Flow Sensors for Measuring Volume Flow in Heating & Cooling Systems

Features

- Reinforced bearings
- High measuring stability
- Compatible with MW-MD integrator

Specification

Fluid temp. range	10 to 120°C (safety margin 130°C)
Body material	Epoxy resin coated brass to DIN 50 930 part 6
Connections	Screwed
Max. working pressure	16bar

Pulsed output specification:

Switch type	Reed switch proximity sensor
Contracts	Volt free
Max. load current	500mA
Max. switching voltage	180Vdc
Max. contact rating	10W
Connection type	Flying lead
Lead length	2 Meters

Product Codes

MW-SJ-15A
½" Screwed Qp0.6m³/h

MW-SJ-15B
½" Screwed Qp1.5m³/h

MW-SJ-20
¾" Screwed Qp2.5m³/h

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

- Qs, 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.
- Qp, the permanent flow-rate, is the highest flow-rate at which the heat meter shall function continuously without the maximum permissible errors being exceeded.
- Qi, 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.

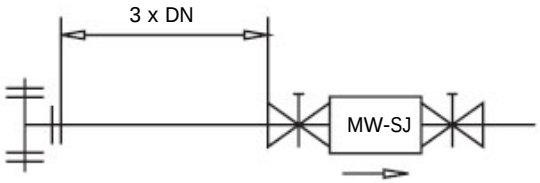
Technical Overview

The MW-SJ range of flow sensors are meters especially designed for the special conditions in heating and cooling circuits. The pulse transmission takes place via the tried and tested reed-contact and is thus, compatible with the MW-MD.
The special construction and the material design guarantee long-term measuring stability and high reliability. All of the flow sensors are designed for temperatures up to 120°C with safety up to 130°C.

MW-SJ flow sensors (DN15 & 20) are very compact devices used for flows of up to Qn 2.5. They can be installed horizontally or vertically.

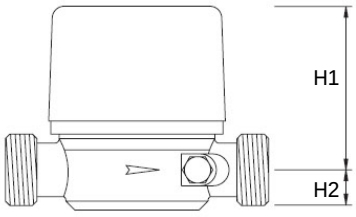
Installation & Location

Water meters should always be fitted with a minimum of 3x pipe diameter upstream.
For example, a 65mm water meter would have 195mm before the meter as straight pipe. This is to ensure accurate reading by reducing water turbulence. Ideally a straight pipe section of at least 2 x DN is required down stream.



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

Dimensions



	MW-SJ-15	MW-SJ-20
H1	80	80
H2	20	20
Weight	0.8kg	1kg

All measurements mm unless otherwise stated.

Performance Data

	MW-SJ-15A	MW-SJ-15B	MW-SJ-20
Upper Limit (m^3/h)	12	0.6	1.2
Permanent (m^3/h)	30	1.5	3
Lower limit (l/h)	50	2.5	3.5

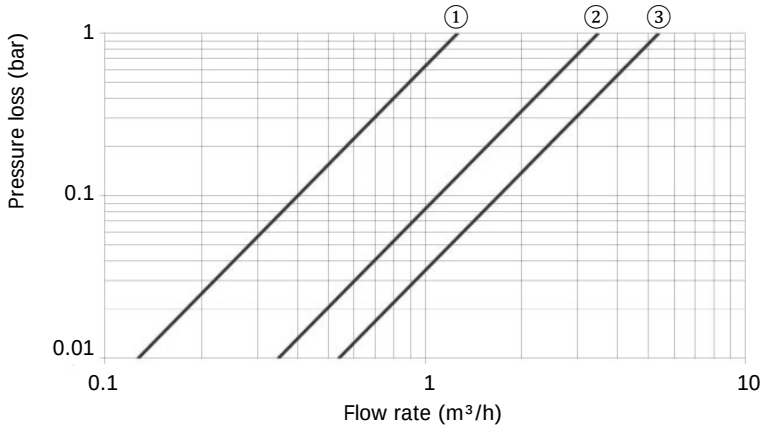
Terms Of Reference

Upper limit (maximum) flow-rate - *Qs*
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 – *Qp*
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 – *Qi*
The lowest flow-rate at which the water meter is required for the meter to function

Error Curves & Head Loss Tables



① Qn 1.5 m³/h

② Qn 2.5 m³/h

③ Qn 3 & 6 m³/h