

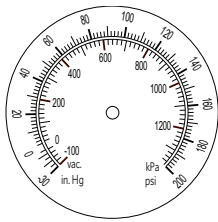
FIRE PUMP FITTINGS | APPLICATION DATA

File No: F43.430
Date: NOVEMBER 17, 2016
Supersedes: F43.430
Date: MARCH 7, 2006

MINIMUM FITTING SYSTEM

Suction and Discharge Gauges

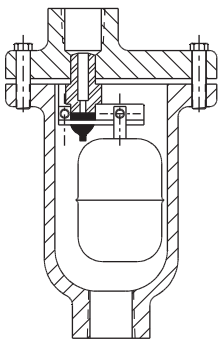
(File#: F43.450) - As per NFPA section 4.11



Gauges are required to measure both suction and discharge pressures, and must be supplied with all fire pumps. Gauges consist of combination pressure and vacuum suction gauge, discharge pressure gauge, and 1/4" cocks with lever handle.

Automatic Air Release Valve

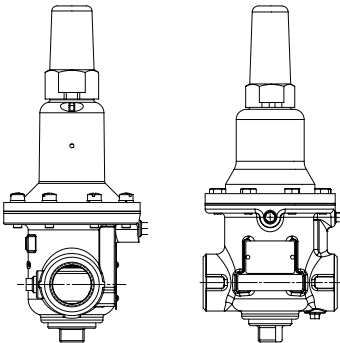
(File#: F43.450) - As per NFPA section 6.3.3



Air release valve is required on all automatically controlled units, and is located at the high point on the pump casing for releasing entrapped air.

Pump Casing (Circulation) Relief Valve

(File#: F43.450) - As per NFPA section 4.12



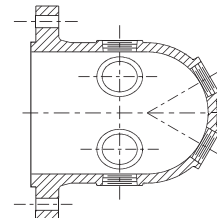
This valve prevents over-heating of automatically controlled pumps when operating at shut-off or no discharge. The pressure relief valve is located at the casing discharge. It should be set, in the field, just below the lowest expected suction pressure plus the shutoff pressure of the unit. The circulation relief valve should be piped to drain.

Casing relief valve is not required for engine driven pumps for which engine cooling water is taken from the pump discharge.

HOSE VALVE SYSTEM

Hose Valve Header

(File#: F43.451) - As per NFPA section 4.21.1.4



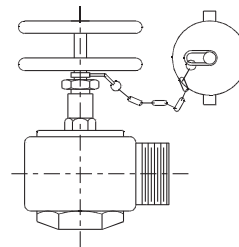
This provides the necessary outlet for the required number of hose valves. The hose valve header is generally intended for installation outside the pump room and is used for hose valve connection. Headers and valves are required not only for pump testing but in many cases for actual fire fighting purposes. If a water measuring device is used the hose valve header may be omitted when its main function is to provide a method of testing the pump.

The connection point should be between the discharge check valve and discharge isolation valve.

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Hose Valve Set

(File#: F43.451) - As per NFPA section 4.21.3

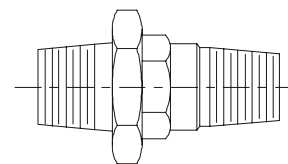


Quantity of hose valves required is specified by NFPA-20. Valves shall be approved. Hose valves are supplied with caps and chains to prevent damage to the hose valve threads. It is important to specify the thread standard required for the installation since the number of threads per inch may vary depending on the city.

RELIEF SYSTEM

Ball Drip Valve

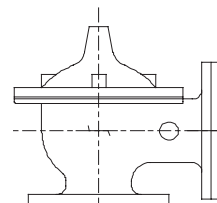
(File#: F43.451) - As per NFPA section 4.21.3.3.2



The ball drip valve shall be installed in the line leading to the outside hose valve header. When there is no pressure in the line, the ball drip valve will open and drain the line to prevent freezing.

Main Relief Valve

(File#: F43.452) - As per NFPA section 4.19



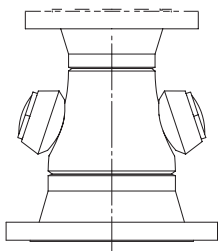
Pumps connected to adjustable-speed drivers such as a diesel engine shall be equipped with a listed relief valve. Required sizes are specified by NFPA20. It is designed to open on runaway diesels, at approximately a 20% increase above the rated speed.

The valve shall be installed between the pump and the pump discharge check valve. The relief valve should be set approximately 10 psi over the shutoff pressure of the pump plus the static suction pressure.

When pumps are driven by electric motors and controlled by a variable speed pressure limiting control driver a main relief valve is required and should be set below the pressure for which the system components are rated.

Overflow Cone

(File#: F43.452) - As per NFPA section 4.19



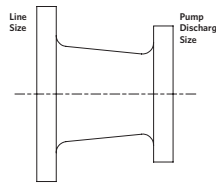
The enclosed type cones are used when the waste connection from the main relief valve is to a sewer or other waste disposal whose elevation is above the pump and where back pressure exists. It is provided with a sight glass for detecting motion of water through the cone.

The open type cones are used when the waste connection from the main relief valve is readily visible or easily detectable by the pump operator, with use of the open cone and where back pressure does not exist. It is not provided with a sight glass.

SUCTION & DISCHARGE SIZES

Concentric Discharge Increases

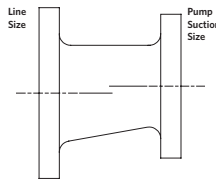
(File#: F43.453) - As per NFPA section 4.15.6.4



Will need to be installed on all systems where the pump discharge is smaller than the discharge pipe size recommended per NFPA20.

Eccentric Suction Reducers

(File#: F43.453) - As per NFPA section 4.15.6.4



Will need to be installed to all systems where the pump suction is smaller than the suction pipe size recommended per NFPA20.

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