

# RN3-1502 Turbine Flowmeter

**Turbine flowmeter designed to handle a wide variety of liquids at extreme pressures**

- ◆ High quality robust design
- ◆ Heavy duty rotor and bearings
- ◆ Bi-directional flow capability
- ◆ Low Pressure Drop
- ◆ Fast Fit replaceable internals
- ◆ Pressures up to 1034 bar
- ◆ Temperatures up to 200°C
- ◆ CE marked and PED compliant
- ◆ ATEX approved
- ◆ Designed and manufactured in the UK



## Application

The RN3 -1502 flowmeter is a rugged, versatile meter that has been designed to meet the demanding applications associated with the oil and petrochemical industries.

## Principle of Operation

When liquid flows through the meter, the rotor turns and a millivolt sinewave pulse is generated each time a rotor blade passes the flowmeter pick off coil sensor. This signal can be used to interface directly into a local display or amplified for transmission to remote instrumentation.

## Construction

The body material is Alloy A286 which has a very high yield strength allowing the meter to be used at extreme pressures.

The 431ss rotor is machined from solid bar and has been specially designed with a reduced number of blades and shallow blade angle for use with liquids containing entrained solids. The heavy duty tungsten carbide bearings make mechanical failure from waterhammer and overspeeding of the rotor less likely. To ease maintenance, the rotor cartridge assembly can be removed without the need for special tooling. The cartridge is held in place by the 1502 mating seal, removal of the seal allows the cartridge to slide out to be cleaned, or replaced with a new pre-calibrated rotor assembly on-site.

## Options

As standard the meter is supplied machined with one pick off well and a standard pick off coil. The option of 2 wells and high temperature or ATEX intrinsically safe coils is available.

We can also supply the meter fitted with the 202Di intrinsically safe rate/totaliser housed in a robust stainless steel enclosure which has been specially designed for use with this flowmeter.

## Calibration

The flowmeters are individually calibrated with water and are traceable to national standards. We provide you with a 5 point test certificate showing the number of pulses per litre, which is used to set the instrumentation.

If the flowmeter is supplied fitted with the 202DI display then it will be set up and calibrated ready for immediate use.

## Installation

The flowmeter may be mounted in a horizontal or vertical pipeline.

It is bidirectional but should be installed so that flow corresponds with the direction of the arrow on the body as this is the direction it is calibrated in.

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

Control valves should be installed downstream of the flowmeter

For hazardous areas the flowmeter should be fitted with an intrinsically safe pick off coil.

## Quality

All UK Flowtechnik flowmeters are manufactured to the highest standards.

The quality system is independently audited by BSI and certified to ISO 9000. The flowmeters are fully PED compliant and CE marked where required. TUV are our external auditors for the Pressure Equipment Directive.

Full material traceability is maintained, material certificates are supplied on request.

All RN3-1502 are pressure tested at 22,500 psi and the test certificate supplied as standard.

## Specification

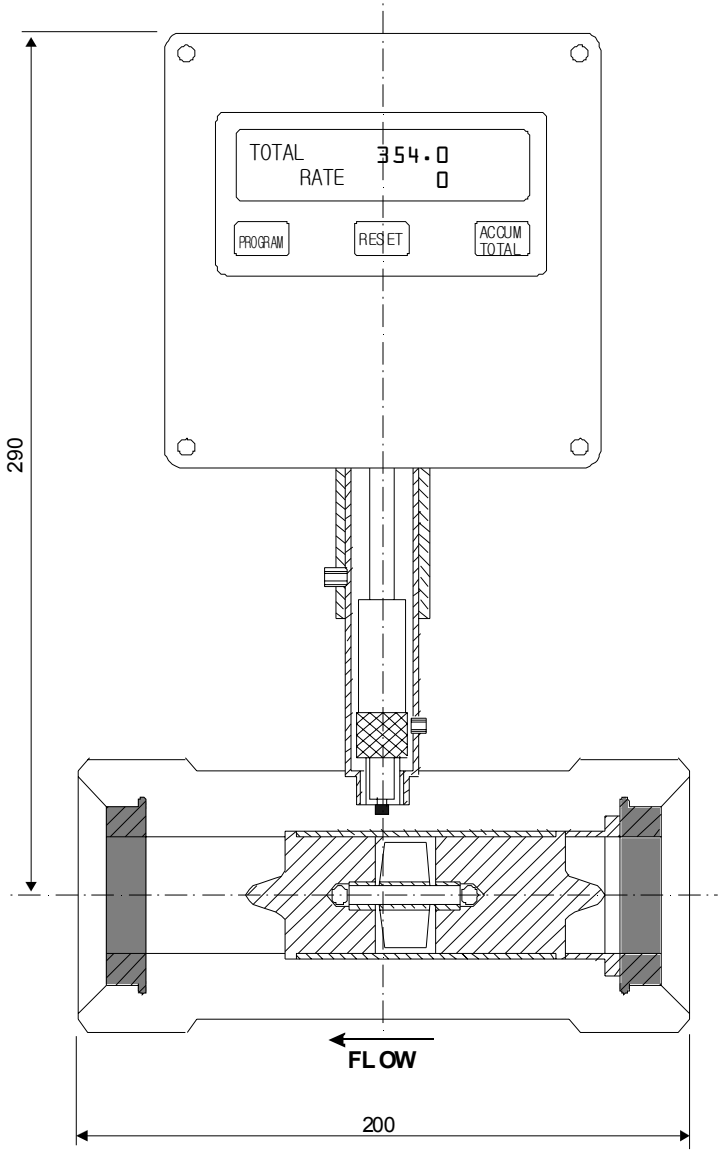
Linearity:	+/-0.5%
Repeatability	+/-0.1%
Pressure drop:	1 bar @ max flow
Maximum working pressure:	500 bar Group 1 liquids 1035 bar Group 2 liquids
Temperature range:	Standard pick off coil -30c to 110c High Temp pick off coil -30c to 200c I.S pick off coil -30c to 110c High temp I.S pick off coil -30c to 175c
Connections:	2" 1502 Hammer union female connection
Flowrange:	100 – 1500 l/min
Nominal pulses/litre*:	21
Max Output Frequency:	550hz

\* Nominal k factor is based on water at 20c. Each flowmeter is individually calibrated and will have a unique k.factor

## Materials of Construction

Body:	Alloy A286
Rotor:	431ss
Sleeve bearings:	Tungsten carbide
Thrust ball:	Tungsten carbide
Rotor supports:	316ss
Cartridge and locating collet:	316ss
1502 seals	Nitrile (sweet service up to 15000 psi max temp 120c) FPM (sour service up to 10000 psi, max temp 200c, fitted as standard)
202DI display OS enclosure	
Bracket and cover	304ss
Mounting stem:	316ss

**Dimensions:**



**UK Flowtechnik**