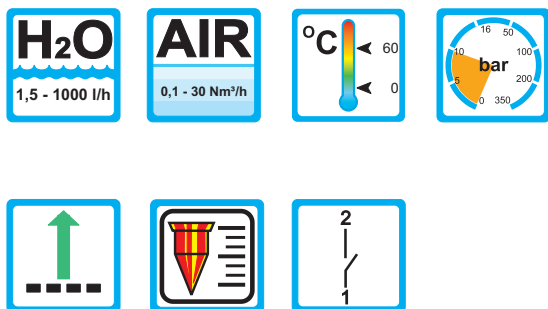


Synthetic VA Flowmeters



KM-165, KM-185, KM-200



Range of Application

Operation

- Float measuring principle

Application

- Cooling systems and cooling circuits
- Mechanical engineering and construction
- Pharmaceutical industry
- Chemical industry
- Research and development

Features

- Shatterproof and corrosion resistant
- Easily removable from the pipe system
- Mounting for accessories (limit switches)
- Adhesive special scales, for liquid and gaseous media
- DN (rated width), measuring range, and material specified on the measuring tube

Installation information

- Download: www.meister-flow.com

Operating Data

Operating pressure max.:	PN 10 at 20 °C
Pressure drop:	see table on page 3
Accuracy:	see table on page 3

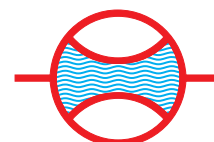
Operating temperature:

measuring tube	process connection	max. temp at 1 bar	
PVC-U	PVC-U	0 °C	to +60 °C
PSU	PVC-U	0 °C	to +60 °C

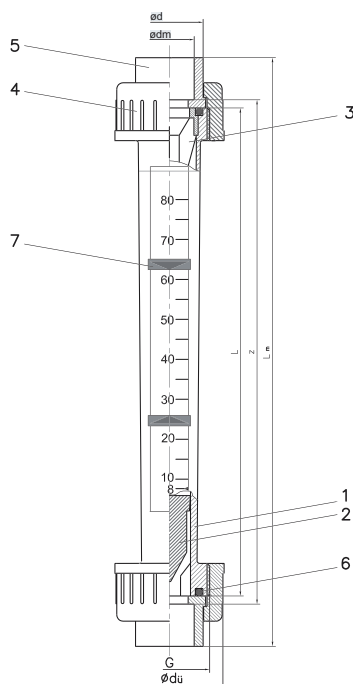
Measuring Ranges

Type	Measuring range for H ₂ O at 20 °C	
	[l/h]	[gpm]
KM-165-15	1,5 - 15	0,006 - 0,066
KM-165-25	2,5 - 25	0,01 - 0,11
KM-165-50	5 - 50	0,02 - 0,22
KM-165-100	10 - 100	0,04 - 0,44
KM-185-80	8 - 80	0,035 - 0,35
KM-185-150	15 - 150	0,06 - 0,66
KM-185-200	20 - 200	0,08 - 0,8
KM-200-150	15 - 150	0,06 - 0,66
KM-200-300	30 - 300	0,13 - 1,3
KM-200-500	50 - 500	0,22 - 2,2
KM-200-1000	100 - 1000	0,44 - 4,4

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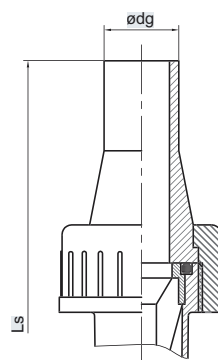


Mechanical drawing

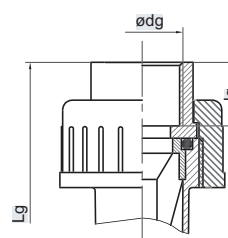


process connection with solvent cement socket PVC or weld socket PP

Process connection



process connection with weld socket (butt end) PP



process connection with threaded socket PVC, PP, annealed cast iron or stainless steel.

Dimensions and weights

Overall dimensions [mm]

Measuring range H ₂ O [l/h]					solvent cement socket PVC			weld socket PP			PP-Socket (butt end)			threaded socket			Weight [kg] PSU
	DN	d _u	G	L	d _m	z	L _m	d _m	z	L _m	d	L _s	S	d _g	L _g	I _g	
1,5 - 15	10	35	3/4"	165	16	171	199							3/8"	199	11	0,08
2,5 - 25																	
5 - 50																	
10 - 100																	
8 - 80	15	43	1"	185	20	191	223	19,5	195	223	20	293	1,9	1/2"	223	13	0,13
15 - 150																	
20 - 200																	
15 - 150	25	60	1 1/2"	200	32	206	250	31,5	210	246	32	320	3,0	1"	250	17	0,24
30 - 300																	
50 - 500																	
100 - 1.000																	

Materials

Item	Description	Nr. of pieces	Material
1	Measuring tube	1	PVC, PSU
2	Float	1	PVDF
3	Insert top and bottom	1	PVDF
4	Coupling ring	2	PVC (standard), PP

Item	Description	Nr. of pieces	Material
5	Connector	2	PVC (standard), PP
6	O-Ring	2	EPDM (standard), FPM
7	Limit value indicator	2	PS

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Combinations

Measuring tube	Float	Insert top and bottom	O-Ring
PVC	PVDF	PVDF	EPDM (optional FPM)
PSU	PVDF	PVDF	EPDM (optional FPM)

Connection options

Socket	Socket (butt end)	Plastic inside thread	Metal inside thread
PVC solvent cement socket (standard)	PP weld socket (butt end)	PVC	stainless steel V4A
PP weld socket		PP	annealed cast iron

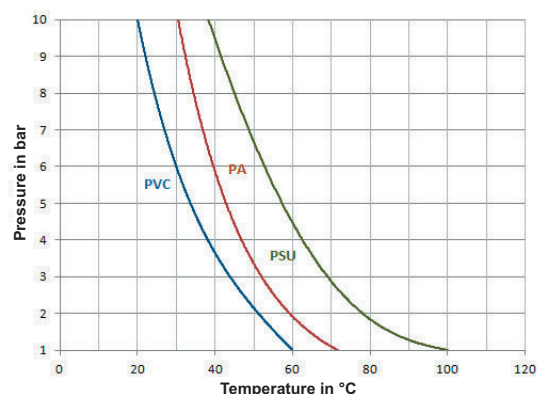
Pressure drop

Measuring range [l/h]	1,5 - 15	2,5 - 25	5 - 50	10 - 100
Pressure drop [mm WC]	46,0	46,0	46,0	46,0
Pressure drop [mbar]	4,6	4,6	4,6	4,6
Measuring range [l/h]	8 - 80	15 - 150	20 - 200	
Pressure drop [mm WC]	44,7	44,7	44,7	
Pressure drop [mbar]	4,47	4,47	4,47	
Measuring range [l/h]	15 - 150	30 - 300	50 - 500	100 - 1000
Pressure drop [mm WC]	82,8	82,8	82,8	82,8
Pressure drop [mbar]	8,28	8,28	8,28	8,28

Pressure - temperature - diagram

The curves in the diagram represent values for the durability of three different materials in relation to the operating temperature.

Pressure-temperature diagram for float-type flowmeters



Accuracy

Accuracy class 4, VDE/VDI 3513, sheet 2

Flow in %	10	20	30	40	50	60	70	80	90	100
Total error of measurement in %	13,00	8,00	6,33	5,50	5,00	4,67	4,43	4,25	4,11	4,00
Total error of full scale in %	1,3	1,6	1,9	2,2	2,5	2,9	3,1	3,4	3,7	4,0



Special scales

Measuring range	Air 0 bar	Air 1 bar	Air 2 bar	Air 3 bar
H ₂ O [l/h]	[Nm ³ /h]	[Nm ³ /h]	[Nm ³ /h]	[Nm ³ /h]
1,5 - 15	0,1 - 0,55	0,15 - 0,8	0,17 - 0,9	0,2 - 1,1
2,5 - 25	0,2 - 0,95	0,25 - 1,3	0,3 - 1,6	0,4 - 1,9
5 - 50	0,5 - 1,9	0,7 - 2,7	0,8 - 3,4	1 - 3,8
10 - 100	0,8 - 3	1 - 4,2	1,2 - 5,4	1,4 - 6,4
8 - 80	0,6 - 2,8	0,8 - 4	1 - 5	1,2 - 5,6
15 - 150	1,4 - 5,6	2 - 8	2, - 10	3 - 12
20 - 200	1,5 - 7	2 - 10	3 - 13	3 - 15
15 - 150	1,0 - 6,5	1 - 9	1,5 - 11	2 - 13
30 - 300	1,5 - 11	2 - 15	2,5 - 18	3 - 22
50 - 500	3,0 - 18	4 - 25	5 - 30	5 - 35
100 - 1000	6,0 - 30	8 - 44	10 - 54	12 - 62

Measuring range	Air 4 bar	Air 5 bar	Air 6 bar	Air 7 bar
H ₂ O [l/h]	[Nm ³ /h]	[Nm ³ /h]	[Nm ³ /h]	[Nm ³ /h]
1,5 - 15	0,25 - 1,2	0,25 - 1,3	0,26 - 1,45	0,3 - 1,5
2,5 - 25	0,4 - 2,1	0,5 - 2,4	0,5 - 2,5	0,5 - 2,7
5 - 50	1,2 - 4,2	1,2 - 4,6	1,2 - 5	1,4 - 5,4
10 - 100	1,6 - 7	1,6 - 7,4	2 - 8	2 - 8,8
8 - 80	1,4 - 6,4	1,4 - 7	1,5 - 7,5	1,5 - 8
15 - 150	3 - 13	3 - 14	3,5 - 15	3,5 - 16,5
20 - 200	4 - 17	4 - 18	4 - 20	5 - 21
15 - 150	2 - 14,5	2 - 16	2 - 17	2,5 - 18
30 - 300	3 - 24	4 - 26	4 - 28	4 - 30
50 - 500	6 - 40	6 - 44	8 - 48	8 - 50
100 - 1000	12 - 70	15 - 75	15 - 80	15 - 85

Measuring range	Air 8 bar	Air 9 bar	Air 10 bar
H ₂ O [l/h]	[Nm ³ /h]	[Nm ³ /h]	[Nm ³ /h]
1,5 - 15	0,3 - 1,6	0,3 - 1,7	0,35 - 1,8
2,5 - 25	0,6 - 2,9	0,6 - 3	0,6 - 3,2
5 - 50	1,4 - 5,8	1,6 - 6	1,6 - 6,4
10 - 100	2 - 9	2 - 10	2 - 10
8 - 80	1,5 - 8,5	2 - 9	2 - 9,5
15 - 150	4 - 17	4 - 18	4 - 19
20 - 200	5 - 23	5 - 23	5 - 25
15 - 150	2,5 - 19,5	3, - 20	3 - 21
30 - 300	4 - 33	5 - 34	5 - 35
50 - 500	8 - 54	8 - 56	10 - 60
100 - 1000	20 - 90	20 - 95	20 - 100



Special scales



Special scales

Measuring range	HCl 30-33% (PSU)	NaOH 30%	NaOH 50%
H ₂ O [l/h]	[l/h]	[l/h]	[l/h]
1,5 - 15	1,0 - 10	0,1 - 2	-
2,5 - 25	2,5 - 20	0,2 - 5	-
5,0 - 50	5,0 - 40	1,0 - 14	-
10 - 100	10 - 85	3,0 - 35	-
8,0 - 80	8,0 - 70	2,0 - 23	0,2 - 3,5
15 - 150	15 - 125	3,0 - 55	0,5 - 10
20 - 200	20 - 170	5,0 - 80	0,5 - 16
15 - 150	15 - 125	3,0 - 55	0,5 - 11
30 - 300	30 - 260	6,0 - 130	1,0 - 33
50 - 500	50 - 425	10 - 250	2,0 - 80
100 - 1000	100 - 850	40 - 600	10 - 220

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TR Automatyka Sp. z o.o.
 ul. Lechicka 14, 02-156 Warszawa
 NIP: 522-27-58-993

tel. +48 22 886 10 16, fax +48 22 846 50 37
<http://www.trautomatyka.pl>
 e-mail: biuro@trautomatyka.pl

010604

Limit switch contact ZNC and ZNO

Application

The limit switch contacts are used to monitor flow limits. They are slid onto the guide located on the flowmeter and can be set to any value of the corresponding scale.

Operation

A built-in magnet in the float closes or opens a reed contact encapsulated in the switch housing. The switching function is bistable, that is, the switching state is maintained, even when the magnetic float is away from the contact.



Switching state

		Float [above]	Float [below]
ZNC	(Normally closed) / Min	open	closed
ZNO	(Normally open) / Max	closed	open

Technical data

Switching voltage ⁽¹⁾	max. 230 V~
Switching capacity ⁽¹⁾	max. 10 W / 12 VA
Switching current ⁽¹⁾	max. 0,5 A
Contact resistance	< 200 mOhm
Insulation resistance	> 10 ¹¹ Ohm
Permissible ambient temp.	0 to + 55 °C
Protection type (IP)	IP65 (DIN 40050)
Switch-on / -off hysteresis	1 - 2 mm float

⁽¹⁾ Exceeding these values, even temporarily, is not allowed.