

Beer Flavor, Fizz and Fun at Breweries Worldwide Requires Precision Process Air/Gas Measurement

Brew Masters Turn To Highly Accurate, Dependable Thermal Mass Flow Meters for Brewing, Finishing, Chilling, Plant Energy and Pollution Monitoring Systems

San Marcos, CA — Around the globe, expert brew masters, process engineers and their plant teams who depend on the accurate and dependable measurement of air, compressed air, process gases and waste gases under demanding quality conditions have found that the [ST Series Thermal Flow Meters](#) from [Fluid Components International \(FCI\)](#) offer them the best recipe for instrument performance, long-life, low maintenance safety and value.

Today's modern breweries not only produce a fantastic product, but their tasty brands depend on the accurate measurement of air, compressed air, natural gas heating, specialty gases like nitrogen (N₂) and monitoring residual gas CO₂ levels and mixed waste gases to reduce their carbon footprints. From fermentation vessel steam heating to product kegging or bottling to CO₂ recovery for co-gen power or combined heat and power (CHP) systems to flaring, the emphasis is on total product quality and protecting the environment.

Accurate air/gas flow measurement helps breweries keep their customers happy while controlling costs and meeting environmental compliance requirements. FCI's ST Series Flow Meters assists brewery teams in performing a wide range of tasks, such as optimizing their complex fermentation tank steam heating processes by accurately measuring the ratio of boiler burner fuel gas to air for efficient combustion. For example, the CO₂ gas that is naturally produced during the brewing process and any additional CO₂ gas necessary for finishing the beer also require accurate air/gas measurement within tight tolerances. FCI's ST Series thermal flow meters are calibrated under customer installation conditions in actual gases to achieve superior installed accuracy and repeatability in their intended application. They are direct mass flow measuring and inherently multivariable providing both flow and temperature outputs. Thermal mass flow meters with their no moving parts design also virtually eliminate wear, breakage and maintenance. The ST series has a wide selection of process connections, including compression fittings, NPT male and female threaded connections, flanges, ball valves, hot taps and more to ensure installation site compatibility.



The versatile ST family offers solutions from meters for large pipe diameters to small pipe, compact meters with basic 4-20mA analog output to feature-enhanced versions with multiple 4-20mA outputs, digital bus communications such as HART, Modbus, Foundation Fieldbus, and Profibus, in-situ calibration, self-checks, on-board data logging, and more. Furthermore, all FCI ST Series air/gas flow meters are direct mass flow measuring, carry global agency approvals for installation in Div.1/Zone 1 environments, and offer superior ruggedness and long-life with NEMA 4X/IP 67 rated low-copper content aluminum or 316 stainless steel enclosures.

Standard turndowns of 100:1 and flow ranges from 0.25 to 1000 SFPS (0.07 NMPS to 305 NMPS) ensure their application versatility. The ST's transmitter/electronics can be integrally mounted with the flow body or may be remote mounted to 1000 feet (305m) away. They are available in either DC or AC powered versions. Their readout/display options include basic flow rate and totalizer to a best-in-class multivariable digital/graphic backlit LCD with FCI's exclusive through-the-glass activated 4-button array.

In crowded brewery plant air/gas measurement applications with limited straight-runs and/or for operating in transitional flow ranges that can adversely affect accuracy and repeatability, ST Series Flow Meters are also optionally available with and calibration-matched Vortab® Flow Conditioners to ensure installed performance.

Vortab Flow Conditioners overcome challenging piping configurations by delivering a uniform, swirl-free flow profile to the meter inlet in as little as a few pipe diameters for accurate, repeatable measurement. Upstream flow disturbers, such as pumps, elbows, expanders or reducers, and valves, often produce non-uniform, non-repeatable and swirling fluid flow entering the meter. These flow disturbers impact the flow sensor's ability to measure fluid flow accurately and consistently.

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.