



APPROVED  
Data Sheet UFS-110D  
Rev 3.01 Page 1 of 2



## PREACTION-PAC GENERATION 3 WITH INTEGRATED NITROGEN

### FEATURES

- **FM Approved**
- Includes preaction valve with optional control panel and integral, self-contained nitrogen-based corrosion inhibiting system
- Industry exclusive - preaction and nitrogen generator assemblies designed and built by the same manufacturer
- Fully factory assembled, programmed, and tested
- No field assembly required
- Just connect water supply, drain, sprinkler piping, power, and electrical devices
- Space for required spare sprinkler heads and wrench
- Attractive, rugged, powder-coated metal enclosures
- Separate, lockable valve, electrical, and nitrogen enclosures
- Manual actuation valve behind separate non-locking door
- Easy-to-see indicators and gauges face the front
- Easy-to-follow instructions on electrical enclosure front
- Membrane-based nitrogen generation - no moving parts
- Long-life, low maintenance oilless air compressor
- 2 inch, 3 inch, and 4 inch valve options
- Addressable or 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
- Expert in-house field and technical support
- 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
- Reliable, long-lasting nitrogen generation

### DESCRIPTION

The **FM Approved UNITED Fire Systems PREACTION-PAC™ with Integrated Nitrogen** is a fully assembled preaction fire suppression system, including preaction valve, trim, nitrogen generator, and optional control panel, providing one complete zone of preaction water sprinkler fire protection. All components are contained in three (3) red powder-coated steel enclosures. Preaction and nitrogen system indicators and controls are mounted facing forward for easy reference and use. The system detection and control panel is mounted behind a door on the electrical enclosure with a clear polycarbonate window allowing examination of the detection system visual indicators. Lockable latches on enclosure 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

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 pre-action valve allows for external resetting. Re-pressurizing the diaphragm chamber resets the valve.

### Piping

Water inlet and drain connections are located on the lower right side of the valve enclosure. 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 simple, full-featured system with conventional detection, or a fully programmable and networkable addressable system. All necessary internal wiring connections are factory-assembled and tested.



### UNITED Fire Systems

Division of United Fire Protection Corporation  
1 MARK ROAD  
KENILWORTH, NJ 07033 USA  
PHONE: 908-688-0300 FAX: 908-688-0218  
[unitedfiresystems.com](http://unitedfiresystems.com)

This literature is provided for informational purposes only. United Fire Protection Corporation assumes no responsibility for the product's suitability for a particular application. The product must be properly applied to perform as intended. The information in this document is believed to be correct at the time of publication. UNITED Fire Systems reserves the right to add to, delete, or revise any information in this document without notice.



**Data Sheet UFS-110D**  
Rev 3.01 Page 2 of 2



**Nitrogen Generator**

The integral, self-contained **UNITED Fire Systems NITROGEN-PAC™** corrosion inhibiting system contains an air compressor, filters, and a membrane device to perform nitrogen separation. The system provides dry air for system initial fill and nitrogen for filling the interior of the preaction sprinkler system with nitrogen at 98% or greater purity. The riser-mounted receiver provides a reservoir of nitrogen, reducing the number of compressor starts and the total compressor run time.

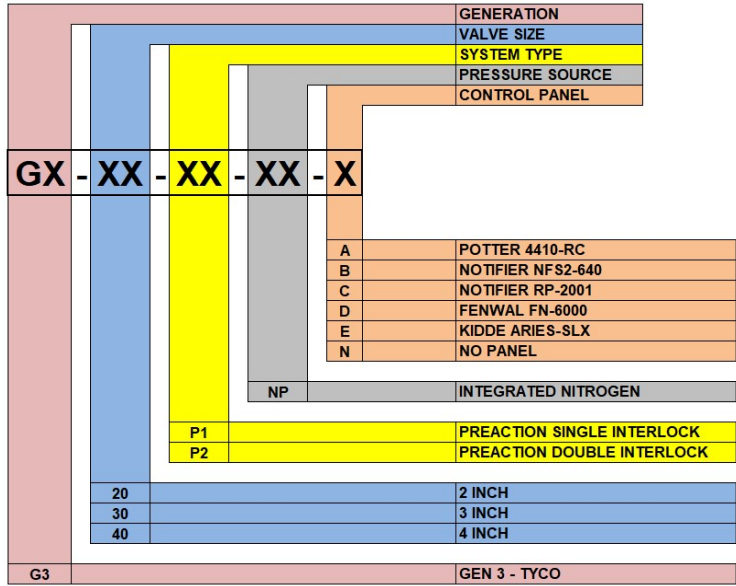
**Wiring**

Power for the control panel and for the nitrogen generator is brought to a terminal strip located in the electrical enclosure. Terminal are provided to connect two (2) separate 115 VAC 60 Hz single-phase circuits. No access to the inside of the valve enclosure or the nitrogen generator enclosure is necessary to complete the wiring installation. All necessary internal wiring for waterflow, tamper, and supervisory switches, plus solenoid activation, is factory-installed and tested.

**Options (refer to Ordering Information)**

- Choice of preaction valve size and type
- Choice of control panel (2 conventional and 3 addressable panels available)

**Ordering Information**



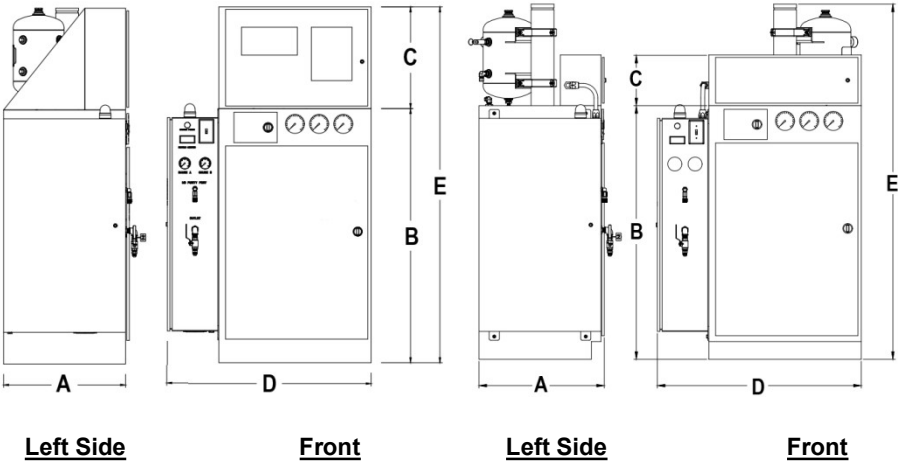
**Dimensions - Refer to Table A**

**With Control Panel**                      **Without Control Panel**

Dimension	With Built-In Control Panel	Without Built-In Control Panel
A - Depth	24	24
B - Valve Enclosure	52	52
C - Electrical Enclosure	20	10
D - Width	40	40
E - Height	72	72

**NOTE: All dimensions are in inches.**

**Table A - Dimensions**



**Specifications**

- Maximum Service Pressure: 300 PSIG (2065 kPa gauge)
- Supervisory Pressure: 15 ± 2 PSIG (103 ± 13 kPa gauge)
- Electrical and Nitrogen Generator Enclosures: 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: Qty. (2) 115 VAC, 60 Hz, single-phase circuits.
- Maximum sprinkler system volume: **500 gallons** for initial-fill in 30 minutes or less with air per NFPA 13-2016 7.2.6.3.2.2
- Maximum volume value based on sprinkler pipe leakage not exceeding 1-1/2 PSIG pressure loss in 24 hours starting at 40 PSIG based on NFPA 13 - 2016 25.2.2 requirement