

Sealing 101 and the Hygienic Clamp Connection.....

FlowSmart is the first company in the industry to take an engineered approach to address the entire clamp connection. It's important to understand the principle of both sealing and the design of the connection before you can understand our comprehensive approach to correct the problem.

The principles of sealing

To establish a seal, the pressure at the seal point has to be greater than the pressure of the process flow. Therefore if the pressure in the line is 40 psi for example, then the pressure on the ferrule face to the gasket face must be greater than 40 psi to achieve a seal. The sealing pressure that is required must be imparted to the entire area of the seal point. To accomplish this you must have the correct geometry to achieve a discreet sealing point.

What is the seal point of a hygienic gasket?

The seal point of any hygienic clamp gasket is the corner of the ID at the gasket face. The o-ring bead is often confused as the seal point with a clamp gasket but is actually a locator. If fluid reaches the o-ring bead, the critical seal point has already been breached and bacteria growth can occur. FlowSmart's clamps and gaskets are designed to put the loading on the ID of the gasket.

How does FlowSmart Engineer their components to address these issues?

FlowSmart has created a clamp assembly that places the clamp load directly onto the face of the seal point. We have also designed our gaskets to direct the load onto the seal point as well by tapering the gaskets and making the ID larger so that the gasket compresses to the ID and not beyond.

What is discreet sealing?

A discreet seal point is a point in a gasket that is geometrically designed to emphasize the load of the components to occur at the seal point more than any other area of the seal.

GRQ vs Conventional Clamps

GRQ Hygienic Clamp geometry creates an efficient seal without forcing material into the ID of the pipeline and diminishing the risk of the entrapment.

Conventional Clamps that don't fit properly on the ferrule cause the initial load that is imparted by the clamp to stress the gasket at the OD. This requires the operator to continue to tighten the nut and apply increased pressure to achieve a seal.

