

# ROTA-PULSE FLOW SENSOR

## Features

- Australian made
- Internal amplification
- Simple maintenance
- No magnets used
- NPN open collector pulse output
- $\pm 1\%$  linearity 0.6 to 7.0 metres/sec velocity  
 $\pm 2.5\%$  linearity 0.5 to 8.0 metres/sec velocity
- $\pm 0.6\%$  repeatability
- Velocity range from 0.5 to 8.5 metres/second

## Description

The Rota-Pulse paddle wheel type flow sensor uses a proven principle of flow measurement. The FS-RPFS is designed and manufactured in Australia and is suitable for a wide range of measuring, monitoring and batching applications. The FS-RPFS has only one moving part and its limited intrusion into the pipe combined with its flow through design allows accurate measurement of liquid flow with each blade (4 blades in total) of the rotor extending approx. 1cm into the flowing liquid.

The FS-RPFS generates a pulse output with a frequency relative to the velocity of the liquid. The FS-RPFS incorporates internal amplification. No magnets are used thus eliminating the jamming of the rotor by iron particles.

The rotor is constructed from a special chemical resistant marine grade alloy running on a tungsten carbide axle.

## Mechanical Installation (T Fittings)

TEE fittings are available in class 18 PVC in standard size 25, 32, 40, 50, 65, 80 and 100mm

For existing installations a 1" BSP brass or stainless steel adapter nipple is available.

All installation Tee fittings have a locating key way to ensure correct placement of the flow sensor.

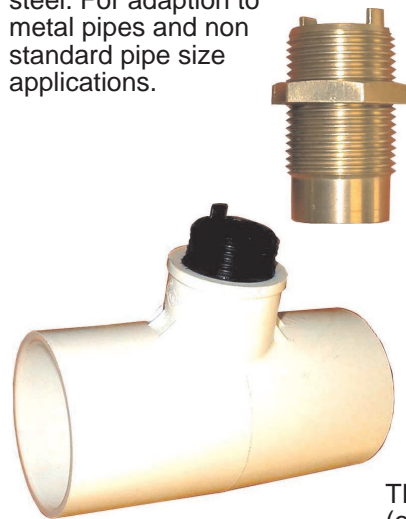
## Rotapulse sensors

The Rotapulse sensor is suitable for use with pulse input flow rate and totaliser display/controllers/batch controllers such as AIC models:

LD4-TR	(large digit total/rate)
LD-TR	(large digit total/rate)
PM4-TR	(panel mount total/rate)
PM6-TR	(panel mount total/rate)
RM4-TR	(DIN rail total/rate)
RM4-FX	(DIN rail rate)

Rota-Pulse flow sensor, lockcap & cable (supplied).  
Note that a TEE or nipple fitting adapter will also be required for installation.

Nipple fitting adapter (order separately).  
Bronze or stainless steel. For adaption to metal pipes and non standard pipe size applications.



TEE piece adapter (order separately).  
Available to suit 25, 32, 40, 50, 65, 80 or 100mm dia. PVC pipe.

Specifications	Model FS-RPFS-P-1	Model FS-RPFS-H
Supply Voltage	5-30VDC	5-30VDC
Output Signal	NPN (less than 1.5V to supply voltage approx.) 50% duty cycle pulse	NPN (less than 1.5V to supply voltage approx.) 50% duty cycle pulse
Cable specifications	3 metres with plug & lockcap - 3 core	2 metres hard wired - 2 core shielded - (3 wires) & lockcap
Fluid Temperature	50°C maximum	120°C maximum
Environmental Rating	IP68	IP65
Pressure Rating	13.5 bar (200psi)	27 bar (400psi)
Accuracy	1% linearity 0.6 to 7.0 m/s, 2.5% linearity 0.5 to 8.5 m/s, Repeatability $\pm 0.6\%$	

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# Rota-Pulse Flow Sensor Installation & Maintenance

## Selection of Correct Diameter Pipe

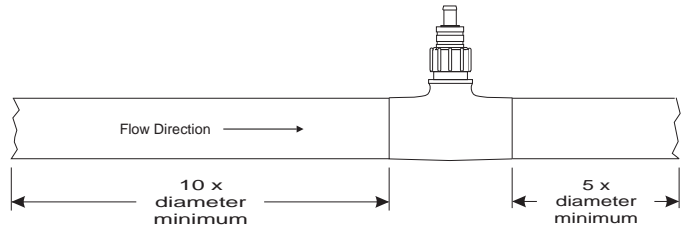
For correct operating velocities use the table below.

Pulse Output Formula: 36.5 pulses per linear metre approx.  
Calibration required to determine accurate pulse rate.

Pipe Size	Minimum Litres/Sec.	Maximum Litres/Sec.	Approx. Pulses/Litre
25mm	0.3	3.1	75
32mm	0.4	5.3	46
40mm	0.7	8.0	30
50mm	1.2	12.0	20
65mm	2.0	21.0	12
80mm	3.0	32.0	7.3
100mm	5.0	50.0	4.6

## Installing Into Existing Pipeline

A minimum of 10 x pipe diameter before the sensor and 5 x pipe diameter after the sensor must be fitted with no reductions, enlargements, restrictions, valves etc. in this section.



## Electrical Installation Data

FS-RPFS-P		FS-RPFS-H	
Black	Pulse	White	Pulse
Brown	+5-30VDC	Red	+5-30VDC
Blue	0V ground/shield	Shield	0V ground/shield

## Construction (standard model)

Sensor body	Delron
Rotor	Marine grade alloy
Bushes	Delron
Axle	Tungsten Carbide
O-rings	Neoprene or Viton
Lock cap	PVC

## Maintenance

With clean liquids a check is required every six months. In applications with reclaimed or contaminated fluids, regular monthly maintenance is required. To remove the sensor simply unscrew the PVC locking cap. Remove the sensor by hand (pulling the sensor away from the pipe).

**Caution:** Do not pull on the cable when removing the sensor. If the sensor is dirty, clean with dilute hydrochloric acid or hot water. For ease of removal and refitting, lubricate the sensor body with vaseline, grease or another appropriate lubricant. If problems exist which cannot be rectified by cleaning the sensor, contact the supplier.

**Note:** A tee fitting of the correct size will be required for installation.

## Order Code:

### Flowmeters

FS-RPFS-P-1	(50°C general purpose model)
FS-RPFS-H	(120°C brass body model)

### Adaptors

FS-RPFS-TEE-25	(25mm PVC tee piece adaptor)
FS-RPFS-TEE-32	(32mm PVC tee piece adaptor)
FS-RPFS-TEE-40	(40mm PVC tee piece adaptor)
FS-RPFS-TEE-50	(50mm PVC tee piece adaptor)
FS-RPFS-TEE-65	(65mm PVC tee piece adaptor)
FS-RPFS-TEE-80	(80mm PVC tee piece adaptor)
FS-RPFS-TEE-100	(100mm PVC tee piece adaptor)
FS-RPFS-BRNZ1"	(Bronze 1" BSP nipple fitting adaptor)
FS-RPFS-S/SX1"	(Stainless Steel 1" BSP nipple fitting adaptor)

