

The INVALCO 3/4"-2" Cartridge Style Turbine Meter is a unique one-piece cartridge design which enables replacement of turbine meter internals with minimal downtime. A single upstream retaining ring is removed and the internals slide out. Replacement cartridges are fully-calibrated on water and are ready for installation with no special tools required.

INVALCO's proven double sleeve bearing and flow through design provide excellent performance and unequalled service life in non-lubricating and solids-contaminated fluids.

Features/Benefits

- 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 for corrosion-free service.

Options

- Rulon Bearings for highly acidic or caustic solutions.
- Extended Temperature Range from -200°F to 800°F (130°C to 426°C)

Capacity Table

	Flow Range		Nominal K-Factor		
	GPM	LPM	P/GAL	P/L	P/BBL
3/4"	1.5-15	5.7-57	4,605	1,216	193,410.00
3/4" E	3.2-32	12-120	1,875	495	78,750.00
1"	6.5-65	24.6-246	953	252	40,026.00
1-1/2"	17.5-175	66.2-662	341	90	14,332.00
2"	33-330	124.9-1,249	185	49	7,770.00

General Specifications

Linearity^{1,2}

±0.5% Over-stated Range

Repeatability^{1,2}

±0.05%

Maximum Overrange

125% of flow rate for intermittent periods.

Response Time

2-5 milliseconds for step change in flow rate.

Frequency Output

100 Hz to 1,000 Hz

Voltage Output

Approximately 100 mV @ 100 Hz to 1.5 V (RMS) @ 1,000 Hz.

1 For 3/4": linearity ±1.0%, repeatability ±0.2%

2 With adequate flow conditioning.

3 Maximum non-shock service pressure at 100°F.

4 GE 883 or equivalent 6% type.



Cartridge Style Liquid Turbine Meter

Pressure Rating³

3/4" - 2.0" NPT 2,000 (13,790)

ANSI Raised Face Flanges:

Class 150 275 (1,896)

Class 300 720 (4,964)

Class 600 1,440 (9,929)

**Other pressures available - please consult factory.

Installation

Vertical or horizontal (any direction).

Materials of Construction

Body: 316L Stainless Steel

Flanges: 316 Stainless Steel

Rotor CD4MCu

Rotor Shaft/Bearings:

Standard: Tungsten Carbide⁴/Tungsten Carbide

Optional: 316 Stainless Steel/Rulon⁵.

Cartridge Frame Retainer: 302 Stainless Steel

Cartridge Frame: 316L Stainless Steel

Temperature Range

Magnetic Pick-Up Coils (Order Separately):

Standard: -40°F to 228°F (-40°C to 109°C)

Optional: Hi/Low Temperature -450°F to 450°F (-267°C to 232°C)

Preamp/Magnetic Pick-Up Coils:

-40°F to 185°F (-40°C to 85°C)

Meter with Bearing Structure of:

Standard: Tungsten Carbide -20°F to 300°F (-29°C to 149°C)

High Temperature: -200°F to 800°F (-130°C to 426°C)

Optional: Rulon/Stainless Steel -20°F to 250°F (-29°C to 121°C)

Pick-Up Coil (Order Separately)

DC Resistance: 975Ω

Inductance: 400 mH

Mating Connector: 10 SL-4S or Wire Leads

Preamp Magnetic Pick-Up (Order Separately)

Housing: Stainless Steel

Power Requirement:

Supply voltage: +4.5 to 28 Vdc

Current: ≤5mA @ 12 Vdc

Output Signal:
 Square wave,
 0 to supply voltage, 5 Hz to 12 kHz
 30% to 70% Duty cycle.
 NPN with 10 K Ω pull-up to supply voltage
 Mating Connector: 10SL-3P or Wire Leads
RF Nonmagnetic Pickup (Order Separately)
 Consult Factory for Details.

Ordering Information

The adjacent guide defines the correct turbine meter for a given application and the respective catalog code. This code is part of the ordering information and should be included on the Request for Quote or Purchase Order.

Notes:

1. Order pick-up coil, cable and electronics separately.
2. Grooved (Victualic) WC Series available in 2" only.
3. For special requests not covered under this modeling system, please contact factory.

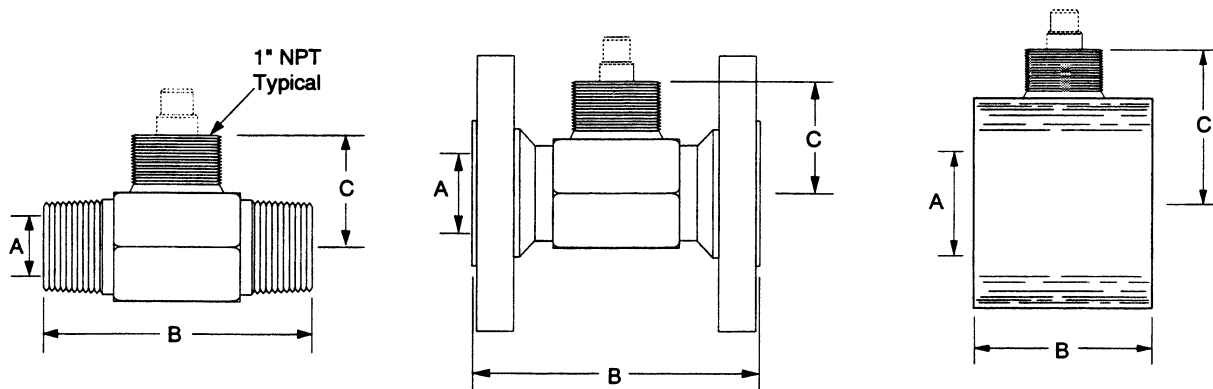
WC	Tungsten Carbide Sleeve Bearing Meters		
WCP	Rulon Bearing Meters		
	Code	Body Style	
	3	Male NPT	
	4	Flanged - ANSI Raised Face	
	4R	RTJ	
	9	Wafer (Flangeless) 2" Only	
		Code	Meter Size and Flow Range
		075	3/4" - 1.5 to 15 GPM
		075E	3/4"E - 3.2 to 32 GPM
		1	1" - 6.5 to 65 GPM
		15	1.5" 17.5 to 175 GPM
		2	2" - 33 to 330 GPM
		Code	Specific Connection
		000	1" & 2" NPT or Grooved Connections
		02	150# Flanges
		07	300# Flanges
		14	600# Flanges
		Code	Special Features
		HT	High Temperature (Silver Solder)
Example: WC 4 1 02 WC4/102			
Choose one code selection from each option group to build model number.			

Dimensions

Inches (mm)

	ANSI Flanged - Class								
	Bore		NPT		Wafer		150	300	600
	A	B	C	B	C	B	B	B	C
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)

*CF - Consult Factory



Note: Dimensions -- Inches to the nearest tenth (millimeters to the nearest whole mm), each independently dimensioned from respective engineering drawings.



www.fmcinvalco.com

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.

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