

Air & Gas Mass Flow Meters Gas & Liquid Flow Switches, Level Switches

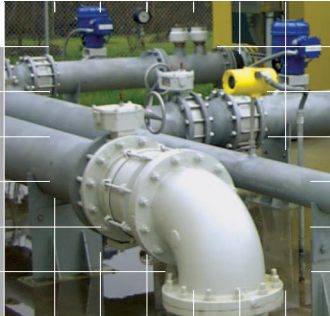
Oil & Gas



Petroleum



Accuracy



Chemical

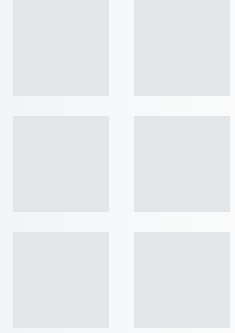
Wastewater Treatment

Repeatability



Power & Energy





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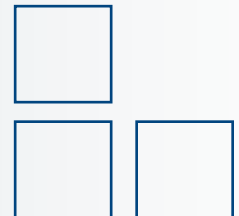
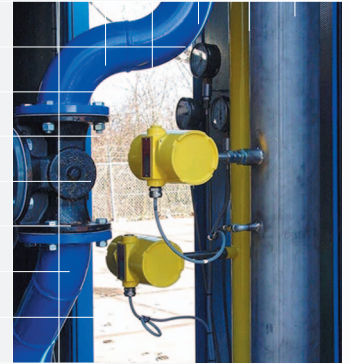
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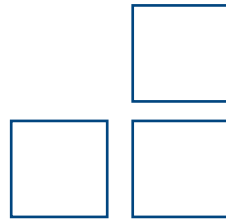
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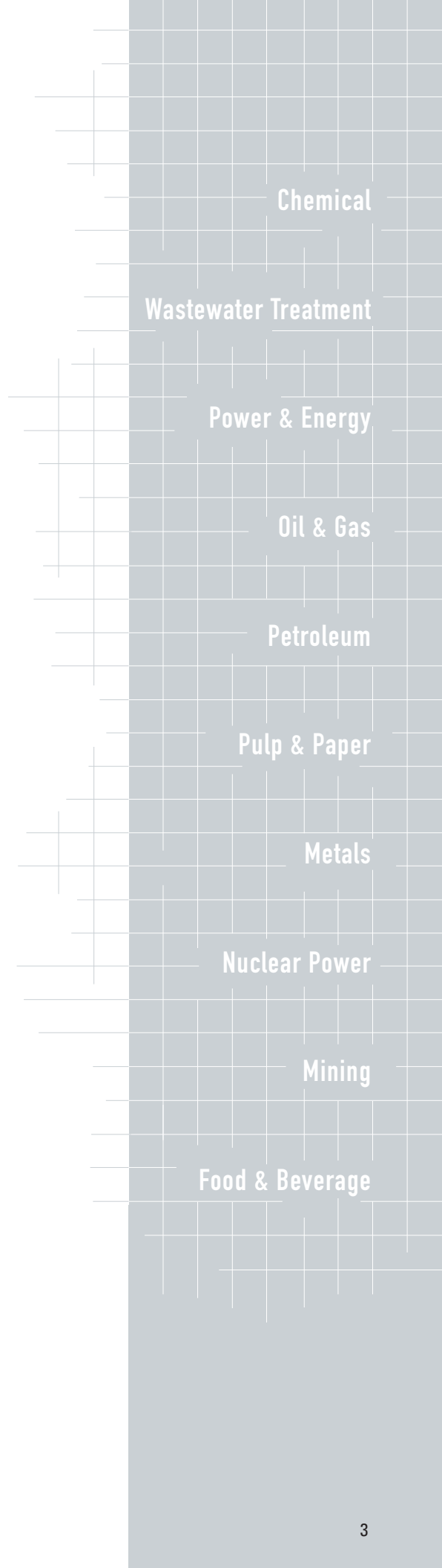




Flow and Level Instrumentation Solutions for Industrial Processes

- **Air, Gas, Liquid, Slurry Applications**
- **Mass Flow Meters**
- **Solutions for Line Sizes 1/4" [6 mm] to 33' [10 m] Ducts**
- **Thermal Dispersion Mass Flow Technologies**
- **Global Sales and Service**
- **Extensive Product Selection to Optimize Application Solutions**
- **Accuracy Assurance with Calibration in Your Actual Fluid and Process Conditions**
- **Lowest Maintenance, No Moving Parts**
- **Fast, Easy Installation**
- **Compliance and System Approvals to Global Standards**
- **Analog and Digital Bus Communications**
- **Exclusive Flow Conditioners Solve Installation Constraints**

FLUID COMPONENTS INTERNATIONAL solves flow and level measurement applications for industrial process and plant applications using patented thermal dispersion flow measurement technologies. With nearly five decades of experience and the world's largest installed base of thermal dispersion instruments, you can count on FCI to know your application and have proven solutions that will save you time and expense. From off-the-shelf products to custom engineered products and systems, FCI has the selection and an unequalled record of innovations to supply the optimal product for your application. From single-point to multi-point flow meters, from basic air flow to complex mixed, variable flare gas compositions, from water to the harshest of chemicals, FCI products will deliver superior accuracy, repeatability and long-term reliability at the lowest installed cost.

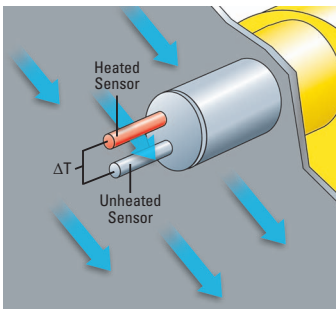




Mass Flow Meters— Thermal Dispersion

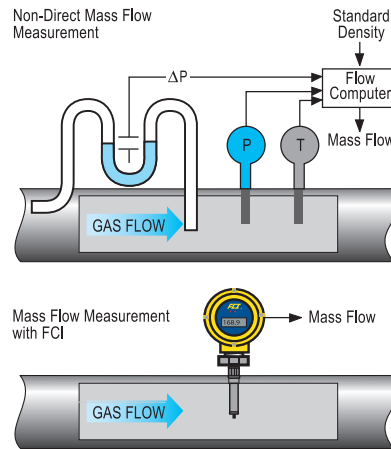
- Air and Gas Applications
- Direct Mass Flow Measuring
- No Moving Parts
- Low Cost Solution for Large Line Sizes
- Wide Turn-Down Ratio, to 1000:1
- Apply in Fluids to 850 °F [454 °C]

Thermal dispersion provides a gas flow measuring solution that is easy to install and virtually maintenance-free to save you time and costs. It has no moving parts and is inherently multivariable, measuring both flow and temperature. Insertion styles are particularly well suited for larger line size applications because probe length and the number of sensors are easily and economically added. Thermal dispersion technology places two thermowell protected platinum RTD temperature sensors in the process stream. One RTD is heated while the other senses the actual process temperature. The temperature difference between these sensors is measured and is proportional to the mass flow rate of the fluid.



FCI Air / Gas Mass Flow Meter Solution

FCI flow meters feature a patented no-moving parts flow element design that provides direct mass flow measurement with just a single process penetration. This saves space and eliminates unnecessary installation, expense, and performance degradation associated with separate temperature and pressure sensors, and density calculation devices needed with inferred mass flow techniques. With no moving parts to plug or foul, FCI flow meters deliver extensive cost savings over alternative high maintenance technologies. The result is an accurate and highly repeatable mass flow measurement at the lowest total installed cost. In today's complex process control schemes, FCI flow meters provide accurate gas flow measurements essential for process consistency, quality and safe plant operation.

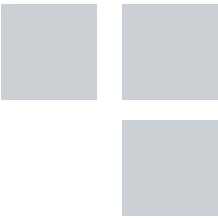


Flow Switches

- Air, Gas, Liquid, Slurry Applications
- Dual and Single Relay Output Models
- No Mechanical Parts to Maintain
- Apply in Fluids to 850 °F [454 °C]
- Easy to Install and Set-up
- SIL 2 Compliance (FLT93, FS10A)

FCI flow switches utilize thermal dispersion technology to provide fast response, accurate fluid flow sensing. FCI's FLT Series and Nutec Series flow switch products provide an extensive selection for performance, features, functions and environmental packaging options to meet a wide range of flow applications and installation requirements. The FS10A is specifically designed for flow monitoring in analyzers and sampling systems.

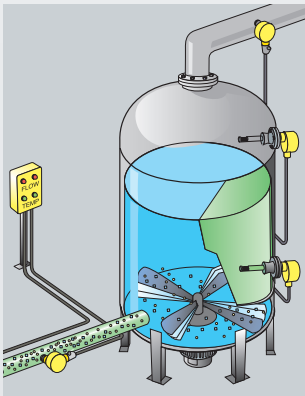




Level Switches

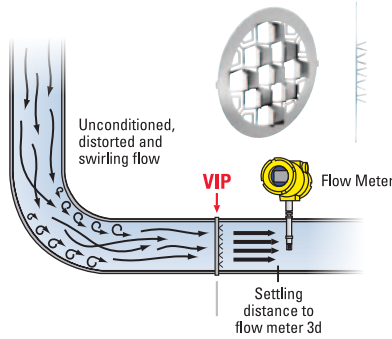
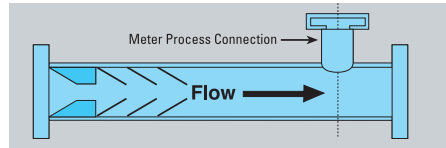
- High Reliability, No Moving Parts
- Dual Function, Level and Temperature
- AC, DC and Loop Powering Options
- 3-Phase Detection
- Interface Between Two Non-Miscible Fluids
- SIL 2 Compliance (FLT93)

FCI liquid level and interface switches provide fast responding and accurate fluid level alarm or setpoint control. They sense the temperature difference between a heated sensor and an unheated reference sensor, where the difference is greatest in the absence of liquid and decreases proportionally as the elements are submerged in various fluids with varying thermal conductivities. When submerged the heated sensor cools as it dissipates heat and in turn, a change in magnitude of the temperature difference. Because all fluids exhibit different heat transfer characteristics FCI's highly sensitive level switch technology can detect historically difficult interface applications between fluids such as liquids, gases, emulsions, slurries and foam, regardless of their physical properties.



Exclusive Flow Conditioners Solve Tough Installations

For plant conditions with limited piping straight-run or significant flow disturbances, FCI ensures accurate and repeatable flow measurements using Vortab and new, patent-pending Vortab VIP flow conditioners. Proven Vortab technology is widely recommended by industry experts, to be the single most effective solution for flow conditioning and flow straightening. FCI is the only thermal dispersion flow technology supplier authorized to provide Vortab flow conditioners with its products.



OEM and Custom Solutions

For unique applications or installation conditions, FCI has the technology, engineering capabilities and production capability to meet your needs. Whether you need a slight modification to a standard FCI product or a totally unique product solution designed from the ground up, FCI will work closely with you on a solution. From special enclosures to exotic materials of construction, one-time specials to high-volume custom designs, FCI has produced an extensive array of flow and level measuring solutions.



Got an application challenge?

You will find FCI offers an extensive array of options and special solutions that ensure an optimal product for your installation or conditions. Examples include:

- Extended temperature service
- Packing glands and ball valves for hot tap installations and easy retractability
- Exotic wetted materials and protective coatings
- Alternative packaging and enclosures, like exotic wetted materials, special corrosion/erosion coated elements and sun shields
- VeriCal™, industry exclusive in-situ calibration verification system available for ST100 Series
- Nuclear qualified products



Flow Meters



	ST50	ST51 A	ST98	ST100 Series	MT86/91
Air/Gases	■	■	■	■	■
Insertion Type	■	■	■	■	■
In-line (Spool Piece)					
Model/Series	ST50	ST51 A	ST98	ST100 Series	MT86/ MT91
Line Size Compatibility	>2" to 24" [>51 mm to 610 mm]	>2" to 24" [>51 mm to 610 mm]	>2" to 42" [>51 mm to 1066 mm]	>2" to 99" [>51 mm to 2500 mm]	≥20" [≥508 mm]
Key Features and Applications	<ul style="list-style-type: none"> • Easy to Install • Easy to Specify • Small, Compact Package • Air and Nitrogen Applications • Dual Analog Outputs • Ideal for Aeration and Larger Compressed Air Lines 	<ul style="list-style-type: none"> • Easy to Install • Easy to Specify • Small, Compact Package • Biogas, Digester Gas, Methane, Natural Gas Applications • Dual Analog Outputs • Division 1 [Zone 1] Approved 	<ul style="list-style-type: none"> • High Accuracy • High Performance • Extensive Options • Comprehensive Packaging and Installation Choices • Integral HART®, Profibus I/O 	<ul style="list-style-type: none"> • Highest Accuracy • HART, FOUNDATION™ Fieldbus, PROFIBUS PA, Modbus RS-485 • Graphical Display • Up to 5 Unique Calibrations • Dual-Element Systems • VeriCal 	<ul style="list-style-type: none"> • For Large Stacks and Ducts • Multiple Sensors • Automatically Averaged • CEMS, Large Combustion and Preheater Systems • High Temperature Versions • Up to 16 Flow Sensors per System
Flow Rate	■	■	■	■	■
Total Flow	■ (opt)	■	■	■	■
Temperature Measurement		■	■	■	■
Pressure Measurement				■ (opt)	
Flow Range ^{1,2}	0.75 SFPS to 400 SFPS [0,2 NMPS to 122 NMPS]	0.3 SFPS to 400 SFPS [0,08 NMPS to 122 NMPS]	0.75 SFPS to 600 SFPS [0,2 NMPS to 172 NMPS]	0.25 SFPS to 1,000 SFPS ⁴ [0,08 NMPS to 305 NMPS]	0.25 SFPS to 150 SFPS [0,08 NMPS to 46 NMPS]
Turndown Ratio	100:1	100:1	100:1	100:1 to 1000:1	100:1
Accuracy	±1% rdg, 0.5% FS	±1% rdg, 0.5% FS	±1% rdg, 0.5% FS	0.75% rdg, ±0.5% FS	±3% FS
Repeatability	±0.5% rdg	±0.5% rdg	±0.5% rdg	±0.5% rdg	±1% rdg
Temp (max operating)	0 °F to 250 °F [-18 °C to 121 °C]	0 °F to 250 °F [-18 °C to 121 °C]	-40 °F to 850 °F [-40 °C to 454 °C]	-40 °F to 850 °F [-40 °C to 454 °C]	-50 °F to 850 °F [-45 °C to 454 °C]
Pressure (max operating) ³	500 psig [34 bar (g)]	500 psig [34 bar (g)]	250 psig [17 bar (g)]	1,000 psig [70 bar (g)]	50 psig [3,4 bar (g)]
Flow Element Wetted Materials	Stainless Steel with Hast-C Tips	Stainless Steel with Hast-C Tips	Stainless Steel, Hast-C276	Stainless Steel, Hast-C276	Stainless Steel, Hast-C276, Nickel or Chromium Carbide
Flow Element Construction	Press Fit	Press Fit	All Welded	All Welded	Brazed or Welded
Transmitter					
Outputs (standard)	(Dual) 4-20 mA; RS232C	(Dual) 4-20 mA; 0-500 Hz Pulse of Total Flow; RS232C	4-20 mA, 1-5 Vdc, 0-5 Vdc or 0-10 Vdc; RS232C	(Triple) 4-20 mA with HART, 0-1 kHz or 0-10 kHz, USB, Ethernet	(Up to Four) 4-20 mA, 1-5 Vdc, 0-5 Vdc and/or 0-10 Vdc; (Dual) 2A DPDT Relays; RS232C
Outputs (optional)	0-500 Hz Pulse of Total Flow	HART	HART; PROFIBUS-DP	FOUNDATION Fieldbus; PROFIBUS PA; Modbus	
Integral or Remote Mounting	■	■	■	■	Remote*
Digital Display Option	■	■	■	■	■ (std)
Power Supply	AC, DC	AC, DC	AC, DC	AC, DC	AC, DC
Enclosure	Metal, NEMA 4X, IP67	Metal, NEMA 4X, IP67	Metal, NEMA 4X, IP66	Metal, NEMA 4X, IP67	Metal, NEMA 4X, IP66
Hazardous Location and Other Agency Approvals	FM, CSA, ATEX, IEC EAC (TRCU) Russia, CPA, CE, PED <i>Refer to product brochure for approval details</i>	FM, FMc, ATEX, IEC EAC (TRCU) Russia, CE, PED <i>Refer to product brochure for approval details</i>	FM, ATEX, CSA, CRN, IECEx, EAC (TRCU) Russia, CPA, NEPSI, CE, PED <i>Refer to product brochure for approval details</i>	FM, FMc, ATEX, IECEx, CPA, NEPSI, CE, Inmetro, EAC (TRCU) Russia, SIL 1 CRN, PED; <i>Refer to product brochure for approval details</i>	EAC (TRCU) Russia, CE, PED, QAL1 <i>Refer to product brochure for approval details</i>
Other Features, Options		• Namur NE43 Fault Output	• Namur NE43 Fault Output • High Purity/Sanitary Versions	• Namur NE43 Fault Output • VeriCal In-situ Calibration Verification • Dual-element Averaging • On-Board Data Logger • Optical Keypad	• * Field Mount (MT86) or 19" Rack Mount (MT91)

Thermal Dispersion Flow Meters

FCI offers the widest selection of thermal dispersion technology flow meters to provide solutions for industrial measurement of air and virtually any gas. They are direct mass flow measuring that will save you cost and installation time over other flow devices, that require installation of additional temperature and/or pressure sensors to merely "infer" mass flow. The meters are inherently dual-function, flow and temperature, to provide the lowest cost, best value for applications where fluid temperature is also required. With no moving parts or orifices to clog,

these FCI flow meters provide long life with minimal maintenance.

There are eight core models with features, functions and packaging designed to optimize measurements in an array of applications and conditions. For line sizes greater than 2 inches [50 mm], FCI's "insertion" styles provide the economical, easy-to-install solution via a single tap point. For smaller lines, 2 inches [50 mm] or smaller, select the "in-line" styles.

The ST50 and ST51 A are compact and economical, yet full-featured insertion meters that are easy to

install and specify. Model ST50 is designed for air, compressed air and nitrogen applications requiring Division 2 [Zone 2] or lower ratings. Model ST51 A is designed for biogas, digester gas and other methane composition gases, or air and compressed air applications in Division 1 [Zone 1].

ST75 A is a compact, in-line meter with extensive standard features that is the economical, easy-to-specify alternative to other maintenance-intensive flow technologies.

ST75 AV includes built-in Vortab flow conditioners

ST75A

ST98L

ST100L



	■	■	■
	■	■	■
	■	■	■
	ST75A / ST75 AV	ST98L	ST100L
	1/4" to 2" [6 mm to 51 mm]	1" to 2" [25 mm to 51 mm]	1" to 2" [25 mm to 51 mm]
	<ul style="list-style-type: none"> NPT or Tubing Connections Easy to Specify Small, Compact Package Rate and Total Flow Outputs Ideal for Fuel Gas and Gas Injection Applications 	<ul style="list-style-type: none"> High Accuracy High Performance Extensive Options Comprehensive Packaging and Installation Choices Integral HART, Profibus I/O 	<ul style="list-style-type: none"> Highest Accuracy HART, FOUNDATION Fieldbus, PROFIBUS PA, Modbus RS-485 Graphical Display Up to 5 Unique Calibrations
	■	■	■
	■	■	■
	0.01 SCFM to 839 SCFM ⁵ [0,01 NCMH to 1425 NCMH]	0.0062 SCFM to 1,850 SCFM ⁵ [0,01 NCMH to 3140 NCMH]	0.006 SCFM to 1,850 SCFM ^{4,5} [0,01 NCMH to 3140 NCMH]
	100:1	100:1	100:1 to 1000:1
	±1% rdg, 0.5% FS	±1% rdg, 0.5% FS	0.75% rdg, ±0.5% FS
	±0.5% rdg	±0.5% rdg	±0.5% rdg
	0 °F to 250 °F [-18 °C to 121 °C]	-50 °F to 350 °F [-45 °C to 177 °C]	-40 °F to 250 °F [-40 °C to 121 °C]
	600 psig [41 bar (g)]	250 psig [17 bar (g)]	3,000 psig [207 bar (g)]
	Stainless Steel with Hast-C Tips	Stainless Steel, Hast-C276, Electropolish	Stainless Steel, Hast-C276
	All Welded	All Welded	All Welded
	(Triple) 4-20 mA, 0-10 Vdc & 0-500 Hz Pulse; RS232C	4-20 mA, 1-5 Vdc, 0-5 Vdc or 0-10 Vdc; RS232C	(Triple) 4-20 mA with HART, 0-1 kHz or 0-10 kHz, USB, Ethernet
	HART	HART, PROFIBUS-DP	FOUNDATION Fieldbus; PROFIBUS PA; Modbus
	■	■	■
	■	■	■
	AC, DC	AC, DC	AC, DC
	Metal, NEMA 4X, IP67 FM, FMc, ATEX, IECEx EAC (TRCU) Russia, CE, PED <i>Refer to product brochure for approval details</i>	Metal, NEMA 4X, IP66 FM, ATEX, CSA, CRN, IECEx, EAC (TRCU) Russia, CPA, NEPSI, CE, PED <i>Refer to product brochure for approval details</i>	Metal, NEMA 4X, IP67 FM, FMc, ATEX, IECEx, CPA, NEPSI, CE, Inmetro, EAC (TRCU) Russia, SIL 1 <i>Refer to product brochure for approval details</i>
	<ul style="list-style-type: none"> Built-in Vortab Flow Conditioner (ST75AV) Namur NE43 Fault Output 	<ul style="list-style-type: none"> Flanged Connections Namur NE43 Fault Output Built-in Vortab® Flow Conditioner High Purity/Sanitary Versions 	<ul style="list-style-type: none"> Namur NE43 Fault Output Built-in Vortab Flow Conditioner On-Board Data Logger Optical Keypad



VeriCal is a patented in-situ flow meter calibration verification system exclusively offered by FCI in ST100 and GF90 flow meters



FCI flow meters provide long life with minimal maintenance

and has an extensive selection of process connections, including flanges.

ST98 and ST98L combine high-performance measurement with extensive selection of options, and the widest selection of gas calibrations that makes it industry's most often specified.

ST100 Series and ST100L is industry's most comprehensive and feature-rich gas flow meter solution. Best accuracy, extensive selection of analog and digital bus outputs, best-in-class graphical read-out, up to five calibrations, pressure measurement option, dual inputs and on-board data logging are

all industry exclusives you will find in the ST100 family.

MT Series "multi-point" flow measuring systems can be configured with two (2) to sixteen (16) flow sensing elements to optimize measurements within the largest of pipe and duct sizes.

Notes:

- Actual measuring range may vary depending on specific model code and fluid
- SFPS is 70 °F at 14.7 psia [NMPS is 0 °C at 1,01325 Bar (a)]
- Higher pressure ratings available, contact FCI
- Higher flow ranges may be possible depending on application specifics, contact FCI
- Line size dependent



Flow Switches & Level Sensors



FLT Series

	FLT93 B	FLT93 F	FLT93 S	FLT93 L	FLT93 C
Air/Gas Flow Switch	■	■	■	■	■
Liquid Flow Switch	■	■	■	■	■
Level/Interface Switch	■	■	■	■	■
Model/Series	FLT93 B	FLT93 F	FLT93 S	FLT93 L	FLT93 C
Line Size Compatibility (in flow applications)	1" to 100" [25 mm to 2500 mm]	1" to 100" [25 mm to 2500 mm]	1" to 100" [25 mm to 2500 mm]	1/4" to 1" [6 mm to 25 mm]	1" to 100" [25 mm to 2500 mm]
Key Features and Applications	<ul style="list-style-type: none"> • General Purpose • Dual, Heavy-duty Relay Outputs • SIL 2 	<ul style="list-style-type: none"> • Fast Response • Small Process Connection • Dual, Heavy-duty Relay Outputs • SIL 2 	<ul style="list-style-type: none"> • Heavy-duty • Highest Temperature Service • Retractable Packing Glands • Dual, Heavy-duty Relay Outputs • SIL 2 	<ul style="list-style-type: none"> • In-line Style • Small Line Sizes • Superior Low Flow Detection • Dual, Heavy-duty Relay Outputs • SIL 2 	<ul style="list-style-type: none"> • Sanitary Applications • Meets 3A Requirements • Dual, Heavy-duty Relay Outputs • SIL 2
Flow Capabilities^{1,2}					
Range-Air/Gas	0.25 FPS to 120 FPS [0,08 MPS to 37 MPS]	0.25 FPS to 120 FPS [0,08 MPS to 37 MPS]	0.25 FPS to 120 FPS [0,08 MPS to 37 MPS]	0.6 cc/sec to 20,000 cc/sec	0.25 FPS to 120 FPS [0,08 MPS to 37 MPS]
Range-Liquids: Water/Water based	0.01 FPS to 3.0 FPS [0,003 MPS to 0,9 MPS]	n/a	0.01 FPS to 3.0 FPS [0,003 MPS to 0,9 MPS]	0.015 cc/sec to 50 cc/sec	0.01 FPS to 3.0 FPS [0,003 MPS to 0,9 MPS]
Range-Liquids: Hydrocarbon based	0.01 FPS to 5.0 FPS [0,003 MPS to 1,5 MPS]	n/a	0.01 FPS to 5.0 FPS [0,003 MPS to 1,5 MPS]	0.033 cc/sec to 110 cc/sec	0.01 FPS to 5.0 FPS [0,003 MPS to 1,5 MPS]
Accuracy	±5% rdg; ±2% of Setpoint	±5% rdg; ±2% of Setpoint	±5% rdg; ±2% of Setpoint	±5% rdg; ±2% of Setpoint	±5% rdg; ±2% of Setpoint
Repeatability	±0.5% rdg	±0.5% rdg	±0.5% rdg	±0.5% rdg	±0.5% rdg
Level Capabilities					
Accuracy	±0.25 inch ±[6,4 mm]	±0.1 inch ±[2,5 mm]	±0.25 inch ±[6,4 mm]	±0.25 inch ±[6,4 mm]	±0.25 inch ±[6,4 mm]
Repeatability	±0.125 inch ±[3,2 mm]	±0.05 inch ±[1,3 mm]	±0.125 inch ±[3,2 mm]	±0.125 inch ±[3,2 mm]	±0.125 inch ±[3,2 mm]
Temperature Compensation	■	■	■	■	■
Sensor Operating Temp Range	-40°F to 350°F [-40°C to 177°C]	-40°F to 350°F [-40°C to 177°C] opt: 100°F to 500°F [-73°C to 260°C]	-40°F to 350°F [-40°C to 177°C] opt: 100°F to 500°F [-73°C to 260°C] opt: -100°F to 850°F [-73°C to 454°C]	-40°F to 350°F [-40°C to 177°C] opt: 100°F to 500°F [-73°C to 260°C]	-40°F to 350°F [-40°C to 177°C] opt: 100°F to 500°F [-73°C to 260°C]
Sensor Operating Pressure³	2,350 psig [162 bar (g)]	2,350 psig to 3,500 psig [162 bar (g) to 241 bar (g)]	1,450 psig to 3,500 psig [100 bar (g) to 241 bar (g)]	2,350 psig to 3,500 psig [162 bar (g) to 241 bar (g)]	1,500 psig [103 bar (g)]
Flow Element Wetted Materials	Stainless Steel	Stainless Steel, SSI-Electropolish, Hastelloy, Monel	Stainless Steel, Hastelloy, Monel, Titanium	Stainless Steel, Hastelloy, Monel, Titanium	Stainless Steel (20Ra Polished)
Flow Element Construction	All Welded	All Welded	All Welded	All Welded	All Welded
Transmitters					
Outputs/Control Circuit	Dual SPDT or Single DPDT Relays, 6A DC Voltage Output for Calibration, DC Voltage of Temperature	Dual SPDT or Single DPDT Relays, 6A DC Voltage Output for Calibration, DC Voltage of Temperature	Dual SPDT or Single DPDT Relays, 6A DC Voltage Output for Calibration, DC Voltage of Temperature	Dual SPDT or Single DPDT Relays, 6A DC Voltage Output for Calibration, DC Voltage of Temperature	Dual SPDT or Single DPDT Relays, 6A DC Voltage Output for Calibration, DC Voltage of Temperature
Remote Mountable Electronics	■	■	■	■	■
Power Supply	AC, DC	AC, DC	AC, DC	AC, DC	AC, DC
Enclosure	Metal, NEMA 4X, IP67	Metal, NEMA 4X, IP67	Metal, NEMA 4X, IP67	Metal, NEMA 4X, IP67	Metal, NEMA 4X, IP67
Hazardous Location and Other Agency Approvals	FM, FMc, ATEX, IECEx, Inmetro, EAC (TRCU) Russia, CE, CRN, PED, SIL 2; Refer to product brochure for approval details	FM, FMc, ATEX, IECEx, Inmetro, EAC (TRCU) Russia, CE, CRN, PED, SIL 2; Refer to product brochure for approval details	FM, FMc, ATEX, IECEx, Inmetro, EAC (TRCU) Russia, CE, CRN, PED, SIL 2; Refer to product brochure for approval details	FM, FMc, ATEX, IECEx, Inmetro, EAC (TRCU) Russia, CE, CRN, PED, SIL 2; Refer to product brochure for approval details	FM, FMc, ATEX, IECEx, Inmetro, EAC (TRCU) Russia, CE, CRN, PED, SIL 2; Refer to product brochure for approval details
Other Features, Options	<ul style="list-style-type: none"> • Precheck Fail Guard • RoHS Compliant • 3-year Warranty 	<ul style="list-style-type: none"> • Precheck Fail Guard • RoHS Compliant • Nuclear Qualified Versions • 3-year Warranty 	<ul style="list-style-type: none"> • Precheck Fail Guard • RoHS Compliant • Nuclear Qualified Versions • 3-year Warranty 	<ul style="list-style-type: none"> • Precheck Fail Guard • RoHS Compliant • Nuclear Qualified Versions • 3-year Warranty 	<ul style="list-style-type: none"> • Precheck Fail Guard • RoHS Compliant • Nuclear Qualified Versions • 3-year Warranty

FLT Series

FCI's FLT93 family sets the standard for industrial flow and level switch performance, reliability and value. FLT93 combines all-welded, thermal dispersion sensors with precision electronics protected in a robust industrial enclosure to ensure superior flow or level sensing and long life in the rigors of industrial plant installations. All FLT93 Series switches feature field configurable, dual setpoints

for any combination of high and low trip points or as a dual function flow (or level) and temperature switch. All applications encounter temperature variations and unlike other thermal dispersion switches, all FLT93s include temperature compensation to ensure proper switch operation regardless of fluid or ambient temperature changes. Further, all FLT93's uniquely feature analog voltage outputs to set and validate trip points as well as FCI's exclusive

pre-check circuit which allows the user to verify system setpoint/trip operation at anytime via a simple contact closure.

FS10A

FS10A is a flow switch/monitor specially designed for gas or liquid analyzer sampling systems. FS10A has simple screw-in installation in standard tube tee or NeSSI (SP76) manifolds. The line is small in size

FS10A



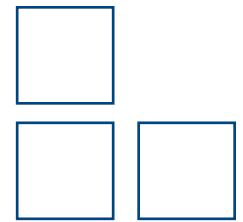
FS2000



FS2000 L



LS2000



	FS10A	NuTec Series		
	■	■	■	■
	■	■	■	■
				■
	FS10A	FS2000	FS2000 L	LS2000
	1/4" to 1/2" [6 mm to 13 mm]	1" to 100" [25 mm to 2500 mm]	1/2" to 2" [12 mm to 51 mm]	n/a
	<ul style="list-style-type: none"> For Analyzer and Sampling Systems Tube Tee or SP76 LED Array Relay, Open Collector, 4-20 mA SIL 2 	<ul style="list-style-type: none"> Economy, Industrial-grade Flow Switch Single Alarm/Switch Relay Replaces Mechanical Switches 	<ul style="list-style-type: none"> Non-intrusive, No Sensor Parts Contact Fluid In-line Style Small Line Sizes High Polished Finishes for Sanitary Applications 	<ul style="list-style-type: none"> Economy, Industrial-grade Level Switch Single Alarm/Switch Relay Replaces Mechanical Switches
	0.02 SCFH to 200 SCFH ⁵ [10 cc/min to 100,000 cc/min]	0.5 FPS to 100 FPS [0,15 MPS to 30 MPS]	0.02 SCFH to 342 SCFH ⁵ [0,0006 NCMH to 9,7 NCMH]	n/a
	0.01 GPH to 12 GPH ⁵ [0.7 cc/min to 750 cc/min]	0.15 FPS to 1.5 FPS [0,045 MPS to 0,45 MPS]	0.03 GPM to 85 GPM ⁵ [0,11 LPM to 324 LPM]	n/a
	0.01 GPH to 12 GPH ⁵ [0.7 cc/min to 750 cc/min]	0.15 FPS to 2.0 FPS [0,045 MPS to 0,6 MPS]	0.03 GPM to 85 GPM ⁵ [0,11 LPM to 324 LPM]	n/a
	± 1% rdg, ± 0.5% FS Gas ± 5% rdg, ± 0.5% FS Liquids ±0.5% of reading	+2% of Setpoint ±1.0% range	±3% of Setpoint, ±0.25% of Setpoint over 100 °F [38 °C] ±1.0% range	n/a
	n/a	n/a	n/a	±0.125 inch ±[3,2 mm]
	n/a	n/a	n/a	±0.06 inch ±[1,5 mm]
	■	■ (opt)	■ (opt)	■ (opt)
	-40 °F to 250 °F [-40 °C to 121 °C] opt: -40 °F to 500 °F [-40 °C to 260 °C]	-40 °F to 250 °F [-40 °C to 121 °C]	-40 °F to 250 °F [-40 °C to 121 °C]	-40 °F to 250 °F [-40 °C to 121 °C]
	500 psig [35 bar (g)]	500 psig [35 bar (g)]	500 psig [35 bar (g)] 100 psig [7 bar (g)] w/ sanitary flange	500 psig [35 bar (g)]
	316L Stainless Steel with Hast-C thermowells, all Hastelloy	Stainless Steel	Stainless Steel (opt. 10Ra or 20Ra Polished)	Stainless Steel
	Press Fit	All Welded or Press Fit	All Welded	All Welded or Press Fit
	Open Collector, SPDT Relay 1A, 4-20 mA, RS232C	SPDT Relay, 6A and Open Collector	SPDT Relay, 6A and Open Collector	SPDT Relay, 6A and Open Collector
	■			
	24 Vdc	AC, DC	AC, DC	AC, DC
	Metal, NEMA 4X, IP64 FM, FMc, ATEX, IEC, EAC (TRCU) Russia, CE, SIL 2 Refer to product brochure for approval details	Metal, NEMA 4X, IP67 FM, CSA, CRN, PED Refer to product brochure for approval details	Metal, NEMA 4X, IP67 FM, CSA, CRN, PED Refer to product brochure for approval details	Metal, NEMA 4X, IP67 FM, CSA, CRN, PED Refer to product brochure for approval details
	<ul style="list-style-type: none"> Push button set-up LED display M12 or watertight cable connection Hysteresis and time delays 			



Industry relies on rugged FLT Series for critical flow applications



and lightweight, with a choice of outputs to match any application.

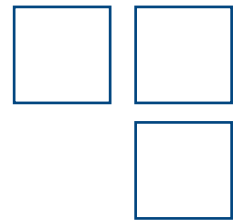
NuTec Series

A remarkable family of switch products that combine innovations like non-intrusive designs and the economy of a single limit switch. You will find a NuTec switch for solving a diverse range of flow and level applications. FS2000 and LS2000, for flow

and level respectively, provide a low cost solution to replace high maintenance mechanical switches. For smaller line sizes and/or sanitary applications, the model FS2000L is an in-line style switch with sensors imbedded into the pipe wall for totally non-intrusive and unobstructed flow.

Notes:

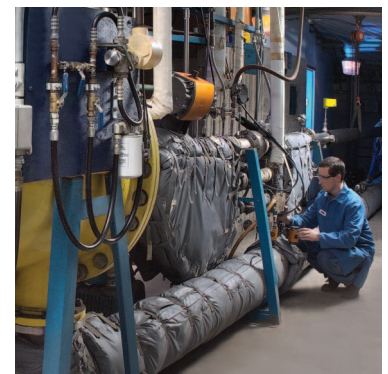
- Actual measuring range may vary depending on specific model code and fluid
- SFPS is 70 °F at 14.7 psia [NMPS is 0 °C at 1,01325 Bar (a)]
- Higher pressure ratings available, contact FCI
- Line size dependent



Calibrated To Your Application



More than 18 precision flow stands to match fluids, fluid conditions, flow rates and line sizes with your application



FCI Calibration Ensures Installed Accuracy

All FCI products are tested and calibrated to rigorous standards to ensure you get the instrument that does the job you specified. To design and produce the highest quality flow instrumentation, FCI operates a world-class, fully NIST traceable flow calibration laboratory that is certified to meet such stringent standards as MIL-STD 45662A and ANSI/NCSL Z-540. Other suppliers are often limited to air and water calibrations then rely on un-validated theoretical equivalencies for other fluids. FCI has proven this procedure to

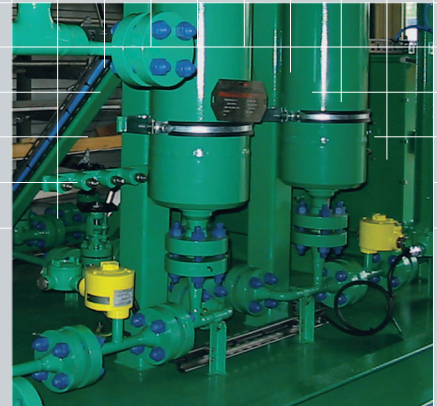
be inadequate and may result in installed errors well outside published specifications. For most fluids, FCI thermal dispersion flow meters are calibrated using the actual fluid, as well as the actual temperature and process conditions of your application. The result is a flow meter you can install with total confidence and assurance that it meets your application. For other suppliers to perform an actual gas calibration equal to FCI's, they typically must send their final product to an outside laboratory that will result in extra charges and shipment delays to you.

Choosing FCI is Easy

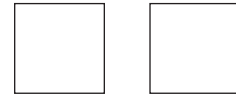
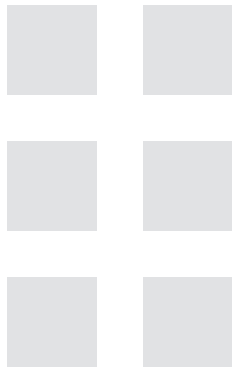
- Pre-sale Support Gets You the Right Product
- Post-sale Service to Ensure Continuous Operation
- Free, On-line Flow Sizing Tool
- Product Training Workshops

In addition to the broad range of products and superior calibration you can count on FCI to provide superior pre-sale and post-sale service and support to ensure the right product and long-term operation. With FCI you get pre-sale support and applications assistance by qualified, trained and process experienced engineers. And FCI takes the guess work out of specifying the right flow meter for your applications. AVAL is FCI's exclusive program that will select and recommend optimum solutions as well as advise of engineering and installation considerations for your flow meter application. Using AVAL is easy and simply asks you to put the parameters of your application into a drop-down menu. AVAL is always available to assist you by visiting the FCI website at: www.fluidcomponents.com.

FCI's post-sale support is unmatched. On site field service, field start-up assistance, recalibration, 24-hour service and technical support hot line, instrument maintenance plans and FCI sponsored product knowledge workshops are all available to you as an FCI customer.



FCI FLUID COMPONENTS
INTERNATIONAL LLC



Rugged

Food & Beverage

Metals

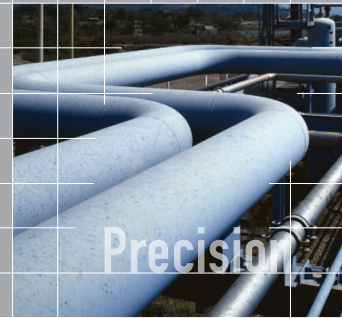
Nuclear Power



Calibration



No Moving Parts



Precision

Pulp & Paper

Mining

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