



Heat meter Q heat 5.5 R Screw-type meter (QDS)

MID-compliant compact heat meter

- › Flow sensor in all-metal design with nominal flow rate q_p 0.6-2.5 m³/h
- › Integrated radio technology for integration into a Q walk-by or Q AMR system
- › Flexibility by changing the flow and return 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 sensor in all-metal design with nominal flow Q_p 0.6 m³/h ... 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	IP65 according to 60529
Meter	
European Measuring Instruments Directive (MID)	2014/32/EU
Meter	EN1434
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: 10 °C ... 105 °C
Temperature difference range	heat meter: 3 K ... 70 K start of metering 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 (switchable)	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 Ø	5.0 mm - 5.2 mm - 6.0 mm - AGFW
Type of installation	5.0 mm - direct (ball valve) / indirect ¹⁾ (immersion sleeve) 5.2 mm - direct (ball valve) / indirect ¹⁾ (immersion sleeve) 6.0 mm - direct (ball valve) / indirect ¹⁾ (immersion sleeve) AGFW - direct (ball valve)
Cable length	standard: 1.5 m optional: 3.0 m

¹⁾ Note national and country-specific regulations concerning 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

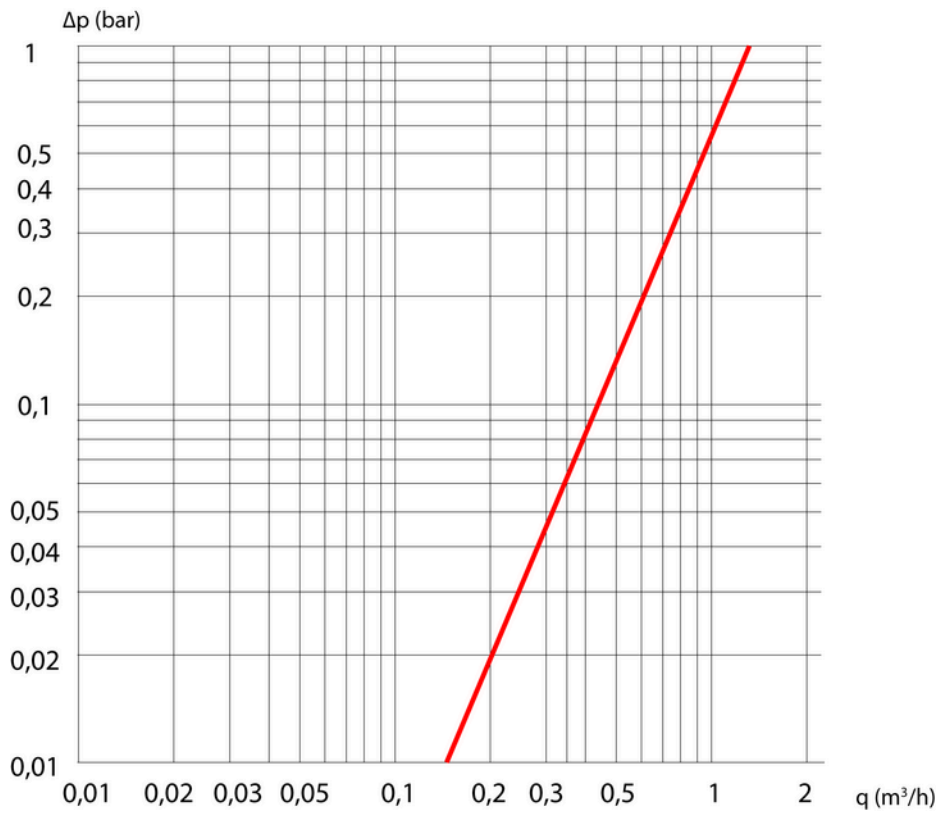
Nominal flow rate q_p	0.6 m ³ /h	1.5 m ³ /h	1.5 m ³ /h	2.5 m ³ /h
Overall length	110 mm	80 mm	110 mm	130 mm
Connection	G ³ / ₄ B	G ³ / ₄ B	G ³ / ₄ B	G 1 B
Weight	820 g	709 g	802 g	895 g
Installation position	horizontal vertical			
Inflow and outflow zone	not required (U0/D0)			
Minimum flow q_i	24 l/h	30 l/h	50 l/h	50 l/h
Ratio q_p/q_i (horizontal vertical)	25:1/25:1	50:1/50:1	50:1/50:1	50:1/50:1
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	
Max. permissible operating pressure	1,6 MPa (16 bar)			
Min. system pressure to avoid cavitation ¹⁾	1.1 bar	1.1 bar	1.3 bar	1.1 bar
Temperature range	10 °C ... 90 °C			

¹⁾ Cavity formation in fast flowing liquids

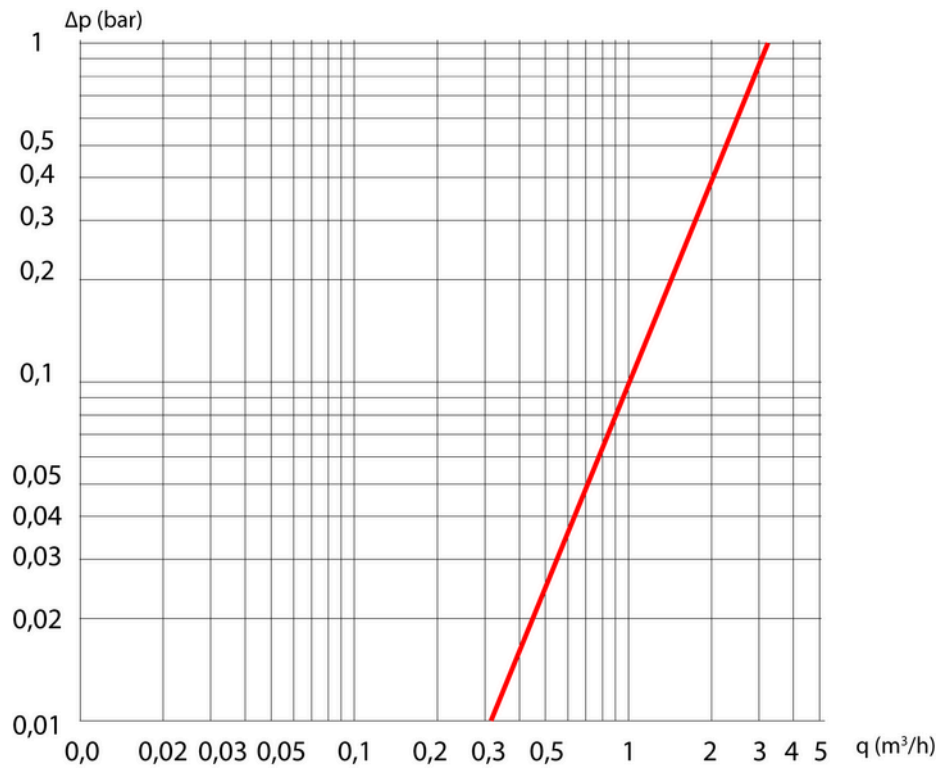
Ambient conditions	
Transport	-25 °C ... 70 °C, < 95 % r.h. (without condensation)
Storage	-5 °C ... 45 °C, < 95 % r.h. (without condensation)
Use	5 °C ... 55 °C, < 95 % r.h. (without condensation)
Medium	Use only water without chemical additives as medium for this device (heat and cold meter). Operation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

Pressure loss curves

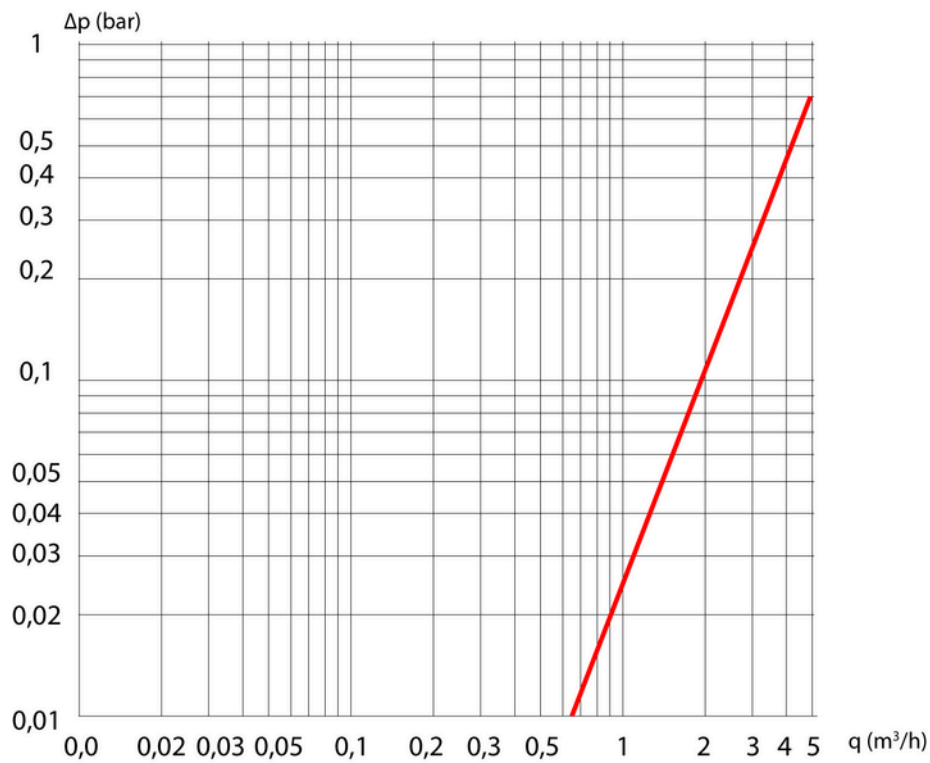
HMx5x, q_p 0.6 m³/h, 110 mm



HMx5x, q_p 1.5 m³/h, 110 mm

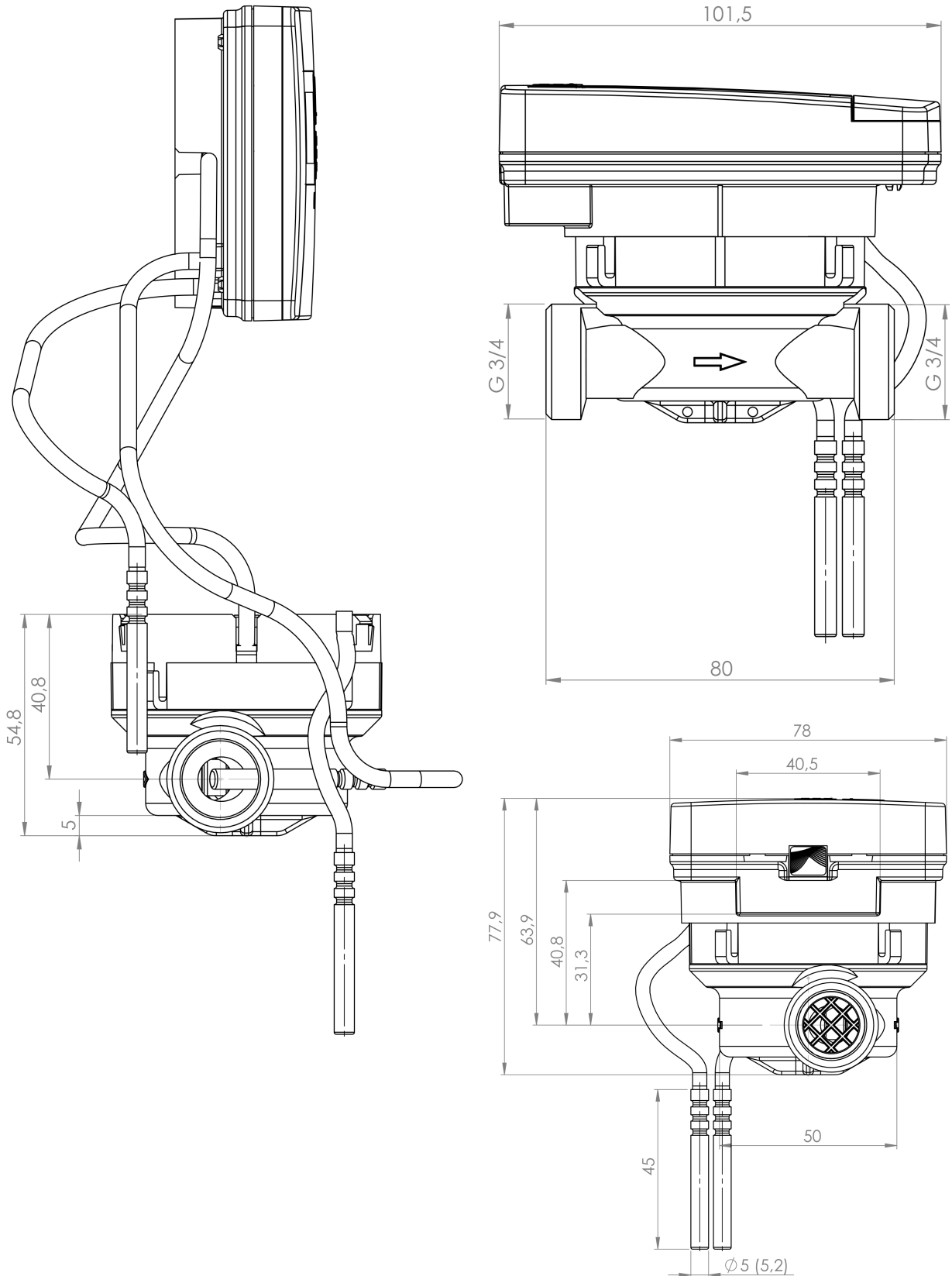


HMx5x, q_p 2.5 m³/h, 130 mm

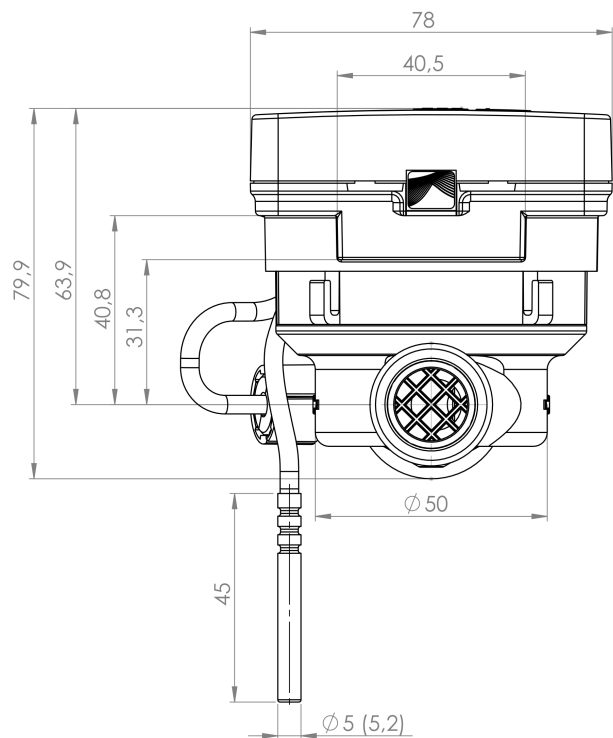
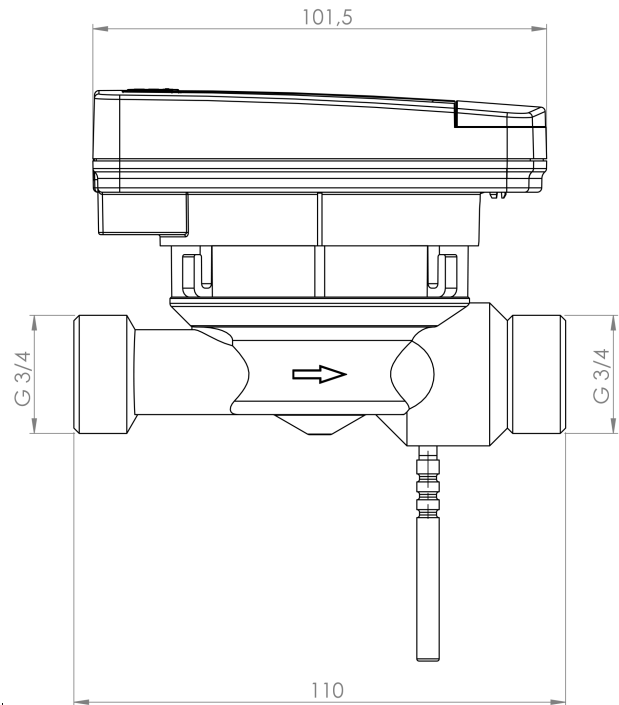
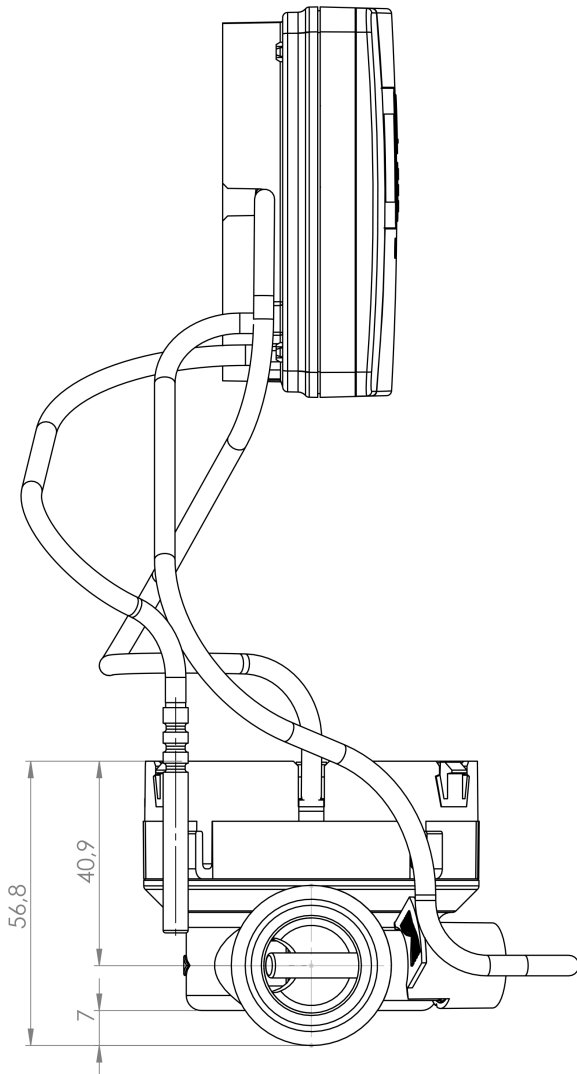


Dimensional drawings

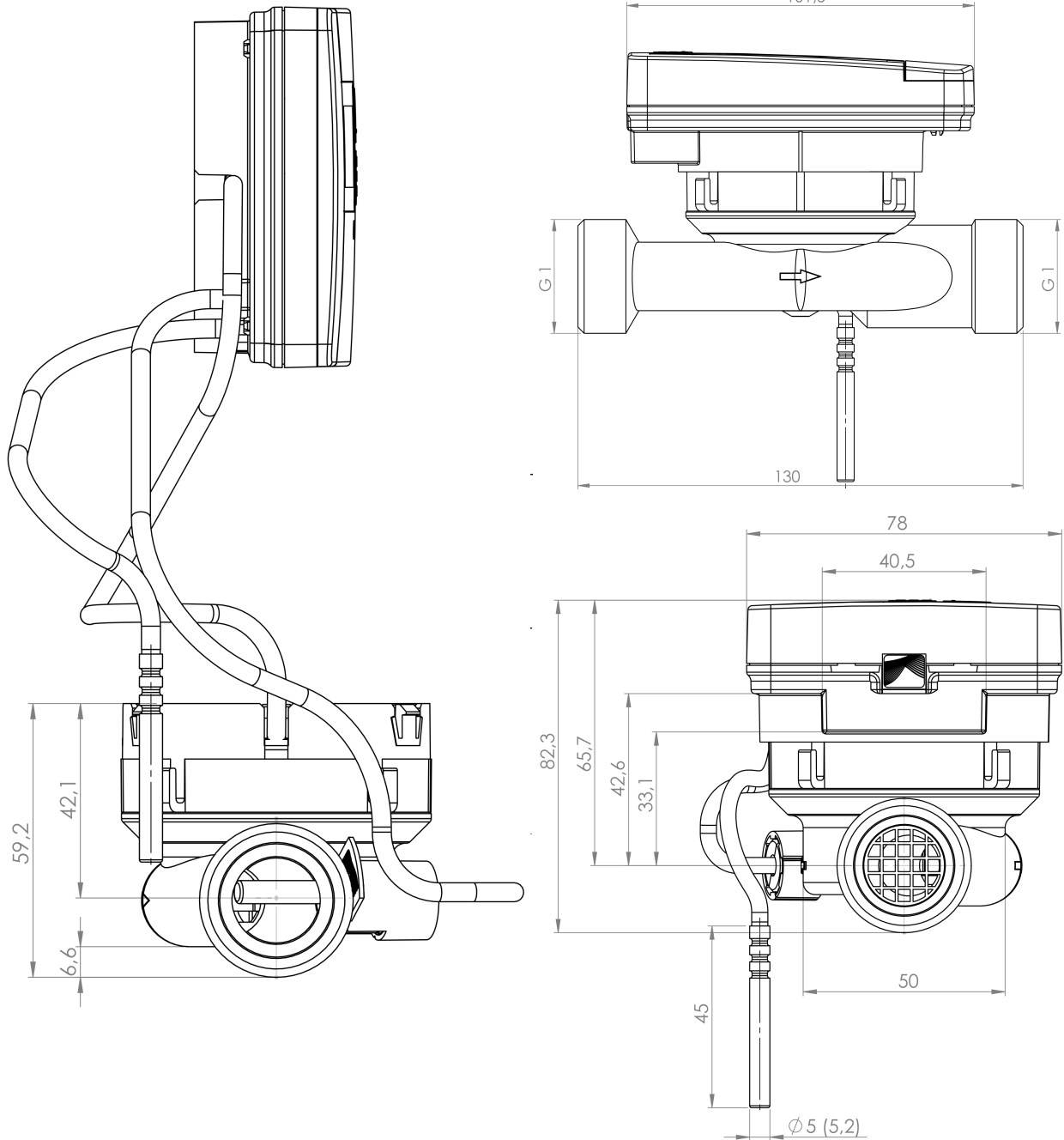
Installation length 80 mm - Thread 3/4 inch - (1.5 m³/h)



Installation length 110 mm - Thread 3/4 inch - (0.6 m³/h and 1.5 m³/h)



Installation length 130 mm - Thread 1 inch - (2.5 m³/h)



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