



## Manifold Valves for Multiple Installation for Liquids



measuring  
•  
monitoring  
•  
analysing

USR



- Measuring range:  
water 0.04 - 0.4 ... 1-10 l/min
- Accuracy class:  
2.5 acc. to VDI/VDE
- $p_{max}$ : 16 bar;  $t_{max}$ : 100 °C
- Connection:  
inlet:  
G 1 (1" NPT with adapter)  
outlet:  
G 1/4, G 3/8, 1/4" NPT, 3/8" NPT,  
hose connection:  
Ø9, Ø12, Ø15 mm
- Material: nickel plated brass

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**Description**

The flowmeters model USR for liquids operate on the variable area flowmeters principle, which means that the installation position is vertical and the direction of flow is from bottom to top. The instruments have been designed as simple and thus economical measuring systems. The float for USR is a bomb form float, whereby the indication point is the top of the float. The appliance is available with valve. For centralised flow measurement, for example in cooling systems, we recommend the manifold flowmeters for multiple installation. Up to 24 flowmeters can be assembled in a block provided that maximum flow rate in each unit does not exceed 10 l/min. The ranges and outlet connections of each unit in such a block can be determined separately.

**Applications**

- Cooling circuits
- Pumps

**Technical Details**

Installation position:  
 inlet: horizontal  
 outlet: vertical from bottom to top  
 Flow direction: from left to right or right to left  
 Accuracy class: Class 2.5 acc. to VDI/VDE 3513  
 Max. pressure: 16 bar  
 Process temperature: 0...+100 °C  
 Ambient temperature: 0...+60 °C  
 Protective category: IP 65  
 Connections:  
 inlet: G 1 or (1" NPT with adapter)  
 outlet: G ¼, G ⅜, ¼" NPT, ⅜" NPT (female)  
 hose connection: Ø9, Ø12, Ø15 mm  
 Wall mounting clamps: 2x rubber lined clamps, with M8 clamping screws and dowels (universal, dia.: 12 mm, L= 53 mm)/block

**Material**

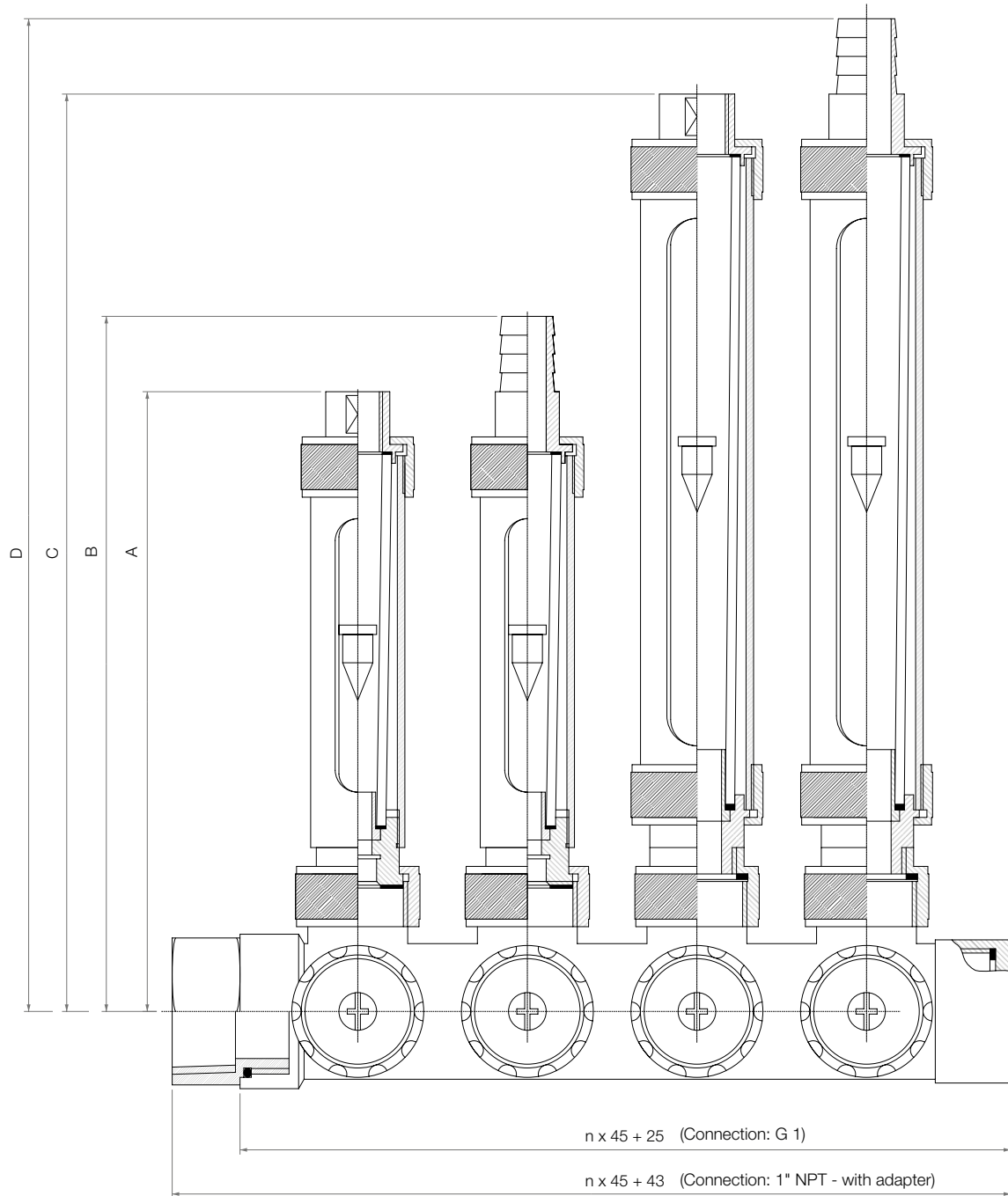
Wetted parts:  
 Measuring tube: borosilicate glass  
 Float stop: PTFE  
 Float: stainless steel  
 Gasket: FPM, EPDM, NBR  
 Block, fitting, valve: nickel plated brass  
 Non wetted part:  
 Protection tube: aluminium

**Order Details** (Example: **USR-2 S 06H L G I2 N 0**)

Model	Unit No.	Size	Ranges water [l/min]	Flow direction <sup>1)</sup>	Connection		Gasket	Option
					Inlet	Outlet <sup>2)</sup>		
USR-	2 = 2-fold 3 = 3-fold 4 = 4-fold M <sup>3)</sup> = multi-fold	S = short	06H = 0.04-0.4 08H = 0.063-0.63 10H = 0.10-1.0 12H = 0.16-1.6 14H = 0.25-2.5 16H = 0.4-4.0 00H <sup>4)</sup> = mixed	L = from left R = from right	G = G 1 N = 1"NPT	I2 = G ¼ N2 = ¼" NPT H3 = hose 9 mm H4 = hose 12 mm XX <sup>5)</sup> = mixed	N = NBR E = EPDM F = FPM	0 = without 2 = with wall mounting clamps Y = special specify in text
			14H = 0.25-2.5 16H = 0.4-4.0 18H = 0.63-6.3 20H = 1-10 00H <sup>4)</sup> = mixed			I3 = G ⅜ N3 = ⅜" NPT H4 = hose 12 mm H5 = hose 15 mm XX <sup>5)</sup> = mixed		

<sup>1)</sup> In case of flow direction »L«, the inlet connection is female, in case of flow direction »R«, the inlet connection is male  
<sup>2)</sup> All outlet threads are female  
<sup>3)</sup> Please specify the unit number up to 24 units in clear text, while ordering. The device will be assembled from 2, 3 and 4-fold units  
<sup>4)</sup> Please specify the different ranges within one block in clear text, while ordering  
<sup>5)</sup> Please specify the different outlet connections within one block in clear text, while ordering

Dimensions [mm]



Size S		Size L	
A	B	C	D
170 mm	190 mm	250 mm	270 mm