

MW-S Screwed Water Meters



Features:

- Inbuilt water strainer
- Complete with couplings
- Suitable for use with domestic water
- Pulsed output

Technical Overview

The MW-S range of screwed meters incorporate multi-jet wheel impellers that are mounted perpendicular to the flow. The impeller rotation speed increases with the water flow rate. The meters use a magnetic transmission system between the impeller and the totalising register to minimise drag and to enable the register to be total sealed from the water supply.

All meters are fitted with a pulsed output reed switch.

Specification:

Meter:

Fluid temp. range:	
Cold	0 to 30°C (safety margin 50°C)
Hot	0 to 90°C (safety margin 120°C)
Body material	Epoxy resin coated brass to DIN 50 930 part 6
Counter	5-Roller type
Max. working pressure	16bar
Installation position	Meter horizontal / dial upwards

Pulsed output specification:

Switch type	Reed switch proximity sensor
Contacts	Volt free
Pulse value (per litre)	10 or 100
Max. load current	500mA
Max. switching voltage	180Vdc
Max. contact rating	10W
Connection type	Flying lead
Lead length	2 Meters
Conformity	
EN 14154	
MID:	
Annex B + Annex D	
Annex I	
MI-001	

Part Codes:

Cold water

MW-CS-15-A	½" Screwed meter 10LPP
MW-CS-20-A	¾" Screwed meter 10LPP
MW-CS-25-A	1" Screwed meter 10LPP
MW-CS-32-A	1 ¼" Screwed meter 10LPP
MW-CS-40-A	1 ½" Screwed meter 10LPP
MW-CS-50-B	2" Screwed meter 100LPP

Hot water

MW-HS-15-A	½" Screwed meter 10LPP
MW-HS-20-A	¾" Screwed meter 10LPP
MW-HS-25-A	1" Screwed meter 10LPP
MW-HS-32-A	1 ¼" Screwed meter 10LPP
MW-HS-40-A	1 ½" Screwed meter 10LPP

An Introduction to Flow Parts for Metering:

Sontay offer flow parts for two distinct applications.

Flow parts for water

Denoted as “water meters” - are used specifically for sanitary water only, i.e. water without additives or chemical treatment, and are designed for non-continuous flow, such as domestic cold and hot water supplies. The total daily flow should not exceed 3 hours, over a 6 year period. Volumetric flows higher than this can lead to increased wear in the bearings of the impellor, causing inaccuracies in reading. Note also that water meters have a narrow fluid temperature range, typically between 0°C to +90°C for hot water meters and 0°C to +30°C for cold water meters.

Flow parts for heating

Denoted as “flow sensors” - can be used with chemically treated water, and are designed for continuous or very high duty cycle flow conditions typically found in hot water heating systems. Flow sensors have a wider fluid temperature range than water meters, typically between 0°C to +120°C.

Note:

Because of these distinct differences, only flow parts designed specifically for heat metering should be used for heat metering applications. Although water meters can, in theory, be used for heat meter applications, Sontay cannot warranty water meters if used in this manner.

Definitions

- Q_s , the upper limit of the flow-rate, is the highest flow-rate at which the heat meter shall function for short periods (< 1h / day; < 200 h / year), without the maximum permissible errors being exceeded.
- Q_p , the permanent flow-rate, is the highest flow-rate at which the heat meter shall function continuously without the maximum permissible errors being exceeded.
- Q_i , the lower limit of the flow-rate, is the lowest flow-rate above which the heat meter shall function without the maximum permissible errors being exceeded.

Installation:

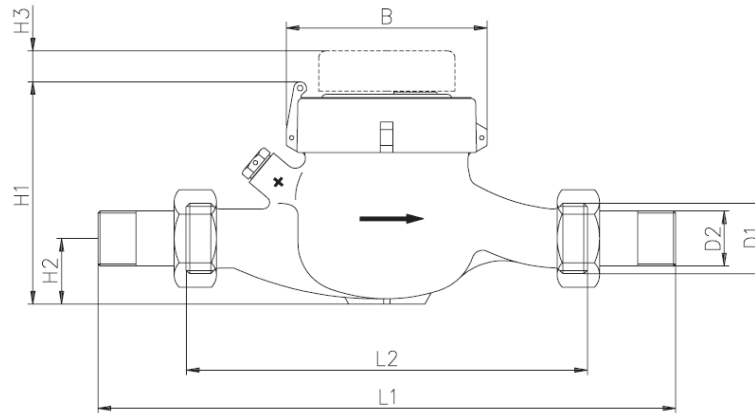
The best measuring results are achieved with multi-jet meters when they are installed horizontally. This means that the counter faces up. In this position, the counters bearings are best discharged. The reduced friction produces the lowest starting flows.

Water meters should always be fitted with a minimum of 5x pipe diameter both up and downstream. For example, a 2” (DN50) water meter would have 10” (250mm) either side of the meter as straight pipe. This is to ensure accurate reading by reducing water turbulence. At higher pressures (above 8 bar), this should be increased to 10x pipe diameter.

It is recommended as good practice to fit a removable filter element (strainer) before a water meter to protect the mechanism.

Only clean water should be used that does not exceed the temperature specification of the meter. This is 30°C for cold meters and 90°C for hot meters.

Dimensions & Performance Data:



	MW-xS-15	MW-xS-20	MW-xS-25	MW-xS-32	MW-xS-40	MW-CS-50
L1	255	288	378	378	438	438
L2	170	190	260	260	300	300
D1 (")	¾	1	1 ½	1 ½	2	2 ½
D2 (")	½	¾	1 ¼	1 ¼	1 ½	2"
H1	120	115	140	140	170	190
H2	45	32	50	50	60	75
H3	15	15	15	15	15	15
B	95	95	100	100	131	165
Weight (kg)	1.7	1.8	2.7	2.7	5.4	5.4

	MW-xS-15	MW-xS-20	MW-xS-25	MW-xS-32	MW-xS-40	MW-CS-50
Upper Limit (m ³ /h)	3	5	7	12	20	30
Permanent (m ³ /h)	1.5	2.5	3.5	6	10	15
Lower limit (l/h)	15	25	35	60	100	450

Upper limit (maximum) flow-rate - Q_s

The highest flow-rate at which the water meter is required to operate in a satisfactory manner for a short period of time without deterioration.

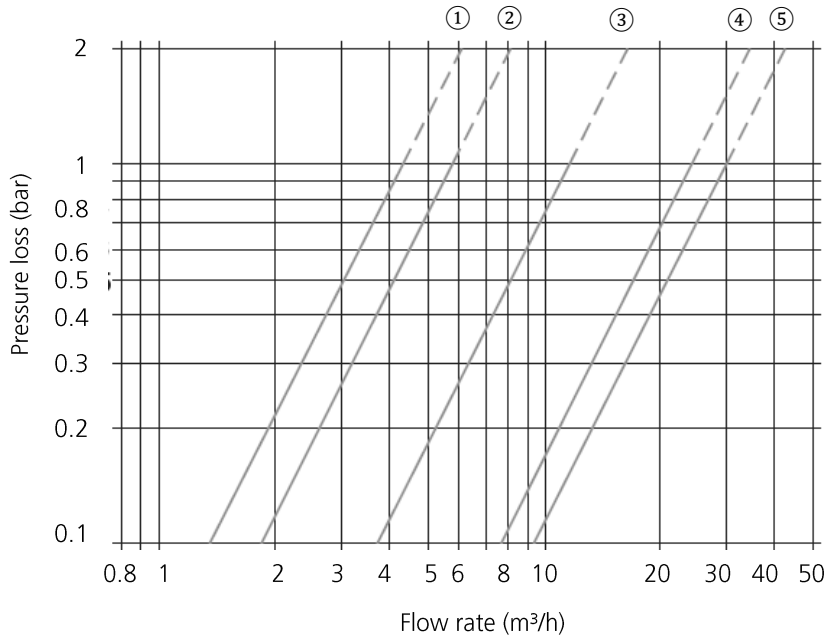
Permanent (Nominal) flow-rate – Q_p

Flow-rate at which the water meter is required to operate under normal conditions of use, e.g. under steady and/or intermittent flow conditions.

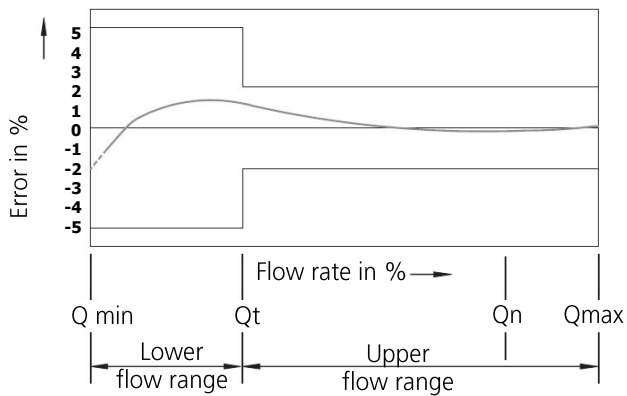
Lower limit (minimum) flow-rate – Q_i

The lowest flow-rate at which the water meter is required for the meter to function

Head Loss Tables & Error Curves:



①	Qn	1.5 m ³ /h
②	Qn	2.5 m ³ /h
③	Qn	3 & 6 m ³ /h
④	Qn	10 m ³ /h
⑤	Qn	15 m ³ /h



Whilst every effort has been made to ensure the accuracy of this specification, Sontay cannot accept responsibility for damage, injury, loss or expense from errors or omissions. In the interest of technical improvement, this specification may be altered without notice.