

# WOLTMANN VOLUMETRIC METERS WITH PULSE TRANSMITTER

## KWF – KWC Eng.

- Woltmann-type
- For cold water (KWF) & hot water (KWC)
- PN16 flanged connections
- EEC approved:
  - horizontal or vertical mounting



### 1. APPLICATION

Volumetric meters are designed for measuring the flow of hot and cold water circulating in heating and cooling installations.

By means of the pulse transmitter they send the instantaneous value measured to an electronic device which processes the data according to the specific requirements.

### 2. OPERATION

The meters use a Woltmann-type turbine. The number of revolutions of the turbine is directly proportional to the volume of liquid in circulation. The rotary movement of the turbine is transmitted, through calibrated mechanisms, to the mechanical totalisator and to the pulse transmitter which transmits a pulse (closure Reed contact).

### 3. RANGE OF MODEL

Code	DN inches	Tmax °C	Qn m³/h	Qmax m³/h	Qt m³/h	Qmin m³/h	Qs m³/h	Pulse transmitter			Weight Kg	Approval CEE 75/33
								pul./l (K)	pul./m³	l./pul.		
Cold water												
<b>KWF 65 M</b>	65	30	<b>25</b>	50	5	0.75	0.13	0.001	1	<b>1,000</b>	11.2	D 95.6.132.35
<b>KWF 80 M</b>	80	30	<b>40</b>	80	8	1.2	0.22	0.001	1	<b>1,000</b>	14.1	D 95.6.132.35
<b>KWF 100 M</b>	100	30	<b>60</b>	120	12	1.8	0.25	0.001	1	<b>1,000</b>	19.4	D 95.6.132.35
<b>KWF 125 M</b>	125	30	<b>60</b>	120	12	1.8	0.25	0.001	1	<b>1,000</b>	20.5	D 95.6.132.35
<b>KWF 150 M</b>	150	30	<b>150</b>	300	30	4.5	1.7	0.001	1	<b>1,000</b>	32.5	D 86.6.132.22
<b>KWF 200 M</b>	200	30	<b>250</b>	500	50	7.5	1.8	0.001	1	<b>1,000</b>	45	D 86.6.132.22
<b>KWF 250 M</b>	250	30	<b>400</b>	800	80	12	3	0.001	1	<b>1,000</b>	108	6.132.92.07
<b>KWF 300 M</b>	300	30	<b>600</b>	1200	120	18	9	0.001	1	<b>1,000</b>	136	6.132.92.07
Hot water												
<b>KWC 65 M</b>	65	90	<b>25</b>	50	5	0.75	0.13	0.001	1	<b>1,000</b>	11.2	D 95.6.132.35
<b>KWC 80 M</b>	80	90	<b>40</b>	80	8	1.2	0.22	0.001	1	<b>1,000</b>	14.1	D 95.6.132.35
<b>KWC 100 M</b>	100	90	<b>60</b>	120	12	1.8	0.25	0.001	1	<b>1,000</b>	19.4	D 95.6.132.35
<b>KWC 125 M</b>	125	90	<b>60</b>	120	12	1.8	0.25	0.001	1	<b>1,000</b>	20.5	D 95.6.132.35
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<b>KWC 300 M</b>	300	90	<b>600</b>	1200	120	18	9	0.001	1	<b>1,000</b>	136	6.132.92.07

Qmax – Maximum temporary flow measurable by meter.

Qn – Nominal flow: continuous flow measurable by meter.

Qt – Transitory flow: minimum limit with error less than :  $\pm 2\%$ .

Qmin – Minimum flow: minimum limit with error less than  $\pm 5\%$ .

S – Sensitivity: minimum flow which (without surges and at constant pressure) overcomes inertia of meter.

### 4. TECHNICAL DATA

Approval	Class (B) EEC 75/33	Maximum reading:	
Body	epoxy powder coated cast iron	– up to DN 125	m³ 10 <sup>6</sup>
Transmission	magnetic type	– DN 150...300	m³ 10 <sup>7</sup>
Mechanism	in vacuum	Minimum reading:	
Lid	shockproof plastic	– up to DN 125	1 litre
Counter mechanism	according to AWWA (USA) standards	– DN 150...300	10 litre
Nominal pressure	PN 16	Protection rating	IP 68

### 5. PULSE TRANSMITTER

Each meter is provided with a pulse transmitter with connecting cable (2 x 0.5 mm² x 2m) for remote transmitting of flow rate value measured.

The pulse transmitter consists of a rotating magnet, moved by the mechanical totalisator, which acts on a Reed electric contact which opens and closes with a frequency equal to the number of rotations of the the magnet and therefore in proportion to the flow value measured.

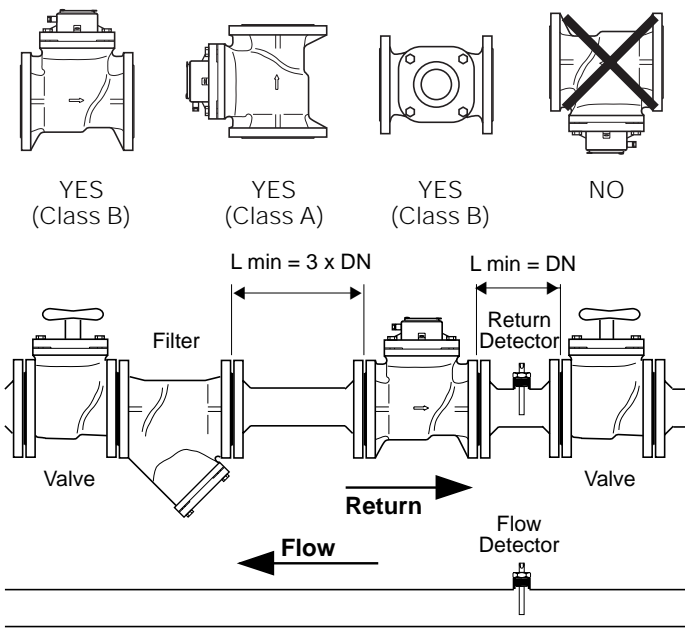
6. SIZING

The volumetric meter must be sized in relation to the plant flow and not according to the pipe diameter.  
**The maximum plant flow must be as near as possible to the nominal flow Qn of the meter, but must not exceed it.**

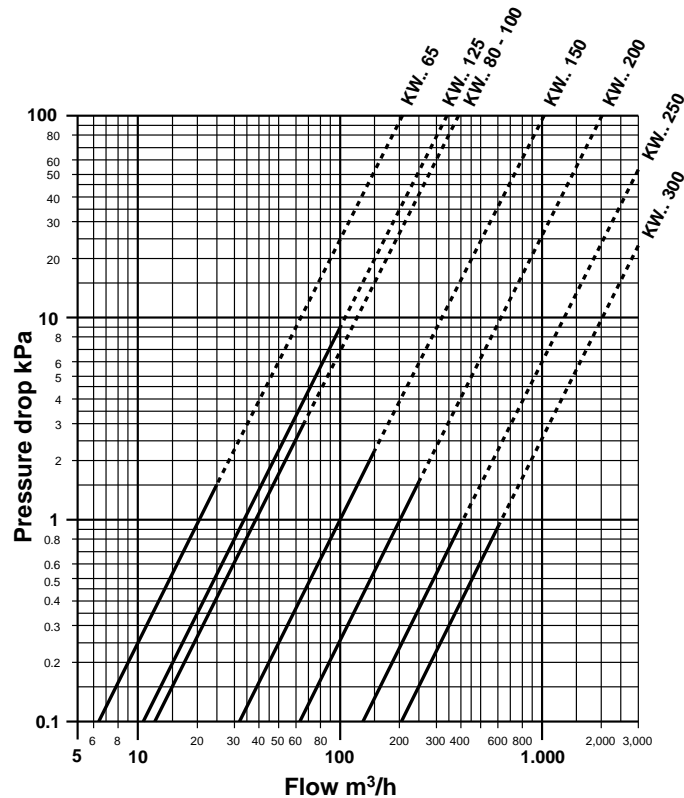
7. INSTALLATION

- In order for the volumetric meter to maintain its metering capacity within the stated error margins, the installation instructions must be strictly observed.
- It must be installed on the return pipe of the plant, respecting the direction of flow shown on the body, and positioned between the two shut-off valves so as to ensure that it is accessible for maintenance.
  - A filter must be installed upstream of the meter to ensure that any impurities present in the plant do not compromise the accuracy of the meter. The filter must be cleaned two days after the first startup of the plant and thereafter at least once a year.
  - It is advisable to ensure that, upstream of the meter there is a straight length of pipe equal to three times its diameter and, downstream, a length equal to its diameter.
  - Reductions in diameter either above or below the meter should be avoided.

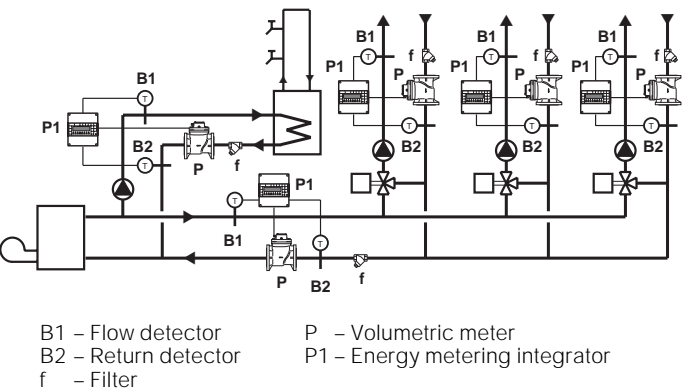
8. INSTALLATION



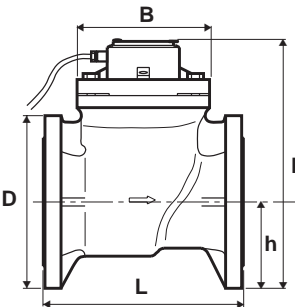
9. PRESSURE DROP



10. FUNCTIONAL DIAGRAM



11. OVERALL DIMENSIONS



Type	L mm	D mm	H mm	h mm
KW... 65	200	185	175.5	92.5
KW... 80	225	200	194	100
KW... 100	250	220	216	110
KW... 125	250	250	243	125
KW... 150	300	285	277.5	142.5
KW... 200	350	340	333	170
KW... 250	450	405	405.5	202.5
KW... 300	500	460	460	230



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