



Australian Government
Department of Industry,
Science and Resources

National Measurement Institute

36 Bradfield Road, West Lindfield NSW 2070

Certificate of Approval NMI 14/3/58

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.

GWF Unico2coder MP DN15 model water meter

submitted by GWF MessSysteme AG
119 Obergrundstrasse
Luzern 6002
Switzerland

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*, dated September 2015.

This approval is subject to review at the decision of the Chief Metrologist in accordance with the conditions specified in the document NMI P 106.

DOCUMENT HISTORY

Rev	Reason/Details	Date
0	Pattern & Variant 1 provisionally approved – certificate issued	13/01/22
1	Pattern & Variant 1 approved – certificate issued	11/02/22
2	Variant 2 provisionally approved – certificate issued	04/05/22
3	Variant 2 amended and withdrawn, Variant 3 approved – certificate issued	21/07/22

CONDITIONS OF APPROVAL

General

Instruments purporting to comply with this approval shall be marked with pattern approval number 'NMI 14/3/58' and only by persons authorised by the submitter.

Instruments purporting to comply with this approval and currently marked 'NMI P14/3/58' may be re-marked 'NMI 14/3/58' but only by persons authorised by the submitter.

Approval of Variant 2 is withdrawn. Instruments described under Variant 2 are not approved for use for trade and shall not be marked with 'NMI 14/3/58' or 'NMI P14/3/58'.

It is the submitter'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.

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



Darryl Hines
Manager
Policy and Regulatory Services

TECHNICAL SCHEDULE No 14/3/58

1. Description of Pattern **provisionally approved on 13/01/22**
approved on 11/02/22

A GWF Unico2coder MP DN15 model water meter used to measure cold potable water supplies for trade.

1.1 Field of Operation

The field of operation of the measuring system using the GWF Unico2coder MP DN15 model water meter is determined by the following characteristics:

Minimum flow rate, Q ₁ :	0.03125 m ³ /h
Transition flow rate, Q ₂ :	0.05 m ³ /h
Maximum continuous flow rate, Q ₃ :	2.50 m ³ /h
Overload flow rate, Q ₄ :	3.125 m ³ /h
Flow rate ratio, Q ₃ /Q ₁ :	80
Temperature class:	T30
Maximum admissible temperature:	30 °C
Limiting condition (water temperature):	50 °C
Maximum admissible pressure:	1600 kPa
Pressure loss class:	Δp 63
Accuracy class:	2
Flow profile sensitivity class:	U0/D0
Orientation:	Horizontal
Flow Direction:	Forward only

1.2 Features/Functions

The pattern (Figure 1) consists of a volumetric inferential single jet flow sensor and a mechanical indicating flow converter (calculator/indicator) (Figure 2) and has the features/functions as listed below:

Connection type:	Threaded end connections
Display:	A mechanical display incorporating a series of eight aligned digits and a pointer dial allowing for a maximum indication range of 99,999 m ³ in 0.0001 m ³ increments
Communications:	SCR/M-Bus/ECO (MP interface)
Materials:	Meter body: Brass Indicating device housing: Polymer material
Meter length:	110 mm
Non-return device(s):	None

1.3 Conditions

1.3.1 Installation Conditions

No flow straightener or flow conditioner is required.

For Accuracy Class 2, the flow profile sensitivity class is U0/D0.

1.3.2 Water Quality

The meter is approved for use in the metering of potable water supplies.

1.4 Software Version

Not applicable

1.5 Verification Provision

Provision is made for the application of a verification mark.

1.6 Sealing Provision

The meter is mechanically sealed via the snap-fitted connection between the meter body and the indicating device housing such that attempts to physically access the internal elements of the meter would result in evidence of tampering (Figure 3).

1.7 Descriptive Markings and Notices

Instruments are marked with the following data, either grouped or distributed on the casing, the indicating device dial or an identification plate (Figure 4):

Manufacturer's name or mark	...
Serial number	...
Pattern approval number	NMI 14/3/58
Numerical value of maximum continuous flow rate, Q_3	...
Flow rate ratio, Q_3/Q_1	...
Unit of measurement	m^3
Temperature class ⁽¹⁾	T30
Maximum admissible pressure ⁽²⁾	1600 kPa
Pressure loss class ⁽³⁾	63 kPa or Δp 63
Orientation ⁽⁴⁾	...
Flow profile sensitive class ⁽⁵⁾	U0/D0
Direction of flow	→ or similar
Accuracy class ⁽⁶⁾	2

⁽¹⁾ Optional for temperature class T30

⁽²⁾ Optional for meters with MAP of 1400 kPa or 600 kPa for $DN \geq 500$

⁽³⁾ Optional for pressure loss class Δp 63

⁽⁴⁾ Optional for meters approved for all orientations

⁽⁵⁾ Optional for U0/D0 meters

⁽⁶⁾ Optional for accuracy class 2 meters

2. Description of Variant 1 **provisionally approved on 13/01/22**
approved on 11/02/22

The GWF Unico2coder MP DN15 model water meter is approved with the following alternative characteristics for vertical installation:

Minimum flow rate, Q ₁ :	0.0625 m ³ /h
Transition flow rate, Q ₂ :	0.10 m ³ /h
Maximum continuous flow rate, Q ₃ :	2.50 m ³ /h
Overload flow rate, Q ₄ :	3.125 m ³ /h
Flow rate ratio, Q ₃ /Q ₁ :	40
Orientation:	Vertical

3. Description of Variant 2 **provisionally approved on 04/05/22**
amended and withdrawn on 21/07/22

The provisional approval of the GWF Unico2coder MP DN15 model water meter with the characteristics specified in Table 1 is withdrawn.

Water meters with the characteristics specified in Table 1 are not approved for use for trade and shall not be marked with the pattern approval number.

Note: Table 1 has been amended to specify meters with certain characteristics for which approval has been withdrawn as of 21/07/22. Table 2 (of Variant 3 below) specifies meters with characteristics that were provisionally approved on 04/05/22 and that are approved as of 21/07/22.

Table 1 – Meter Characteristics

Meter size	DN15	DN15
Minimum flowrate Q ₁ (m ³ /h)	0.0625	0.03125
Transitional flowrate Q ₂ (m ³ /h)	0.10	0.05
Maximum continuous flowrate Q ₃ (m ³ /h)	2.50	2.50
Overload flowrate Q ₄ (m ³ /h)	3.125	3.125
Ratio Q ₃ /Q ₁	40	80
Temperature classes	T50, T70, T90, T30/T70 or T30/T90.	T50, T70 or T90
Maximum admissible pressure	1600 kPa	
Pressure loss class	Δp 63	
Accuracy class	2	
Flow profile sensitivity class	U0/D0	
Orientation	Vertical	Horizontal
Flow Direction	Forward only	

4. Description of Variant 3

approved on 21/07/22

The GWF Unico2coder MP DN15 model water meter is approved for the metering of hot water supplies (Figure 5 and Figure 6) for trade with the following characteristics in Table 2:

Table 2 – Meter Characteristics

Meter size	DN15	DN15
Minimum flowrate Q_1 (m ³ /h)	0.0625	0.03125
Transitional flowrate Q_2 (m ³ /h)	0.10	0.05
Maximum continuous flowrate Q_3 (m ³ /h)	2.50	2.50
Overload flowrate Q_4 (m ³ /h)	3.125	3.125
Ratio Q_3/Q_1	40	80
Temperature classes	T30/T70 or T30/T90	
Minimum admissible temperature	30 °C	
Maximum admissible temperature	70 °C (T30/T70) or 90 °C (T30/T90)	
Maximum admissible pressure	1600 kPa	
Pressure loss class	Δp 63	
Accuracy class	2	
Flow profile sensitivity class	U0/D0	
Orientation ⁽¹⁾	H↑ or H→	H↑ only
Flow Direction	Forward only	

⁽¹⁾ Orientation key:

H↑ Horizontal with indicating device position on top

H→ Horizontal with indicating device position at side

TEST PROCEDURE No 14/3/58

Water meters tested for 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*.

The following exceptions apply for accuracy class 2 meters:

- The working water temperature range for verification is dependent on the temperature class of the meter as follows:
 - T30, T50: $20\text{ °C} \pm 10\text{ °C}$;
 - T70 to T180: $20\text{ °C} \pm 10\text{ °C}$ and $50\text{ °C} \pm 10\text{ °C}$;
 - T30/70 to T30/180: $50\text{ °C} \pm 10\text{ °C}$.
- Where a meter is tested with a working water temperature greater than 30 °C, the maximum permissible errors shall be:
 - $\pm 5\%$ within the flowrate range $Q_1 \leq Q < Q_2$; and
 - $\pm 3\%$ within the flowrate range $Q_2 \leq Q \leq Q_4$.

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

FIGURE 14/3/58 – 1



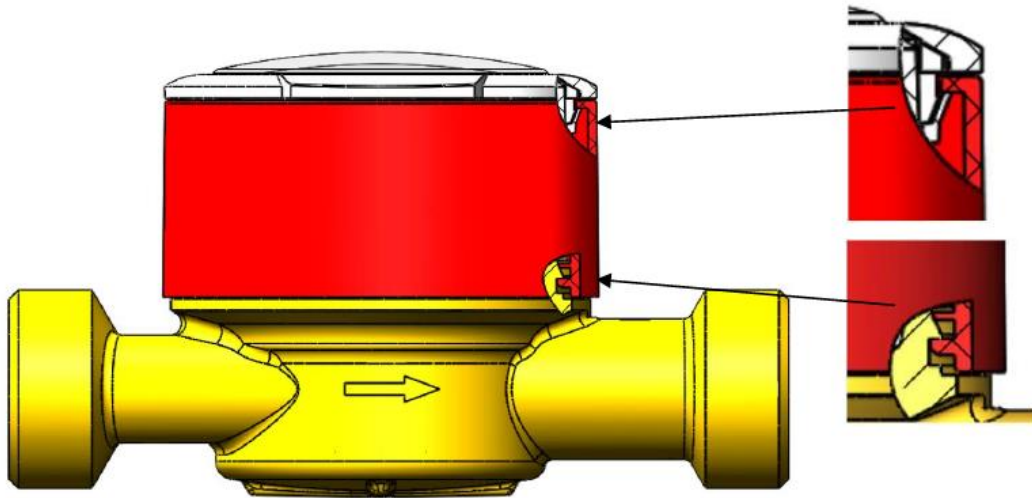
GWF Unico2coder MP DN15 with temperature class T30

FIGURE 14/3/58 – 2



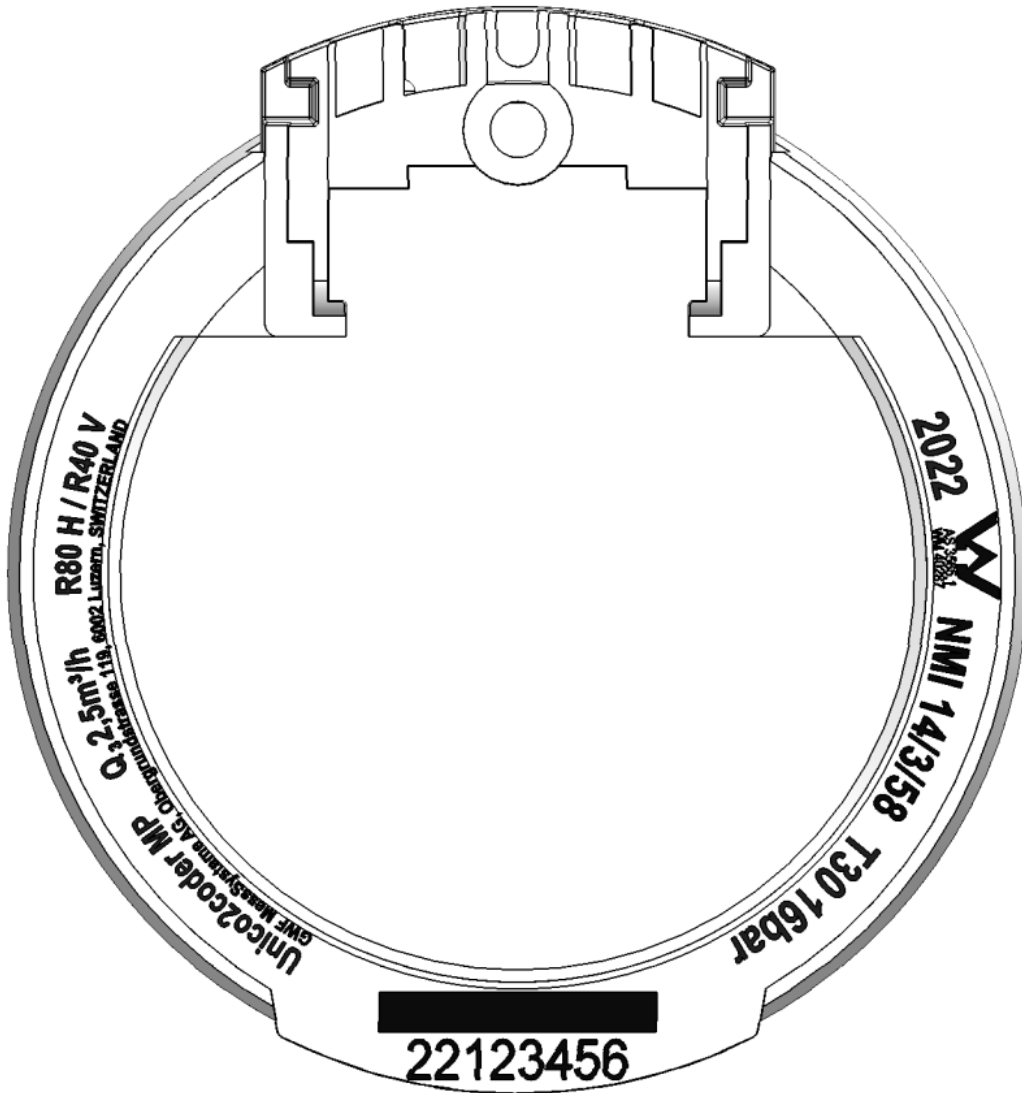
Indicating device

FIGURE 14/3/58 – 3



Sealing Provisions

FIGURE 14/3/58 – 4



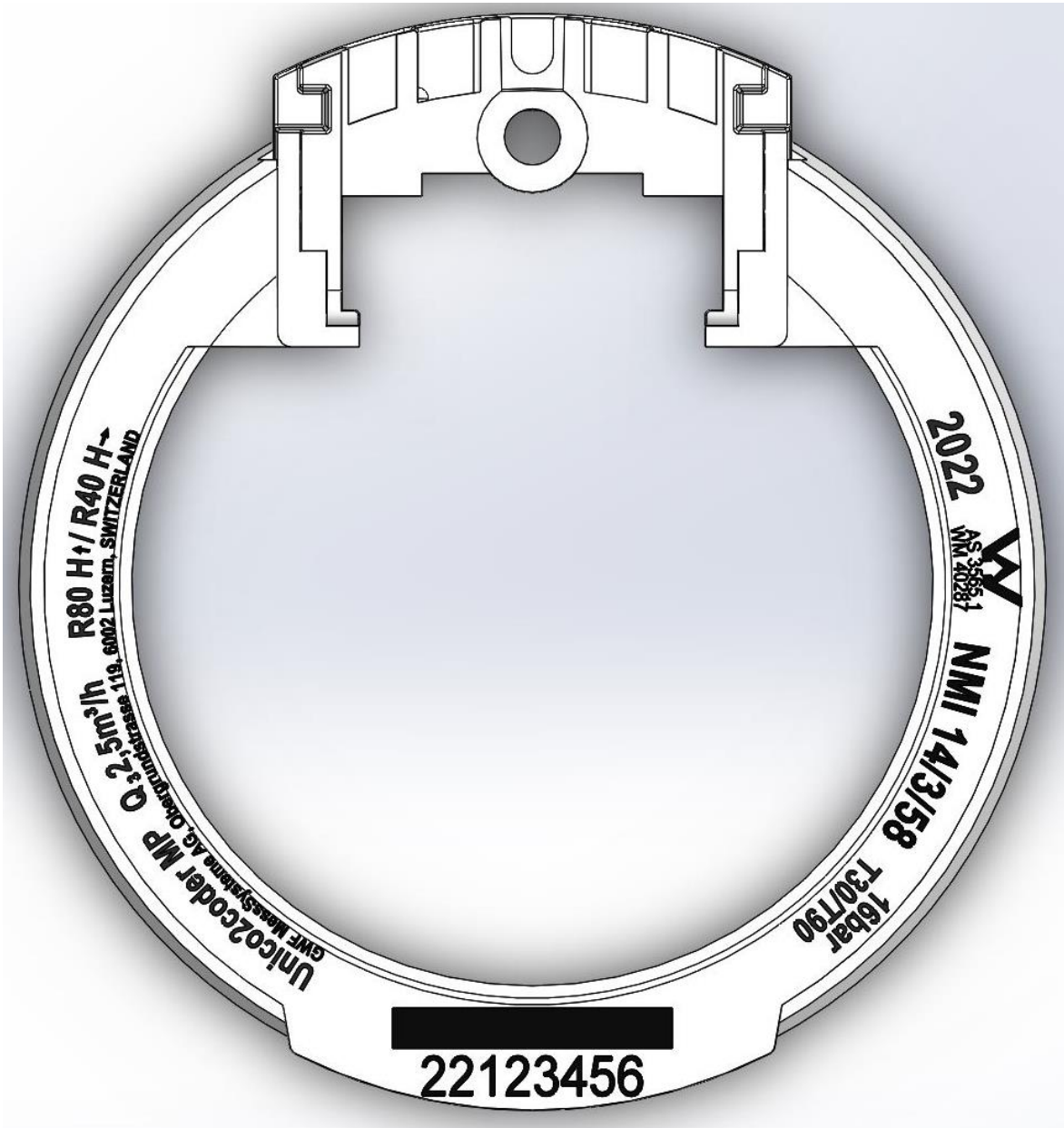
Example of required markings

FIGURE 14/3/58 – 5



GWF Unico2coder MP DN15 temperature class T30/T90
Indicating device - Variant 3

FIGURE 14/3/58 – 6



GWF Unico2coder MP DN15 temperature class T30/T90
Example markings - Variant 3

~ End of Document ~