PREACTION PAC SPRINKLER VALVE ASSEMBLY

FM APPROVED

Data Sheet UFS-1400A

UNITED FIRE SYSTEMS

PREACTION-PAC™

FEATURES

- **FM Approved**
- **NYC FD Certificate of Approval #6148**
- **CSFM Listing No. 7080-2143:0100**
- Includes preaction valve with optional control panel and supervisory pressure source
- Fully factory assembled, programmed, and tested
- No field assembly required
- Just connect water supply, drain, sprinkler piping, power, and electrical devices
- Attractive, rugged, powder-coated metal enclosures
- Separate, lockable valve and electrical enclosures
- Lower left or right side water inlet and drain connections
- Easy-to-see pressure gauges on enclosure front
- Manual actuation valve behind separate non-locking door
- Space for required spare sprinkler heads and wrench
- Easy-to-follow instructions on enclosure front
- 1-½ inch, 2 inch, 2-½ inch, 3 inch, 4 inch and 6 inch valve options
- Addressable and conventional control panel options

BENEFITS

- Saves assembly, programming, and installation time
- Installation drawings available
- Quicker commissioning – just place, connect, and it's ready
- Easy inspection and maintenance.
- Finished appearance allows placement in or near protected space
- Rapid access to manual release handle without a key
- Reliable, dependable protection that functions as designed
- Expert in-house field and technical support

DESCRIPTION

The **UNITED Fire Systems** **PREACTION-PAC™** is a fully assembled preaction fire suppression system, including preaction valve, trim, and optional control panel, providing one complete zone of preaction water sprinkler fire protection. All components are contained in two (2) red powder-coated steel enclosures assembled one above the other. The system pressure gauges are mounted on the front of the valve enclosure. The system detection and control panel is mounted behind a door on the electrical enclosure with a clear polycarbonate window allowing examination of the system visual indicators. Lockable latches on both doors permit restricted access to connections and components. A manual release valve is located behind a non-locking door on the valve enclosure. Gasketing provides sealing of the enclosure doors. Knockouts permit easy attachment of external electrical raceways.

Preaction Valve

G2: The preaction valve assembled in the **PREACTION-PAC™** is a low-differential, latched clapper valve using a unique direct acting diaphragm to separate the system water supply from the system piping. The positive latching system uses the supply water pressure to hold the clapper shut. When the water pressure in the diaphragm chamber is released, the latch retracts from the clapper and the valve opens. The low differential and unique latch and actuator design allows the valve to be self-resetting.

G3 & G4: The preaction valve assembled in the **PREACTION-PAC™** uses a diaphragm to separate the system water supply from the system piping. The valve uses the supply water pressure in the diaphragm chamber to hold the diaphragm closed against the water supply pressure. When the water pressure in the diaphragm chamber is released, the valve actuates. The diaphragm style design of the preaction valve allows for external resetting. Re-pressurizing the diaphragm chamber resets the valve.

Valve Interlock Configurations

SINGLE INTERLOCK =OR= DOUBLE INTERLOCK ELEC / ELEC

PREACTION-PAC™ assemblies with **"P1"** in the part number designation may be field-configured to operate in either of two (2) ways:

- Single Interlock: The preaction valve opens upon actuation of a fire detector connected to the system control panel, allowing water into the sprinkler pipe.
- Double Interlock **Electric / Electric**: The preaction valve opens upon actuation of a fire detector connected to the system control panel **AND** when the system control panel receives a low air signal from the supervisory switch attached to the valve trim (due to an open sprinkler head). [NOTE – Operation of the low air switch without actuation of a fire detector results in a low air supervisory signal and does not open the preaction valve.]

For additional information, refer to: **UNITED Fire Systems** Technical Note UFS-24-02.

DOUBLE INTERLOCK ELEC / PNEUMATIC

PREACTION-PAC™ assemblies with **"P2"** in the part number designation are factory-configured to operate as Double Interlock **Electric / Pneumatic**. Open sprinkler head actuation is sensed by a pneumatic actuator connected to the valve trim. This is a different device from the low air supervisory switch. The preaction valve opens **ONLY** when actuation of a fire detector connected to the system control panel **AND** when the pneumatic actuator opens due to a drop in system pressure (due to an open sprinkler head). [NOTE – Operation of the low air supervisory switch results in a low air supervisory signal and is **NOT** considered an actuation event.]

UNITED Fire Systems
Division of United Fire Protection Corporation
1 MARK ROAD
KENILWORTH, NJ 07033 USA
PHONE: 908-688-0300
unitedfiresystems.com

Piping

Water inlet and drain connections are located on the lower left and right side of the valve enclosure. The unused inlet is left plugged. The outlet connection is on the top surface of the valve enclosure, behind the electrical enclosure. Grooved pipe is used for the inlet and outlet connections.

Detection & Control Panel

Optional control panels allow for a choice between one conventional and four different fully programmable and networkable addressable systems. All necessary internal wiring connections are factory-assembled and tested.

Wiring

Power for the control panel is factory-connected to come from the same 115 VAC 60 Hz single-phase source as the built-in compressor, or jumpers may be removed to permit two (2) separate power sources to be used. External wiring is brought to a terminal strip in the electrical enclosure. No access to the inside of the valve enclosure is necessary to complete the wiring installation. All necessary internal wiring for waterflow, tamper, and supervisory switches, plus solenioid activation, are factory-installed and tested.

Options

- Choice of preaction valve manufacturer (Generation)
- Choice of preaction valve size
- Choice of compressor size - Refer to **Table A**
- Choice of control panel
- Installed **FM Approved** Model NAMD-1 pressure maintenance device, making the assembly ready for external supervisory pressure source

Table A –Compressor Capacity

Compressor	Maximum Sprinkler Pipe Volume - Gallons
1/6 HP / GSE 500	220
1/3 HP / GSE 500	430
1/2 HP / GSE 700	670
Maximum sprinkler pipe volume is for initial-fill with air to 18 PSIG in 30 minutes to satisfy NFPA 13	

Specifications

- Maximum Service Pressure: 250 PSIG (1725 kPa gauge)
- Supervisory Pressure: 15 ± 2 PSIG (103 ± 3 kPa gauge)
- Electrical Enclosure: 14 gauge steel with continuous welded seams
- Valve Enclosure: 12 gauge steel with continuous welded seams
- Access Doors: Full hinge with oil-resistant gaskets.
- External Power Requirement: 115 VAC 60 Hz, single-phase, (1) or (2) circuits.
- Maximum current draw 14.0 A

Ordering Information

GX - XX - PX - X - X

GENERATION
G2 GENERATION 2 - VICTAULIC VALVE
G3 GENERATION 3 - TYCO VALVE
G4 GENERATION 4 - UNITED FIRE SYSTEMS VALVE

VALVE SIZE		
15	1-1/2 INCH	G2 ONLY
20	2 INCH	ALL MODELS
25	2-1/2 INCH	G2 ONLY
30	3 INCH	ALL MODELS
40	4 INCH	ALL MODELS
60	6 INCH	G2 ONLY

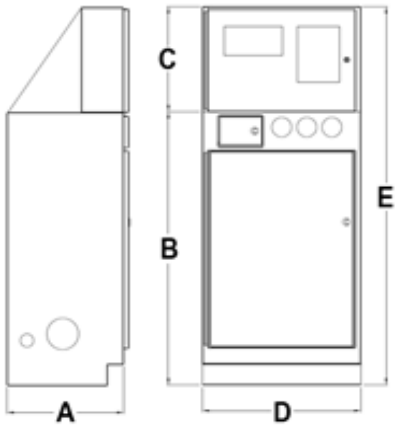
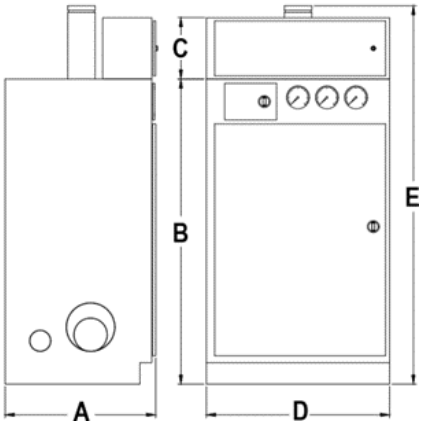
SYSTEM TYPE	
P1	PREACTION - SINGLE INTERLOCK =OR= DOUBLE INTERLOCK ELEC / ELEC
P2	PREACTION - DOUBLE INTERLOCK ELECTRIC / PNEUMATIC

PRESSURE SOURCE			
1	1/6 HP COMPRESSOR	OR	GSE 500 COMPRESSOR
2	1/3 HP COMPRESSOR	OR	GSE 500 COMPRESSOR
3	1/2 HP COMPRESSOR	OR	GSE 700 COMPRESSOR
N	NITROGEN-READY WITH MODEL NAMD-1		

CONV = Conventional Detection -- ADDR = Addressable Detection

CONTROL PANEL	MFR	MODEL	TYPE
B	NOTIFIER	NFS2-640	ADDR
E	KIDDE	ARIES-SLX	ADDR
F	POTTER	ARC-100	ADDR
G	POTTER	4410G3	CONV
H	NOTIFIER	INSPIRE	ADDR
N	NO CONTROL PANEL		

Table B – Dimensions

With Control Panel	Without Control Panel
	

Dimension	With Control Panel	Without Control Panel
A - Depth	24 in.	24 in.
B – Valve Enclosure	52 in.	52 in.
C – Electrical Enclosure	20 in.	10 in.
D - Width	30 in.	30 in.
E - Height	72 in.	62 in.

For downloadable architect's specifications and drawing details, go to:
unitedfiresystems.com/preactionpac

UNITED Fire Systems
Division of United Fire Protection Corporation
1 MARK ROAD
KENILWORTH, NJ 07033 USA
PHONE: 908-688-0300
unitedfiresystems.com