

Water Metering

EW110 Series

Singlejet Water Meters

DN15...40 for cold and warm drinking water applications

Application

EW110 Series singlejet dry water meter are used for volume measurement of cold or warm water in residential drinking water systems.

They are available in sizes DN15 to DN40 and have a mechanical counter.

They can be retrofitted with clip on M-Bus or pulse out modules for integration into remote readout networks. Common sizes are available with factory installed and configured M-Bus module.

Water meters are used to record the consumption of drinking water and are exclusively intended for this purpose. Any other use of the device is considered to be improper. Changes to the unit must be approved.

EW1100 water meters are suitable for cold water up to 30 °C or 50 °C.

EW1101 water meters are suitable for warm water up to 90 °C or 130 °C.

Sizes DN15 to DN20 are available with standard or extended flow range similar to former EEC classes B and C. Larger sizes have extended flow range only, similar to class C.

Special Features

- Fully resistant to external magnetic fields
- Retrofittable modules for wired M-Bus / pulse out/ RF communication

Technical Data

Media	
Standard medium:	Drinking water
Connections	
Nominal sizes:	DN15 - DN40
Nominal flow Q ₃ :	2.5 - 16 m ³ /h
Operating temperatures	
Medium temperature:	EW1100: 0.1 - 50 °C
	EW1101: 0.1 - 90 °C (DN15 -20)
	EW1101: 0.1 - 130 °C (DN25 - 40)
Temperature class:	EW1100: T30, T50
	EW1101: T90 (DN15 -20)
	EW1101: T30/130
	(DN25 - 40)
Ambient temperature:	5 - 55 °C
Specifications	
Water pressure class:	MAP16 (max. 16 bar)
Pressure loss at Q ₃ :	63kPa



EW110, DN15-DN20



EW110, DN25-DN40

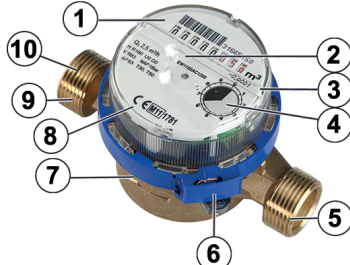
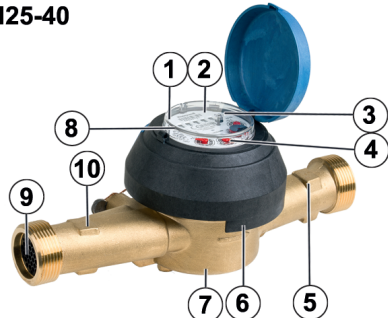
Specifications	
Protection class:	IP65
Environmental class:	B
Mechanical class:	M1
Electromagnetic class:	E1
Measuring process:	Mechanical dry counter with impeller and singlejet volume measurement
Display:	DN15 - 20: 8 - digit roller counter DN25 - 40: 5 - digit roller counter
Display unit:	m ³
Display range:	10 ⁵ with four decimal places
Increments:	0.00005 m ³
Acceptable error:	±2% at Q ₃ for water ≤30 °C ±3% at Q ₃ for water >30 °C
Installation position:	H, V (horizontal, vertical)
Optional interfaces:	Wired M-Bus, RF and pulse out

Approvals

Item No.	MID Approval No. :	WRAS approval No.:
EW110 Series Singlejet Water Meters		
EW1100A - Singlejet water meters for cold water, R100, suitable for clip on modules		
EW1100AC0600	SK 09-MI001-SMU007	1502314
EW1100AC1100		
EW1100AC1200		
EW1100AC1400		
EW1100AC2000		
EW1101A - Singlejet water meters for warm water, R80, suitable for clip on modules		
EW1101AC0600	SK 09-MI001-SMU009	1502314
EW1101AC1100		
EW1101AC1200		
EW1101AC1400		
EW1101AC2000		
EW1100C - Singlejet water meters for cold water, R160, suitable for clip on modules		
EW1100CC2800	TCM 142/11 - 4832	1802340
EW1100CC3900		
EW1100CC4600		

Item No.	MID Approval No. :	WRAS approval No.:
EW1101C - Singlejet water meters for warm water, R100, suitable for clip on modules		
EW1101CC2800	TCM 142/11 - 4832	not available
EW1101CC3900		
EW1101CC4600		
EW110xCM - Singlejet water meters with assembled M-Bus clip on module		
EW1100CM1200	SK 09-MI001-SMU007	1502314
EW1100CM2000		
EW1100CM2800	TCM 142/11 - 4832	1802340
EW1100CM3900		
EW1100CM4600		
EW1101CM1200	SK 09-MI001-SMU009	1502314
EW1101CM2000		
EW1101CM2800	TCM 142/11 - 4832	not available
EW1101CM3900		
EW1101CM4600		

Construction

Overview		
EW110, DN15-20		
		
EW110, DN25-40		
		

Components	Materials	
1	Cover	-
2	Item No.	-
3	Roller counter and unit	-
4	Decimal place dials	-
5	Inlet	-
6	Sealing clamp	blue or red plastic
7	Flow arrow	-
8	Approval mark	-
9	Outlet	-
10	Housing	brass

Design

EW110 Series water meters consist of:

- Mechanical roller counter or combined roller and dial counter
- Counter housing of DN15...20 rotatable 350°
- Sealing clamp between housing and flow sensor
- Singlejet flow sensor with magnetic clutch
- Flow sensor housing with external threads to ISO228 on inlet and outlet and sieve on inlet

Method of Operation

Counter

The DN15 and DN20 meter can be read from a single line eight-digit roller counter with m³ as unit. The DN25, DN32 and DN40 meter can be read from a five-digit roller counter with four dials for the decimal places.

The counter unit of sizes DN15 and DN20 can be rotated for better readability.

The dial of sizes DN25 and larger is protected by a lid.

Flow Sensor

The singlejet technology of the flow sensor combines high measuring accuracy with long term stability. The impeller is connected to the counter by a magnetic coupling. The coupling is shielded against external magnetic force to prevent tampering.

The flow sensor has a sieve on the inlet to stop particles from entering the measuring chamber.

Interfaces

EW110 Series water meters can be retrofitted with clip on communication modules for remote readout applications. One module is required per meter and only one module can be mounted onto a meter. It is not possible to use multiple modules at the same time with the same meter.

Modules are clipped onto meters in the field and can be fitted at any time, also when the meters are already operating. All modules are supplied ready to use. However, programming is required in case default values should be changed.

The following clip on modules are available in two sizes for DN15/20 and for DN25/32/40.

M-Bus:	EWA110C....-MBUS
RF (Radiofrequency):	EWA110C....-RF
Pulse out:	EWA110C....-PO

M-Bus Module

The M-Bus module has a cable for wiring to the bus. It is according to EN 13757-3 with primary and secondary addressing. Various alarms can be programmed, for example excessive flow or parameters to indicate possible leakage. Programming is done via the M-Bus master using software tool EWASET-MBUS which can be downloaded free of charge from the Fluids metering microsite. For module address changing this tool is not required when EW535, Relay or Diehl Metering M-Bus masters are used.

A special version of the EW110 Series is available with factory fitted and configured M-Bus module.

RF Module

The RF modules are designed for direct mounting on the counting mechanism of domestic water meters for cold and warm water.

They are operating in a wireless M-Bus mode according to the OMS Standard (Open Metering Standard protocol) with a frequency of about 868.95 MHz.

Pulse out module

The pulse out module has two programmable pulse outputs. Standard pulse value is 1 litre for DN15 and DN20 and 100 litres for DN25...40. Pulse values can be increased in increments of 1 litre up to a pulse value of 255 litres for DN15 and DN20 and in increments of 100 litres up to a pulse value of 25.5 m³ for DN25...40.

Pulse value and type of pulse can be changed. For this programming adapter EWA3001797 and software tool EWASET-PO is required which can be downloaded free of charge from the Fluids Metering microsite.

Transportation and Storage

Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

Parameter	Value
Environment:	clean, dry and dust free
Min. ambient temperature:	1 °C
Max. ambient temperature:	60 °C

*non condensing

Installation Guidelines

Setup requirements

- Calming legs before or after EW110 Series water meters are not required unless the meter is installed before or after a pump or motorised valve. In that case a calming leg of 5 x DN is required in front of or of 3 x DN behind the meter
- All sizes may be installed in any position. In vertical position the dynamic range is smaller
- EW110 Series water meters must be installed with dial facing upwards or sideways but not beneath the horizontal plane
- Avoid installation at highest point of system as air may be trapped in the meter
- It is recommended to place a ball valve before and after the meter for easy replacement
- During measurement the meter must be completely filled with water

It is the responsibility of the purchaser and the installers and users of this unit to ensure that it is wired or installed into a secure network which prevents any unauthorized security intrusion or any other external risk.

Technical Characteristics

Flow Data

EW110 Series cold water meters in sizes DN15 and DN20 are available with two flow ranges:

- Standard flow range is similar to former EEC metrological class B. It is indicated by the letter "A" in the seventh position of the OS-Number, for example EW1100AC1200

- Extended flow range is similar to former class C and is indicated by the letter "C" (e.g. EW1100CC2800)

Cold water meters in sizes DN25 - DN40 are only available with extended flow range. Warm water meters mostly have a lower dynamic range.

Nominal size diameter: DN		EW1100A (cold water)			EW1101A (warm water)		
		15 (1.6 m³/h)	15, 20 (2.5 m³/h)	20 (4 m³/h)	15 (1.6 m³/h)	15, 20 (2.5 m³/h)	20 (4 m³/h)
Flow rates							
Minimum (Q ₁) (horizontal):	l/h	16	25	40	20	31.25	50
Minimum (Q ₁) (vertical):	l/h	32	50	80	40	62.5	100
Transition (Q ₂) (horizontal):	l/h	26	40	64	32	50	80
Transition (Q ₂) (vertical):	l/h	51	80	128	64	100	160
Permanent (Q₃):	m³/h	1.6	2.5	4	1.6	2.5	4
Overload (Q ₄):	m³/h	2	3.125	5	2	3.125	5
Dynamic range (Q ₃ /Q ₁) (horizontal):		R100	R100	R100	R80	R80	R80
Dynamic range (Q ₃ /Q ₁) (vertical):		R50	R50	R50	R40	R40	R40
Ratio Q ₂ /Q ₁ :		1.6	1.6	1.6	1.6	1.6	1.6
Additional flow data							
Starting flow:	l/h	6	8	15	6	8	15

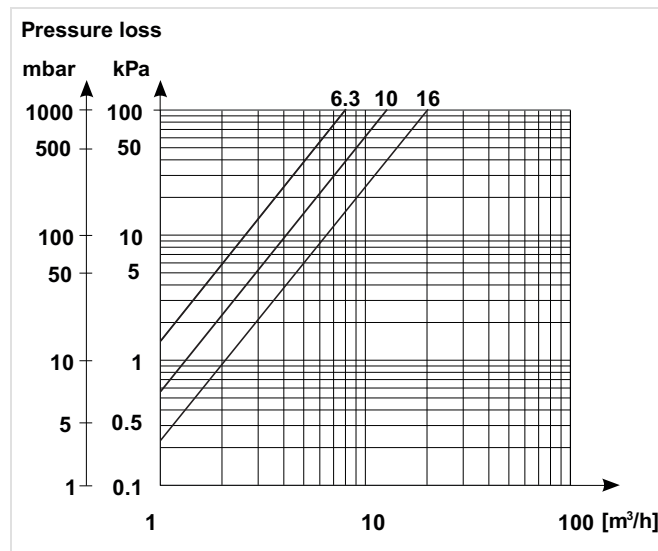
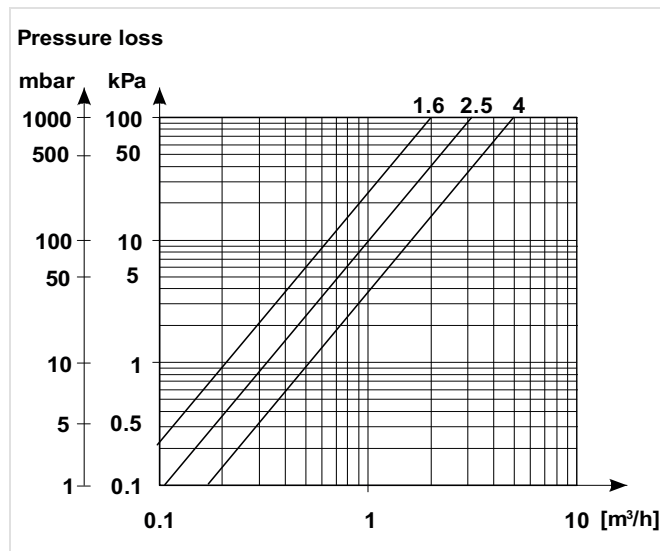
Nominal size diameter: DN		EW1100C (cold water meter, DN25 - 40)		
		25	32	40
Flow rates				
Minimum (Q ₁) (horizontal):	l/h	63	100	160
Minimum (Q ₁) (vertical):	l/h	126	200	320
Transition (Q ₂) (horizontal):	l/h	101	160	256
Transition (Q ₂) (vertical):	l/h	202	320	512
Permanent (Q₃):	m³/h	6.3	10	16
Overload (Q ₄):	m³/h	7.9	12.5	20
Dynamic range (Q ₃ /Q ₁) (horizontal):		R100	R100	R100
Dynamic range (Q ₃ /Q ₁) (vertical):		R50	R50	R50
Ratio Q ₂ /Q ₁ :		1.6	1.6	1.6
Additional flow data				
Starting flow:	l/h	21	33	53

Nominal size diameter: DN		EW1101C (warm water meter, DN25 - 40)		
		25	32	40
Flow rates				
Minimum (Q ₁) (horizontal):	l/h	79	125	200
Minimum (Q ₁) (vertical):	l/h	158	250	400
Transition (Q ₂) (horizontal):	l/h	126	200	320
Transition (Q ₂) (vertical):	l/h	256	400	640
Permanent (Q₃):	m³/h	6.3	10	16
Overload (Q ₄):	m³/h	7.9	12.5	20
Dynamic range (Q ₃ /Q ₁) (horizontal):		R80	R80	R80
Dynamic range (Q ₃ /Q ₁) (vertical):		R40	R40	R40
Ratio Q ₂ /Q ₁ :		1.6	1.6	1.6
Additional flow data				
Starting flow:	l/h	13	21	33

Sizing

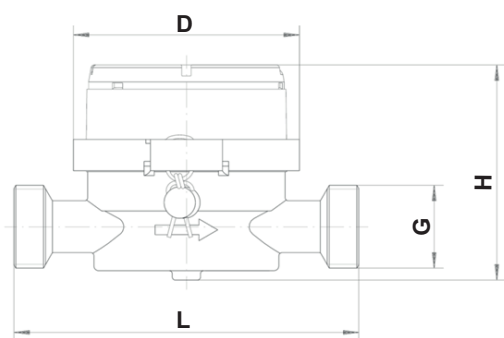
- EW110 Series water meters should be selected in such a way that permanent system flow rates are between transition flow rate (Q_2) and permanent flow rate (Q_3)
- The flow rate may not drop below minimum (Q_1) or exceed overload flow rate (Q_4) at any time

Pressure drop characteristics

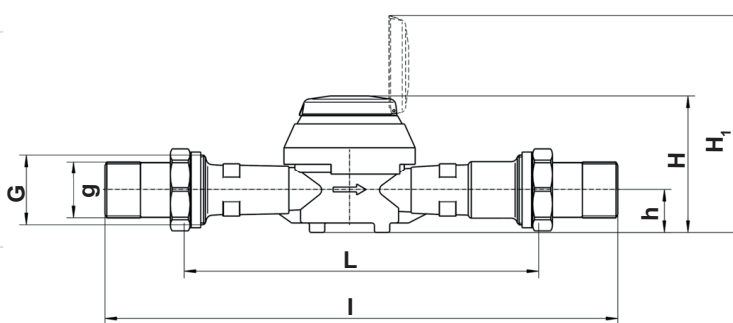


Dimensions

Overview



EW110, DN15 - DN20



EW110, DN25 - DN40

Parameter		Values				
Nominal size diameter:	DN	15	20	25	32	40
Weight:	kg	0.5	0.6	2.0	2.2	2.5
Dimensions:	L	110	130	260	260	300
	I	-	-	380	380	440
	h	-	-	36	36	36
	H	69	69	120	120	120
	H_1	-	-	185	185	185
Meter thread:		G $^{3/4}$ " B	G1"	G1 $^{1/4}$ "	G1 $^{1/2}$ "	G2"
Counter Diameter:	ØD	72	72	111	111	111

Note: All dimensions in mm unless stated otherwise.

Note: Weight is without fittings or any other accessories

Ordering Information

The following tables contain all the information you need to make an order of an item of your choice. When ordering, please always state the type, the ordering or the part number.

Options

Item:	Nominal size diameter: DN	Flow rate: Q ₃	Length:	Item Number	
				for cold water	for warm water
EW110 Series with standard flow range	15	1.6 m ³ /h	110 mm	EW1100AC0600	EW1101AC0600
	15	2.5 m ³ /h	80 mm	EW1100AC1100	EW1101AC1100
	15	2.5 m ³ /h	110 mm	EW1100AC1200	EW1101AC1200
	20	2.5 m ³ /h	130 mm	EW1100AC1400	EW1101AC1400
	20	4 m ³ /h	130 mm	EW1100AC2000	EW1101AC2000
EW110 Series with extended flow range	25	6.3 m ³ /h	260 mm	EW1100CC2800	EW1101CC2800
	32	10 m ³ /h	260 mm	EW1100CC3900	EW1101CC3900
	40	16 m ³ /h	300 mm	EW1100CC4600	EW1101CC4600
EW110 Series with extended flow range and M-Bus module already fitted and configured	15	2.5 m ³ /h	110 mm	EW1100CM1200	EW1101CM1200
	20	4 m ³ /h	130 mm	EW1100CM2000	EW1101CM2000
	25	6.3 m ³ /h	260 mm	EW1100CM2800	EW1101CM2800
	32	10 m ³ /h	260 mm	EW1100CM3900	EW1101CM3900
	40	16 m ³ /h	300 mm	EW1100CM4600	EW1101CM4600

Scope of Delivery

- EW110 Series
- Installation and setup instructions

Accessories

	Description	Dimension	Item No.
	EWA1 Connection set		
	Set of two union nuts, two sealings and two externally threaded brass tailpieces (one pack per meter required) – sealable with locking wire		
	For DN15	1/2" x 3/4"	EWA1500035
	For DN20	3/4" x 1"	EWA1500042
	For DN25	1" x 1 1/4"	EWA1500062
	For DN32	1 1/4" x 1 1/2"	EWA1500067
	MBUS Communication modules		
	Wired M-Bus Module		
	For DN15 - 20		EWA110C1520-MBUS
	PO Communication modules		
	Pulse out Module		
	For DN15 - 20		EWA110C1520-PO
	RF Modul Communication modules		
	Pulse out Module		
	For DN15 - 20		EWA110C1520-RF
	For DN25 - 40		EWA110C2540-RF

	Programming interface for pulse out module		
	For all versions		EWA3001797
	Software Software is available free of charge for download from the Fluids Metering microsite at http://www.metering.ecc.emea.honeywellhome.com User manuals can be downloaded from the same location.		
	For programming of M-Bus modules		EWASET-MBUS
	For programming of pulse out modules		EWASET-PO



For support contact:
Ademco 1 GmbH, Hardhofweg 40,
74821 MOSBACH, GERMANY
Phone: +49 6261 810

Subject to change.
EN0H-0454GE23 R1123
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