

#### FEATURES

- Volumetric rotary piston principle, measures accurately in any position.
- Mechanical totaliser with retro-fit reed switch pulse output probe for connection to resettable totalisers and PLCs.
- Compliance with AS3565.1-1998. & NMI R49-1 and Australian Standards
- 15 and 20mm sizes with NSC approval.
- Accuracy  $\pm 2\%$  (q-min to q-max)  
Repeatability better than 0.2%



The PSM water meter range, in sizes 15, 20, 25, 32 and 40mm, are suitable for measurement of water upto 50°C with a working pressure upto 1400 kPa. They offer great accuracy, long operating life, are highly resistant to tampering, and are fully approved by all local water authorities Australia-wide for drinking water applications.

The mechanical counter register is positioned for easy reading and displays to 0.1 Litre. The rotary piston measurement principle allows registration at very low flowrates. Meters can be installed in any position without affecting accuracy, and require no onsite calibration. An inline filter element prevents blockages, and an internal check valve stops backflows. Meters are supplied with a tamper-proof lead seal.

PSM flowmeters are manufactured from high quality materials - the body casing is made of gun-metal, and the measuring chamber from advanced plastics. All PSM meters are supplied with a gasket seat coupling connection kit.

PSM meters can be easily retro-fitted with a reed switch pulse output (T-probe), without removing the flow probe, or can be supplied with a T-probe already fitted for connection to resettable counters, batch controllers or PLC inputs. (5 Litres/pulse).

**The PSM20A-T2 provides the best pulse output resolution with 2 pulses per Litre (0.5 Litres/pulse).**

#### SPECIFICATIONS

Model Number		PSM15	PSM20	PSM25	PSM32	PSM40
Size (mm)		15	20	25	32	40
Pulse output (optional) rate	Litres/pulse	5	0.5	5	5	5
Mechanical register	Litres/minute	0.1	0.1	0.1	0.1	0.1
Minimum registration	Qr $\pm 5\%$ Litres/minute	0.05	0.05	0.22	0.37	0.62
Minimum flowrate	Qm $\pm 5\%$ Litres/minute	0.25	0.41	0.58	0.67	1.6
Minimum trans. flow	Qt $\pm 2\%$ Litres/minute	0.5	0.5	0.7	1.0	2.5
Nominal continuous flow	Qn $\pm 2\%$ Litres/minute	41.6	41.6	58.3	100	167
Maximum intermittent flow	Qs $\pm 2\%$ Litres/minute	83	83	116	166	250
Weight with couplings	Kg	1.6	1.8	2.7	3.6	8.2

#### Other Specifications

Headloss @Qn <25kPa, Max water temperature 50°C,  
Accuracy Qm to Qs +/-2%, Repeatability +/-0.2%.

Reed switch pulse V.max:24V, I.max:200mA, P.max:4W.

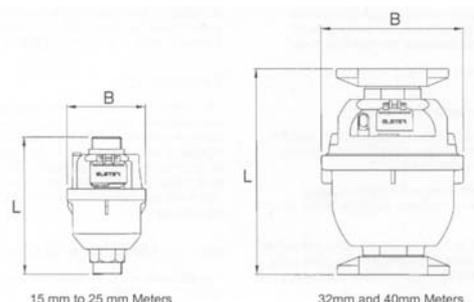
Cable: 2-core, 1 metre termination.

Suitable for clean water only.

Pipeline must be full at all times for correct measurement.

Purge the pipeline prior to install.

Once installed, bleed the liquid into the pipeline.



#### DIMENSIONS (mm)

Model No:	PSM15	PSM20	PSM25	PSM32	PSM40
Length L	133	153	177	189	231
Width B	87	87	101	121	160

#### ORDERING CODES

Part *	Size (mm)	Description
PSM15	15	15mm Total
PSM20	20	20mm Total
PSM20A-T2	20	20mm Total and pulse o/p: 2 pulses/Litre
PSM25	25	25mm Total
PSM32	32	32mm Total
PSM40	40	40mm Total

\* add '-TP' suffix for 5 Litres/pulse optional Pulse Output



WaterMark Approved Australia Wide

## INSTALLATION INSTRUCTIONS

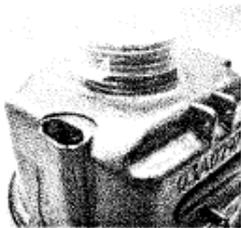
### T-Probe

#### For retro-fitting

Most PSM meters have the probe location hole in the body and driving magnet fitted, ready for retro fit of T-Probe contact closure pulse probe.

The brass bodied (Kent PSM) and some versions of the thermoplastic V110, can be specified with the facility for a magnetically operated (reed switch) pulsed output, by the retrofitting of a dedicated probe assembly.

The probe is fitted with a 100 series resistor to protect the reed switch from power surges and is usually provided with a 5 metre length of cable, terminating in sealed flying lead.



"A" Probe location position under protective plug.



"B" Probe fitted and screwed in place with security screw.

#### Cable Identification and Wiring Details:

The factory fitted cable used for the T-Probe is defined as 4 x 7 /0.2 mm with Red, Blue, Black and Yellow as the core colours, contained within a white outer sheath.

There are 2 wiring variants available, identified as follows:

Common Loop-Back: "TL1" Product Code: RR1LRBX005X

Separate Loop-Back: "TL2" Product Code: RR1LRTX005X (Standart Version)

For "TL1" variant, the BLACK and YELLOW cores are the volt free pair.

The loop-back is across RED and YELLOW cores. The Blue core can be cut back and discarded, as it is not connected.

## INSTALLATION INSTRUCTIONS

### Location and Operating Principle:

The Probe position is next to the counter, on the top shoulder of the meter body, protected with a removable plastic cover (See "A" opposite). The volt free pulse is generated from the counter rotation, which has a two pole circular magnet fitted to the end roller. As the magnet rotates and opposite poles pass the reed switch, it pulls the reed contacts together. This produces 2 pulses per revolution of the end roller. Where there are 4 red rollers, (15mm and 20mm size), this will generate 1 Pulse / 0.5 Litre

1 2 3 4 0 0 0 0

Where there are 3 red rollers, (25mm, 30mm and 40mm size), this will generate 1 Pulse / 5.0 Litre.

1 2 3 4 5 0 0 0

### Probe Fitting Instructions:

Remove and discard the plastic protective plug. Insert the probe into the socket and align with screw hole.

Fit the retaining screw through the hole in the probe. (The reed switch within the probe is self-positioning, with the screw firmly in place). (See "B" opposite). To prevent unauthorised interference, the screw head can be security lock-wired to the meter body with copper wire and a lead seal, making the probe installation completely amperproof.

For "TL2" variant, the RED and BLUE cores are the volt free pair. The loop-back is across the BLACK and YELLOW cores. These connections are not otherwise polarity sensitive.

**Note:** The reed switch assembly is rated at 50 Vdc maximum working. The duty cycle of the switch closure is typically 70% on, 30% off.

### Health and Safety at Work Act 1974

1. We wish to inform you that in accordance with Section 6 of the above Act, we take every care, as far as is reasonably practicable to ensure that our products are safe without risk to health when properly handled, transported, installed, used, maintained and disposed. However, as manufacturers and suppliers of a wide range of products, we would advise you that related information for these products will be found in the following literature.

- Regulations (such as the COSHH Regulations, Manual Lifting Regulations, Personal Protective Equipment Regulations), British Standards and other applicable ISO and European Specifications and Codes of Practice, as applicable to the intended application of the products.
- Regulations for electrical equipment of buildings (published by the Institution of Electrical Engineers).
- Catalogues and product leaflets of this Company or literature which may be obtained by specific request to the Company.

