THERMAL FLOW METER

TGF460 SERIES THERMAL MASS FLOW METER

Flow Measurement & Monitoring

FEATURES

- ✓ Direct measurement of mass flow and standard flow
- ✓ 100:1 turn down ratio in 5 ranges
- ✓ Large LCD screen with dual-line display and 3 setting buttons
- ✓ High accuracy and repeatability
- ✓ Easy installation and maintenance
- ✓ Self-protection design of Zener safety barrier inside
- ✓ Self-diagnose function
- ✓ Online data logger and monitoring (optional)
- ✓ Communication via bluetooth and APP

DESCRIPTION

TGF460 Series Thermal Mass Flowmeter is specially designed for air and Nitrogen applications, such as compressed air, venting air, aeration, process protection Nitrogen, combustion air, etc. It has a compact design with smaller enclosure and thinner insertion tube probe. In high pressure applications, it can be installed or removed without stopping the processline.

In some higher pressure applications, 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. The TGF460 Series is a cost-effective option to fulfill demands for measuring compressed air and Nitrogen applications.

TGF460 Series Thermal Mass Flowmeter measures the gas mass flow based on thermal diffusion theory.

TECHNICAL FEATURES

Installation type	Insertion type; In-line flange type
Medium	Air, Nitrogen
Diameter	DN25~900mm (insertion type) DN15~300mm (in-line flange type)
Flow velocity range	0.3 to 30Nm/s; 0.6 to 60Nm/s; 0.9 to 90Nm/s; 1.2 to 120Nm/s; 1.5 to 150Nm/s; 1.8 to 180Nm/s
Accuracy	1.5% RD+ ±0.5% FS
Medium temperature	-40 to 150°C
Medium pressure	1.6MPa (insertion type) 4.0Mpa (in-line flange type)
Power supply	AC 85 to 264V or DC 15 to 32V
Response time	1 second
Output	Frequency (standard), pulse and (optional)
Communication	RS485 (standard) / 4-20mA or HART (optional)
Ingress protection grade	IP65

MODEL SELECTION

Model	Basic model TGF460	X	X	X	X	X	X	X	X	X	X	XXX
Process Connection	Flanged (JIS/ANSI/DIN)	F										
	Insertion (NPT Threaded)	C										
	Insertion (NPT Threaded with anti-ejection design)	D										
	Flanged Insertion	G										
Insertion Probe	290mm, 19mm dia (DN25 to DN150)		1									
	440mm, 19mm dia (DN25 to DN500)		2									
	255mm, 11mm dia (DN25 to DN100)		3									
	320mm, 11mm dia (DN25 to DN250)		4									
	395mm, 11mm dia (DN25 to DN400)		5									
	Other		Q									
Transmitter	Integral			T								
	Remote			R								
Material	OCr18Ni9 SS304				1							
	SS316				2							
	Other				Q							
Pressure Rating	1.6 Mpa					1						
	2.5 Mpa					2						
	4.0 Mpa					3						
	6.3 Mpa					4						
Flange Standard	JIS						A					
	DIN						B					
	ANSI						C					
	Other						Q					
Max Temperature	Standard (T≤150°C)							N				
	Other							Q				
Enclosure	Standard								C			
Output	Pulse/frequency + 4-20mA/HART									7		
	Pulse/frequency + 4-20mA + RS485									8		
Power supply	13.5 to 42VDC										N	
	85 to 265VAC 50/60Hz										Q	
Pipe size	Please use 3 digits for pipe size (Example: DN50=050, DN300=300)											XXX

Other information:

1. Measurement range

0.3 to 30Nm/s
0.6 to 60Nm/s
0.9 to 90Nm/s
1.2 to 120Nm/s
1.5 to 150Nm/s
1.8 to 180Nm/s

2. Accessories available

Anti-ejection design
Ball valve
Hot taping driller
Hot taping holder
Degreasing

Remarks:

1. Ball valve / hop-tap insertion tool / hot-tap hole opener / on-line data logger are accessories - optional, please remark if you need any of them.
2. Please indicate flow rate along with the model number selected
3. If you have any requirement that could not be fulfilled in this document, please refer to ISME for availability.
4. The model selected in 1st line is the standard configuration with no accessories.

CODES AND REFERENCES

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 (Nm3/min)	Max (Nm3/min)	Min (Nm3/min)	Max (Nm3/min)	Min (Nm3/min)	Max (Nm3/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 (Nm3/min)	Max (Nm3/min)	Min (Nm3/min)	Max (Nm3/min)	Min (Nm3/min)	Max (Nm3/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