PRODUCT LINE CATALOG

Flow meter solutions for those who demand precision.
Industrial Flow Meters

**VORTEX / InnovaMass**

**Models**
- 240i Inline
- 241i Insertion

**Description**
- Completely re-designed “iSeries”
- 5-in-1: Mass & volumetric flow rate, temperature, pressure, density
- Raptor II OS for best performance
- New Applications: FloPro™, qMix™, Dial-A-Pipe™, Dial-A-Fluid™, ValidCal™
- Field firmware upgrade capability
- Thermal energy / BTU measurement

**Fluids Measured**
- Steam, Gases, and Liquids

**Flow Range (30:1 turnout)**
- Liquids: 1.0 ft/s (0.3 m/s) Velocity Min.
- Gas & Steam: Velocity Min. / P (dynamic)
- Velocity Max. / P (static)

**INLINE VERSION**

**Accuracy**
- Mass flow: +/-1.0% of reading (liquids);
- +/-1.5% of reading (gas & steam)
- Volumetric: +/-0.7% of reading (liquids);
- +/-1.0% of reading (gas & steam)

**Repeatability**
- Mass flow: +/-0.2% of reading
- Volumetric: +/- 0.1% of reading

**INSERTION VERSION**

**Accuracy & Repeatability**

**203 Economical**
- Accuracy: +/- 1.0% of reading
- Repeatability: +/- 0.3% of reading

**207i Fixed Installation**
- Accuracy: +/- 0.5% of reading from 0.16 to 40 ft/s (0.05 to 12 m/s)
- Repeatability: +/- 0.15% of reading >0.16 ft/s (0.05 m/s)

**210 Portable**
- Accuracy: +/- 0.5% of reading
- Repeatability: +/- 0.3% of reading

**Fluids Measured**
- Water and liquids; Tolerant of liquids with small amounts of air bubbles or suspended solids

**Digital Communications**
- RS-232, RS-485, USB, Modbus RTU
- BACnet (207i only)

**Hazardous Area Approvals**
- CE, cFMus, ATEX, PED, IECEx

**Flow Range**
- Liquids: 1.0 ft/s (0.3 m/s) Velocity Min.
- Gas & Steam: Velocity Min. / 90 ft/s (27.5 m/s) Velocity Max.

**Operating Temperature Range**
- Standard -100°F to 390°F (-73.3°C to 200°C)
- Medium Temperature to 572°F (300°C)
- High Temperature to 850°F (454°C)

**CONDITIONERS / FlowTrak**

**Description**
- Creates uniform flow profile to maximize accuracy in constrained piping areas
- Reduce upstream piping diameters to less than 3 diameters
- Use upstream of any gas flow meter
- Proven Dual-Plate inline flow conditioning technology
- Creates uniform flow profile at an economical price
- Low pressure drop

**Fluids Measured**
- May be used in very large diameter pipes
- Designed for use with ANY point velocity flow measurement device

**Digital Communications**
- HART, Modbus, Profibus DP, Foundation Fieldbus, BACnet, USB, RS-232

**Operating Temperature Range**
- Standard -100°F to 390°F (-73.3°C to 200°C)
- Medium Temperature to 572°F (300°C)
- High Temperature to 850°F (454°C)

**Flow Trak™**

**Flow Range**
- Liquids: 0.16 ft/s (0.05 m/s)
- Gas & Steam: 30 ft/s (9.14 m/s)

**Flow profile improvement**
- One 90° Elbow: FlowTrak (1); Orifice plate (28)
- Two 90° Elbows Same Plane: FlowTrak (3); Orifice plate (36)
- Two 90° Elbows Different Planes: FlowTrak (5); Orifice plate (62)
- Reducer - 4/1: FlowTrak (3); Orifice plate (14)
- Globe Valve - Fully Open: FlowTrak (2); Orifice plate (32)
- Two 90° Elbows Different Planes: FlowTrak (3); Orifice plate (36)

**Flow LEVEL SWITCH**

**InnovaSwitch**

**Models**
- 615

**Description**
- Ultra sensitive with fast response time
- Switches on a flow/no flow condition
- Ideal for industrial pump protection
- Unique high temperature to 850°F (454°C)
- 2-year workmanship warranty
- Buy online, next day shipment

**Fluids Measured**
- Gases and liquids

**Accuracy**
- Range of 0.01 to 5 sfps (0.003 to 1.524 smps) in liquids and 0.1 to 500 sfps (0.03 to 152.4 smps) gases

**Repeatability**
- +/- 1% of set point (Flow) or 1/32" (0.8mm) Level

**Stability**
- Drift <0.5% from calibrated set point over a range of +/-50°F

**Digital Communications**
- RS-232, RS-485, USB, Modbus RTU

**Operating Temperature Range**
- Standard -100°F to 390°F (-73.3°C to 200°C)
- Medium Temperature to 572°F (300°C)
- High Temperature to 850°F (454°C)

**ULTRASONIC / InnovaSonic**

**Models**
- 203 Fixed installation economical
- 207i Thermal Energy/BTU
- 210 Portable

**Description**
- Transit-time ultrasonic
- Clamp-on outside of pipe for easy set up
- Thermal energy/BTU measurement
- Proprietary Raptor II Flow Engine
- Real time density, flow profile adjustment
- Real time heat capacity adjustment
- Fixed installation and portable versions
- High accuracy at low and high flows

**Fluids Measured**
- Steam, Gases, and Liquids

**Flow Range (30:1 turnout)**
- Bi-directional flow range of 0.16 ft/s to 40 ft/s (0.05 to 12 m/s) version dependent
- Pipe sizes from 2 to 236 inches (50 to 6000 mm) version dependent

**Digital Communications**
- RS-232, RS-485, USB, Modbus RTU
- BACnet (207i only)

**Hazardous Area Approvals**
- CE, cFMus, ATEX, PED, IECEx

**Flow Range**
- Liquids: 1.0 ft/s (0.3 m/s) Velocity Min.
- Gas & Steam: Velocity Minimum / fluid density

**Operating Temperature Range**
- Standard -100°F to 390°F (-73.3°C to 200°C)
- Medium Temperature to 572°F (300°C)
- High Temperature to 850°F (454°C)
Select by Application

GAS / Industrial
- InnovaMass 240i, 241i (Vortex)
- QuadraTherm 640i, 780i (Thermal)
- SteelTrak 640S, 780S (Thermal)
- BoilerTrak 620S (Thermal)
- FastFlo 620S (Thermal)
- InnovaSwitch Flow/Level 615 (Thermal)

GAS / Flow Conditioning
- FlowTrak (Dual-Plate Inline)

GAS / MFCs – OEM & Scientific
- SmartTrak 100 (Capillary Thermal)
- SmartTrak 50 (Capillary Thermal)
- SideTrak 840 (Capillary Thermal)
- TopTrak 820, MassTrak 810C (Capillary Thermal)
- RedySmart (MEMS-based Thermal)
- RedyCompact (MEMS-based Thermal)
- FastTrak 730 (Thermal)
- Specialty MFCs – Low flow, IP67, Low DeltaP, High Pressure (Capillary Thermal)
- FloBox – Digital Control / Power Supplies

GAS / Calibration
- CalTrak 800, XL (Primary standard piston prover)

LIQUID
- InnovaSonic 203, 207i, 210 (Ultrasonic)
- InnovaMass 240i, 241i (Vortex)
- InnovaSwitch Flow/Level 615 (Thermal)

STEAM
- InnovaMass 240i, 241i (Vortex)
- InnovaSwitch Flow/Level 615 (Thermal)
Mass Flow Meters, Controllers

**DIGITAL / SmartTrak 100**
- **Models**
  - 100L Low Flow
  - 100M Medium Flow
  - 100H High Flow
- **Description**
  - Highest performance multi-gas MFC
  - Navigate easily with large multi-function display interface
  - Free user software
  - Primary Standard calibration & NIST traceability
  - Make adjustments in the field
  - Proprietary frictionless-hovering, direct-acting control/shut-off valve
- **Fluids Measured**
  - All clean gases including toxics and corrosives
- **Accuracy**
  - +/- 1.0% of full scale
  - +/- 0.5% of full scale available
- **Flow Range**
  - 0 to 500 slpm (nlpm)
  - CE Approved

**DIGITAL / SmartTrak 50**
- **Models**
  - 50L Low Flow
  - 50M Medium Flow
- **Description**
  - Economical digital mass flow meter and controller
  - Powerful digital high-performance at OEM pricing
  - Save money with volume discounts
  - Navigate easily with large display
  - Free user software
  - Choice of aluminum or 316 stainless-steel construction
- **Fluids Measured**
  - All clean gases including toxics and corrosives
- **Accuracy**
  - +/- 1.0% of full scale

**Specialty MFCs**
- **Models**
  - MicroTrak 101 Ultra Low Flow
  - SmartTrak 140 Ultra Low Delta P
  - SmartTrak 100-HP Ultra High Pressure
  - MassTrak 180 Industrial NEMA 6 (IP67)
- **Description**
  - Digital MFC’s engineered for challenging applications
  - Ultra-low flow rates down to 0.1 sccm (smlm)
  - Ultra-low pressure drop ΔP of 4.5 psid (310 mBord)
  - Industrial approval ratings of NEMA 6 & IP67 ratings
- **Fluids Measured**
  - All clean gases including toxics and corrosives
- **Accuracy**
  - +/- 1.0% of full scale
  - +/- 0.2% of full scale

**DIGITAL / Redy Series**
- **Models**
  - RedySmart meters and controllers
  - RedyCompact meters and regulators
- **Description**
  - Ultimate OEM solution, make gas mixing blocks
  - Direct mass flow rate measurement/ control
  - Large digital display, free user software
  - Micro Electro-Mechanical System (MEMS) technology
  - Direct mass flow using thermal CMOS sensor
- **Fluids Measured**
  - Air, N₂, O₂, He, Ar, CO₂, H₂, CH₄, C₂H₆, C₃H₈, other gases and mixes upon request
- **Accuracy**
  - Actual gas calibration over entire range
  - RedySmart: +/- 1.0% full scale
  - RedyCompact: +/- 0.2% full scale
- **Repeatability**
  - RedySmart: +/- 0.2% full scale
  - RedyCompact: +/- 0.5% full scale

**Flow, Temperature & Pressure Ranges**
- Flow: 0 to 500 slpm (nlpm)
- Temperature: 32 - 122°F (0 – 50°C)
- Pressure: 3 - 160 psig (0.2 - 11 bara)

**Additional Features**
- RedySmart™
  - Modbus RTU included on every instrument
  - Precision electromagnetic control valve
  - Fast response (80 ms)
- RedyCompact™
  - Compact footprint
  - Designed to replace VA meters
  - Battery operated
  - Large touch screen with rotational adjustment
  - Precision needle valve to regulate flow
**ECONOMICAL MFC / SideTrak**

**Models**
- 840L Low Flow
- 840M Medium Flow
- 840H High Flow

**Description**
- Dependable analog mass flow control for over 30 years
- Cleanable sensor tube for dirty gases
- Precision control with low pressure drop
- Durability with rugged construction
- Available in a wide variety of enclosures, process connections, input/output options and control electronics.

**Fluids Measured**
- All clean gases including toxics, corrosives and combustibles

**Accuracy**
- +/- 1.0% of full scale

**Repeatability**
- +/- 0.5% of full scale

**Leak integrity** $5 \times 10^{-9}$ sml/sec of helium

**CE Approved**

**Flow Ranges (50:1 Turndown)**
- 840L Low Flow
  - 0 to 15 slpm (nlpm)
- 840M Medium Flow
  - 0 to 100 slpm (nlpm)
- 840H High Flow
  - 0 to 500 slpm (nlpm)

Higher flows available upon request

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**ECONOMICAL MFM / MFC TopTrak**

**Models**
- 810C Nylon
- 820 Nylon
- 820S Stainless Steel
- 826 Aluminum
- 730 Aluminum or Stainless Steel

**Description**
- Proven flow measurement with affordable OEM pricing
- Choice of nylon, aluminum or stainless-steel construction
- Save money with volume discounts

**Fluids Measured**
- All clean gases; check compatibility with wetted materials

**Accuracy**
- +/- 1.5% of full scale

**Repeatability**
- +/- 0.5% of full scale

**Flow Ranges (100:1 Turndown)**
- 810C Nylon
  - 0 to 50 slpm (nlpm)
- 820 Nylon
  - 0 to 50 slpm (nlpm)
- 820S Stainless Steel
  - 0 to 500 slpm (nlpm)
- 820S Aluminum
  - 0 to 175 slpm (nlpm)

Higher flows available upon request

**730 Aluminum or Stainless Steel**
- 0 to 700 slpm (nlpm)

Higher flows available upon request

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**DIGITAL CONTROL FloBox**

**Description**
- Feature packed digital performance for analog MFC’s
- Large digital display with pushbuttons
- Power one to four units
- Master-slave ratio control
- Independent totalizers and alarms

**Features**
- Power input: 100, 110 or 240 VAC (specify when ordering), 50/60 Hz
- Power output: +/- 15 VDC, 250-500 mA
- Signal input from device: User selectable: 0-5 & 0-10 VDC, 4-20 mA
- Analog output: Set point and output user selectable 0-5 & 0-10 VDC, 4-20 mA (250 ohm max load resistance)
- 2 alarms per channel
- Digital output: RS-232, RS-485

**Programmable Functions (Model 954 four independent channels):**
- Valve override: Run, Close, Purge
- Display flow or totalizer
- Engineering units
- Gas name/symbol
- A/D filter rate
- Input signal type
- Alarm high and low values
- Master-slave ratio control
- Calibrate full scale
- Calibrate zero
- Gas correction factor

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**GAS FLOW CALIBRATORS CalTrak**

**Models**
- 800 Premium
- XL High Flow

**Description**
- Quick, easy to use, automatic data capture using free software
- Portable and battery operated
- Results directly traceable to NIST
- Highest accuracy primary standard for labs & industry (compare at ± 0.15% of reading)
- Innovative – 100:1 turndown ratio

**Fluids Measured**
- All clean gases; toxic and corrosive gas versions available

**Accuracy**
- Highest accuracy of ± 0.15% of reading gas mass flow rate

Note: At gas pressure of 760 mmHg, (1 atm) and a gas temperature of 25°C (77°F) with standardization temperature set to 211°C (69.98°F)

**Flow Ranges**
- 800 Premium
  - 0.5 sccm to 100 slpm (Across five flow cells)
- XL High Flow
  - 5 slpm to 1500 slpm
GLOBAL LOCATIONS

Find other Sierra Flow Centers of Excellence in Mexico, Singapore, and South Korea.

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