
Standard for the Care, Use, Inspection, Service Testing, and Replacement of Fire Hose, Couplings, Nozzles, and Fire Hose Appliances.

Nozzles; pieces of hardware that are used to discharge water in a straight stream or fog pattern while connected to a hose or monitor.
Nozzles:

1. Visual inspection after each use, (min annually)
   • Clear waterway
   • No damage to the tip
   • Controls operate as designed
   • If there is a shutoff, it closes completely
   • No parts missing or broken
   • Thread gasket is in good condition

If nozzle fails any, it shall be removed and repaired.

Nozzles:

2. Service Testing (min same as hose it is used with)
   A. Hydrostatic Test
   B. Flow Test

If nozzle fails any, it shall be removed and repaired.
A. Hydrostatic Test (nozzles with shutoff)
   a. Mount nozzle to devise, shutoff closed
   b. Hydrostatically test to 300psi or 1.5x max operating pressure (whichever is higher)
   c. Bleed air from the system.
   d. Hydrostatically pressure by 50 psi increments, held for 30 seconds up to max and then held for 1 minute with no sign of leakage.
B. Flow Test
a. Mount nozzle to devise capable of measuring flow/pressure
b. Set to rated pressure with nozzle fully open
c. Make sure flowing between -0% and +10%. (full pattern range)
d. Automatic nozzles (constant pressure)
   i. Set flow a minimum range and record pressure
   ii. Slowly increase flow to maximum flow
   iii. Record minimum and maximum pressures in that range.
   iv. Must maintain rated pressure of ±15 psi throughout flow range
e. Operate valve through full range of motion with no leakage
Nozzles:

3. Replacement

If nozzle fails any, it shall be removed and repaired or replaced.

Also, Nozzle users and the authority having jurisdiction shall establish a replacement schedule for their nozzle that takes into consideration the use and age of the nozzles and testing results.
4. Nozzle Records

A. A record of each nozzle shall be maintained from the time the nozzle is purchased until it is discarded.

B. The identification number shall be marked on the nozzle in a manner that prevents damage to the nozzle or appliance.

C. The following info (if applicable) shall be included on the record:

1. Assigned identification number
2. Manufacturer
3. Product or model designation
4. Vendor
5. Warranty
6. Hose connection size
7. Maximum operating pressure
8. Flow rate or range
9. Date received and date put in service
10. Date of each service test and service test results
11. Damage and repairs, including who made the repairs and the cost of repair parts
12. Reason removed from service
Appliance; A piece of hardware (excluding nozzles) generally intended for connection to fire hose to control or convey water.
Appliance:

1. Visual inspection, at least quarterly
   - All valves open and close smoothly and fully.
   - The waterway is clear of obstructions.
   - There is no damage to any thread or other type connection.
   - The pressure setting of the relief valve, if any, is set correctly.
   - All locks and hold-down devices work properly.
   - Internal gaskets meet standard.
   - No damage (e.g., dents, cracks, or other defects that could impair operation).
   - All swiveling connections rotate freely.
   - There are no missing parts or components.
   - There is no corrosion on any surface.
   - The marking for maximum operating pressure is visible.
   - There are no missing, broken, or worn lugs on couplings.

If appliance fails any, it shall be removed and repaired.
Appliance:

2. Service Testing (at least annually)
   A. Hydrostatic Test
   B. Relief Valve Test
   C. Shutoff Valve Test
   D. Check Valve Test

If appliance fails any, it shall be removed and repaired.
A. Hydrostatic Test
   a. Appliance in a protective devise or cover capable of holding the appliance and testing.
   b. Hydrostatically test to a minimum 300psi.
   c. Test caps attached.
   d. Relief valves blanked off or closed if present
   c. Bleed air from the system.
   d. Hydrostatically pressure by 50 psi increments, held for 30 seconds up to max and then held for 1 minute with no sign of leakage.
B. Relief Valve Test

a. Do hydrostatic test first.

b. Test relief valve separately from any device it is connected to.

c. Relief valve set to its lowest setting and pressurized.

d. If the relief valve does not operate at or below a pressure 10% over the setting, the test shall be discontinued and the relief valve repaired or replaced.

e. A calibrated test gauge shall be used to verify the setting.

f. After successful completion of the test the relief valve shall be reset to the pressure designated by the AHJ.

g. The final setting of the relief valve shall be confirmed by pressure testing.
C. Shutoff Valve Test

a. If the appliance has a shutoff valve, the intake side of the shutoff valve shall be hydrostatically pressurized to the maximum working pressure of the appliance with the valve in the shutoff position.

b. There shall be no leakage through the valve.

c. A water flow through the fire hose appliance at 100 psi shall be established.

d. The valve shall be closed and reopened twice and shall operate smoothly without evidence of binding or other problems.
D. Check Valve Test

a. If the appliance has a check valve, and the check valve can be pressurized by valves being closed downstream of the check valve, the output side of the check valve shall be hydrostatically pressurized to the maximum working pressure of the appliance.

b. There shall be no leakage through the check valve.
3. Fire Hose Appliance Records

A. A record of each fire hose appliance shall be maintained from the time the appliance is purchased until it is discarded.

B. Each fire hose appliance shall be assigned to an identification number for use in recording its history throughout its service life.

C. The identification number shall be marked on the appliance in a manner that prevents damage to the appliance.

D. The following info (if applicable) shall be included on the record:

i. Assigned identification number
ii. Manufacturer
iii. Product or model designation
iv. Vendor
v. Warranty
vi. Hose connection size
vii. Maximum operating pressure
viii. Flow rate or range
ix. Date received and date put in service
x. Date of each service test and service test results
xi. Damage and repairs, including who made the repairs and the cost of repair parts
xii. Reason removed from service
Fire Hose Appliance

4. Replacement

If appliance fails any, it shall be removed and repaired or replaced.

Also, Appliance users and the authority having jurisdiction shall establish a replacement schedule for their appliance that takes into consideration the use and age of the appliance and testing results.