TURBINE FLOWMETER

Rockwin Turbine Flow meters are precise, reliable and rugged instruments built to International standards. These flow meters are designed to provide high order of performance, accuracy and reliability under the severest conditions encountered in oil, gas, petrochemical, aerospace and other industries. Sizes range from 5mm to 50mm threaded and from 5mm to 500mm flanged end connections. All flow meters are individually calibrated.

Type : Flanged ends
Size (N.B.) : 5mm - 500 mm
End Conn. : ANSI Flange (150# to 2500#) Standard.
Options : DIN / BS to order

PRINCIPLE OF OPERATION

The basic turbine flow meter consists essentially of a freely supported rotor assembly, housing body and a pick-up. As fluid passes through the meter, it causes the blades of the rotor, set at a prescribed angle to the direction of flow, to produce a speed of rotation which is directly proportional to the volumetric flow rate. The pick-up assembly, mounted on the outside of the flow meter body, detects the passage of each blade in front of it and generates a sinusoidal voltage, the frequency of which is proportional to the flow rate.

ASSOCIATED ELECTRONICS

A comprehensive range of electronic signal conditioning and readout instruments is available for use in conjunction with turbine flow meters. These electronic devices include Flow rate monitors, Flow totalisers, various Flow computers, Switching devices and Signal conditioning electronics for local and remote transmission of the output. Readout equipment may be located upto 50 meters from the turbine flow meter. When a pre-amplifier is used, the readout unit may be located upto 3000 meters depending upon the resistance of cable used.

Type : Threaded ends
Size (N.B.) : 5mm - 50 mm
End Conn. : BSP Male Standard.
Options : Metric/NPT/ISO to order

GENERAL SPECIFICATIONS

PARAMETER	METERS FOR LIQUIDS	METERS FOR GASES
Accuracy	Linearity : ±0.5% over 10% to 100% flow range ±0.25% under specified conditions Repeatability : ±0.02% to ±0.05% on 95% confidence level	±1% over 10% to 100% flow range (inclusive of linearity and repeatability)
Temperature range	Tungsten Carbide/Stellite -20°C to +150°C Open ball bearings -20°C to +150°C (Clean liquids only)	Shielded Ball bearing -50°C to +150°C
Pressure Drop	Approximately 0.28 Kg/cm^2 (4 psi) at maximum flow (SG=1, Viscosity =1cst)	Approx. 1 inch w.g. at maximum flow (Air SG=1)
Max. Pressure	Threaded meter : 250 Kg/cm^2 (4000 psi). Flanged meter : according to flange rating	
Electrical Connection	MS type Amphenol Connector Series 10 SL 3102, supplied with mating connector or terminal block mounted in certified conduit box	

MATERIALS	
Body (all sizes)	Stainless Steel (Carbon Steel to order)
Flange	Carbon Steel (Stainless Steel to order)
Rotor	Stainless Steel 430 / ANC 21
Bearing support	Stainless Steel 316
Bearing	Tungsten carbide, Stellite, SS Ball bearing

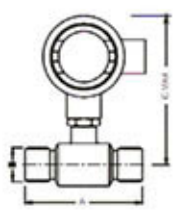
LIQUID AND GAS FLOW RANGES

Model No.	Nominal Bore (mm)	Normal Operating Flow Range				Flowmeter Dimensions			
		Liquid		Gas		A (mm)	B (inches)	C (mm)	D (mm)
		M^3/Hr	USGPM	M^3/Hr	Ft^3/min				
TFM 1005-S	5	0.03-0.3	0.1-1	-	-	51	3/8" BSP(M)	150	114
TFM 1005	5	0.06-0.6	0.2-2	-	-	51	3/8" BSP(M)	150	114
TFM 1010	10	0.11-1.1	0.5-5	-	-	64	1/2" BSP(M)	150	127
TFM 1015-S	15	0.22-2.2	0.9-9	0.88-6.6	0.5-3.75	64	3/4" BSP(M)	150	127
TFM 1015	15	0.4-4	1.8-18	1.6-12	1-7.5	64	3/4" BSP(M)	150	127
TFM 1020	20	0.8-8	3.6-36	3.2-24	2-15	83	3/4" BSP(M)	150	140
TFM 1025	25	1.6-16	7-70	6.4-48	5-30	88	1" BSP(M)	200	152
TFM 1040	40	3.4-34	15-150	10-100	6-60	114	1½" BSP(M)	200	178
TFM 1050	50	6.8-68	30-300	20-200	12-120	132	2" BSP(M)	200	197
TFM 1075	75	13.5-135	60-600	40-400	24-240			200	254
TFM 1100	100	27-270	120-1200	80-800	48-480			300	356
TFM 1150	150	55-550	240-2400	160-1600	100-1000			300	368
TFM 1200	200	110-1100	480-4800	320-3200	200-2000			350	457
TFM 1250	250	190-1900	840-8400	500-5000	300-3000			350	457
TFM 1300	300	270-2700	1200-12000	800-8000	450-4500			400	457
TFM 1400	400	400-4000	1800-18000	1200-12000	675-6750			450	610
TFM 1500	500	700-7000	3000-30000	1700-17000	1000-10000			500	610

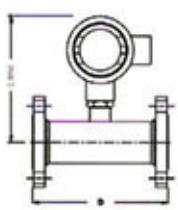
CALIBRATION FACILITY

Rockwin Hydraulic Calibration Laboratory is based on 500 mm and 100 mm positive displacement Prover loops designed and operated as per API MOMS. The maximum flow capacity is 3200 cubic meter per hour. The provers have a repeatability better than ± 0.003%. The provers are independently certified and are traceable to National standards. The Gas calibration facility is based on Transfer standards and can currently handle flow upto 2500 cubic meter per hour.

THREADED METER



FLANGED METER



Development dictates that from time to time the data shown above is subject to change without notice. Please obtain quotation.

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