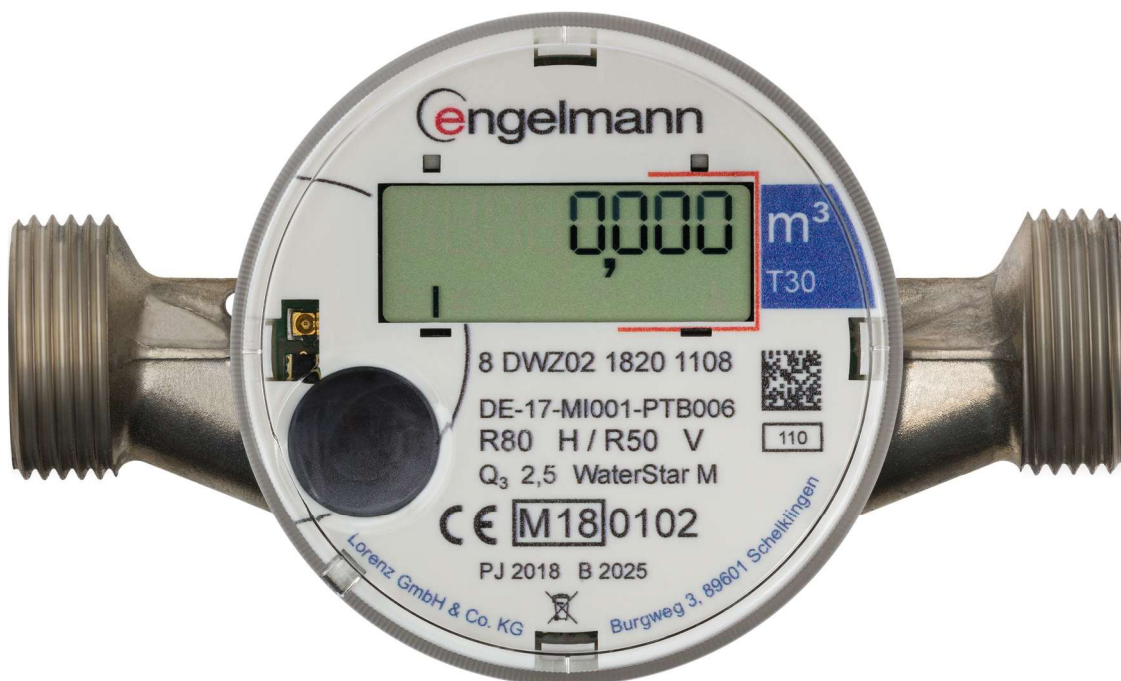


Engelmann Radio Water Meter

WaterStar M

Inline meters, measuring capsule meters and domestic water meters for various installation points



- Integrated wireless M-Bus communication interface
- Impeller scanning, inductive scanning system
- Digital display
- Estimated lifetime of 11 years
- Leakage detection
- Available as inline meters, measuring capsule meters and domestic water meters in all common variants

Technical data:

WaterStar M

Measurement method		inductive scanning system; bidirectional
Ratio Q_3 / Q_1 (horizontal)		R80 (maximum R-value depends on hydraulics)
Ratio Q / Q_{31} (vertical)		R50 (maximum R-value depends on hydraulics)
Nominal pressure (MAP)	bar	10
Ambient temperature in the field	°C	0.1 – 50
Storage and transport temperature	°C	-20 – 50 (average max. 25°C)
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	11 (depending on radio settings)
Reading dates		freely selectable yearly reading date; 15 monthly values via display and radio; 15 monthly and semi-monthly values via optical interface
Mechanical class		M1
Electromagnetic class		E1
Environment class		B
Protection class		IP68
Flow disturbance classes		U0 / D0
CE		yes

Type-specific data

Inline meters

Type	DN15	DN15	DN15	DN20	DN20
Installation length [mm]	80	110	130	130	130
Q3 [m³/h]	2.5	2.5 1.6*	2.5	2.5	4.0
Mounting position	Horizontal Vertical				
Thread	G3/4"	G3/4"	G3/4"	G1"	G1"
Weight approx. [g]	400	430	460	550	530
Temperature range	T30 (0.1-30°C) T90 (0.1-90°C)				
Nominal pressure	MAP10				
Low flow threshold value [l/h]	4	4	4	4	5

Measuring capsule meters

Type (ISO 4064)	IST	MET	MOC/MOE	TE1	MUK
Q3 [m³/h]	2.5	2.5	2.5	2.5	2.5
Mounting position	Horizontal Vertical				
Thread	G2"	M64x2	M65x2	M62x2	G2½"
Weight approx. [g]	440	290	300	430	400
Temperature range	T30 (0.1-30°C) T90 (0.1-90°C)				
Nominal pressure	MAP10				
Low flow threshold value [l/h]	4	4	4	4	4

Measuring capsule meters with converter

Type (ISO 4064)	A34	DM1	HT2	MB2	MB3	M7L	WE1	WGU
Q3 [m³/h]	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Mounting position	Horizontal Vertical							
Thread	M77x1.5	M60x2	M66x1	M80x1.5	M76x1.5	M58x1.5	M78x1.5	M66x1.25
Weight approx. [g]	610	490	650	790	560	830	850	470
Temperature range	T30 (0.1-30°C) T90 (0.1-90°C)							
Nominal pressure	MAP10							
Low flow threshold value [l/h]	5	5	5	5	5	5	5	5

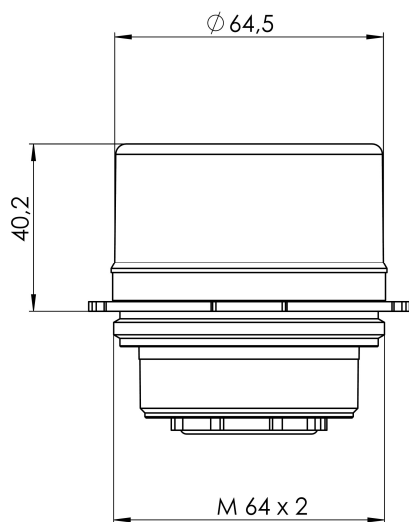
Domestic water meters

Type	CRI	DN20	DN20 Riser pipe	DN25	DN25 Riser pipe	DN40	DN40 Riser pipe
Installation length [mm]	-	190*	105	260*	150	300	150
Q3 [m³/h]	4.0	4.0	4.0	10*	10	16	16
Mounting position	Horizontal						
Thread	G3"	G1"	G1"	G1¼"	G1¼"	G2"	G2"
Weight approx. [g]	620	1600	1960	2490	2740	5220	4990
Nominal pressure	T30 (0.1-30°C)						
Pressure class	MAP16						
Low flow threshold value [l/h]	5	5	5	12	12	25	25

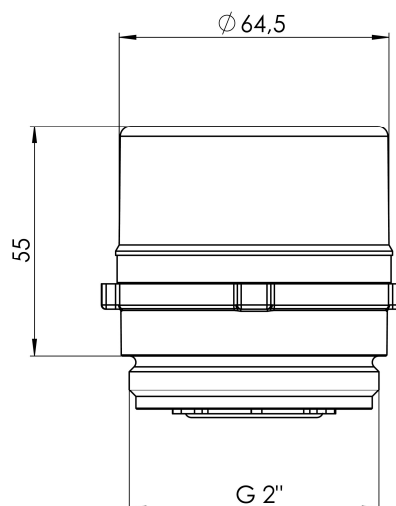
* Others on request.

Dimensions

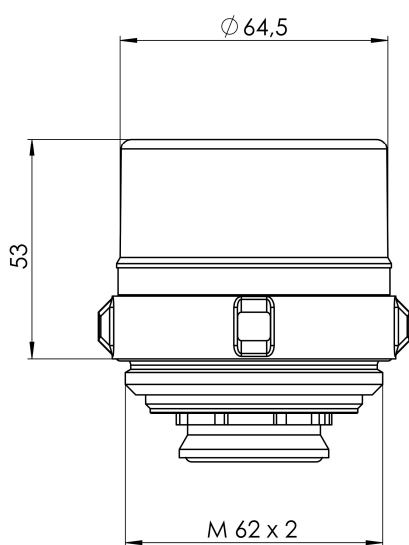
MET



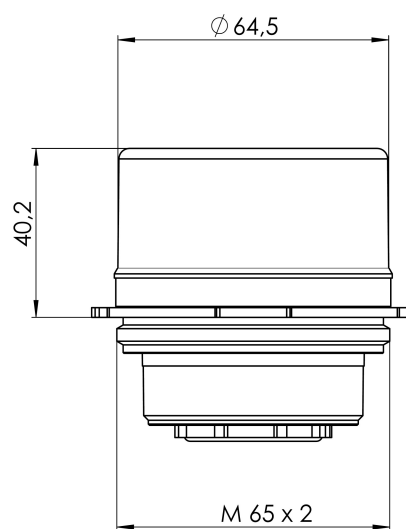
IST



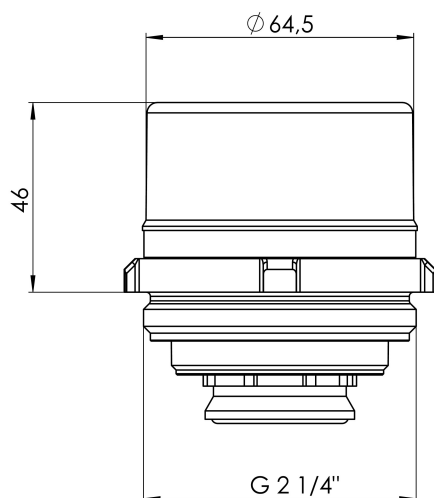
TE1



MOE/MOC

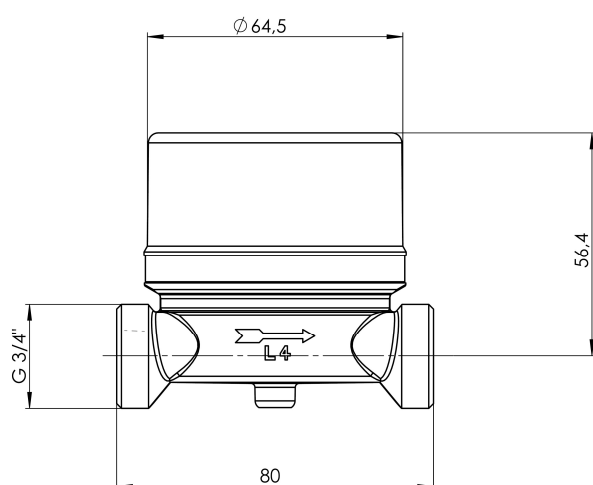


MUK

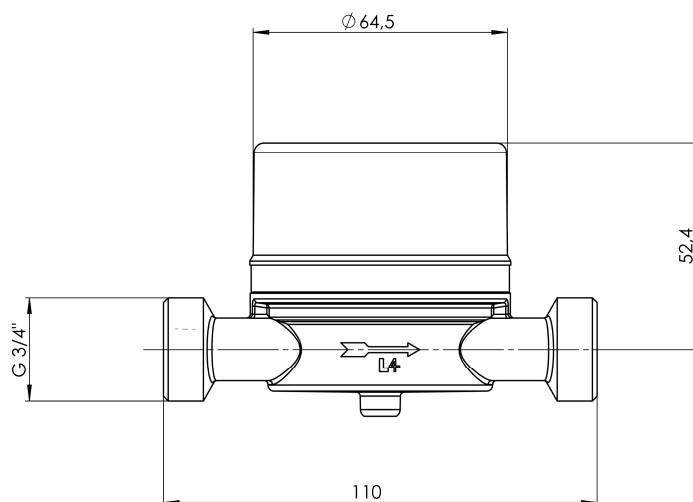


Inline meters

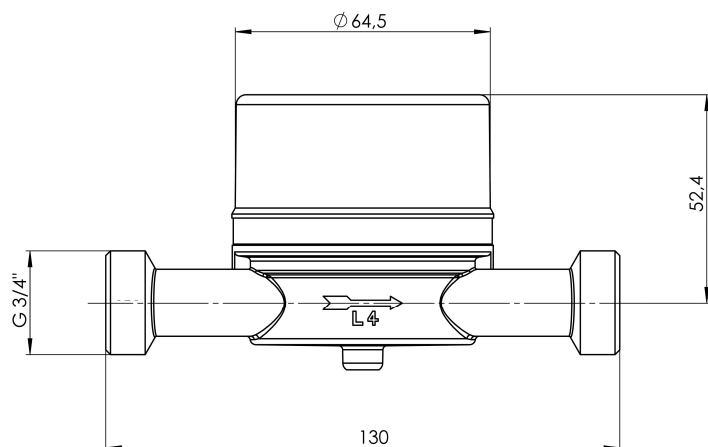
DN15 Length 80 mm



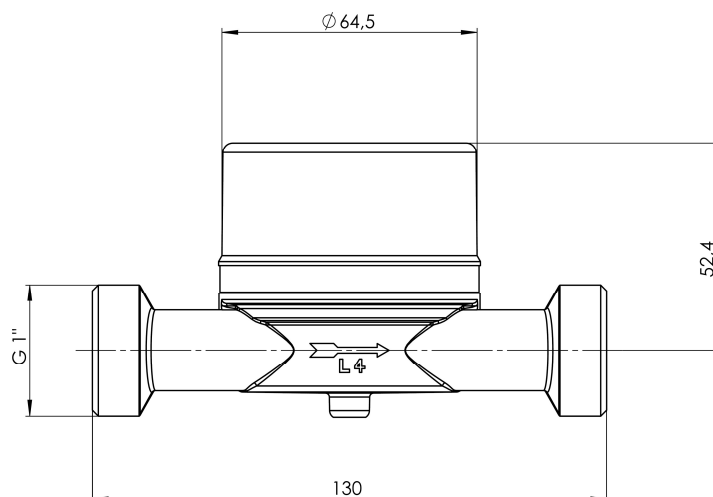
DN15 Length 110 mm



DN15 Length 130 mm

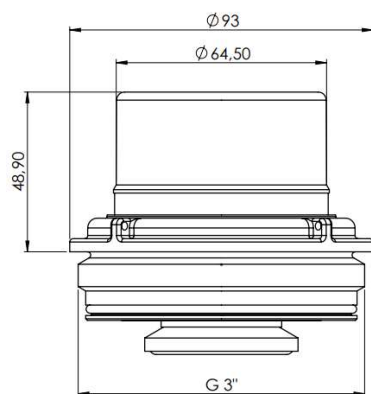


DN20 Length 130 mm

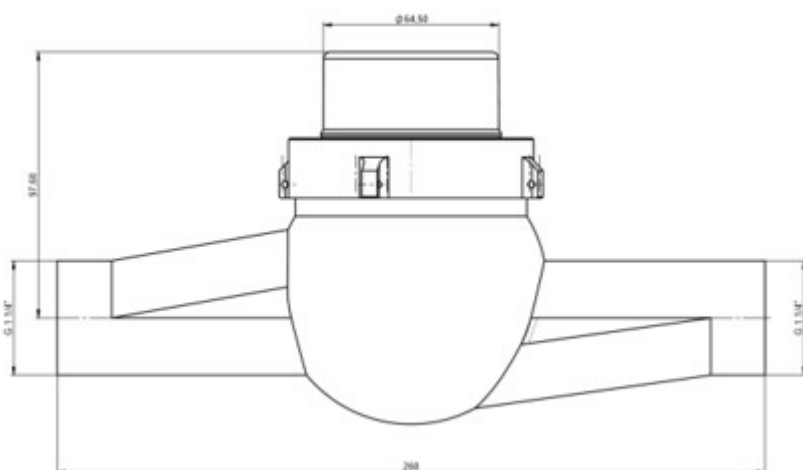


Domestic water meters

CRI



DN25 Length 260 mm



DN40 Length 300 mm

