

# WMT Series

Single-jet turbine water meters

## Technical Data Sheet



## Description

**WMT Series** single-jet turbine water meters are designed for measuring water flow in all applications requiring high precision and long-term reliability, with flow rates up to 2.5m<sup>3</sup>/h.



### WMT

Class B single-jet turbine water meter. Direct dry-dial reading with magnetic transmission. Brass body complete with nuts and sleeves, with threaded connections. Suitable for both horizontal and vertical installation. Complete with pulse transmitter (2.5 litres/pulse) and filter. Slot for temperature sensor. Accuracy class 3. Use with CAMICAL2 Series energy meters.

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

The part numbers with extension **SE** denote products used for **thermal energy metering** (MI004 marking for MID purposes).

The part numbers with extension **AF** and **AFOEM** denote products used for domestic **cold water metering** (MI001 marking for MID purposes).

The part numbers with extension **AC** and **ACOEM** denote products used for domestic **hot water metering** (MI001 marking for MID purposes).

Type	Part No.	DN	Qn (m <sup>3</sup> /h)	l/pulse	Weight (Kg)
WMT	WMT15 - 15SE	15	1.5	2.5	1.14
WMT	WMT15 - 15AF	15	2.5	2.5	0.76
WMT	WMT15 - 15AC	15	2.5	2.5	0.76
WMT	WMT20 - 25SE	20	2.5	2.5	1.17
WMT	WMT20 - 20AFOEM	20	4.0	2.5	0.91
WMT	WMT20 - 20ACOEM	20	4.0	2.5	0.91

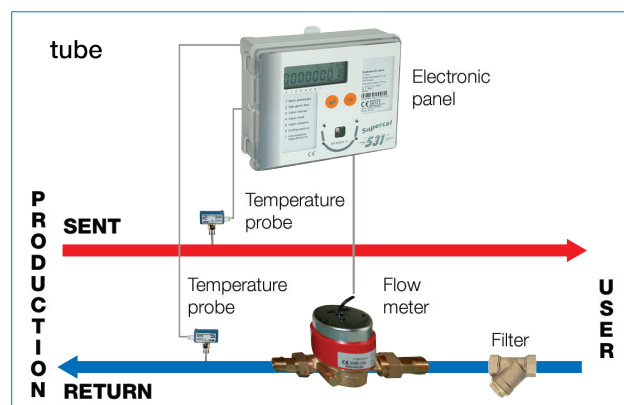
## Application

**WMT Series** water meters are used as volumetric flow sensors in direct thermal energy metering systems serving modern multi-residential buildings. The adoption of temperature control systems enables upgrading the heating systems according to the regulatory requirements (Italian legislative decree 192/05 as amended) and enables users to manage and optimise indoor comfort conditions, by linking them with the specific use of the rooms concerned, and therefore saving energy.

## Operation

**WMT Series** water meters measure flow rate by using the movement of a turbine struck directly by a single jet of water. The volume of fluid is totalised by counting the number of turbine revolutions. The rotary movement is transmitted to the totalisers by means of a shielded magnetic coupling. **WMT Series** models are dry-dial meters: the entire register mechanism is housed in a dry, hermetically sealed vacuum compartment. This eliminates all potential problems deriving from dust, condensation, etc. The counting mechanisms close an electrical contact (REED pulser IPG14 ) each time the number of turbine revolutions totalises the value corresponding to a preset volume, thereby generating a signal (pulse) corresponding to a unique reading of the amount of fluid flowing. The instantaneous value measured can be processed and displayed by suitable electronic devices (**Supercal 531 Series**) or read directly on the mechanical totalizer located on the counter dial.

Features				
Nominal diameter (DN)	mm	15	20	
Threaded connections (to sleeves)		1/2"	3/4"	
Nominal pressure (PN)	bar	16	16	
Maximum operating temperature	°C	90	90	
Pulse transmitter	l/pulse	2.5	2.5	
Cable length	m	1.5	1.5	



## How to choose a flow meter

When sizing a flow meter, it is essential to take account of the following:

- the effective flow rate in the circuit to be monitored must never exceed the 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 working with variable-flow circuits, use meters that cover the entire range between  $Q_n$  and  $Q_{min}$ ; to ensure accurate metering, the minimum effective flow rate must always be higher than  $Q_{min}$ ;
- maximum 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” table.

### Model WMT - Horizontal and vertical installation

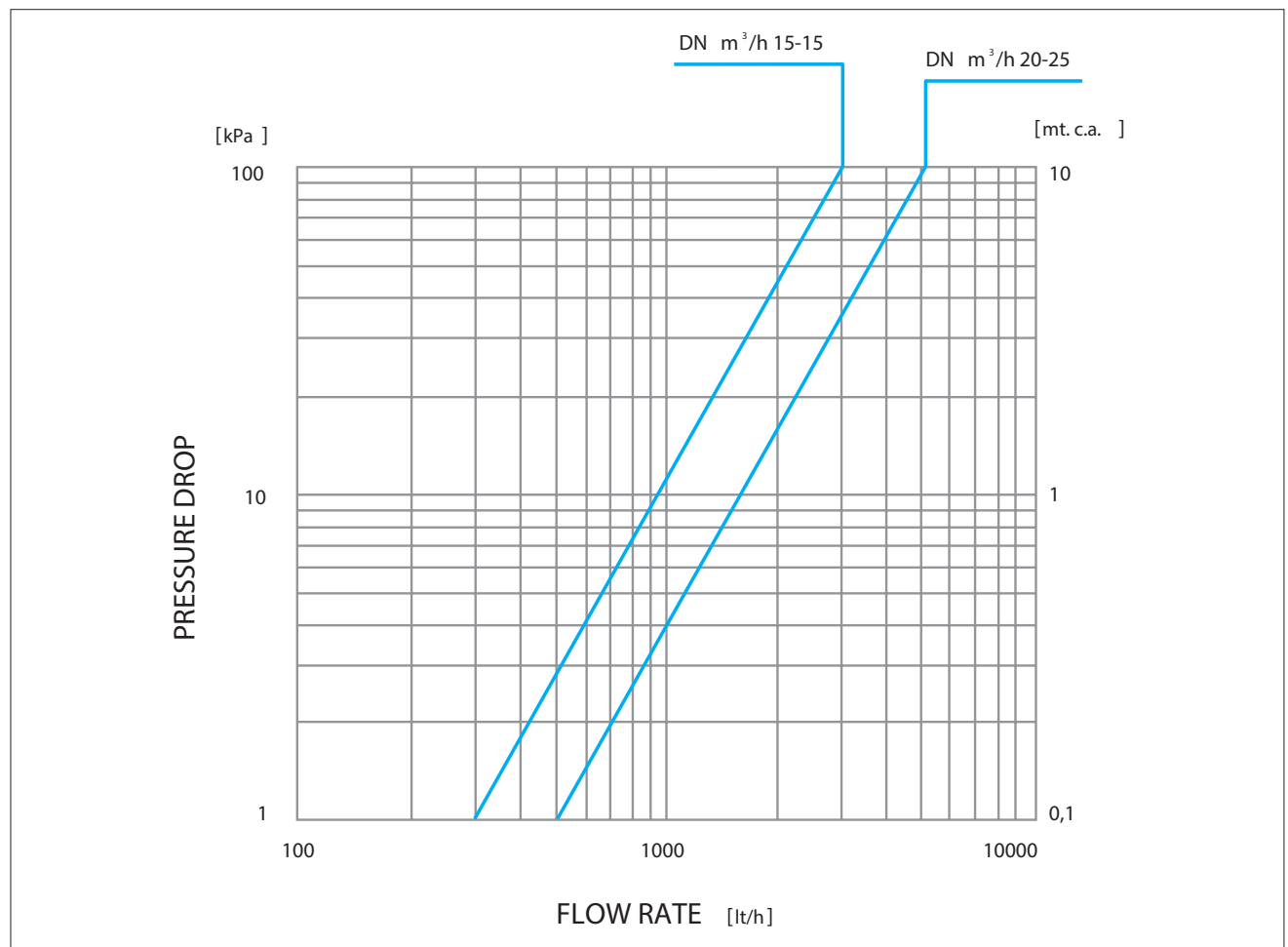
Operating range				DN15	DN20
Maximum permissible continuous flow rate ( $\pm 2\%$ )	$Q_p$	( $Q_n$ )	$m^3/h$	1.5	2.5
Maximum flow rate	$Q_s$	( $Q_{max}$ )	$m^3/h$	3	5
Minimum flow rate ( $\pm 5\%$ ) (horizontal)	$Q_i$	( $Q_{min}$ )	$l/h$	30	50
Minimum flow rate ( $\pm 5\%$ ) (vertical)	$Q_i$	( $Q_{min}$ )	$l/h$	60	100
$Kvs$				3	5
Standard range (horizontal)	$q_i/q_p$	( $Q_{min}/Q_n$ )		1.50	1.50
Standard range (vertical)	$q_i/q_p$	( $Q_{min}/Q_n$ )		1.25	1.25

$Q_i$  ( $Q_{min}$ ) = minimum flow rate below which no accuracy is guaranteed;

$Q_s$  ( $Q_{max}$ ) = maximum flow rate, which must never be exceeded, even momentarily;

$q_p$  ( $Q_n$ ) = nominal flow rate, i.e. the maximum flow rate at which the volumetric flow meter can operate under steady conditions and for an indefinite period.

## Chart



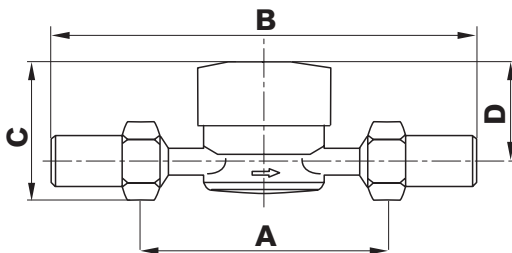
## Installation

**WMT Series** flow meters are supplied with nuts and threaded sleeves packaged loose in a box. They can be installed either vertically or horizontally, but it is preferable to fit them on horizontal pipes. The run of pipe into and out of the meter need not be straight. It is advisable to install a shut-off device upstream and downstream of the meter to facilitate periodic inspection and maintenance operations. Before fitting the volumetric flow meter, always flush the main network to avoid clogging the internal filter. It is good practice to install a filter upstream of the meter. During installation, observe the direction of flow stamped on the body. For commissioning and maintenance of the meter, refer to the reference standard UNI EN 1434/07 Part 6.

Pipe	horizontal	—
	vertical	
Meter	upwards	↑
	on both sides	↔

## Overall dimensions (mm)

### WMT



DN	A	B	C	D	BASE
15	110	205	72	54	80
20	130	225	75	54	80

## Specification text

### WMT Series

Class B single-jet turbine water meter **WMT Series** – WATTS brand. Direct dry-dial reading with magnetic transmission. Brass body complete with nuts and sleeves, with threaded connections. DN15-50, Qn 1.5-15 m<sup>3</sup>/h, 2.5-25 l/pulse, weight 2.1-7.4 kg. Horizontal or vertical fitting. Complete with pulse transmitter and filter. Slot for temperature sensor. Accuracy class 3 for use with WATTS SUPERCAL 531 Series energy meters. Complies with MID 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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