Why Phase Separation Occurs and What You Can Do About It.

Phase Separation
Today, well over 90% of all gasoline sold in the United States is blended with Ethanol. The increased use of blended fuels also increases the potential for a condition known as phase separation. Phase separation occurs when water enters a tank that contains an ethanol/gasoline blended fuel. The concerns over phase separation are steadily growing as the requirements for ethanol are increasing.

Why Does it Occur?
Ethanol absorbs water. When gasoline becomes saturated, a layer of ethanol and water, known as phase separation, can form in the tank. Since the density of this layer is less than water, typical water floats may not detect its presence.

Up to 100 percent of the ethanol can be pulled out of the gasoline and settle with the water at the bottom of the tank, depending on the fuel blend.

Customer Reliance
Phase separation that goes undetected can cause multiple problems for a station owner. If the water/ethanol phase is not discovered in time, phase separation instead of fuel may be pumped into a customer's vehicle. Phase separated product that is dispensed into a customer's vehicle can cause engine stalling and result in costly repairs. Damage to customer's vehicles can have extreme outcomes, such as loss of business and customer loyalty. Customers rely on a station to provide a quality fuel, and a station's reputation depends upon this quality fuel.

Phase separation will also affect the octane rating and other properties of the blended fuel and can result in the station owner needing to dispose of the entire load at a considerable expense. The corrosive properties of phase separation can also damage piping and dispensing equipment, adding even more repair costs for the station owner. Along with equipment damage, significant environmental harm can occur as a result of failing piping and components.

What You Can Do About It
There are many factors that can affect the speed and circumstances under which phase separation may occur. Weather conditions, temperature, water and ethanol content can all affect the process of separation. It is hard to track these conditions, so having the right tools can prevent any negative results.

The introduction of the TSP-IGF4P Water and Phase Separation Float Kit from Franklin Fueling Systems gives the customer a proven and reliable way to accurately detect the presence of phase separation. Early detection is crucial, allowing the station owner to address the issue immediately and potentially save several thousands of dollars in repair and fuel replacement costs.

The Simple Solution
The TSP-IGF4P water and phase separation float kit is easy to install and easy to retrofit at existing installations. It is compatible with the Franklin Fueling Systems T5 series and T5-550 evo fuel management systems as well as the Colibri automatic tank gauge. A software upgrade may be required.

The rising application of ethanol-blended fuels is beginning to display the dangers and the effects that may result if proper equipment is not used. With this easy upgrade, detection of water and phase separation is highly improved, reducing risk for station owners, customers and the environment.