

WORKING PRINCIPLE

OXFTM Series Thermal Mass Flowmeter measures the gas mass flow base on thermal diffusion theory. It has two filmed RTDs as its sensors, one of which sense the velocity of the gas flow (RH) and the other one will detect the temperature shift of the gas flow (RMG). When the two RTD are in the gas flow ,the RH will be heated while the RMG will sense the temperature changing of the gas flow. More heat will be taken away as the velocity of the gas flow increasing, so the temperature on RH will decline.

SPECIAL FEATURES

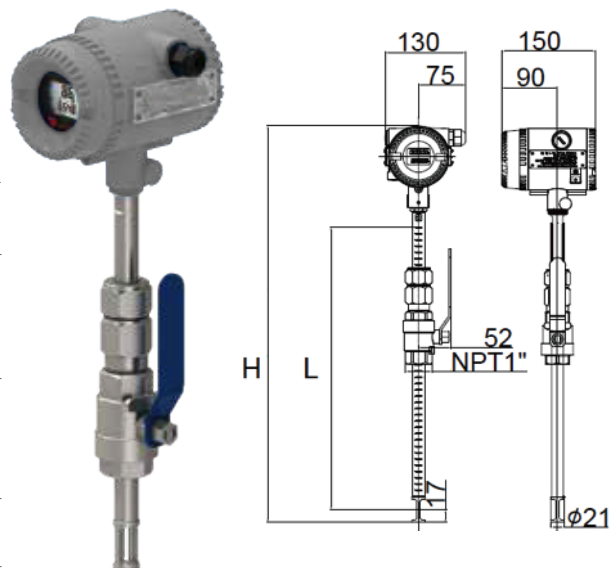
- Direct mass flow or normalized flow measurement
- 100:1 turn down ratio in 5 ranges: 0.3~30Nm/s, 0.6Nm/s~60 Nm/s, 0.9~90Nm/s, 1.2~120Nm/s, or 1.5~150Nm/s
- No pressure loss, suitable for pipe in any shape with known sectional area
- For the insertion type, installation and maintenance can be performed while in service
- High accuracy data acquisition circuit to ensure outstanding repeatability and accuracy
- Real time Natural Gas composition mixture (C4-C6) input via Modbus for higher accuracy measurements
- High efficiency design of power supply, the total power consumption is only 60mA@24VDC
- 16V~32V wide voltage range input
- Self-diagnose function plus remote diagnose function, ensure easier trouble-shooting and meter verification for accuracy and reliability
- Ex-proof version optional
- Bluetooth communication for reading, setting and diagnosis through Smart Device APP
- No moving parts



SPECIFICATION

Media Compatibility	Air, Nitrogen, O ₂ , CO ₂ , Argon, CH ₄ , Natural gas, biogas, and almost all dry and clean air
Pipe diameter	Insertion: DN25 ~ 2500mm Inline: DN25 ~ 300mm
Flow velocity range	0.3-30Nm/s 0.6-60Nm/s 0.9-90Nm/s 1.2-120Nm/s 1.5-150Nm/s
Accuracy	1.5% RD 3 0.5% FS
Temperature of medium	Standard: -40 ~ +150°C Middle: -40 ~ +250°C High: -40 ~ +450°C
Pressure of medium	Insertion: 230 psig (1.6 MPa) Flanged insertion: 914 psig (6.3 MPa) Flanged in-line: 914 psig (6.3 MPa)
Power supply	AC85~264V or DC16~32V
Response time	1 second
Output	Frequency and 4-20mA as standard
Communication	RS-485 + Bluetooth as standard , 4-20mA@HART as optional
Date displayed	Mass flow, Total flow Volume flow in normal condition
Ingress protection grade	IP65
Ex-proof	NEPSI EX d II c T3 Gb

Insertion type with ball valve
Install/remove the meter without interrupting process



Probe	H	L
11.42" (290 mm)	17.07"	10.06"
17.32" (440 mm)	22.97"	15.97"
27.12" (690 mm)	32.82"	25.81"
39.37" (1000 mm)	45.02"	38.01"
59.06" (1500 mm)	64.71"	57.70"

MAX PIPE SIZE THAT EACH PROBE CAN ADAPT TO

Probe length	290mm	440mm	690mm	1000mm	1500mm
T < 50 dgr C	DN150	DN450	DN900	DN1500	DN2500
50 °C < T < 150 °C	/	DN100	DN600	DN1200	DN2200
150 °C < T < 250 °C	/	/	DN400	DN1000	DN2000
250 °C < T < 450 °C	/	/	DN300	DN600	DN1000
T < 122 °F	6"	18"	36"	60"	100"
122 °F < T < 302 °F	/	4"	24"	48"	88"
302 °F < T < 482 °F	/	/	16"	40"	80"
482 °F < T < 842 °F	/	/	12"	24"	40"

OTHER PROCESS CONNECTION



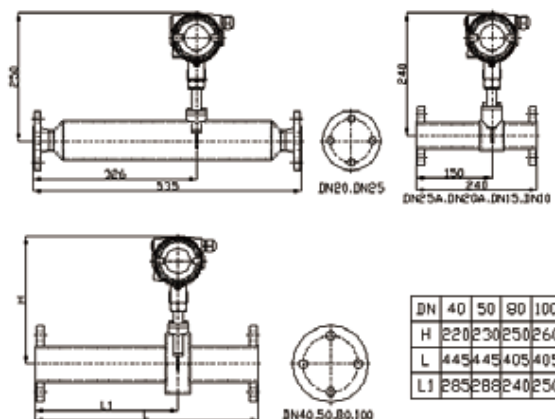
Flanged insertion type

For applications with pressure higher than 230 psig (1.6MPa)



Flanged type

For in-line connection, 230 psig- 914 psig (1.6 ~ 6.3 MPa) and different flanged standard available



ANSI	1.5"	2"	3"	4"
H	8.66"	9.05"	9.84"	10.24"
L	17.52"	17.52"	15.95"	15.95"
L1	11.22"	11.34"	9.45"	9.84"

Dimension of Flanged type thermal mass flow meter

STANDARD VOLUME FLOW RATE RANGE IN POPULAR SIZES

Pipe size (mm)	Pipe size (inch)	Option 1 (0.3-30 Nm/s)		Standard (0.6-60 Nm/s)		Option 2 (0.9-90 Nm/s)		Option 3 (1.2-120 Nm/s)	
		Min flow Nm ³ /hr	Max flow Nm ³ /hr	Min flow Nm ³ /hr	Max flow Nm ³ /hr	Min flow Nm ³ /hr	Max flow Nm ³ /hr	Min flow Nm ³ /hr	Max flow Nm ³ /hr
25 mm	1"	0.53	53	1.05	105.9	1.58	158.8	2.11	211.8
32 mm	1 1/4"	0.87	86.7	1.73	173.5	2.6	260.3	3.47	347.1
40 mm	1 1/2"	1.36	135.6	2.71	271.1	4.06	406.7	5.42	542.3
50 mm	2"	2.12	211.9	4.23	423.7	6.35	635.5	8.47	847.4
65 mm	2 1/2"	3.58	358.1	7.1	716.1	10.7	1074.1	14.3	1432.2
80 mm	3"	5.42	542.3	10.8	1084.7	16.2	1627.1	21.6	2169.4
100 mm	4"	8.47	847.5	16.9	1694.9	25.4	2542.3	33.8	3389.8
125 mm	5"	13.2	1324.2	26.4	2648.3	39.7	3972.4	52.9	5296.6
150 mm	6"	19.1	1906.8	38.1	3813.5	57.2	5720.3	76.2	7627.1
200 mm	8"	33.9	3389.8	67.7	6779.6	101.6	10169.4	135.5	13559.3
250 mm	10"	53	5296.6	105.9	10593.2	158.8	15889.8	211.8	21186.4
300 mm	12"	76.3	7627.1	152.5	15254.2	228.8	22881.3	305	30508.4

Mode number

The standard model number is usually OXFTM-1-2-I2-1-N-T-M-N-1-1-XXXX,
Please reference to the table below for what the model codes stand for.

MODEL CODES

1	General model	OXFTM	Standard
2	Fluid type	1 Air/nitrogen	Standard
		2 Oxygen (sensor will be degreased)	Option
		3 Other (Please advise gas composition)	Option
3	Measurement range	1 0.3-30 Nm/s	Option
		2 0.6-60 Nm/s	Standard
		3 0.9-90 Nm/s	Option
		4 1.2-120 Nm/s	Option
		5 1.5-150 Nm/s	Option
		6 1.8-180 Nm/s	Option
4	Process connection	I1 Insertion type with 290mm probe	Option
		I2 Insertion type with 440mm probe	Standard
		I3 Insertion type with 690mm probe	Option
		I4 Insertion type with 1000mm probe	Option
		I5 Insertion type with 1500mm probe	Option
		F1 Flanged insertion type up to 25 barG (362 psiG)	Option
		F2 Flanged insertion type up to 40 barG (580 psiG)	Option
		F2 Flanged insertion type up to 63 barG (913 psiG)	Option
		D1 Flanged DIN PN16 up to 16 barG (232 psiG) (DN15-DN300)	Option
		D2 Flanged DIN PN25 up to 25 barG (362 psiG) (DN15-DN300)	Option
		D3 Flanged DIN PN40 up to 40 barG (580 psiG) (DN15-DN300)	Option
		D4 Flanged DIN PN63 up to 63 barG (913 psiG) (DN15-DN300)	Option
		C1 Flanged ANSI CL150 up to 16 barG (232 psiG) (0.5 inch-12 inch)	Option
		C2 Flanged ANSI CL300 up to 40 barG (580 psiG) (0.5 inch-12 inch)	Option
		C3 Flanged ANSI CL400 up to 63 barG (913 psiG) (0.5 inch-12 inch)	Option
		J1 JIS 10K up to 16 barG (232 psiG) (DN15-DN300)	Option
		J2 JIS 20K up to 40 barG (580 psiG) (DN15-DN300)	Option
		J3 JIS 30K up to 63 barG (913 psiG) (DN15-DN300)	Option
5	Wetted part material	1 316ss sensor with 304ss wetted parts	Standard
		2 316ss sensor with 316ss wetted parts	Option

6	Medium temp range	N	< 150°C	Standard
		Q	< 250°C	Option
		H	< 450°C (please select remote display also)	Option
7	Transmitter	T	Integral	Standard
		R	Remote	Option
8	Cable grinder	M	M20 x 1.5	Standard
		N	NPT 1/2	Option
9	Ex-proof	N	No Ex-proof	Standard
		1	NEPSI Ex d IIC T3 Gb	Option
10	Transmitter	1	pulse/frequency + 4-20mA + RS485 + Bluetooth	Standard
		2	pulse/frequency + 4-20mA@HART + Bluetooth	Option
11	Power supply	1	13.5-42VDC	Standard
		2	13.5-42VDC with 85-265VAC 50/60Hz power converter	Option
12	Pipe size	xxxx	please use 4 digit pipe size, such as DN50=0050, DN300=0300	xxxx