

Working principle

TGF460 Series Thermal Mass Flowmeter is COMATE's latest technology specially designed for air and N₂ applications. It has more compact design, which means smaller enclosure and thinner insertion tube probe. It can be installed / removed without stopping the fluid, as the pipe is thinner, field engineers will be able to insert the meter to pipe very easily. Also, TGF460 will be the most cost-effect model in the market.

Special features

- Direct mass flow or normal flow measurement
- 100:1 turn down ratio in 5 ranges: 0.3~30 Nm/s, 0.6~60 Nm/s, 0.9~90Nm/s , 1.2~120Nm/s, 1.5~150Nm/s,1.8~180Nm/s
- Large LCD screen with dual-line display and 3 setting button. Easy to read or set
- Low cost economical model.
- No pressure loss, suitable for pipe in any shape with known sectional area
- Available for hot tapping installation
- High accuracy data acquisition circuit to ensure outstanding repeatability and accuracy of the flow meter
- High efficiency design of power supply, the total power consumption is only 60mA@24VDC
- 15V~32V wide voltage range input to fit in all electricity environment
- Self-diagnose function makes trouble shooting easier



Specification

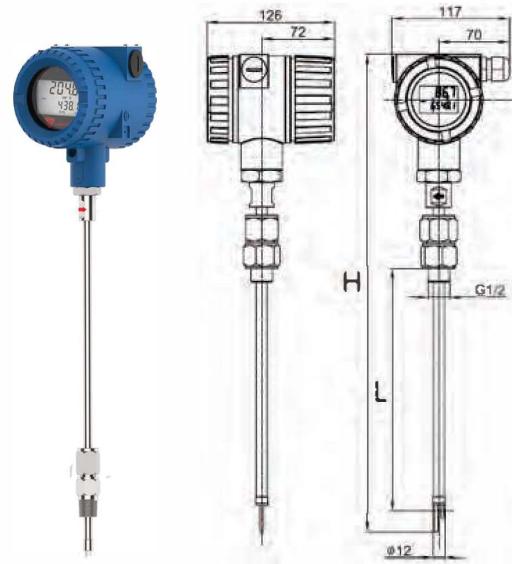
Media Compatibility	Air, Nitrogen
Pipe diameter	Insertion: DN25 ~ DN400 Inline: DN25 ~ DN300
Flow velocity range	0.3 ~ 30Nm/s 0.6 ~ 60Nm/s 0.9 ~ 90Nm/s 1.2 ~ 120Nm/s 1.5 ~ 150Nm/s 1.8 ~ 180Nm/s
Accuracy	1.5% RD ± 0.5% FS
Temperature of medium	-40 ~ +150°C
Pressure of medium	Insertion: 1.6 MPa Flanged insertion: 4 MPa Flanged in-line: 4 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 (GB China)

Max pipe size that each probe can adapt to

Probe length	255mm	320mm	395mm
T < 50 dgr C	DN100	DN250	DN350
50 °C < T < 150 °C	/	/	DN50
T < 122 °F	4"	10"	14"
122 °F < T < 302 °F	/	/	2"

If with remote display, there is no difference on max pipe size in different temperature

Insertion type with ball valve
Install/remove the meter without stopping the flow



Probe	H	L
255 mm	412 mm	180 mm
320 mm	477 mm	245 mm
395 mm	552 mm	320 mm



Flanged type

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)	
		Min Nm ³ /min	Max Nm ³ /min	Min Nm ³ /min	Max Nm ³ /min	Min Nm ³ /min	Max Nm ³ /min
25 mm	1"	0.01	0.88	0.02	1.77	0.03	2.65
32 mm	1 1/4"	0.01	1.45	0.03	2.89	0.04	4.34
40 mm	1 1/2"	0.02	2.26	0.05	4.52	0.07	6.78
50 mm	2"	0.04	3.53	0.07	7.06	0.11	10.59
65 mm	2 1/2"	0.06	5.97	0.12	11.94	0.18	17.90
80 mm	3"	0.09	9.04	0.18	18.08	0.27	27.12
100 mm	4"	0.14	14.12	0.28	28.25	0.42	42.37
125 mm	5"	0.22	22.07	0.44	44.14	0.66	66.21
150 mm	6"	0.32	31.78	0.64	63.56	0.95	95.34
200 mm	8"	0.56	56.50	1.13	112.99	1.69	169.49
250 mm	10"	0.88	88.28	1.77	176.55	2.65	264.83
300 mm	12"	1.27	127.12	2.54	254.24	3.81	381.36

Pipe size (mm)	Pipe size (inch)	Option 3 (1.2~120 Nm/s)		Option 4 (1.5~150 Nm/s)		Option 5 (1.8~180 Nm/s)	
		Min Nm ³ /min	Max Nm ³ /min	Min Nm ³ /min	Max Nm ³ /min	Min Nm ³ /min	Max Nm ³ /min
25 mm	1"	0.04	3.53	0.04	4.41	0.05	5.30
32 mm	1 1/4"	0.06	5.79	0.07	7.23	0.09	8.68
40 mm	1 1/2"	0.09	9.04	0.11	11.30	0.14	13.56
50 mm	2"	0.14	14.12	0.18	17.66	0.21	21.19
65 mm	2 1/2"	0.24	23.87	0.30	29.84	0.36	35.81
80 mm	3"	0.36	36.16	0.45	45.20	0.54	54.24
100 mm	4"	0.56	56.50	0.71	70.62	0.85	84.75
125 mm	5"	0.88	88.28	1.10	110.35	1.32	132.42
150 mm	6"	1.27	127.12	1.59	158.90	1.91	190.68
200 mm	8"	2.26	225.99	2.82	282.49	3.39	338.98
250 mm	10"	3.53	353.11	4.41	441.38	5.30	529.66
300 mm	12"	5.08	508.47	6.36	635.59	7.63	762.71

Mode number

The standard model number is usually TGF460-2-I1-1-T-M-1-1-XXXX, Please reference to the table below for what the model codes stand for.

Mode codes

1	General model	TGF460		Standard		
		1	0.3 ~ 30 Nm/s	Option		
		2	0.6 ~ 60Nm/s	Standard		
		3	0.9 ~ 90Nm/s	Option		
		2	Measurement range	4	1.2 ~ 120Nm/s	Option
				5	1.5 ~ 150Nm/s	Option
3	Process connection	I1	Insertion type with 255mm probe	Standard		
		I2	Insertion type with 320mm probe	Option		
		I3	Insertion type with 395mm probe	Option		
		F1	Flanged insertion type up to 25 barG (362 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		
		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		
		J1	JIS 10K up to 16 barG (232 psiG) (DN15~DN300)	Option		
		J2	JIS 20K up to 40 barG (580 psiG) (DN15~DN300)	Option		
		4	Wet part material	1	316ss sensor with 304ss wet parts	Standard
2	316ss sensor with 316ss wet parts			Option		
5	Transmitter	T	Integral	Standard		
		R	Remote	Option		
6	Cable grinder	M	M20 x 1.5	Standard		
		N	NPT 1/2	Option		
7	Transmitter	1	pulse/frequency + 4~20mA + RS485 + Bluetooth	Standard		
		2	pulse/frequency + 4~20mA@HART + Bluetooth	Option		
8	Power supply	1	13.5 ~ 42VDC	Standard		
		2	13.5 ~ 42VDC with 85~265VAC 50/60Hz power converter	Option		
9	Pipe size	xxxx	please use 4 digit pipe size, such as DN50=0050, DN300=0300	xxxx		