



# WPK- C combination water meter

in accordance with 2014/32/EU Directive

This water meter class is used to measure total flow of cold water in industrial facilities, mines and similar large consumers. Combination water meter consists of standard WP-C industrial water meter with Woltman turbine, VVS Plus multi jet residential water meter and changeover valve

## CHARACTERISTICS

- New design and easy maintenance.
- Large measuring range.
- High sensitivity of the meter.
- Replaceable Woltman mechanism has dry hermetically sealed mechanism with magnetic transmission.
- Water meters with high and low flow rate are prepared for remote reading.

WPK-C water meters consist of main Woltman water meter type WP-C and multi jet water meter type VVS Plus. Both have Type Examination Certificate and are manufactured by INSA. The water meters use automatic spring-loaded changeover valve. Depending on the flow rate, the changeover valve directs the flow through the small water meter only or through both water meters. The flow through the main water meter starts with increasing the flow rate above  $Q_{x2}$  and stops with decreasing the flow rate below  $Q_{x1}$ .

## BASIC TECHNICAL DATA OF WATER METER

Table No1

Model number	WPK-C 50	WPK-C 80	WPK-C 100	WPK-C 150
Type of water meters used	WP-C DN50 / VVS PLUS DN20	WP-C DN80 / VVS PLUS DN20	WP-C DN100 / VVS PLUS DN20	WP-C DN150 / VVS PLUS DN40
Nominal diameter DN (mm)	50	80	100	150
Maximum flow rate $Q_4$ (m <sup>3</sup> /h)	31,3	78,8	125	312,5
Permanent flow rate $Q_3$ (m <sup>3</sup> /h)	25	63	100	250
Transitional flow rate $Q_2$ (m <sup>3</sup> /h)	See Table 2.2			
Minimum flow rate $Q_1$ (m <sup>3</sup> /h)				
Flow rate $Q_{x1}$ (m <sup>3</sup> /h)	0,9	0,9	0,9	9,5
Flow rate $Q_{x2}$ (m <sup>3</sup> /h)	1,4	1,4	1,4	10

**BASIC TECHNICAL DATA OF WATER METER**

Table No 2

Model number	WPK-C 50	WPK-C 80	WPK-C 100	WPK-C 150
Ratio $Q_3/Q_1$	1000; 800; 630; 500; 400; 315; 250	2500; 2000; 1600; 1250; 1000; 800; 630	4000; 3150; 2500; 2000; 1600; 1250; 1000	2500; 2000; 1600; 1250; 1000
Ratio $Q_2/Q_1$	1,6			
Ratio $Q_4/Q_3$	1,25			
Accuracy class	2			
Maximum permissible error for low flow rates (MPE <sub>u</sub> )	± 5%			
Temperature class	T30 i T50			
Water pressure class	MAP 16			
Pressure loss class	P63			
Environment	Closed space 5°C do 55°C			
Mechanical class	M1			
Indication range (m <sup>3</sup> )	999 999 / 99 999			9 999 999 / 99 999
Indicator device resolution (m <sup>3</sup> ) (main water meter/by-pass water meter)	0,0005 / 0,00005			0,005 / 0,00005
Rapid testing resolution of main water meter (impulse/L)	10,491 429	6,2631579	3,315	14,535
Rapid testing resolution of by-pass water meter (impuls/L)	60,0	60,0	60,0	10,542
Connection type	flange			
Flow sensitivity class	U10 D5			
Orientation limitation	H▲ ( Horizontal orientation with the indicating device on the top)			
Water meter length (horizontally) (mm)	270	300	360	500

**BASIC TECHNICAL DATA OF WATER METER – FLOW RATES**

Table No 2.2

Manufacturer	INSA						
Type	WPK-C						
Nominal diameter	50						
Q <sub>1</sub> (m <sup>3</sup> /h)	0,025	0,031	0,040	0,050	0,063	0,079	0,100
Q <sub>2</sub> (m <sup>3</sup> /h)	0,040	0,050	0,063	0,080	0,100	0,127	0,160
Q <sub>3</sub> (m <sup>3</sup> /h)	25,00	25,00	25,00	25,00	25,00	25,00	25,00
Q <sub>4</sub> (m <sup>3</sup> /h)	31,25	31,25	31,25	31,25	31,25	31,25	31,25
Q <sub>3</sub> / Q <sub>1</sub>	1000	800	630	500	400	315	250
Nominal diameter	80						
Q <sub>1</sub> (m <sup>3</sup> /h)	0,025	0,032	0,039	0,050	0,063	0,079	0,100
Q <sub>2</sub> (m <sup>3</sup> /h)	0,040	0,050	0,063	0,081	0,101	0,126	0,160
Q <sub>3</sub> (m <sup>3</sup> /h)	63,00	63,00	63,00	63,00	63,00	63,00	63,00
Q <sub>4</sub> (m <sup>3</sup> /h)	78,75	78,75	78,75	78,75	78,75	78,75	78,75
Q <sub>3</sub> / Q <sub>1</sub>	2500	2000	1600	1250	1000	800	630
Nominal diameter	100						
Q <sub>1</sub> (m <sup>3</sup> /h)	0,025	0,032	0,040	0,050	0,063	0,080	0,100
Q <sub>2</sub> (m <sup>3</sup> /h)	0,040	0,051	0,064	0,080	0,100	0,128	0,160
Q <sub>3</sub> (m <sup>3</sup> /h)	100	100	100	100	100	100	100
Q <sub>4</sub> (m <sup>3</sup> /h)	125	125	125	125	125	125	125
Q <sub>3</sub> / Q <sub>1</sub>	4000	3150	2500	2000	1600	1250	1000
Nominal diameter	150						
Q <sub>1</sub> (m <sup>3</sup> /h)	0,100	0,125	0,156	0,200	0,250	0,320	0,400
Q <sub>2</sub> (m <sup>3</sup> /h)	0,160	0,200	0,250	0,320	0,400	0,500	0,630
Q <sub>3</sub> (m <sup>3</sup> /h)	250	250	250	250	250	250	250
Q <sub>4</sub> (m <sup>3</sup> /h)	312,5	312,5	312,5	312,5	312,5	312,5	312,5
Q <sub>3</sub> / Q <sub>1</sub>	2500	2000	1600	1250	1000	800	630

Certificate number RS+18-017-MI001-4-DMDM

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