

# SMART PURGE™ SYSTEM

TapcoEnpro's Smart Purge™ System (SPS) provides continuous controllability and monitoring of the purge supply for FCC slide valve, butterfly valve, and plug valve stuffing box(es). The SPS simultaneously monitors the supply gas volumetric and mass flow rate, pressure, and temperature to the stuffing box. Purge medium flow is monitored and limited to prevent over or under purge issues that lead to valve component damage. The system will provide status and alarms to allow plant operations to easily identify issues early, take preemptive action and reduce the risk of purge related valve damage.

## System Configurations

**Dynamic Purge Stuffing Box** – The system precisely controls the purge supply at the required flow rate, regardless of the valve's process pressure. The SPS provides a flow analog signal and alarm output. These added monitoring signals provide added level of purge monitoring and protection against under or over purging of the valve stuffing box.

**Static Purge Stuffing Box** – This system configuration utilizes a customer supplied process pressure signal. The SPS will control the stuffing box pressure to track and maintain a positive stuffing box purge pressure (5-10 psig above process pressure). The SPS in this configuration is primarily a pressure control unit for the static purge stuffing box, and in addition, the system's advanced technology provides flow limiting capability. In typical operation, the static stuffing box will have zero purge flow and in the event of packing or stem damage purge flow will increase. The SPS has a built-in alarm output and the capability to limit the purge flow to the specified maximum flow rate, outlined by the valve design. The system will not allow the purge flow to exceed the specified and configurable maximum flow rate.

## Features

- Configurable Alarms
- NEMA 4X/IP 56 Environmental Protection
- Highly Accurate Control Capability ( $\pm 0.2\%$  of full scale)
- Suitable for Instrument Air and Nitrogen Purge Medium
- Pressure / Flow Signals for Remote Monitoring and Alarms
- Control with PLC/DCS or Capability of Operation as a Stand-Alone Unit
- Configurable to Control All Types of Valve Purge Requirements and Stuffing Box Designs.
- 100 ms Response Times for an Accurate Control Compact Footprint, Suitable for Wall Mounting
- Local Display Provides, Purge Medium Mass Flow, Volumetric Flow, Pressure and Temperature
- Hazardous Area Rated: CSA Class 1, Div 2, Group A,B,C and D T4 and ATEX Zone 2 Ex nA IIC T4
- Built-In Bypass Circuit with Flow / Pressure Control to Maintain Valve Purge During Purge Panel Maintenance



Patent Pending

The TapcoEnpro Smart Purge™ System's precise control and monitoring provides your refinery operations with the tools needed to eliminate purge related valve damage.

*Stem, Disc and Seating Plate Damage Due to Excessive Purging*

