

Electronic water meters

WFK636.., WFW636.., WMK636.., WMW636..



Electronic, mains-independent meter for measuring consumption of cold and hot water

- Continuous flow $Q_3 = 2.5 \text{ m}^3/\text{h}$ or $4 \text{ m}^3/\text{h}$
- Available as screw-type meter WF.636.. or measuring capsule meter WM.636..
- Single-jet impeller type (screw-type water meter) or multi-jet impeller meter (measuring capsule water meter)
- Parallel transmission of AMR and walk-by telegrams
- Communication in S-mode or C-mode
- OMS compliant AMR telegrams in C-mode
- Any mounting position (horizontal or vertical)
- Operating and configuration software to configure specific devices via the meter's optical interface
- Leakage detection
- Displays cumulated consumption and due date consumption

Application

The screw-type cold (WFK..) and hot water (WFW..) meters as well as cold water measuring capsule (WMK..) The hot water meter (WMW..) is compact in design and used for measuring physical cold or hot water consumption. The meter consists of a flow element and a totalizer.

Features

The compact, single-jet impeller type meters (screw-type water meter) or multi-jet impeller meter (measuring capsule water meter) is used for drinking water (cold or hot) and consists of a flow element and a totalizer with LCD display.

In most cases, the single-pipe connection piece (EAT) is already present and embedded in the masonry.

The totalizer can be rotated 360° on the fitting.

The flow measuring section on the screw-type water meter is made of brass and includes a sieve at the input to collect larger dirt particles.

The water flows through the flow measuring section to drive the single-jet impeller. The speed is sampled inductively via coils to provide low wear and long-term stable measuring.

Incorrect direction of flow is detected and indicated by an error message on the display.

The resulting volume is added up, displayed and can be transmitted via RF to a data processing system. A long-life battery powers the processor for up to 10 years with 1 year of reserve capacity.

Dry rotor

The water meter is a dry rotor with high pressure resistance.

This prevents the totalizer from exposure to the medium and protects against dirt. The impeller has double bearings and the meter is protected against external magnetic influence to guarantee the highest accuracy and security under all installation conditions.

Infrared interface

The water meters can be read out on site via optical close-range interface. The meter is read out and configured with the WFZ.IRDA-USB optical reading head and associated configuration software.

Communications

The water meter sends parallel AMR and walk-by data telegrams in S-mode or C-mode. You can switch from S-mode to C-mode with the configuration software. RF is activated using the WFZ.PS tool, ACT50 software or automatically after consuming 50 liters.

The AMR telegrams are automatically collected and saved by a network node WTT662.. or WTT561... RF converter. The walk-by telegram can be collected during a walk by a the mobile data logger. The customer can remotely read out all plant consumption data.

Leakage detection

The meter generates an alarm if detects flow (between 4 and 5 liters per hour depending on the version) over a long period (factory setting of 24 hours).

A leak is indicated on the display by 'LEAC'. At the same time, an error message is transmitted via RF.

The threshold value can be adapted to between 1 and 24 hours using the configuration software.

Tampering

The meters are tested against electromagnetic and magnetic disturbances per EN ISO 4064-2.

Function check

The flow is acquired continuously. The volume is displayed in real time. Any errors are immediately displayed. Meters conducted the following self-tests:

- Leakage detection
- Reverse flow
- Error detection

Display

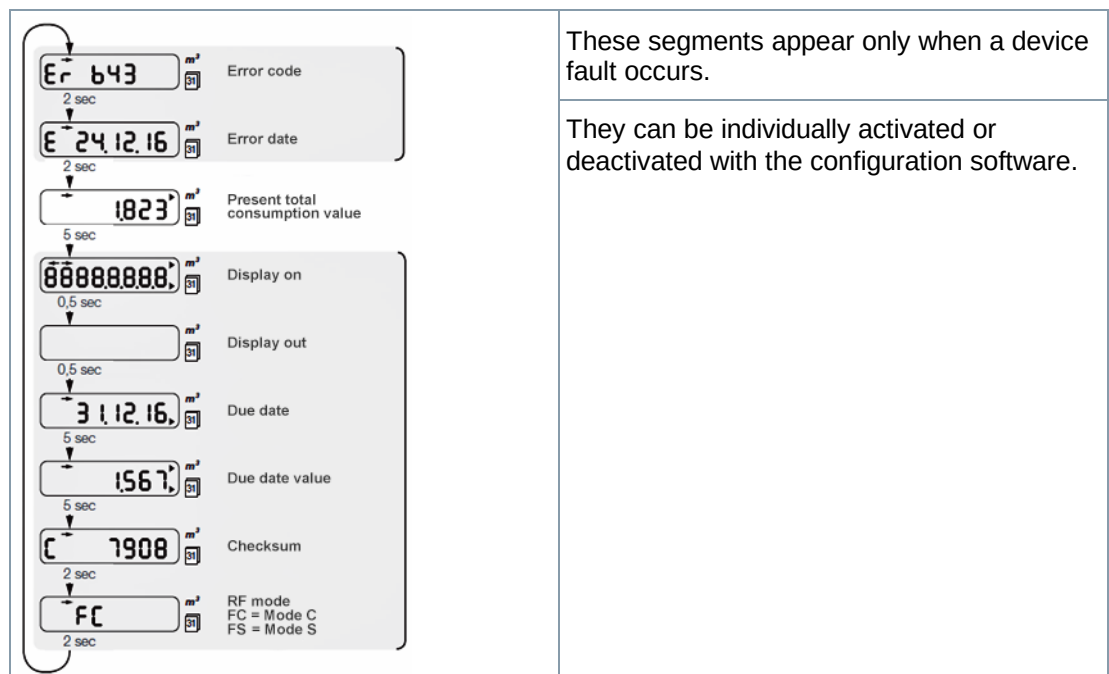
Water consumption is continuously cumulated. The current state is stored at 11:59 PM am on the next due date.

The due date is factor set to 31.12, but can be configured with the ACT50 software.

The water meter calculates a checksum when saving the annual consumption. Self-readers can notify the responsible office together with the read out on the due date to verify the correct read out of the display. The stored due date remains in place for one year.

The water meter has a display loop. The following data can be read from the water meter's display:

- Error code
- Error date
- Current total consumption
- Due date
- Due date value
- Checksum
- RF mode



The following parameters can be read out and/or configured using the configuration software via the IrDA interface:

Read out only:

General

- Serial number
- Mounting place
- SW version
- Medium
- Commissioning date
- Battery life
- Order number
- Leakage detection
- Device date
- Error date
- Error code

Device information

- Device name/password
- Current flow rate

Meter states

- Current meter state
- Reverse volume indication
- Last due date
- Meter state on last due date
- Next due date
- Maximum flow rate
- Leakage

Statistical values

- 13 monthly values

RF settings

- RF mode
- RF system
- Walk-by readout type (S-mode only)
- Walk-by transmission delay (S-mode only)
- Walk-by transmission timeframe (S-mode only)
- Walk-by transmission-free days (S-mode only)

Configuration:

General

- Mounting place
- Display loop
- Leakage detection

Due date

- Next due date

Device information

- Device name/password

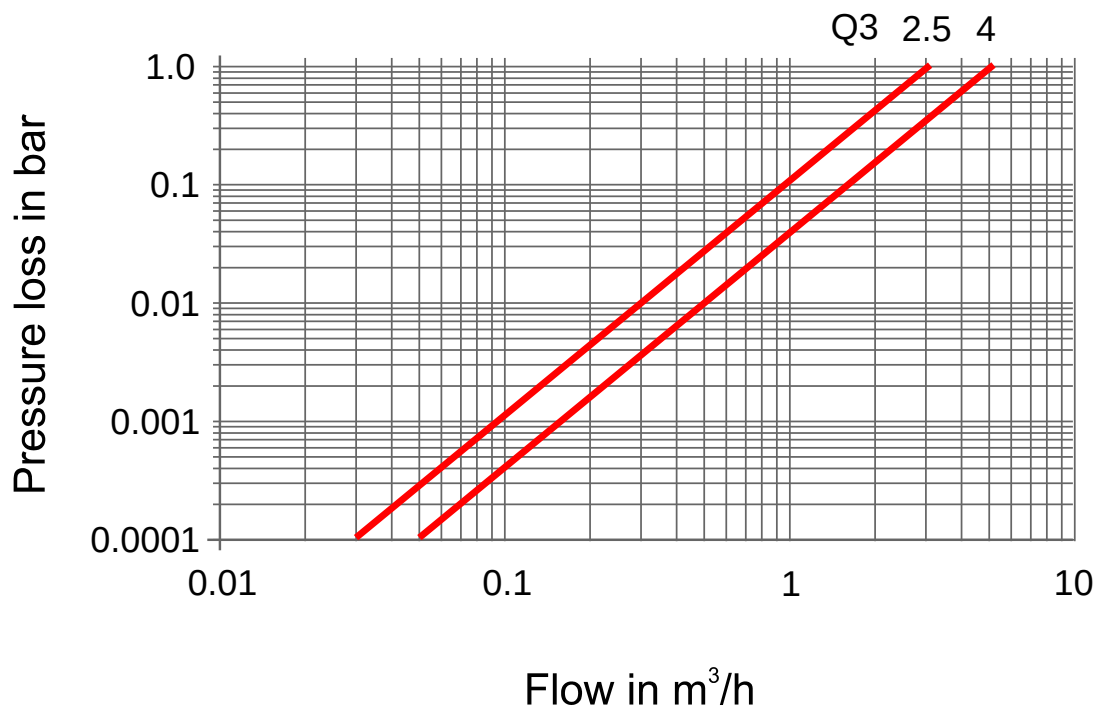
RF settings

- RF mode
- RF system
- Walk-by readout type (S-mode only)
- Walk-by transmission delay (S-mode only)
- Walk-by transmission timeframe
- Walk-by transmission-free days (S-mode only)

Error messages

Error code	Error description	Measures/notes
LEAC	Leakage in the system	Check piping, eliminate leakage. The error automatically resets once the leakage is eliminated.
0	Flow direction negative	Check meter installation / flow direction
2	Operating hours expired	Replace the device during the next service appointment.
3	Hardware error	Replace the device!
4	Permanently stored error	Replace the device!
b	Communicated too much in the month via OPTO	The lock is automatically lifted each month!
d	Too much flow	Check installation conditions! Eventually replace by a meter with a larger Q ₃ .
f	The device lost power for a short period. The entire configuration is lost.	Replace the device!

Pressure drop characteristic



RF features in S-mode

The following values are transmitted by default in the RF telegram in S-mode:

Electronic water meters in S-mode have the following features:		
RF system	Parallel transmission of data telegrams	• AMR • Walk-by
Transmission delay (Offset)	Time delay for sending out telegrams after the due date Time delay for sending out telegrams after the start of the month in days (Default = 0 days)	
Transmission-free days	A maximum of 2 days of the week can be defined as transmission-free days. At least 1 day of the week must be set (Default = Sunday)	

Transmission response	
AMR telegrams	Every 4 hours, 24 hours a day, 365 days a year Data telegrams with the current consumption value and due date value as well as monthly telegram with consumption value at the end of the last month
Walk-by telegrams	Every 128 seconds, 10 hours a day (from 8:00 am to 6:00 pm)

Transmission response		
	Readout type	Monthly: 4 readout days as of the first of each month Annually: 48 readout days, once a year by due date
	Transmission-free days	Monthly: Saturday and Sunday Annually: Sunday
	Current consumption value, due date value, due date as well as end of month values for the last 13 months	

RF features in C-mode

The following values are transmitted by default in the RF telegram in C-mode:

Electronic water meters in C-mode have the following features:		
RF system	Parallel transmission of data telegrams	• AMR • Walk-by
	Increase RF output (typically 10 dBm)	
AMR telegrams	Every 7.5 hours, 24 hours a day, 365 days a year	
	Data telegram with current consumption value	
Walk-by telegrams	Every 112 seconds, 10 hours a day (from 8:00 am to 6:00 pm) 365 days a year	
	Current consumption value, due date value, due date as well as end of month values for the last 13 months	

Change of mode

You can switch between S-mode and C-mode any time with the help of the configuration software and the infrared read head WFZ.IRDA-USB.

Type summary

Features of the water meters listed below:	
Design	Screw-on water meter: Single-jet dry runner Measuring capsule meter: Multi-jet dry runner
Nominal pressure	PN 16
Communication	Wireless M-bus, S-mode
Due date	31.12.
Display	m ³

Screw-on cold water meter in S-mode

Designation	Order number	Type
Q ₃ = 2.5 m ³ /h, mounting length 80 mm, connecting thread G ³ / ₄ ", up to 30 °C	S55560-F116	WFK636.D080
Q ₃ = 2.5 m ³ /h, mounting length 110 mm, connecting thread G ³ / ₄ ", up to 30 °C	S55560-F117	WFK636.D110
Q ₃ = 4 m ³ /h, mounting length 130 mm, connecting thread G1", up to 30 °C	JXF:WFK636.E130	WFK636.E130

Screw-on cold water meter in C-mode

Designation	Order number	Type
Q ₃ = 2.5 m ³ /h, mounting length 80 mm, connecting thread G ³ / ₄ ", up to 30 °C	S55560-F120	WFK636.D08C
Q ₃ = 2.5 m ³ /h, mounting length 110 mm, connecting thread G ³ / ₄ ", up to 30 °C	S55560-F121	WFK636.D11C
Q ₃ = 4 m ³ /h, mounting length 130 mm, connecting thread G1", up to 30 °C	JXF:WFK636.E13C	WFK636.E13C

screw-on hot water meter in S-mode

Designation	Order number	Type
Q ₃ = 2.5 m ³ /h, mounting length 80 mm, connecting thread G ³ / ₄ ", up to 90 °C	S55560-F118	WFW636.D080
Q ₃ = 2.5 m ³ /h, mounting length 110 mm, connecting thread G ³ / ₄ ", up to 90 °C	S55560-F119	WFW636.D110
Q ₃ = 4 m ³ /h, mounting length 130 mm, connecting thread G1", up to 90 °C	JXF:WFW636.E130	WFW636.E130

Screw-type hot water meters in C-mode

Designation	Order number	Type
$Q_3 = 2.5 \text{ m}^3/\text{h}$, mounting length 80 mm, connecting thread G $\frac{3}{4}$ ", up to 90 °C	S55560-F122	WFW636.D08C
$Q_3 = 2.5 \text{ m}^3/\text{h}$, mounting length 110 mm, connecting thread G $\frac{3}{4}$ ", up to 90 °C	S55560-F123	WFW636.D11C
$Q_3 = 4 \text{ m}^3/\text{h}$, mounting length 130 mm, connecting thread G1", up to 90 °C	JXF:WFW636.E13C	WFW636.E13C

Chilled water mechanical capsule counter in S-mode

Designation	Order number	Type
The cold water meter for the IST measuring capsule $Q_3 = 2.5 \text{ m}^3/\text{h}$, connecting thread G2", up to 30 °C	JXF:WMK636.DIS00	WMK636.DIS00
The cold water meter for the TE1 measuring capsule $Q_3 = 2.5 \text{ m}^3/\text{h}$, connecting thread M62 x 2 mm, up to 30 °C	JXF:WMK636.DTE00	WMK636.DTE00
The cold water meter for the A34 measuring capsule $Q_3 = 2.5 \text{ m}^3/\text{h}$, connecting thread M77 x 1.5 mm, up to 30 °C	JXF:WMK636.DAL00	WMK636.DAL00

Mechanical capsule hot water meter in S-Mode

Designation	Order number	Type
The hot water meter for the IST measuring capsule $Q_3 = 2.5 \text{ m}^3/\text{h}$, connecting thread G2 x 1.5 mm, up to 90 °C	JXF:WMW636.DIS00	WMW636.DIS00
The hot water meter for the TE1 measuring capsule $Q_3 = 2.5 \text{ m}^3/\text{h}$, connecting thread M62 x 2 mm, up to 90 °C	JXF:WMW636.DTE00	WMW636.DEL00
The hot water meter for the A34 measuring capsule $Q_3 = 2.5 \text{ m}^3/\text{h}$, connecting thread M77 x 1.5 mm, up to 90 °C	JXF:WMW636.DAL00	WMW636.DAL00

Accessories

Accessories for screw-type meters

Order accessories separately.

Spacer

Designation	Order number	Type
Spacer G $\frac{3}{4}$ ", length 80 mm	JXF:WFZ.R80	WFZ.R80
Spacer G $\frac{3}{4}$ ", length 110 mm	JXF:WFZ.R110	WFZ.R110
Spacer G 1", length 130 mm	JXF: WFZ.R130	WFZ.R130

Adapter pieces

Designation	Order number	Type
Adapter set 80 mm G ¾" to 110 mm , 1", consisting of: 2 adapter pieces G ¾" to G 1" 2 flat gaskets 2 mm, 1"	JXF:WZM-V110	WZM-V110
Extension set 110 mm G ¾" to 130 mm G ¾", consisting of: 1 extension 27 mm 2 flat gaskets 2 mm, ¾" 1 gasket made of copper ¾" x 1.5 mm	JXF: WZM-V130	WZM-V130
Extension set 110 mm G ¾" to 165 mm G ¾", consisting of: 1 extension 27 mm 1 extension 42 mm 2 flat gaskets 2 mm, ¾" 1 gasket made of copper ¾" x 1.5 mm	JXF: WZM-V165	WZM-V165
Extension set 110 mm G ¾" to 190 mm G 1", consisting of: 2 adapter pieces from 110 mm G ¾" to 190 mm G 1" 2 flat gaskets 2 mm, 1" 1 gasket made of copper ¾" x 1.5 mm	JXF: WZM-V190	WZM-V190

Installation sets

Designation	Order number	Type
Mounting set , pair of fittings G ¾" x R ½" with gaskets	S55563-F151	WFZ.R2
Mounting set , pair of fittings G 1" x R ¾" with gaskets	S55563-F152	WFZ.R2-1

Other

Designation	Order number	Type
Mounting kit, complete for washstand water meters	JXF:WFZ.W	WFZ.W
Mounting kit for tap water meters	JXF:WFZ.Z	WFZ.Z
Self-lock seal with sealing wire	JXF:WFZ.P	WFZ.P

Accessories for mechanical capsule meters

Order accessories separately.

Mounting materials

Designation	Order number	Type
Single-pipe connecting piece without cover, without seal and plastering aid, compatible with EAS and VAS 2" systems, internal threading $\frac{3}{4}$ ", mounting length 80 mm	JXF:WME.G20/OV/H	WME.G20/OV/H
Single-pipe connecting piece without cover, without seal, compatible with EAS and VAS 2" systems, $\frac{1}{2}$ " or 15 mm, mounting length, soldered connector, mounting length 110 mm	JXF:WME.L15/OV/H	WME.L15/OV/H
Single-pipe connecting piece (EAT) Without cover, without seal and plastering aid, compatible with EAS and VAS 2"-systems, external threading $\frac{3}{4}$ ", mounting length 130 mm	JXF:WME.L18/OV/H	WME.L18/OV/H
Single-pipe connecting piece without cover, without seal, without seal and plastering aid, compatible with EAS and VAS 2" systems, external threading $\frac{3}{4}$ " or soldered connector, mounting length 130 mm	JXF:WME.L22/OV/H	WME.L22/OV/H
Profiled seal for EAS and VAS 2", dimensions: 57 x 46 x 4 mm	JXF:WME.PRODICHT	WME.PRODICHT
Closure for 2" flow measuring section	JXF:WME-VRING	WME-VRING
Mounting aid complete	JXF:WME.EINPUTZ1	WME.EINPUTZ1

Designation	Order number	Type
Guide piece for A341 capsule water meter, M77 x 1.5 mm	XF:FKK0173	FKK0173
O-ring for A34 capsule water meter, M77 x 1.5 mm	JXF:FKS0034	FKS0034
Mounting key for measuring capsule water meters	JXF:WMZ.K5	WMZ.K5

Extensions and covers

Designation	Order number	Type
Round cover with thrust tube in chrome look	JXF:WMXI.KCR1-001	WMXI.KCR1-001
Round cover with thrust tube, white	JXF:WMXI.KBL1-001	WMXI.KBL1-001
Inner extensions for thrust tube (5 pcs./PU) in chrome look	JXF:WMXI.KCR1-002	WMXI.KCR1-002
Inner extensions for thrust tube (5 pcs./PU), white	JXF:WMXI.KBL1-002	WMXI.KBL1-002
Outer extensions for thrust tube (5 pcs./PU) in chrome look	JXF:WMXI.KCR1-003	WMXI.KCR1-003
Outer extensions for thrust tube (5 pcs./PU), white	JXF:WMXI.KBL1-003	WMXI.KBL1-003

Other

Designation	Order number	Type
Sealing ring for measuring capsule meters	JXF:FKK0139	FKK0139
Self-lock seal with sealing wire	JXF:WFZ.P	WFZ.P

Programming accessories for all types

Designation	Order number	Type
Readout and parameterization software	JXF:ACT20	ACT50
Infrared read head (with USB interface)	JXF:WFZ.IRDA-USB	WFZ.IRDA USB
Triggering tool for radio telegrams	JXF:WFZ.PS	WFZ.PS

Ordering

When ordering, please provide the quantity, description, type, and stock no.

Designation	Order number	Type
Electronic water meter	See Type summary	WFx636

Product documentation

Topic	Title	Document ID
Mounting instructions for screw-type and measuring capsule meters	Electronic water meter	A6V12239416

Product inserts

Two flat gaskets, a seal with sealing wire, and mounting instructions in the following languages are provided with the water meters:

Bulgarian, German, English, Finnish, French, Greek, Dutch, Italian, Croatian, Lithuanian, Norwegian, Polish, Romanian, Russian, Slovakian, Slovenian, Spanish, Czech, Turkish, and Hungarian.

Related documents such as the environmental declarations, CE declarations, etc., can be downloaded from the following Internet address:

<https://siemens.com/bt/download>

Notes

Mounting

Note the following:

- The water meter can be installed horizontally or vertically.
- Ensure there is sufficient space for installation.
- Horizontal installation is more accurate (i.e. a higher meteorological class).
- The meter must be easily accessible for readout.
- Settling paths are not required, neither upstream of nor downstream from the meter.
- Install the flow measuring section between 2 shutoff valves; the arrow must be in the direction of the flow.
- During construction, install a spacer (screw-on meter) or cover (measuring capsule meter).
- Thoroughly flush the plant prior to installing the meter.
- Comply with all local regulations and potable water permits on the use of water meters (installation, sealing, etc.)

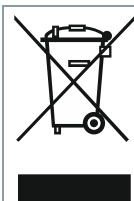
Device sealing

- After mounting the meter, seal all components to prevent tampering (observe national regulations):
- Flow measuring section with fitting (inlet)

Maintenance

The meters are maintenance-free. Comply with all national calibration regulations.

Disposal



This symbol or any other national label indicate that the product, its packaging, and, where applicable, any batteries may not be disposed of as domestic waste. Delete all personal data and dispose of the item(s) at separate collection and recycling facilities in accordance with local and national legislation.
See [Siemens disposal information](#) for additional information.

Warranty

The technical data are only guaranteed in connection with Siemens products listed in "Type summary" and "Accessories". Siemens rejects any and all warranties in the event that third-party products are used.

Power supply	
Battery type	Lithium battery (cannot be replaced)
Battery voltage	3.0 V
Battery life	Up to 10 years ¹ + reserve
¹ Battery life up to 10 years as of commissioning. Actual battery life depending on operating state and external factors.	

Display	
Display	8-digit BCD
Volume indicator based on device configuration	m ³ : Decimal with 3 digits

Communications	
Optical interface • Protocol	Per EN13757-2,3,7
RF:	
Frequency band	S-mode: 868.3 ±0.3 MHz; C-mode: 868.95 ±0.25 MHz
RF protocol	Wireless M-bus per EN13757-4
Transmitter power	Typical 10 dBm, max. 14 dBm
Duty cycle	< 1 % (50 ms/128s)

Cold water/hot water screw-type meters				
Continuous flow Q ₃	m ³ /h	2.5	2.5	4
Mounting length	mm	80	110	130
Connection		G ¾ B"	G ¾ B"	G ¾ B"
Meterological class • Horizontal • Vertical		R80 R40	R80 R40	R80 R40
Overload flow rate Q ₄	m ³ /h	3.13	3.13	5.0
Minimum flow rate Q ₁ • Horizontal (R80) • Vertical (R40)	l/h l/h	31.25 62.5	31.25 62.5	50.0 100.0
Transitional flow rate Q ₂ • Horizontal (R80) • Vertical (R40)	l/h l/h	50.0 100.0	50.0 100.0	80.0 160.0

Cold water/hot water screw-type meters				
Response threshold (typical)	l/h	ca. 4-5 l	ca. 4-5 l	approx. 5-6
Measuring range - Cold water meter WFK636.. - Hot water meter WFW636..	5 °C...≤30 °C 30 °C... ≤90 °C			
Nominal pressure	1.6 MPa (PN16)			
Mounting position	Horizontal/vertical			
Display	8-digit LCD field			

Cold/hot water mechanical capsule meters				
Continuous flow Q ₃	m ³ /h	2.5		
Meterological class - Horizontal - Vertical		R80 R40		
Overload flow rate Q ₄	m ³ /h	3.13		
Minimum flow rate Q ₁ - Horizontal (R80) - Vertical (R40)	l/h l/h	31.25 62.5		
Transitional flow rate Q ₂ - Horizontal (R80) - Vertical (R40)	l/h l/h	50.0 100.0		
Response threshold (typical)	l/h	ca. 4-5 l		
Measuring range - Cold water meter WMK636.. - Hot water meter WMW636..	5 °C... ≤30 °C 30 °C... ≤90 °C			
Nominal pressure	1.6 MPa (PN16)			
Mounting position	Horizontal/vertical			
Display	8-digit LCD field			

Protection degree of housing	
Protection class	III
Degree of protection	
Meter processor	IP65 / IP68 per EN 60529
Flow measuring section	IP65 / IP68 per EN 60529

Ambient conditions			
	Running	Transportation	Storage
Temperature	+5...+55 °C	-25...+70 °C	-5...+45 °C
Humidity	<95 % r.h. at 25 °C (non-condensing)		

Standards, directives and approvals	
EU conformity (CE)	See EU declaration of conformance *)
Flow profile sensitivity classes	U0 / D0
Product standard	ISO 4064/2

Environmental compatibility
The product environmental declaration *) contains data on environmentally compatible product design and assessments (RoHS compliance, materials composition, packaging, environmental benefit, disposal).

Dimensions
See "Dimensions"

Housing material	
Flow measuring section	Screw-type meter: Brass Measuring capsule meter: Plastic
Totalizer	Plastic

Housing colors	
Totalizer	Transparent

Weight screw-type meter WF.636..	
Device packed complete with inserts	2.5 m³/h / 80 mm: 0.403 kg 2.5 m³/h / 110 mm: 0.437 kg 4 m³/h / 130 mm: 0.31 kg

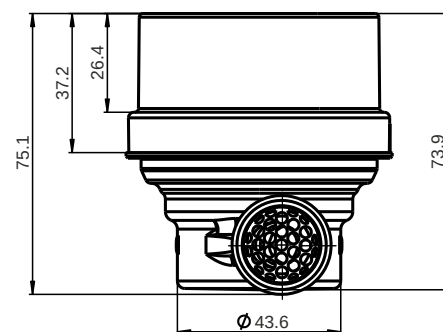
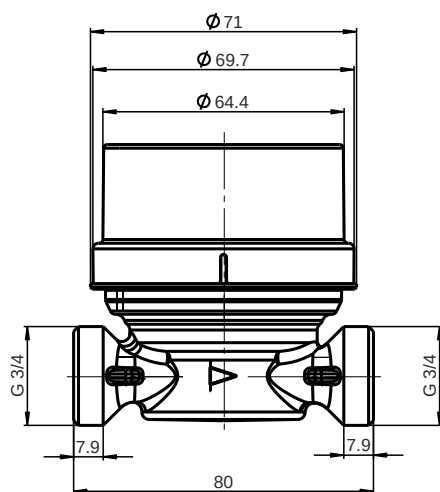
Weight measuring capsule meter WM.636..	
Device packed complete with inserts	IST: 2.5 m³/h / G2": 0,279 kg TE1: 2.5 m³/h / M62 x 2: 0,233 kg A34: 2.5 m³/h / M77 x 15: 0,523 kg

*) The documents can be downloaded at <http://siemens.com/bt/download>.

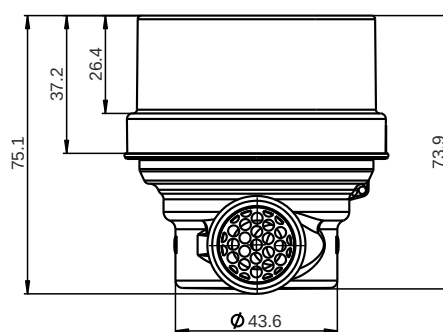
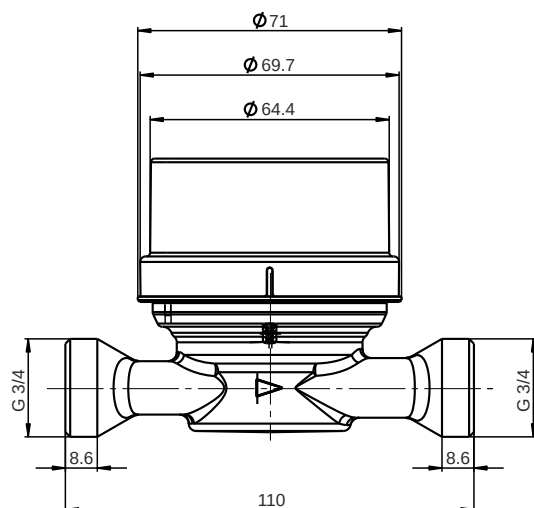
Screw-type water meter

Dimensions in mm

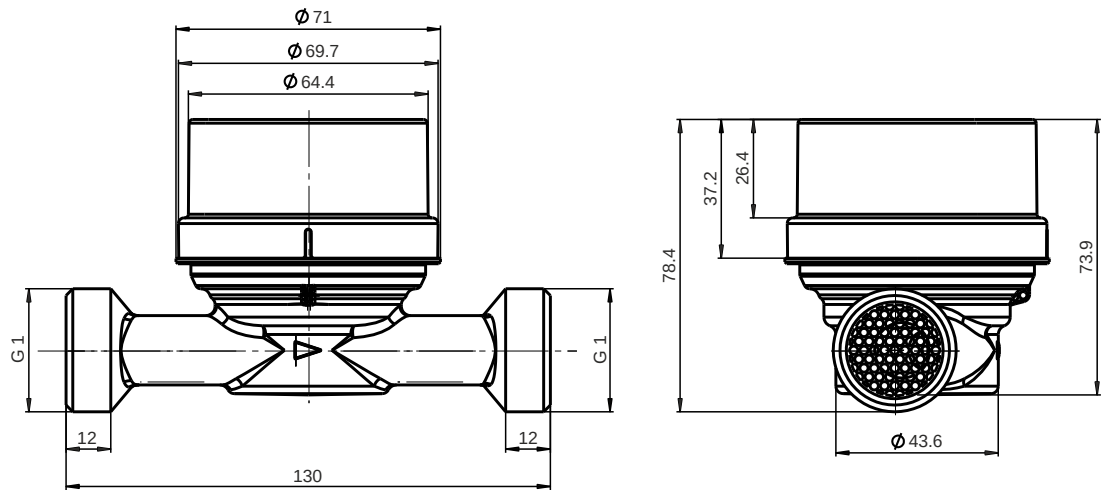
$Q_3 = 2.5 \text{ m}^3/\text{h}$, $L = 80 \text{ mm}$



$Q_3 = 2.5 \text{ m}^3/\text{h}$, $L = 110 \text{ mm}$



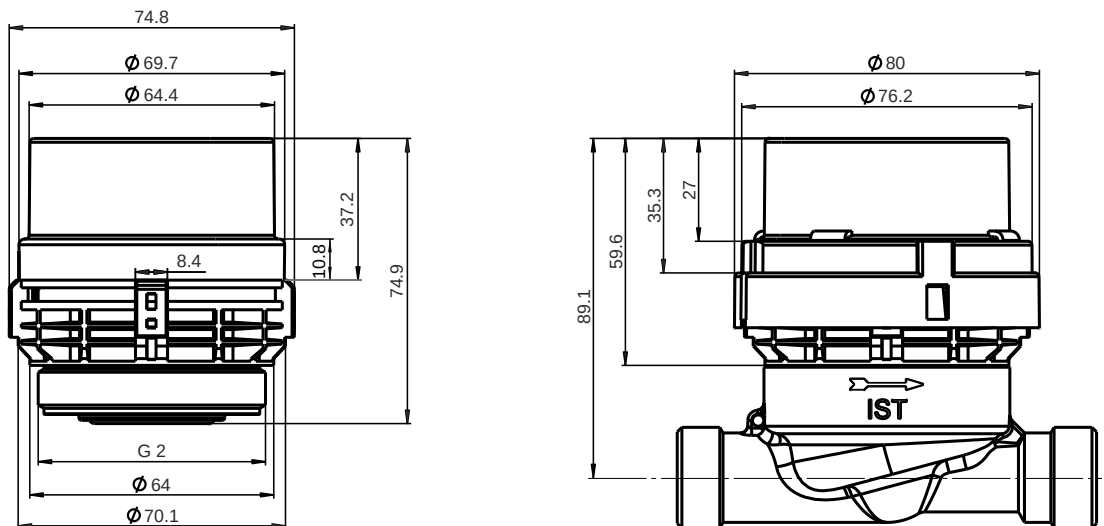
$Q_3 = 4 \text{ m}^3/\text{h}$, $L = 130 \text{ mm}$



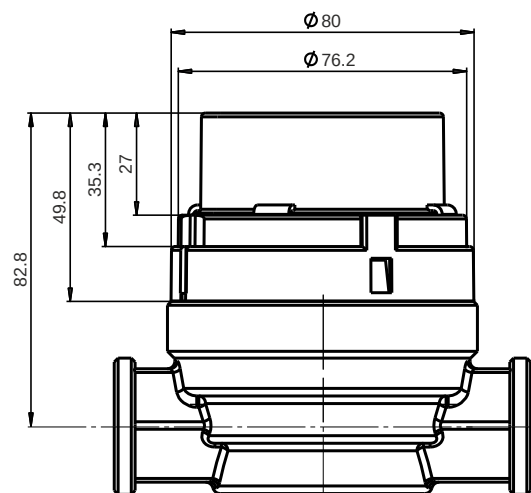
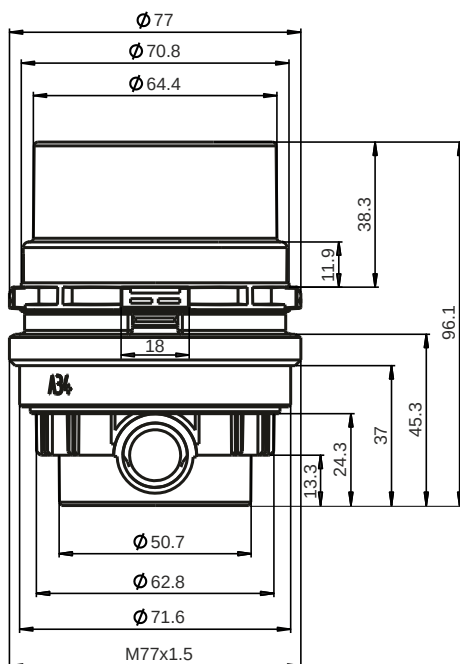
Measuring capsule meter

Dimensions in mm

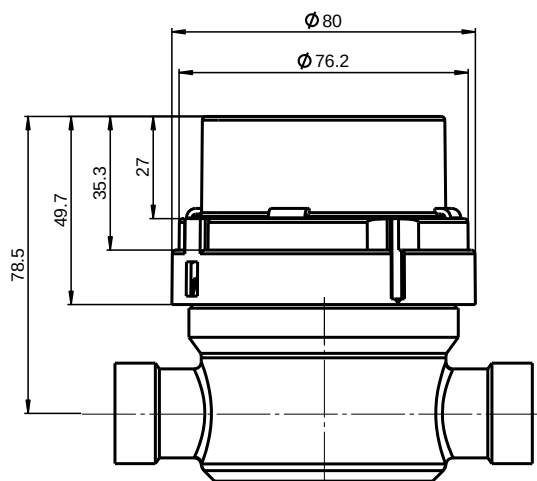
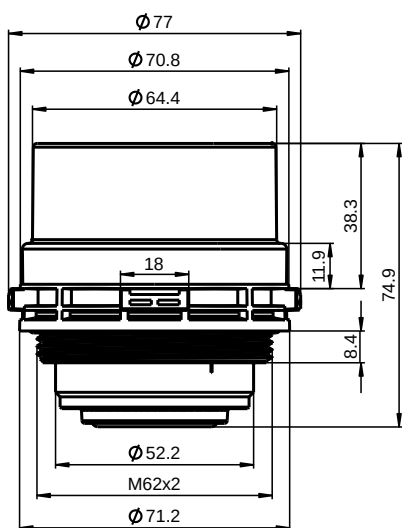
Typ IS, connecting thread G2"



Typ AL, connecting thread M77 x 1,5 mm"



Typ TE – Connecting thread M62 x 2 mm"



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