**FIRE SPRINKLER SYSTEMS, CORROSION MITIGATION PROGRAM, DRY OR PREACTION**

1. NITROGEN GENERATION SYSTEM
2. Potter IntelliGen™ Nitrogen Generator (INS Series)
3. Furnish and install a nitrogen generator system in each fire sprinkler riser room to service all dry/pre-action zones as required by the system size and pressure requirement stipulated in the engineering drawings. Install per manufacturer's instructions.
4. The nitrogen generator shall have an air compressor system that is sized appropriately for the application and capable of achieving system supervisory pressure within 30 minutes in accordance with requirements of NFPA 13. The air compressor system may include an external compressor.
5. The nitrogen generator shall provide a minimum of 98% purity nitrogen to the fire sprinkler system.
6. The nitrogen generator shall be equipped with a filtration system to remove residual water and all hydrocarbons from the air stream.
7. The nitrogen generator shall have a nitrogen control panel capable of monitoring compressor runtimes, nitrogen generator pressure, as well as its operational mode locally and via the internet.
8. The nitrogen generator shall have a leak detection system capable of determining sprinkler system leak rates, giving alerts if leaks develop within the sprinkler piping, nitrogen generator system or air compressor.
9. The nitrogen generator shall be able to indicate trouble alerts: locally via nitrogen control panel, via BMS trouble alert relay, via internet, and via email.
10. The nitrogen generator system shall automatically switch between air bypass mode and nitrogen generating mode based on the demands of the sprinkler system.
11. The nitrogen generator shall have a nitrogen storage tank that conforms to the ASME standard for pressure vessels.
12. Potter IntelliPurge™ Nitrogen Purge Valve (INS-PV)
13. Furnish and install a nitrogen purge valve at the furthest point from the fire sprinkler riser for each fire sprinkler system.
14. The nitrogen purge valve shall be supplied with a restricted orifice with size determined by the total system pressure requirements.
15. The nitrogen purge valve shall have a nitrogen sensor that can shut off the purge valve after 98% nitrogen has been achieved throughout the fire sprinkler system.
16. The nitrogen purge valve shall monitor the nitrogen level in the fire protection system periodically.
17. The nitrogen purge valve shall have a BMS trouble alert relay to indicate trouble if nitrogen purity drops below desired levels.
18. The nitrogen purge valve shall be able to connect to a nitrogen generator for remote monitoring.
19. The nitrogen purge valve shall be able to network with other purge valves.
20. The nitrogen purge valve shall be closed during hydrostatic and air pressure testing of the fire sprinkler system, then placed in the open position for the commissioning, treatment and operation of the system.
21. Air Maintenance Device
22. Furnish and install an Air Maintenance Device for each dry or preaction fire sprinkler system.
23. The Air Maintenance Device shall be equipped with an adjustable pressure regulator that is capable of setting the required pressure for the fire sprinkler system.
24. The Air Maintenance Device shall be listed or approved for fire sprinkler application.
25. The Air Maintenance Device shall be installed per manufacturer’s specifications
26. Networking and Interconnections (Preferred option)
27. Furnish and install networking wiring per manufacturer instructions from INS Series nitrogen generator to the nearest INS-PV nitrogen purge valve. Connect remaining INS-PV nitrogen purge valves in a daisy chain manner.
28. Connect CAT 5 internet wiring to INS nitrogen control panel and register INS Series nitrogen generator per manufacturer instructions.
29. Optionally connect BMS trouble alert relay in INS Series nitrogen generator to building management system or trouble zone of fire panel.
30. Networking and Interconnections (Alternate option 1)
31. Furnish and install networking wiring per manufacturer instructions from INS Series nitrogen generator to the nearest INS-PV nitrogen purge valve. Connect remaining INS-PV nitrogen purge valves in a daisy chain manner.
32. Connect BMS trouble alert relay in INS Series nitrogen generator to building management system or trouble zone of fire panel.
33. Optionally connect CAT 5 internet wiring to INS nitrogen control panel and register INS Series nitrogen generator per manufacturer instructions.
34. Networking and Interconnections (Alternate option 2)
35. Connect BMS trouble alert relay in INS Series nitrogen generator to building management system or trouble zone of fire panel.
36. Connect BMS trouble alert relay in each INS-PV nitrogen purge valve to building management system or trouble zone of fire panel.