**DRY & PRE-ACTION SPRINKLER SYSTEM: NITROGEN GENERATORS**

* + - * 1. Dry-Sprinkler System Nitrogen Generator: Nitrogen generator system to serve dry sprinkler zones for piping corrosion mitigation.

Basis-of-Design Product: Subject to compliance with requirements, provide General Air Products, Inc.; [**NGP Series**] Nitrogen Generator.

Description: Nitrogen Generator for dry or pre-action fire sprinkler system providing required supervisory pressure within sprinkler zone. System is to include an integrated air compressor within the nitrogen generator system package.

Standards: UL's "Fire Protection Equipment Directory" and FM’s "Approval Guide."

Nitrogen Generator:

[**Wall-mounted**] [**Floor-mounted**] nitrogen generator to provide minimum nitrogen purity of 98 percent to designated sprinkler systems.

Bypass mode and nitrogen generating mode.

Capacities and Characteristics:

Sprinkler System Capacity: <**Insert volume**>.

Air Capacity of Air Compressor (bypass mode): <**Insert value**> scfm (L/s) free air.

Air Capacity of Nitrogen Generator (nitrogen mode): <**Insert value**> scfm (L/s) free air.

Sprinkler System Required Supervisory Pressure: <**Insert value**> psig (kPa).

Motor Horsepower: <**Insert value**>.

Electrical Characteristics:

Volts: <**Insert value**>.

Phase(s): [**Single**] [**Three**].

Hertz: [**60**] [**50**].

Full-Load Amperes: <**Insert value**>.

Minimum Circuit Ampacity: <**Insert value**>.

Maximum Overcurrent Protection: <**Insert amperage**>.

Air Compressor:

Standard: UL's "Fire Protection Equipment Directory”

Sized for application and capable of achieving system supervisory pressure within 30 minutes in accordance with requirements of NFPA 13. Provide air receiver tank as required to meet requirements of systems.

Include filters, relief valves, check valves, drains, gauges and switch to maintain pressure.

Alarm Integration:

Provide nitrogen generation system with integrated excessive run and bypass alarms.

Excessive run alarm(s) are to activate if the air compressor has run for longer than 1 hour continuously or has cycled more than 50 times in 24 hours.

Air bypass alarm is to activate if nitrogen generation system is bypassed by air compressor for longer than 45 minutes continuously.

* + - * 1. Nitrogen Generator System Accessories:

Air-Pressure Maintenance Device:

Basis-of-Design Product: Subject to compliance with requirements, provide General Air Products, Inc.; [**Model: AMD-1**]

Standard: UL 260 and FM’s "Approval Guide."

Type: Automatic device to maintain minimum air pressure in piping.

Include shutoff valves to permit servicing without shutting down sprinkler piping, bypass valve for quick filling, pressure regulator to maintain pressure, strainer, pressure ratings with 14- to 60-psig (95- to 410-kPa) adjustable range, and [**175-psig (1200-kPa)**] maximum operating pressure.

Purge Vent/Valve and Supervisory Gas Monitoring Device:

Basis-of-Design Product: Subject to compliance with requirements, provide General Air Products, Inc.; [**Model: NGP-PV-1**]

Permanently Mounted Purge Vent and Nitrogen Purity Monitoring Device Manifold.

Provide one vent/monitoring device for each dry/pre-action sprinkler system.

Install at the end of piping system furthest from the fire sprinkler riser.

Include purge vent with shutoff valve and connection port for nitrogen purity sensor.

Used to vent oxygen during system nitrogen fill and monitor nitrogen purity of supervisory gas.

Includes pressure-retention device to prevent accidental depressurization of sprinkler system zone.

*All installation and service work shall be designed, installed, inspected, tested and maintained in accordance with all applicable codes, referenced standards, drawings, documents, the manufacturer's instructions and the provisions of this specification.*

1. NFPA 13, Standard for installation of Sprinkler Systems
2. NFPA 25, Standard for the Inspection, Testing and Maintenance of Water-Based Fire Protection Systems

*General Air Products shall provide technical support during design, installation and over the entire life of the nitrogen generator package.*