

Flanged Water Meters (non-continuous flow)



Features

- Suitable for use with domestic water
- Pulsed output
- Low head loss

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 GG25 Grey cast iron, epoxy coated

Flanges DIN2501 PN16

Counter 7-Roller type

Max. working pressure 16bar

Installation position Meter horizontal / dial upwards (preferred) or vertically

Pulsed output specification:

Switch type	Reed switch proximity sensor
Contracts	Volt free
Pulse value (per litre)	1, 10 or 100
Max. load current	500mA
Max. switching voltage	180Vdc
Max. contact rating	10W
Connection type	Flying lead
Lead length	2 Meters

Product Codes

Cold water:

MW-CF-50-B	50mm Flanged meter 100LPP
MW-CF-65-B	65mm Flanged meter 100LPP
MW-CF-80-B	80mm Flanged meter 100LPP
MW-CF-80-C	80mm Flanged meter 1000LPP
MW-CF-100-B	100mm Flanged meter 100LPP
MW-CF-100-C	100mm Flanged meter 1000LPP
MW-CF-125-C	125mm Flanged meter 1000LPP
MW-CF-150-C	150mm Flanged meter 1000LPP
MW-CF-200-C	200mm Flanged meter 1000LPP

Hot water:

MW-HF-50-B	50mm Flanged meter 100LPP
MW-HF-65-B	65mm Flanged meter 100LPP
MW-HF-80-B	80mm Flanged meter 100LPP
MW-HF-80-C	80mm Flanged meter 1000LPP
MW-HF-100-B	100mm Flanged meter 100LPP
MW-HF-100-C	100mm Flanged meter 1000LPP
MW-HF-125-C	125mm Flanged meter 1000LPP
MW-HF-150-C	150mm Flanged meter 1000LPP
MW-HF-200-C	200mm Flanged meter 1000LPP

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.

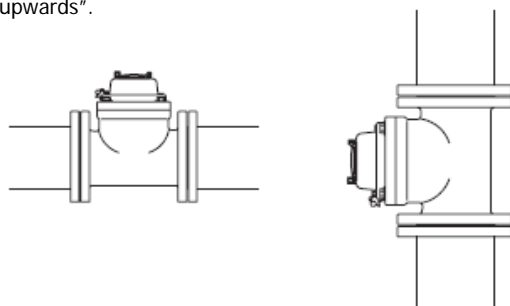
Technical Overview

The MW-F range of flanged meters incorporate unique "paddle wheels" which enable the meters to cover a very large measuring range with low head loss. The 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.

Installation & Location

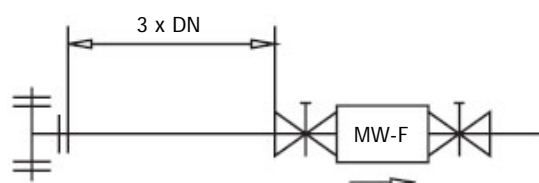
Flanged meters can be installed horizontally and vertically, that is, in horizontal, vertical, and inclined pipelines.

The best measuring results can be obtained if the meter is installed in horizontal position with the counter "facing upwards".



Water meters should always be fitted with a minimum of 3x pipe diameter upstream.

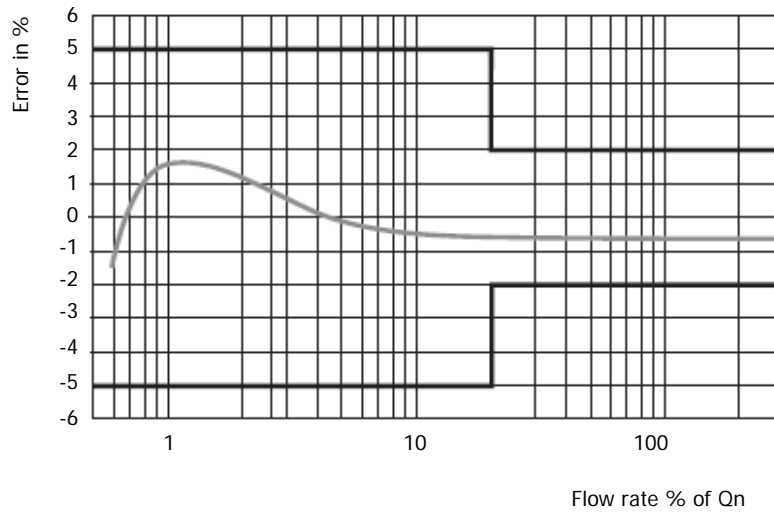
For example, a 65mm water meter would have 195mm before the meter as straight pipe. This is to ensure accurate reading by reducing water turbulence. Ideally a straight pipe section of at least 2 x DN is required down stream.



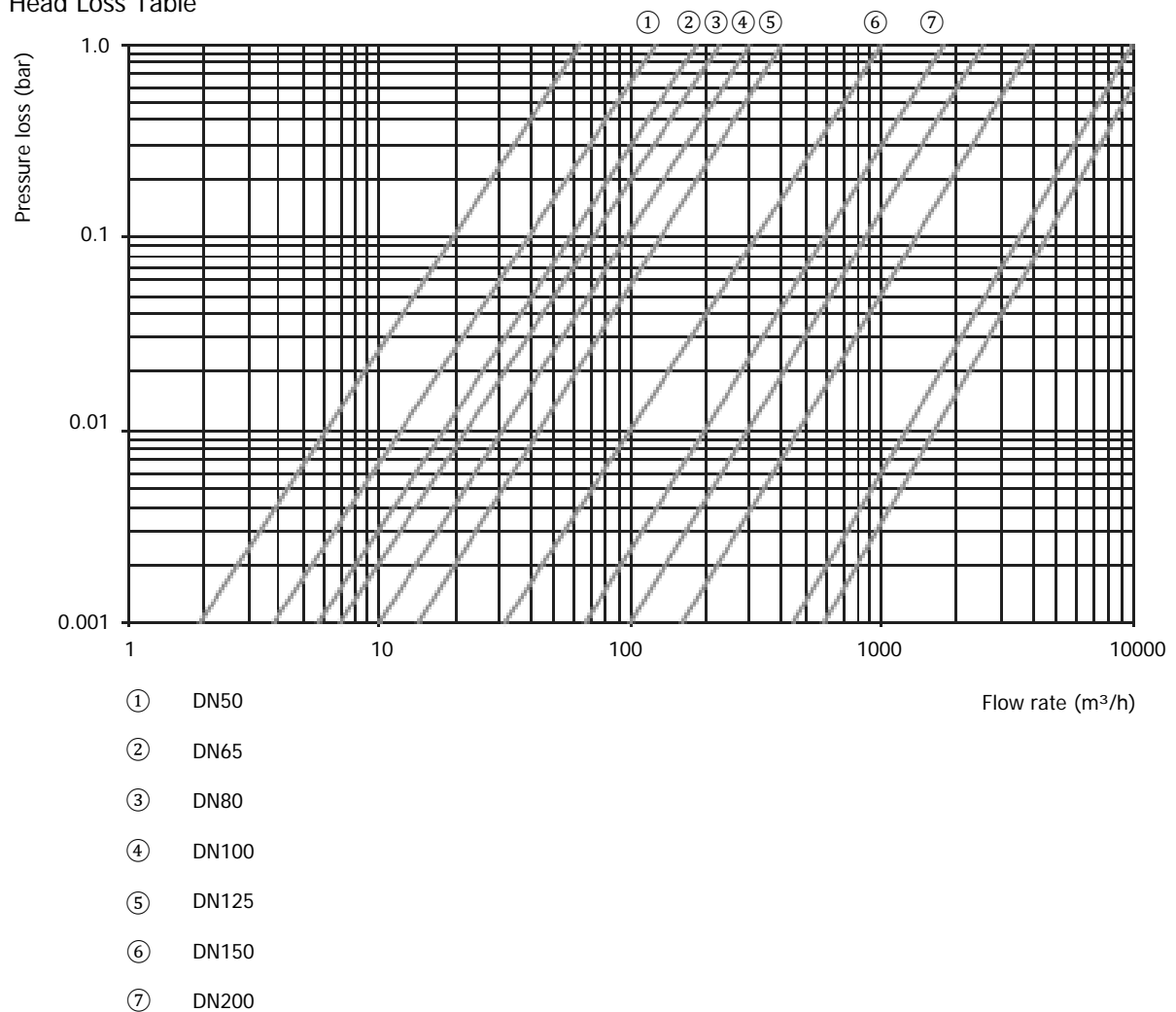
It is recommended as good practice to fit a removable filter element (strainer) before a water meter to protect the mechanism.

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.

Typical Error Curve



Head Loss Table



Performance Data

	MW-xF-50	MW-xF-65	MW-xF-80	MW-xF-100	MW-xF-125	MW-CF-150	MW-CF-200
Upper Limit (m³/h)	90	120	150	250	300	350	650
Permanent (m³/h)	15	25	40	60	100	150	250
Lower limit (m³/h)	0.35	0.45	0.8	1.5	3	3.5	6.5

Terms Of Reference

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.

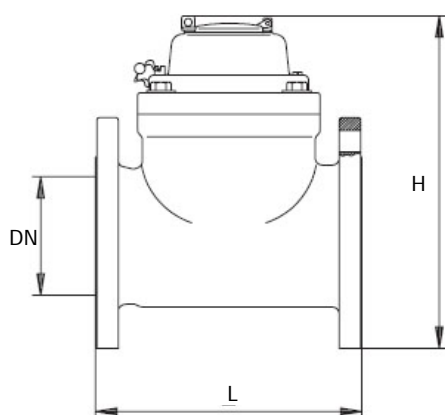
Permanent (Nominal) flow-rate - Q_p

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_l

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

Dimensions



	MW-xF-50	MW-xF-65	MW-xF-80	MW-xF-100	MW-xF-125	MW-xF-150	MW-xF-200
DN	50	65	80	100	125	150	200
L	200	200	225	250	250	300	350
H	200	208	255	275	290	305	375
Flange dia.	165	185	200	220	250	285	340
Bolt circle dia.	125	145	160	180	210	240	295
Number of bolts	4	4	8	8	8	8	12
Weight (kg)	11.2	13.2	16.7	19.3	23.2	32	47

All measurements mm unless otherwise stated.