Classic Controls | +1 863-644-3642
www.classiccontrols.com

Thermal Gas Mass Flow Meters for Industrial Applications

PRECISE, RELIABLE, TRUSTED
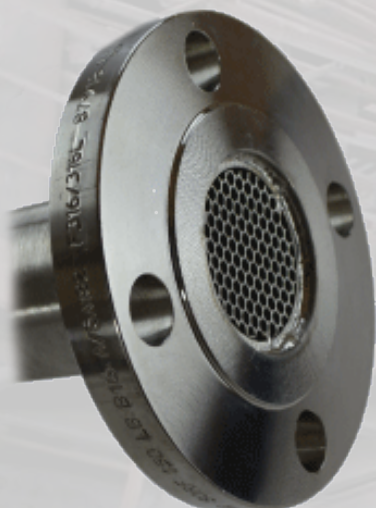# SOLUTIONS
IN GAS FLOW MEASUREMENT

- **INDUSTRIAL PROCESSING PLANTS PULP & PAPER, STEEL, & CHEMICAL**
- **OIL & GAS INDUSTRY**
- **ENVIRONMENTAL MONITORING**
- **WASTEWATER INDUSTRY**

Fox Thermal
Precision Mass Flow Measurement
An ONICON Brand

www.foxthermal.com • 831-384-4300

Benefits of Thermal Mass Flow Technology

- Direct mass flow measurement of air and gases in standard volumetric units (e.g., SCFM or NM3/H) or mass units (e.g., LBS/M or KG/H)
- No additional pressure or temperature compensation required
- Repeatability and exceptionally broad measurement range:
  up to 1000:1 (100:1 typical)
- Standard linear 4-20mA output proportional to mass flow rate
- Low pressure drop
- No moving parts
- Cost-effective
- Insertion, inline & remote* styles
- Measures flow rate and temperature

*Features and approvals vary by model number

Industries and Applications

Major Industries Served

- Industrial facilities
- Oil & Gas
- Wastewater
- Environmental & emissions monitoring
- Aluminum & steel production
- Pulp & Paper facilities
- Chemical plants
- Textile plants
- Manufacturing of glass & ceramics
- Food & beverage facilities
- Automotive plants
- Pharmaceutical facilities

Industrial

- Pure & mixed gas measurement of industrial processes

Oil & Gas

- Measurement of gas to flares or combustors
- Gas measurement for gas allocation
- Gas from Vapor Recovery Units (VRU's)
- Gas from separators
- Fuel & natural gas monitoring

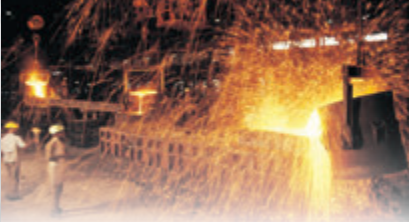### Wastewater Treatment Facilities

- Air flow monitoring of aeration to pools
- Natural gas flow to sludge incinerators

Environmental & Emissions Monitoring

- Natural gas monitoring for emissions calculations
- Vent or flash gas monitoring
- Flare or waste gas monitoring
- Landfill gas (LFG) monitoring

9001:2015
ISO
CERTIFIED

Certifications, Accuracy Compliance, and Approvals

Quality you can count on!

- ISO 9001:2015 certified Quality Management System
- CE Mark
- FM/FMc product certifications
- ATEX/IECEx certifications*
- CRN approvals*
- Welding qualifications to ASME IX
- BLM 3175 and API 14.10 accuracy compliant

$C \in$ FM APPROVED $\langle Ex \rangle$

Award-Winning Features on Fox Thermal Products

The entire line of thermal gas mass flow meters from Fox Thermal have consistently won innovation and breakthrough product awards.

Compare model features below:

- 4 Innovation Awards
- 4 Breakthrough Product Awards
- 1 Product of the Year Award

The Fox Thermal Difference

- Microprocessor-based, field-rangeable electronics
- DDC-Sensor™ proprietary flow sensor design*
- Gas-SelectX® field selectable gases / gas mixes without affecting accuracy*
- CAL-V™ and Zero CAL-CHECK® Calibration Validation*
- Free FT View™ Software to configure meter, print Calibration Validation certificates, run simulations, and more!*
- Data Logger with 7-year history*

MODEL FT1

The "Plug 'n Play" Flow Meter

An economical solution for a variety of industrial and wastewater applications.

- Advanced DDC Sensor™
- Gas-SelectX® technology: Pure gas menu and a 5-gas mix
- CAL-V™ Calibration Validation
- Optional Modbus RTU (RS485), BACnet MS/TP, or HART communication protocols
- Insertion and inline styles

MODEL FT2A

The Industrial Facility Favorite!

Extensive communications options!

- Contact input to reset total
- Optional Modbus RTU (RS485), BACnet MS/TP (RS485), Profibus-DP, DeviceNet, or Ethernet Modbus TCP communication protocols
- DC or AC input power options
- Insertion, inline, integral, and remote styles

MODEL FT3

Offshore Favorite!

Ask us about the BSEE response to the FT3 Calibration Validation feature!

- Infrared (IR) buttons on display/configuration panel
- Zero CAL-CHECK® & CAL-V™ Calibration Validation tests
- Optional Modbus RTU (RS485) or HART communication protocols
- DC or AC input power options
- Insertion, inline, integral, and remote styles

Processing's
Breakthrough Products *2012*

MODEL FT4A

Great for Digester Applications and Much More!

A precision meter for landfill gas, biogas, and flare gas measurement!

- Advanced DDC Sensor™
- Gas-SelectX® technology with 3 Menus: Pure Gas, Gas Mix, and Oil & Gas Mix
- CAL-V™ Calibration Validation
- Optional Modbus RTU (RS485) or HART communication protocols
- Insertion and inline styles

Flow CONTROL INNOVATION AWARDS 2013 WINNER

Processing BREAKTHROUGH PRODUCTS 2017 WINNER

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MODEL FT4X

BLM 3175 and API 14.10 Accuracy Compliant!

The perfect flow meter for oil & gas applications!

- Data Logger with date/time stamp
- Advanced DDC-Sensor™
- Gas-SelectX® technology with 3 Menus: Pure Gas, Gas Mix, and Oil & Gas Mix
- CAL-V™ Calibration Validation
- Optional Modbus RTU (RS485) or HART communication protocols
- Insertion, inline, integral, and remote styles

2018
Oil & Gas Engineering
Product
of the
Year
Silver Award

FT4X Standard Data Logger with Date/Time Stamp

The advanced features of the Model FT4X Data Logger include:

- 40 daily totals (24-hour totals)
- Settable Contract Time defines Contract Day
- Time/date stamped alarm & event logs; 7 year history
- Power off totalizer; power failure creates event log entry

Access logs to learn about the meter's settings and functionality:

- View the meter's gas or gas mix composition
- View the meter's configuration and other meter settings
- View Calibration Validation historical test data
- View and print logs of events and alarms

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STATE-OF-THE-ART TECHNOLOGY

FT View™ Software

Free, advanced downloadable software!

- PC-based software application, installed in minutes
- Configure flow meter settings
- Available for every Fox Thermal flow meter model
- Flow meter connected by USB port

Calibration Validation

Know if your flow meter is reading accurately in the field!

- Calibration Validation at the push of a button
- Eliminate the cost and inconvenience of annual factory calibration
- Tests take less than 5 minutes to run
- Produces a pass/fail result
- Certificate can be produced (using FT View software only)

DDC-Sensor™ - Direct Digitally Controlled Sensor

Innovative design for precise measurement and full-featured flow meters!

- Interfaces directly with the flow meter's microprocessor
- Faster speed and more versatile programmability
- Robust, non-cantilevered RTD elements to eliminate vibration
- Provides the technology platform necessary for calculating accurate gas correlations
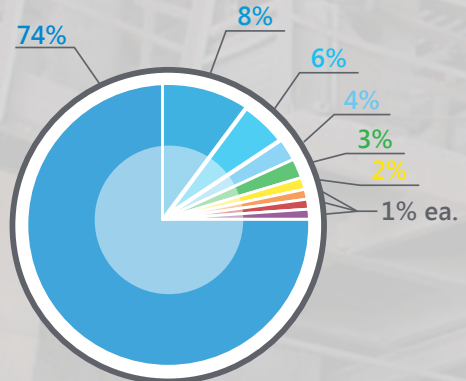
GAS-SELECTX®

Create a custom gas mix for your Fox Thermal flow meter

74%
8%
6%
4%
3%
2%
1% ea.

- O Methane
- O Ethane
- O Propane
- O i-Butanes
- O Pentanes
- O CO2

- O Nitrogen
- O Hexanes
- O n-Butanes

STATE-OF-THE-ART TECHNOLOGY (CONT'D)

Gas-SelectX® Gas Selection Menu

- Allows the user to choose from gas menus
- Switch gases or gas mixes in the field
- No need to return the flow meter to the factory for a recalibration
- Three gas menus:
    - Pure gas menu
    - Mixed gas menu
    - Oil & gas menu*

The 3 menus of Gas-SelectX®		
Pure Gas Menu	**Mixed Gas Menu**	**O&G Gas Menu***
Air	Air	Carbon Dioxide
Argon	Argon	Nitrogen
Butane	Butane	Methane (C1)
Carbon Dioxide	Carbon Dioxide	Ethane (C2)
Methane	Ethane	Propane (C3)
Natural Gas**	Methane	i-Butane (C4)
Nitrogen	Nitrogen	n-Butane (C4)
Oxygen	Oxygen	Pentanes (C5)
Helium	Helium	Hexanes (C6)
Hydrogen	Hydrogen	Heptanes (C7)
Propane	Propane	Octanes (C8)
Ethane		Nonanes+(C9)+

*Not available on model FT1

**Choosing Natural Gas sets the NAESB average in a pre-programmed mix of methane, ethane, propane, nitrogen, and carbon dioxide.