



Water Treatment Plants / Tank Farms

Continuous Purge Systems

Swagelok® engineered systems for use in plants where a continuous purge of a barrier fluid is required or fluids are being measured.

What Is a Continuous Purge System (CPS)?

A continuous purge system is designed to provide a barrier fluid through an impulse line, irrespective of forward or back pressures within the system.

This is useful for pressure applications where a continuous purge of a barrier fluid is required to prevent issues related to excessive heat, corrosion or fouling.

Application Usage

Continuous purge systems may be used for the following water treatment, processing, and environmental applications:

- Slurry/Viscous fluid flow and pressure measurements
- Dirty gas flow and pressure measurements
- Loading arm rotating joint pressure barrier
- Pressurized flushing stem seals on hazardous fluids
- Catalyst slide valve flushing
- Tidal height measurement
- Compressor seals / compressor dry gas seal panels
- Flushing ring support

The system can also be used to measure the fluid level in open or vented containers by forcing gas at a continuous purge rate out of the bottom of an open tube (dip tube) submerged in liquid.

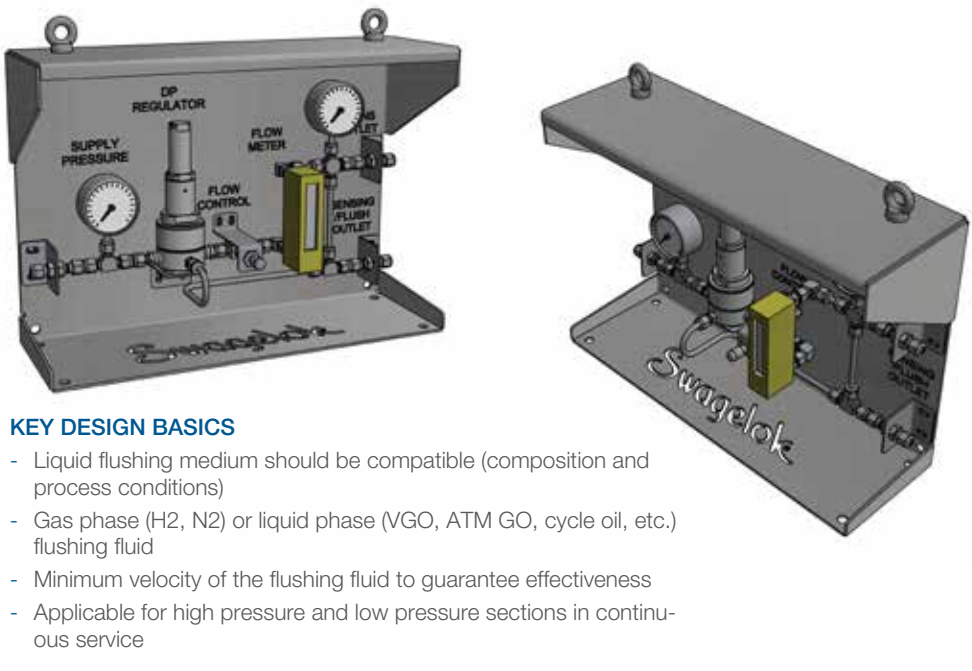


Key Design Features

- Modular design
- Standardization
- Easily adjustable (anti-tamper available on request)
- Robust design suitable for all external environments
- Flexible supply pressure, 4 to 400 barg
- Wide flow capability (0.5l/min to 33,000 l/min)
- Wide range of material options

Possible Implications of Plugged Impulse Lines

- Reduced reliability of pressure measurement
- Loss of measurement accuracy
- Slower instrument response to pressure variations
- Total loss of process condition visibility
- Unsafe acts intended to circumvent the problem during operation (inhibition, alarm masking, uncontrolled modifications, rodding, etc)



KEY DESIGN BASICS

- Liquid flushing medium should be compatible (composition and process conditions)
- Gas phase (H₂, N₂) or liquid phase (VGO, ATM GO, cycle oil, etc.) flushing fluid
- Minimum velocity of the flushing fluid to guarantee effectiveness
- Applicable for high pressure and low pressure sections in continuous service

What Issues Can a Continuous Purge System Resolve (CPS)?

Swagelok CPS panels are locally assembled to your specific fluid application needs. These field-tested designs safely ensure optimum system performance and can help resolve the following:

- Impulse line plugging
- Trapped bubbles/gas pockets in liquid impulse lines (wet legs)
- Trapped liquids in gas impulse lines (dry legs)
- Temperature induced measurement errors
- Damage due to process and ambient temperature
- Instrument sensing element corrosion
- Hazardous area installations (ATEX)
- Lack of electrical supply

The CPS panel will provide a consistent flow of purge gas or liquid irrespective of upstream pressure and without affecting the pressure. This is useful on applications where the impulse line can clog due to process contaminants, barrier fluid is required for material compatibility against corrosion or where cool flushing fluid is required to protect the transmitters and valves from heat.

For level measurements, the benefits are: full mechanical system, ATEX compliant, it is not affected by surface foam, vapors, turbulence within the tank, high temperatures, and solid contents.

The Swagelok Difference

Count on the fluid system experts the world relies on.

Every day, the local experts at Swagelok Southern California are trusted to help you keep operations running smoothly, whether they are advising you about component selection or troubleshooting your system.



Our Custom Solutions® team is comprised of factory-certified Assembly Technicians and Engineers with expertise in designing and building fluid systems using Swagelok's own

high quality fluid system components and the ability to incorporate wiring, automation, transmitters, relays, pumps and more to meet your needs.

Our assemblies are also proudly backed by our Swagelok Limited Lifetime Warranty.

For More Information

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