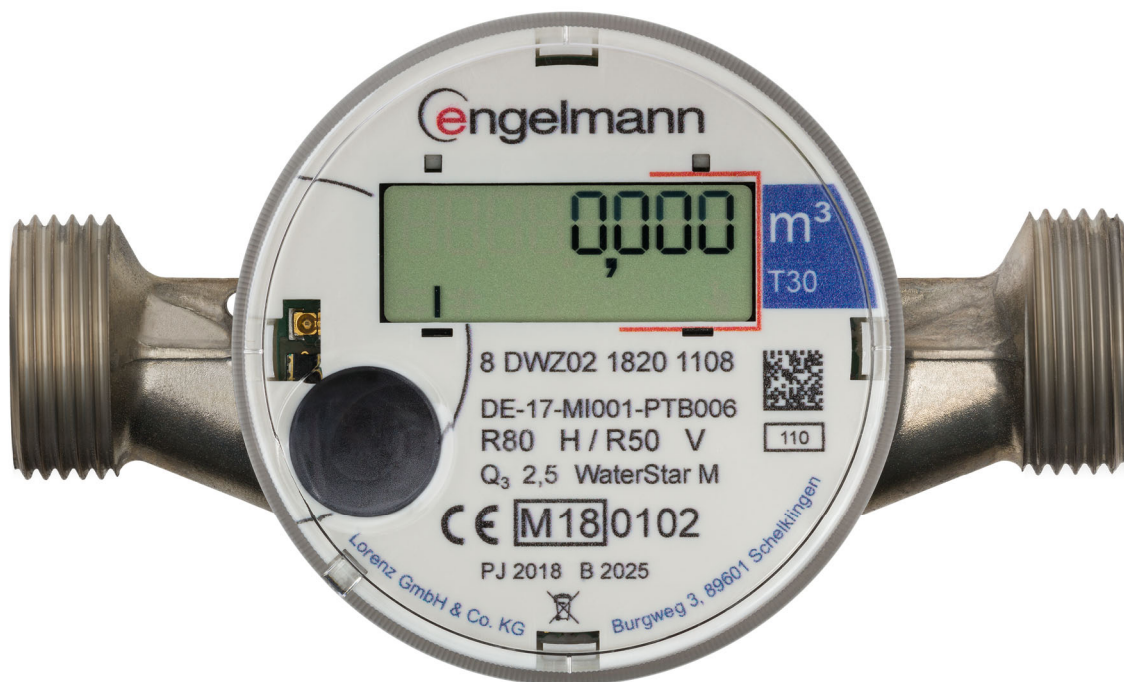


Engelmann Water Meter Radio

WaterStar M

Meters for inline and a wide variety of measuring capsule installation points



- Integrated wireless M-Bus communication interface
- Impeller scanning, inductive scanning system
- Digital display
- Estimated lifetime of 10 years
- Detection of leakage

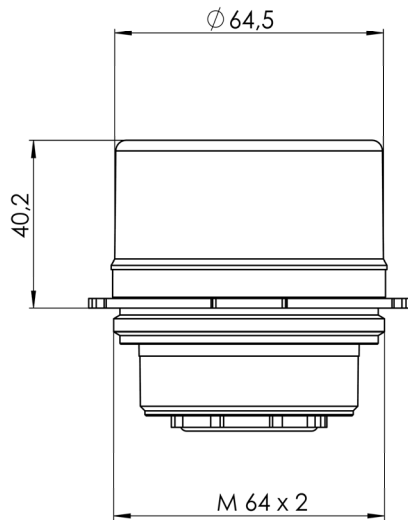
Technical data:

WaterStar M

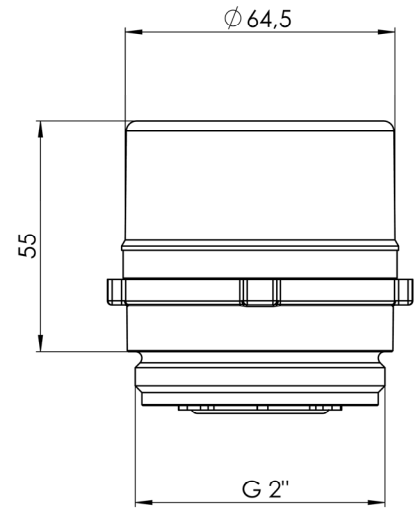
Measuring method		inductive scanning system; bidirectional			
Connection interfaces		measuring capsules (according to EN ISO 4064-4): MET; IST; TE1; MOE/MOC; MUK; A34; DM1; MB1/2; MB3; HT2; WE1; WGU; inline meters (80 mm, 110 mm, 130 mm)			
Permanent flowrate Q_3	m ³ /h	2,5 (meas. capsules)	2,5 (inline m.)	2,5 (inline m.)	4,0 (inline m.)
Low flow threshold values	l/h	< 10	< 10	< 10	< 10
Minimum flowrate Q_1 (H/V)	l/h	31,25 / 50	31,25 / 50	31,25 / 50	50 / 80
Overload flowrate Q_4	l/h	3125	3125	3125	5000
Maximum pressure drop at Q_3	bar	0,63	0,63	0,63	0,63
Nominal diameter	mm	-	DN 15	DN 20	DN 20
Thread	inch	-	G3/4B	G1B	G1B
Length	mm	-	80; 110; 130	130	130
Ratio Q_3/Q_1 (horizontal)		R80 (maximum R value depends on connection interface)			
Ratio Q_3/Q_1 (vertical)		R50 (maximum R value depends on connection interface)			
Nominal pressure (MAP)	bar	10			
Temperature range cold water	°C	(T30) 0,1 - 30			
Temperature range warm water	°C	(T90) 0 - 90			
Mounting position		horizontal / vertical			
Ambient temperature in the field	°C	5 - 55			
Storage and transport temperature	°C	-20 - 50			
Display		LCD - 8 digits + special characters; display can be rotated 360°			
Unit		m ³			
Button		capacitive touch sensor			
Communication interfaces		optical interface (M-Bus protocol); wireless M-Bus			
Radio characteristics		selectable: C1; T1			
Power supply	V	3; lithium battery			
Estimated lifetime	years	10			
Reading dates		selectable yearly reading date; 15 monthly values via display and wireless M-Bus; 15 monthly and semimonthly values via optical interface			
Mechanical class		M1			
Electromagnetic class		E1			
Environmental class		B			
Protection class		IP56			
Flow disturbance classes		U0 / D0			
CE		yes			

Dimensions

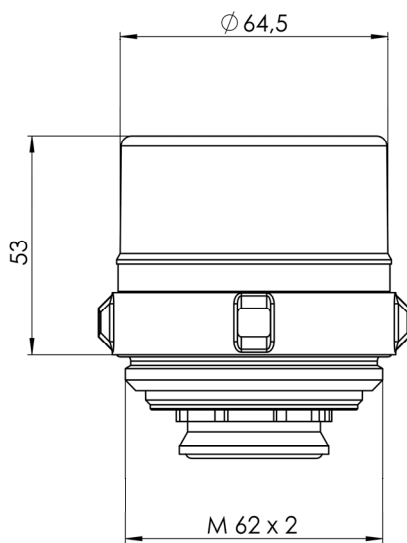
MET



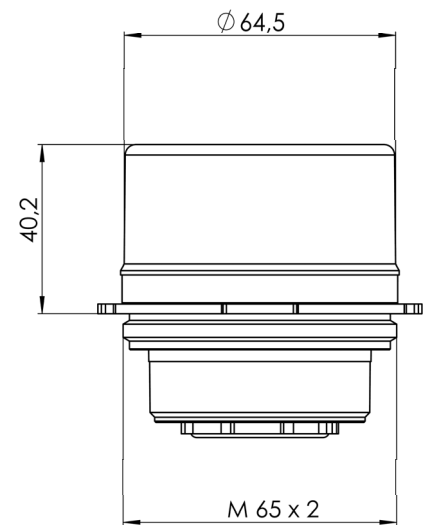
IST



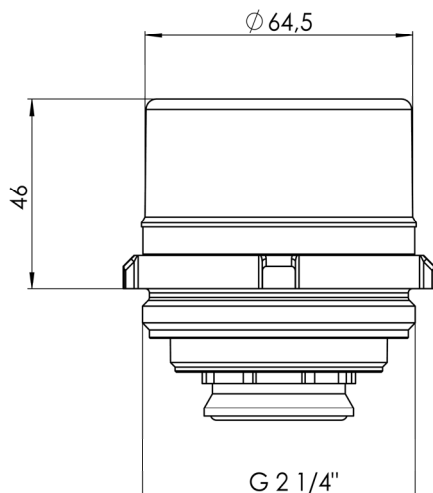
TE1



MOE/MOC



MUK



Inline meters

