ZENNER INFORMATIONS

Information on the MID
The Measurement Instrument Directive

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ZENNER Informations

Infos on MID - Measurement Instrument Directive

Comparison of previous designations and meter sizes in accordance with EEC factory calibration with the new MID specifications

A new period accounting method for users and manufacturers of water meters has already been in use since 30 October 2006 - the MID (Measurement Instrument Directive) came into force. The European Council Directive on Measurement Instruments describes how measurement instruments should be constructed, how the conformity (previously, calibration) of the measurement instruments with the MID can be declared and how these should then be introduced in the areas subject to calibration legislation. The familiar device designations and terms must give way to new designations:

Calibration becomes declaration of conformity with the MID

The hitherto familiar calibration in accordance with the EEC certification regulations will be replaced by conformity with the MID, which the manufacturer will declare. The permissible procedures are described in the MID and will be monitored by government or private bodies referred to as “Designated Authorities”. By means of a written declaration of conformity, the manufacturer will certify that the meters produced are in conformity with the requirements of the MID and that the certification standards are continually adhered to by means of his QM system.

Error limits remain in force

The permissible error limits are regulated across Europe by the MID and correspond with the hitherto familiar values. This means that in the future, water meters may also measure with an accuracy of +/-5% in the lower flow range and +/-2% in the permanent load range.

The calibration remains in force

The MID makes no provisions with respect to the calibration. That means that the calibration period is nationally regulated in the respective countries. In Germany, for example, 6 years will continue to apply to cold water meters and 5 years to hot water meters.

The metrological Class becomes the Q3/Q1 ratio – the Ratio – the Classes have served their time

The previous meter designations and flow rate ratios will be re-arranged in accordance with the MID.

The classification into the metrological Classes A, B and C will be superseded by the Q3/Q1 ratio (the Ratio). You will find a potential comparison of previously EEC calibrated meters with MID-approved meters in the table on page 2. In general, the classification of the meters in accordance with the MID places higher demands on the meters.

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New markings

The markings of the flow-points will be re-defined by the MID:

- Qmin becomes Q1 (Minimum flowrate)
- Qtrenn becomes Q2 (Transitional flowrate)
- Qn becomes Q3 (Nominal flowrate)
- Qmax becomes Q4 (Maximum flowrate)

Qn (EEC) [m³/h]	1,5	2,5	3,5	6	10	15
Q3 (MID) [m³/h]	2,5	4	6,3	10	16	25

Meter sizes Qn and Q3: Comparison of Classes und Ratio

Apartment and domestic water meters

Markings of meter sizes - EEC

Qn [m³/h]	Qmax [m³/h]	Qtrenn [l/h]	Qmin [l/h]	Class
0,6	1,2	60	24	A
1	2	100	40	A
1,5	3	150	60	A
2,5	5	250	100	A
3,5	7	350	140	A
6	12	600	240	A
10	20	1000	400	A

Markings of meter sizes - MID

Q3 [m³/h]	Q4 [m²/h]	Q2 [l/h]	Q1 [l/h]	Ratio
1	1,25	40	25	40
1,6	2	64	40	40
2,5	3,125	100	62,5	40
4	5	160	100	40
6,3	7,875	252	157,5	40
10	12,5	400	250	40
16	20	640	400	40

Qn [m³/h]	Qmax [m³/h]	Qtrenn [l/h]	Qmin [l/h]	Class
0,6	1,2	48	12	B
1	2	80	20	B
1,5	3	120	30	B
2,5	5	200	50	B
3,5	7	280	70	B
6	12	480	120	B
10	20	800	200	B
15	30	3000	450	B

Q3 [m³/h]	Q4 [m²/h]	Q2 [l/h]	Q1 [l/h]	Ratio
1	1,25	20	13	80
1,6	2	32	20	80
2,5	3,125	50	31,25	80
4	5	80	50	80
6,3	7,875	126	78,75	80
10	12,5	200	125	80
16	20	320	200	80
25	31,25	800	500	50

Qn [m³/h]	Qmax [m³/h]	Qtrenn [l/h]	Qmin [l/h]	Class
1,5	3	22,5	15	C
2,5	5	37,5	25	C
3,5	7	52,5	35	C
6	12	90	60	C
10	20	150	100	C

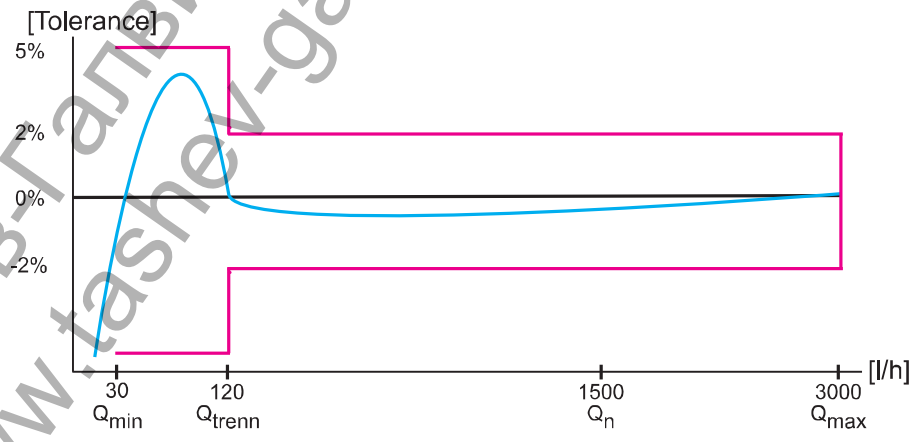
Q3 [m³/h]	Q4 [m²/h]	Q2 [l/h]	Q1 [l/h]	Ratio
2,5	3,125	25	15,625	160
4	5	40	25	160
6,3	7,875	63	39,375	160
10	12,5	100	62,5	160
16	20	160	100	160

Identical construction:
The type Qn = 1.5 Class B meter (above) is not structurally different from the type Q3 = 2,5 R 80 H (below). Only the markings on the dial are different.

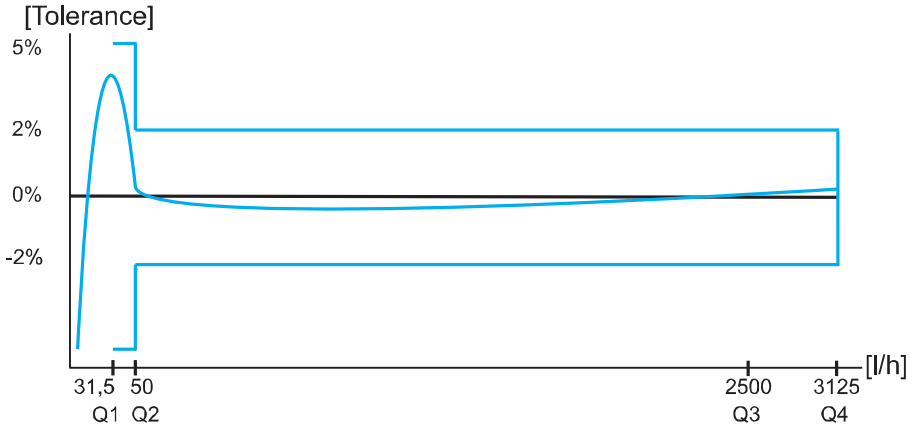
On the test bench:
"Tougher" inspection specifications apply to type Q3 = 2,5 meters than to type Qn = 1,5.

The symbols on the water meter dial, accepted for decades, have changed on the basis of the MID. As already mentioned, Qn has become Q3 in the wake of the MID (see illustrations, next page).

Accordingly, the Qn = 1.5 designation for the domestic water meters installed by the million was also changed to Q3 = 2.5. This does not suggest, however, that the meters are "larger" than those with the earlier designation, Qn = 1.5. Nor can an oversizing be deduced from this circumstance. Rather, it should be assumed that the Q3 = 2.5 meter, based on the "narrower" MID inspection specifications, records lower flow rates more precisely.

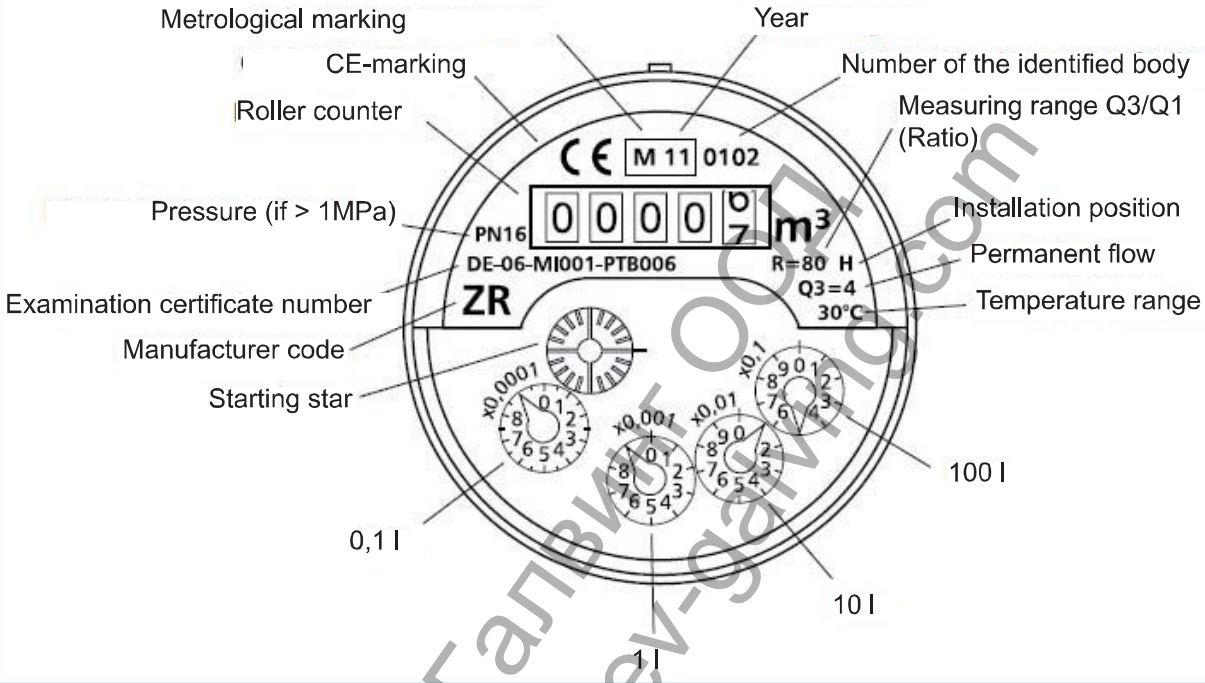


Tolerances and test points for Type Qn 1,5 Class B

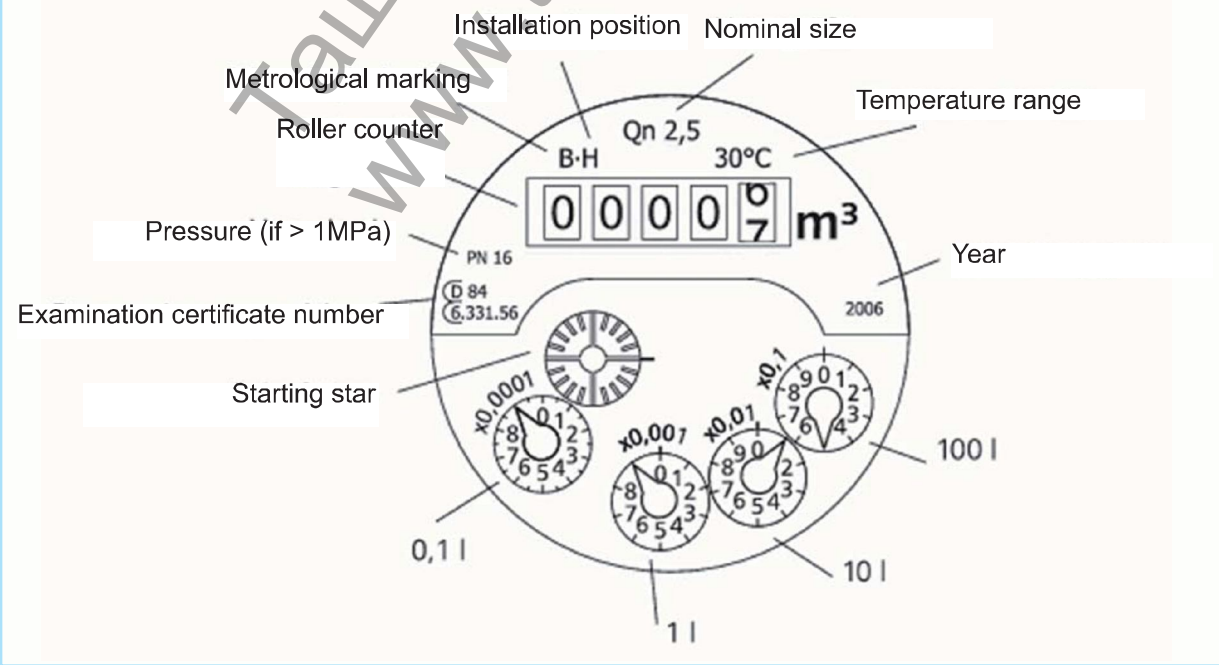


Tolerances and test points for Type Q3 = 2,5 R80H according to MID

Explanatory notes on the dials for water meters in compliance with the MID



Explanatory notes on the dials for water meters in compliance with EU certification



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