A) Flange Version

B) Thread (M) Version

C) Tri Clamp Version

Introduction – Turbine Flow Meter Working

Turbine Flow Meters for use with liquids have a relatively simple theory of operation, as a fluid flows through the tube of the flow meter it impacts upon turbine blades. The turbine blades on the rotor are angled to transform energy from the flowing liquid into *rotational energy*.

The shaft of the rotor spins on bearings, as the fluid velocity increases the rotor spins proportionally faster. Revolutions per minute or RPM of the rotor is directly proportional to the mean flow velocity within the flow tube diameter and this relates to the volume over a wide range.

Pickoffs

As the rotor moves so do the turbine blades, movement of the blades is often detected either by a magnetic or modulated carrier (RF) pickoff. The pickoff is commonly mounted to the outside of the flow tube and it senses each rotor blade passing. The pickoff sensor will then generate a frequency output; the frequency is directly proportional to the volume of the liquid.

Applications

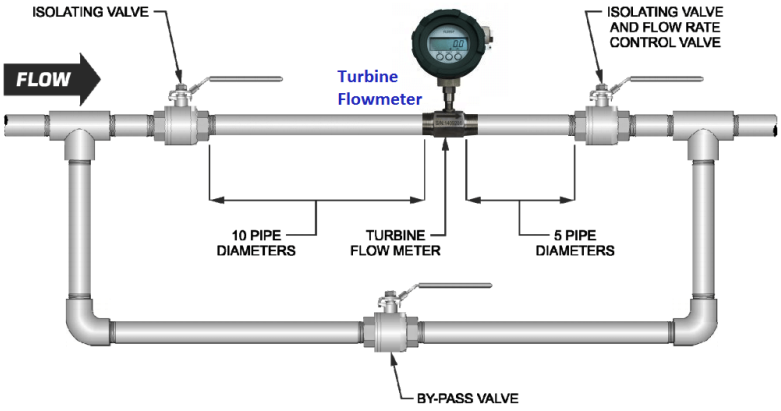
- Oil
- DM Water
- Chemical,
- Power, Food and Beverage
- Aerospace, Pharmaceutical
- Metals and Mining
- Pulp and paper

Specifications

Flow pipe	SS 304; SS 316
Rotor	SS 410; SS 304; SS 316
Shaft	Hard Stainless Steel-316 with carbon bush
Accuracy	+/- 0.5 or 1% FSD
Repeatability	0.1%
Maximum Working pressure	6 MPa
Fluid & Ambient temperature	-20 to 120 °C
Connection	Thread (M) / Flange / Tri Clamp (Optional)
Type	Integral / Two Part
Supply Voltage	Integral – 24 V DC / Two Part – 220 V AC
Output	4 – 20 mA, RS 485 (Optional) / Pulse – Two part

Selection – Line Size – Flow Range

Line Size	Flow Range
DN 25 (1”)	1000 ~ 10000 LPH (1 ~ 10 m3/hr)
DN 40 (1.5”)	2000 ~ 20000 LPH (2 ~ 10 m3/hr)
DN 50 (2”)	4000 ~ 40000 LPH (4 ~ 40 m3/hr)
DN 80 (3”)	10000 ~ 100000 LPH (10 ~ 100 m3/hr)
DN 100 (4”)	20000 ~ 200000 LPH (20 ~ 200 m3/hr)
DN 150 (6”)	30000 ~ 300000 LPH (30 ~ 300 m3/hr)



D) Two Part with DIN Connector

E) Two Part with Housing

Model selection

Series	1	2	3	4	5	6	7
NTFM	Type	Line size	Flow Pipe	Connection	Power Supply	Output	Communication

1	Type	A	Integral
		B	Two Part – D) DIN E) Housing
2	Line Size	DN	DN 25 to DN 150
3	Flow Pipe	A	SS 304
		B	SS 316
4	Connection	A	Flange
		B	Thread (M)
		C	Tri clamp
5	Power Supply	A	24 V DC
		B	220 V AC – Two Part
6	Output	A	4 – 20 mA
		B	Pulse – Two Part
7	Communication	A	RS 485
		B	GPRS/GSM

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