Australian Government
National Measurement Institute
Bradfield Road, West Lindfield NSW 2070

Certificate of Approval

NMI 14/3/19

Issued by the Chief Metrologist under Regulation 60
of the
National Measurement Regulations 1999

This is to certify that an approval for use for trade has been granted in respect of the instruments herein described.

Global Valve Technology Model TPWM Water Meter

submitted by Global Valve Technology Ltd
Suite 1B, 4-10 Bridge Street
Pymble NSW 2073

NOTE: This Certificate relates to the suitability of the pattern of the instrument for use for trade only in respect of its metrological characteristics. This Certificate does not constitute or imply any guarantee of compliance by the manufacturer or any other person with any requirements regarding safety.

This approval has been granted with reference to document NMI R 49-1, *Water Meters Intended for the Metering of Cold Potable Water and Hot Water, Part 1: Metrological and Technical Requirements*, April 2009.

This approval becomes subject to review on 1/03/17, and then every 5 years thereafter.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & variant 1 approved – certificate issued	03/02/12
1	Pattern & variant 1 (Test Procedure) amended – certificate issued	18/04/12

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with approval number 'NMI 14/3/19' and only by persons authorised by the submittor.

It is the submittor's responsibility to ensure that all instruments marked with this approval number are constructed as described in the documentation lodged with the National Measurement Institute (NMI) and with the relevant Certificate of Approval and Technical Schedule. Failure to comply with this Condition may attract penalties under Section 19B of the National Measurement Act and may result in cancellation or withdrawal of the approval, in accordance with document NMI P 106.

Auxiliary devices used with this instrument shall comply with the requirements of General Supplementary Certificates No S1/0/A or No S1/0B.

Signed by a person authorised by the Chief Metrologist to exercise his powers under Regulation 60 of the *National Measurement Regulations 1999*.

TECHNICAL SCHEDULE No 14/3/19

1. Description of Pattern **approved on 03/02/12**

A Global Valve Technology model TPWM 20 mm class 2 positive displacement meter (Figures 1, 2 and 3) used to measure water for potable supply for trade. May also be known as GVT instruments of the same model.

1.1 Field of Operation

The field of operation of the measuring system is determined by the following characteristics:

- Maximum continuous flow rate, Q_3 4.0 kL/h
- Flow rate ratio, Q_3/Q_1 200
- Maximum admissible temperature 30°C
- Limiting condition (water temperature) 50°C
- Maximum admissible pressure 1400 kPa
- Accuracy class 2

1.2 Features/Functions

A plastic body, positive displacement volumetric rotary piston-type class 2 water meter of a size which is normally connected to a 20 mm pipe and is approved for metering domestic supplies and has features/functions as listed below:

- Threaded end connections as normally used in ACT, NSW, QLD, VIC, TAS, WA and NT.
- A mechanical digital indicator having a series of eight aligned digits giving a maximum display of 9999.9999 kL in 0.1 L increments.
- Meter length: 154 mm.
- Minimum straight length of inlet pipe: 0 mm.
- Minimum straight length of outlet pipe: 0 mm.
- Provision for pulse output sensory device of 0.5 litre per pulse.
- Dual check valves.

1.3 Verification Provision

Provision is made for the application of a verification mark.

1.4 Sealing Provision

Instruments shall include one or more devices which can be sealed (Figure 2) so as to prevent dismantling or modification of the instrument without damaging the device(s).

The device(s) may incorporate the verification mark.

1.5 Descriptive Markings

Instruments are marked with the following data, either grouped or distributed on the casing, the indicating device dial or an identification plate:

Manufacturer's name or mark	.....
Serial number	.....
Pattern approval mark	NMI 14/3/19
Numerical value of maximum continuous flow rate, Q_3	.....
Flow rate ratio, Q_3/Q_1	.....
Unit of measurement	kL
Direction of flow	→ or similar
Accuracy class	..... (#)

(#) Optional for class 2 meters.

2. Description of Variant 1 approved on 03/02/12

With certain alternative features/functions as listed below:

- Threaded end connections as normally used for recycled water.
- Brass end connections.
- A maximum display of 99999.999 kL in 1 L increments.
- Single check valve.
- Test ports to allow water connection for testing purposes.

TEST PROCEDURE No 14/3/19

Water meters tested for initial verification shall comply with the Certificate of Approval, Technical Schedule, and the maximum permissible errors for initial and subsequent verifications at the operating conditions in effect at the time of verification. Maximum permissible errors for the initial and subsequent verification of water meters are given in the *National Trade Measurement Regulations 2009* (Cth).

Water meters shall be verified in accordance with NITP 14 *National Instrument Test Procedures for Utility Meters*.

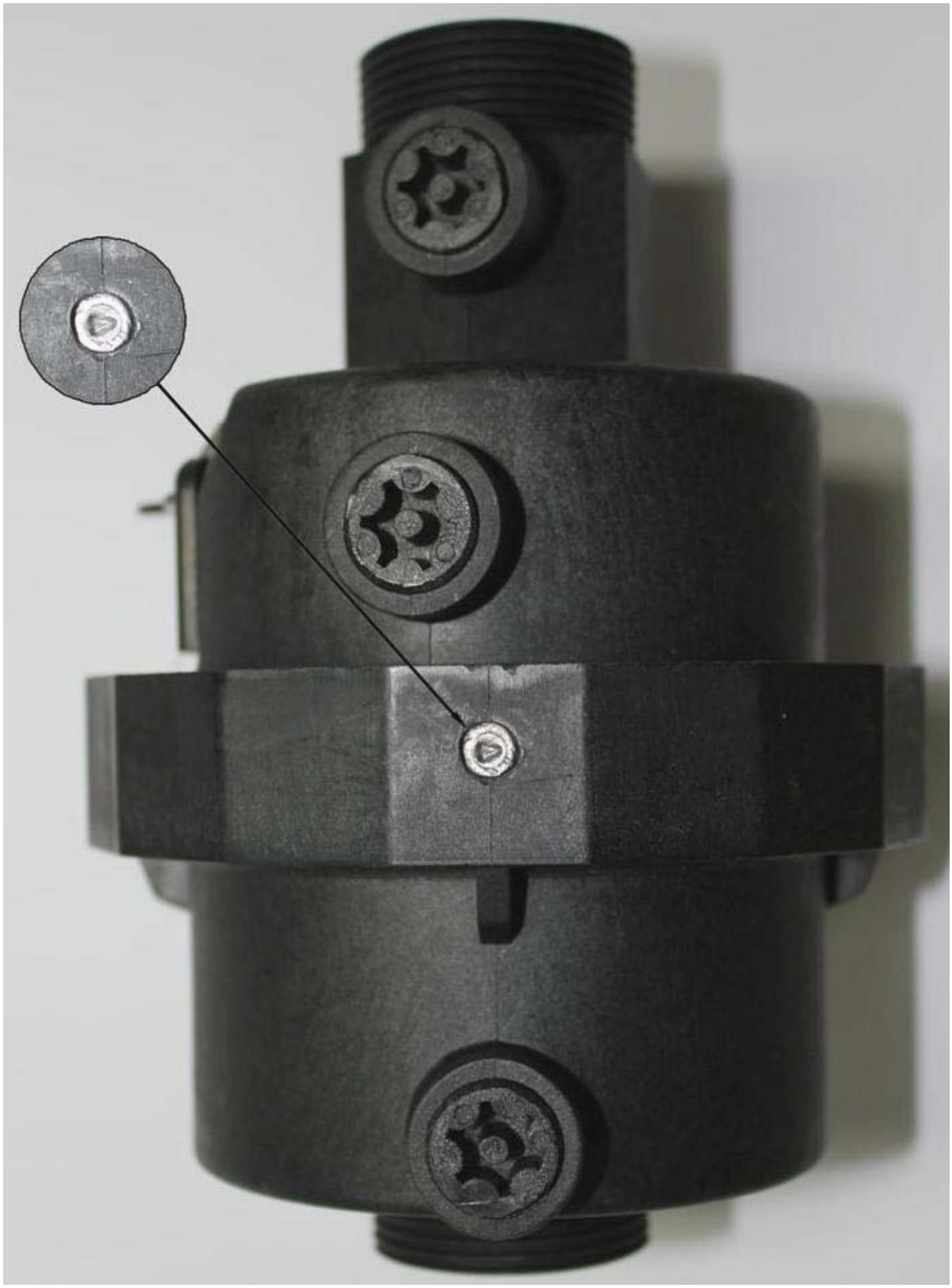
Evidence of verification shall be confirmed via the meter serial number (Figure 1) and certificate of verification issued by a utility meter verifier in accordance with NITP 14.

NOTE: NMI reserves the right to vary this procedure. Any such variation shall be notified in writing by NMI.

FIGURE 14/3/19 – 1

Global Valve Technology (GVT) model TPWM 20 mm Water Meter (the pattern)

FIGURE 14/3/19 – 2



Showing Sealing

FIGURE 14/3/19 – 3

Showing Direction of Flow Mark

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