

# CT5-S20M

## MANIFOLD TYPE

# 20mm totaliser positive displacement flowmeter with high rate 72 or 121 pulses/Litre output

### FEATURES

- ITRON TD8 Volumetric rotary piston principle, measures accurately in any position.
- Mechanical totalizer with pulse output.
- 121 counts/Litre Contact closure Switch output for precision data collection and flowrate readings.
- Accuracy (Qt to Qs):  $\pm 2\%$ , Repeatability:  $\pm 0.1\%$



The CT5-S20M (TD8) 20mm Manifold water meters are suitable for measurement of water up to 30 °C continuously (and up to 50 °C for up to 2 hours) with a working pressure up to 1500 kPa. The meter offers great accuracy and a long operating life for domestic drinking water applications.

The mechanical counter register is positioned for easy reading and displays from 0.02 to 9,999,999 Litres. The precision engineered rotary piston measuring chamber ensures accurate measurement even at very low starting flow rates. 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 located in the manifold section stops backflows.

CT5-S20M Manifold flowmeters are fitted with a high resolution reed switch contact closure output. At the request of various water authorities, with ManuFlo technology, 72 or 121 pulses per Litre (ppL) output signal is achieved (depending on flow measurement chamber used), which is the highest amount of pulses per Litre for a domestic water meter of this size (whilst retaining the mechanical register). This allows capture of precision water measurement information to data-loggers and to other data collection devices. Very accurate data can then be obtained for water usage totals and flowrate habits of consumers. Electrical connection is via a 1.5 metre 2-core shielded cable.

All meters are of MANIFOLD design which screw down on to a manifold coupling of 1 1/2", the manifold has 3/4" bsp (male or female entries) with a service gate valve inbuilt (NOTE: Not supplied by ManuFlo). CT5-S20 flowmeters are an adaptation of Aquadis+/TD8 flowmeters, which are manufactured from high quality materials to meet Australian and international Municipal Water Authorities specification requirements for residential water billing purposes.

### SPECIFICATIONS

Size rating (mm) when connected to 20mm outlet manifold		15	20
Base connection		1 1/2" bsp	1 1/2" bsp
Pulse output rate	Pulses/Litre	121	72
Mechanical register	Minimum Litres	0.02	0.02
	Maximum KL (m3)	9999.9999	9999.9999
Temperature (liquid)	°C (continuous)	30	30
Temperature (liquid)	°C (up to 2 hours)	50	50
Temperature (ambient)	°C	-10 to 70	-10 to 70
Starting flow rate	Litres/min	0.018	0.033
Min. registration	Qr $\pm 5\%$ Litres/min	0.05	0.08
Min. transitional flow	Qt $\pm 2\%$ Litres/min	0.25	0.41
Nom. continuous flow	Qn $\pm 2\%$ Litres/min	26.6	41.6
Max. intermittent flow	Qs $\pm 2\%$ Litres/min	49.0	83.3
Weight (without manifold)	kg	1.7	1.9
Dimensions:	Height/ mm	145	166
Brass Body Girth	Width/ mm	69	78



### Conditions for installation and use

The meter can be connected on a horizontal, vertical or oblique pipe. • Never connect the meter unless the pipework has previously been purged. • If necessary, protect the meter against but leaving the totaliser visible. A sheltered connecting point would be preferable. • After connecting the meter put the pipework into service by opening the stopcock very slowly till the air has been totally evacuated. • The meter must always be installed at a low point of the pipework. Installation • It is recommended to connect a dirt box upstream of the meters of medium or large sizes.

- Accuracy Q<sub>t</sub> to Q<sub>s</sub>: ±2%; Repeatability: ±0.15%.
- Reed switch has 10,000,000,000 switch life operations. (Equates to for 15mm = 82million litres, 20mm = 130million litres).
- Cable: 2-core, 1.5 metre length (with some input devices, to avoid bounce install a 450pF capacitor across input).
- Although the cable entry is sealed, loop the cable downwards from the flowmeter so that water cannot run down the cable and leach into the meter readout through the gasket cable outlet.
- Typically 50% duty cycle pulse (equal on/off state). Largest difference 46% on / 54% off state.
- Reed switch pulse V<sub>max</sub>: 24 VDC; I<sub>max</sub>: 50mA, with anti-bounce and internal 470Ω current-limiting resistor fitted. 2-wire connection.
- At Q<sub>max</sub>: 15mm size = 0.81 Litres/second x 121 pulses/Litre = 99 Hz max possible output to collection device.
- At Q<sub>max</sub>: 20mm size = 1.38 Litres/second x 72 pulses/Litre = 99 Hz max possible output to collection device.
- Headloss @ Q<sub>n</sub> <25 kPa; Maximum pressure rating 1500 kPa;
- Maximum water temperature: 30 °C continuous, up to 50 °C for up to 2 hours.



Standalone meters

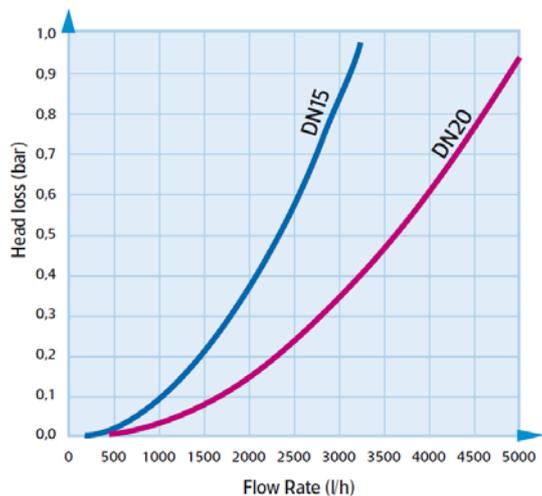


15mm rated (NZ) unit on manifold

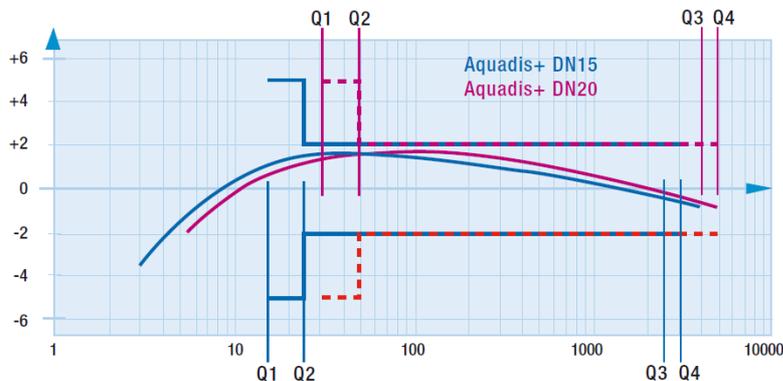


20mm rated (QLD) unit on manifold

**HEAD LOSS**



**TYPICAL ACCURACY CURVE ACCORDING WITH R160 MID CHANNEL**



The dynamic range is defined as the Ratio (R) between the Nominal and the minimum flowrates. The MID approval proves the Aquadis+ real capacity to withstands to higher nominal flows (Q<sub>3</sub> > Q<sub>n</sub>).

Due to continuous product improvement, specifications may change without notice.

**ORDER CODES**

Order Code	Description
CT5-S20M-NZ	20mm flowmeter, MANIFOLD TYPE - 121ppl
CT5-S20M	20mm flowmeter, MANIFOLD TYPE –larger capacity version 72ppl

