

No-Moving Parts Solutions For Small Line Size Flow Measurement

Ideal For Gas Sub-Metering, Boiler Fuel-To-Air Mixing, Chemical Injection & More



San Marcos, CA — Plant and process engineers who need accurate flow detection or measurement of air, gases, or liquids in smaller pipe sizes will find several diverse flow instrument solutions available from [Fluid Components International \(FCI\)](#).

Using advanced, ultra-reliable thermal dispersion flow measurement technology with no-moving parts, FCI's [ST75 Series](#) and [ST100L Air/Gas Flow Meters](#) and [FLT93L](#)

Flow Switch provide ideal solutions for use in 0.25 to 2 inch (DN6 to DN50) pipe or tubing. They excel where low flows, wide-turndowns, dirty fluids, HazEx or harsh installations are among the applications factors.

These flow instruments offer many advantages for service in a wide range of applications: plant, building or lab gas sub-metering, small inlet air/gas feed lines for boilers, gas relief valve monitoring, chemical injection, compressed air systems, cogen or CHP gas fuel measurement and control, sampling systems, and more.

Many small process line applications are difficult to measure reliably with high repeatability due to variations in temperature and pressure, and have wide flow rates. FCI's thermal flow meters and switches are unaffected by, or have on-board compensation for, temperature and pressure changes and, in addition to superior detection of low flow rates, provide 100:1 turndown as a standard feature.

FCI's highly reliable, small line air/gas flow meters and air/gas/liquid flow switches combine state-of-art electronics technology with application fluid-matched flow sensors and laboratory calibration in rugged packages designed for the most demanding plant operating environments.

Thermal flow sensor technology developed by FCI relies on the relationship between flow rate and the cooling effect. With no moving parts and minimal invasiveness, these meters and switches provide a highly repeatable, accurate, low cost, easy-to-install solution and there's virtually no maintenance required over a long life.

FCI's ST75 Series Air/Gas Flow Meters are ideal for lines sizes from 0.25 (6mm) to 2 inches (51mm). Gas or air measurement accuracy is available up to 1% of reading, $\pm 0.5\%$ full scale. The ST75 Meters feature a wide 100:1 turndown and will measure from 0.01 to 559 SCFM [0,01 to 950 NCMH].depending on pipe size.

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The meter's 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 as well as NAMUR compliant 4-20 mA outputs and a SIL compliance rating and 2 year warranty. Global agency approvals for Div.1/Zone 1 HazEx installations include FM, FMc, ATEX, IECEx, EAC and more.

The best-in-class **ST100L Air/Gas Flow Meter** is a next generation instrument that combines feature- and function- rich electronics with advanced flow sensors. It is designed in a spool piece configuration in 1-, 1.5- or 2-inch tubing, schedule 40 and schedule 80 piping. It measures air/gas flows from 0.0062 to 1850 SCFM [0.01 to 3,140 Nm³/h] with superior accuracy to $\pm 0.75\%$ reading, $\pm 0.5\%$ full scale; and repeatability of $\pm 0.5\%$ reading.

Whether the plant's output needs are traditional 4-20 mA analog, frequency/pulse or advanced digital bus communications such as HART, Foundation Fieldbus, PROFIBUS, or Modbus, the ST100L is available with any of them. Its digital bus communications also are certified and registered devices with HART and Foundation Fieldbus.

Global approvals include: FM, FMc, ATEX, CE, CSA, IECEx, EAC, NEPSI and Inmetro. It SIL compliant and is an all-welded design to ensure no leakage when used with volatile gases like hydrogen.

For applications lacking enough straight-run, both ST75 Series and ST100L can be supplied with Vortab flow conditioning built-in to the spool-piece flow body. Its wide selection of available process connections include male and female threaded and flanges are standard.

The **FLT93L Flow Switch** is a dual function, dual trip point/alarm point precision switch. It is field settable for trip point on flow rates and temperature, and as any high or low value of either flow or temperature.

The FLT93L's setpoint range is: 0.015 to 50 cc/sec [0.0009 to 3 fps] for water-based liquids; 0.033 to 110 cc/sec [0.002 to 6.6 fps] for hydrocarbon-based liquids; and 0.6 to 20,000 cc/sec [0.036 to 1198 fps] for air and gases. Trip point accuracy is $\pm 0.5\%$ reading or ± 0.04 fps [± 0.012 mps] (whichever is higher) in liquids and $\pm 0.5\%$ reading or ± 2 fps [± 0.06 mps] (whichever is higher in air or gases).

The FLT93 has been designed for use and longest service life in the most rugged, harsh operating environments. It is available in both aluminum and stainless steel IP67 rated housings, carries HazEx agency approvals for FM, FMc, ATEX, IECEx, EAC, Inmetro, NEPSI, meets CRN and European PED and is SIL 2 compliant. It is available in numerous wetted materials and process connection options, and has universal DC/AC power supply. It carries an industry best three-year warranty

Fluid Components International is a global company committed to meeting the needs of its customers through innovative solutions to the most challenging requirements for sensing, measuring and controlling flow and level.