

INVALCO has a proven 35 year record in the design and manufacture of quality Liquid Turbine Meters and was a pioneer in the use of Tungsten Carbide as a bearing material for the stringent demands of the petroleum industry.

INVALCO's WH Oilfield Series Meter utilizes a rugged, durable three-piece rotor/stator design required for the extreme demands of the oil patch. The double sleeve Tungsten Carbide bearing and flow through design provide excellent performance and unsurpassed mean-time-between-failure (MTBF) characteristics.

Features/Benefits

- **Rotor Supports** – heavy-duty upstream and downstream flow straightening for increased accuracy and durability.
- **Helical Cast Rotor** – cast from a highly wear-resistant stainless steel for durability and long service life.
- **Journal Bearings and Thrust Balls** – Tungsten Carbide bearing surfaces are extremely durable and reliable.
- **All Stainless Steel Construction** – All wetted parts are highly corrosion resistant stainless steel ensuring years of corrosion free service.
- **Available in 1" and 2" Wafer Style, 1" and 1-1/2" NPT, and 2" f x f NPT**

Capacity Table

Size	Flow Range		Nominal K-Factor		
	GPM	LPM	P/GAL	P/L	P/BBL
1"	6.5 - 65	24.6 - 246	1211	320	50,862
1 1/2"	17.5 - 175	66.2 - 662	342	90	14,332
2"	40 - 400	151.2 - 1512	52	13.75	2,184

Materials of Construction

- **Body** - 316 Stainless Steel
- **Flanges** - 316 Stainless Steel
- **Supports** - SAE 5360 Stainless Steel
- **Retainer** - 316 Stainless Steel
- **Rotor** - CD4MCU Stainless Steel
- **Shaft** - Tungsten Carbide
- **Bearings** - Tungsten Carbide



Oilfield Liquid Turbine Meter

General Specifications

End Connection/Pressure Rating (CWP)

1" & 1-1/2" NPT 5000 psig (34,473 Pa)
 2" f x f NPT 5000 psig (34,473 Pa)
 1" & 2" Wafer.....As per connection flange rating to ANSI 1500 lbs.

Temperature Rating

-40°F to 228°F (-40°C to 109°C)*

*Limited by pick-up coil; consult factory for temperatures outside this range.

Linearity

±1.0% over stated range

Repeatability

±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 1000 Hz

Voltage Output

Approx. 100mV @ 100 Hz - 1.5 V (RMS) @ 1000 Hz

Standard Pick-up Coil (Order Separately)**

DC Resistance: 975 W

Inductance: 400 mH

Mating Connector: 10SL-4S or Wire Leads

**Additional pick-up coil options available upon request.

Ordering Information

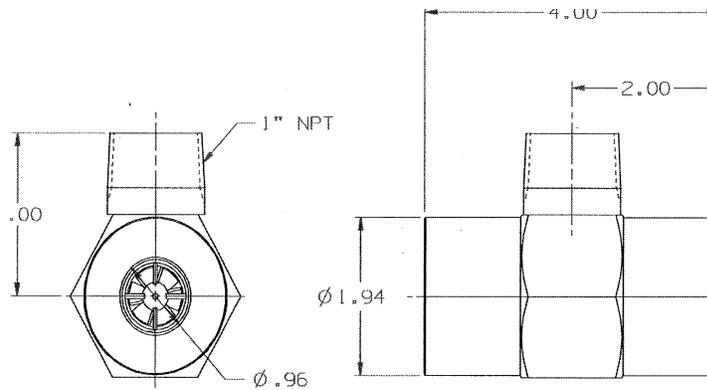
Tungsten Carbide Sleeve Bearing Meters				
WH	Code	Body Style		
	1	2" f x f NPT		
	3	Male NPT		
	9	Wafer		
		Code	Meter Size and Flow Range	
		1	1" - 6.5 to 65 GPM	
		15	1-1/2" - 17.5 to 175 GPM	
		2	2" - 33 to 400 GPM	
			Code	Specific Connection
			000	NPT or Wafer
Example:				
WH	3	1	000	

Choose one code from each group to build model number.

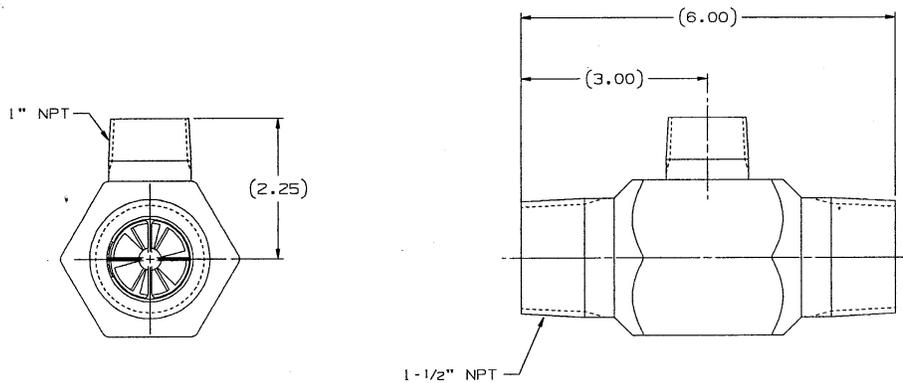
Notes:

1. Order pickup coil, cable and electronics separately.
2. For special requests please contact factory for quote.

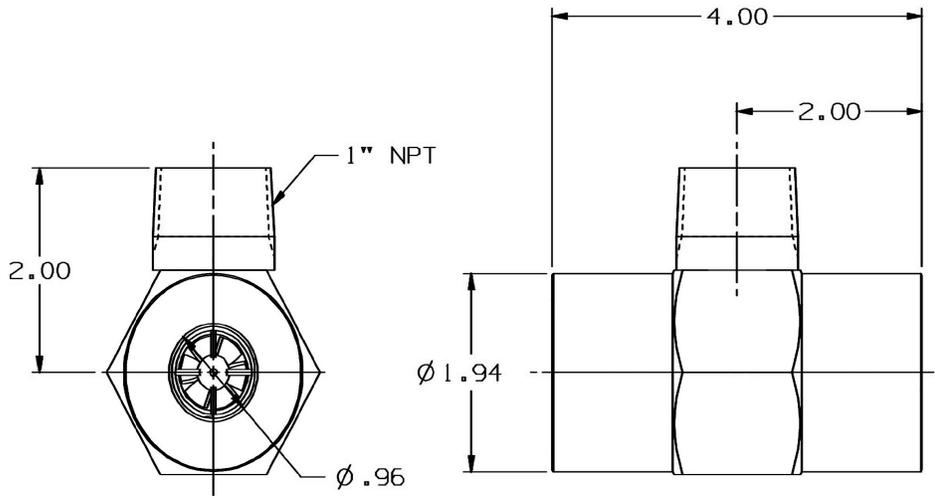
Dimensions 1" Male NPT



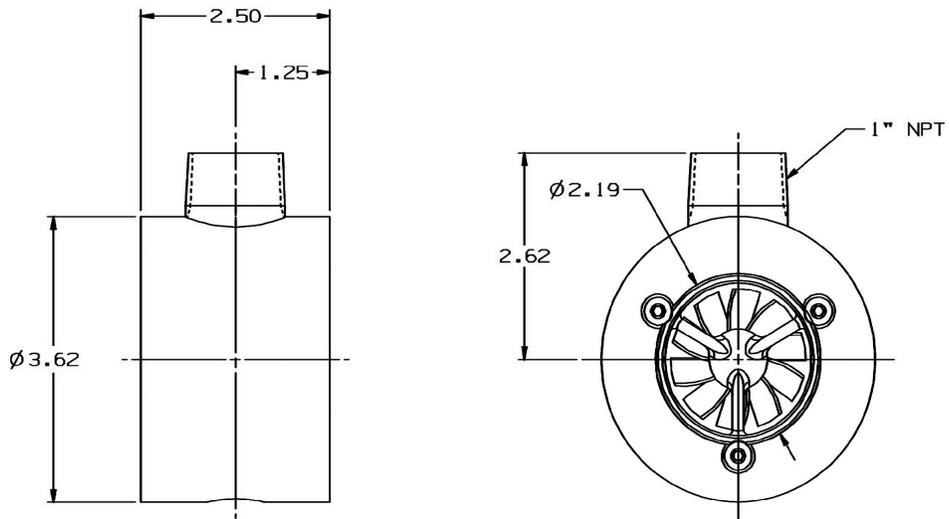
Dimensions 1-1/2" Male NPT



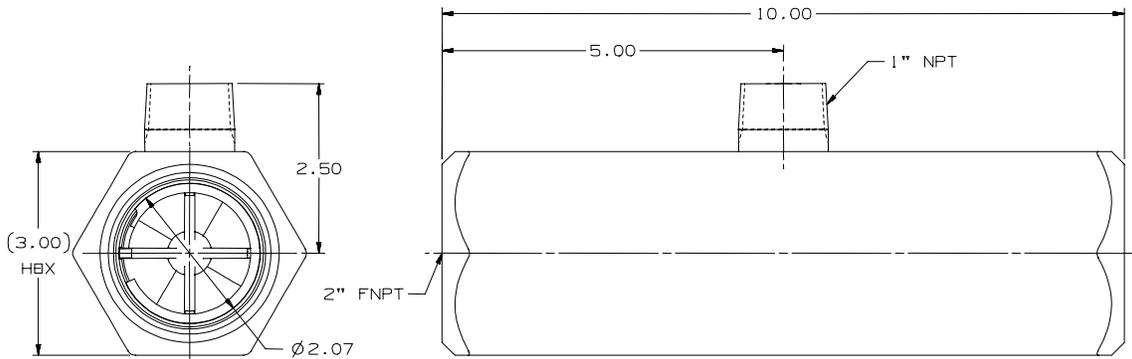
Dimensions 1" Wafer



Dimensions 2" Wafer



Dimensions 2" f x f NPT



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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