BELL
Flow Systems

BGFT Gas Turbine Flow Meter

Technical Data Sheet

SPECIFICATIONS

Performance:

Repeatability:	±0.2%
Accuracy:	Standard: ±1.5% of reading; Optional: ±1.5% of reading or ±0.75% of reading

Wetted Components:

Housing:	Standard - Tungsten Carbide; Optional - 304, 316 Stainless Steel
Bearings and Shaft:	ABS (Corrosion Resist) or Aluminium-Alloy
Rotor:	ABS (Corrosion Resist) or Aluminium-Alloy
Retaining Rings:	304 Stainless Steel

Output Signal: (where applicable)

Sensor:	Pulse signal (Low Level: ≤0.8V; High Level: ≥8V)
Transmitter:	4 to 20 mA DC current signal

Signal Transmission Distance: ≤1,000 m

Electrical Connections:

Basic Type:	Hausman Connector or three-core cable
Explosion Proof Type:	ISO M20×1.5 Female

Explosion Proof Level:

Standard:	None
Optional:	ExdIIBT6

Protection Level: IP65

OPERATION CONDITIONS

Ambient:

Temperature: -10℃ to +55℃
Pressure: 86 to 106 KPa
Relative Humidity: 5% to 90%

Power Supply:

Sensor: +12V DC (Optional: +24V DC)
Transmitter: +24V DC
Field Display Type B: Integral 3.2V Lithium Battery
Field Display Type C: +24V DC

Fluid Temperature and Pressure:

Temperature: -30℃ to +80℃
Pressure: Fluid pressure should be limited according to flange rating.

Measurable Flow Rate Range and Pressure Level:

Table 1. Measurable Flow Rage Range and Pressure Rating

Nominal Diameter		Standard Flow Range (SFR)		Extended Flow Range (EFR)		Standard Pressure Rating
(mm)	(in.)	Mark	(m^3/h)	Mark	(m^3/h)	(MPa)
25	1	S1	3 to 30	W1	1.5 to 30	4.0
		S2	4 to 40	W2	2 to 40	4.0
				W3	0.5 to 4	4.0
				W4	0.7 to 7	4.0
				W5	1.5 to 30	4.0
40	1.5	S1	5 to 50	W1	2.5 to 50	4.0
		S2	8 to 80	W2	4 to 80	4.0
50	2	S1	10 to 100	W1	5 to 100	4.0
		S2	15 to 150	W2	8 to 150	4.0
65	2.5	S	15 to 200	W	10 to 200	1.6
80	3	S1	15 to 300	W1	10 to 300	1.6
		S2		W2	15 to 350	1.6
100	4	S	20 to 400	W1	15 to 400	1.6
				W2	20 to 500	1.6
125	5	S	20 to 800	W1	18 to 800	1.6
				W2	20 to 900	1.6
150	6	S	50 to 1000	W1	25 to 1000	1.6
				W2	50 to 1200	1.6
200	8	S	150 to 2000	W	80 to 2500	1.6
250	10	S	200 to 3000	W	150 to 3500	1.6
300	12	S	250 to 4000	W	200 to 4000	1.6

MODEL AND SELECTION

Model

Turbine Flow Sensor/Transmitter

GFT-N Type Sensor: 12 to 24V DC Power Supply; Pulse Output
GFT-A Type Transmitter: 24V DC Power Supply; 2-wire 4 to 20 mA Output

Basic Type (Without Explosion Proof) and Explosion Proof Type are optional for GFT-N and GFT-A.

Basic Type

Explosion Proof Type

Intelligent Integrated Turbine Flow Meter

- 4 digital instantaneous flow display
- 8 digital totalizator flow display (Resettable)
- With Explosion Proof (Level: ExdIIBT6)
- 3-Point Correction and Non-linearity Compensation on K-Factor

Note: The K-Factor represents the number of output pulses transmitted per cubic meter (Optional: Liter and Gallons) of fluid passing through the turbine meter. Each turbine has a unique K-Factor. However, turbine meters are not functionally consistent throughout the full flow range of the meter. Therefore, correction and non-linearity compensation on K-Factor can enhance accuracy.

GFT-B Type: powered with 3.2V10AH lithium battery (Battery life > 4 years); no output
GFT-C Type: 24V DC Power Supply; 2-wire 4 to 20 mA Output (Optional: RS485 or HART)

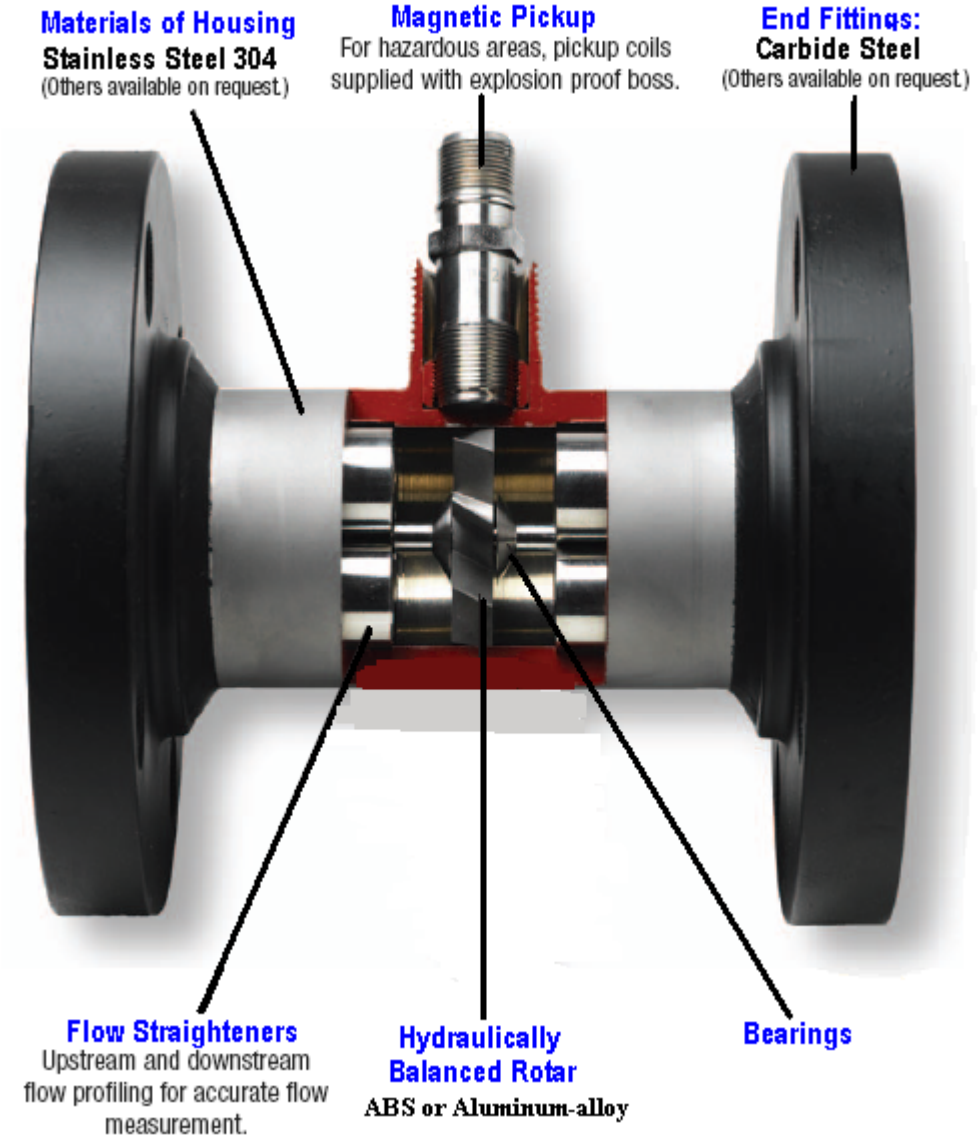
GFT-D Type (With temperature and pressure compensation): 24V DC Power Supply

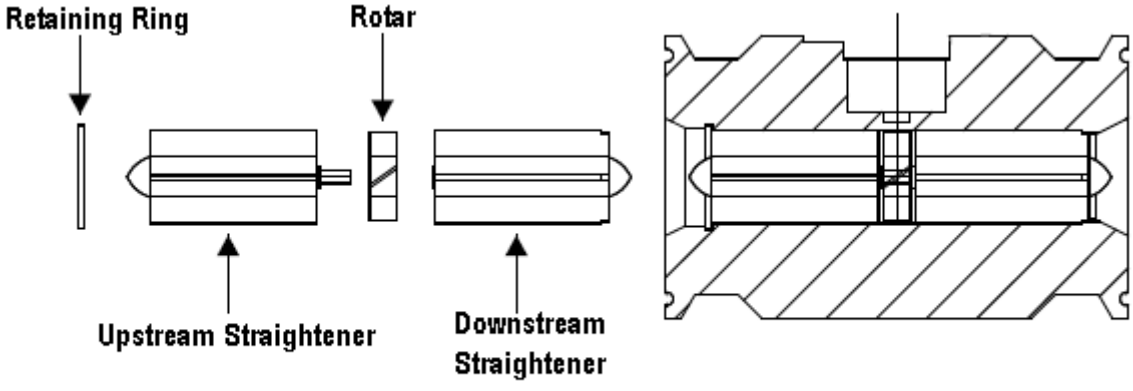
MODEL SELECTION

Table 2. Model Selection Guidance

Model Suffix Code							Description (SFR: Standard Flow Range)
GFT-							
Type	N						Basic Type: +12V to +12V DC Power Supply; Pulse Output
	A						4 to 20 mA current output
	B						Battery Power Supply with filed Display
	C						Field Display and 4 to 20 mA current output
	D						Field Display and output; Temperature and Pressure Compensation
Nominal Diameter (mm)		25					DN25
		40					DN40
		50					DN50
		65					DN65
		80					DN80
		100					DN100
		125					DN125
		150					DN150
		200					DN200
		250					DN250
		300					DN300
Range Selection			W(X)				Extended Flow Range: Refer to table 1
			S(X)				Standard Flow Range: Refer to table 1
Housing Material				S			304 Stainless Steel
				L			Aluminium-Alloy
Core Material (Rotar, Bearing)					S		Corrosion Resistance ABS
					L		Aluminium-Alloy
Structure						N	Standard Structure
						A	For Oxygen Only (O_2 Only)
						B	Compressed-Air Only

METER CONSTRUCTION





Exploded View of Internals

Assembled Internals

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