
TECHNICAL NOTE

STANDPIPE-PAC™ - OPERATION IN COLD WEATHER

UNITED Fire Systems has become aware of numerous difficulties involving the operation of **STANDPIPE-PAC™** Standpipe Supervisory Systems in cold weather. This Technical Note provides important information for users during these cold weather periods.

**IMPORTANT**

All individuals who specify, purchase, install, maintain, and operate **STANDPIPE-PAC™** Standpipe Supervisory Systems should read this Technical Note, understand the contents, and put the recommendations into practice. Doing so should result in fewer repairs, service calls, and unwanted signals.

1. TEMPERATURE

The **STANDPIPE-PAC™** assembly is designed for use in areas where the temperature does not drop below **+32°F**. Cold temperatures can affect numerous parts of the assembly, including the compressor motor, the control unit and battery, and most importantly, the piping between the compressor pump and desiccant dryer plus the desiccant dryer itself. By their very nature, air compressor pumps produce air containing moisture. The desiccant dryer removes much of this moisture, but the section of the piping between the pump and dryer can freeze up when the unit is too cold. Based on these facts, UNITED Fire Systems ***strongly recommends:***

- All avenues should be explored by responsible persons at the time of installation to choose an area that will have heat during cold weather.
- A space heater in the vicinity of the assembly can be used to keep the assembly above +32°F.

2. STANDPIPE TESTING

We understand that many users are performing monthly testing of their dry standpipe with water at 200 PSIG. Testing in cold weather using water is apparently causing freeze-up problems. NFPA 14 – 2016, *Standard for the Installation of Standpipe and Hose Systems* addresses hydrostatic testing in Section 11.4. Paragraph 11.4.5 states that an air test can be done if cold weather prevents testing with water. Paragraph 11.4.7.2 states that if modifications to a standpipe (such as “jumping” to higher floors) cannot be isolated, then a pressure test is not required. Paragraph 11.4.8 further states that care shall be taken to ensure that no portion of the piping is subject to freezing during cold weather. Based on these paragraphs, UNITED Fire Systems ***strongly recommends:***

- If the monthly test can be avoided, do so.
- If the monthly test cannot be avoided, perform testing during cold weather with air only.
- If testing with water is deemed to be necessary, regardless of the weather, the Site Safety Manager should ensure that the Method of Procedure (MOP) for such testing include, as its very first step, that the **STANDPIPE-PAC™** outlet valve be CLOSED and locked in this position for the duration of the test.
- The MOP should include using all drainage measures after testing, and making sure the standpipe is completely drained, before the **STANDPIPE-PAC™** outlet valve is re-opened. See 3 – STANDPIPE DRAINING below.

3. STANDPIPE DRAINING

Dry standpipes are useful in unheated buildings during cold weather ONLY if they are drained dry after being used or tested. Proper drainage measures MUST be installed and used to ensure that all water is drained, leaving the standpipe dry and incapable of being impaired by ice. UNITED Fire Systems ***strongly recommends:***

- Make sure there are no low points or traps without drains.
- Drainage valves at all low point(s) must be used until all residual water is drained.
- It may take time for water to migrate from upper floors, so drains must be opened often to ensure all water has drained.

4. ONGOING STANDPIPE-PAC™ MAINTENANCE

Periodic maintenance of the **STANDPIPE-PAC™** is the best way to ensure continued proper operation. The most important maintenance item is regular replacement of the beads in the desiccant dryer. UNITED Fire Systems ***strongly recommends:***

- Have the beads in the desiccant dryer replaced every quarter. This will help to prevent water accumulation if the beads become saturated.
- Establish a periodic maintenance contract with a trained service provider, who uses the maintenance manual and quarterly maintenance checklist to verify proper operation every quarter.