SmartFoam: the Solution for Vegetable Washing Foam Control in Spain

Since the foundation of the company in 1984, the Virto Group has focused on hard work, product knowledge, innovation and creativity. This corporative philosophy has led to Virto becoming a benchmark company in the frozen vegetable market. The Virto Group produces a complete range of frozen vegetables, pulses, fruits and mixes with vegetables, offering their customers the very best quality and service but at very competitive prices.

The Virto Group headquarters are located in Azagra Navarra in Northern Spain, with 14 other facilities located throughout Europe. The Virto Group is a major supplier of quality fresh vegetables and frozen vegetables to the European market. Virtos commercial strategy is fully geared towards providing their customer base with the optimum service to ensure their satisfaction. Offering a high-quality product and excellent service along with competitive prices and continual innovation. 90% of Virto Group sales are in Europe with the balance supplied to customers in the Middle East, Japan, USA and South America. All of the above is not possible without having the very latest in processing technology to achive the quality and quantity of throughput for this very demanding market. Major investment has taken place at their Azagra Navarra plant to provide state of the art vegetable processing technology. It is here that they have installed Hycontrol SmartFoam foam control systems to help control the foam levels in the vegetable washing process.

Most root vegetables create foam when being processed. This is due to a chemical called saponins which is in all root vegetables, just below the surface of the skin. This is a natural surfactant which causes large amounts of foam when washed, peeled or processed. Potatoes and sugar beet are examples with high levels of saponins.

The SmartFoam is designed to measure and control foam in a single unit which is easy and quick to install. The sensor contains its own transmitter located inside the head so it can connect directly to a process controller or a pump without the need for a controller. The SmartFoam can be used to create an effective foam control system without the need for any additional transmitter. It is designed to be robust for industrial use. The sensor is designed using the IMA Sensing™ technology which enables foam to be measured reliably even when it is covered with a build-up of sticky material which frequently happens during foam measurement.

SmartFoam operates by passing a small alternating current through the foam being detected, and uses this to measure impedance. The impedance of the material being sensed is used to determine when foam is present. The SmartFoam is designed with two electrodes. One is used to sense foam while the other is designed to supply any leakage currents which pass along the body of the sensor. If the sensor is covered with a fouling layer deposited on it, then a leakage current must pass through that layer and down to earth. This leakage may be measure as part of the sensing current and consequently cause false readings. In the case of serious fouling this could cause a false alarm and an unnecessary intervention to the process. In the Hycontrol design, the guard electrode supplies all the leakage current leaving the sense electrode to sense only foam. The guard electrode effectively isolates the sensor from the interference caused by fouling. This gives the sensor the unique ability to continue working reliably even in conditions of extreme fouling

The SmartFoam comes as a 24 VDC 4-wire device with a volt free contact 500 mA max in an IP66 NEMA4 Polypropylene enclosure with 20 mm diameter 316 Stainless Steel probe in 600 mm, 1000 mm or 1500 mm lengths with ¾" BSP or NPT process connections. Maximum process temperature is 80°C (176°F). Maximum process pressure is 1.5 bar (22 psi).

The SmartFoam Probe above.
Typical vegetable processing foam below.