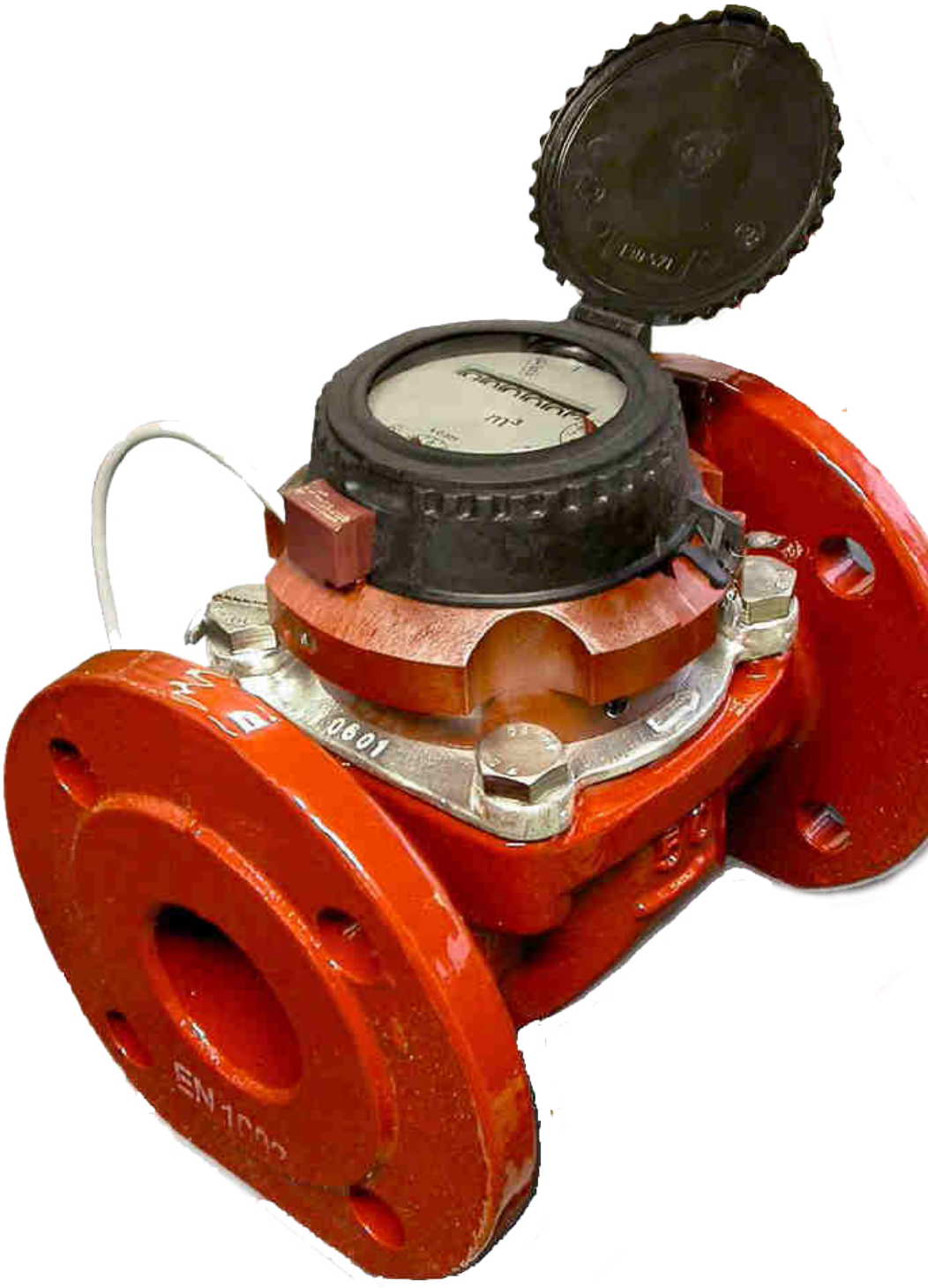
WPMM Series

Woltman turbine water meters

Technical Data Sheet



WattsIndustries.com

Description

The Woltman turbine water meters **WPMM Series** have been designed for measuring water flow in all those applications requiring particular accuracy and long-term reliability with flow rates ranging from 15 to 600 m^3/h.



WPMM

Woltman turbine hot water meter. Flanged PN16. Maximum fluid temperature: 130°C. Direct dry-dial reading with magnetic transmission. Cast iron body. Suitable for horizontal, vertical and inclined installation. Complete with pulse transmitter.

Complies with Measuring Instruments Directive (MID) 2014/32/EU.

Type	Part No.	DN	Qn (m^3/h)	lt/pulses	Weight (Kg)
WPMM	WPMM50	50	15	100	9.9
WPMM	WPMM65	65	25	100	10.6
WPMM	WPMM80	80	45	100	13.3
WPMM	WPMM100	100	60	100	15.6
WPMM	WPMM125	125	100	100	18.1
WPMM	WPMM150	150	150	1000	40.1
WPMM	WPMM200	200	250	1000	51.5
WPMM	WPMM250	250	400	1000	75.1
WPMM	WPMM300	300	600	1000	103.1

Technical specifications										
Nominal diameter DN	mm	50	60	80	100	125	150	200	250	300
Nominal pressure PN	bar	16	16	16	16	16	16	16	16	16
Max. operating temperature	°C	130	130	130	130	130	130	130	130	130
Pulse transmitter	lt/pulse	100	100	100	100	100	1,000	1,000	1,000	1,000
Max. reading	m^3	10^6	10^6	10^6	10^6	10^6	10^7	10^7	10^7	10^7

Features	
Body	Cast iron
Metering unit	Synthetic material
Impeller	Synthetic material (standard); brass, stainless steel on request
Flanges	UNI EN 1092 - PN16

Application

The **WPMM water meter** finds wide application as volumetric flow sensor in direct heat metering systems serving modern multi-residential buildings or medium- or large-size buildings such as hotels, hospitals, etc. Furthermore adoption of temperature control systems enables upgrading the heating systems according to the regulatory requirements (Italian Legislative Decree 192/05, as amended) thus allowing the user improved control and maintenance of comfort conditions in the buildings by associating them to the specific use of the rooms with consequent energy saving. All models are complete with pulse transmitters (see pulse value in the “Technical specifications” table).

Operation

As flow rate sensor, the **WPMM water meter** utilizes the movement of a turbine impinged directly by a jet of water. In models of the **WPMM Series** the pivot pin of the turbine is positioned parallel to the pipe axis.
The clockwork is driven magnetically, without any mechanical connection between the internal turbine and the metering unit. Such characteristic ensures excellent long-term reliability. The Woltman metering device is interchangeable and replaceable. Hence maintenance is very easy and can be carried out without removing the body from the piping. The counting mechanism closes an electrical contact (REED pulser IPG14) each time the number of turbine revs. totals the quantity corresponding to a preset volume, thereby generating a signal (pulse) to which corresponds unambiguous information of the amount of fluid flowing. The instantaneous value measured can be processed and displayed by suitable electronic devices (CAMICAL) or else read directly on the mechanical totalizer (6 digits) located on the counter dial.

How to choose a flow meter

When dimensioning the flow meter the following factors should be taken into account:

- the effective flow rate in the circuit under control should never exceed the max. permissible continuous flow rate (Q_n) in m^3/h of the flow meter (flow rate Q_{max} is valid only for a peak of a few minutes);
- when there are circuits with variable flow rate, use flow meters which include the entire variation between Q_n and Q_{min}. In order to guarantee accuracy of measurement, the effective minimum flow rate should always be greater than Q_{min};
- max. operating temperature must never exceed that of the flow meter;
- pressure drop across the flow meter should be compatible with the hydraulic characteristics of the system.

Check the required characteristics with the “Operating range” tables.

Model WPMM - Horizontal, vertical and inclined installation

Operating range				**DN50**	**DN65**	**DN80**	**DN100**	**DN125**
Maximun permissible continuous flow rate (+/- 2%)	Qp	(Q_n)	m^3/h	15	25	40	60	100
Maximum flow rate	Qs	(Q_{max})	m^3/h	30	50	80	120	200
Minimum flow rate (+/-5%)	Qi	(Q_{min})	m^3/h	0.6	1	1.6	2.4	4.0
Sensitivity			m^3/h	0.25	0.3	0.35	0.6	1.1

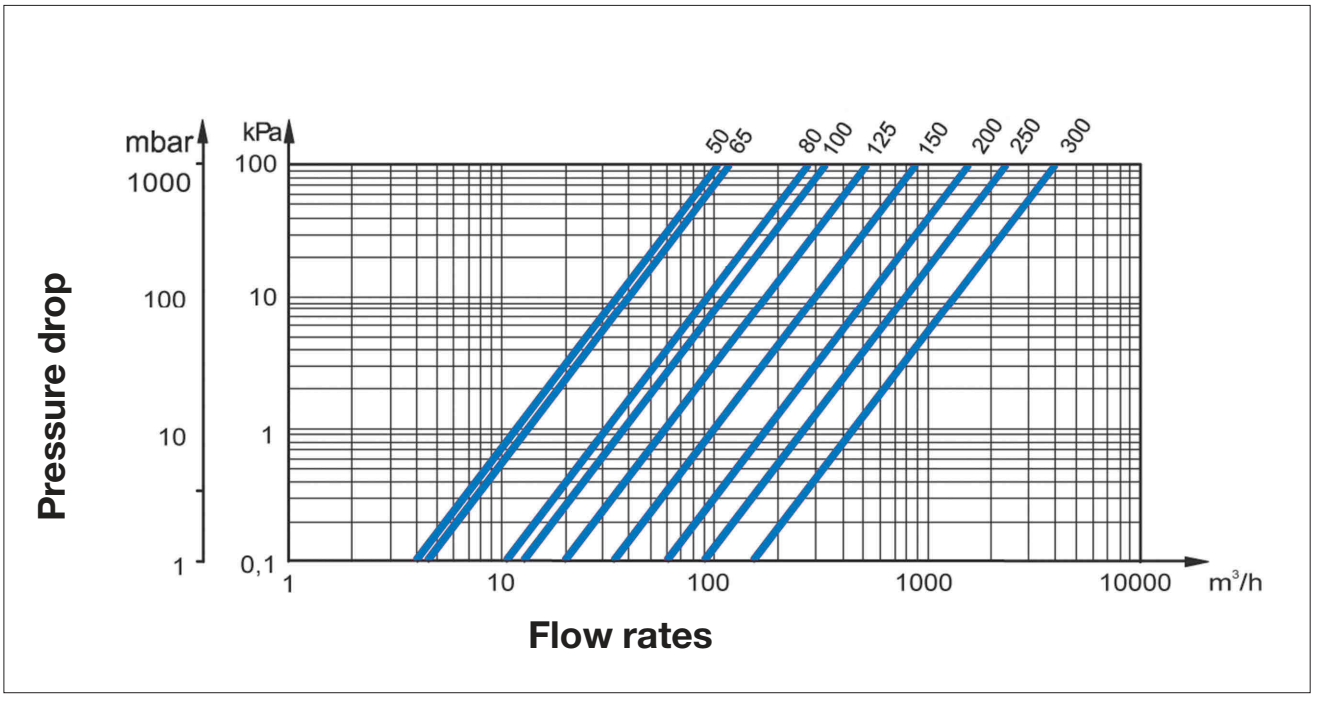
Operating range				**DN150**	**DN200**	**DN250**	**DN300**
Maximum permissible continuous flow rate (+/- 2%)	Qp	(Q_n)	m^3/h	150	250	400	600
Maximum flow rate	Qs	(Q_{max})	m^3/h	300	500	800	1,200
Minimum flow rate (+/-5%)	Qi	(Q_{min})	m^3/h	6.0	10	40	60
Sensitivity			m^3/h	2	4	8	15

Qi (Q_{min}) = minimum flow rate under which no accuracy is guaranteed;

Qs (Q_{max}) = maximum flow rate; this value must never be exceeded not even for brief periods;

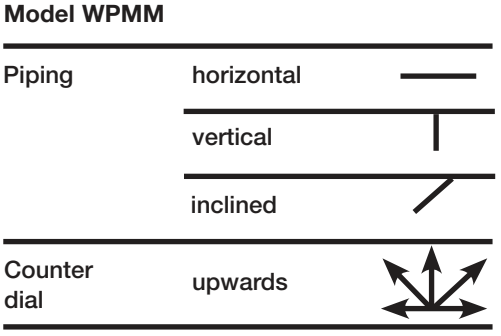
Qp (Q_n) = nominal flow rate; max. flow rate at which the water meter can operate under steady conditions and for an indefinite period.

Chart



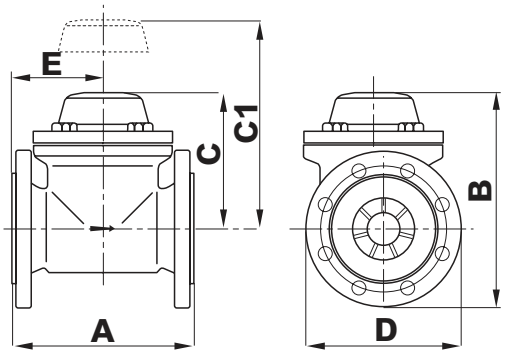
Installation

The flow meters of the **WPMM Series** can be installed in vertical, horizontal or inclined positions; in the case of horizontal and inclined installation the dial must always face upwards. A straight section should be left both at the inlet and the outlet to/from the WPMM flow meter in order to ensure a linear flow of 3DN upstream, without any throttling. It is advisable to install a shut-off device upstream and downstream of the flow meter in order to simplify periodic inspections and maintenance operations. Before mounting the flow meter, proceed to carry out the flushing operations of the main network. It is good practice to install a filter upstream of the flow meter. During installation, observe the direction of flow stamped on the body. For commissioning and maintenance of the flow meter, refer to normative reference UNI EN 1434/07 Part 6.



Overall dimensions (mm)

WPMM



DN	A	B	C	C1	D
50	200	187	115	215	165
65	200	197	114	214	185
80	225	219	124	244	200
100	250	229	124	244	220
125	250	257	137	257	250
150	300	357	222	447	285
200	350	382	222	447	340
250	450	427	234	459	400
300	500	497	267	492	460

Specification text

WPMM Series

Woltman turbine hot water meter **WPMM Series** WATTS brand. Flanged PN16. Maximum fluid temperature: 130°C. Direct dry-dial reading with magnetic transmission. The dial can rotate 360° and is protected by a metal cap. Flanged connections: DN50-300, Q_n 15-600 m^3/h, 100-1000 lt/pulse. Weight: 9.9-103.1 Kg. Suitable for horizontal, vertical and inclined installation. Complete with pulse transmitter. Complies with MID Directive 2014/32/EU.

The descriptions and photographs contained in this product specification sheet are supplied by way of information only and are not binding.
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Watts Industries Italia S.r.l.
Via Brenno, 21 • 20853 Biassono (MB) • Italy
Tel. +39 039 4986.1 • Fax +39 039 4986.222
infowattsitalia@wattswater.com • www.wattsindustries.com

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