

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS .1 Section 21 13 16 - Dry Pipe Sprinkler Systems.

1.2 SYSTEM REQUIREMENTS .1 Provide all required equipment, materials, labour and services needed to install a complete and operational Nitrogen Generation Corrosion Inhibiting System. The Nitrogen Generation System shall be FM Approved and UL508A Listed. This system shall utilize nitrogen for system supervision. Installation guidelines by the manufacturer shall be strictly followed.

.2 Provide a separate breakout price for all work associated with this system. Price to be submitted per NAFC requirements.

1.3 MAINTENANCE .1 Provide complete set of space nitrogen filters.

PART 2 - PRODUCTS

2.1 NITROGEN GENERATION SYSTEM .1 Provide a packaged Nitrogen Generation System, sized by manufacturer to suit system volume.

.2 Nitrogen Generation System shall be FM Approved & UL 508A - Industrial Control Panel Listed.

.3 The Nitrogen Generation System shall provide Supervisory Pressure between 0-60 PSI for both dry systems.

.4 The Nitrogen Generation System's cabinet shall be wall mounted, complete with wall mounting brackets.

.5 The Nitrogen Generation System shall provide a minimum of 98% nitrogen purity.

2.1 NITROGEN
GENERATION SYSTEM
(Cont'd)

- .6 The nitrogen purity of the Nitrogen Generation System shall be monitored and verified via a hand held portable or wall mounted stationary - Manifold.
- .7 The Nitrogen Generation System shall be powered by 120 VAC requiring a 20 AMP dedicated circuit.
- .8 Storage tank: single 106 litre (28 gallon) Nitrogen Storage Tank. The Nitrogen Storage Tank shall be DOT or ASME rated for 150 PSI and shall be provided with ASME rated 100 PSI Safety Relief valve, on/off valve and 1/2" NPT I/O fitting. Tank shall be supplied with wall strap.
- .9 The Nitrogen Generation System and Nitrogen Storage Tank shall be connected using 1/2" copper, galvanized, black steel pipe or approved flex hosing, rated at 175 PSI.
- .10 The Nitrogen Generation System shall have both an integrated Air Bypass Tamper Alarm and Leak Detection System. Each alarm shall contain an isolated dry contact rated up to 240 VAC 16 amps.
 - .1 Air Bypass Tamper Alarm shall alarm should the nitrogen generator be offline (i.e bypassed by compressed air) or accidentally turned off.
 - .2 The Leak Detection System shall send a trouble signal to the fire alarm system should significant leaks develop within. The Leak Detection System shall also send a trouble signal to the Building Fire Alarm System if there is a failure with the Nitrogen Generation System.
- .11 An AutoPurge System shall be installed as indicated.
- .12 The AutoPurge System shall have a connection to allow sampling of nitrogen purity.
- .13 Furnish a battery-operated Portable Hand Held Nitrogen Purity Sensor.

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| 2.1 NITROGEN
GENERATION SYSTEM
(Cont'd) | .13 (Cont'd) | |
| | .1 | The battery operated Portable Hand Held Nitrogen Purity Sensor is to be manually connected to the outlet in the AutoPurge System during periodic inspections in order to obtain a quick purity reading of the nitrogen content within any particular zone. |
| | .14 | An air maintenance device shall be supplied by system manufacturer. The air maintenance device shall be equipped with an adjustable pressure regulator (sized to meet Supervisory Pressure settings) for setting the maximum pressure on the dry system. |
| | .1 | The air maintenance device shall not contain a pressure switch. |
| | .2 | The air maintenance device shall be installed per the manufacturer's specifications. |

PART 3 - EXECUTION

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| 3.1 MANUFACTURER'S
INSTRUCTIONS | .1 | Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions and datasheet. |
| 3.2 INSTALLATION | .1 | Install, inspect and test to acceptance in accordance with ANSI/NFPA 13 and ANSI/NFPA 25. |
| | .2 | In the presence of a manufacturer's representative, complete system start-up and attend system training. |
| 3.3 PIPE
INSTALLATION | .1 | Install piping as indicated on drawings, and true to bear evenly on hanger and supports. |
| | .2 | Keep interior and ends of new piping and existing piping thoroughly cleaned of water and foreign matter. |

- 3.4 FIELD QUALITY CONTROL
(Cont'd)
- .3 Site Tests:
.1 Develop, with Departmental Representative's assistance, detailed instructions for O&M of this installation.
- 3.5 CLEANING
- .1 Proceed in accordance with Section 01 74 11 - Cleaning.
- .2 Upon completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.