

# WOLTMANN VOLUMETRIC METERS WITH PULSE TRANSMITTERN (1,000 liters/pulse)

**KWE Eng.**



- With Woltmann turbine
- For cold or hot water (max. 130 °C)
- PN16 flanged connections
- Constructed according to EEC standards
- Horizontal or vertical mounting

Code	DN	PN	Protect.	t <sup>o</sup> <sub>max</sub> °C	Q <sub>max</sub> m <sup>3</sup> /h	Q <sub>n</sub> m <sup>3</sup> /h	Q <sub>t</sub> m <sup>3</sup> /h	Q <sub>min</sub> m <sup>3</sup> /h	Q <sub>s</sub> m <sup>3</sup> /h	Pulse transmitter			Approval
										pul/lit(K)	pul/ m <sup>3</sup>	lit/pul	
<b>KWE 65</b>	65	16	IP54	130	50	<b>25</b>	4	0.6	0.25	0.001	1	<b>1,000</b>	22.16/87.02
<b>KWE 80</b>	80	16	IP54	130	80	<b>40</b>	4	0.7	0.25	0.001	1	<b>1,000</b>	22.16/87.02
<b>KWE 100</b>	100	16	IP54	130	120	<b>60</b>	6	1.2	0.3	0.001	1	<b>1,000</b>	22.16/87.02
<b>KWE 125</b>	125	16	IP54	130	200	<b>100</b>	6	2.5	0.6	0.001	1	<b>1,000</b>	22.16/87.02
<b>KWE 150</b>	150	16	IP54	130	300	<b>150</b>	12	3	1.7	0.001	1	<b>1,000</b>	22.16/87.02
<b>KWE 200</b>	200	16	IP54	130	500	<b>250</b>	12	5	1.8	0.001	1	<b>1,000</b>	22.16/87.02

Q<sub>max</sub> – Maximum temporary flow tolerated by meter.

Q<sub>n</sub> – Nominal flow: maximum continuous flow measurable by meter.

Q<sub>t</sub> – Transitory flow: minimum limit with error less than ± 2%.

Q<sub>min</sub> – Minimum flow: minimum limit with error less than ± 5 %.

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

## APPLICATION

The volumetric meters are used to measure the flow of hot or cold water circulating in heating or 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.

## DIMENSIONING

The volumetric meter does not have to be dimensioned according to the diameter of the pipework but according to the plant flow. **The maximum plant flow must be as near as possible to the nominal flow Q<sub>n</sub> of the meter, but must not exceed it.**

## OPERATION

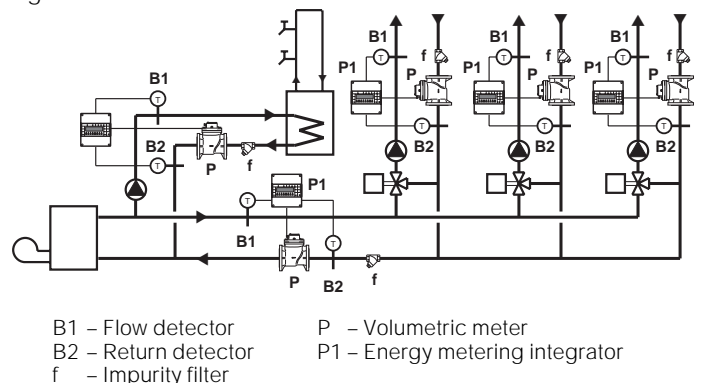
They use a Woltmann whirlpool turbine. The number of revolutions of the turbine is directly proportional to the quantity of fluid in circulation. The rotary movement of the turbine is transmitted, by means of calibrated mechanisms, to the mechanical totaliser and to the pulse transmitter which sends a pulse (closure Reed contact) every 1,000 liters.

## PULSE TRANSMITTER

Each meter is provided with pulse transmitter with connecting cable (2 m) for remote transmitting of the flow value measured. The pulse transmitter consists of a rotating magnet, moved by the mechanical totaliser, which acts on a Reed electric contact which opens and closes with a frequency equal to the number of rotations of the magnet and therefore proportional to the flow value measured.

## SCHEMATIC DIAGRAM

fig. 1



**INSTALLATION**

So that the volumetric meter continues to maintain its metering capacity within the stated error margins (fig. 3) the instructions for installation as shown in fig. 4 must be strictly observed.

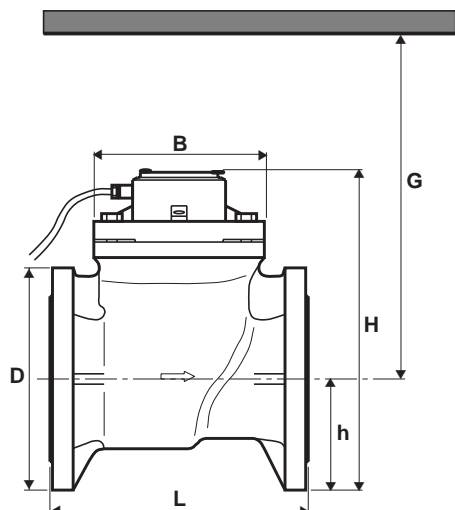
- It must be installed on the return pipe, respecting the direction of flow shown on the body, and positioned between the two shut-off valves so as to ensure that it is accessible for maintenance.
- Upstream of the meter a filter should be installed to ensure that

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 three times its diameter and, downstream, a length one time its diameter.
- Reductions in diameter either above or below the meter should be avoided.

**OVERALL DIMENSIONS**

fig. 2



Model	L mm	D mm	H mm	h mm	B mm	G mm	Weight kg
<b>KWE 65</b>	200	186	243	93	175	360	15
<b>KWE 80</b>	225	200	250	100	175	360	16
<b>KWE 100</b>	250	220	260	110	175	360	18
<b>KWE 125</b>	250	250	275	125	175	360	26
<b>KWE 150</b>	300	286	353	143	215	420	39
<b>KWE 200</b>	350	340	380	170	215	420	52

**ERROR CURVE**

fig. 3

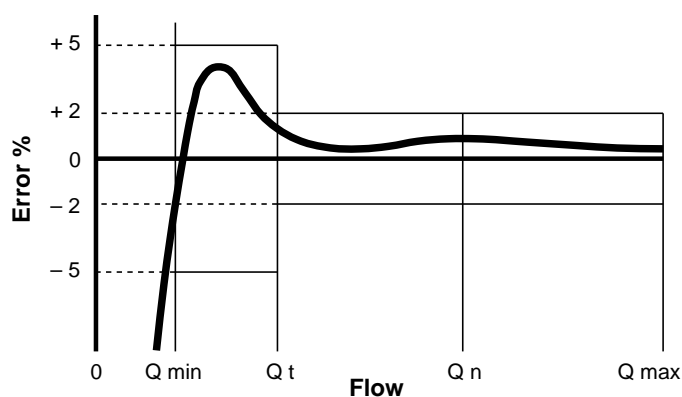
**INSTALLATION**

fig. 4

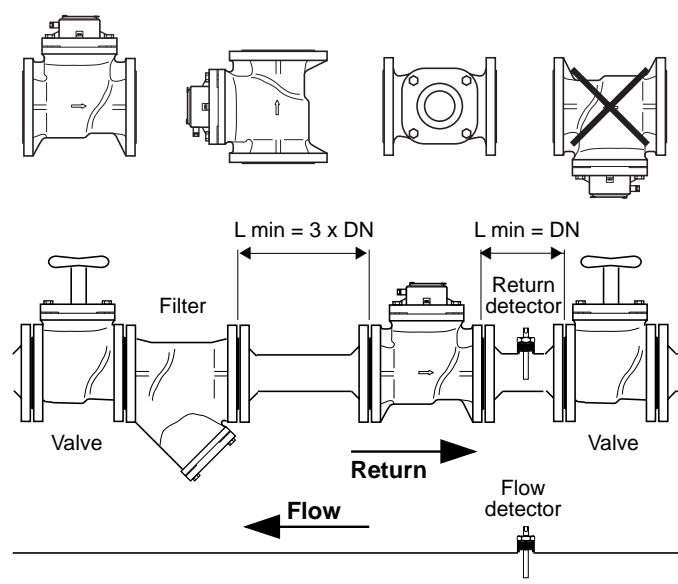
**PRESSURE DROP**

fig. 5

