Operating Instructions

for

Variable area flow meter

Model: URL

1. Contents

Manufactured by:

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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 instruction manuals on our website www.kobold.com are always for currently manufactured version of our products. Due to technical changes, the instruction manuals available online may not always correspond to the product version you have purchased. If you need an instruction manual that corresponds to the purchased product version, you can request it from us free of charge by email (info.de@kobold.com) in PDF format, specifying the relevant invoice number and serial number. If you wish, the operating instructions can also be sent to you by post in paper form against an applicable postage fee.

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.

When used in machines, the measuring unit should be used only when the machines fulfil the EC-machine guidelines.

as per PED 2014/68/EU
In acc. with Article 4 Paragraph (3), "Sound Engineering Practice", of the PED 2014/68/EU no CE mark.

Pipe filled with		
gas	liquid	
group 2	group 1	group 2
table 7	table 8	table 9

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:
- Variable area flow meter model: URL
- Inductive switch (option)

4. Regulation Use

Any use of the device, which exceeds the manufacturer's 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 Kobold URL model flowmeter/monitor works on the basis of the suspended float principle. It is used for measuring the flow rates in closed pipe line systems.
The medium flows from below through a glass measuring cone that gets wider on top. Thus, the float is raised and indicates the respective flow rate on the scale provided on the measuring cone. To monitor flow rate limits, the URL meters can be optionally furnished with "open collector" proximity switches.
This plastic version is not only economical but also resistant against several chemicals. By its special design, this model is particularly suitable for applications where only very small operating pressures are available. Another advantage is offered by the very large sight glass which optically allows direct flow observation.

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. Operation

In order to initialise the inductive switch function, it is essential that the float activates the contact once in each direction.

Adjustment of limit-values
The switch-point can be adjusted to the desired levels by using.
Reference edge: approx. the middle of the sensor.
Slide the switch housing up or down until the reference edge coincides with the desired switch-point scale reading.

Overranging
With non-pulsating flow, the maximum flow rate can be exceeded. Only an increase in pressure loss will result (max. permissible operating pressure must not be exceeded!)

8. Maintenance

If the medium to be measured is clean, the series URL 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.

9. Technical Information

Installation position:	vertical
Accuracy class:	4 acc. to VDI
Max. temperature:	100°C (65°C for PVC)
Max. pressure:	10 bar
Calibration conditions:	water: 20°C, air: 20°C, air pressure: 1.013 bar abs.
Ambient temperature:	-25…+70 °C
Protective category:	IP 67

10. Order Codes

Model	Material combination	Measuring range		Pressure loss [mbar]	Loose flange EN 1092-01 Type 02	Contacts
		water [L/h]	air [m^3_N/h]			
URL-	VD DD 99**		05L = 0.025…0.25	10	F4 = DN15	0* = no contact
		07H = 1.0…10	07L = 0.040…0.40	12		
		09H = 1.6…16	09L = 0.063…0.63	9		
		11H = 2.5…25	11L = 0.10…1.0	17		
		13H = 4.0…40	13L = 0.16…1.6	24		
		15H = 6.3…63	15L = 0.25…2.5	28	F6 = DN25	
		17H = 10…100	17L = 0.4…4.0	36		
		19H = 16…160	19L = 0.63…6.3	34		
		21H = 25…250	21L = 1.0…10	43		
		23H = 32…320	23L = 1.3…13	48		
		25H = 40…400	25L = 1.6…16	51	F7 = DN32	
		27H = 50…500	27L = 2.0…20	57		
		29H = 63…630	29L = 2.5…25	93	F8 = DN40	
		31H = 100…1000	31L = 4.0…40	102		
		33H = 160…1600	33L = 6.3…63	95		
		35H = 250…2500	35L = 10…100	102		

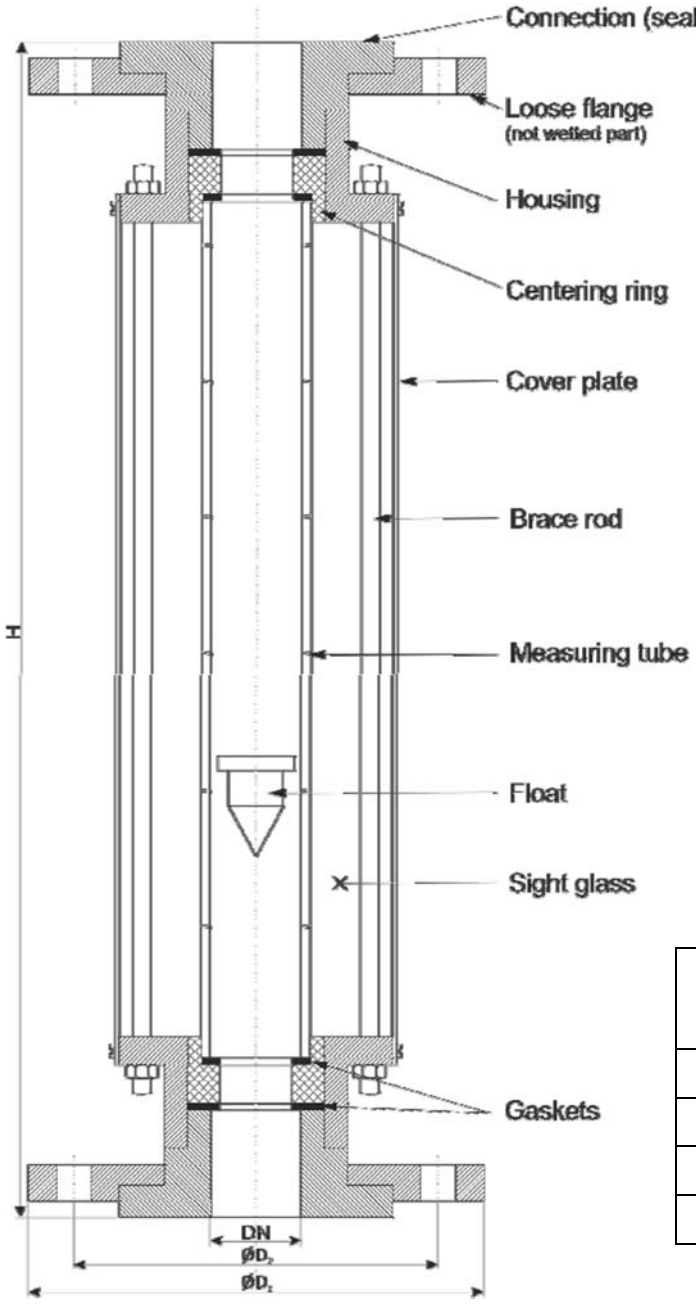
*Other switching functions on request
**Customer specification on request

Material combination URL

Order code	Connection	Float	Gaskets	Centering ring	Loose flange*	Housing*	Cover plate*	Sight glass*	Measuring tube
VD	PVC	PTFE	NBR	PVC	PVC	1.4301	1.4301	plexiglass	borosilicate glass
DD	PTFE	PTFE	PTFE	PTFE					
99**	PVC PTFE	PTFE PVC PP	NBR EPDM FPM PTFE	PVC PTFE	PVC 1.4301				

* No contact with medium
** Customer specification on request

11. Dimensions



Model	H [mm]	DN	PN 16	
			D_1 [mm]	D_2 [mm]
URL-..F4	400	15	95	65
URL-..F6	420	25	115	85
URL-..F7	440	32	140	100
URL-..F8	460	40	150	110

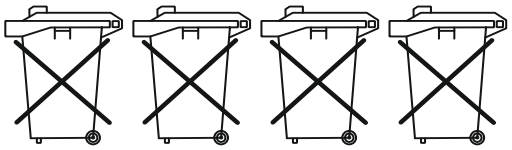
12. Disposal

Note!

- Avoid environmental damage caused by media-contaminated parts
- Dispose of the device and packaging in an environmentally friendly manner
- Comply with applicable national and international disposal regulations and environmental regulations.

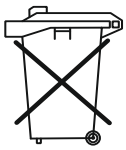
Batteries

Batteries containing pollutants are marked with a sign consisting of a crossed-out garbage can and the chemical symbol (Cd, Hg, Li or Pb) of the heavy metal that is decisive for the classification as containing pollutants:



1. „Cd" stands for cadmium
2. „Hg" stands for mercury
3. „Pb" stands for lead
4. „Li" stands for lithium

Electrical and electronic equipment



13. EU Declaration of Conformance

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

Variable area flow meter **Model: URL-…**

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

EN IEC 63000:2018 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Also, the following EC guidelines are fulfilled:

2011/65/EU **RoHS** (category 9)
2015/863/EU Delegated Directive (RoHS III)

Nyíregyháza, 10 May 2022

Dénes Szabó
General Manager