


DS12

Variable Area Flowmeter with Glass Measuring Tube

- for liquids and gases
- measuring range water:
0,001..0,025 l/h – 1...10 m³/h
- measuring range air:
0,1..1,25 NI/h – 16...160 Nm³/h
- accuracy class 1,6
- connection thread, flange or clamp
- max. pressure 16 bar, max. temperature: 100°C
- low pressure drop
- optionally with limit switches
-  Ex-Version acc. to ATEX optionally



Description:

The flowmeter DS12 operates according to the proven variable area principle. They devices must be mounted vertically with flow direction from bottom to top.

They consist of a tapered glass measuring tube with a free rotating float. Because of the special design the devices have a very low pressure drop a high measuring accuracy. The glass measuring tube allows a direct display of the flow rate and a visual monitoring of the medium. Because of its length of 300 mm it offers a high resolution.

The measured value can be read at the upper edge of the float. Therefore is a scale burned in the measuring tube. Optionally the flowmeter can be equipped with an adjustable limit switch.

Typical applications:

Because of the wide choice of measuring ranges the flowmeter DS12 can be used in the entire industry. for measuring of low flow rates, water from 0.002...0.025 l/h, air from 0.1...1.75 NI/h, as well as high flow rates, water until 1...10 m³/h, air until 15...160 Nm³/h. The devices are particularly appropriate for a high accuracy, class 1,6, with high resolution or they can indicate low inlet pressures (eg. test rig).

A variety of connections allows universal application. As standard there are BSP and NPT threads available. Optionally the devices can be equipped with a bonded socket, hose fitting in various materials depending on the application.

Technical Data:

Mounting position: vertically, from bottom to top

Accuracy: acc. to VDI 3513 class 1.6
(class 2.5: ranges 113- 123)

Max. pressure:

Order code: 113...147 16 bar
Order code: 144 B...161C 10 bar
Order code: 162...163B 9 bar
Order code: 164...171B 6 bar

Medium temperature: -25 °C...+100 °C
-10...+70 °C (with contact)

Protection class: IP 65

Connection: 1 m cable

Contacts: reed or inductive switch, bistable

Contact rating: 230 V_{AC/DC}, 2 A, 40 VA / W

Reed:

Materials:

Process connection: stainless steel 1.4404

Housing: stainless steel 1.4301

Float: titanium, stainless steel 1.4571,
PTFE, PVDF

Glass: borosilicate

Gaskets: NBR, FKM, EPDM

Options:

Description:	Code:
Oil- and grease free for oxygen applications	OF
Stainless steel type plate	T
Gasket of EPDM	EP

Order Code:

Order number: DS12. G. L. 123. 1. 0. 0

Variable Area Flowmeter with glass measuring tube

Process connection:

Gxx = BSP
Nxx = NPT
Fxx = Flange acc. to DIN- EN 1092
Axx = Flange acc. to ANSI
Cxx = Clamp connection

The nominal size is determined by the individual design of the instrument in relation to the measuring range.

Scale:

L = Scale for air
W = Scale for water
S = Scale for special medium please specify

Measuring range:

see table "Measuring ranges"

Float type:

1 = Titanium
2 = Titanium (with magnet for limit switch)
3 = stainless steel
4 = stainless steel (with magnet for limit switch)
5 = PVDF
6 = PVDF (with magnet for limit switch)
7 = PTFE
8 = PTFE (with magnet for limit switch)

Contacts (float with magnet required):

0 = without
1 = limit switch, N/O increasing
(from measuring range 147B)
2 = limit switch, N/C increasing
(from measuring range 147B)
3 = Inductive contact (measuring range 124 - 147)

Options:

0 = none
x = see table „Options“
9 = please specify in plain text

Accessories:

- Needle valves SNV01, SNV02
- Ball valves SKG01
- Dirt trap SF00, SF01, SF02
- Protection relay for reed contacts MSR01

Measuring ranges:

Nominal size	Water at 20 °C [l/h]	Pressure drop at float [mbar]	Order Code: W...
1/2" to 2 1/2"	0,002...0,025	1	113
	0,002...0,04	1	114
DN 15 to DN 65	0,004...0,063	2	117
	0,005...0,1	2	121
by dimensioning	0,01...0,16	3	122
	0,02...0,25	4	123
	0,02...0,4	1	124
	0,04...0,63	1	127
	0,05...1	2	131
	0,1...1,6	3	132
	0,2...2,5	4	133
	0,2...4	2	134
	0,4...6,3	2	137
	0,5...10	3	141
	1...16	4	142
	2...25	5	143
	2...40	5	144
	4-63	10	147
	10...100	16	151
	16...160	24	152
	25...250	15	153
	40...400	16	154
	63...630	18	157
	100...1000	26	161
160...1600	26	162	
250...2500	30	163	
400...4000	40	164	
600...6300	44	167	
1000...10000	53	171	

Nominal size	Air at 20 °C and 1 bar abs. [Nl/h]	Pressure drop at float [mbar]	Order Code: L...
1/2" to 2 1/2"	0,1...1,75	1	113
	0,2...2,7	1	114
DN 15 to DN 65	0,2...4	2	117
	0,4...6	2	121
by dimensioning	0,5...9	3	122
	1...13	4	123
	2...21	2	124
	2...30	2	127
	4...46	2	131
	4...64	3	132
	5...90	4	133
	10...165	3	134
	20...230	3	137
	20...360	3	141
	40...580	4	142
	50...900	5	143
	100...1450	5	144
	200...2200	10	147
	220...2200	8	152
	340...3400	11	153
	560...5600	6	157
	900...9000	8	163
	1500...15000	10	167
	2300...23000	6	174
3000...32000	5	172	
3600...36000	8	177	
5000...50000	5	173	
8000...82000	29	181	
9000...90000	14	187	
13000...130000	32	182	
15000...150000	17	191	
20000...200000	34	183	

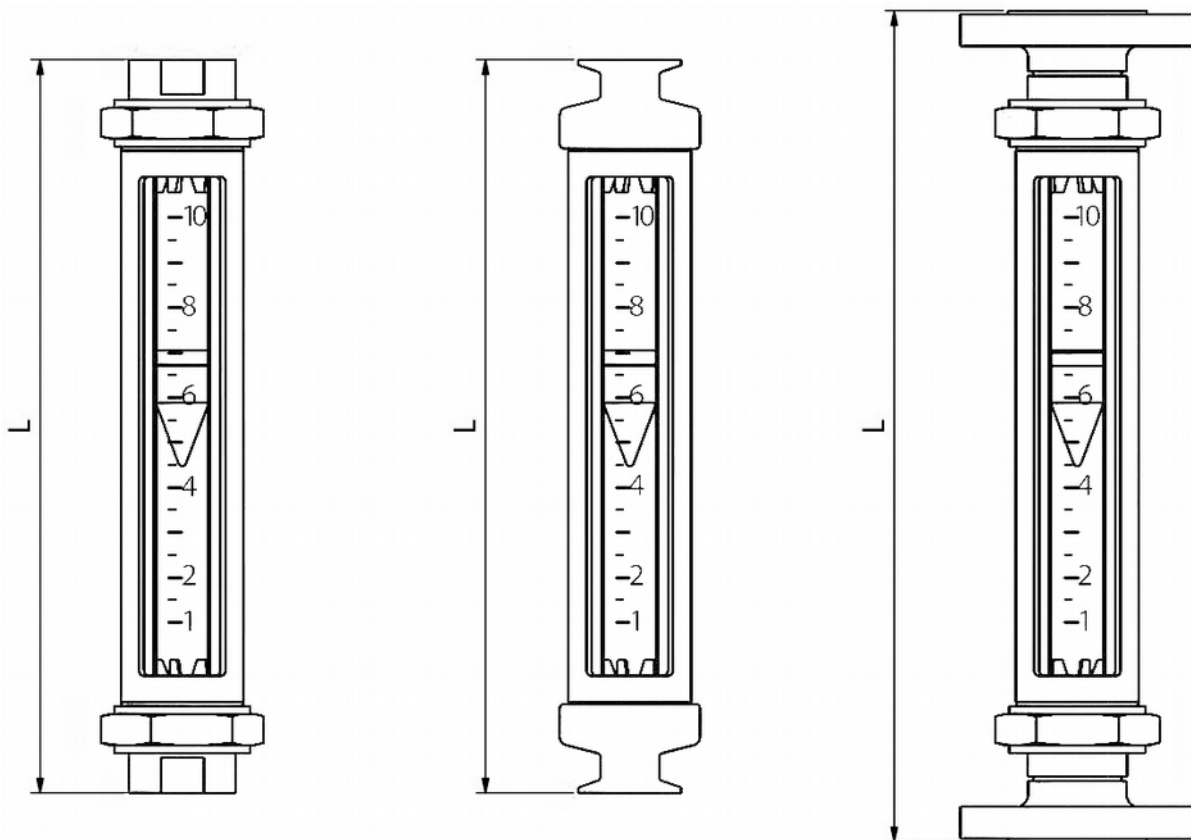
The specified measurement ranges above -especially for air- serve for orientation. Please indicate in your inquiry following process conditions:

- **Medium**
- **Pressure**
- **Temperature**
- **desired connection size** (not all connection sizes can be combined with all measuring ranges)

We compile an individual scale for you without any extra charge.



Dimensions:



Process connection:	Length L: [mm]
Female thread	375
Clamp	375
Flange	425