

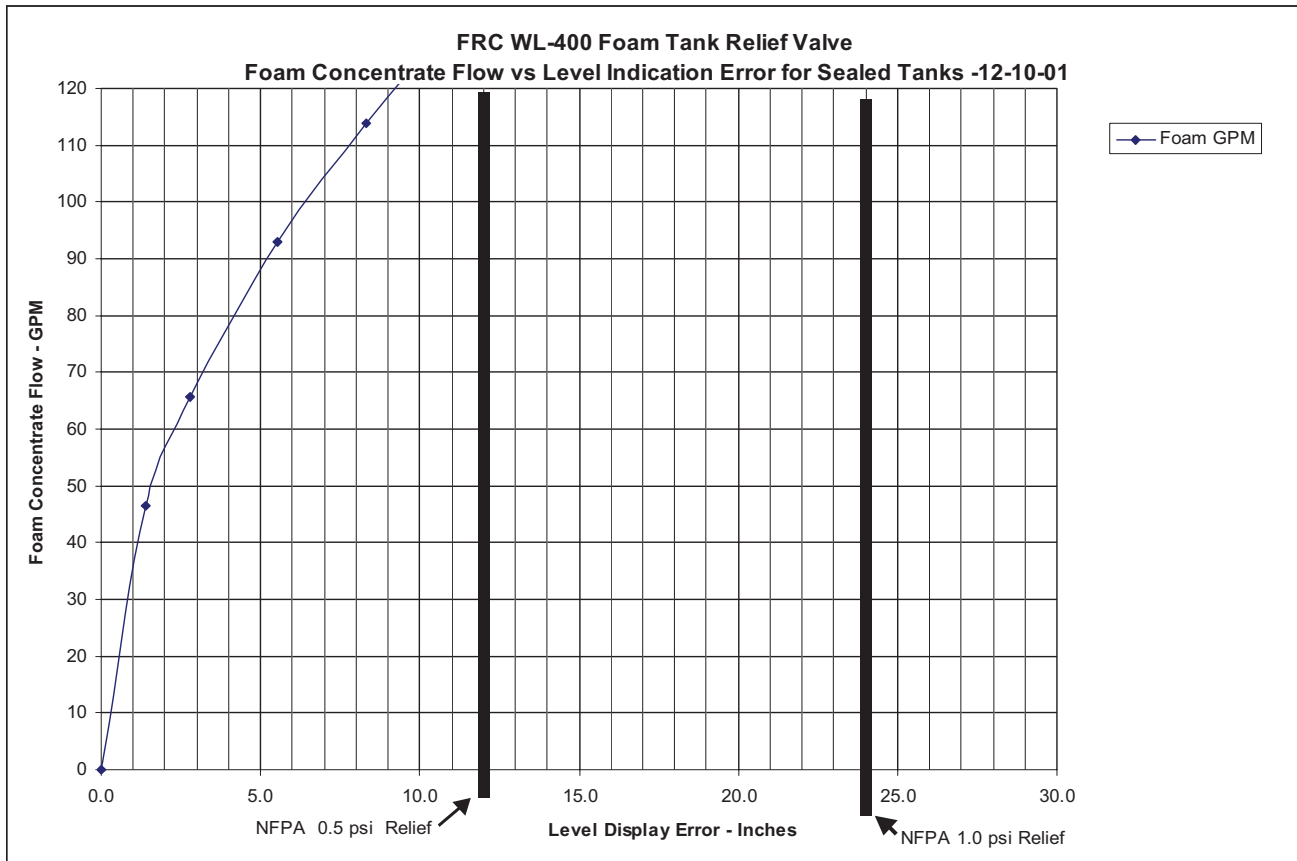
PATENT APPLIED FOR

FOAM PRESSURE/VACUUM RELIEF VALVE (Part No. XE-WL400-A0A)

Fire Research Corporation has come up with a revolutionary new design to overcome the deficiencies in traditional foam tank pressure/vacuum vents. The **FOAM PRESSURE/VACUUM RELIEF VALVE** incorporates a low pressure/vacuum design, is self draining, and it is easily removed to clean.

Foam concentrate storage tanks should be closed to the atmosphere. They need to be equipped with a pressure/vacuum vent that enables the tank to compensate for changes in pressure or vacuum due to thermal expansion, filling, or when withdrawing foam concentrate from the tank. (Reference NFPA 1901, 19-6.)

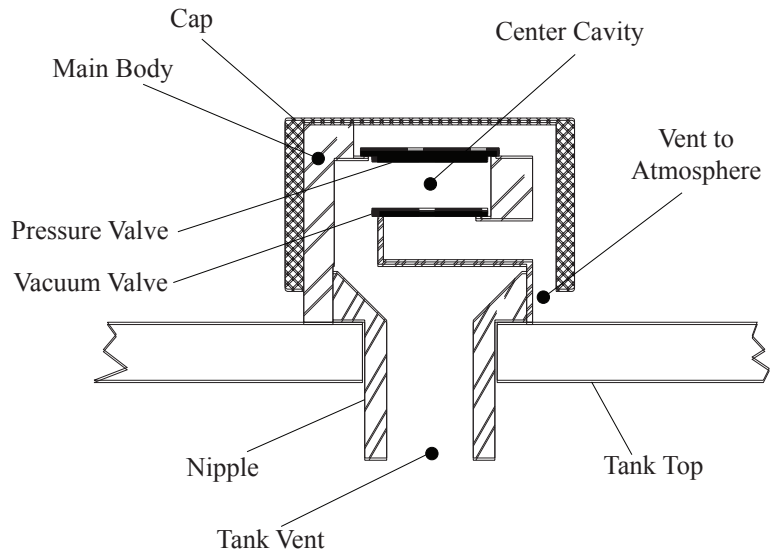
Traditional foam tank vents to date have an undesirable high pressure/vacuum design. They require pressure up to 0.5 PSI to operate the air intake/discharge mechanism. The **XE-WL400-A0A** is designed with internal pressure and vacuum valves that are manufactured of a lightweight material. The pressure required to open them is less than 0.01 PSI. This is well below NFPA specifications.



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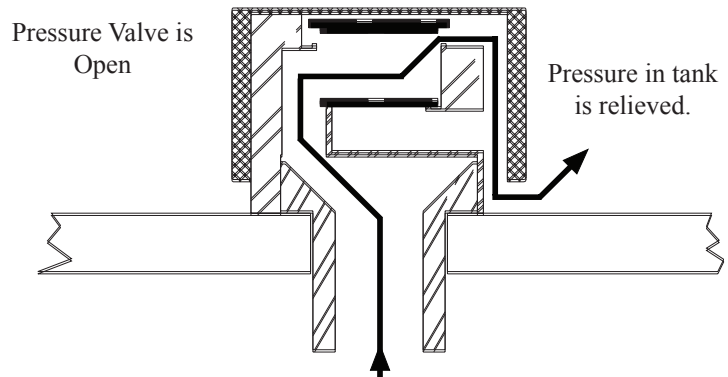
Pressure Normal

When the outside pressure is equal to the pressure within the tank, both pressure vent caps are closed. They are gravity sealed and prevent any direct opening between the tank and the atmosphere.



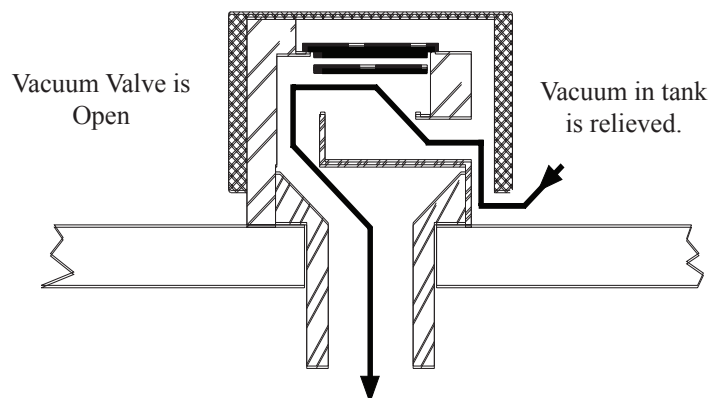
Positive Tank Pressure

When the pressure in the tank starts to rise, the pressure in the center cavity becomes slightly positive. This positive pressure (0.01 PSI) will force the pressure valve to rise and allow tank air to bleed to the outside.



Negative Tank Pressure

When the pressure in the tank starts to lower, the pressure in the center cavity becomes slightly negative (a slight vacuum is created). The pressure (0.01 PSI) exerted on the vacuum valve from the outside will force it to rise and allow outside air to bleed into the tank.



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The traditional foam tank vent air intake/discharge mechanism is prone to clogging and because these vents are permanently attached to the tank they are difficult to clean. The **XE-WL400-A0A** has a long hollow cavity that provides a path for air to move between the tank (via the nipple tank vent) and the center cavity of the relief valve. This long cavity is to prevent splashing foam from entering the center cavity and clogging the pressure and vacuum valves. The **XE-WL400-A0A** has self draining internal passageways and can be easily removed and disassembled for periodic inspection and cleaning.

Installation of the Foam Pressure/Vacuum Relief Valve (Part No. XE-WL400-A0A)

The relief valve is mounted in a vertical position through a 1 1/8" hole on the lid of the fill tower. The nipple is secured by a hand tightened 12 TPI nut; a gasket makes the seal between the mounting surface and the nipple. The main body screws onto the nipple. A cap screws onto the main body for protection.

