

## DZR Brass Body Semi-Positive Rotary Piston Type Meter.

### Legal Requirements

All 15mm, 20mm and 25mm Water meters supplied must be approved for trade use by the National Regulator for Compulsory Specifications (N.R.C.S.) in South Africa in accordance with the requirements of S.A.N.S. 1529-1: 2019 and the N.R.C.S. and section 22 of the Legal Metrology Act 2014 (Act 9 of 2014)

All water meters supplied must be tested and verified within the borders of South Africa in accordance with the requirements of Section 7 of the Legal Metrology Act 2014 (Act 9 of 2014). All verification to be performed by a registered Verification Officer in a S.A.N.A.S. Accredited Verification Laboratory in Terms of S.A.N.S. 1529 – 1: 2019.

### Performance Specification

The water meter must be of the semi-positive rotary piston type with the following capabilities: -

METER SIZE	15mm*	20mm*	25mm*
Maximum Flowrate $q_s \pm 2\%$ (m <sup>3</sup> /h)	3	5	7
Nominal Flowrate $q_p \pm 2\%$ (m <sup>3</sup> /h)	1,5	2,5	3,5
Transitional Flowrate $q_t \pm 2\%$ (ℓ/h)	22,5	37,5	52,5
Minimum Flowrate $q_{min} \pm 5\%$ (ℓ/h)	15	25	35
Starting Flow (ℓ/h)			
Maximum Working Pressure (kPa)	1600	1600	1600
Maximum Test Pressure (kPa)	4800	4800	4800
Body Length (mm)	114	165	198
Pulse Output (ℓ)	0.5	0.5	5

#### \* Class 'C' Accuracy Specification.

In addition, the meters offered must comply with the following: -

- Counters to be the sealed liquid filled wet dial type to prevent formation of condensation under the lens and the ingress of dirt obscuring the reading.
- Meter counter to be direct mechanical drive type to prevent outside magnetic interference.
- Counter window to be minimum 7mm thick. An uncontrollable discharge of water must result should the window be penetrated with a hot needle or similar sharp instrument to stop the counter from operating.
- Counter capsule to filled with a mixture of water and glycerine which acts as an algaecide and which has a lower freezing point than water.

- Meters must be approved to Class C by N.R.C.S. for both Vertical and Horizontal installation.
- Meter accuracy must not be affected by rhythmic or pulsating water flows.
- Meter performance to comply with SANS1529-1 Class 'C' Specification. This is to reduce the volume of water escaping measurement at low flow rates and to increase service life.
- Meter bodies to be manufactured from dezincification resistant brass capable of withstanding a test pressure of 4 800 kPa (48 Bar).
- Meter to have a Working temperature between 2° C and 40° C or better.
- Meter to have a maximum working pressure of 1 600 kPa (16 Bar).
- The 20mm meter piston must be of such a size that it rotates at 17 revolutions or less per litre measured to generate enough torque and assist with improved performance and reliability in the presence of suspended solids in the water.
- The 15mm meter piston must be of such a size that it rotates at 36 revolutions per litre measured to increase low flow measurement sensitivity and reduce the point at which the meter starts to turn and measure.
- Maximum rate of flow (Qs) must be achieved at a pressure drop not exceeding 100 kPa across the inlet/outlet of the meter.
- Shaped, vertical grooves must be incorporated in the piston to create a turbulence seal whilst in operation. This to improve meter performance and reliability due to reduced friction in the presence of suspended solids.
- All internal plastic components to be constructed of virgin materials.
- Each meter must be backed with a 3-year guarantee against faulty workmanship and/or materials.
- Meters to be pulse prepared. Reed switch is an optional extra.
- The reed switch probe hole to be sealed with a removable plug to seal it. This to prevent the probe hole from becoming filled and clogged with dirt preventing the fitment of a reed switch later.
- 15mm meter to have a built-in non-return valve to prevent generation of false pulses and to prevent meter reversal.
- 20mm meter to be fitted with a stainless-steel spring and to be spring loaded to ensure a watertight seal. The poppet to be made from rubber compound to ensure proper seal.
- 15mm meter to fitted with a fine mesh internal strainer to protect the working chamber from damage and wear caused by suspended solids suspended solids.

- 20mm meter to be fitted with a bowed fine mesh strainer which increases the total mesh area and guides suspended solids to collect around outer rim of the strainer before becoming blocked. The strainer is also bowed for increased strength.

### **General**

Spare parts and accessories for all water meters offered must be available locally in South Africa and available for ten years after purchase of the water meter.

### **MC 1 (8.20)**