M160

Manifold Cold Potable Water Meter

Product Specification

Overload flow rate (Q_4)	**kL/h**	5
Size - Nominal diameter (DN)	**mm**	20

The M160 cold potable meter combines a positive displacement volumetric rotary piston measuring element retained in a robust brass housing with a dual check valve assembly, isolating ball valve and hydraulically designed manifold.

The M160 is suitable for water temperatures up to 50ºC and a maximum working pressure of 1400 kPa. Standard counter registration is in kilolitres (kL) and litres.

The M160 meter components are entirely serviceable from the top and with a fully assembled weight of 2.85 kg is available in an AS 3565 standard meter length.

Compliance with Australian Standards and approved to National Measurement Institute regulations

Every M160 water meter is individually tested for accuracy before despatch. The M160 meter meets the accuracy and specification requirements of the following Australian Standards and NMI R49-1:

- **AS 3565.1-2004 Meters for water supply Part 1: Cold water meters.**
- **AS 3565.3-2004 Meters for water supply Part 3: Water meters with integral dual check valves.**
- **National Measurement Institute Certificate of Approval No: 14/3/1. Issued under Regulation 60 of the National Measurement Regulations 1999.**

Design Features

- The M160 provides a complete water meter system by incorporating a meter, dual check valve assembly and isolating valve all housed within the one unit.
- Positive displacement volumetric rotary piston principal of measurement providing accurate performance to AS 3565.1.
- The standard AS 3565 length allows the meter to be installed in existing meter frames allowing simple replacement of conventional meters.
- The integral isolating valve and M160 design facilitates in-line maintenance of the dual check valve assembly and meter element.

Manifold

The robust manifold is manufactured from dezincification resistant C85210 brass to provide long service life. The water passages are hydraulically designed ensuring minimal pressure loss.

Dual Check Valve Assembly

A dual check valve assembly complying to AS/NZS 2845.1 is used to protect against low hazard contamination of potable water. The dual check valve assembly is mounted under the meter measuring element and is easily removed / replaced as a unit.

Isolating Ball Valve

The ball type isolating valve only requires 90º movement of the handle for open / close operation as distinct from other types of isolating valves. The full bore design of the ball valve presents minimal resistance to flow. For ease of serviceability, the ball valve cartridge (the ball, rubber seals, actuator housing and nut) can be removed and replaced as a unit. The lugs on the side of the ball valve section of the manifold body, facilitate replacing the ball valve cartridge under pressures up to 800 kPa, by using a special tool.

Meter Measuring Element

The positive displacement measuring element is manufactured from advanced engineered plastics with the working chamber and top plate precision CNC machined and married with a unique grooved piston design greatly reducing stoppages caused by suspended solids. Small flow eddies are created between the piston and the working chamber wall holding solids in suspension until flushed out during the pistons discharge cycle.

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Counter

The counter mechanism is a dry type counter housed in a "copper can". The dry design eliminates condensation and the possibility of algae or silt build-up in the counter, which together with the scratch resistant mineral glass lens provides ease of reading over the life of the meter. The maximum counter registration is 99999.99 kilolitres with a resolution of 0.02 litres. A “tell tail” indicator disc shows even the smallest flows for leak detection.

Optional features

- The M160 is available in a variety of threaded end configurations.
- The meter counter can be supplied optionally fitted with a reed type pulse output providing 1 pulse per litre.

Remote / Electronic Reading

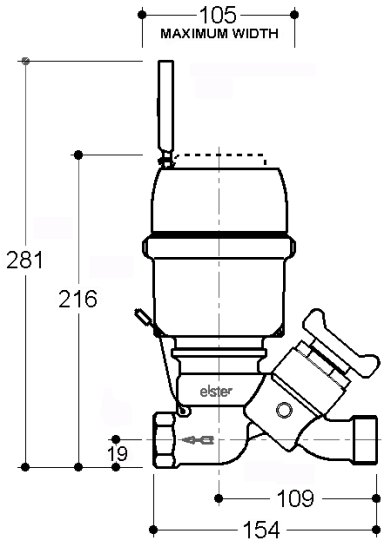
The M160 provides the water industry with the flexibility to meet future demands. Today a conventional meter - tomorrow, whilst in use and without any disconnection, risk of component damage, need to re-calibrate and with no affect to meter performance or accuracy, it can be easily converted for electronic / remote readout capability by simply replacing the counter lid with a magnetically operated pulse unit.

Materials

All M160 meters are manufactured from the highest quality materials ensuring maximum resistance to wear and corrosion. Copper alloys in contact with potable water are de-zincification resistant and comply with the Australian Standard AS 2345. All other materials in contact with potable water comply with the Australian Standard AS/NZS 4020.

M160 Performance to NMI R49-1 / Class 2 (AS 3565.1-2004)		
Size - Nominal diameter (DN) - (Q_3/Q_1 Ratio)		20 mm - (200)
Minimum flow rate (Q_1) ± 5%	L/h	20
Transitional flow rate (Q_2) ± 2%	L/h	32
Permanent flow rate (Q_3) ± 2%	kL/h	4
Overload flow rate (Q_4) ± 2%	kL/h	5
Minimum registration flow rate	L/h	3
Pressure loss @ 2500 L/h (Complete M160 assembly)	kPa	64
Maximum working pressure	kPa	1400
Hydrostatic test pressure	kPa	2100
Working temperature range	°C	0.3 to 30
Operating temperature range	°C	0.3 to 50
Minimum counter registration	L	0.02
Maximum counter registration	kL	99999.99
Approx. bare meter weight - (Unpacked)	kg	2.85

Dimensions



Counter Details

The Company’s policy is one of continuous improvement and the right is reserved to modify the specifications without notice.

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