



FIRE PROTECTION AIR COMPRESSORS For Dry Pipe & Pre-Action Sprinkler Systems

FOR SUPPORT CALL: 800-345-8207

NFPA 25 (2017) Requirements For Fire Protection Air Compressors

13.10.2 - Inspection

Air Compressors dedicated to water-based fire protection systems shall be inspected monthly to verify the following:

1. Air Compressor is free of physical damage.
2. Power wiring to the air compressor is intact and free of physical damage.
3. Piping from the air compressor to the fire protection system is intact and free of physical damage.
4. The means of anchoring the air compressor to the structure or to the system piping is secure, tight, and free of physical damage.
5. Air compressors requiring oil have the required amount of oil in the oil reservoir.

13.10.3 - Testing

Air Compressors dedicated to water-based fire protection systems shall be tested annually to verify the following:

1. Air compressor operates as intended on the proper drop of air pressure in the fire protection system.
2. Air compressor restores normal air pressure in the fire protection system in the required time frame.
3. Air compressor does not overheat while running.

13.10.4 – Maintenance

Air Compressors dedicated to water-based fire protection systems shall be maintained in accordance with the manufacturer's instructions.

Compressors requiring oil shall have the oil replaced on an annual basis unless the manufacturer's instructions require more frequent replacement.

Inspection & Maintenance Recommendations For General Air Products Fire Protection Air Compressors

Disconnect, tag, and lock out power source then release all pressure from the system before attempting to install, service or relocate the compressor. The following inspections are based on normal operation. If the compressor is in an excessively dusty area, increase frequency of maintenance checks.

Lubricated Air Compressor Maintenance	
Quarterly (or as needed)	<ul style="list-style-type: none"> Check oil level Check for unusual noise or vibration Drain condensate from receiver & traps Clean all external parts & motor Inspect oil for contamination Check belt tension and wear Tighten fittings, nuts & screws as required Inspect all filter elements & clean if needed Manually test safety relief valve Inspect air system for leaks
Annually (or as needed)	<ul style="list-style-type: none"> Change oil Change all filter elements

Oil Less Air Compressor Maintenance	
Quarterly (or as needed)	<ul style="list-style-type: none"> Check for unusual noise or vibration Drain condensate from receiver & traps Clean all external parts & motor Tighten fittings, nuts & screws as required Inspect all filter elements & clean if needed Manually test safety relief valve Inspect air system for leaks
Annually (or as needed)	<ul style="list-style-type: none"> Change all filter elements

Troubleshooting Guide

For General Air Products Fire Protection Air Compressors

Symptom	Possible Cause(s)	Corrective Action
Motor hums & runs slowly or not at all.	<ol style="list-style-type: none"> 1. Low or no voltage 2. Shortened or open motor winding 3. Defective check or unloader valve 4. Defective pressure switch - contacts will not close 	<ol style="list-style-type: none"> 1. Check voltage during start. Voltage must be within +/- 10% of nominal voltage to start motor. Increase wire size if necessary to lower voltage drop. 2. Replace motor 3. Replace check valve or unloader valve 4. Repair or replace pressure switch
Reset mechanism cuts out or fuses blow repeatedly.	<ol style="list-style-type: none"> 1. Insufficient voltage to motor 2. Pressure switch set too high 3. Wrong fuse size 4. Piping too restrictive 5. Defective motor 	<ol style="list-style-type: none"> 1. Check voltage during start. Voltage must be within +/- 10% of nominal voltage to start motor. Increase wire size if necessary to lower voltage drop 2. Consult factory, adjust or replace 3. Be sure fuses, heaters and/or overloads are properly rated or set 4. Add receiver vessel or increase pipe volume after compressor 5. Replace motor
Unit short cycles repeatedly.	<ol style="list-style-type: none"> 1. Piping too restrictive 2. Air leaks 	<ol style="list-style-type: none"> 1. Add receiver vessel or increase pipe volume after compressor 2. Repair leaks
Compressor overheating.	<ol style="list-style-type: none"> 1. Dirty intake filter 2. Wrong motor rotation 3. Air flow to fan blocked 	<ol style="list-style-type: none"> 1. Clean intake filter 2. Correct rotation 3. Clean air flow to fan or relocate unit
Excessive noise in operation.	<ol style="list-style-type: none"> 1. Damaged bearings 2. Worn piston cup 3. Broken valves 4. Damaged fan guard 5. Loose fan 6. Compressor mounting loose 	<ol style="list-style-type: none"> 1-5. Contact General Air Products for technical support by calling 1-800-345-8207 6. Shim and tighten
Excessive noise in operation. <i>(Lubricated Units Only)</i>	<ol style="list-style-type: none"> 1. Loose pulley, flywheel, belt guard 2. Lack of oil in crankcase 3. Compressor mounting loose 	<ol style="list-style-type: none"> 1. Tighten 2. Check for damage to bearings, replenish oil 3. Shim and tighten
Milky oil in reservoir. <i>(Lubricated Units Only)</i>	<ol style="list-style-type: none"> 1. Water flow from system into compressor 2. Water condensing in crankcase due to high humidity 	<ol style="list-style-type: none"> 1. Inspect system check valve. repair or replace as necessary. 2. Pipe air intake to less humid area. Run pump continuously for one hour and recheck
System pressure builds slowly.	<ol style="list-style-type: none"> 1. Compressor sized incorrectly 2. Leaks or restrictions in piping 3. Dirty intake filter 4. Blown head gasket 	<ol style="list-style-type: none"> 1. Check system size and compressor sizing 2. Correct leaks and remove restrictions 3. Clean intake filter 4. Replace head gasket