

## FCI ST100A Series Flare Gas Flow Meters

### *Flow Measurement Solutions for Land Based and Offshore Platform Flares*

**San Marcos, CA** — Engineers and technicians in the petrochemical and other industries looking for solutions to measure flare gases accurately and safely will find that the advanced, rugged [ST100A Series Flare Gas Thermal Flow Meters](#) from [Fluid Components International \(FCI\)](#) offer them multiple, flexible solutions well suited to this challenging application.

Flaring systems are used to burn-off and dispose of waste, excess or off-gases, and as a safety system to protect processes and equipment. They are commonly found throughout the world in oil and gas processing systems, refineries and petrochemical plants. Flare flow meters are a critical component used in these systems to monitor, measure and report the gas flows within these systems.

Flare flow meters provide plant operators with a tool to signal abnormal process changes, early leak detection and report on flared gases to comply with environmental agency reporting. FCI has been a leading provider of flare gas flow meter solutions for more than two decades. FCI flow meters are installed in both land-based and offshore platform flare systems around the globe. The ST100A Series Flare Gas Flow Meters leverage these experiences with extensive features and functions that extend and optimize their application in flare flow measurement.

Whether the flares are single-line or a large flaring system with a complex array of tributary lines and mixed gases, there is an FCI solution. From superior low flow measurement to detect the smallest leaks (0.25 SFPS/ 0,07 NMPS) up to 1000 SFPS (305 NMPS) to accurately measure major upset conditions at very high flows, the FCI ST100A Series Flare Gas Flow Meters are the perfect solution.

These thermal mass flow meters combine a broad range of easy to install insertion flow elements with the industry's most powerful and flexible electronics/transmitter and specialized, precision flare gas calibrations. With wide turn downs, specific calibrations for mixed gas compositions, FCI's exclusive SR2x split-range/dual calibration and maximum output flexibility with 4-20 mA analog outputs or bus communications such as HART, Foundation™ fieldbus, Profibus PA. or Modbus RS-485.

Many oil and gas operations, refineries and chemical plants have flare applications uniquely challenged with two diverse flow conditions: (1) very low flow under normal conditions and (2) very high flow during an upset/blowdown condition. These industries are then further challenged to comply with environmental agencies and emissions trading regulations for their flares stipulating flow meter accuracy of  $\pm 5$  percent of reading throughout the entire measuring range.



When a flare application is characterized by this difficult low flow/high flow situation, FCI's ST100A Series Flow Meters provide a regulatory compliant, unique thermal dispersion flow meter solution. FCI answers this challenge with its innovative SR2x split-range/dual calibration option in the ST100A Series, which provides dual calibration points that are strategically placed and optimized in the low flow range and high flow range to achieve  $\pm 0.75\%$  reading,  $\pm 0.5\%$  of full scale to a maximum of  $\pm 5\%$  of reading.

Many flare meter installations, either per plant edict or for compliance with environmental regulations, also require regular validation of meter calibration. Traditionally this has required a cumbersome and costly project to remove the meter from service and return it to a lab, which is particularly frustrating if the meter is found to still be within calibrated specifications.

FCI's VeriCal option eliminates unnecessary de-installations. The VeriCal system provides a simple-to-use tool to verify the FCI flow meter is still within calibration without extracting the meter from the pipe. The VeriCal system consists of a VeriCal-ready flow sensor, a portable VeriCal Kit (which can be used with any number of VeriCal-ready ST100A Series Flow Meters) and an additional benchmark calibration document to which field verification samples are compared.

FCI's ST100A Series Flare Gas Flow Meters are precision calibrated in FCI's Calibration Laboratory using equipment traceable to NIST (US National Institute of Standards and Technology), and ISO/IEC 17025 (International Standards for test lab quality systems) and that is certified to meet such stringent standards as MIL-STD 45662A and ANSI/NCSL Z-540. They are SIL-rated and feature global agency approvals on the entire instrument for hazardous locations, including FM, FMc, ATEX/UKEX, IECEx, NEPSI, CPA, Inmetro and EAC (TRCU).

FCI solves flow and level measurement applications with advanced thermal dispersion technologies. With 60 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.