

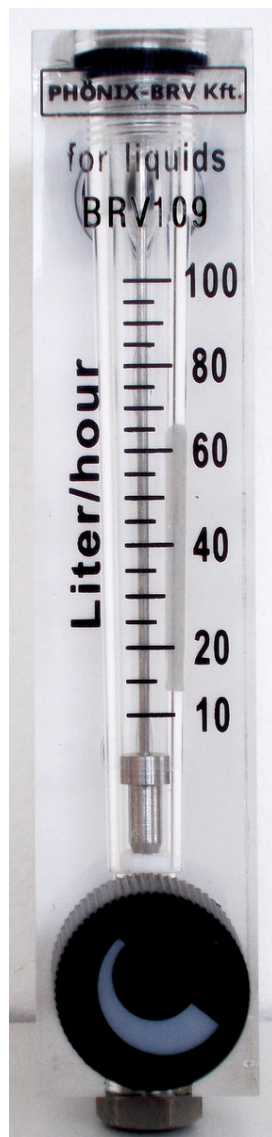
## Product type

## BRV-109

Rev. 3 05/16

### Variable Area Flow Meter

- Flow measuring of liquids and gas
- Can be used in the chemical industry or in medical or laboratory engineering.
- Precision, reliability and efficiency are the remarkable features of this device.
- Robust mechanical system with a low rate of wear
- Extremely compact design



## Function

The fluid flows from bottom to top through the meter tube of the flow meter. The float is lifted until an annular gap between the measuring cone and the float is produced which corresponds to the flow.

The forces acting on the float are in equilibrium. The measured value is displayed on the measuring-tube scale with the upper edge or the indicator edge of the float (ball).

The variable-area flowmeter consists of a stainless steel device with an integrated conical measuringtube made of glass and a vertically movable float. The valve for setting the flow rate is built-in

## Application

The BRV-109 meter is suitable for flow measurement of liquid or gaseous products in pipes. It shows the current flow rate in volume or mass per unit in time.

Applications: flow measurement, dosing, monitoring, adjusting and control of liquid and gaseous products.

The devices are available with additional electrical equipment for process monitoring and control.

- A variety of sealing materials
- Wall mounting possibility
- Flow Controller (option) as inlet or outlet differential pressure regulator
- Contacts

## Technical Data:

### Materials:

Glass tube:

Borosilicate glass

Float:

st.st. 1.4401 (316), glass,

Float stop:

st.st., PVDF

Connections

1.4404 (316 L)

other materials on request

Seals (o-rings):

Viton, FFKM

Process connections:

¼" NPT (F), G ¼", PVC hose connection 8 mm  
other connections on request

Max. pressure:

PN 16

Process temperature:

-20°C to +100°C

-20°C to +70°C

(c/w limit switches)

Ambient temperature:

-20°C to +100°C

-20°C to +70°C

(c/w limit switches)

Ingress protection:

IP 65 (EN 60529)

### Measuring accuracy

Liquids / gases:

± 3 % QG 50 acc. VDE/VDI 3513 page 2

V / N

(differential pressure regulator)

± 3,5 % / ± 5 % FS

within 10-100% of the range

### Repeatability

Liquids / gases

± 1,0 % FS

V / N

(differential pressure regulator)

± 1,5 % / 2,5 % FS

## Electrical output signals

inductive limit switches

## Certificates and approvals

Explosion protection:

in preparation (for mech. instrument)

Contacts  
Ignition category

PTB 00 ATEX 2128 X (c/w limit switches)  
II 2G EEx ia IIC T6-T4

CE-marking:

Ex-guidelines 94/9/EG

EMC:

EMC-guidelines 2004/108/EG

PED:

97/23/EG

## Weights:

**0,40 kg**  
**0,8 kg**

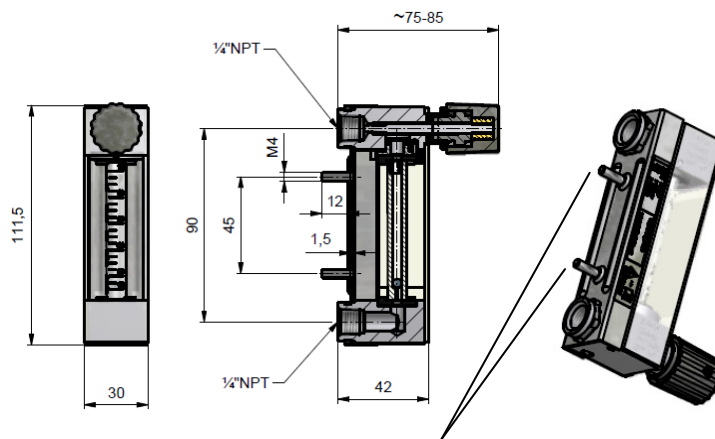
**Standard**  
**c/w differential pressure regulator**

## Ranges

Measuring ranges water 20 °C					Measuring ranges air 1,013 bar abs. 20 °C				
Float st.st. 1.4401 (316) / glass					Float st.st. 1.4401 (316) / glass				
Range N°	Water l/h	ø Float (mm)	ø Valve seat (mm)	Press. loss (mbar)	Range N°	air l/h	ø Float (mm)	ø Valve seat (mm)	Press. loss (mbar)
91	0,02-0,25	glass	2,8	2	88	2-20	glass	2,8	1
92	0,08-0,7	glass	2,8	3	89	4-40	glass	2,8	2
79	0,1-1	1.4401	2,8	2	70	5-50	1.4401	2,8	1
80	0,25-2,5	1.4401	2,8	3	71	10-100	1.4401	2,8	2
81	0,6-5,3	1.4401	2,8	3	72	25-250	1.4401	2,8	2
82	1,0-10	1.4401	2,8	3	73	30-350	1.4401	2,8	2
83	1,5-16	1.4401	2,8	5	74	50-450	1.4401	2,8	3
84	2,5-25	1.4401	2,8	5	75	60-800	1.4401	2,8	3
85	4-40	1.4401	2,8	5	76	120-1200	1.4401	2,8	3
86	6-63	1.4401	2,8	5	77	200-2000	1.4401	2,8	3
87	10-100	1.4401	2,8	6	78	300-3000	1.4401	2,8	3

All ranges and pressure loss at fully opened valve !

## Dimensions



The threaded pins M4 are only mounted if the option „Wall Mounting“ has been selected.

BRV-109-R...-V with 1" NPT (F) with constant outlet pressure