FLUID COMPONENTS INTERNATIONAL LLC

Monitoring Pure O2 Generator Flow Rate & Totalized Flow in Oil/Gas, Chemical & Other Hazardous Industries

Precision Thermal Air/Gas Flow Meters Feature Global Haz-Ex Approvals and SIL Rating

San Marcos, CA — Engineers who need to maintain oxygen (O2) purity levels at 90-95 percent for process efficiency and for worker safety in high temperature, combustible or confined space environments will find the **ST75 Series Thermal Mass Flow Meter** from **Fluid Components International (FCI)** provides them with continuous, accurate and reliable air/gas flow measurement in an instrument with full Haz-ex approvals and a SIL rating.

Conventional O2 tank systems have several drawbacks, including unreliable purity, waste use, high-pressure tank safety and unreliable deliveries. For these reasons, many industrial process and manufacturing plant engineers are converting to the newest generation of oxygen generators that largely eliminate these issues. When placed within the plant, however, oxygen generators require gas flow rate and totalized flow measurement at multiple points within the process control loop to ensure they are functioning properly, efficiently and safely.

Oxygen generators work by separating the O2 molecules from other molecules within a clean, dry compressed air stream via pressure swing adsorption (PSA), which produces a continuous O2 flow at 90 to 95 percent purity depending on the level of purity required in the process. The O2 molecules are isolated from other molecules in the air stream (nitrogen, CO2, water vapor and trace gases) to leave high-purity oxygen at the outlet of the generator.

Pure oxygen is used in a wide range of industrial process and manufacturing plants where maintaining a continuous flow at a specific flow rate is necessary either for critical process integrity or worker safety in confined space or hazardous working areas. Industries that utilize oxygen generators include: oil/gas, chemical, food/beverage, electronics, pharmaceuticals, pulp/paper, mining, metals refining or manufacturing, and wastewater treatment.

FCI's ST75 Series Thermal Mass Flow Meters are ideal small line instruments for measuring and monitoring the flow of air, pure O2 and other gases including nitrogen, carbon dioxide, mixed gases and a wide range of specialty gases. These in-line (spool- piece) style flow meters have no moving parts and are available for use in pipe diameters from 0.25 to 2 inches, (6 to 51 mm). Process connections include male NPT, female NPT, and flanged. These thermal flow meters feature wide 100:1 turndowns and will measure from 0.01 to 559 SCFM (0,01 to 950 NCMH).

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The ST75 Series' electronics are housed in a rugged, IP67 rated enclosure with dual conduit ports in either NPT or M20 threading. The instrument comes standard with dual 4-20 mA outputs and a 500 Hz pulse output. The Models ST75A and ST75AV include HART or Modbus, as well as NAMUR compliant 4-20 mA outputs and SIL compliance rating.

This flow meter's transmitter/electronics can be integrally mounted with the flow element (probe), or it can be remote mounted to best match the installation situation. The remote mount transmitter, which includes a full digital display, can be mounted up to 50 feet (15 meters) away from its thermal mass flow sensor in the process piping and connected via two 0.50-inch FNPT or M conduit connections.

The ST75 Flow Meter's sensing element features precision platinum 1000 ohm RTDs in small diameter, "equal-mass," all-metal thermowells to provide dependable measurement and fast response. The Models ST75V and ST75AV also include Vortab® Flow Conditioners built into the spool-piece for areas with limited pipe straight-runs and/or for operating in Reynolds transitional flow ranges.

The complete instrument carries global Ex agency approvals for Division l/Zone 1 installations. The full pedigree of approvals available with the ST75 Series Flow Meter includes: FM, FMc, ATEX, IECEx, EAC/TR CU, NEPSI, CE, PED, CRN, and SIL compliant.

The ST75 Series models are tested and calibrated to rigorous standards so that users get the instrument that does the job specified. To design and produce the highest quality flow instrumentation, FCI operates a world-class flow calibration laboratory with calibrations performed on more than 19 different flow stands, using equipment traceable to NIST (US National Institute of Standards and Technology), and ISO/IEC 17025 (International Standards for test lab quality systems).

FCI solves flow and level measurement applications with advanced thermal dispersion technologies. With 55+ years' experience and the largest installed base of thermal flow meters, flow switches and level switches, count on FCI to know your application and have the solutions.

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