

Operating instructions for manifold valves for multiple installation for liquids

Model **USR**



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2. Note

Please read these operating instructions before unpacking and putting the unit into operation. Follow the instructions precisely as described herein. The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and in accordance with local regulations applying to Health & Safety and prevention of accidents.

3. Instrument inspection

Instruments are inspected before shipping and sent out in perfect condition. Should damage to a device be visible, we recommend a thorough inspection of the delivery packaging. In case of damage, please inform your parcel service / forwarding agent immediately, since they are responsible for damages during transit.

Scope of delivery:

The standard delivery includes:

- Manifold valves for multiple installation for liquids: USR
- Operating instructions

4. Regulation use

Any use of the variable area flow meter, model: USR, which exceeds the manufacturers specification, may invalidate its warranty. Therefore any resulting damage is not the responsibility of the manufacturer. The user assumes all risk for such usage.

5. Operating principle

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 centralized 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.

6. Mechanical connection

Before Installation:



- Remove all transportation safety locks and ensure that no packing material remains within the unit.
- Be sure that the maximum allowable operating pressure and temperature is not exceeded (see Technical data).
- Install the flow meter in the piping system, ensure the instrument is under no mechanical stress/tension (install support bracing if necessary).
- Protect the measuring tube from external damage.
- Avoid pressure peaks in the measuring tube, e.g. from sudden surges or stoppage of flow.
- If possible, immediately after making mechanical connections, check whether the connections are properly sealed with no evidence of leakage

7. Maintenance

If the medium to be measured is clean, the series USR is virtually maintenance-free. If deposits form on the inner housing or parts, periodic cleaning of the unit is recommended. Remove the units from the piping with a suitable tool; clean the flow meter with a suitable cleaning agent or make use of an ultrasonic bath.

8. Technical information

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
Process temperature:	0...100°C
Max. pressure:	16 bar
Protection:	IP65
Connections:	
inlet:	G"1 or (1"NPT with adapter)
outlet:	G"1/4, G"3/8, 1/4"NPT, 3/8"NPT (female) hose connection: Ø10, Ø13, Ø15mm

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

9. Order codes

Model	Unit No.	Size	Ranges water [l/min]	Flow direction ¹	Connection		Gasket	Option
					Inlet	Outlet ²		
USR	2 =2-fold 3 =3-fold 4 =4-fold M ³ =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 ⁴ = mixed	L =from left R =from right	G =G"1 N =1"NPT	I2 =G"¼ N2 = ¼"NPT H3 =hose Ø10 H4 =hose Ø13 XX ⁵ =mixed	N =NBR E =EPDM F =FPM	0 =without 1 =with wall brackets Y =special specify in text
		L =long	14H =0,25-2,5 16H =0,4-4,0 18H =0,63-6,3 20H =1-10 00H ⁴ =mixed			I3 =G"⅜ N3 = ⅜"NPT H4 =hose Ø13 H5 =hose Ø15 XX ⁵ =mixed		

¹⁾ In case of flow direction »L«, the inlet connection is female, in case of flow direction »R«, the inlet connection is male

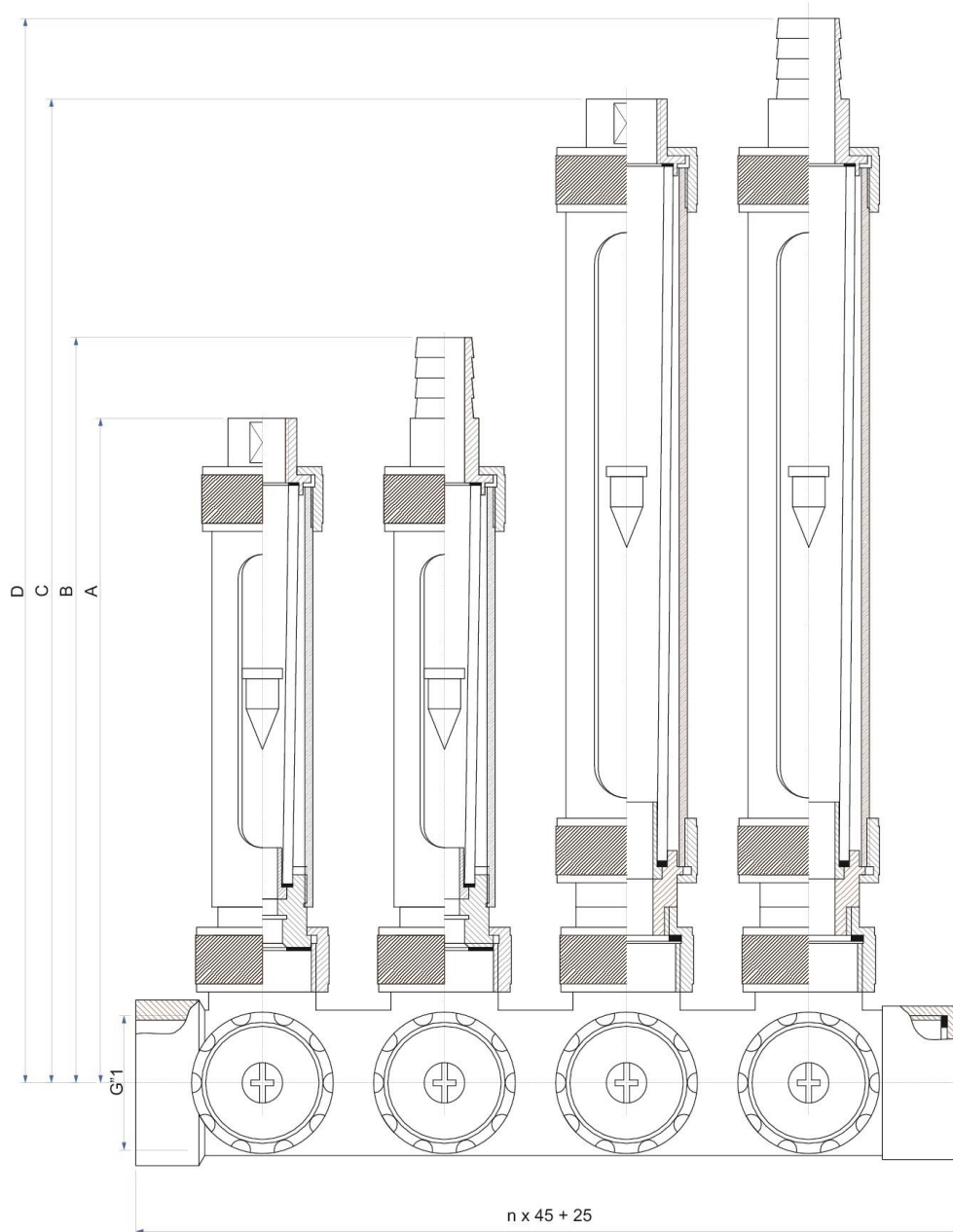
²⁾ All outlet threads are female

³⁾ 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

⁴⁾ Please specify the different ranges within one block in clear text, while ordering

⁵⁾ Please specify the different outlet connections within one block in clear text, while ordering

10. Dimensions



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

11. Declaration of conformance

We, KOBOLD Unirota Kft. Nyíregyháza Hungary, declare under our sole responsibility that the product:

Variable area flow meter Model: USR

to which this declaration relates is in conformity with the standards noted below:

EN 61000-6-2:2006 Immunity industrial environment

EN 61000-6-3:2011 Emission residential, commercial

EN 55011:2009+A1:2010 ISM ratio-frequency equipment

EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use – EMC requirements

EN 61010-1:2011 Safety requirements for electrical measuring, control and laboratory devices

Also the following EC guidelines are fulfilled:

2014/30/EU EMC Directive

2011/65/EU RoHS (category 9)

Nyíregyháza, 24.10.2017


Denes Szabo


Sandor Toth