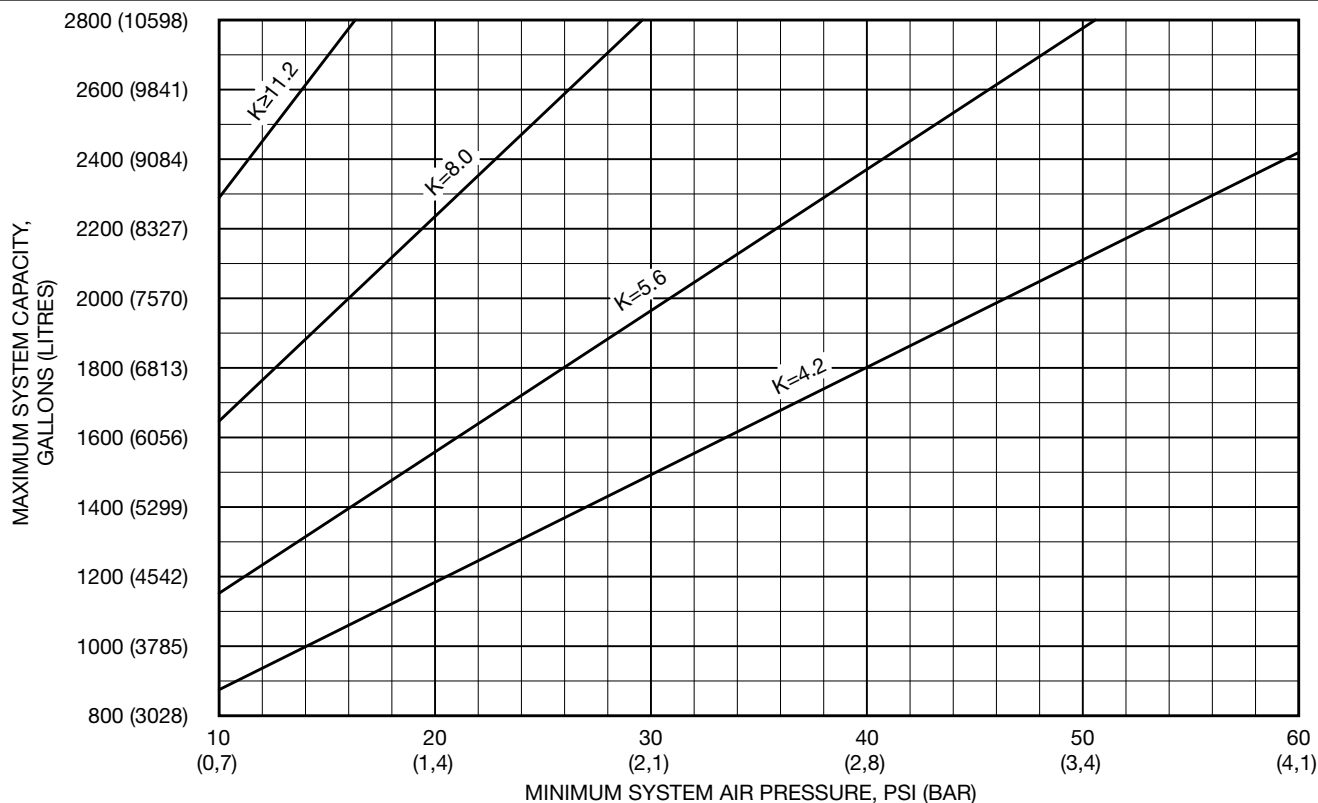
During installation, the buzzer may sound. Silence the buzzer at any time by momentarily pushing S2 to the SILENCE position.

The VIZOR accelerator must be installed according to applicable NFPA codes (for example, NFPA 13, 70, and 72) as well as all local installation codes.

Step 1. Install the VIZOR accelerator as shown in Figures 6 and 7. Apply pipe-thread sealant sparingly to male threads only.

Step 2. Following Figure 2 and Table B, set the Ten-Position Rotary Switch to the required setting using the provided screw driver.

Step 3. As shown in Figure 2, tape the 12V, 1.3 AH batteries together. Connect the harness wires (leads in Figure 2) to



Notes

1. Quick operation of the TYCO VIZOR Electronic Dry Pipe Accelerator does not ensure that the fire protection system will meet the water delivery time requirement of the authority having jurisdiction (following opening of the Inspector's test connection). The sprinkler system designer has to be aware that water delivery time is primarily determined by the configuration and volume of the piping network, system air pressure at time of Accelerator trip, number and orifice size of open sprinklers, and water supply characteristics. It is essential for the designer to verify the impact of these site-specific factors on water delivery time.
2. The sensitivity criteria for the VIZOR accelerator is a function of its pressure decay for trip rating of 0.1 psi (0,007 bar) per second, as well as the system volume, the K-factor of the sprinklers being utilized, and the minimum initial air pressure. The larger the system volume combined with smaller sprinkler K-factor or lower initial air pressure results in a slower air decay rate upon the first sprinkler operation. Conversely, a smaller system volume combined with a larger sprinkler K-factor or higher initial air pressure results in a faster air decay rate.
3. When the sprinkler system has been designed within the criteria provided by Graph A, operation of the VIZOR accelerator and subsequent operation of the associated dry pipe or preaction valve can be expected within four seconds. In the case of the double interlock preaction system, operation is based on the electric detection system operating before a first sprinkler operation.
4. The minimum system air pressure must be the greater of that required for the dry pipe / preaction valve as a function of the maximum expected water supply pressure or per Graph A when using the VIZOR accelerator.
5. When considering multiple sprinkler operations as in the case of using a dry system water delivery design per NFPA 13, use the "11.2 K-factor and larger" curve as referenced in Example 3 below.

Examples

1. For a system volume of 1500 gallons (5680 liters) and the use of sprinklers having a K-factor of 5.6, the minimum system air pressure must be 18.5 psi (1,3 bar).
2. For a system volume of 2000 gallons (7570 liters) and the use of sprinklers having a K-factor of 8.0, the minimum system air pressure must be 16.0 psi (1,1 bar).
3. With the use of a dry system water delivery design per NFPA 13, wherein the operation of two 5.6 K-factor sprinklers might be anticipated (and the effective K-factor is then 11.2), the "11.2 K-factor and larger" curve can be utilized. Consequently, for a system volume of 2400 gallons (9084 liters), the minimum system air pressure must be 11.5 psi (0,8 bar).

GRAPH A
TYCO VIZOR ELECTRONIC DRY PIPE ACCELERATOR
SENSITIVITY CRITERIA BASED ON FM APPROVAL

the batteries, slide the battery assembly into the housing, and plug the harness connector into the VIZOR accelerator circuit board.

For the optional 90-hour batteries, mount the remote battery enclosure horizontally and within 10 feet of the VIZOR accelerator. Splice the battery cable, see Figure 5, connect the cable to the batteries, then plug the battery assembly into the VIZOR accelerator harness. Lastly, plug the harness connector into the VIZOR accelerator circuit board.

Step 4. Close and lock the cover.

Step 5. Push S1 to the OFF position.

Step 6. In order to minimize an inadvertent primary (A/C) power loss and to facilitate maintenance, it is recommended that a dedicated circuit be hard-wired to the VIZOR accelerator. The following notifications occur:

- The green AC LED lights, the amber trouble / supervisory LED lights, the red tripped LED lights, and the buzzer sounds.
- Assuming the batteries are charged, the amber battery Trouble LED remains unlit.

Step 7. Optionally conduct trip tests of the VIZOR accelerator and the dry pipe valve in accordance with the Care and Maintenance section.

Step 8. Optionally, and/or if required by local jurisdiction, hard-wire monitoring circuits to the Trouble and high/low supervisory contacts using 14 to 18 AWG wire.

Step 9. Push S1 to the SET position.

Step 10. Verify proper operation of the VIZOR accelerator using the "No Flow Trip Test for Accelerator Only" procedure described in the Care and Maintenance section.

Setting Procedure

As soon as possible after an operation, reset and restore to service the Dry Pipe Valve (listed in Table A) and the TYCO VIZOR Electronic Dry Pipe Accelerator in accordance with the following procedure.

NOTICE

Completely drain the system before proceeding.

After setting a fire protection system, notify the proper authorities and advise those responsible for monitoring proprietary and/or central station alarms.

Step 1. Push S1 to the OFF position.

Step 2. Silence the internal audible alarm at any time by momentarily pushing S2 to the SILENCE position.

Step 3. Locate all of the system's low point drain valves to help facilitate resetting of the system. Refer to the appropriate dry valve data sheet for valve resetting procedures.

Step 4. Clean the strainer by removing the clean-out plug and strainer basket.

Step 5. Follow the resetting procedure for the installed dry pipe valve. When the procedure calls for the system piping to be pressurized with air, start to pressurize the system and then proceed to Step 6.

Step 6. When the system reaches an air pressure of approximately 10 psi and while the system is in the process of reaching its intended pressure, "blow-down" each drain valve. Be sure to include the low body drains at the dry pipe valve and the Inspector's test connection.

To "blow-down", open each drain valve individually, and when water stops draining, close the drain valve. This blow-down procedure assures that complete draining of the system can be more easily accomplished.

Step 7. When the system reaches the normal intended air pressure, wait approximately 30 seconds to allow for stabilization of the air pressure within the piping. Momentarily push button S2 on the VIZOR to the RESET position to clear the red tripped LED, and then push button S1 the SET position.

Step 8. Open the inspector's test connection (ITC), verify that the VIZOR has tripped. A momentary burst of air from the dry pipe valve's automatic drain valve indicates that the VIZOR accelerator has tripped. Verify that the time-to-trip for the accelerator is essentially the same as in previous tests.

This procedure also clears scale and debris from the pipe and fittings that are connected to the VIZOR accelerator.

Step 9. Push S1 to the OFF position, allow the system to automatically return to its intended pressure via its automatic air supply. After waiting approximately 30 seconds, momentarily push S2 to the RESET position, and then push S1 to the SET position.

Step 10. Partially open the main control valve. Slowly close the system main drain valve as soon as water discharges from the drain connection.

Step 11. Depress the plunger on the dry pipe valve's automatic drain valve to verify that it is open and that no water discharges. The absence of water discharge from the automatic drain valve is an indication of a properly set water seat within the dry pipe valve.

If water is discharging, see the Care and Maintenance section within the technical data sheet for the dry pipe valve to determine/correct the cause of the leakage problem.

If there are no leaks, fully open the system main control valve.

The system is now set for service.

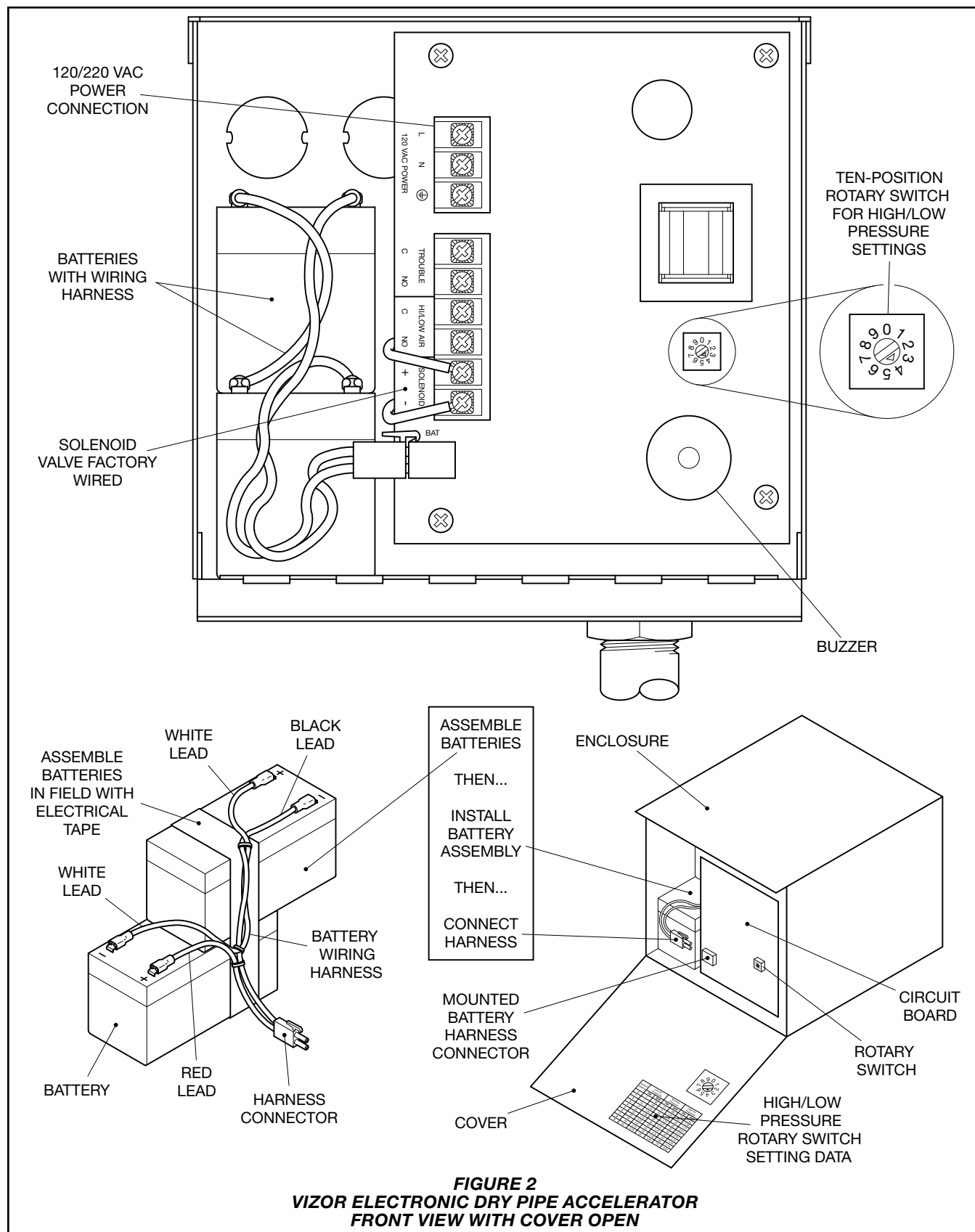


FIGURE 2
VIZOR ELECTRONIC DRY PIPE ACCELERATOR
FRONT VIEW WITH COVER OPEN

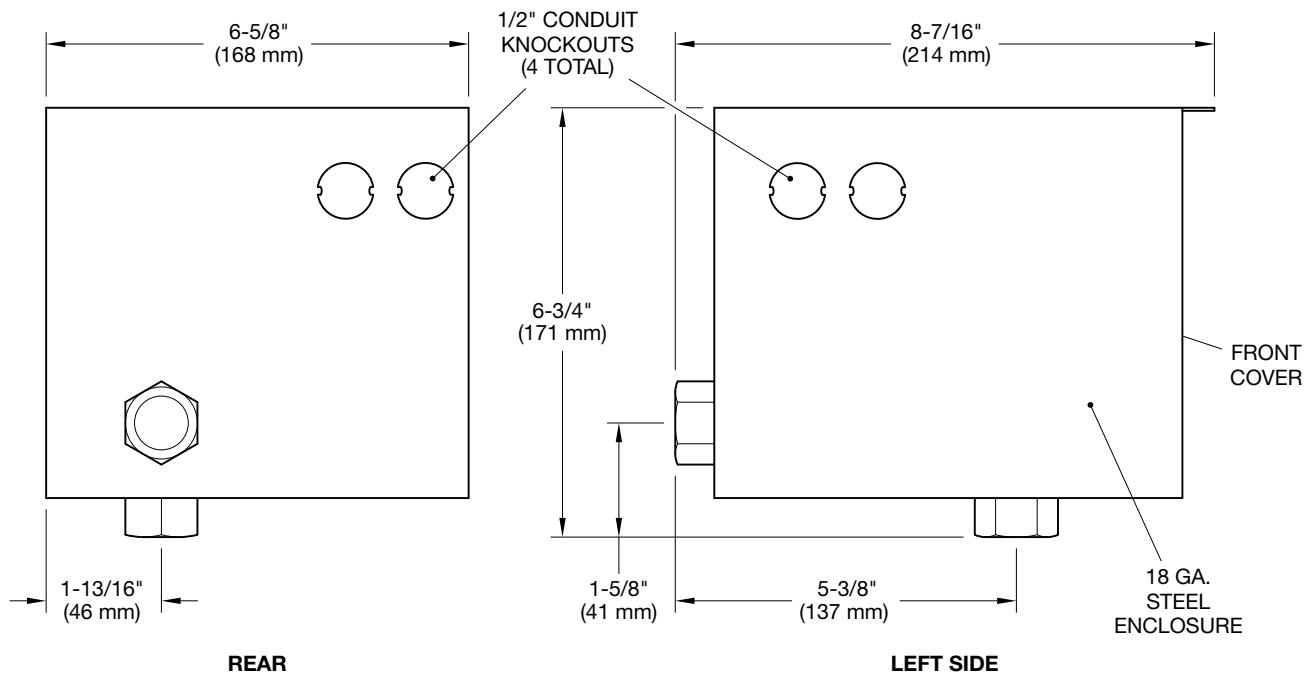
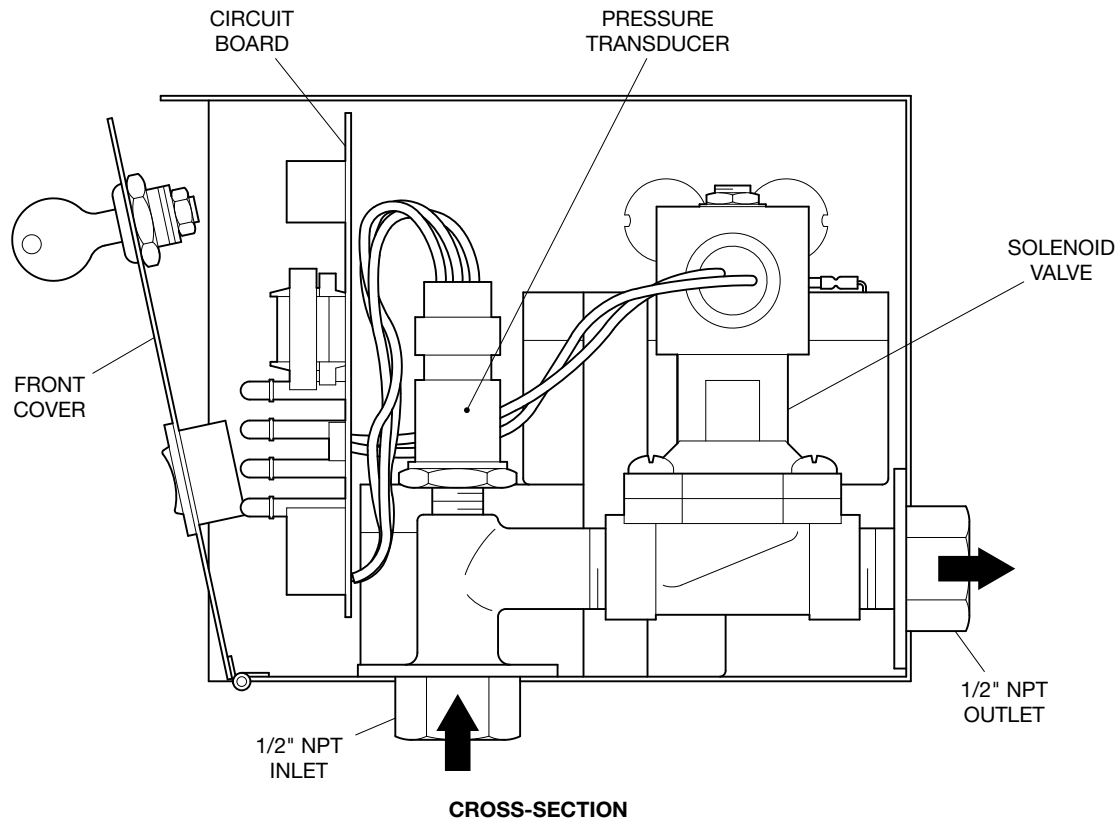


FIGURE 3
VIZOR ELECTRONIC DRY PIPE ACCELERATOR
ASSEMBLY

NO.	DESCRIPTION	QTY.	P/N
1	Electronic Dry Pipe Accelerator, Vizer.	1	52-312-3-000
2	Battery, 1.3 AH.	2	92-312-1-004
3	1/2" Swing Check Valve. 1		46-049-1-004
4	1/2" Y-Strainer	1	52-353-1-005
5	1/2" Union	2	CH
6	1/2" 90° Elbow.	4	CH

NO.	DESCRIPTION	QTY.	P/N
7	1/2" x Close Nipple	2	CH
8	1/2" x 1-1/2" Nipple	3	CH
9	1/2" x 4" Nipple	1	CH
10	1/2" x 7" Nipple	1	CH
11	1/2" x 9-1/2" Nipple	1	CH
12	Select Nipple per Table . .	1	CH
13	Select Nipple per Table . .	1	CH

Nipple Number	Select Appropriate Nipple Sizes Per Riser Size	
	4 Inch (DN100)	6 Inch (DN150)
12	1/2" x 6-1/2"	1/2" x 5-1/2"
13	1/2" x 9"	1/2" x 11"

NOTES:

1. All Fittings and Nipples are galvanized (Standard Order)
2. CH: Common Hardware

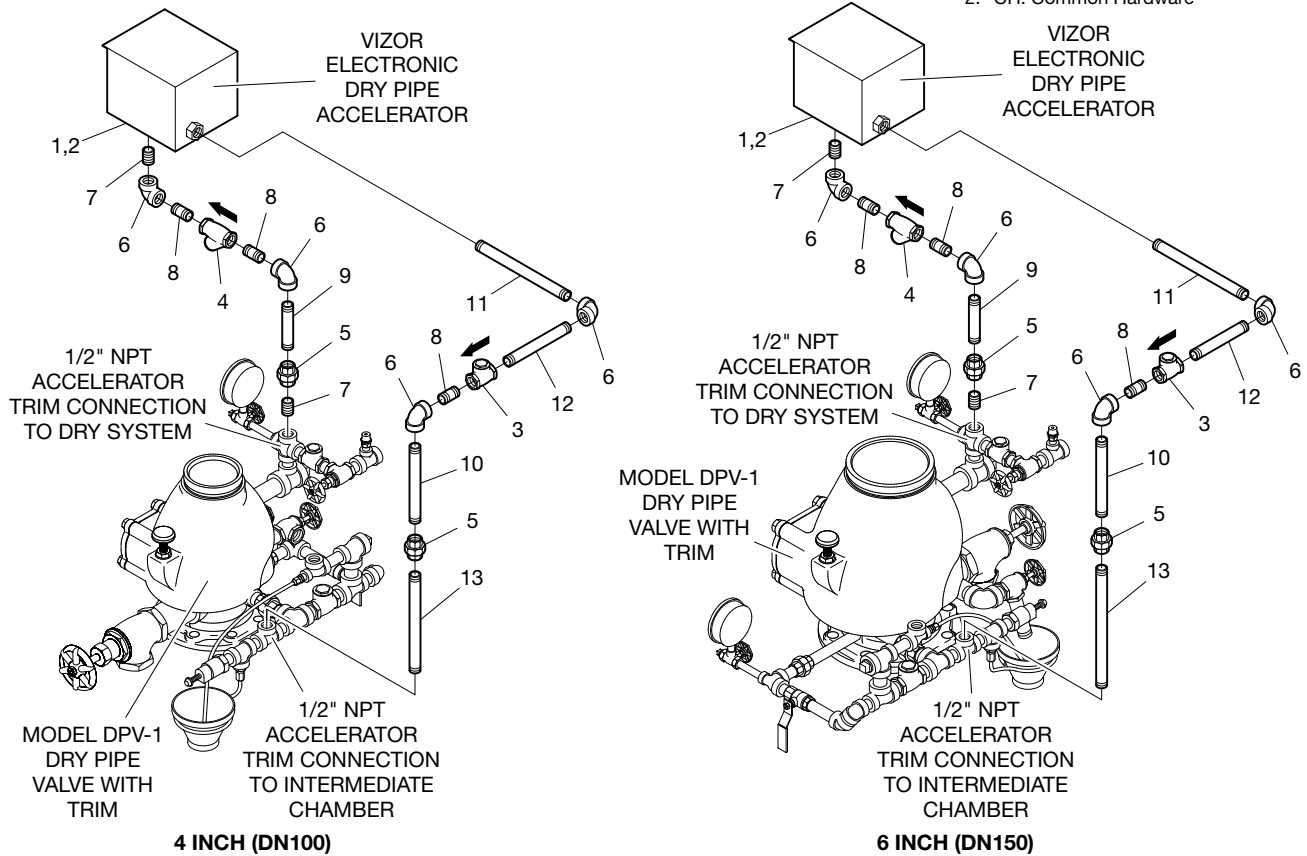


FIGURE 4
VIZOR ELECTRONIC DRY PIPE ACCELERATOR
TRIM ARRANGEMENT (52-312-3-001)

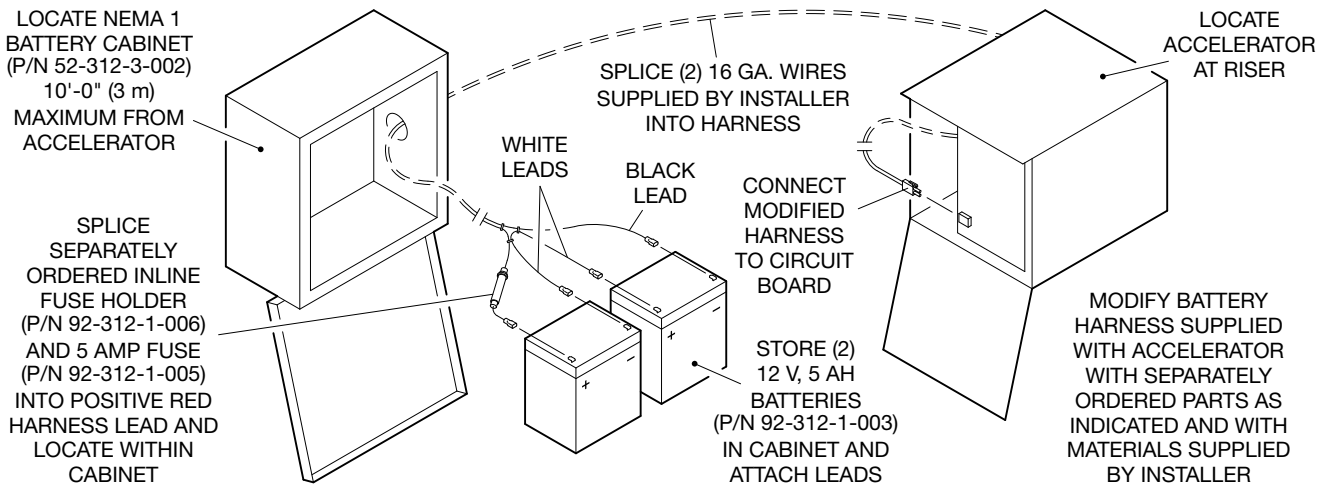
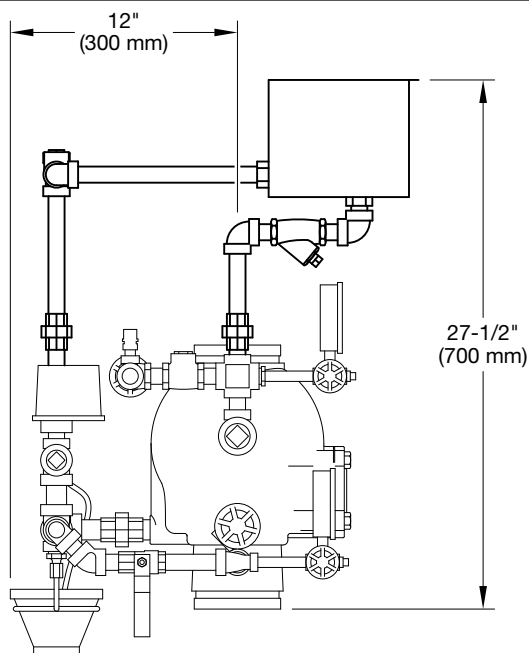
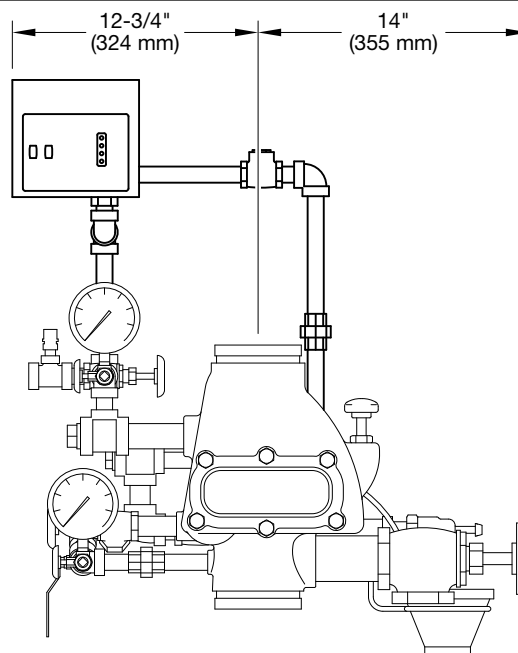


FIGURE 5
VIZOR ELECTRONIC DRY PIPE ACCELERATOR
REMOTE 90 - HOUR STANDBY BATTERY FOR FM INSTALLATIONS

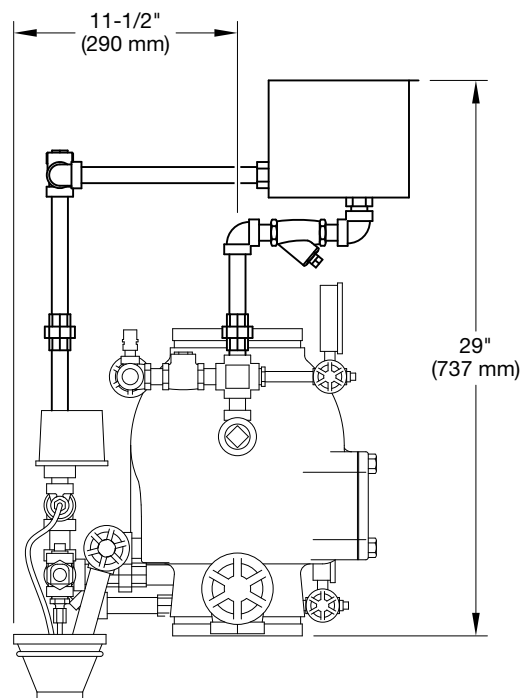


LEFT SIDE

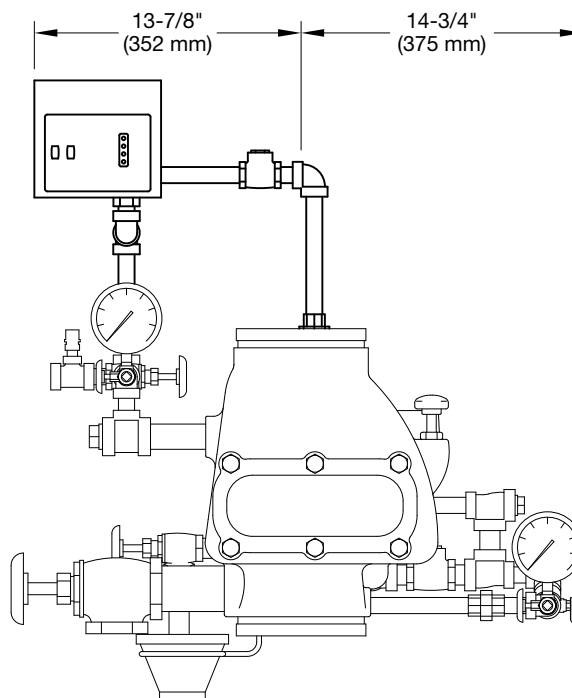


FRONT

4 INCH (DN100)



LEFT SIDE



FRONT

6 INCH (DN150)

FIGURE 6
VIZOR ELECTRONIC DRY PIPE ACCELERATOR
INSTALLATION DIMENSIONS FOR TYCO MODEL DPV-1

NOTES:

1. Installation notations are typical for all Dry Pipe Valve models shown.
2. Some items provided with VIZOR Accelerator Trim (P/N 52-312-3-001) may be used for retrofit. Field fabrication using additional materials will be required to facilitate connection to existing valve trim and riser connections.
3. Placement of accelerator relative to existing riser assembly will vary. Controls and indicators on accelerator cover must be accessible, and hinged cover must be operable as shown.

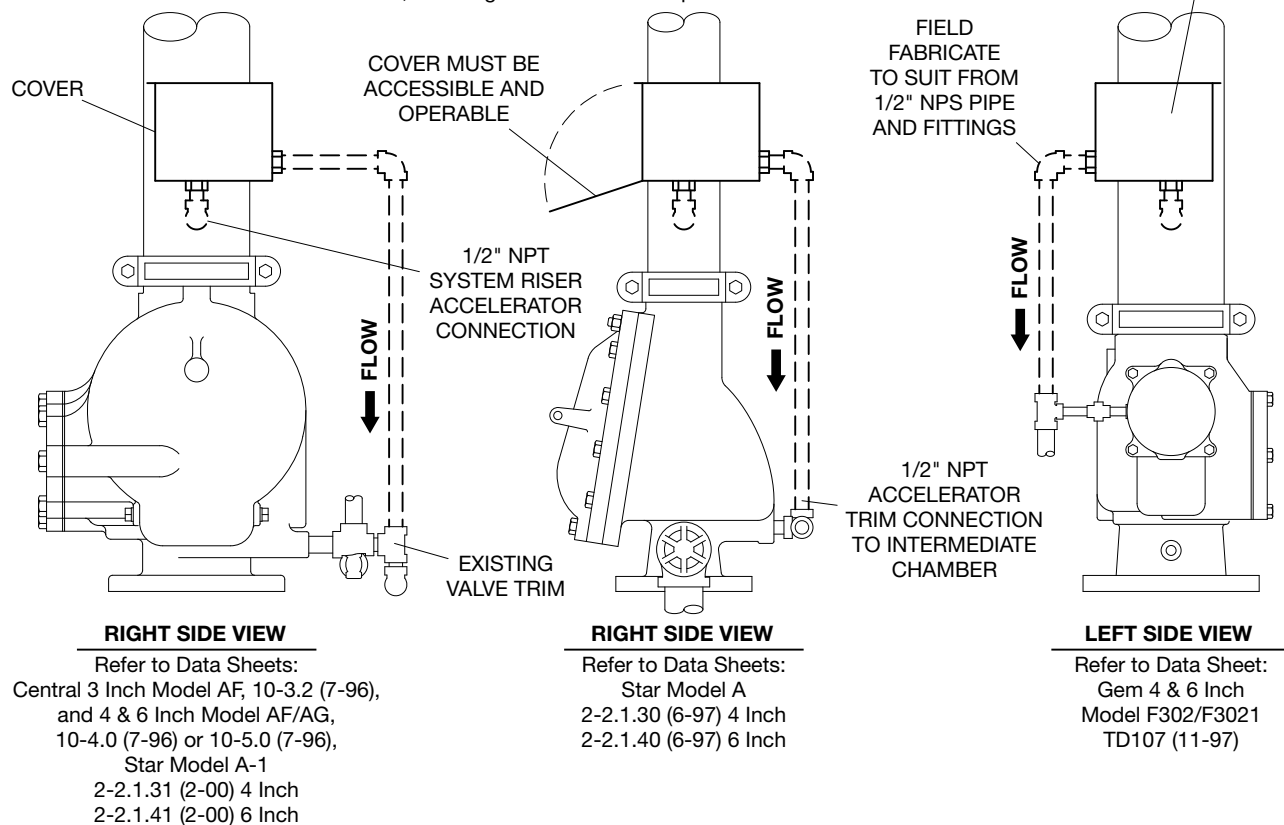


FIGURE 7
VIZOR ELECTRONIC DRY PIPE ACCELERATOR
INSTALLATIONS FOR DRY PIPE VALVES MANUFACTURED BY CENTRAL, GEM, AND STAR

Care and Maintenance

The TYCO VIZOR Electronic Dry Pipe Accelerator must be inspected and maintained in accordance with the NFPA. The following test procedures must be performed in addition to any specific requirements of the NFPA. Any impairment must be immediately corrected.

Before closing a fire protection system main control valve on the system that it controls, obtain permission from the proper authorities to shut down the affected fire protection system and notify all personnel who may be affected by this action.

In accordance with the requirements of NFPA 25 and 72, one of the trip tests described in this section must be performed quarterly. Battery tests also described here must be performed semi-annually and annually.

The VIZOR accelerator uses electronic components to monitor the system air pressure. Keep all radio transmitters or RF sources at least one foot from the VIZOR accelerator. Failure to do so could result in an unintended operation of the dry pipe system.

Notify the proper authorities and all personnel who may be affected before temporarily disabling the VIZOR accelerator or performing an alarm test.

The VIZOR accelerator must be in a normal condition for 60 seconds before conducting a trip test. Failure to wait 60 seconds after air pressure has reached the normal level will result in a failed test.

The owner is responsible for the inspection, testing, and maintenance of their fire protection system and devices in compliance with this document, as well as with the applicable standards of the NATIONAL FIRE PROTECTION ASSOCIATION (e.g., NFPA 25 and 72), in addition to the standards of any authority having jurisdiction. Contact the installing contractor or product manufacturer with any questions.

Automatic sprinkler systems are recommended to be inspected, tested, and maintained by a qualified Inspection Service.

Full Flow Trip Test: Valve and Accelerator

Step 1. Open the Inspector's test connection. Verify that the VIZOR accelerator trip-time is essentially the same as in previously performed tests. Also, make sure that the following notifications occur, see Figure 1:

- Red tripped LED lights
- Amber trouble/supervisory LED flashes 4 times per second (fast)
- Buzzer sounds
- High/low contacts transfer

Step 2. Verify that the dry pipe valve tripped and that the time for water delivery to the Inspector's test connection is essentially the same as in previous tests.

Step 3. After verification of water delivery to the Inspector's test connection, close the system main control valve and reset the system.

Partial Flow Trip Test: Valve and Accelerator

Step 1. Close the system's main control valve and then open the system main drain valve to relieve the supply pressure to the dry pipe valve.

Step 2. Partially open the system's main control valve at least to the point at which water can be heard flowing through the system main drain valve, and then slowly close the system main drain valve.

Step 3. Additional turns may be necessary to ensure latching of the appropriate dry pipe valve; refer to the appropriate technical data sheet.

Step 4. Open the Inspector's test connection. Verify that the time-to-trip for the VIZOR accelerator is essentially the same as in previous tests. A momentary burst of air from the dry pipe valve's automatic drain valve indicates that the VIZOR accelerator has tripped. Also, verify that the following notifications occur, see Figure 1:

- Red tripped LED lights
- Amber trouble/supervisory LED flashes once per second (slow)
- Buzzer sounds
- High/low contacts transfer

Step 5. Verify that the dry pipe valve tripped and waterflow alarms operate.

Step 6. Immediately after verification of the dry pipe valve trip, close the system main control valve and reset the system.

No Flow Trip Test: Accelerator Only

Step 1. Close the system main control valve and then open the system main drain valve to relieve the supply pressure to the dry pipe valve.

Step 2. Open the Inspector's test connection. Verify that the time-to-trip for the VIZOR accelerator is essentially the same as in previous tests. A momentary burst of air from the dry pipe valve's automatic drain valve indicates that the VIZOR accelerator has tripped. Also, make sure that the following notifications occur, see Figure 1:

- Red tripped LED lights
- Amber trouble/supervisory LED flashes once per second (slow)
- Buzzer sounds
- High/low contacts transfer

Step 3. Reset the system.

Battery Tests

Perform the following tests to verify that the batteries are connected and working and to verify battery levels.

• Battery Connections

Perform this test semi-annually.

1. Open the battery housing and unplug the batteries from the VIZOR accelerator circuit board.
2. Verify that the VIZOR accelerator registers battery trouble and sounds the internal audible alarm.
3. Press S2 to the SILENCE position.
4. Plug the batteries back into the VIZOR accelerator circuit board and close the housing.
5. Verify battery trouble clears.

• Battery Levels

Perform a battery load test annually. An alarm-and-detection technician can perform this test.

Limited Warranty

For warranty terms and conditions, visit
www.tyco-fire.com.

Ordering Procedure

Contact your local distributor for avail-
ability. When placing an order, indicate
the full product name.

VIZOR Electronic Dry Pipe Accelerator (with Trim)

Specify: VIZOR Electronic Dry Pipe
Accelerator for use with the 4 or 6 inch
TYCO Model DPV-1 Dry Pipe Valve trim,
P/N 52-312-3-001

Required batteries are ordered separately;
see below.

VIZOR Electronic Dry Pipe Accelerator (without Trim)

Specify: VIZOR Electronic Dry Pipe
Accelerator, P/N 52-312-3-000

Required batteries are ordered separately;
see below.

Separately Ordered Parts

For the 24-Hour Battery, specify a
quantity of 2 and P/N:

24-Hour Battery, 12 V, 1.3 AH 2653

For the 90-Hour Battery, specify a
quantity of 2, battery size, fuse, fuse
holder, and cabinet with P/N:

90-Hour Battery 12 V, 5 AH 2654

Fuse, 5 A 2657

Fuse Holder 2655

90-Hour Battery Cabinet, 8 in. x 4 in. x 8 in.
(203 mm x 102 mm x 203 mm) . . . 52-312-3-002

