H 621
08.01.04 MC

VOLUMETRIC MULTI-JET METERS WITH PULSE TRANSMITTER

KMF – KMC – KMS Eng.

- **Multi-jet turbine**
- **KMF: cold water max. 30°C; KMC: hot water max. 90°C; KMS: superheated water max. 120°C**
- **Connections with male threaded unions**
- **EEC approved**
- **Mounting: KMF - KMC horizontal Class B, vertical Class A; KMS only horizontal Class A**

CE

1. APPLICATION

Volumetric meters are designed for measuring the ow of hot, superheated or cold water circulating in heating and cooling plants; or for installation in DHW plants to meter the volume of water consumed.
At the same time, by means of the pulse transmitter, they send the instantaneous value measured to an electronic device which processes the data received according to the specific requirements.

2. OPERATION

The meters use a multi-jet turbine. The number of revolutions of the turbine is directly proportional to the volume of uid in circulation. The rotary movement of the turbine is transmitted by gears to the mechanical totaliser and to the pulse transmitter which sends a signal to close the Reed switch..

3. MODELS

Code	DN inches	Tmax °C	**Qn** m^3/h	Qmax m^3/h	Qt l/h	Qmin l/h	Pulse transmitter pul./l(K)	pul./m^3	l/pul.	Weight Kg	Approval
Cold water											**CEE 75/33**
KMF 15 D	1/2"	30	**1.5**	3	120	30	0.1	100	**10**	1.2	B 89.317.01
KMF 20 D	3/4"	30	**2.5**	5	200	50	0.1	100	**10**	1.9	B 89.317.02
KMF 25 C	1"	30	**3.5**	7	280	70	0.01	10	**100**	3.2	B 89.317.03
KMF 32 C	1"1/4	30	**5**	10	400	100	0.01	10	**100**	3.5	B 89.317.04
KMF 40 C	1"1/2	30	**10**	20	800	200	0.01	10	**100**	6.1	B 89.317.05
KMF 50 C	2"	30	**15**	30	3,000	450	0.01	10	**100**	9.7	B 89.317.06
Hot water											
KMC 15 D	1/2"	90	**1.5**	3	120	30	0.1	100	**10**	1.2	–
KMC 20 D	3/4"	90	**2.5**	5	200	50	0.1	100	**10**	1.9	–
KMC 25 C	1"	90	**3.5**	7	280	70	0.01	10	**100**	3.2	–
KMC 32 C	1"1/4	90	**5**	10	400	100	0.01	10	**100**	3.5	–
KMC 40 C	1"1/2	90	**10**	20	800	200	0.01	10	**100**	6.1	–
KMC 50 C	2"	90	**15**	30	3,000	450	0.01	10	**100**	9.7	–
Superhtd water											**CEE 79/830**
KMS 15 D	1/2"	120	**1.5**	3	100	25	0.1	100	**10**	1.5	22.16 80.07
KMS 20 D	3/4"	120	**2.5**	5	250	50	0.1	100	**10**	1.7	22.16 80.07
KMS 25 C	1"	120	**3.5**	7	350	65	0.01	10	**100**	2.5	22.16 80.07
KMS 32 C	1"1/4	120	**6**	12	600	90	0.01	10	**100**	2.5	22.16 80.07
KMS 40 C	1"1/2	120	**10**	20	1,000	160	0.01	10	**100**	4.7	22.16 80.07
KMS 50 C	2"	120	**15**	30	1,500	200	0.01	10	**100**	6.3	22.16 80.07

Qmax – Maximum ow with Δp of 10 mWG : maximum temporary limit sustainable by meter.
Qn – Nominal ow with Δp of 2.5 mWG (0.5 Qmax): continuous ow measurable by meter.
Qt – Transitory ow (in Class B = 0.08 Qn): minimum limit with error less than ± 3%.
Qmin – Minimum ow (in Class B = 0.02 Qn): minimum limit with error less than ± 5%.

4. TECHNICAL DATA

Nominal pressure	PN 16
Protection	IP 68
Body	epoxy varnished brass
Head	brass and shockproof plastic
Transparent disk	tempered glass 6mm thick
Internal filter	wear-resistant plastic

Maximum timer reading:	
KMF/C 15…32 - KMS 15…50	99.999 m^3
KMF/C 40-50	999.999 m^3
Minimum timer reading	KMF/C 0.05 litres - KMS 0.1 litres
Approval	EEC (see Table)

5. PULSE TRANSMITTER

Each meter has a pulse transmitter with connecting cable (3 x 0.5 mm² x 2m) for remote transmission of the ow value measured. The transmitter comprises a rotary magnet, operated by the mechanical totaliser; this acts on two Reed electrical switches which open and close with a frequency equal to the number of rotations of the magnet and accordingly proportional to the ow value measured.

6. SIZING

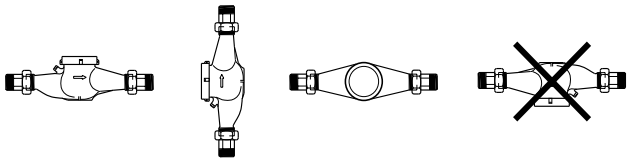
The volumetric meter must not be sized according to the pipe diameter but according to the plant ow.
The maximum plant ow must be as close as possible to the nominal ow Qn of the meter but must not exceed it.

7. INSTALLATION

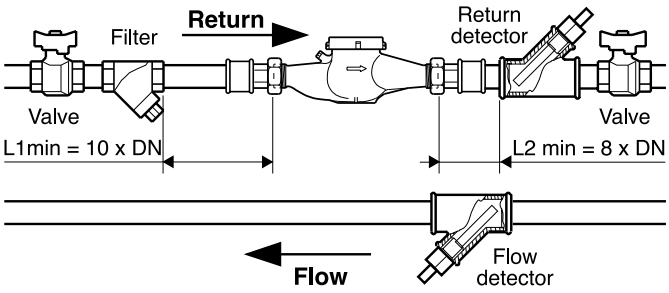
In order for the volumetric meter to maintain its metering capacity within the stated error margins, the installation instructions must be strictly followed:

- It must be installed on the return pipe of the plant, respecting the direction of ow shown on the body, and must be positioned between two shut-off valves so as to ensure that it is accessible for maintenance.
- Install a filter upstream of the meter to ensure that any impurities present in the plant do not compromise the accuracy of the meter. This filter must be cleaned two days after the first start-up of the plant and thereafter at least once a year..
- You should ensure that, upstream of the meter, there is a straight length of pipe equal to 10 times its diameter; and, downstream, a length equal to eight times its diameter. There should be no reductions in diameter either above or below the meter.

8.MOUNTING POSITION

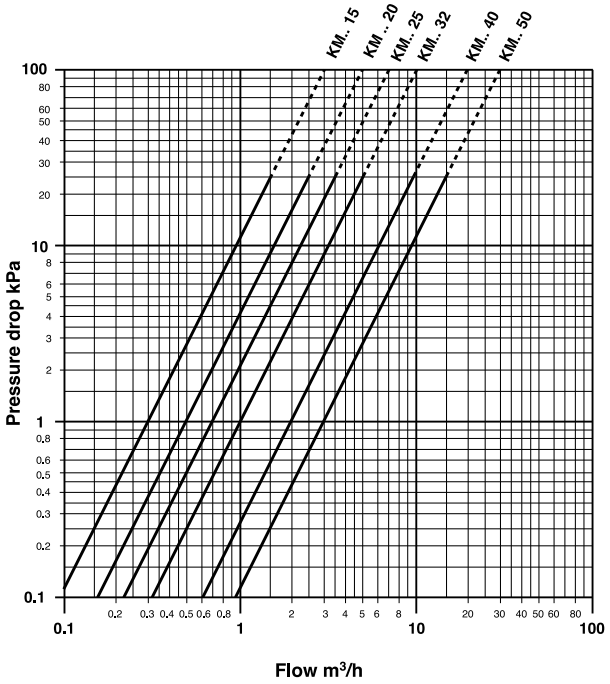


(Class B) (Class A) (Class B)

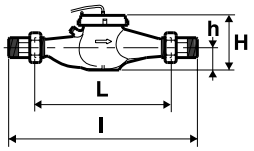


L1 and L2 min. according to UNI EN 1434-6 Regulations

9. PRESSURE DROP (100 kPa = 10 mWG = 1 bar)

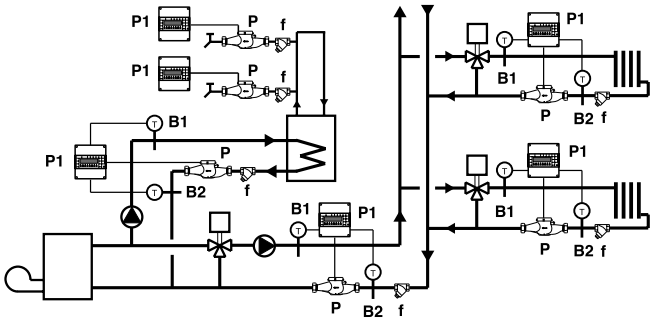


10. OVERALL DIMENSIONS



Model	L mm		l mm		H mm		h mm	
	KMF/C	KMS	KMF/C	KMS	KMF/C	KMS	KMF/C	KMS
KM...15	130	165	210	245	114	136	36.5	41
KM...20	160	190	258	288	114	136	36.5	41
KM...25	260	260	378	378	123	147	43	44
KM...32	260	260	378	378	123	147	43	44
KM...40	300	300	438	438	163	161	64.5	46
KM...50	300	270	461	388	175	205	77	43.5

11. SCHEMATIC DIAGRAM



B1 – Flow detector
B2 – Return detector
f – Impurities filter
P – Volumetric meter
P1 – Energy metering integrator

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