

Variable area flowmeter TYPE SK04/SK05/SK06



description:

Variable area flowmeter made of stainless steel are read discharge values in a system and/or to control rates.

product features:

- suitable for **water, air & gases** **depending on type**
- simple mounting and handling
- flow from the bottom up
- maintenance-free

connection

female thread 1/4" – 2" G / NPT
flange connection DN10 – DN80

temperature

up to max. +150°C

pressure

max. 10 bar – depending on design

body material:

borosilicat-glas + stainless steel

measuring cone:

liquids: stainless steel 1.4571

air: aluminium

seal:

FKM, EPDM, FFKM (available from type 05)

flow direction:

vertically upwards

connection:

female thread DIN ISO 228, NPT, flange EN1092-1

connection material:

Stainless steel 1.4571

Union nut:

Aluminium

temperature:

-10°C up to +150°C (from 90°C additional charge for engraved scale)

Environment temp.:

-20°C up to +80°C

measuring accuracy:

liquids: G 1,6 qG 50% (acc. to VDE/VDI 3513, paper 2)

gases: G 2,5 qG 50% (acc. to VDE/VDI 3513, paper 2)

Pressure:

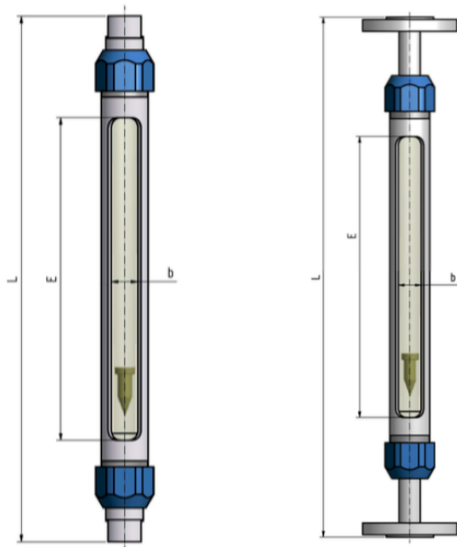
Max. 10 bar (from model 3 max. 8 bar) at 20°C

Scale unit:

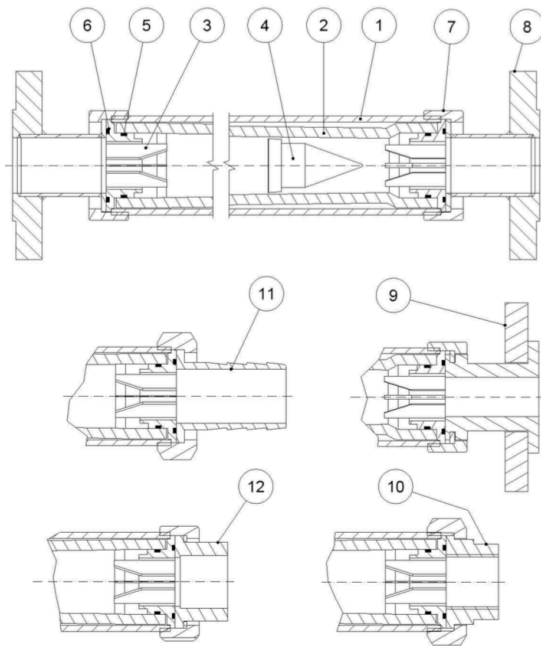
l/h (from type 27 in m³/h)

dimensions:

model	1				2				3			
Female thread	1/4"		3/8"		1/2"		3/4"		1"		2"	
flange	DN10 PN40	DN15 PN40	DN20 PN40	DN25 PN40	DN25 PN40	DN32 PN40	DN40 PN40	DN50 PN40	DN40 PN40	DN50 PN40	DN65 (PN16)	DN80 (PN16)
size E	235 mm				235 mm				235 mm			
length B	19 mm				38 mm				58 mm			
length L thread	375 mm				375 mm				375 mm			
length L flange	425 mm				425 mm				425 mm			
weight in Kg	0,65 / 1,9 kg				1,9 / 3,7 kg				3,8 / 8,7 kg			



Part list:



- 1 Fitting
- 2 Measuring cone
- 3 Stopper
- 4 Float
- 5 O-Ring stopper / Glass
- 6 O-Ring stopper / connection
- 7 Union nut
- 8 Flange connection
- 9 Flange connection in plastic
- 10 Female thread connection
- 11 Hose bushing connection
- 12 Adhesive bushing connection

*) 9., 11. and 12. just on request

measuring ranges:

The column dynamic shows the minimum and maximum of the flow.

For example: row 1, type 01 is usable from 0,1 – 1,0 l/h

liquids (ρ=1 kg/l, viscosity 1mPa s)					pressure loss float
model		1 max. flow	2 max. flow	3 max. flow	
Typ	Dynamik	l/h	l/h	l/h	mbar
01	1:10	1			10
02	1:10	3			10
03	1:10	5			10
04	1:10	10			10
05	1:10	16			10
06	1:10	25			10
07	1:10	30			10
08	1:10	40			10
09	1:10	50			10
10	1:10	65			10
11	1:10	80			10
12	1:10	100			10
13	1:10	125			20
14	1:10	160			20
15	1:10	200			20
16	1:10	250			20
17	1:10	315			40
18	1:10	400			40
19	1:10	500			40
20	1:10		650		19
21	1:10		800		19
22	1:10		1000		19
23	1:10		1250		24
24	1:10		1600		24
25	1:10		2000		33
26	1:10		2500		33
27	1:10		3000		25
28	1:10			4000	25
29	1:10			5000	25
30	1:10			6500	25
31	1:10			8000	25
32	1:10			10000	25
33	1:6			12500	25
34	1:4			16000	25
35	1:3			20000	25
36	1:3			25000	25

air (Pabs=1,013 bar, at T=0C, p=1,239 kg/m ³ , v= 0,0181 mPa s)					pressure loss float
model		1 max. flow	2 max. flow	3 max. flow	
Typ	Dynamik	l/h	l/h	l/h	mbar
01	1:10	16			4
02	1:10	50			4
03	1:10	80			4
04	1:10	160			4
05	1:10	300			4
06	1:10	450			4
07	1:10	500			4
08	1:10	650			4
09	1:10	800			4
10	1:10	1100			4
11	1:10	1400			4
12	1:10	1600			4
13	1:10	2000			6,5
14	1:10	3000			6,5
15	1:10	3600			6,5
16	1:10	4000			6,5
17	1:10	5000			15
18	1:10	6400			15
19	1:10	8000			15
20	1:10		10000		7
21	1:10		13000		7
22	1:10		16000		7
23	1:10		20000		7
24	1:10		28000		9
25	1:10		36000		9
26	1:10		40000		12
27	1:10		50000		12
28	1:10			64000*	10
29	1:10			80000*	10
30	1:10			100000*	10
31	1:10			140000*	10
32	1:10			160000*	10
33	1:6			200000*	10
34	1:4			280000*	10
35	1:3			350000*	10
36	1:3			430000*	10

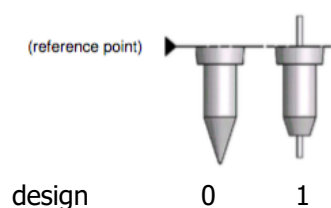
- float guided

note: Different measuring ranges for types with solenoid floats.

design float:

design 0 – float unguided

design 1 – float guided



design 0 1

installation:

For specific device sizes the float is inserted with a plastic net for transport lock. This must be removed through the top of the meter before installation. After that the free movement of the float inside the flow tube should be checked again.

The device must be mounted vertically and stress-free. Reductions, extensions, and control elements upstream and downstream of the meter have no influence on the measurement accuracy with liquids. For gases, however, the installation of the meter is recommended before valves to prevent compression oscillations.

Since variable area flow meters are very sensitive to changes in flow, control elements should always be adjusted slowly. The calibration is carried out for defined conditions. It is essential to ensure compliance with the calibration conditions. Deviations of the density, pressure or temperature of gases, as well as density and viscosity of liquids, result in errors. Therefore it is essential to specify the following data of the medium in the order: the medium, the density and the viscosity at operating temperature and pressure. For gases, the exact reference point for the pressure (gauge or absolute pressure) is also required.

Retrofitting of switching contacts is only possible when the floats are equipped with magnets. When commissioning the contact we recommend to ensure the correct position of the bistable contact by moving the float along the contact in flow direction.

We automatically assume water/air with the above-mentioned parameters if no further information about substances, thickness, viscosity, etc. are given to us.

contacts:

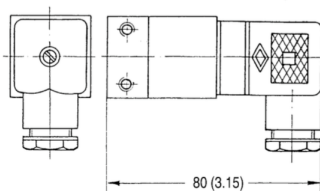
magnetic contacts can be ordered as an option to indicate the position. Measured values can be signalled contactless and reactionless.

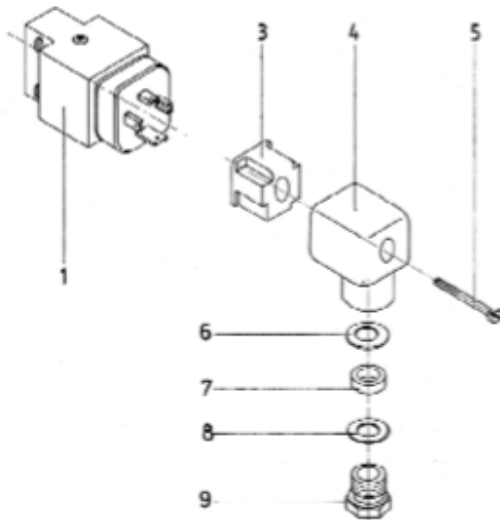
name	contact A (KA) / contact B (KB)
body/plug	PP/PA6
Contact material	Rhodium
Protection class	IP65
Environmental temperature:	-20°C up to 80°C
Max. switching frequency:	5/min
Max. switching capacity	AC 250 V/0,5 A/10 VA DC 250 V/0,5 A/ W

contact A (KA): contact closes when falling below limit
 contact B (KB): contact closes when exceed a limit

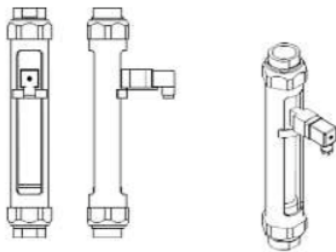
caution:

The maximum switching capacity and the maximum allowable inrush current must not be exceeded, otherwise a welding effect occurs at the contact tongues, thereby bonding with each other.





1. Remove the cable gland (9) and take out the gasket kit (8, 7, 6).
2. Remove the locking screw (5) and pull of the housing (4) from the insert connector (3).
3. Insert the connection cable through the cable gland (9), the gasket kit (6, 7, 8) and the housing.
4. Connect the wires to terminal 1 and 2 of the insert connector.
5. Assemble the rectangular connector in reverse order as described above. Please note, that the cable outlet can be varied by rotating the insert connector (4) through 90°.



When commissioning by the users, we recommend the float of the device once a contact or make contact according to the past out the float. Thus, the correct position of the contact is ensured.

article number:

type	seal	media	measuring range	size
SK04 – DIN ISO 228	1 – EPDM	0 – liquids	01 – type 01	01 – 1/4"
SK05 – NPT*	2 – FKM	1 – air	02 – type 02	02 – DN10 3/8"
SK06 – flange	3 – FFKM**		...	03 – DN15 1/2"
			...	04 – DN20 3/4"
			...	05 – DN25 1"
			35 – type 35	06 – DN32 1 1/4"
			36 – type 36	07 – DN40 1 1/2"
			as seen in the table	08 – DN50 2"
				09 – DN65
				10 – DN80

example no. SK04100204:

SK04	1	0	02	04
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Variable area flowmeter

connection: female thread DIN ISO 228

seal: EPDM

media: liquids

measuring range: type 02 | 0,3 up to 1,0 l/h

size: 3/4"

Note: From 90°C additional charge for engraved scale

*) NPT thread on request

**) FFKM seal on request, only available from measuring range type 05

Image similar, subject change without notice.