PENN-TROY
MANUFACTURING INC.

# What a Relief!

## Choosing a Reliable Floor Type Pressure Relief Valve

When choosing what type of hydrostatic pressure relief valve to specify for your system, there are many important factors to consider. However, none other is more important than reliability. Especially with floor type pressure relief valves, maintenance and replacement can be costly and time-consuming. Replacing a valve often requires the entire tank to be drained, and since the valves are typically set into the concrete, it requires a considerable amount of time and effort. This can interrupt a facility's productivity, directly resulting in money lost. Furthermore, since hydrostatic pressure relief valves prevent concrete tanks from floating when there is excess groundwater, corroded or damaged valves that are not performing optimally can lead to tank cracking or other significant issues. Replacing a concrete tank because of valve failure is even more costly.

Therefore, it is crucial that you choose a floor hydrostatic pressure relief valve with a structural design and material that promotes longevity and reliability. From the shape of the lid and grates to the type of seating that is used, there are a variety of features that can aid in or impede performance.

# Seating Materials

The seating material of your hydrostatic pressure relief valve is especially important. It must be able to withstand exposure to harsh chemicals and temperatures over long periods of time. Many valves will have a rubber to rubber (neoprene) seating surface. Although neoprene is resistant to oils, it has a lower temperature limit and compression strength than more modern materials such as Buna-N. A rubber to rubber seating that is very wide will not have a very tight seal, which can result in frequent leaking. Additionally, this type of seating is more susceptible to trapping large material and debris, which will damage and weaken the seal over time. When this rubber seating needs replaced, you have to remove the entire valve from the tank floor and exchange it for a new valve—a time-consuming, and often costly, maintenance.

# Lid Design

Another area to pay close attention to when choosing a floor type hydrostatic pressure relief valve is the lid design. Lids with a non-flat shape can allow water to pool and collect debris, which aids in corrosion. A flat-shaped lid eliminates the chances of pooling and trapping matter. For optimal performance, gaskets should be bonded to the lid to prevent separation or failure when exposed to pressure in the tank.

The method of lid locking is also vital to consider. Valve lids that require a central guide rod are often more susceptible to scale buildup, which, in turn, impedes the essential function of the valve. An alternative to using lids with guide rods is choosing a lid design with cast locking feet.

*Floor PRV*

# Grates

Both the finish and design of a valve grate are essential to a pressure relief valve's reliability and longevity. An internal grate that locks into place can provide protection against large debris. It is suggested that this grate be made of a strong material or epoxy coated for further protection against corrosion and damage.

Most importantly, a grate that allows smaller, harmless debris to pass through can save you time and effort in maintenance. Many valves will utilize a screen in place of a grate, but these can become clogged and obstructed quickly will small debris. Performing maintenance on obstructed screens or grates often takes a lot of time and requires using tools and replacing bolts or nuts. Look for a grate that is designed for easy access and eliminates maintenance frequency.

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# Trust in Troy

The Troy Valve model A2550 floor type hydrostatic pressure relief valve has been in production for more than 50 years and has an outstanding record of continued reliability thanks to its quality construction and design:

### 1. Resilient to Machined Seat

Our Buna-N resilient seat mates to a precision machined bronze seat that is permanently fixed to the valve body. Buna-N offers superior chemical resistance and a greater operable temperature range than other materials. Our bronze surface allows for greater durability—a critical feature for cast-in valves used in water treatment facilities. The resilient to bronze design also provides better compression, creating a tighter seal you can trust. Should the seating become worn or damaged over time, you can simply resurface in the field with a piece of sandpaper, rather than replace the entire valve.

### 2. Flat Lid with Interlocking Cast Feet

Chief among the many features and benefits of the A2550 is the robust interlocking lid. There are four guide legs with locking feet cast into the lid, which lock the lid to the body with a simple quarter turn. The guide legs eliminate the need for a single central guide rod, which can promote buildup of debris. A rubber gasket bonded to the lid ensures the gasket will not separate or fail under water pressure. Additionally, the flat lid design of our floor type pressure relief valve eliminates areas of pooling and prevents corrosion.


*SS Floor PRV*

### 3. Removable, Epoxy-Coated Grate

Like the lid, the internal grate locks into place with a simple quarter turn. The grate is epoxy coated and provides the necessary protection from debris. Unlike a screen, which traps small debris and becomes clogged easily, the Troy Valve A2550's grate allows smaller debris to pass through, allowing for longer maintenance intervals. If the grate becomes obstructed, maintenance is quick, easy, and tool free. There is no need to fidget with tools or misplace bolts and nuts.

When it comes to purchasing a floor pressure relief valve for your application, choose a manufacturer you can trust to deliver time-tested, reliable solutions. Penn-Troy has been the leading American manufacturer of water and wastewater valves for more than 30 years. Over that time, we've refined our valve designs to provide customers with unmatched value in durability and longevity. Because we don't just manufacture valves—we manufacture trust.

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