

GT Series 3/4"-2" Cartridge Style Gas Turbine Meter

Bulletin SSIN024 Issue/Rev. 0.1 (11/18)

INVALCO's 3/4"-2" Cartridge Style Gas Turbine Meter is a unique one-piece cartridge design which has been adapted to include a gas rotor and bearing assembly. Each meter has three separate rotor designs which overlap adjacent meter ranges and will conform to more pipe sizes without reduction or expansion requirements. Covering flow rates from 0.5 to 200 ACFM, these meters will work within pressures from vacuum to 2000 psi. Replacement cartridges are fully-calibrated and are ready for installation with no special tools required. INVALCO's Tungsten Carbide V-Cup bearing design provides excellent performance and unequalled service life in non-lubricating and solids containment gases.



Features
<ul style="list-style-type: none"> • Three rotors, one body suits more applications without reduction or expansion fittings. • One-piece cartridge internals with integral flow straighteners for ease of maintenance. • Tungsten carbide bearing system For long service life. • Stainless steel/tungsten carbide construction or corrosion-free service.

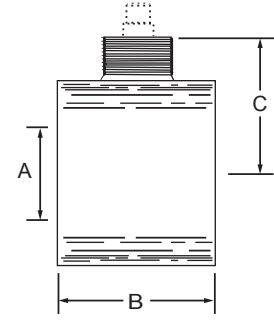
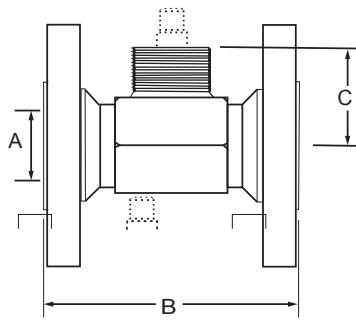
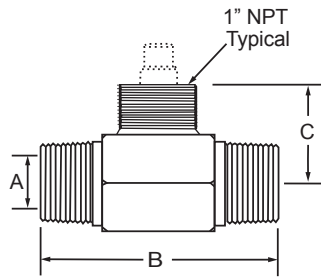
Options
<ul style="list-style-type: none"> • Extended temperature range from -200°F to 450°F (130°C to 218°C)

General Specifications
Linearity¹
±1.0%
Repeatability¹
±0.25%
Maximum Overrange
125% of flow rate for intermittent periods.
Frequency Output
100 to 1,100 Hz.

General Specifications (continued)
Voltage Output
Approximately 100 mV @ 100 Hz to 1.5 V (RMS) @ 1,000 Hz.
Pressure Drop
0.5 psi at 100% of flow range.
Pressure Rating² – PSI (kPa)*
3/4"- 2.0 NPT ----- 5,000 (34,474)
ANSI Raised Face Flanges:
Class 150 ----- 275 (1,896)
Class 300 ----- 720 (4,964)
Class 600 ----- 1,440 (9,929)
Installation
Vertical or horizontal (any direction)
Materials of Construction
Body: 316 L Stainless Steel
Flanges: 316 Stainless Steel
Rotor: 430 Stainless Steel
Rotor Shaft/Bearings: Standard: Tungsten Carbide ³ /Tungsten Carbide V Cup
Cartridge Frame Retainer: 302 Stainless Steel
Cartridge Frame: 316 L Stainless Steel
Temperature Range*
Meter with Bearing Structure of: Standard: Tungsten Carbide -20°F to 300°F (-29°C to 149°C)

Notes:

1. Based on specific weight of 1lb/ft³. If less - rangeability reduce contact factory for assistance.
 2. Maximum non-shock service pressure at 100°F.
 3. GE 883 or equivalent 6% type.
- * For other pressures and temperatures consult factory.



Dimensions

Dimensions – Inches to the nearest tenth (millimeters to the nearest whole mm), each independently dimensioned from engineering drawings.

Dimensions											
Size	Bore			NPT		Wafer		ANSI Flanged – Class			
	A	B	C	B	C	150	300	600			
3/4" & 3/4" E	0.6" (16)	3.4" (83)	1.8" (46)	CF	CF	3.8" (99)	4.5" (114)	5.0" (127)	1.8" (46)		
1"	0.9" (22)	3.6" (93)	1.9" (48)	CF	CF	4.1" (105)	4.8" (121)	5.3" (133)	1.9" (48)		
1.5"	1.3" (33)	4.7" (117)	2.1" (53)	CF	CF	5.3" (133)	5.9" (149)	6.5" (165)	2.1" (53)		
2"	1.8" (45)	6.0" (154)	2.3" (61)	CF	CF	6.8" (171)	7.4" (187)	8.1" (207)	2.3" (61)		

Inches (mm) CF – Consult Factory

Capacity Table					
Size	Linear Gas Flow Range (Nominal)			Nominal K-Factor	
	ACFM	ACFH	AM H	P/ACF	PM
3/4" - L	.13 - 1.3	8 - 80	.22 - 22	44,000	1,570,800
3/4" - M	0.5 - 5.0	30 - 300	.85 - 8.5	12,200	435,540
3/4" - H	.75 - 7.5	45 - 450	1.25 - 12.5	8,000	285,600
1" - L	0.5 - 5.0	30 - 300	.85 - 8.5	13,000	464,100
1" - M	.65 - 6.5	40 - 400	1.1 - 11	9,000	321,300
1" - H	1.1 - 11	65 - 650	1.8 - 18	5,600	199,920
1 - 1/2" - L	0.6 - 6.0	36 - 360	2 - 10	10,000	357,000
1 - 1/2" - M	1.65 - 16.5	100 - 1000	2.8 - 28	3,600	128,520
1 - 1/2" - H	3.0 - 30	175 - 1750	5 - 50	2,100	74,970
2" - L	3.0 - 30	175 - 1750	5 - 50	2,100	74,970
2" - M	4.5 - 45	4.5 - 45	7.7 - 77	1,300	46,410
2" - H	8.5 - 85	8.5 - 85	14 - 140	720	25,704
2" - XH	20 - 200	20 - 200	33 - 330	300	10,700

Designations: L - Low Flow Rotor, M - Medium Flow Rotor, H - High Flow, XH - Extended High Flow Rotor
 3. GE 883 or equivalent 6% type.

Ordering Informaton (Choose one code selection from each option group to build model number.)

GT					Tungsten Carbide V-Cup Bearing Gas Turbine Meters				
		CODE		BODY STYLE					
		3		Male NPT					
		4		Flanged - ANSI Raised Face					
		4R		Flanged - ANSI RTJ					
		9		Wafer (Flangeless) all bore sizes = 2" Connection size					
		CODE		METER SIZE					
		075		3/4"					
		1		1"					
		15		1.5"					
		2		2"					
		CODE		SPECIFIC CONNECTION					
		0		3/4" NPT or Wafer Connections					
		00		1/2" & 1.5" NPT or Wafer Connections					
		000		1" & 2" NPT or Wafer Connections					
		02		150# Flanges					
		07		300# Flanges					
		14		600# Flanges					
		CODE		FLOW RANGE / ROTOR SELECTION					
		L		Low Flow Range (see specifications for details)					
		N		Normal Flow Range (see specifications for details)					
		H		High Flow Range (see specifications for details)					
		XH		Extended High Range - 2" only (see specifications)					
Example									
GT	3	2	000	XH	GT3/2000/XH				

For special requests not covered under this modeling system, please contact factory for quote.

- Order pick-up, cable and electronics separately.
- Use low drag (sine wave output) or RF (square wave output) pick-up for GT Series Cartridge Meter.

Publication number SSIN024 has replaced SSIT001, an obsolete publication number.

The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.