

## EW110 Series Singlejet Water Meters

DN15...40 FOR COLD AND WARM POTABLE WATER APPLICATIONS

PRODUCT DATA



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## GENERAL

### Application

Honeywell EW110 Series singlejet water meters are used for volume measurement of cold or warm water in residential potable 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.

EW110<sub>0</sub> water meters are suitable for cold water up to 30°C or 50°C. EW110<sub>1</sub> 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.

### Features

- Fully resistant to external magnetic fields
- MID approval
- Retrofittable with wired M-Bus or pulse out communication

### 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

### Materials

#### DN15...20

- Counter housing made of transparent plastic
- Sealing clamp between housing and flow sensor made of blue or red plastic
- Housing of singlejet flow sensor made of brass

#### DN25...40

- Counter housing and lid made of red or blue and black plastic
- Housing of singlejet flow sensor made of brass

### Approvals

EW1100 Series water meters have MID approval under approval numbers SK09-MI001-SMU007, SK09-MI001-SMU009 and TCM 142/11 – 4832

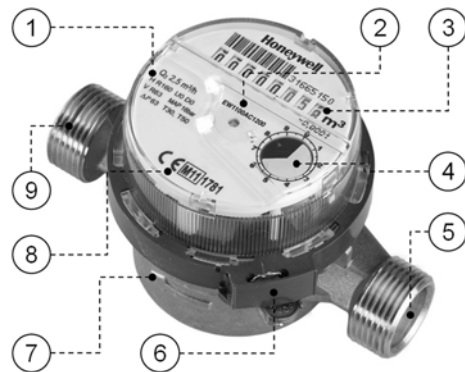


Fig. 1. EW110 components DN15...20



Fig. 2. EW110 components DN25...40

Table 1. EW110 Series main components

Number	Component
1	Cover
2	Honeywell OS-Number
3	Roller counter and unit
4	Decimal place dials
5	Inlet
6	Sealing clamp
7	Flow arrow
8	Approval mark
9	Outlet

## TECHNICAL DETAILS

### Specifications

<b>Sizes</b>	DN15...40 Q3 2.5...16m <sup>3</sup> /h	<b>Measuring process</b>	Mechanical counter with singlejet volume measurement
<b>Medium</b>	Potable water	<b>Display</b>	DN15...20: 8-digit roller counter DN25...40: 5-digit roller counter and four dials
<b>Temperature class</b>	EW1100: T30, T50 EW1101: T90 (DN15...20) EW1101: T30/130 (DN25...40)	<b>Display unit</b>	m <sup>3</sup>
<b>Medium temperature</b>	EW1100: 0.1...50°C EW1101: 0.1...90°C (DN15...20) EW1101: 30...130°C (DN25...40)	<b>Display range</b>	10 <sup>5</sup> with four decimal places
<b>Ambient temperature</b>	5...55°C	<b>Increments</b>	0.00005 m <sup>3</sup>
<b>Water pressure class</b>	MAP16 (max. 16bar)	<b>Acceptable error</b>	±2% at Q3 for water ≤30°C ±3% at Q3 for water >30°C
<b>Pressure loss class</b>	ΔP63 (max. 63kPa)	<b>Installation position</b>	H, V (horizontal, vertical)
<b>Protection class</b>	IP65	<b>Optional interfaces</b>	Wired M-Bus Pulse out
<b>Environmental class</b>	B		
<b>Mechanical class</b>	M1		
<b>Electromagnetic class</b>	E1		

### 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 EW1100A1200
- Extended flow range is similar to former class C and is indicated by the letter "C".

Cold water meters in sizes DN25...40 are only available with extended flow range. Warm water meters mostly have a lower dynamic range, their flow values are shown in a separate table.

### Standard Flow Range

Table 2. Flow Data EW110xA, DN15...20

DN size	EW1100A (cold water)			EW1101A (warm water)			
	15	15, 20	20	15	15, 20	20	
<i>Flow rates according to MID</i>							
<b>Minimum (Q<sub>1</sub>)</b>	l/h (horizontal)	16	25	40	20	31.25	50
	l/h (vertical)	32	50	80	40	62.5	100
<b>Transition (Q<sub>2</sub>)</b>	l/h (horizontal)	26	40	64	32	50	80
	l/h (vertical)	51	80	128	64	100	160
<b>Permanent (Q<sub>3</sub>)</b>	m <sup>3</sup> /h	<b>1.6</b>	<b>2.5</b>	<b>4</b>	<b>1.6</b>	<b>2.5</b>	<b>4</b>
<b>Overload (Q<sub>4</sub>)</b>	m <sup>3</sup> /h	2	3.125	5	2	3.125	5
<b>Dynamic range (Q<sub>3</sub>/Q<sub>1</sub>)</b>	horizontal	R100	R100	R100	R80	R80	R80
	vertical	R50	R50	R50	R40	R40	R40
<i>Additional data</i>							
<b>Starting flow rate</b>	l/h	6	8	15	6	8	15

Extended Flow Range

**Table 3. Flow Data EW1100C (cold water meter), DN15...40**

DN size		15	20	25	32	40
<i>Flow rates according to MID</i>						
<b>Minimum (Q<sub>1</sub>)</b>	l/h (horizontal)	16	25	32	50	80
	l/h (vertical)	40	63	79	125	200
<b>Transition (Q<sub>2</sub>)</b>	l/h (horizontal)	25	40	50	80	128
	l/h (vertical)	63	102	126	200	320
<b>Permanent (Q<sub>3</sub>)</b>	<b>m<sup>3</sup>/h</b>	<b>2.5</b>	<b>4</b>	<b>6.3</b>	<b>10</b>	<b>16</b>
<b>Overload (Q<sub>4</sub>)</b>	m <sup>3</sup> /h	3.125	5	7.9	12.5	20
<b>Dynamic range (Q<sub>3</sub>/Q<sub>1</sub>)</b>	horizontal	R160	R160	R200	R200	R200
	vertical	R63	R63	R80	R80	R80
<i>Additional data</i>						
<b>Starting flow rate</b>	l/h	6	12	13	21	33

**Table 4. Flow Data EW1101C (warm water meter), DN15...40**

DN size		15	20	25	32	40
<i>Flow rates according to MID</i>						
<b>Minimum (Q<sub>1</sub>)</b>	l/h (horizontal)	16	25	63	100	160
	l/h (vertical)	40	63	126	200	320
<b>Transition (Q<sub>2</sub>)</b>	l/h (horizontal)	25	40	100	160	256
	l/h (vertical)	63	102	200	320	512
<b>Permanent (Q<sub>3</sub>)</b>	<b>m<sup>3</sup>/h</b>	<b>2.5</b>	<b>4</b>	<b>6.3</b>	<b>10</b>	<b>16</b>
<b>Overload (Q<sub>4</sub>)</b>	m <sup>3</sup> /h	3.125	5	7.9	12.5	20
<b>Dynamic range (Q<sub>3</sub>/Q<sub>1</sub>)</b>	horizontal	R160	R160	R100	R100	R100
	vertical	R63	R63	R50	R50	R50
<i>Additional data</i>						
<b>Starting flow rate</b>	l/h	6	12	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<sub>2</sub>) and permanent flow rate (Q<sub>3</sub>)
- The flow rate may not drop below minimum flow rate (Q<sub>1</sub>) and may not exceed overload flow rate (Q<sub>4</sub>)

Function



**Fig. 3. EW110 components**

Counter

The meter can be read from a single line eight-digit roller counter with m<sup>3</sup> as unit or 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 modules are available:

- M-Bus (wired)
- Pulse out

### M-Bus module

The M-Bus module has a cable for wiring to the bus. It is according to EN13757-3 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 Honeywell Fluids metering microsite. For module address changing this tool is not required when Honeywell EW535, Relay or Diehl Metering M-Bus masters are used.

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

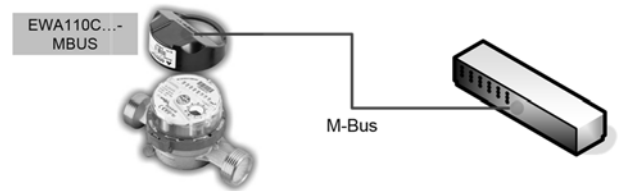


Fig. 4. M-Bus module

### 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 m<sup>3</sup> 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 Honeywell Fluids Metering microsite.



Fig. 5. Pulse out module

## Installation

- 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 or system part as air may be trapped in meter
- It is recommended to place a valve before and after the meter for easy replacement
- During measurement meter must be completely filled with water

Dimensions

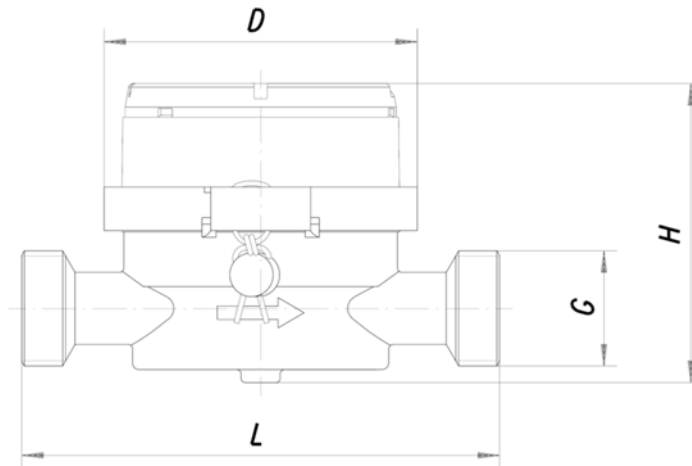


Fig. 6. Dimensions DN15...20

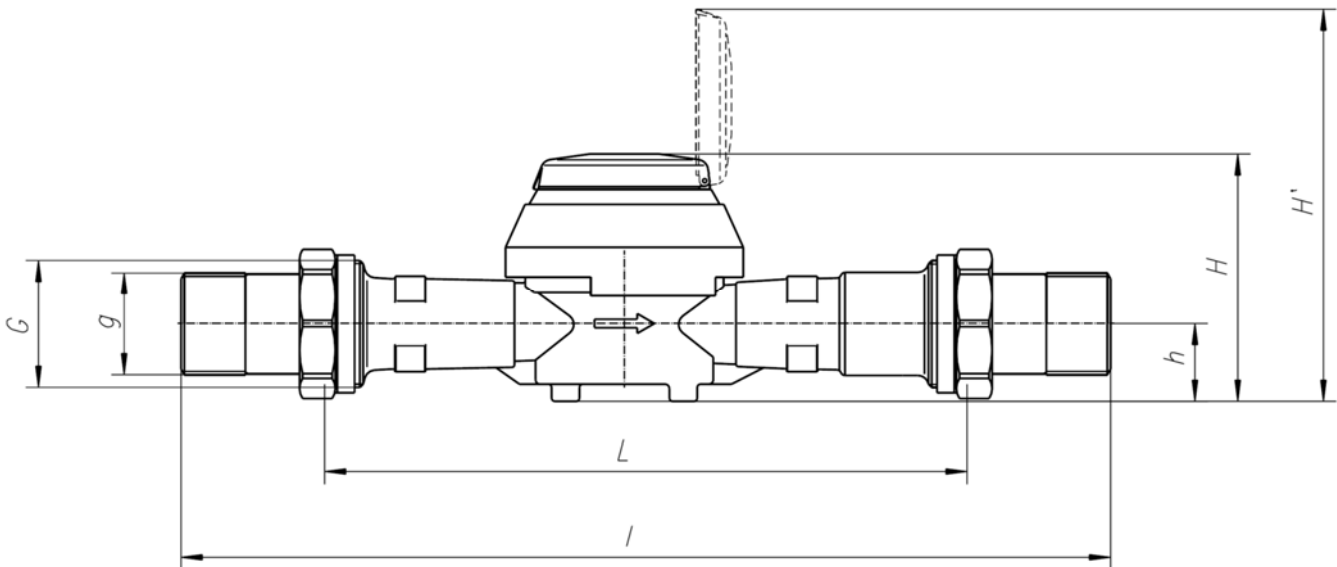


Fig. 7. Dimensions DN25...40

Table 5. Dimensions EW130 Series

DN Size	Meter thread G	Length L	Height H	Height H1	Counter Ø D	Weight
15	G3/4"	110	69	—	72	0.5kg
20	G1"	130	69	—	72	0.6kg
25	G1 1/4"	260	120	185	111	2.0kg
32	G1 1/2"	260	120	185	111	2.2kg
40	G2"	300	120	185	111	2.5kg

NOTE:

- All dimensions in mm unless stated otherwise
- Weight is without fittings or any other accessories

## ORDERING DETAILS

### Ordering Information

Table 6. OS-Nos. (OS=Order Specification)

Item	DN size	Flowrate Q <sub>3</sub>	Length	OS-Number	
				for cold water	for warm water
<i>EW110 Series with standard flow range</i>					
<b>EW110 Series water meters DN15...20</b>	15	1.6m <sup>3</sup> /h	110mm	EW1100AC0600	EW1101AC0600
	15	2.5m <sup>3</sup> /h	80mm	EW1100AC1100	EW1101AC1101
	15	2.5m <sup>3</sup> /h	110mm	EW1100AC1200	EW1101AC1200
	20	2.5m <sup>3</sup> /h	130mm	EW1100AC1400	EW1101AC1400
	20	4m <sup>3</sup> /h	130mm	EW1100AC2000	EW1101AC2000
<i>EW110 Series with extended flow range</i>					
<b>EW110 Series water meters DN25...40</b>	25	6.3m <sup>3</sup> /h	260mm	EW1100CC2800	EW1101CC2800
	32	10m <sup>3</sup> /h	260mm	EW1100CC3900	EW1101CC3900
	40	16m <sup>3</sup> /h	300mm	EW1100CC4600	EW1101CC4600
<i>EW110 Series with extended flow range and M-Bus module already fitted and configured</i>					
<b>EW110 Series water meters DN15...20, up to R160</b>	15	2.5m <sup>3</sup> /h	110mm	EW1100CM1200	EW1101CM1200
	20	4m <sup>3</sup> /h	130mm	EW1100CM2000	EW1101CM2000
	25	6.3m <sup>3</sup> /h	260mm	EW1100CM2800	EW1101CM2800
	32	10m <sup>3</sup> /h	260mm	EW1100CM3900	EW1101CM3900
	40	16m <sup>3</sup> /h	300mm	EW1100CM4600	EW1101CM4600

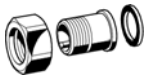
### Scope of Delivery

- EW110 Series water meter
- Two paper sealings
- Locking wire and seal
- Installation and setup instructions


## Accessories

### Pipe Installation


Set of union nut, sealing and externally threaded brass tailpiece (one pack per meter required)

	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
	For DN40, 1 1/2" x 2"	EWA1500072

### Alwa shutoff valves with internal threads


	DN15, 1/2" internal threads	V4020YY015
	DN20, 3/4" internal threads	V4020YY020
	DN25, 1" internal threads	V4020YY025
	DN32, 1 1/4" internal threads	V4020YY032
	DN40, 1 1/2" internal threads	V4020YY040

### Alwa shutoff valves with internal threads and closed body


	DN20, 3/4" internal threads	V4000YY020
	DN25, 1" internal threads	V4000YY025
	DN32, 1 1/4" internal threads	V4000YY032

## Communication Modules


### Wired M-Bus module

	For DN15...20	EWA110C1520-MBUS
	For DN25...40	EWA110C2540-MBUS

### Pulse out module

	For DN15...20	EWA110C1520-PO
	For DN25...40	EWA110C2540-PO

### Programming interface for pulse out module

	For all versions	EWA3001797
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## Software

Software is available free of charge for download from the Fluids Metering microsite at

<http://www.metering.ecc.emea.honeywell.com>

For programming of M-Bus modules	EWASET-MBUS
For programming of pulse out modules	EWASET-PO

User manuals can be downloaded from the same location.

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