



Heat meter Q heat 5.5 R Capsule meter (IST,TEC,AMS)

MID-compliant compact heat meter

- › Flow sensors for the connection interfaces IST, TE1 and A1 with nominal flows q_p 0.6 m³/h ... 2.5 m³/h
- › Integrated radio technology for integration into a Q walk-by system or Q AMR system
- › Flexibility by changing the supply and return flow as well as the energy unit
- › Short and static temperature measurement cycle
- › Compact design and detachable calculator unit


Application

The measuring device is used to record thermal energy. The main areas of application are supply systems with a central heat circuit in which only water is used as the energy medium.

Features

- › Flow sensors for the connection interfaces IST, TE1 and A1 with nominal flows q_p 0.6-2.5 m³/h
- › Radio data transmission by sending Q AMR- and Q walk-by telegrams in C-mode as standard
- › Optional only with Q AMR telegrams or Q AMR extended telegrams¹ available for system optimization
- › For secure data transmission optionally with AES encryption mode 5 and mode 7 available
- › Flexibility during commissioning by switching the return and supply flow without exchanging the temperature sensors as well as changing the energy unit
- › Standard ort and static temperature measurement cycle every 36 seconds (with 10 year battery) - ideal for use in central supply facilities
- › Compact design and detachable calculator unit as standard for tight and difficult-to-access installation situations

Technical data - Norms and standards

General	
	<p>QUNDIS GmbH hereby declares that the heat meter Q heat 5.5 R complies with directives 2014/53/EU (RED), 2011/65/EU (RoHS) and 2014/32/EU (MID).</p> <p>The full text of the EU Declaration of Conformity is available at the following Internet address: https://qundis.com/service/downloads-and-information/eu-declaration-of-conformity/#qr01</p>
Ambient conditions	
Protection rating	Calculator unit: IP65 according to EN 60529 Flow sensor: IP54 according to EN 60529
Transport	-25 °C ... 70 °C, < 95 % r.F. (without condensation)
Storage	-5 °C ... 45 °C, < 95 % r.F. (without condensation)
Usage	5 °C ... 55 °C, < 95 % r.F. (without condensation)
Standards	
Interference resistance and interference emission	EN 301 489-1, EN 301 489-3
Security	EN 62368-1 , EN 62479
Quality of the heating medium	according to VDI guideline 2035, AGFW standard 510
Influencing quantities	
Electromagnetic class	E1
Mechanical class	M1
Ambient class	A
Measuring accuracy class	3

¹ Q AMR telegram extended by current flow temperature, current return temperature, current volume flow and current output

Technical data - Calculator unit

Temperature range heat meter	IST: 10 °C ... 105 °C AMS: 20 °C ... 105 °C TEC: 20 °C ... 105 °C
Temperature difference range	IST: 6 K ... 70 K AMS: 4 K ... 70 K TEC: 6 K ... 70 K
Switch-on value temperature difference	0.2 K
Ambient temperature	5 °C ... 55 °C
Power supply	
Lithium battery	Nominal voltage 3.0 V
Battery life	7 (opt. 10) years
Display levels	
Display	8-digit LCD + pictograms
Energy display	kWh <-> MWh MJ <-> GJ kWh <-> MJ (only up to 50 liters cumulative flow) MWh <-> GJ (only up to 50 liters cumulative flow)
Connection cable Calculator unit - Flow sensor	40 cm

Technical data - Temperature sensor

Measuring element	Pt1000 according to EN 60751
Version	type DS
Diameter and Installation variant IST	5.0 mm - direct (Ball valve) / indirect (Immersion sleeve) ¹⁾ 5.2 mm - direct (Ball valve) / indirect (Immersion sleeve) ¹⁾ 6.0 mm - direct (Ball valve) / indirect (Immersion sleeve) ¹⁾
Diameter and Installation variant TEC	5.0 mm - direct (Ball valve) / indirect (Immersion sleeve) ¹⁾ 5.2 mm - direct (Ball valve) / indirect (Immersion sleeve) ¹⁾
Diameter and Installation variant AMS	6.0 mm x 60 mm - direct (Ball valve) / indirect (Immersion sleeve) 5.0 mm x 45 mm 5.2 mm x 45 mm
Cable length	standard: 1.5 m optional: 3.0 m

¹⁾ Observe national and country-specific regulations on the use of immersion sleeves!

Technical data - Radio technology

Transmission behavior C-mode	
Q walk-by	every 112 seconds 10 hours per day (8 am ... 8 pm) 365 days a year
Q AMR ¹⁾	every 7.5 minutes 24 hours per day 365 days a year
Radio technology	
Radio frequency	C-mode (868.95 +/- 0.25) MHz
Transmission power	typically 10 dBm, maximum 14 dBm
Encryption ²⁾	Security Mode 5 or 7 according to EN 13757-7, Security Profile A or B according to OMS specification
Duty cycle	< 0.1 % (50 ms/128 s)
Data transmission	EN 13757-4

¹⁾ OMS conform data telegrams

²⁾ Encryption optional

Technical data - Flow sensor

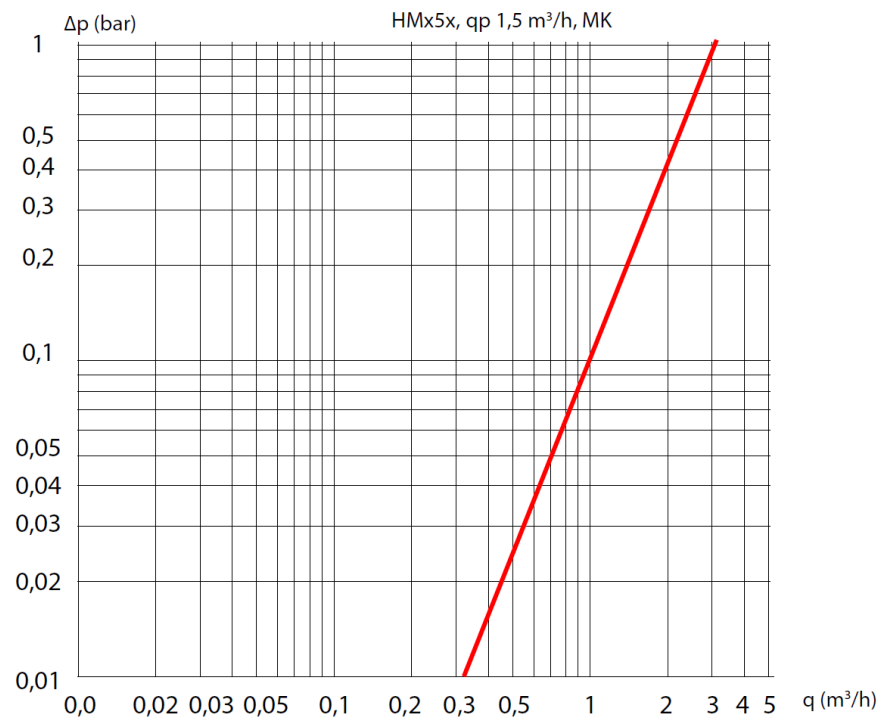
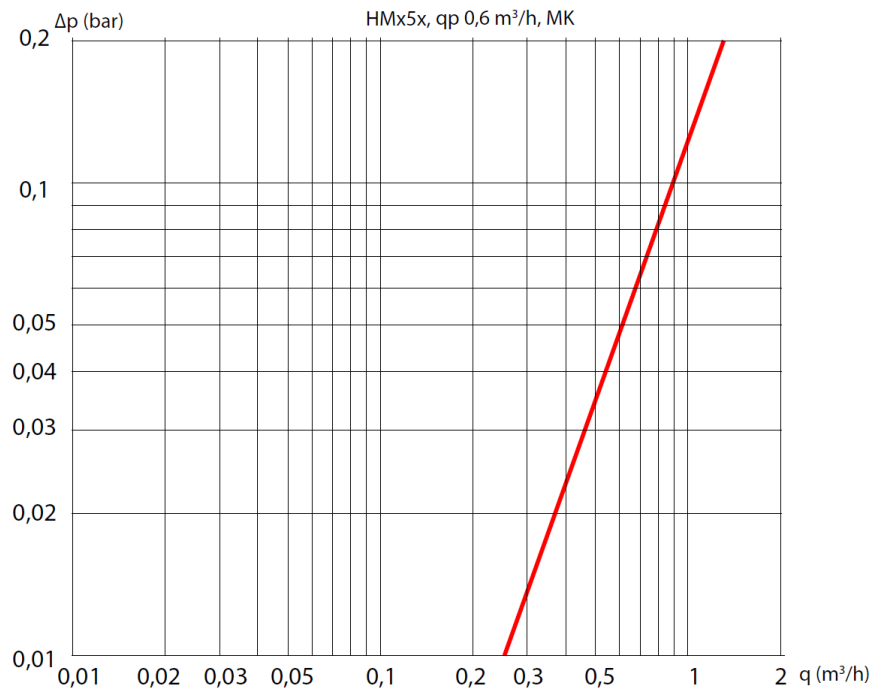
Nominal flow rate q_p	ISTA			Techem		Allmess
	0.6 m ³ /h	1.5 m ³ /h	2.5 m ³ /h	1.5 m ³ /h	2.5 m ³ /h	1.5 m ³ /h
Connection	G 2" B			M60 x 2		M77 x 1.5
Weight	757 g		759 g	760 g		650 g
Installation position	horizontal/vertical					
Installation location	supply flow/return flow (switchable to 50 L cumulative flow)					
Inflow and outflow zone	not required (U0/D0)					
Minimum flow q_l (horizontal/vertical)	30 l/h / 30 l/h		50 l/h / 50 l/h	60 l/h / 60 l/h	50 l/h / 50 l/h	30 l/h / 60 l/h
Ratio q_p/q_l (horizontal/vertical)	20:1 / 20:1		50:1 / 50:1	25:1 / 25:1	50:1 / 50:1	50:1 / 25:1
Ratio q_s/q_p	2:1					
Start-up	3 l/h ... 4 l/h 4 l/h ... 5 l/h 6 l/h ... 7 l/h			< 6 l/h	< 15 l/h	< 6 l/h
Max. permissible operating pressure	1.6 MPa (16 bar)					
Min. system pressure to avoid cavitation ¹⁾	0.1 MPa (1 bar)			0.12 MPa (1.2 bar)	0.11 MPa (1.1 bar)	0.14 MPa (1.4 bar)
Temperature range	10 °C ... 90 °C			20 °C ... 90 °C		20 °C ... 90 °C

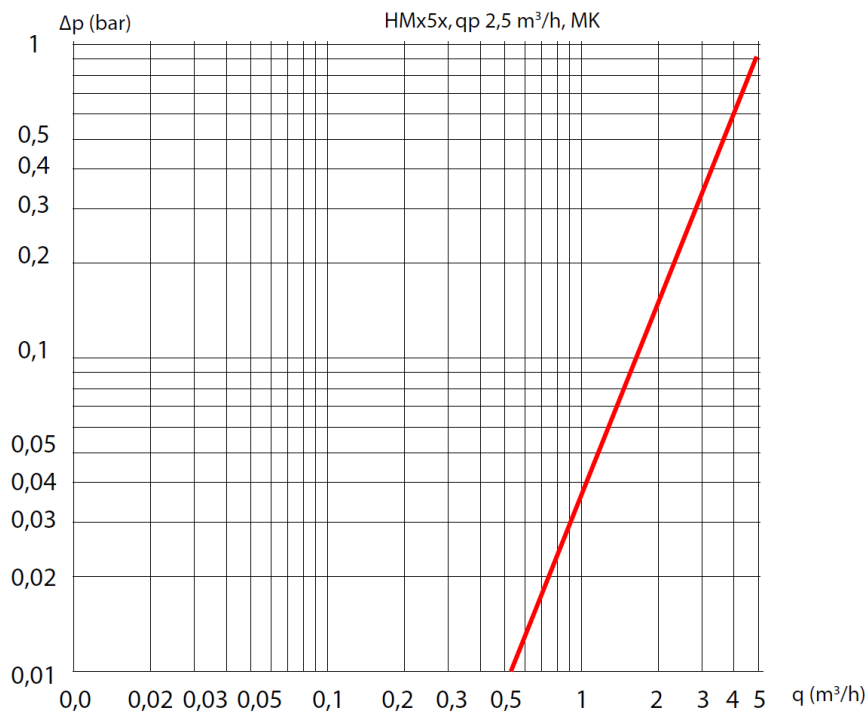
¹⁾ Cavity formation in fast flowing liquids

Ambient conditions	
Transport	-25 °C ... 70 °C, < 95 % r.h. (without condensation)
Storage	-5 °C ... 45 °C, < 95 % r.h. (without condensation)
Usage	5 °C ... 55 °C, < 95 % r.h. (without condensation)
Medium	Use only water without chemical additives as medium for this device (heat and cold meter). Operation with glycol and other media except water takes place outside the Measuring Instruments Directive (MID)!

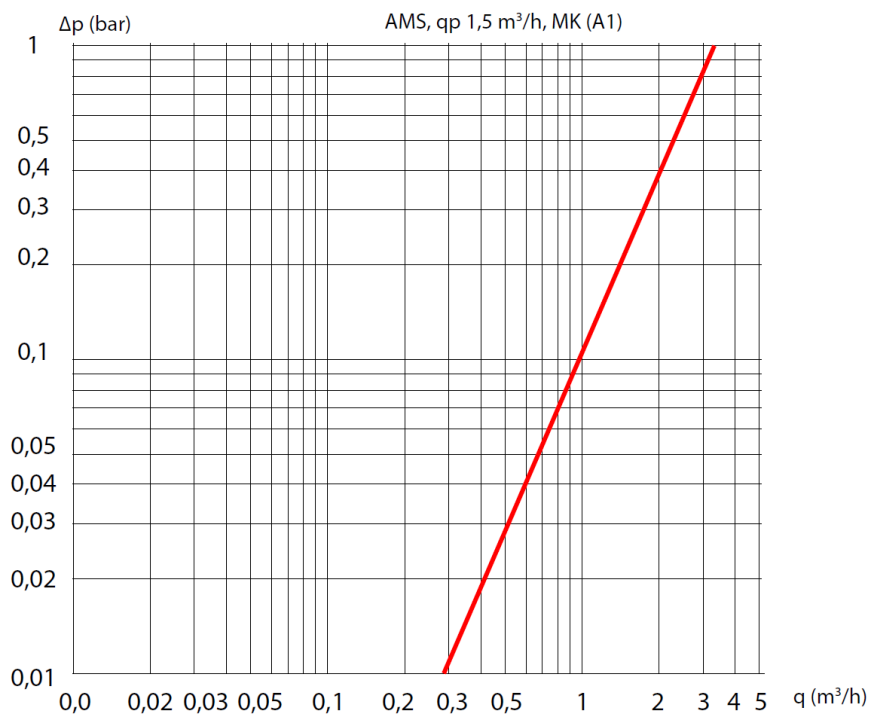
Pressure loss curves

Capsule meter (IST) 2"

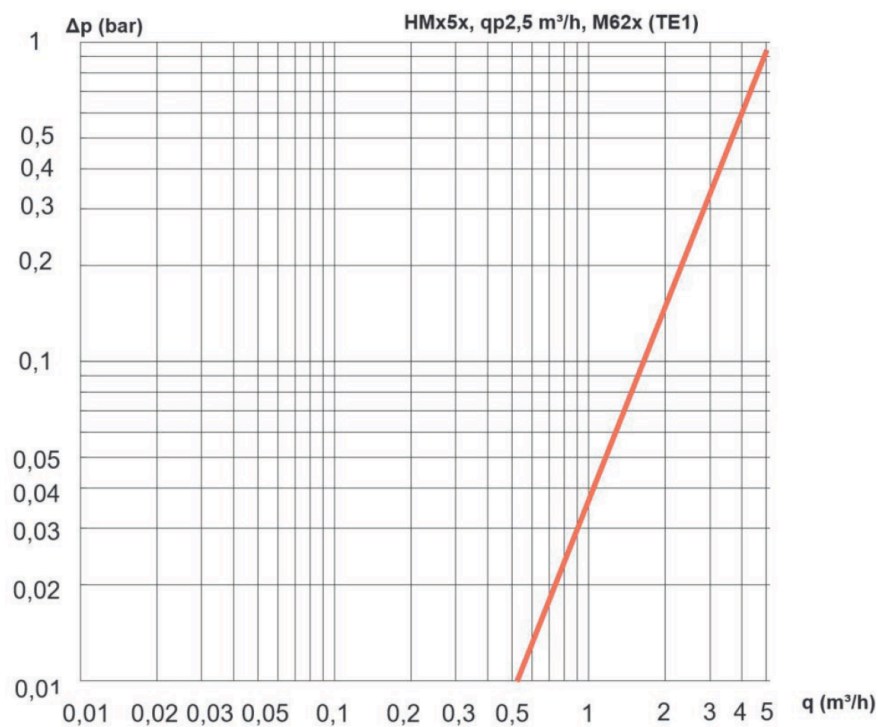
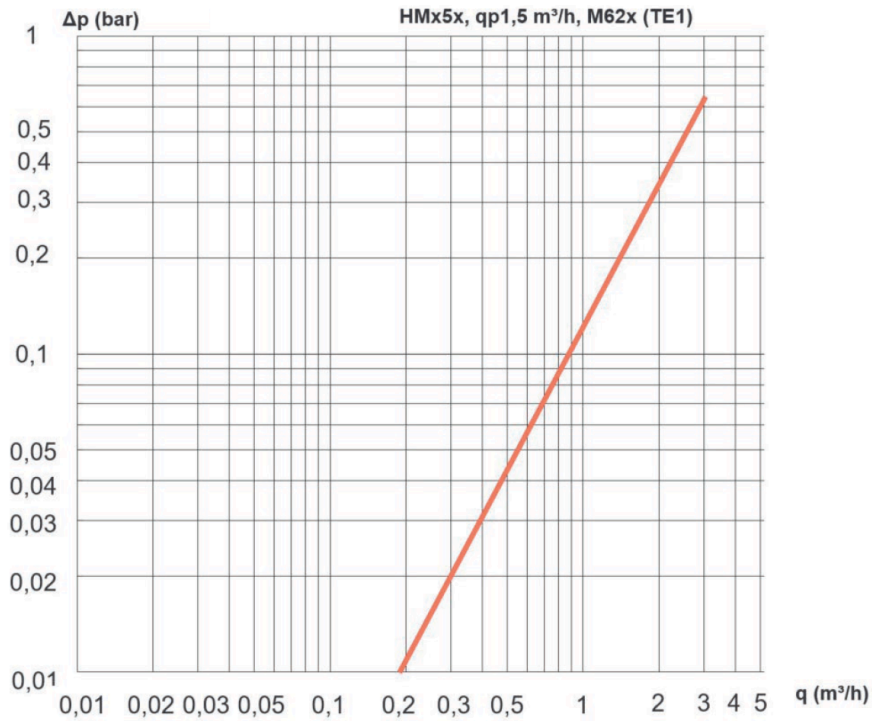




Capsule meter (AMS) M77 x 1,5 (A1)

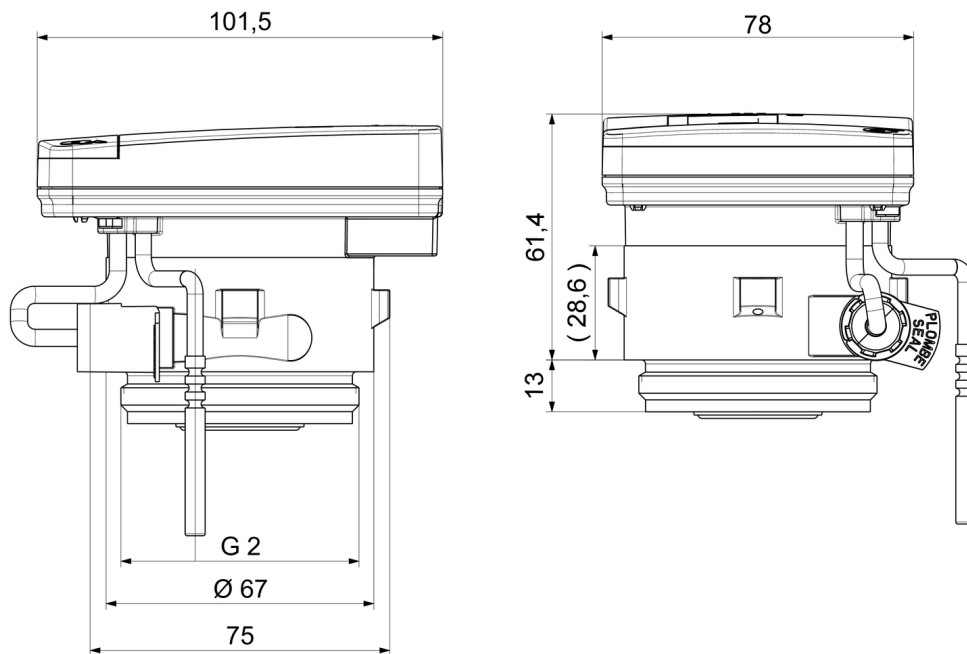


Capsule meter (TEC) M62 x 2 (TE1)

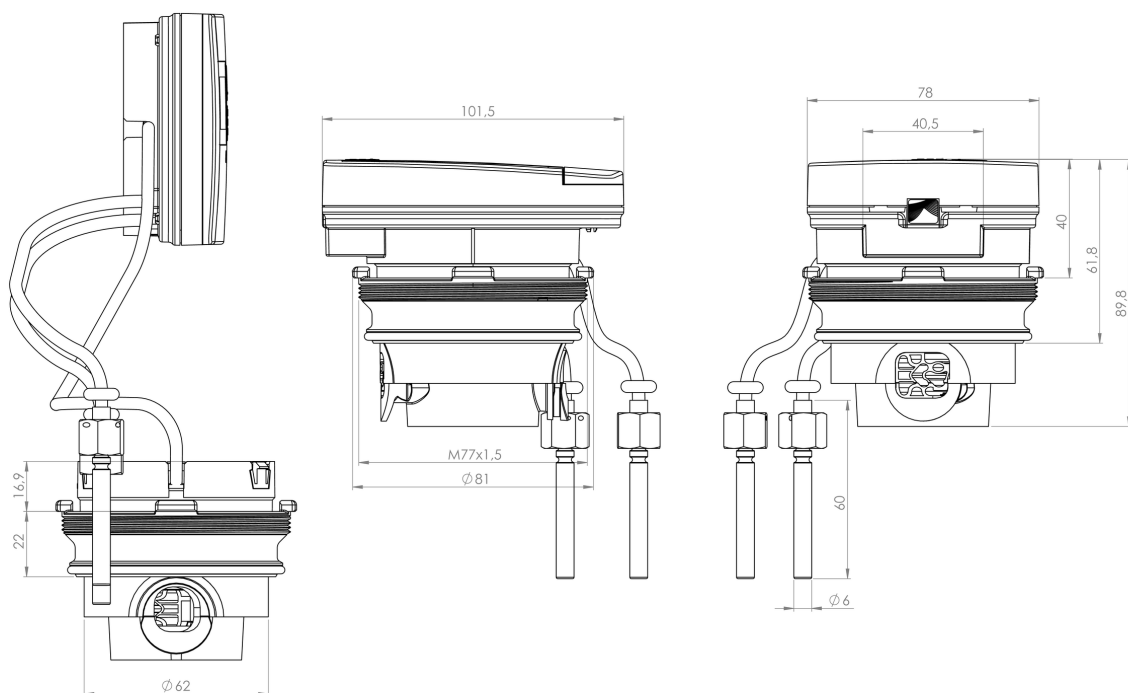


Dimensional drawings

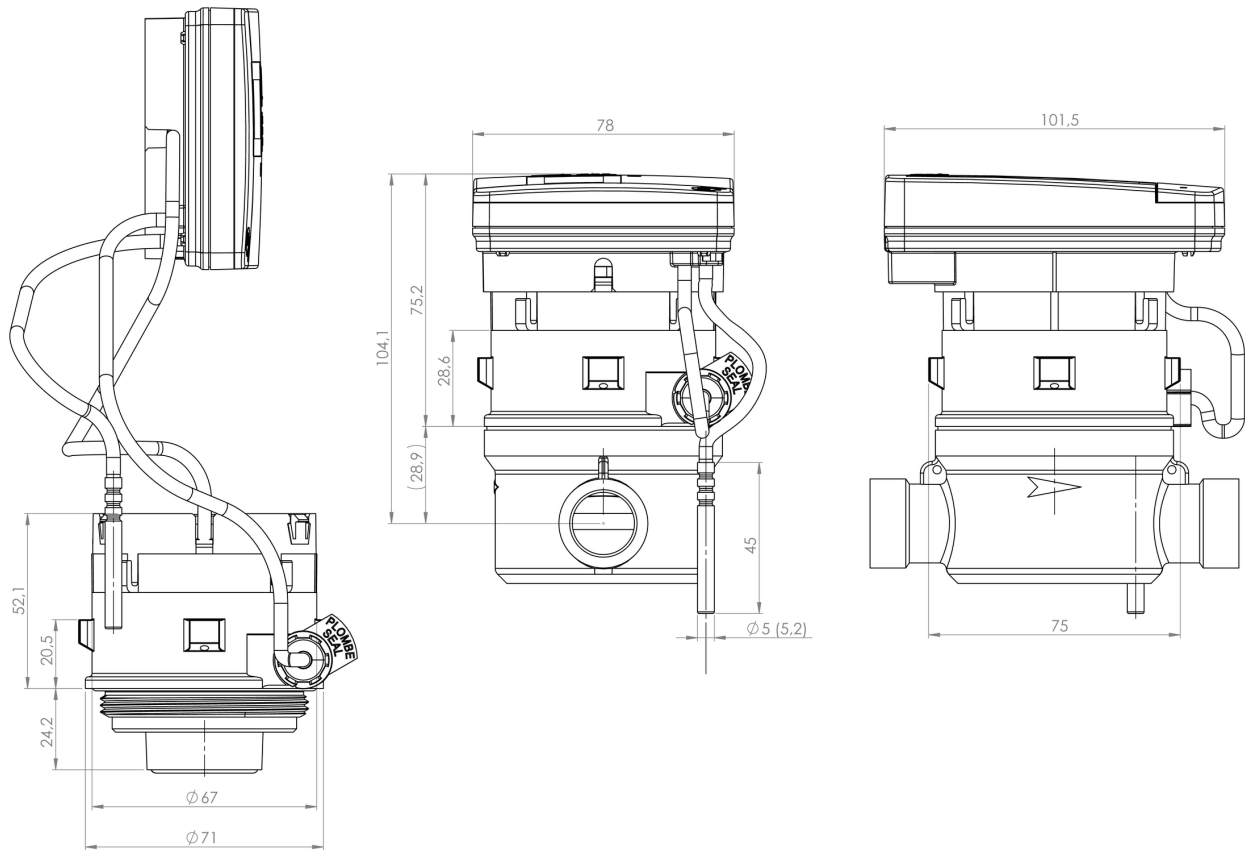
Capsule meter (IST) 2"



Capsule meter (AMS) M77 x 1.5 (A1)



Capsule meter (TEC) M62 x 2 (TE1) 1.5 m³/h und 2.5 m³/h



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