

# Reliable®

**Model DDX-LP PrePaK™ System**  
**2" (50mm), 2½" (65mm),**  
**3" (80mm), 4" (100mm),**  
**6" (150mm) & 8" (200mm)**

## Instructions for Installation, Operation, Care and Maintenance

**Low Pressure Dry-Pipe System**  
**8 psi - 24 psi (0.6 bar - 1.7 bar)**  
**System Air/Nitrogen Pressure**

### General Description

The Reliable Model DDX-LP PrePaK system (Sizes 2" (50mm), 2½" (65 mm), 3" (80 mm), 4" (100 mm), 6" (150mm) and 8" (200mm)) is a completely self-contained, supervised dry pipe system that can be readily installed within a floor space of less than 7 square feet (0.65 square meters). Refer to Fig. 1 for cabinet dimensions. Installation of the DDX-LP PrePaK system requires just three piping connections: the water supply, the sprinkler system and the drain. Reference locations of these piping connections are shown in Fig. 1. One electrical supply connection is required. **Note:** The Model DDX-LP PrePaK system is available with an optional 115V VAC (60Hz) air compressor.

Full assembly drawings for the units are available on the Reliable Automatic Sprinkler Company website ([www.reliablesprinkler.com](http://www.reliablesprinkler.com)).

The heart of the Reliable Model DDX-LP PrePaK system is the Model DDX-LP Dry Pipe Valve. The Reliable Model DDX-LP Dry Pipe Valve is a hydraulically operated, mechanical dry pipe valve designed for use as a primary control valve in a low pressure dry pipe valve system. The trim set used with the Model DDX-LP Dry Pipe Valve contains the Reliable Model LP Dry Pilot Actuator releasing device. This Actuator allows the system air or nitrogen pressure to be considerably less than the water supply pressure (see Table A). The following benefits are a direct result of lower air pressure:

1. In refrigerated area systems, lower air pressure decreases the possibility of ice plugs that could impede or prevent the flow of water to fire sprinkler heads in the event of fire.
2. Lower air pressure allows for smaller capacity, lower cost dehydration equipment, where required.
3. Lower air or nitrogen pressure can reduce water delivery time when the system actuates, and in some cases, may eliminate the need for an accelerator.
4. For systems supplied with nitrogen, low supervisory pressure reduces the quantity of nitrogen required to maintain the system pressure.



**Note:** Photograph is for illustrative purposes only.

When using the Reliable DDX-LP PrePaK system the sprinkler system is pressurized with air provided by the optional factory-installed air compressor or on-site Nitrogen supply and is monitored by a system pressure switch. If bottled Nitrogen is being used as the supervisory gas, an optional Nitrogen Kit is available. This kit contains a regulator and an additional pressure switch that is used to monitor any low pressure conditions that may arise due to having a limited Nitrogen supply. When using Nitrogen, the primary supervisory gas should be the Nitrogen (not standard air) due to moisture concerns (i.e. freezing conditions). The optional factory-installed air compressor should be utilized merely for initial fill and make-up air when the Nitrogen supply is not active. **Note:** Compressed air is not to be considered dry air and may create ice plugs in the sprinkler system piping.

When a fire sprinkler operates, there will be a loss of air or Nitrogen pressure in the sprinkler system piping which will cause the Model LP-Dry Pilot Actuator to open. The opening of this device allows the Model DDX-LP PrePaK system valve to flow water into the system piping.

A Model B Hydraulic Manual Emergency Releasing station is standard equipment in the Reliable DDX-LP PrePaK system. It consists of an aluminum nameplate mechanically attached to a ball valve. The valve handle in its OFF position is guarded against accidental turning to the ON position (and system discharge) by a nylon cable tie provided with the DDX-LP PrePaK system assembly. The cable tie is designed to allow, in case of an emergency, forceful turning of the valve handle to the ON position.

## Listings and Approvals

1. Underwriters Laboratories, Inc. Listed and Certified for Canada (cULus) as an assembled unit in the "Special System Water Control Valves Assembled Units" category, (VKYL).
2. Factory Mutual Approved as a Dry Pipe Sprinkler System.
3. OSHPD Special Seismic Certification Preapproval (OSP) for SDS=2.50 and z/H=1, when installed with optional seismic kit.

## Technical Data

1. The Reliable Model DDX-LP PrePaK system is rated for a minimum water supply pressure of 20 psi (1.4 bar). When fitted with the optional 300 psi (20.7 bar) solenoid, the 2", 2-1/2", 3", and 8" sizes are rated for a maximum pressure of 250 psi (17.2 bar), and the 4" and 6" sizes are rated for a maximum pressure of 300 psi (20.7 bar). Water temperature must be maintained between 40°F and 140°F (4°C and 60°C).
2. Friction loss, expressed in equivalent length of Schedule 40 pipe and based on Hazen-Williams Formula is:

System Size	Equivalent Length
2" (50 mm)	19.4 ft (1.3 m)
2½" (65 mm)	24.5 ft (1.8 m)
3" (80 mm)	28.9 ft (3.8 m)
4" (100 mm)	32.8 ft (17.7 m)
6" (150 mm)	54.7 ft (21.8 m)
8" (200 mm)	79.3 ft (24.2 m)

The equivalent length in the table above includes the Model DDX-LP PrePaK system valve, supply manifold tee, supply side control valve, and the section of pipe above the Model DDX-LP PrePaK system valve.

### 3. Shipping Weight:

System Size	Weight
2" (50 mm), 2½" (65 mm) & 3" (80 mm)	554 lb. (252 kg)
4" (100 mm)	710 lbs (322 kg)
6" (150 mm)	800 lbs (363 kg)
8" (200mm)	1350 lbs (531kg)

### 4. Refer to Figure 1 for dimensions.

The following is a list of Technical Data Bulletins which describe the valves and devices which are used in the system:

Device	Reliable Bulletin # (unless otherwise noted)
Model DDX-LP PrePaK system Deluge Valve	Reliable Bulletin 519
Model DDX-LP Dry Pipe Valve	Reliable Bulletin 338
Low Air Pressure Switch	Potter, 5401564
Alarm Pressure switch	Potter, 5400928
Nitrogen Pressure Switch	Potter, 5400930
Mechanical Sprinkler Alarm	Reliable Bulletins 612/613
Desiccant Dryer	Wilkerson Catalog 9EM-TK-190-4

## Installation Requirements

The automatic sprinklers utilized with the DDX-LP PrePaK system must be UL and/or ULC Listed or FM Approved, as applicable.

The steel enclosure and all the interconnecting piping must be located indoors in a readily visible and accessible location and in an area that can be maintained at a minimum temperature of 40°F (4°C). **Note:** Heat tracing is not permitted. The Model DDX-LP PrePaK system operation is controlled by the Model LP Dry Pilot Actuator. The introduction of moisture into the system piping exposed to freezing temperatures can create ice blockage, which could prevent proper system operation. As a minimum, the air supply should be taken from the area of lowest temperature within the protected area. The air supply system must be carefully designed to prevent plugging by frost deposits. Special requirements, such as those in FME&R "Installation Guidelines for Refrigerated Storage" may need to be incorporated.

## Optional Seismic Kit

Reliable part number 6501200041 (25" x 28" cabinet for 2" -4" systems without nitrogen generator) and 6501200042 (30" x 33" cabinet for 6" and 8" systems, and all units with nitrogen generator) are seismic upgrade kits required to make the Reliable PrePaK OSHPD compliant. One kit is required for each PrePaK (reference Caution Sheet 331).

# ASSEMBLY DIMENSIONS INCHES [CM]

SYSTEM SIZE	A	B	C	D	E	F	G	H	J	M		L	WITHOUT SYSTEM CONTROL VALVE	WITH SYSTEM CONTROL VALVE	N	P
										K (RIGHT)	K (LEFT)					
2" (50MM)	25.0 [63.5]	28.3 [71.8]	70.0 [177.8]	50.0 [127.0]	13.1 [33.2]	14.3 [36.3]	14.3 [36.3]	6.3 [16.0]	13.6 [34.5]	1.8 [4.5]	3.3 [8.3]	22.0 [55.8]	27.2 [69.0]	24.1 [61.2]	13.0 [33.0]	9.0 [22.8]
2-1/2" (65MM)	25.0 [63.5]	28.3 [71.8]	70.0 [177.8]	50.0 [127.0]	13.1 [33.2]	14.3 [36.3]	14.3 [36.3]	6.3 [16.0]	13.6 [34.5]	1.8 [4.5]	3.3 [8.3]	22.0 [55.8]	27.9 [70.8]	24.1 [61.2]	13.0 [33.0]	9.0 [22.8]
3" (80MM)	25.0 [63.5]	28.3 [71.8]	70.0 [177.8]	50.0 [127.0]	13.1 [33.2]	14.3 [36.3]	14.3 [36.3]	6.3 [16.0]	13.6 [34.5]	1.8 [4.5]	3.3 [8.3]	22.0 [55.8]	27.9 [70.8]	24.1 [61.2]	13.0 [33.0]	9.0 [22.8]
4" (100MM)	25.0 [63.5]	28.3 [71.8]	70.0 [177.8]	50.0 [127.0]	13.1 [33.2]	14.3 [36.3]	14.3 [36.3]	6.3 [16.0]	13.6 [34.5]	1.8 [4.5]	3.3 [8.3]	22.0 [55.8]	28.5 [72.3]	24.1 [61.2]	13.0 [33.0]	9.0 [22.8]
6" (150MM)	30.0 [76.2]	33.0 [88.8]	74.0 [188.0]	60.0 [152.4]	14.8 [37.5]	15.0 [38.1]	15.0 [38.1]	7.0 [17.7]	13.6 [34.5]	5.3 [13.4]	4.8 [12.1]	27.0 [68.5]	29.3 [74.4]	24.1 [61.2]	15.0 [38.1]	11.0 [27.9]
8" (200MM)	30.0 [76.2]	33.0 [88.8]	74.0 [188.0]	60.0 [152.4]	14.8 [37.5]	15.0 [38.1]	15.0 [38.1]	7.0 [17.7]	13.6 [34.5]	5.3 [13.4]	4.8 [12.1]	27.0 [68.5]	28.2 [66.5]	20.5 [52.0]	15.0 [38.1]	11.0 [27.9]

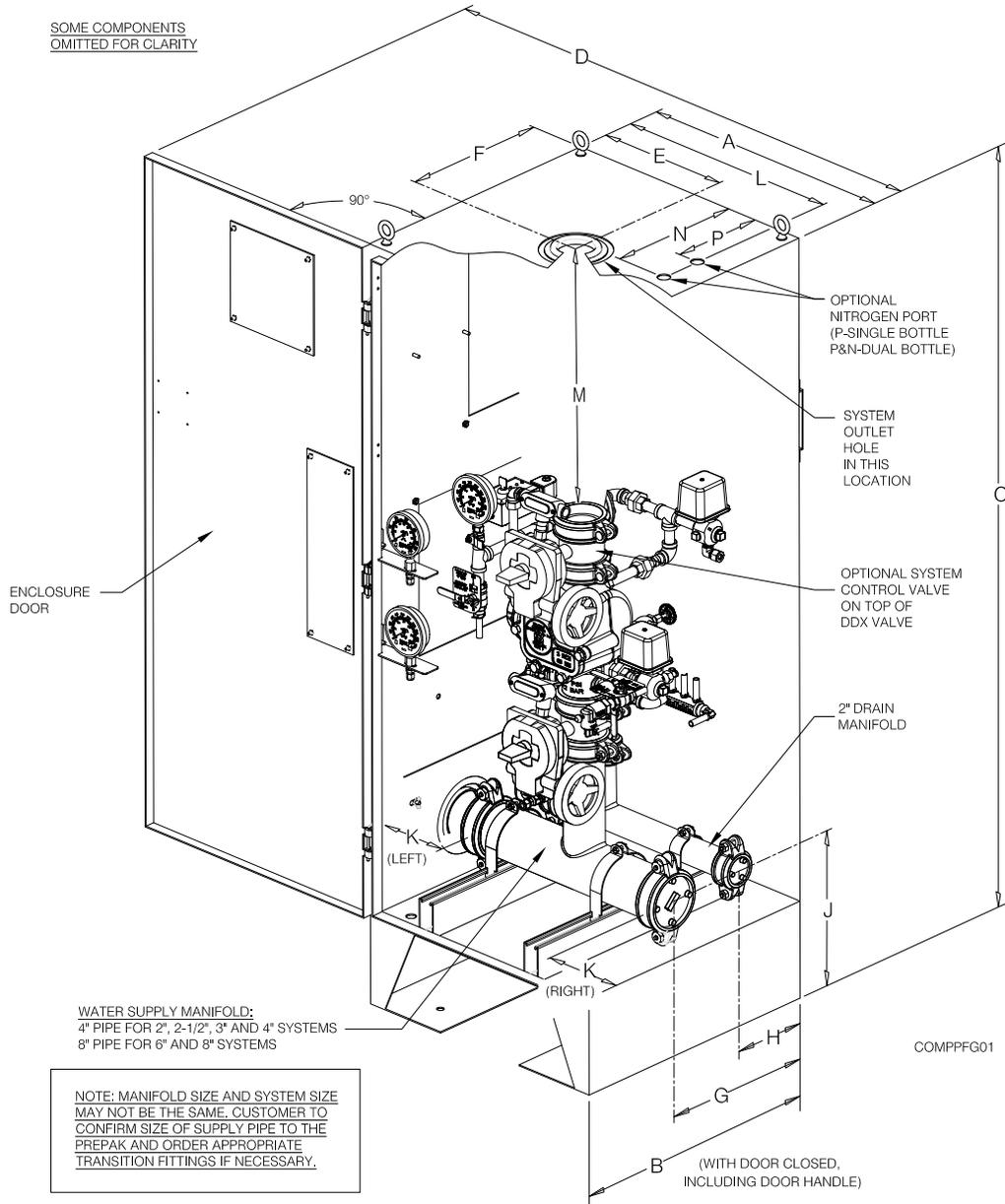


Fig. 1

## Hydrostatic Testing of DDX-LP PrePaK System Valves and DDX-LP PrePaK Systems

As required by NFPA 13, fire sprinkler systems with working pressures up to and including 150 psi are to be hydrostatically tested at a water pressure of 200 psi. Fire sprinkler systems with working pressures above 150 psi are required to be hydrostatically tested at 50 psi above the system working pressure. In addition to the hydrostatic tests described above, dry pipe systems require an additional low pressure air test.

In some cases, hydrostatic testing (in accordance with the NFPA 13 requirements noted above) will result in pressures that exceed the working pressure of the valve and trim kit for the two-hour test period.

The valve and applicable trim kit have been tested, approved and listed under these conditions and as such, hydrostatic testing in accordance with NFPA 13 is acceptable. In addition, the clapper can remain in the closed position and the trim kit need not be isolated, as each has been designed to withstand hydrostatic testing as required by NFPA 13.

Subjecting the valve and trim to pressures higher than their rating is limited to the hydrostatic test as referenced by NFPA 13. It does not address the occurrence of a “water hammer” effect, which may damage the valve. A “water hammer” in the water supply piping of the valve can create pressures in excess of the rated pressure and should be avoided by all necessary means. This condition may be created from improper fire pump settings, underground construction work, or an improper venting of trapped air in the water supply piping.

## System Supervisory Pressure Requirements

The DDX-LP PrePaK system includes gauges indicating the air/nitrogen and water pressures on the Model DDX-LP sys-

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.

tem. Table A specifies the air or nitrogen pressure to be maintained in the sprinkler system piping based on the water supply pressure. The factory installed Pressure Maintenance Device in the unit automatically regulates makeup air or nitrogen flow to maintain pressure with normal leakage from system piping, while restricting the flow of makeup air or nitrogen to the system. Please note that when the optional Model B1 Accelerator is to be utilized to expedite water-delivery time, the air or nitrogen pressure must be not less than 15 psi (1.0 bar).

## Table A

**Note:** During system setup, a higher pneumatic pressure may be required in order to properly set the Model LP Dry Pilot Actuator.

The dew point of the air supply must be maintained below the lowest ambient temperature to which the dry system will be exposed. Introduction of moisture into the system piping exposed to freezing temperatures can create ice blockage which could prevent proper system operation. As a minimum, the air supply should be taken from the area of lowest temperature within the protected area. The air supply system must be carefully designed to prevent plugging by frost deposits. Special requirements, such as those in FME&R’s “Installation Guidelines for Refrigerated Storage” may need to be incorporated.

Nitrogen used in refrigerated area systems minimizes the possibility of ice build-up and blockage inside the system piping that could inhibit proper system operation. The dewpoint of nitrogen compressed to 20 psig (1.4 bar) pressure is -46°F (-43.3°C), and -52°F (-46.7°C) when compressed to 10 psig (0.7 bar). High-pressure nitrogen cylinders can typically be rented from a local source, with rental fees varying by supplier and cylinder sizes. The calculated nitrogen supply in lbs (kg) to pressurize various system capacities to 10 psi (0.7 bar) at different freezer temperatures is shown in Table B.

If the Reliable DDX-LP PrePaK system is to be used with Nitrogen, a Nitrogen kit is available as an option. A pressure switch is used to monitor the nitrogen supply; the electrical contacts on the pressure switch close when the nitrogen supply falls to 100 psi (6.9 bar). The nitrogen source should be replaced promptly upon operation of the pressure switch. If the nitrogen supply is not replaced, make-up air will come solely from the unit’s air compressor (if installed). Compressed air is not considered dry air, and may create ice plugs in the sprinkler system piping.

## Table B

System Capacity Gal. (L)	Freezer Temperature					Approx. Fill Time (min.)*
	20°F (-6.7°C)	0°F (-18°C)	-20°F (-29°C)	-40°F (-40°C)	-60°F (-51°C)	
250 (946)	1.90 (.86)	1.90 (.86)	2.00 (.90)	2.10 (.95)	2.20 (1.00)	1
500 (1891)	3.64 (1.65)	3.80 (1.72)	4.00 (1.81)	4.20 (1.91)	4.40 (2.00)	2
750 (2840)	5.50 (2.50)	5.70 (2.60)	6.00 (2.72)	6.30 (2.86)	6.60 (3.00)	3
1,000 (3785)	7.30 (3.30)	7.60 (3.44)	8.00 (3.62)	8.33 (3.78)	8.80 (4.00)	4

**Note:** To obtain required nitrogen supply (lbs.) for 15 psi (1.0 bar) or 22 psi (1.5 bar), multiply the tabulated values by a factor of 1.5 or 2.2 respectively.  
(1 bar = 100 kPa)

\* When filled with the Rapid Air – Fill Shutoff Valve open.

If the air compressor in the Model DDX-LP PrePaK system is to be used to initially fill the sprinkler system with air, the steel enclosure door should remain open in order to provide maximum intake air flow to the air compressor. The air compressor is connected to a storage tank. This tank functions as a reservoir, providing make-up air to compensate for small, intermittent leaks in the sprinkler system. It should be noted that significant leaks may overburden this storage tank, thereby causing the air compressor to continuously cycle on and off.

The factory-installed system low air pressure switch may need on-site adjustment to correspond with the air pressure values found in Table A. Adjustment, if required, should be made according to Potter Bulletin 5401564 included with the switch.

## System Electrical Requirements

All 24 VDC electrical connections in the Reliable Model DDX-LP PrePaK system are translated to a water tight terminal box mounted on the inside of the enclosure. All field wiring connections are made at this terminal box.

A separate power connection is provided for the optional air compressor.

**Note:** The air compressor must be connected to a grounded metallic, permanent wiring system, or an equipment grounding terminal or lead on the product. Power supply wiring must conform to all required safety codes and be installed by a qualified person. Check that the supply voltage agrees with that listed on compressor nameplate.

The Reliable Model DDX-LP PrePaK system is available with the following factory installed electrical devices:

1. A system low air pressure switch, which is used to monitor sprinkler piping.
2. An alarm pressure switch, which indicates actuation of the system.
3. An optional low nitrogen pressure switch, which indicates a depleted nitrogen supply.
4. An optional air compressor.
5. A supervised supply side butterfly water control valve.
6. A optional supervised system side butterfly water control valve.

The factory electrical connections of these devices are illustrated in Fig. 3.

## Maintenance

The Reliable DDX-LP PrePaK system and associated equipment shall periodically be given a thorough inspection and test. NFPA 25, Standard for Inspection, Testing and Maintenance of Water Based Fire Protection Systems, provides minimum maintenance requirements. Systems should be tested, operated, cleaned and inspected at least annually, and parts replaced as required. Periodically open the condensate drain valve beneath the air tank to drain any condensate accumulation. Reliable Technical Bulletins 338 and 519 provide additional information for maintaining the Model DDX-LP PrePaK system Deluge Valve.

## System Setup (Refer to Figure 2)

1. Close the main valve controlling water supply to the Model DDX-LP PrePaK system deluge valve. Also, close the two ¼" valves supplying air or nitrogen to the system.
2. Close the pushrod chamber supply valve.
3. Open the main drain valve and drain the system.
4. Open all drain valves and vents at low points throughout the system, closing them when flow of water has stopped.
5. Open the Manual Emergency Release valve. **Note:** The above steps accomplish the relieving of pressure in the pushrod chamber of the deluge valve.
6. Push in the plunger of ball drip valve to force the ball from its seat, and drain any water in the alarm line.
7. Push in and rotate the deluge valve's external reset knob counter-clockwise (when facing valve) until you hear a distinct clicking noise, indicating that the clapper has reset. **Note:** The reset knob can be rotated only after pressure in the pushrod chamber is reduced to atmospheric conditions (0 psig).
8. Inspect and replace any portion of the sprinkler system subjected to fire conditions.
9. Verify that the following valves are in their respective positions prior to continuing:  
Manual Emergency Release - open  
Main Drain Valve - open  
Alarm Line Valve - open  
Alarm Test Valve - closed  
Condensate Drain valve - closed  
Air/Nitrogen Supply Valves - closed
10. Open pushrod chamber supply valve and allow water to fill the pushrod chamber. Close the Manual Emergency Release valve after any trapped air has had a chance to escape from the deluge valve's pushrod chamber.
11. Upon seeing this solid flow of water coming out of the Model LP Dry Pilot Actuator, open the Rapid-Air Fill Valve thereby rapidly applying compressed air or nitrogen into the Model LP Dry Pilot Actuator and the sprinkler system until the pressure conforms to Table A levels, as indicated by the system air pressure gauge. The Model LP Dry Pilot Actuator will eventually close during this pressurizing process and water will stop flowing through the drain tube. At this point, the pressure gauge on the pushrod chamber pressure will equalize to the available water supply pressure. Once the actuator is set up correctly, close the Rapid-Air Fill Valve and open the Regulated Air Shutoff Valve. **Note:** For systems using nitrogen as the primary source, the system may be set up using the nitrogen source following the steps above. The air compressor, if present, may then be placed into operation as the backup pneumatic source.
12. Open the alarm line valve.
13. If the Model B1 Accelerator Kit is installed, open valve P. Prior to opening valve P, be sure that the Model B1 Accelerator has been successfully reset per Reliable Technical Bulletin 323. **Note:** The B1 Accelerator requires a minimum of 15 psi (1,0 bar) supervisory air or nitrogen pressure for proper operation.

14. Slightly open the main valve controlling water supply to the Model DDX-LP PrePaK system Deluge Valve. This will begin to fill the deluge valve beneath the clapper with water. Once any trapped air has been vented, close the main drain valve. Observe if water leaks through the ball drip valve into the 1" drain manifold through the clear tubing. If no leakage occurs, the deluge valve clapper is sealed. Fully open the main valve controlling the water supply to the Model DDX-LP PrePaK system Deluge Valve and that it is properly monitored
15. Verify that the pushrod chamber supply valve is open.
16. Secure the handle of the Model B Manual Emergency Station in the OFF position with a nylon tie (supplied with the assembly).

### Inspection And Testing Of The DDX-LP PrePaK Systems (Refer to Figure 2)

1. **Water supply** — Verify that the valve controlling water supply to the deluge valve is opened fully and properly monitored.
2. **Pushrod Chamber supply** — Verify that the valve supplying water to the pushrod chamber is open.
3. **Other trimming valves** — Verify that the alarm line valve is open as well as all of the pressure gauge valves. The main drain valve, alarm test valve, and condensate drain valve should be closed.
4. **Ball drip valve** — Push in on the plunger to be sure the ball check is off its seat. If no water appears, the deluge valve's water seat is tight. Inspect the small bleed hole located on the underside of the Model DDX-LP PrePaK system Deluge Valve pushrod chamber for leakage.
5. **System air pressure** — Verify that system air pressure is in conformance with the values posted in Table A for the supply water pressure.
6. **Releasing device** — Check the outlet of the (Model LP Dry Pilot Actuator and Model B Manual Emergency Station) for leakage. Also verify that tubing drain lines from releasing devices are not pinched or crushed which could prevent proper releasing of the deluge valve.
7. **Testing alarms** — Open the alarm test valve permitting water from the supply to flow to the alarm pressure switch and to the mechanical sprinkler alarm (if present). After testing, close this valve completely. Push in on the plunger of ball drip until all of the water has drained from the alarm line.
8. **Operational test** — Open the Model B Manual Emergency Station or, alternatively, reduce air/nitrogen pressure on the system. **Note:** An operational test will cause the Deluge Valve to open and flow water into the sprinkler system.
9. **Secure the Model B Manual Emergency Station** in the OFF position with a nylon tie (included with the assembly) after the deluge valve is reset.

### Testing the Model DDX-LP PrePaK system Deluge Valve Without Flowing Water (Refer to Figure 2)

1. Close the valve controlling water supply to deluge valve and open the main drain.
2. Verify that the pushrod chamber supply valve is open, allowing water to enter the pushrod chamber.
3. Close the air/nitrogen supply to the sprinkler system.
4. Decrease pneumatic pressure in the system by opening the condensate drain valve, until the Model LP Dry Pilot Actuator operates. Doing so will result in a sudden drop of water pressure in the deluge valve pushrod chamber.
5. Reset the system per the directions listed in "System Setup" section of this bulletin.

### Draining Excess/Condensate Water From System

1. Close the main valve controlling water supply to the Model DDX-LP system.
  2. Close the pushrod chamber supply valve, and open the main drain valve.
  3. Slightly open the condensate drain valve until all water has drained, then close.
- Note:** Leaving the condensate drain open for an extended period of time may allow excess air/nitrogen to bleed off and result in accidental release of the Model LP Dry Pilot Actuator and/or the Model DDX-LP valve.
4. Close the main drain valve. Allow the system air/nitrogen pressure to return to its previous level. Open the pushrod chamber supply valve first, and then open the main valve controlling water supply to the system.

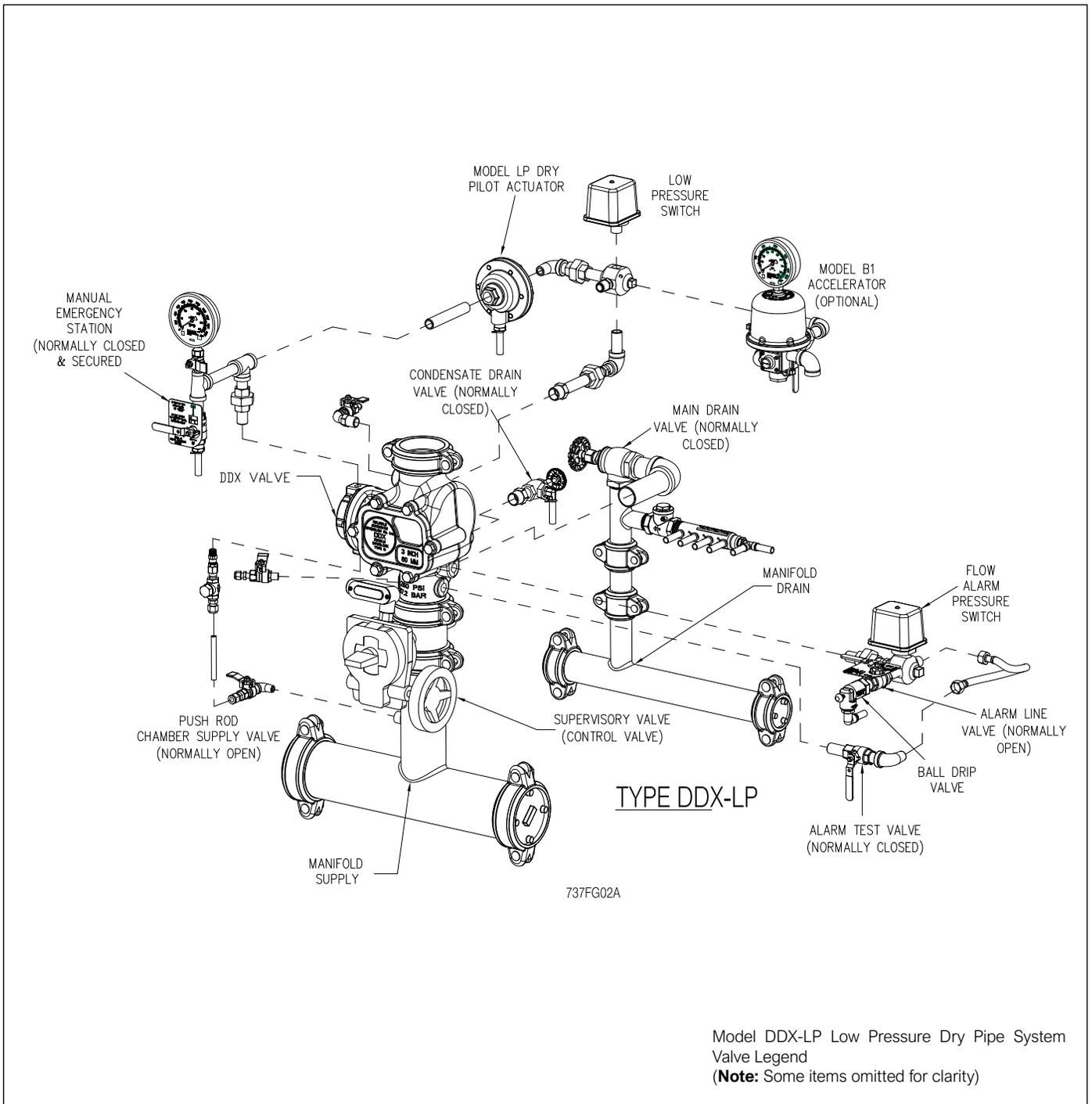


Fig. 2



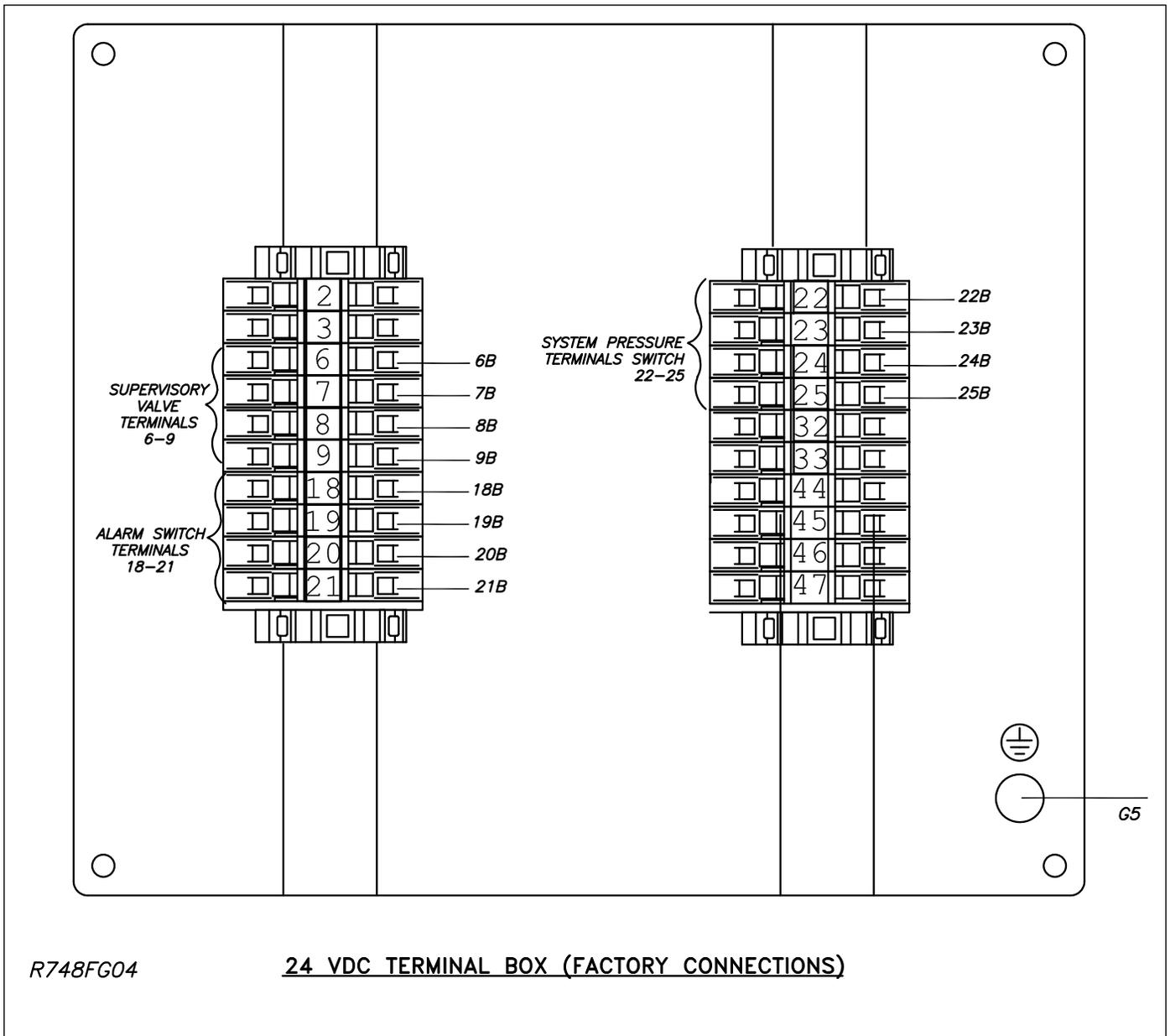


Fig. 4

## Reliable PrePaK™ Part Number Configurator (Type DDX-LP)

PREPAK	SIZE <sup>(1)</sup>	SYSTEM TYPE	SOLENOID	RELEASE CONTROL PANEL	AIR COMPRESSOR <sup>(2)(3)</sup>	OPTIONS <sup>(4)</sup>	FUTURE
655	Select Below	3	0	0	Select Below	Select Below	0
	2 = 2"				0 = None	0 = None	
	0 = 2-1/2"				1 = 1/2 HP 115VAC 60HZ QRM2-50115T (2", 2-1/2", & 3 Systems)	1 = Nitrogen Cylinder Supply Kit	
	3 = 3"				2 = 1 HP 115VAC 60HZ QRM2-100115T (4" Systems)	2 = Nitrogen Cylinder Supply Kit & B-1 Accelerator	
	4 = 4"				3 = 1-1/2 HP 115VAC 60HZ GAP OL915150AC (6" & 8" Systems)	3 = NS-ASAM	
	6 = 6"				4 = 1/2 HP 220VAC 60HZ QRM2-50220T (2", 2-1/2", & 3 Systems)	4 = NS-ASAM & B-1 Accelerator	
	8 = 8"				5 = 1 HP 220VAC 60HZ QRM2-100220T (4" Systems)	5 = B-1 Accelerator	
	A = 2" w/SYS Side Control Valve				6 = 1-1/2 HP 220VAC 60HZ GAP OL915150AC (6" & 8" Systems)	6 = Desiccant Kit	
	B = 2-1/2" w/ SYS Side Control Valve				7 = 1/2 HP 220VAC 50HZ QRM2-50220T-50HZ (2", 2-1/2", & 3 Systems)	7 = Desiccant Kit & B-1 Accelerator	
	C = 3" w/SYS Side Control Valve				8 = 1 HP 220VAC 50HZ QRM2-100220T-50HZ (4" Systems)		
	D = 4" w/SYS Side Control Valve				9 = 1-1/2 HP 220VAC 50HZ GAP OL2870150AC-50 (6" & 8" Systems)		
	E = 6" w/SYS Side Control Valve						
	F = 8" w/SYS Side Control Valve						

**Notes:**

1. Manifold size may differ from system size. Customer to confirm size of supply pipe to PrePaK™ and provide appropriate transition fittings/couplings if necessary (see Figure 1 of this document).
2. Air compressor size depends on system capacity and normal system pressure.
3. If "0 = None" option is selected, customer to provide separate, appropriately sized compressed air or nitrogen source.
4. Use "0 = None" for systems utilizing a separate nitrogen generator. Connect to inlet side of Model A Pressure Maintenance Device. Note that nitrogen generator must incorporate a tank.

**Optional Seismic Kit (order separately):** Reliable part number 6501200041 (25" x 28" cabinet for 2" -4" systems) and 6501200042 (30" x 33" cabinet for 6" and 8" systems) are seismic upgrade kits required to make the Reliable PrePaK QSHPD compliant. One kit is required for each PrePaK (reference Caution Sheet 331).