

ETL/RN3 Turbine Flow Meter

This range of flowmeters will provide you with a highly accurate way of measuring liquids over the range of 0.7 to 2,250 litres/min.

Application

This range of flowmeters is used for liquids such as water, light oils, solvents and low viscosity chemicals. You can use them for batching, flow rate monitoring, controlling, blending and filling. The flowmeter is highly accurate and often used for testing the performance of pumps, engines, valves and other flowmeters.

In hazardous areas you can use the flowmeters with the IS pick-off coil approved to ATEX II 1 G EEx ia IIC T5. The signal can be used in the IS area or transmitted to the safe area using the intrinsically safe P5 preamplifier and suitable barriers.

Instrumentation

The signal can be used for a local display, remote display or converted for transmission to a separate control system. We have a range of instruments to suit all your requirements.

Principle Of Operation

When liquid flows and the rotor turns, the sensor detects the movement of the blade tips and generates pulses. The pulse frequency is proportional to the flow rate.

Construction

The stainless steel construction is durable and gives excellent corrosion resistance. The rotor is machined from solid, making it virtually indestructible. The sleeve bearings provide you with highly reliable performance over long periods.

Calibration

All ETLN3 turbine flowmeters are individually calibrated with water or oil and are traceable to national standards.

We provide you with a test certificate for each meter showing the number of pulses per litre, which is used to set the instrumentation.



Features

- Highly accurate measurement of flow
Well proven
Improve product quality
Reduce costs and waste
- Robust stainless steel construction
Corrosion resistant
Very low maintenance and down time
Withstands high temperature and pressure
- High quality manufacture
ISO 9001 certified company
Approvals for use in hazardous areas
Individual calibration certificates
- Low pressure drop
- Bi-directional flow capability

Installation

The flowmeter is installed directly into the pipeline. To reduce turbulence and get the best results from your flowmeter we recommend that you install it in a straight section of pipe with at least 10 pipe diameters upstream and 5 pipe diameters downstream.

Control valves should be installed downstream of the flowmeter. To prevent foreign particles blocking your line we recommend you install a filter before the flowmeter.

Preamplifiers are only needed if you have very long transmission distances or an electrically noisy environment close to pumps, motors, generators, switchgear or heavy current carrying cables. Intrinsically safe systems always require an IS pick-off coil. The IS P5 preamplifier is required for transmission to a safe area through barriers.

ETL/RN3 Turbine Flow Meter

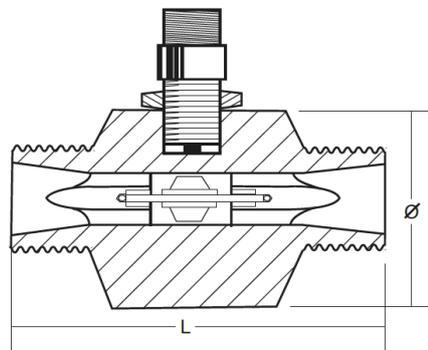
Specification

- Linearity: Better than +/- 0.5% of reading
- Repeatability: +/-0.1% of reading
- Pressure drop: 0.5 bar at maximum flow
- Maximum over range: Up to 120% of the maximum flow rate for short durations
- Maximum working pressure: 15,000 psi (Depending on connection).
- Temperature range: Standard pickoff -30°C to 110°C
- Body connections: BSP parallel thread with 600 cone special connections are available for hydraulic applications

Materials Of Construction

- Body: 316 Stainless steel
- Sleeve bearings: Standard - carbon graphite filled PTFE (max temp. 180°C) Optional tungsten carbide (max temp. 300°C)
- Thrust balls: Tungsten carbide
- Rotor: 431 s/s or ferralium
- Rotor shaft: Tungsten carbide
- Hangers: 316 Stainless steel
- Circlips: 316 Stainless steel

Model No	Flow Range Ltr/min	K factor # pulses / litre
ETLRN3/10	1 - 10	5000
ETLRN3/15	2 - 20	3800
ETLRN3/20/5	5 - 50	1080
ETLRN3/20/8	8 - 80	1080
ETLRN3/25/15	15 - 150	620
ETLRN3/25	25 - 250	362
ETLRN3/32	45 - 450	111
ETLRN3/40	67 - 670	82
ETLRN3/50	110 - 1100	59
ETLRN3/65	225 - 2250	19



Dimensions

Model Number	Thread Size BSP	L mm	Dia mm	Weight kg
ETLRN3/10	3/8"	82.6	38.0	0.3
ETLRN3/15	1/2"	82.6	50.0	0.5
ETLRN3/20/5	3/4"	82.6	50.0	0.5
ETLRN3/20/8	3/4"	82.6	50.0	0.5
ETLRN3/25/15	1"	90.5	63.5	1.0
ETLRN3/25	1"	90.5	63.5	0.8
ETLRN3/32	1 1/4"	110.0	75.0	1.6
ETLRN3/40	1 1/2"	116.7	76.2	1.7
ETLRN3/50	2"	154.0	89.0	3.1
ETLRN3/65	2 1/2"	170.0	95.0	3.5

The nominal K factor is based on water at 20°C
 Each flowmeter is individually calibrated on water and will have a unique K factor.



Complete range of Total and Rate displays available.