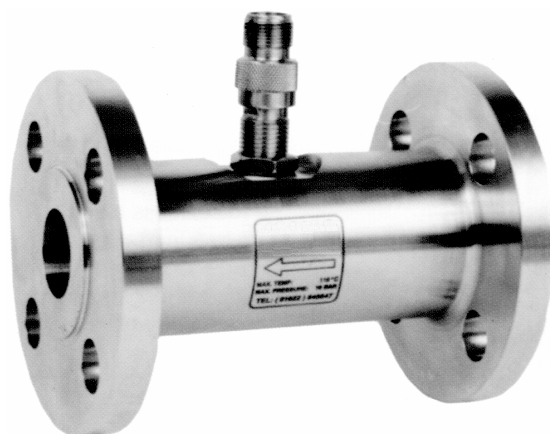


FT4 Industrial Turbine Flowmeter

The Flowquip range of flanged FT4 industrial turbine flowmeters provide a highly accurate and economical means of measuring flows of clean liquids over the range 2 to 9000 l/min with bore sizes available from 20mm to 150mm.

- ◆ **Highly accurate measurement of flow**
- ◆ **Long bearing life**
- ◆ **Robust helically milled rotor**
- ◆ **Low pressure drop**
- ◆ **Bi-directional flow capability**
- ◆ **ATEX approvals for use in hazardous areas**



Application

Flowquip industrial turbine flowmeters can be applied to a wide range of duties in the process industry measuring both lubricating and non-lubricating liquids of low viscosity. The all stainless steel construction gives good corrosion resistance. Furthermore the FT4 is largely unaffected by changes in liquid density and temperature. It is an economic flow solution offering outstanding accuracy with a bearing construction which gives highly reliable performance over long periods. Typical applications include the measurement of water, hydraulic oils and chemicals. The flowmeter has laboratory standards of accuracy so it is also used for testing the performance of pumps, jets, turbines, engines, valves and even other flowmeters. ATEX approval means the FT4 can be installed in intrinsically safe areas (EEx ia IIC T5) when fitted with an I.S. pickoff coil.

Principle of Operation

The FT4 is an electro-mechanical volumetric device. An important feature of the design is an extremely strong rotor construction utilising helical blades machined from solid, which is virtually indestructible. The variable inductance pickoff coil mounted on the flowmeter senses the passage of the rotor blades and emits a sine wave voltage pulse, the frequency of which is proportional to volumetric

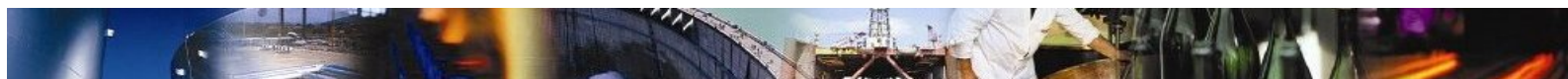
flowrate. This signal is either fed directly to an instrument to provide a local display or into a conditioner for transmitting to a remote location. Flowquip have a range of instrumentation to suit all needs.

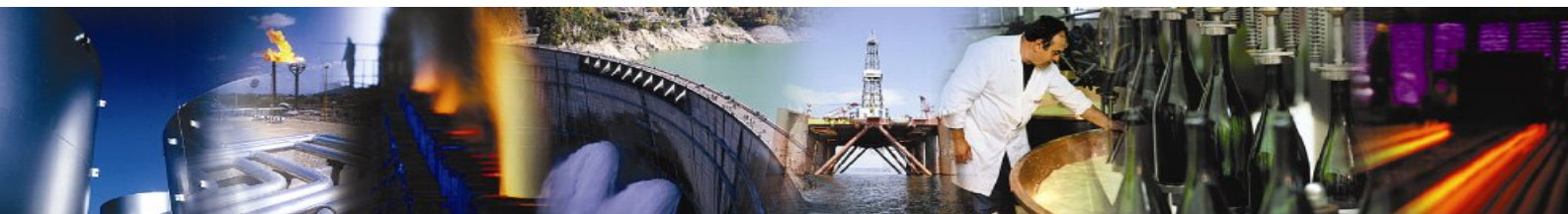
Calibration

All Flowquip FT4 turbines are individually calibrated with water and are traceable to national standards. A test certificate is issued for each meter showing the derived 'K' factor which is used to set secondary instrumentation.

Installation

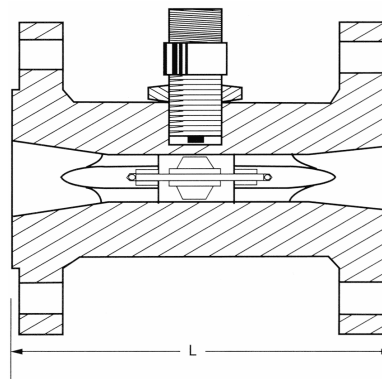
FT4 turbine flowmeters with flanged end connections are designed for mounting directly into pipelines. For best performance installation should be in a straight section of pipe of equal bore size to the flowmeter allowing at least 10 pipe diameters upstream and 5 pipe diameters downstream. All control valves should be installed downstream of the flowmeter. An upstream filter is recommended to prevent ingress of foreign matter. Preamplifiers are only needed for installations with very long transmission distances or for electrically or magnetically noisy environments close to pumps, motors, generators, switchgear or heavy current carrying cables. Intrinsically safe systems always require an IS pick-off coil.





Specification

Linearity:	±0.5% of reading throughout the linear range
Repeatability:	±0.1% of reading
Pressure Drop:	0.5 bar at max. flow
Maximum overrange:	Up to 120% of the rated maximum flow rate for short duration
Max Working press.:	Subject to flange rating
Temperature Range:	Standard pickoff -30°C to +110°C I.S. pickoff -30°C to +110°C High temp -30°C to + 232°C
Body Connections:	ANSI 150, ANSI 300
Pick-off Coil:	DIN PN16, PN40, BS10 Table D, table E Refer to data sheet for full details



Flowmeter Ranges

Model Nr.	L/min	K Factor P/litre
FT4/20/5	5-50	1080
FT4/20/8	8-80	1080
FT4/25/15	15-150	620
FT4/25	25-250	362
FT4/32	45-450	250
FT4/40	67-670	70
FT4/50	110-1100	59
FT4/80	225-2250	14
FT4/100	450-4500	6.6
FT4/150	900-9000	2.3

Materials of Construction

Body:	316 stainless steel
Sleeve bearings:	Upto 80mm = Carbon-graphite filled PTFE (max temp. 180°C) Optional - Tungsten carbide (max temp. 232°C)
Thrust balls/plate:	Tungsten carbide or ceramic
Rotor:	431 stainless steel or ferralium
Rotor shaft:	Tungsten carbide
Hangers:	316 stainless steel
Circlips:	316 stainless steel

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.

Dimensions

Model Nr.	L mm	Bore Size. mm	Weight Kg
FT4/20/5	139.7	20	2.0
FT4/20/8	139.7	20	2.0
FT4/25/15	139.7	25	2.2
FT4/25	139.7	25	2.7
FT4/32	145.0	32	3.9
FT4/40	152.4	40	6.5
FT4/50	165.1	50	8.4
FT4/80	250.0	80	14.5
FT4/100	300.0	100	16.5
FT4/150	360.0	150	18.0

Specification subject to change without prior notice.

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