



ONICON

Flow and Energy Measurement

FT-3400 SERIES INSERTION ELECTROMAGNETIC FLOW METERS

FT-3400 series flow meters combine the convenience of an insertion style design with the reliability of electromagnetic flow measurement. They are ideal for measuring flow in a wide variety of applications.



We believe in our products, so should you.

1 YEAR NO FAULT WARRANTY
3 YEAR MANUFACTURER WARRANTY



FACTORY CONFIGURED



ON TIME DELIVERY



BEST CUSTOMER SERVICE

• Chilled Water • Heating Hot Water •
Domestic/Municipal Water • Condenser Water •

FT-3400 SERIES

INSERTION ELECTROMAGNETIC FLOW METERS



DESCRIPTION

ONICON's FT-3400 series insertion electromagnetic flow meters are suitable for measuring electrically conductive liquids in a wide variety of applications. Each FT-3400 provides current and voltage analog output for flow rate, a high-resolution frequency output to drive peripheral devices, a scalable pulse output for totalization, and a master alarm signal.



Standard Configuration

Two versions of the FT-3400 are available. The standard configuration FT-3400 is suitable for unidirectional applications while the bidirectional configuration provides an additional output for direction.

Optional remote displays and BTU measurement systems are also available for both versions.

APPLICATIONS

- Chilled water
- Heating hot water
- Condenser water
- Domestic/municipal water
- Water/glycol

FEATURES

- Simple Installation and Commissioning** - Factory programmed and ready for use upon delivery.
- Exceptional Performance & Value** - Insertion style design provides cost-effective solution for accurate and reliable flow measurement in larger pipe sizes.
- Excellent Long Term Reliability** - Low maintenance, no-moving-parts flow sensing technology works well in difficult flow measurement applications such as open loop condenser water flow.
- Highly Accurate Over a Wide Flow Range** - Highly efficient sensor design, accuracy and sensitivity, particularly at low flow rates.
- Simplified Hot Tap Insertion Design** - Standard on every insertion flow meter, this feature allows for insertion and removal by hand without a system shutdown.
- Ideal Solution for Retrofits** - The innovative hot tap adapter design allows for wet tapping pipes without interrupting flow.

CALIBRATION

Every ONICON flow meter is wet calibrated in a flow laboratory against standards that are directly traceable to National Institute of Standards and Technology (N.I.S.T.). A certificate of calibration accompanies every meter.



Multiple FT-3400 Insertion Electromagnetic Flow Meters combined with the System-1000 Flow & Energy Measurement System provide unsurpassed accuracy and reliability readings on a local display with a single network output.

FT-3400 SERIES
INSERTION ELECTROMAGNETIC FLOW METERS



SPECIFICATIONS*

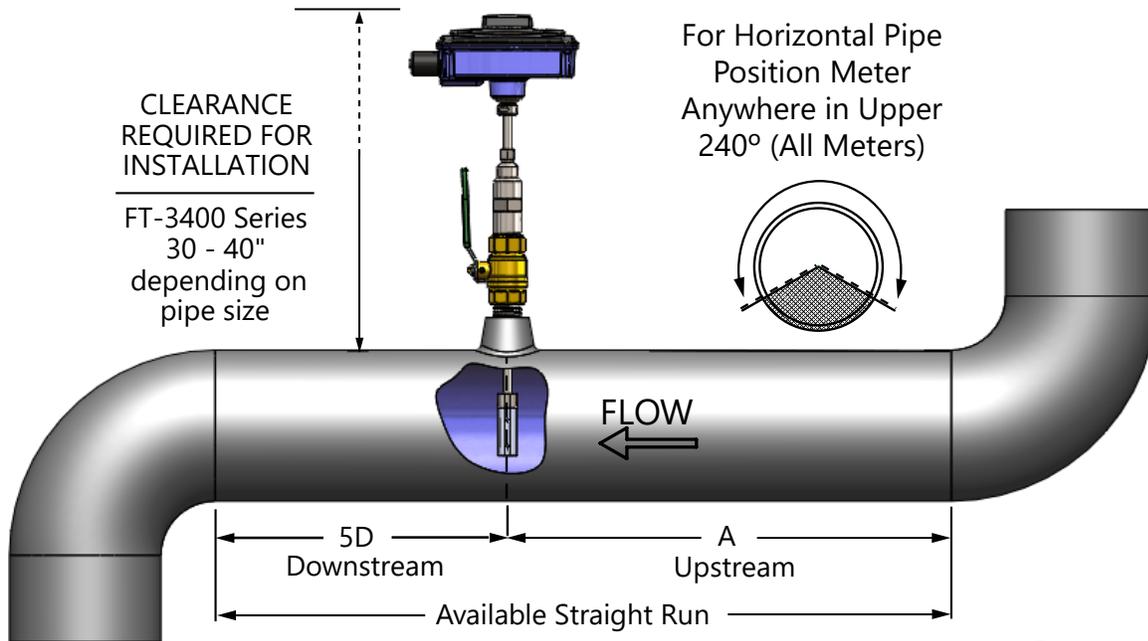
MODEL FT-3400		
PERFORMANCE	ACCURACY	±1.0% of reading from 2 - 20 ft/s ±0.02 ft/s below 2 ft/s
	MINIMUM CONDUCTIVITY	25 µS/cm
INPUT POWER	20 - 28 VDC, 400 mA at 24 VDC 20 - 28 VAC, 60 Hz, 10 VA	
I/O SIGNAL	ANALOG OUTPUT (ISOLATED)	One 4-20mA analog output and one 2-10V or 1-5V analog output, with 2mA and 1V or 0.5V specifically allocated for alarm conditions.
	FREQUENCY OUTPUT	0-15 V peak pulse, 0-500 Hz
	SCALABLE PULSE OUTPUT	Isolated solid state dry contact Contact rating: 30 V, 1.2A Pulse Duration: 0.5, 1, 2 or 6 seconds
ELECTRONICS ENCLOSURE	Weathertight NEMA 4 aluminum enclosure	
ELECTRICAL CONNECTIONS	10' or 20' of PVC jacketed cable with ½" NPT conduit connection	
FLOW RANGE	0.1 ft/s to 20 ft/s (200:1 turndown)	
SENSING METHOD	Electromagnetic sensing (no moving parts)	
PIPE SIZE RANGE	AVAILABLE OPTIONS	Standard Configuration: 3 - 72" nominal diameter (1.25" - 2.5" Coming in Q2 2024)
LIQUID TEMPERATURE RANGE	15°F to 250°F	
AMBIENT TEMPERATURE RANGE	-20°F to 150°F	
OPERATING PRESSURE	400 psi maximum	
PRESSURE DROP	0.1 psi at 12 ft/s in 3" pipe, decreasing as line size increases	
MATERIAL	Wetted metal components: 316 Stainless Steel Sensor head: XAREC Optional: NSF/ANSI 61/372 version	
APPROVAL	UL	UL ANSI/NSF 61 & 372 Drinking Water Safety UL 50 Standard for Enclosures for Electrical Equipment UL 61010-1 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use
	CE	IEC 61000-6-2 Power-Frequency Magnetic Field, Radiated Immunity and Electrostatic Discharge. IEC 61000-6-4 Radiated Emissions EN 301 489-17 Radiated Emissions, RF Immunity, and Electrostatic Discharge EN 301 328 Wideband transmission systems
	FCC: Part 15, Subpart B	

*Specifications subject to change without notice.

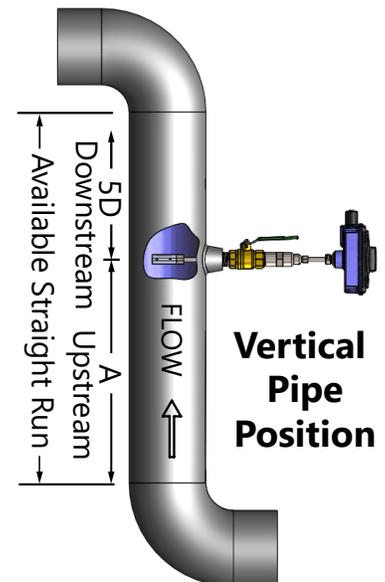
OPERATING RANGE FOR COMMON PIPE SIZES

OPERATING RANGE FOR COMMON PIPE SIZES*					
PIPE SIZE (inches)	FLOW RATE (GPM) (0.1 ft/s to 20 ft/s)	PIPE SIZE (inches)	FLOW RATE (GPM) (0.1 ft/s to 20 ft/s)	PIPE SIZE (inches)	FLOW RATE (GPM) (0.1 ft/s to 20 ft/s)
1¼	0.4 - 95	6	9 - 1,800	18	70 - 14,600
1½	0.6 - 130	8	16 - 3,100	20	86 - 18,100
2	1.0 - 200	10	24 - 4,900	24	125 - 26,500
2½	1.1 - 230	12	35 - 7,050	30	223 - 41,900
3	2.4 - 460	14	42 - 8,600	36	304 - 60,900
4	4 - 800	16	55 - 11,400		

STRAIGHT RUN INFORMATION

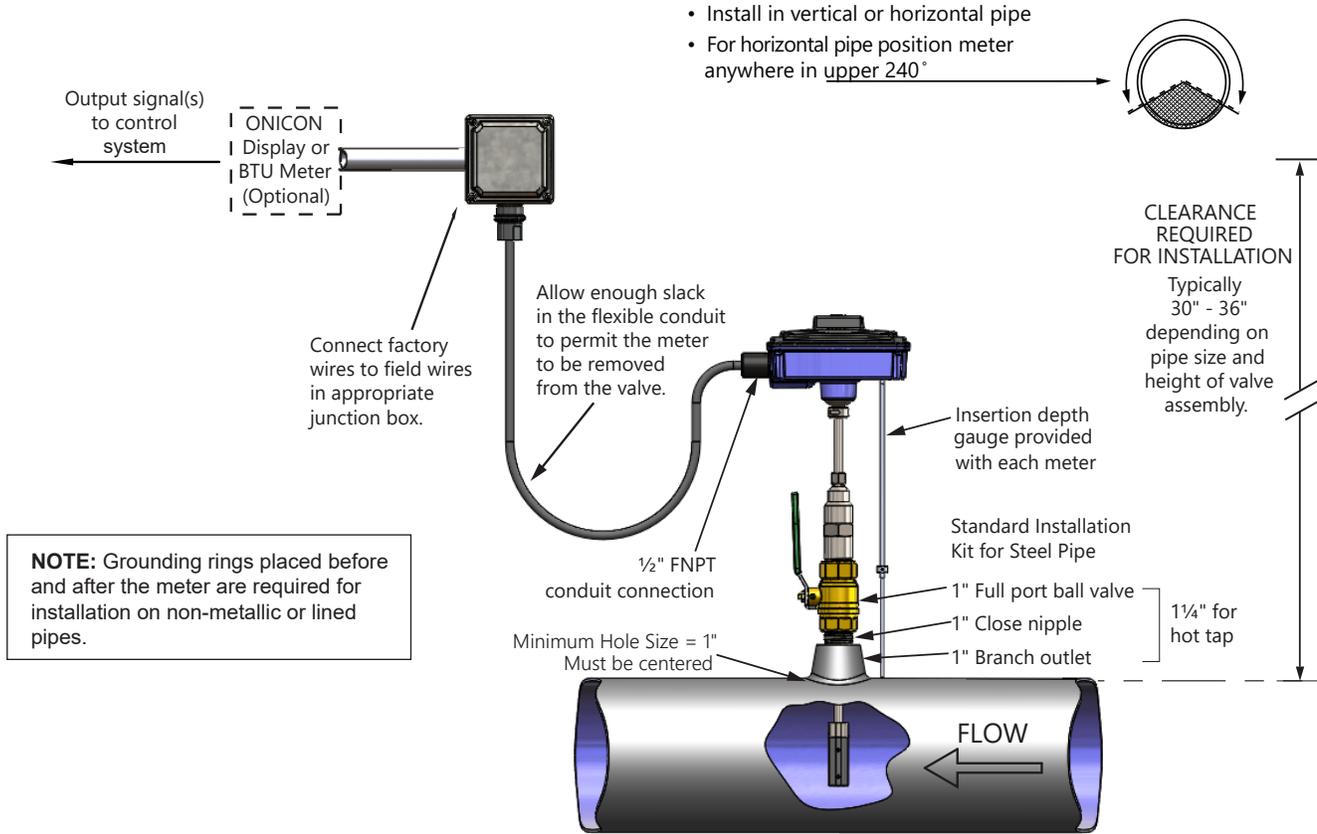


Upstream obstruction	(A) Minimum straight run required upstream of meter location
Single bend preceded by ≥ 9 diameters of straight pipe	10 Diameters
Pipe size reduction / expansion in straight pipe run	10 Diameters
Single bend preceded by ≤ 9 diameters of straight pipe	15 Diameters
Outflowing tee / Pump outflow	20 Diameters
Multiple bends out of plane	30 Diameters
Inflowing tee	30 Diameters
Control / Modulating valve	30 Diameters



TYPICAL METER INSTALLATION

(New construction or scheduled shutdown)



- Install in vertical or horizontal pipe
- For horizontal pipe position meter anywhere in upper 240°

NOTE: Grounding rings placed before and after the meter are required for installation on non-metallic or lined pipes.

Note: Installation kits vary based on pipe material and application. For installations in pressurized (live) systems, use "Hot tap" 1 1/4 inch installation kit and drill hole using a 1 inch wet tap drill.

METER ORDERING INFORMATION

FT-3400 Meter Model Number Codification = FT-3400-ABC-DEEF

FT-3400 = Insertion Electromagnetic Flow Meter

A = Meter Configuration & I/O

- 1 = Frequency, Pulse, Iso Analog, 24V AC/DC
- 2 = Frequency, Pulse, Iso Analog, **Dir Contact**, 24V AC/DC

B = Communications

- 0 = No Communications Module

C = Bluetooth (Coming Soon)

- 0 = No Bluetooth Module

D = Enclosure Type and Process Connection

- 1 = NEMA 4 Enclosure with 10' PVC Cable
- 2 = NEMA 4 Enclosure with 25' PVC Cable

EE = Pipe Size Range and Meter Length

- A1 for pipes 1.25 - 2.5" (Coming in Q2 2024)
- C3 for pipes 3 - 10" (18" stem)
- D4 for pipes 3 - 16" (20" stem)
- E5 for pipes 3 - 22" (22" stem)
- F6 for pipes 3 - 72" (24" stem)
- F7 for pipes 3 - 72" (26" stem)
- F8 for pipes 3 - 72" (28" stem)
- G1 for pipes 12 - 72" (30" stem)
- G2 for pipes 12 - 72" (34" stem)

F = Wetted Material

- 1 = Temp < 150°F, 316 SS, XAREC, Viton
- 2 = Temp ≤ 250°F, 316 SS, XAREC, FKM, Viton
- 3 = Temp < 180°F, 316 SS, XAREC, EPDM, **NSF rated**

