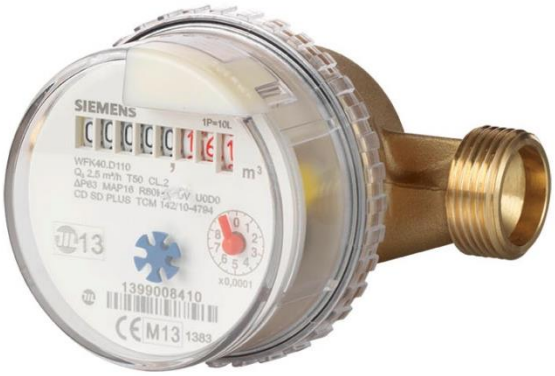
SIEMENS

5302



Mechanical water meters

WFK40..
WFW40..

Mechanical water meters to measure the consumption of hot or cold drinking water.

- **Permanent flow rate Q_3 = 2.5 m^3/h or 4 m^3/h**
- **Pulse add-on modules (optional)**
- **No upstream and/or downstream settling paths required**
- **Optional mounting position (horizontal or vertical)**
- **Totalizer for indication of accumulated consumption in cubic meters and liters**

Application

The impeller type cold and hot water meters are of compact design and are used for the physically correct acquisition of cold or hot water consumption. They consist of flow measuring section and processor.

The meters measure the consumption of water in …

- domestic water systems of residential or non-residential buildings
- any type of water supply system.

Such systems are e.g. installed in ...

- multi-family houses,
- office and administrative buildings.

Typical users are ...

- service and billing providers,
- private building owners and property associations,
- building maintenance companies and housing estate agents.

Function

The compact, mechanical impeller type water meters consist of flow measuring section and totalizer.
The water passing through the flow measuring section drives the single-jet impeller wheel. A magnetic clutch with built-in magnet protection transfers the flow value to the totalizer for indication by the 8-roll counter.

Type summary

Key features of the types of water meters listed below:

Type	dry dial
Rated pressure	PN 16
Indication	8-roll counter

Cold water meters

Features	*Stock No.*	*Product No.*
Q_3 = 2.5 m^3/h, mounting length 80 mm, DN 15, connecting thread G ¾", operating limit up to 50 °C	S55560-F104	WFK40.D080
Q_3 = 2.5 m^3/h, mounting length 110 mm, DN 15, connecting thread G ¾", operating limit up to 50 °C	S55560-F105	WFK40.D110
Q_3 = 4 m^3/h, mounting length 130 mm, DN 20, connecting thread G 1", operating limit up to 50 °C	S55560-F106	WFK40.E130

Hot water meters

Features	*Stock No.*	*Product No.*
Q_3 = 2.5 m^3/h, mounting length 80 mm, DN 15, connecting thread G ¾", operating limit up to 90 °C	S55560-F107	WFW40.D080
Q_3 = 2.5 m^3/h, mounting length 110 mm, DN 15, connecting thread G ¾", operating limit up to 90 °C	S55560-F108	WFW40.D110
Q_3 = 4 m^3/h, mounting length 130 mm,	S55560-F109	WFW40.E130

	DN 20, connecting thread G 1", operating limit up to 90 °C		
	Component (optional)	*Stock No.*	*Product No.*
Add-on modules	Reed contact	S55563-F134	WFZ44
	Reed contact with Namur circuit	S55563-F135	WFZ43

Spacers	*Component (optional)*	*Stock number*	*Product no.*
	Spacer G ¾", length 80 mm	JXF:WFZ.R80	WFZ.R80
	Spacer G ¾", length 110 mm	JXF:WFZ.R110	WFZ.R110
	Spacer G 1", length 130 mm	JXF:WFZ.R130	WFZ.R130

Extensions	*Component (optional)*	*Stock number*	*Product no.*
	Adapter set G ¾" to 1", consiting of: 2 adapter pieces from G ¾" to G 1" 2 flat gaskets 2 mm, 1"	JXF:WZM-V110	WZM-V110
	Extension set from 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 from 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 from 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, ¾" 1 gasket made of copper ¾" x 1.5 mm	JXF: WZM-V190	WZM-V190

Installation sets & miscellaneous	*Component (optional)*	*Stock number*	*Product no.*
	Installation set, 2 fittings G ¾" x R ½" with gaskets	JXF:WFZ.R2	WFZ.R2
	Installation set, 2 fittings G 1" x R ¾" with gaskets	JXF:WFZ.R2-1	WFZ.R2-1
	Self-lock seal with sealing wire	JXF:WFZ.P	WFZ.P

Ordering

When ordering, please indicate quantity, product No., stock No. and description, for example:

Order numbers

Product No.	*Stock No.*	*Description*
WFx4..	Refer to "Type summary"	Cold water meter

Scope of delivery

The water meters and add-on modules are supplied complete with Mounting Instructions in different languages.

Languages

The Mounting Instructions are supplied in 18 languages:
Bulgarian, Croatian, Czech, Dutch, English, Finnish, French, German, Greek, Hungarian, Italian, Lithuanian, Norwegian, Polish, Slovakian, Slovenian, Spanish and Turkish.

Equipment combinations

The water meters communicate via pulse modules and can be used in connection with the following components:

Description	*Type No.*	*Documentation*
M-bus pulse adapter	AEW310.2	N5383
AMR pulse adapter	AEW36.2	N2873
Consumption data interface (Synco living)	WRI982	N2735

Technology

Indication

- Current, accumulated consumption in m^3
- Maximum value 99999,999 m^3
- Counter (1 revolution = 1 liter) for indication of current consumption.

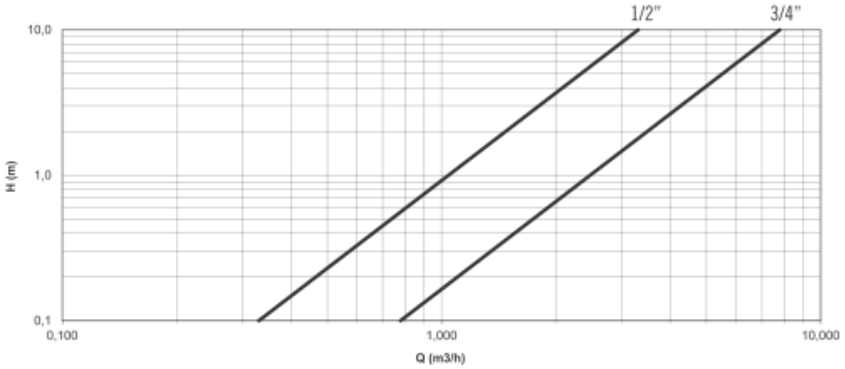
Parameterization

The water meter cannot be parameterized.

Dry running water meter

The impeller type meter is a dry runner that provides high resistance to pressure and frost. The totalizer does not get in contact with the medium and is therefore not susceptible to dirt. To ensure highest accuracy and reliability under all operating conditions, the impeller wheel is supported by 2 bearings and protected against magnetic interference.

Pressure drop characteristic



Communication

Add-on modules

The water meters can be equipped with add-on modules.

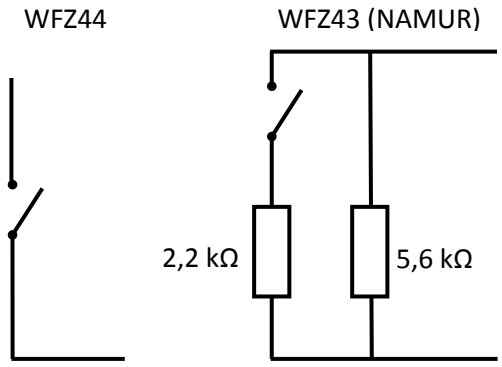
The following add-on modules are available:

- Reed contact WFZ44
- Reed contact with Namur circuit WFZ43

Parameterization of the add-on pulse modules requires no tool.

Remote readout

When 10 liters of water have passed through the meter (standard pulse valency: 1 pulse = 10 liters), the respective contact delivers a pulse.



Any cable break or short-circuit is detected by the add-on module with Namur circuit and is recorded by the receiving unit.

Mounting

- The water meter's mounting position is optional. Sufficient space should be allowed for mounting.
- The water meter should be easily accessible to ensure ease of reading.
- Neither upstream nor downstream settling paths are required.
- During the construction phase, a spacer should be fitted in place of the meter.
- Before mounting the meter, the piping must be thoroughly flushed.
- The flow measuring section must be fitted between 2 shutoff valves, and the arrow on the body must accord with the direction of flow.
- Preference should be given to horizontal mounting, which ensures a higher metrological class than vertical mounting.
- The local regulations covering the use of water meters (mounting, sealing, etc.) must be observed.

Add-on modules

The add-on module (WFZ4..) can be fitted to all types of water meter. If a WFZ4.. is required, proceed as follows:

a) Remove the cover from the meter
b) Fit the module and attach the adhesive seals.

The modules have no impact on the measurement of consumption and, for this reason, can also be retrofitted.

Sealing the meter

After mounting the meter, all components must be sealed to ensure protection against tampering (observe national regulations):

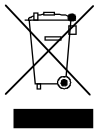
- Flow measuring section with fitting (inlet)
- Add-on module

Maintenance notes

Maintenance

The meters are maintenance-free.
National calibration regulations must be observed.

Disposal



The relevant national legal regulations must be complied with and the products must be disposed of via the appropriate channels. Local and currently valid legislation must be observed.

Warranty

User-related technical data are only guaranteed in connection with the products listed in this Data Sheet.

If the water meters are used in connection with 3rd-party products not explicitly mentioned, correct functioning must be guaranteed by the user. In such cases, Siemens does not provide any field or warranty services.

Technical data

Cold/hot water meter

Permanent flow rate Q_3	m^3/h	**2.5**	**2.5**	**4**
Mounting length	mm	80	110	130
Connecting thread		G ¾ B"	G ¾ B"	G 1 B"
Overload flow rate Q4	m^3/h	3.13	3.13	5.0
Minimum flow rate Q_1				
- Horizontal (R80)	l/h	31.25	31.25	50.0
- Vertical (R50)	l/h	50.0	50.0	80.0
Transitional flow rate Q_2				
- Horizontal (R80)	l/h	50.0	50.0	80.0
- Vertical (R50)	l/h	80.0	80.0	128.0
Minimum reading	l	0.05	0.05	0.05
Metrological classes				
- Horizontal		R80		
- Vertical		R50		
Measuring range				
- Cold water meters		0.1...50 °C		
- Hot water meters		30...90 °C		
Rated pressure		1.6 MPa (PN 16)		
Mounting position		Horizontal/vertical		
Degree of protection		IP68		
Indication		8-rolls counter Accumulated value in m^3		

Communication

- Reed contact WFZ44

Pulse valency	10 liters per pulse
Min. pulse duration	Q_3 2.5 = 1.728 s Q_3 4.0 = 1.08 s
Max. pulse frequency	Q_3 2.5 = 0.087 Hz Q_3 4.0 = 0.139 Hz
Current	Max. 100 mA
Voltage	Max. AC 24 V

		Max. DC 30 V
	Cable length	1 m
	Cross-sectional area	2 x 0.25 mm^2
	Electric strength against earth	1,000 V
	Degree of protection	IP68
	Safety class	III
- Reed contact with NAMUR circuit WFZ43	Pulse valency	10 liter per pulse
	Min. pulse duration	Q_3 2.5 = 1.728 s Q_3 4.0 = 1.08 s
	Max. pulse frequency	Q_3 2.5 = 0.087 Hz Q_3 4.0 = 0.139 Hz
	Current	Max. 10 mA
	Voltage	Max. AC 24 V Max. DC 30 V
	Cable length	1 m
	Cross-sectional area	2 x 0.25 mm2
	Electric strength against earth	1,000 V
	Degree of protection	IP68
	Safety class	III

Environmental conditions

	Transport EN 60721-3-2	**Storage** EN 60721-3-1
Climatic conditions	Class A	Class A
Temperature	-20...60 °C	-20...60 °C
Humidity	< 93% r.h. at 25 °C (non-condensing)	< 93% r.h. at 25 °C (non-conensing)
Mechanical conditions	Class M2	Class M2

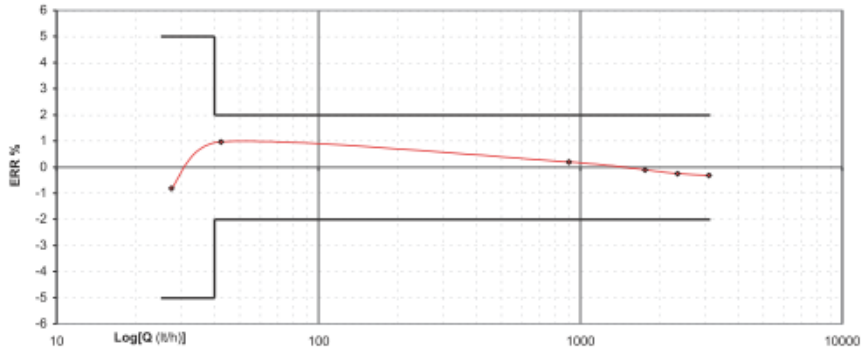
Directives and standards	CE conformity as per	
	- MID directive	2004/22/EG (European Measuring Instruments Directive) Mechanical class M1

Environmental compatibility

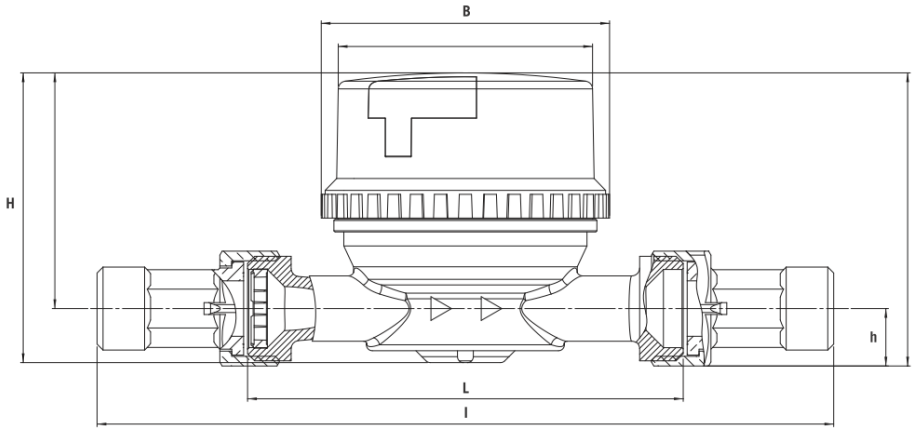
- Type approval as per	EN 14154-1 Accuracy class 2 (OIML R49-1) Environment class C Electromagnetic class E1 Flow profile sensitivity class U0 D0 Temperature class T50 (cold water meter) T30/90 (hot water meter)

	Product standard	EN 14154-1	
	Environment Declaration CE1E5302en contains data about environmentally friendly product design and evaluation (RoHS conformity, substances used, packaging, environmental benefits, disposal)	ISO 14001 (environment) ISO 9001 (quality)	
Dimensions	(W x H x D):	Refer to "Dimensions"	
Housing material	Flow measuring section	CW617N	
	Counter	Polymer	
Housing colors	Counter	transparent	
Weight	Meter packed with product insert	2.5 m^3/h, 80 mm:	450 g
		2.5 m^3/h, 110 mm:	500 g
		4.0 m^3/h, 130 mm:	550 g

Error characteristic



Dimensions (dimensions in mm)



Product No.	Mounting length L [mm]	Height H [mm]	Diameter B [mm]

WFx40.D080	80	73.2	72.8
WFx40.D110	110	73.2	72.8
WFx40.E130	130	73.2	72.8