



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 short 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

Conformity	see EU Declaration of Conformity
Electromagnetic compatibility	
Interference resistance and emitted interference	EN 301489-1, EN 301489-3
Security of IT equipment	EN 62368-1
IP protection rating	
Calculator unit	IP65 according to EN 60529
Flow sensor	IP54 according to 60529
Meter	
European Measuring Instruments Directive (MID)	2014/32/EU
Meter	EN 1434
Quality of heat medium	according to VDI guideline 2035, according to AGFW standard 510
Influencing quantities	
Electromagnetic class	E1
Mechanical class	M2
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 Type of installation 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 Type of installation TEC	5.0 mm - direct (Ball valve) / indirect (Immersion sleeve) ¹⁾ 5.2 mm - direct (Ball valve) / indirect (Immersion sleeve) ¹⁾
Diameter and Type of installation 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 (8.00 - 18.00) 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
Duty cycle	< 0.1 % (50 ms/128 s)
Data transmission	EN 13757-4

¹⁾ OMS conform data telegrams

Technical data - Flow sensor

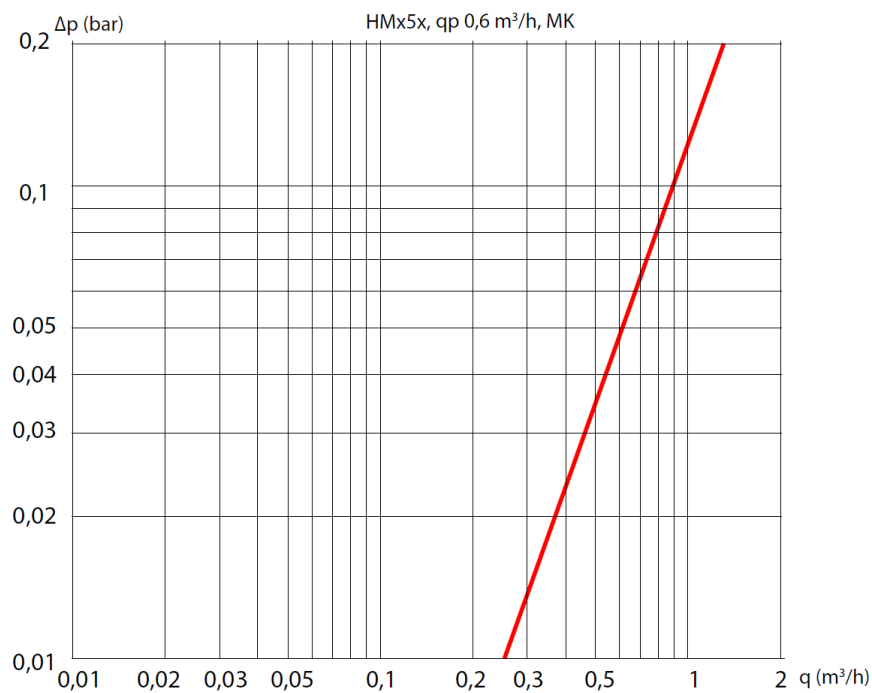
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Nominal flow rate q_p	0.6 m ³ /h	1.5 m ³ /h	2.5 m ³ /h	1.5 m ³ /h	2.5 m ³ /h	1.5 m ³ /h
Connection	G 2" B			M60 x 2		M77 x 1.5
Weight	757 g	759 g	759 g	760 g	760 g	650 g
Installation position	horizontal vertical					
Installation location	supply flow/return flow (switchable to 50 L cumulative flow)					
Inflow and outflow zone	not required (U0/D0)					
Minimum flow q_i (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_i (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

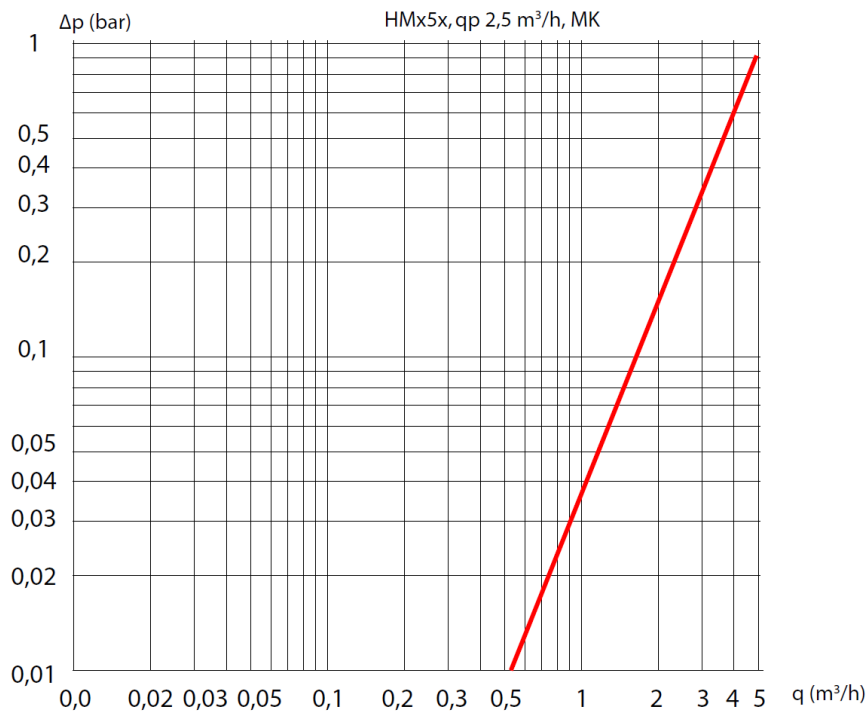
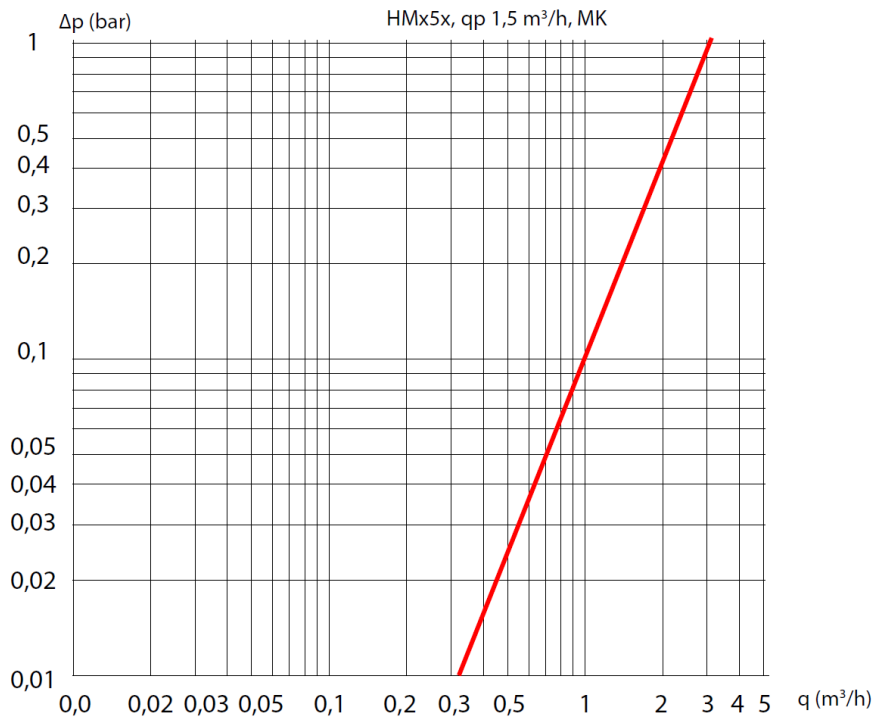
¹⁾ Cavity formation in fast flowing liquids

Ambient conditions	
Transport	-25 °C ... 70 °C, < 95 % r.h. (without condensation)
Storage	-5 °C ... 45 °C, < 95 % r.h. (without condensation)
Use	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)!

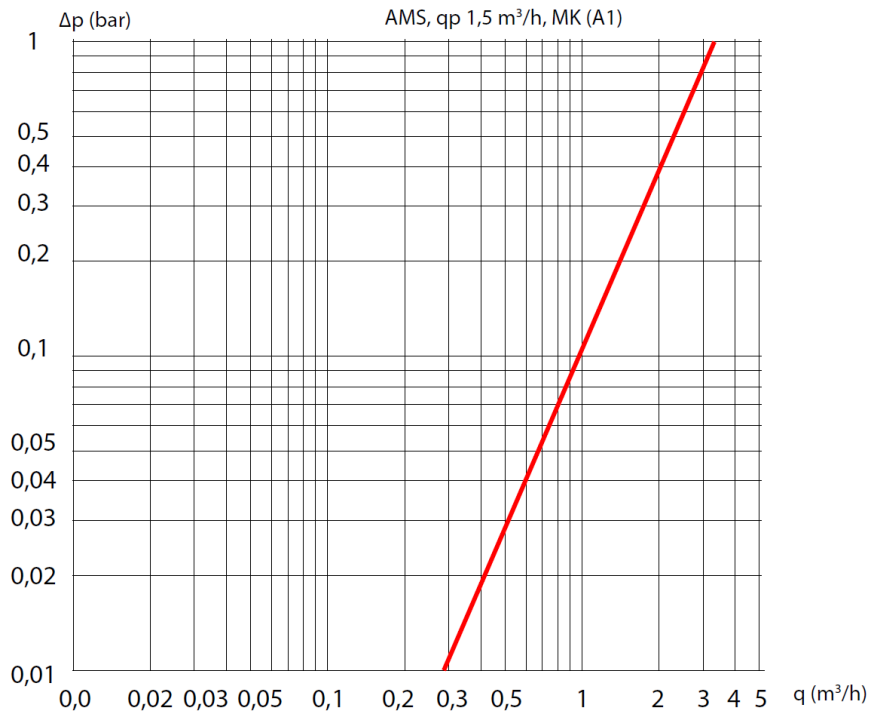
Pressure loss curves

Capsule meter (IST) 2"

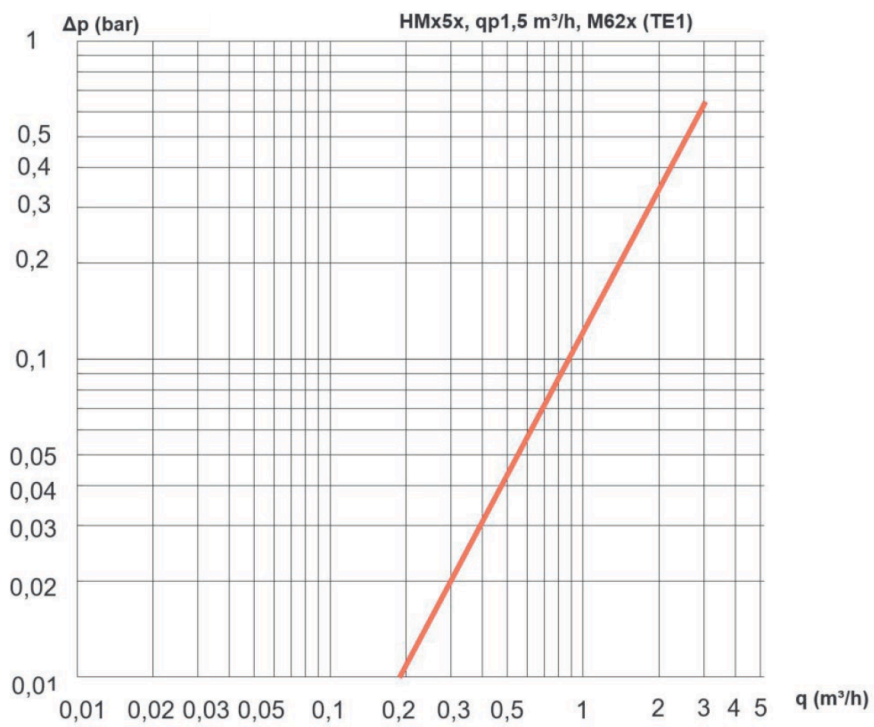


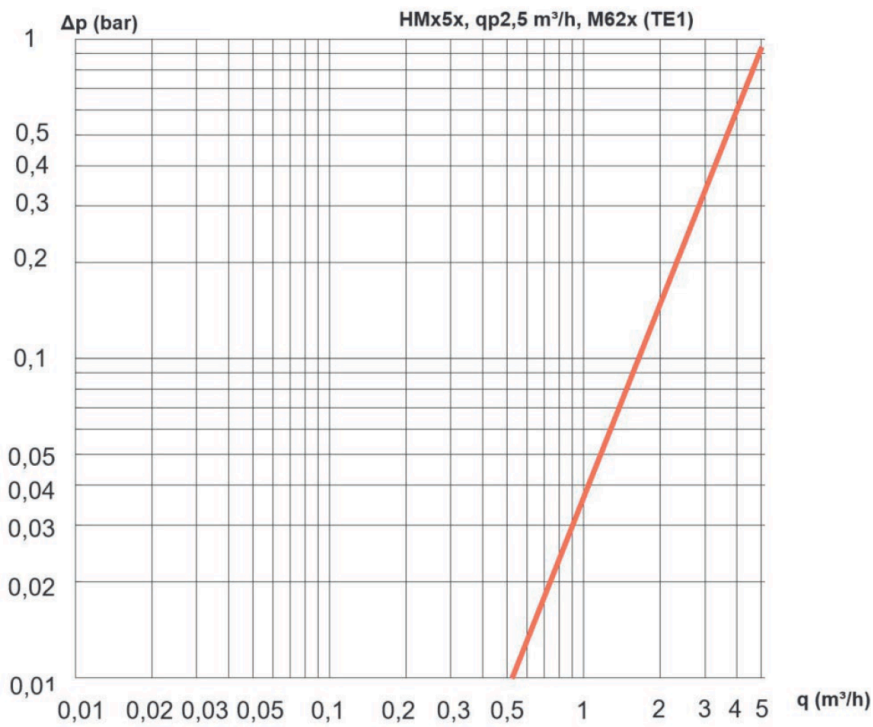


Capsule meter (AMS) M77 x 1,5 (A1)



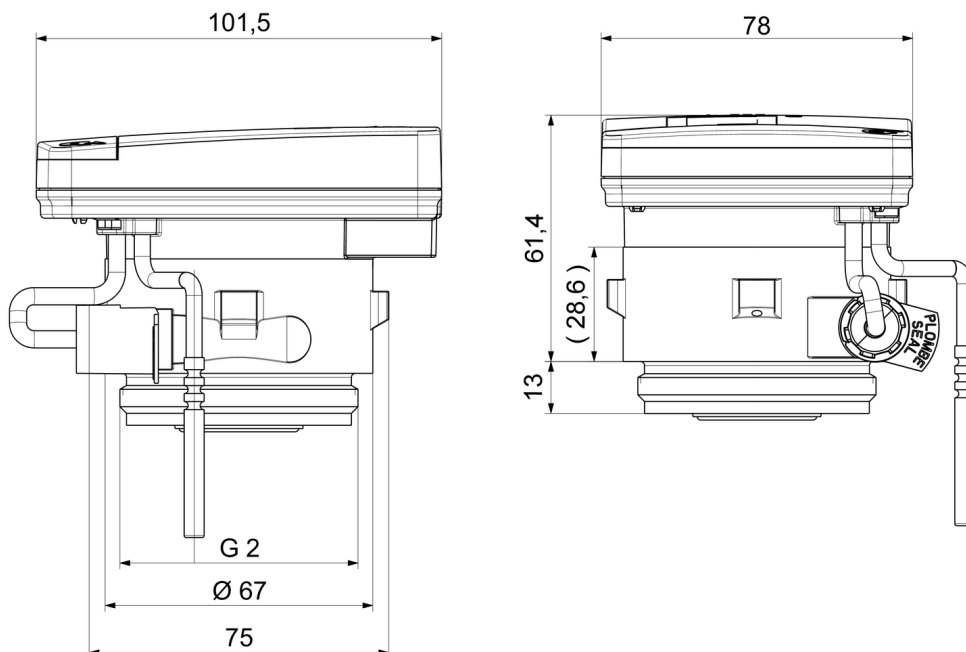
Capsule meter (TEC) M62 x 2 (TE1)



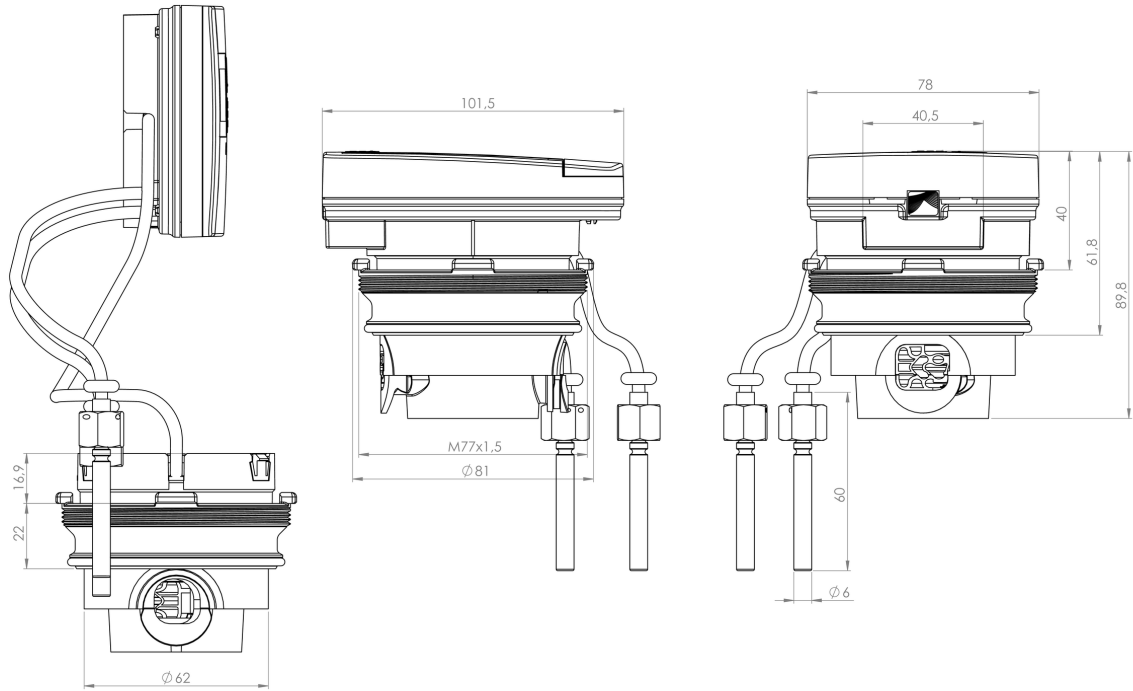


Dimensional drawings

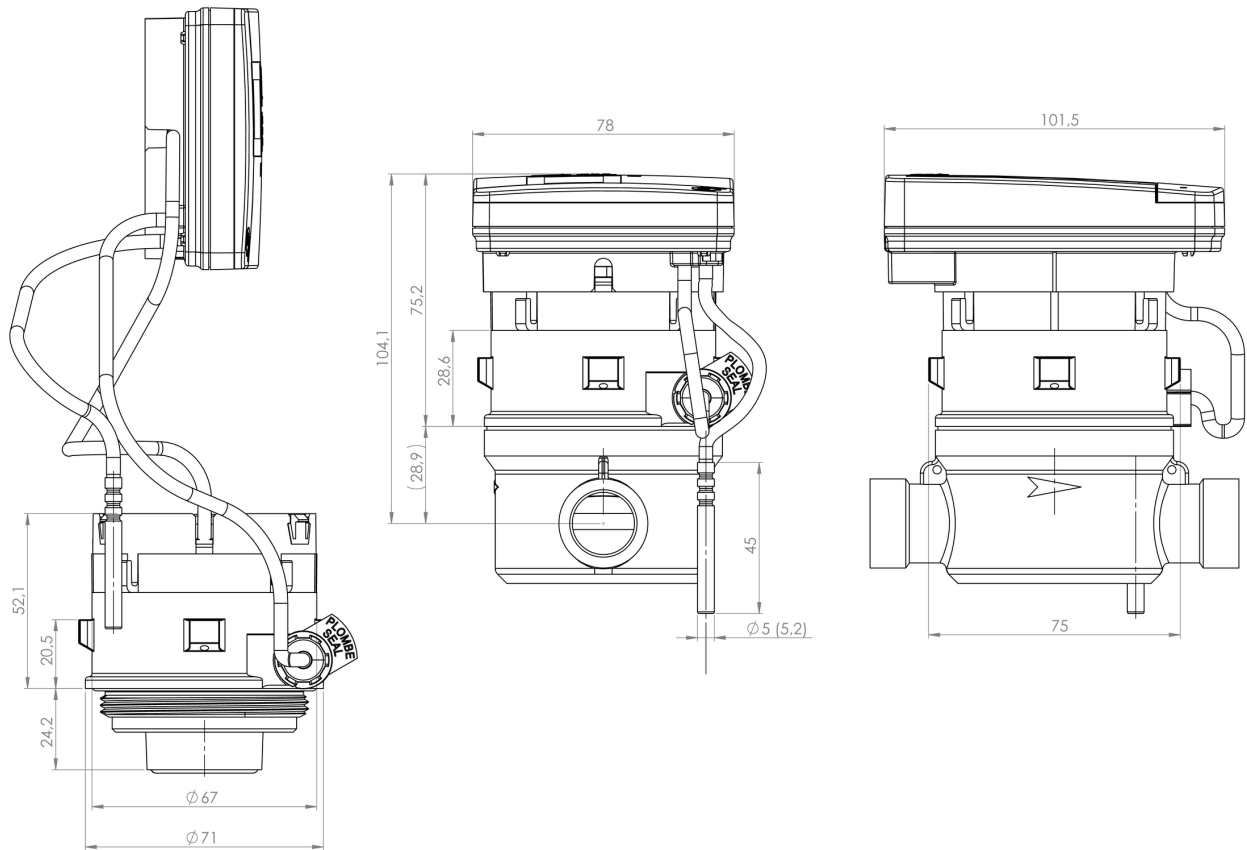
Capsule meter (IST) 2"



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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