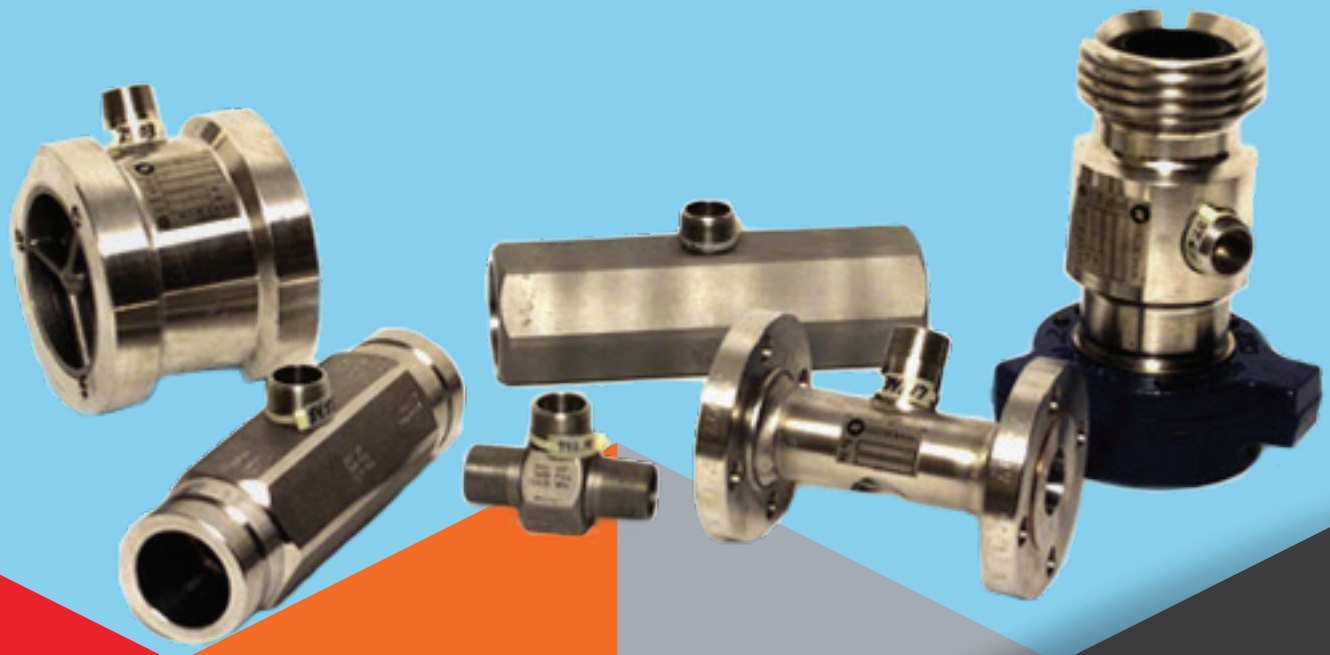

NUFLO™ Liquid Turbine Flow Meters

In 1957, this flow meter was developed with a tungsten-carbide shaft and bearing to withstand the rugged conditions of the oil field. Over the years, it has earned an unsurpassed reputation for withstanding severe punishment while maintaining operational and measurement integrity. Today, it remains a strong seller among NUFLO™ liquid measurement products. NUFLO turbine flow meters indicate flow rate and measure total throughput of a liquid line. As liquid flows through the meter and over the rotor, the rotor turns at a speed that is directly proportional to the flow rate. A magnetic pickup senses the rotor blades as they pass and generates an electrical (sine wave) signal. These electrical pulses are then transmitted to the flow measurement readout equipment.

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432.264.6500

Benefits

Accurate and repeatable measurement
An economical solution for turbine flow meter applications
Easy installation and a variety of end connections
Minimum maintenance required
Long service life, even in severe applications

Applications

Cameron offers turbine flow meters in a variety of end connections and accuracy levels. Typical applications are:

- Water-injection measurement
- Heater treaters
- Test and production separators
- Disposal wells
- CO2 injection
- Steam generator fuel and feed water
- Metering liquid fertilizer
- Water, fuel and chemical measurement in plant settings
- Chemical tank loading and unloading
- Measuring liquid propane
- In-situ mining and leaching

End Connections

NUFLO flow meters are available in a variety of end connections:

- Threaded
- Grooved
- Flanged
- EZ-IN
- WECO 1502

Accuracy

Cameron offers two meter grades to satisfy various linearity requirements. The standard grade meter is a cost-effective solution for applications requiring accu racy of 1% or less.

For higher accuracy, an industrial grade meter can be used.

Greater accuracy may be achieved if the expected flow range is specified.

Meter Grade	Linearity	Repeatability
Standard[1]	± 1% of reading	± 0.05%
Industrial[1]	± 0.5% of reading	± 0.02%
Enhanced accuracy	Consult factory	Consult factory

1 For 3/8" meters, linearity is ± 2% of reading (standard) and ± 1% of reading (industrial).

Linear Flow Range (1, 2, 3)

Flow Meter Size[3]					Nominal[2] Calibration Factor		Maximum Output Frequency	ΔP at Maximum Flow[2]	
in.	mm	GPM	m^3/HR	BPD	Pulses Gallon	Pulses x 1000/m^3	Pulses/Sec	psi	kPa
3/8	10	0.3 – 3	0.068 – 0.68	10 – 100	22000	(5812)	1100	4.0	28
1/2	13	0.75 – 7.5	0.17 – 1.70	25 – 250	14500	(3830)	1815	12.0	83
3/4	19	2 – 15	0.45 – 3.41	68 – 515	2950	(780)	740	18.0	124
7/8	22	3 – 30	0.68 – 6.81	100 – 1000	2350	(621)	1175	20.0	138
1	25	5 – 50	1.14 – 11.36	170 – 1700	900	(238)	750	20.0	138
1-1/2	38	15 – 180	3.41 – 40.88	515 – 6000	325	(86)	975	16.0	110
2	51	40 – 400	9.09 – 90.85	1300 – 13,000	55	(14.5)	365	22.0	152
3	76	80 – 800	18.16 – 181.66	2750 – 27,500	57	(15.2)	760	20.0	138
4	102	100 – 1200	22.71 – 272.55	3400 – 41,000	30	(7.9)	600	10.0	69
6	152	250 – 2500	56.78 – 567.82	8600 – 86,000	7	(1.8)	290	10.0	6
8	203	350 – 3500	79.49 – 794.94	12,000 – 120,000	3	(.8)	175	6.0	41

(1) The linear flow range of liquids with non-lubricating characteristics is limited to the upper 60% of rating.
(2) Based on water.
(3) Consult Cameron's Measurement Systems division for engineering assistance with applications involving liquids of viscosities greater than 5 centistokes on 3/8" through 3/4" meters.

Contact SCS for all of your NUFLO™ measurement needs!

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