



RN3 FLOWMETERS

This range of flowmeters will provide you with a highly accurate and economical way of measuring liquids over the range of 1 to 2250 litres/min.

FEATURES & BENEFITS

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

PRODUCT CONFIGURATION

1 MATERIAL (Body/Rotors/Bearing)

Body: 316 stainless steel

2 BEARING TYPE

Sleeve bearings: Standard - carbon graphite filled PTFE (max temperature 180°C)

Optional - tungsten carbide (max temperature 300°C)

3 ROTOR ROTOR SHAFT MATERIAL

431 S/S or ferralium Tungsten carbide

4 THRUST BALLS / PLATE

Tungsten carbide or ceramic

5 HANGERS / CIRCLIPS

316 stainless steel / 316 stainless steel

6 INSTRUMENTATION

The signal can be used for a local display, remote display or converted for transmission to a separate control system.

We offer a range of instruments to suit your requirements.

Pulse output (mV sinewave or nPn / PnP squarewave)
4-20mA

Battery operated flow rate & totalising displays
ATEX certified Zone 0, 1 & 2 classifications

PRINCIPLE OF OPERATION

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

CALIBRATION

All RN3 turbine flowmeters are individually calibrated with water 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.

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.

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.

ADDITIONAL OPTIONS

- mV sinewave pickup (standard option)
- Ex - mV sinewave ATEX approved (EXia)
- HT - mV sinewave high temp (232°C)
- PPW - square wave pulse
- FC7 - 4-20 mA analogue outputs
- R5 - FRT141D0FM battery powered display of flow rate & total, pulse & 4-20mA analogue outputs
- R4 - FRT401D0FA battery powered display of flow rate & total, pulse output
- R3 - FRT121D0FMI intrinsically safe battery powered display of flow rate & total, pulse & 4-20mA analogue outputs
- ANSI flanges
- PN flanges
- * Other flanges available on request

APPLICATIONS

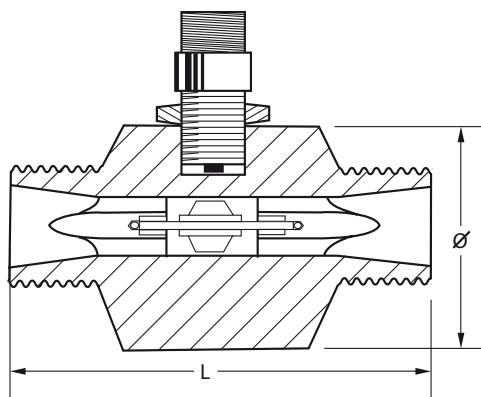
Water
Light oils
Solvents
Low viscosity chemicals
Batching

Filling
Pumps, engines, valves & other flow meters
Blending monitoring
Intrinsically safe ATEX II G EEx ia IIC T5 environment

SPECIFICATIONS

	RN3 Flowmeter
Linearity	Better than +/- 0.5% of reading
Repeatability	+/-0.1% of reading
Pressure drop	0.5 bar at maximum flow
Maximum working pressure	35 bar (special connections available up to 350 bar)
Temperature range	Standard pick off -30°C to 110°C
	IS pickoff -20°C to 100°C
	High Temp -30°C to 232°C
Body connections	BSP parallel thread with 60°C cone special connections are available for hydraulic applications

DIAGRAM



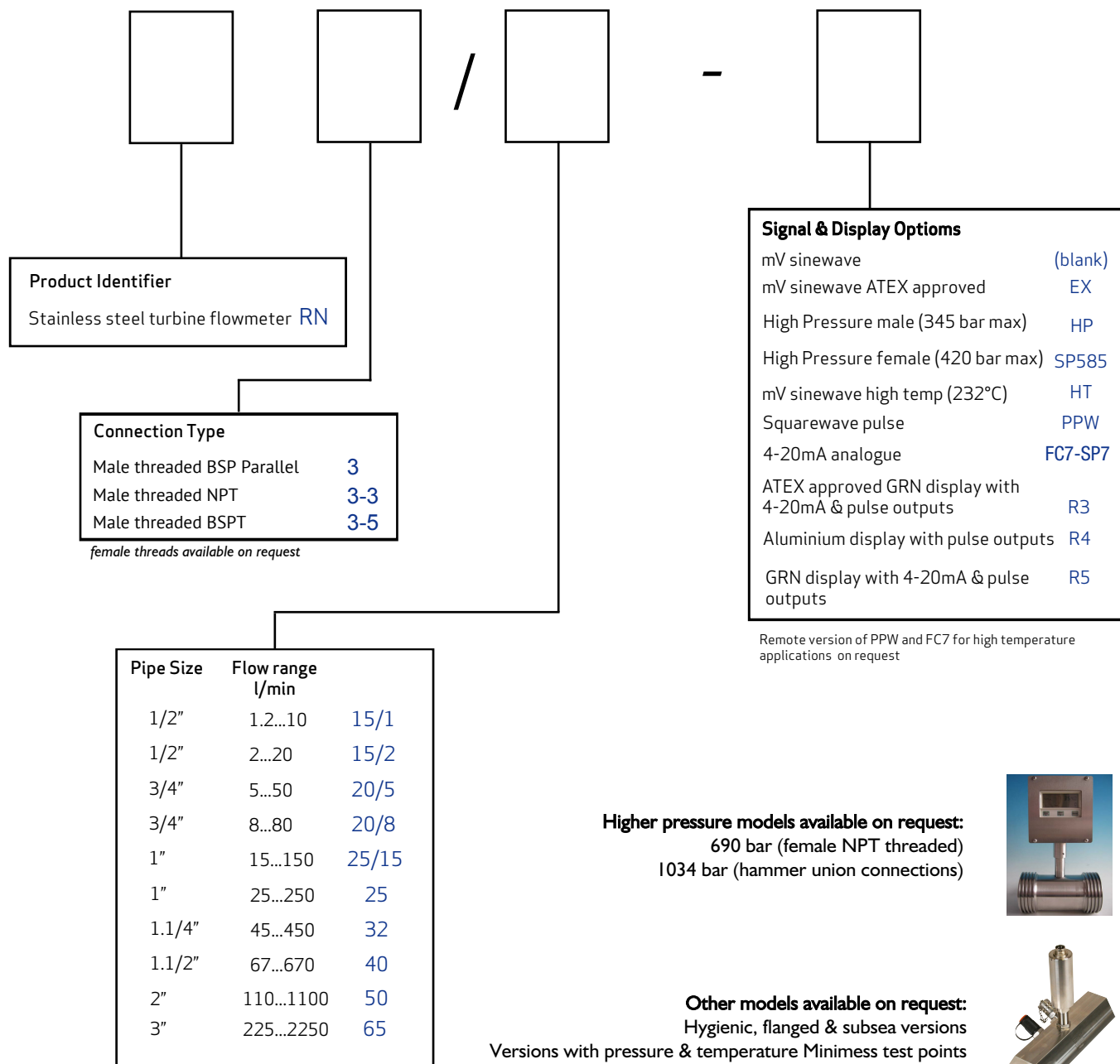
DIMENSIONS

Flowrate Ranges		
Model no	Flow Range (l/min)	K factor pulses/litre
RN3/15/1	1-10	6000
RN3/15/2	2-20	3800
RN3/20/5	5-50	1080
RN3/20/8	8-80	1080
RN3/25/15	15-150	620
RN3/25	25-250	362
RN3/32	45-450	111
RN3/40	67-670	82
RN3/50	110-1100	59
RN3/65	225-2250	16

Flowrate Ranges				
Model no	Thread Size BSP	L (mm)	Dia (mm)	Weight Kg
RN3/15/1	1/2"	82.6	50.0	0.7
RN3/15/2	1/2"	82.6	50.0	0.7
RN3/20/5	3/4"	82.6	50.0	0.7
RN3/20/8	3/4"	82.6	50.0	0.7
RN3/25/15	1"	90.5	63.5	1.2
RN3/25	1"	90.5	63.5	1.1
RN3/32	1 1/4"	110.0	75.0	1.6
RN3/40	1 1/2"	116.7	76.2	1.7
RN3/50	2"	154.0	89.0	3.1
RN3/65	3"	200	120	10

#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.

OPTIONS AND ORDERING INFORMATION



Example Ordering code:
RN3/20/8-SP585-R5

Service & Warranty: For technical assistance, warranty replacement or repair contact your distributor:
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ISO 9001