Fox 10A

Model 10A Thermal Gas Mass Flowmeter

- ✗ Directly measures mass gas flow in scfm or nm³/h. Available in other engineering units
- ✗ Insertion and in-line models
- ✗ In-line model has built-in flow conditioners
- ✗ Advanced *Power Pro*™ Sensor
- ✗ All welded sensor construction
- ✗ Wide turn down—100 to 1
- ✗ Microprocessor based, field rangeable
- ✗ On board display and configuration panel
- ✗ FM and CSA approved
- ✗ CENELEC approval pending
- ✗ CE approved
- ✗ NIST traceable calibration



PRODUCT DESCRIPTION

The Fox Model 10A Thermal Mass Flowmeter is the instrument of choice for reliable and accurate gas mass flow measurement. The instrument measures gas in standard units without the need for temperature and pressure compensation. It provides a 4-20 mA output proportional to mass flow rate in your choice of engineering units (scfm, sfpm, nm³/h, etc.). The optional on-board display/configuration panel provides a bright LED read-out of flow rate and total. It allows the user to field set the meter's full scale, alarms points, and adjust the duct or pipe dimension required for changing application conditions.

All Fox Model 10A Flowmeters are equipped with the revolutionary *Power Pro*™ thermal mass flow sensor. The *Power Pro* sensor was designed to operate at a higher power level than previous models. The elevated power level significantly increases its sensitivity to flow. This results in improved accuracy, repeatability and response time.

The Model 10A is available in insertion and in-line configurations. The insertion meter has a rugged 1/2-inch probe in lengths up to 36-inches (91.4 cm). The in-line model is available in 1/4-inch to 6-inches and delivered with built-in flow conditioners that eliminate the need for long, straight pipe runs. The meter can be ordered with flanged, NPT, or weld-prep end connections. Both models can be supplied with 316 stainless steel, Hastelloy C-276, or other wetted material. The Model 10A is FM and CSA approved for hazardous area locations. The very reliable, very accurate Fox Model 10A Thermal Mass Flowmeter is the right choice for your gas flow applications.

FOX
THERMAL INSTRUMENTS, INC.

SPECIFICATIONS

Performance Specs

Accuracy:
± 0.75% of reading + 0.5% of full scale

Calibration:
NIST traceable

Repeatability:
± 0.2% of reading

Response Time:
0.9 seconds (One time constant)

Operating Specs

Flow Rates:
Insertion Flowmeter
0 to 20,000 sfpm (0 to 100 nmps)

In-Line Flowmeter

	scfm		nm³/hr	
Size	**min**	**max**	**min**	**max**
0.25-inch	0-0.7	0-14	0-1.2	0-24
0.5-inch	0-2.1	0-42	0-3.4	0-71
0.75-inch	0-3.7	0-74	0-6.3	0-126
1-inch	0-6	0-120	0-10	0-204
1.5-inch	0-15	0-280	0-25	0-476
2-inch	0-23	0-470	0-39	0-800
3-inch	0-50	0-1000	0-85	0-1700
4-inch	0-90	0-1800	0-153	0-3060
6-inch	0-200	0-4000	0-340	0-6800

Note: Standard conditions of air at 70°F and one atmosphere. Consult factory for other gases and for flow ranges above and below those listed above.

Gas Pressure (maximum):
Insertion Flowmeter:
300 psig (21 barg)
¼ through 6-inch In-Line Flowmeters:
NPT 300 psig (21 barg)
150# flange 230 psig (16 barg)

Note: Pressure ratings stated for temperature of 100°F (38°C).

Temperature:
Sensor -40 to 250°F (-40 to 121°C)
HT Sensor 32 to 482°F (0 to 250°C)*
Enclosure -40 to 131°F (-40 to 55°C)

* High temperature sensor not available in 1/4-inch and 1/2-inch flowmeters.

Input Power:
Explosion proof enclosure
24 VDC, ± 10%, 0.75 amp
Remote NEMA 4X enclosure
115/230 VAC, ±10%, 50/60 Hz, 25 watts

Output:
4-20 mA, isolated
Alarm relay; dry contact;
50 VAC, 30 VDC, 3 amp

Physical Specs

Display Parameters:
Flow scfm (nm3/h)
Total scf (nm3)
Elapsed time (hrs)
Alternates between readings

Remote cabling:
2 conductor, 18 AWG, 500 ft. max

Sensor Wetted Materials:
316 Stainless Steel, Hastelloy C-276

Insertion Flowmeter:
Probe diameter 1/2-inch
Installation Coupling 3/4-inch NPT

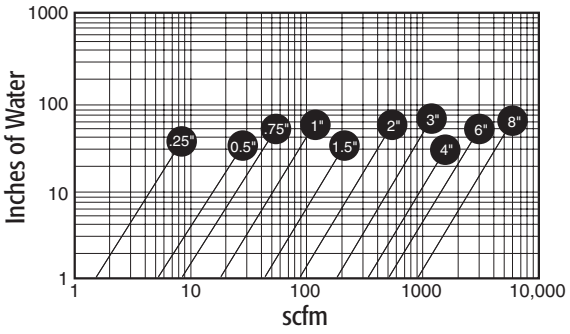
Retractor Assembly
Pressure (max) 60 psig (4.1 barg)

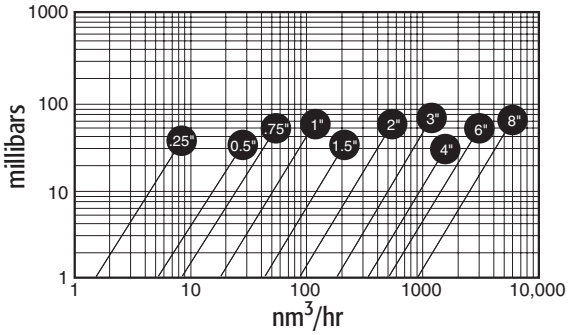
Enclosures

Explosion Proof Enclosure:
Cast aluminum; FM and CSA approved for Class I, Divisions 1, Groups B, C, & D Temperature: T3C (160°C).
FM approved Dust Ignition Proof for Class II/III, Division 1, Groups E, F & G; indoor/outdoor NEMA Type 4.
CE Approved

Remote NEMA 4X Enclosure:
Fiberglass; Non-explosion proof;
NEMA 4X

Pressure Drop Charts for Inline Flowmeters





Dimensional

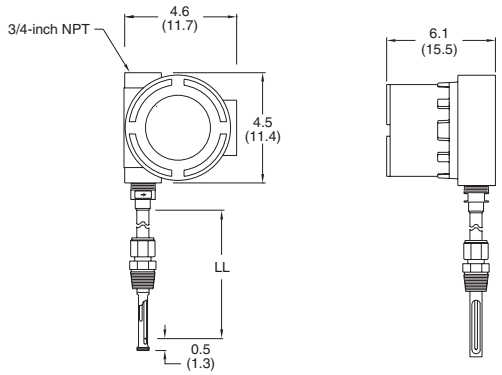
Insertion Flowmeters:
Length (LL) = 4.0(10.2), 6.0(15.2), 9.0(22.9), 12.0(30.5), 18.0(45.7), 24.0(61.0), 30.0(76.2), 36.0(91.4)

In-Line Flowmeters:

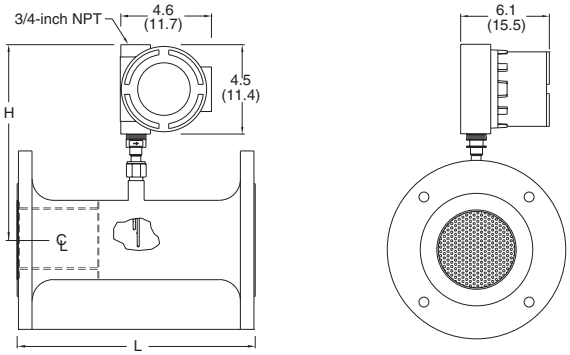
	L	H
0.25-inch	7.90 (20.0)	7.80 (19.8)
0.5-inch	12.0 (30.5)	10.0 (25.4)
0.75-inch	12.0 (30.5)	10.0 (25.4)
1-inch	15.0 (38.1)	10.0 (25.4)
1.5-inch	12.0 (30.5)	10.0 (25.4)
2-inch	12.0 (30.5)	10.0 (25.4)
3-inch	18.0 (45.7)	10.0 (25.4)
4-inch	18.0 (45.7)	11.5 (29.2)
6-inch	24.0 (61.0)	11.5 (29.2)

Note: Dimensions in parenthesis are centimeters. For certified drawings consult factory.

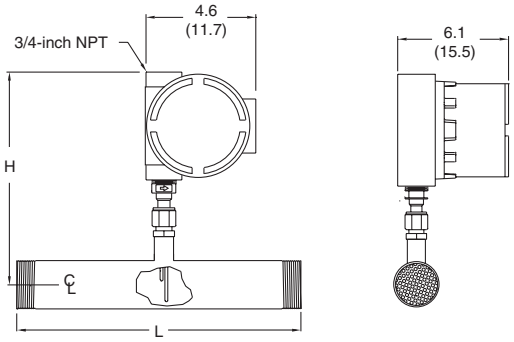
Insertion 4" to 36" (10.2 to 91 cm)



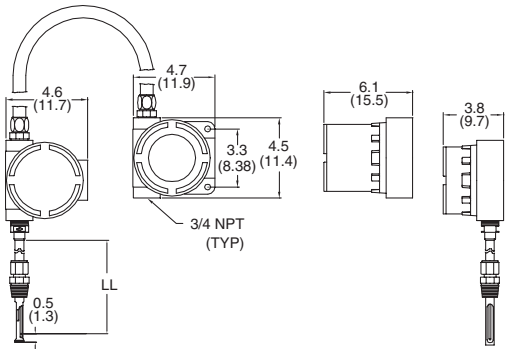
In-Line with 150# Flanges – sizes 0.5" to 6"



In-Line with NPT Fittings – sizes 0.25" to 6"

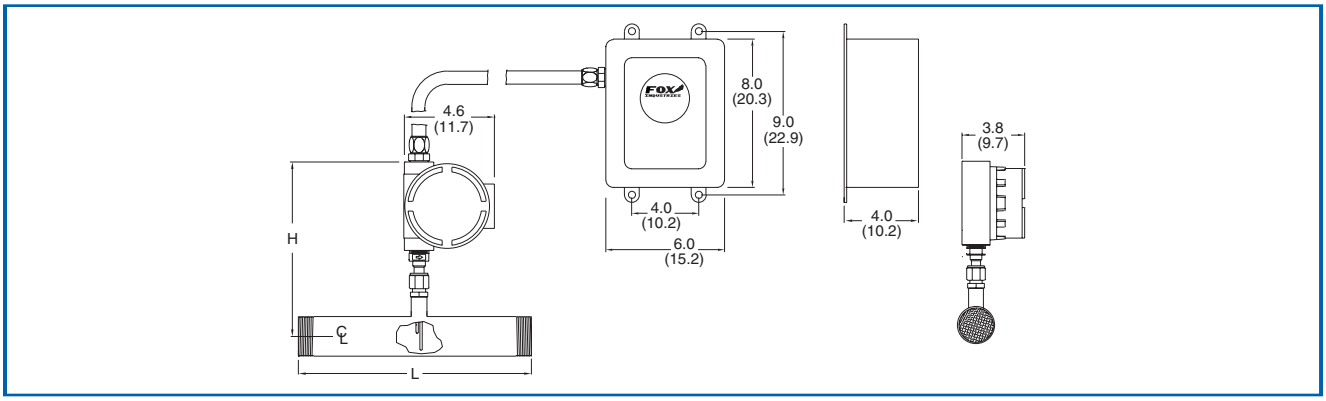


Insertion with remote explosion-proof enclosure

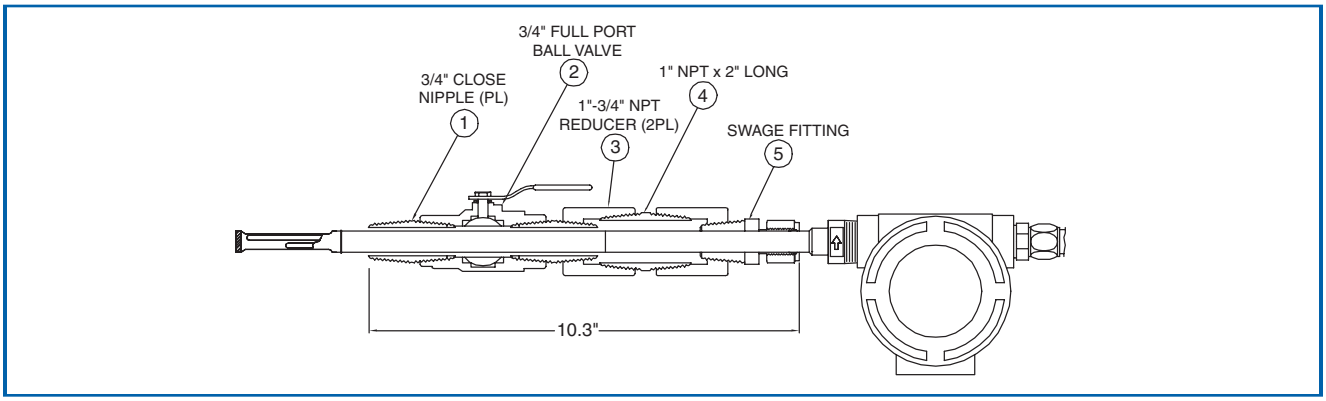


DIAGRAMS

In-Line with NPT Fittings and remote NEMA 4X Enclosure – sizes 0.25" to 6"



Retractor assembly



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