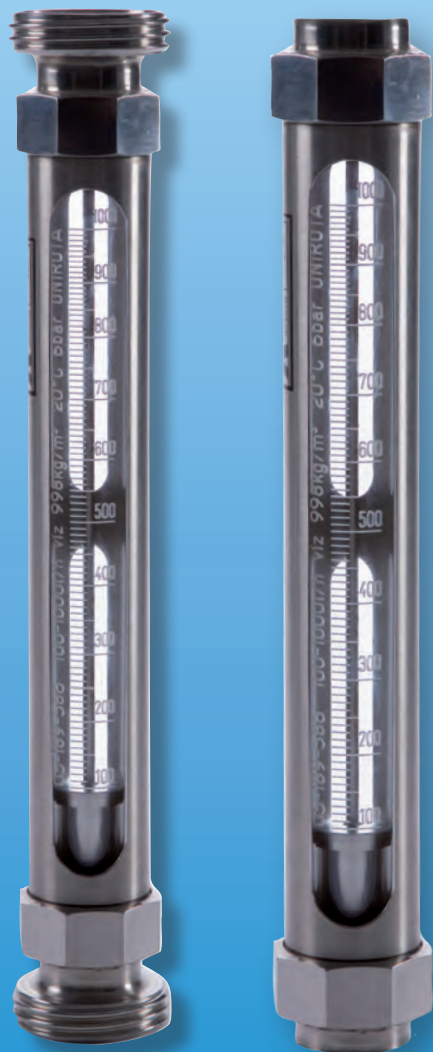


Glass Tube Variable Area Flowmeter



measuring
•
monitoring
•
analyzing

URM



- Measuring Range:
Water: 0.25... 2.5 LPH to 2,500... 25,000 LPH
Air: 0.0032... 0.032 Nm³/h to 32... 320 Nm³/h
- Accuracy: $\pm 2\%$ $q_G = 50\%$
(2.5% for Gases)
- Max Pressure: 232 PSIG
- Max Temperature: 212 °F (149 °F for PVC)
- Connection: 1/4" ... 3" NPT or G 1/4... 3
- Material: 304 SS, 316L SS



KOBOLD companies worldwide:

AUSTRALIA, AUSTRIA, BELGIUM, BULGARIA, CANADA, CHINA, CZECHIA, FRANCE, GERMANY, GREAT BRITAIN, HUNGARY, INDIA, INDONESIA, ITALY, MALAYSIA, MEXICO, NETHERLANDS, PERU, POLAND, REPUBLIC OF KOREA, RUSSIA, SPAIN, SWITZERLAND, THAILAND, TUNISIA, TURKEY, USA, VIETNAM

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Description

The KOBOLD URM model flowmeter works on the basis of the suspended float principle. It is used for measuring the flow rates in closed pipe systems. The media flows from bottom to top through a conical glass measuring tube that gets wider on top. The float finds equilibrium within and indicates the respective flow rate on the scale provided on the measuring tube relative to flow rate. By its special design, this model is particularly suitable for applications where very small operating pressures are available. Another advantage is offered by the very large sight glass which allows for direct observation of flow.

Applications

- Domestic Engineering
- Cooling Circuits
- Plant Engineering
- Water Treatment
- Heating
- Machine Tools
- Solar Powered Systems
- Welding Machines
- Paper Machines
- Glass Melting Pots
- Extrusion Machines
- Induction Furnaces

Wetted Components

Process Connections

URM-3: 304 Stainless Steel

URM-5: 316L Stainless Steel

Measuring Tube: Borosilicate Glass

Float

URM-3: 304 Stainless Steel

URM-5: 316L Stainless Steel

URM-x...63L..., URM-x...65L...: Aluminum

Gasket Seals: NBR, FKM, EPDM, or PTFE

Centering Rings: PTFE

Protection Tube: 304 Stainless Steel



Technical Data

Installation Position:

Vertical Flow Up

Accuracy Class:

$\pm 2\%$ $q_G = 50\%$ (2.5% for gases) acc. VDE/VDI 3513 page 2

Max. Temperature:

212 °F

Max. Pressure

01G...37G: 232 PSIG

43G...57G: 174 PSIG

63G...65G: 116 PSIG

01L...37L: 232 PSIG

43L...55L: 145 PSIG

63L...65L: 87 PSIG

Calibration Conditions:

Water: 68 °F, Air: 68 °F,
Air Pressure: Atmospheric

Ambient Temperature:

-10...160 °F

Protective Category:

IP 67

Switch (optional)

Proximity Switch:

PNP Open Collector, N/O
Switch (monostable,
bistable upon request)

Ambient Temperature:

-13... 158 °F

Supply Voltage:

10... 30 V_{DC}

Max Power Consumption:

Vertical Flow Up

Switching State:

LED, Yellow

Cable:

6.5 ft, PVC-insulated

Protection:

IP67

Materials

Material Combinations

Ordering Code	Connection	Float	Seal	Centering Ring	Protection Tube	Measuring Tube
33	304 SS	304 SS	NBR	PVC	304 SS	Borosilicate Glass
55	316L SS	316L SS	FKM	PTFE		
99 ¹⁾	304 SS 316L SS	304 SS 316L SS Aluminum PTFE PVC PP	NBR EPDM FKM PTFE	PVC PTFE 304 SS		

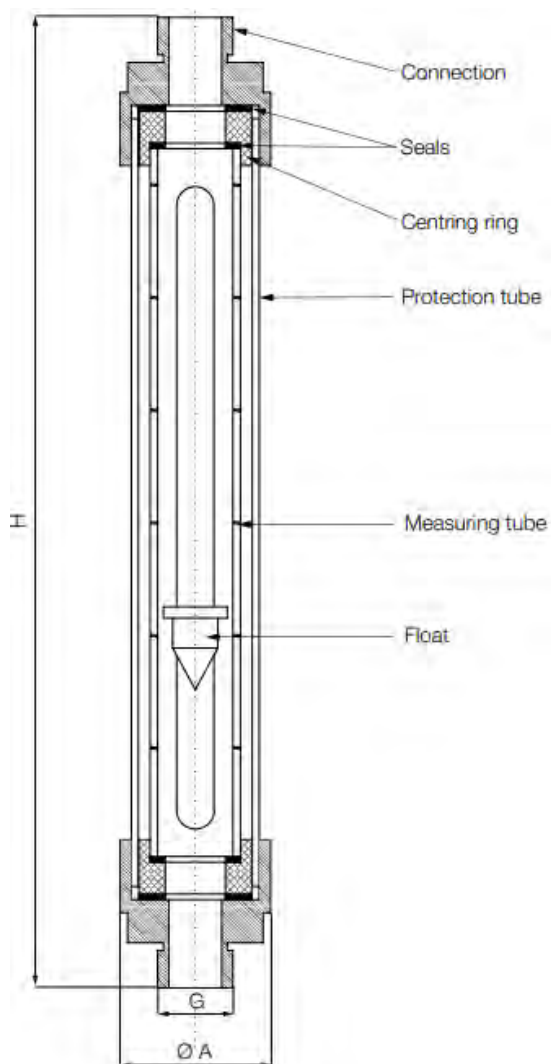
¹⁾ Customer specification on request

Order Details (Example: URM- 33 37H M5 1B)

Model	Material Combination	Instrument Length	Measuring Range		Pressure Loss (PSI)	Thread Connection ³⁾		Switch ¹⁾
			Water (l/h)	Air (Nm³/h)		Female (NPT)	Male (NPT)	
URM- ..	..33.. ..55.. ..99 ²⁾ ..	8.27"	..01H.. = 0.25... 2.5	..01L.. = 0.0032... 0.032	0.09	..M2.. = 1/4" ..M3.. = 3/8" ..M4.. = 1/2"	..N2.. = 1/4" ..N3.. = 3/8" ..N4.. = 1/2"	..00 = none
			..03H.. = 0.4... 4	..03L.. = 0.008... 0.08"	0.09			
			..05H.. = 0.63... 6.3	..05L.. = 0.02... 0.2	0.12			
			..07H.. = 1... 10	..07L.. = 0.032... 0.32	0.15			
			..09H.. = 1.6... 16	..09L.. = 0.05... 0.5	0.15			
		14.17"	---	..11L.. = 0.02... 0.2	0.15	..M2.. = 1/4" ..M3.. = 3/8"	..N2.. = 1/4" ..N3.. = 3/8" ..N4.. = 1/2"	
			..13H.. = 1... 10	..13L.. = 0.032... 0.32	0.15			
			..15H.. = 1.6... 16	..15L.. = 0.05... 0.5	0.15			
			..17H.. = 2.5... 25	..17L.. = 0.08... 0.8	0.18			
			..19H.. = 4.0... 40	..19L.. = 0.13... 1.3	0.18			
		14.17"	..22H.. = 6.3... 63	..22L.. = 0.2... 2.0	0.25	..M3.. = 3/8" ..M4.. = 1/2"	..N3.. = 3/8 ..N4.. = 1/2" ..N5.. = 3/4"	..00 = none ..1A = 1x N/O, PNP ..2A = 2x N/O, PNP
			..24H.. = 10... 100	..24L.. = 0.32... 3.2	0.35			
			..26H.. = 16... 160	..26L.. = 0.5... 5.0	0.41			
			..28H.. = 25... 250	..28L.. = 0.8... 8.0	0.36			
		14.17"	..33H.. = 40... 400	..33L.. = 1.3... 13	0.52	..M4.. = 1/2" ..M5.. = 3/4"	..N4.. = 1/2" ..N5.. = 3/4" ..N6.. = 1"	..00 = none ..1B = 1x N/O, PNP ..2B = 2x N/O, PNP
			..35H.. = 63... 630	..35L.. = 2.0... 20	0.49			
			..37H.. = 100... 1,000	..37L.. = 3.2... 32	0.62			
		17.32"	..43H.. = 100... 1,000	..43L.. = 3.2... 32	0.62	..M5.. = 3/4" ..M6.. = 1" ..M7.. = 1-1/4"	..N5.. = 3/4" ..N6.. = 1" ..N7.. = 1-1/4" ..N8.. = 1-1/2"	
			..45H.. = 160... 1,600	..45L.. = 5.0... 50	0.70			
			..47H.. = 250... 2,500	..47L.. = 8.0... 80	0.74			
		17.32"	..53H.. = 400... 4,000	..53L.. = 13... 130	0.74	..M6.. = 1" ..M7.. = 1-1/4" ..M8.. = 1-1/2" ..M9.. = 2"	..N6.. = 1" ..N7.. = 1-1/4" ..N8.. = 1-1/2" ..N9.. = 2"	..00 = none ..1C = 1x N/O, PNP ..2C = 2x N/O, PNP
			..55H.. = 630... 6,300	..55L.. = 20... 200	0.83			
			..57H.. = 1,000... 10,000	---	1.02			
		23.62"	..63H.. = 1,600... 16,000	..63L.. = 32... 320	1.35	..M8.. = 1-1/2" ..M9.. = 2" ..MA.. = 2-1/2" ..MB = 3"	..N8.. = 1-1/2" ..N9.. = 2" ..NA.. = 2-1/2" ..NB.. = 3"	
			..65H.. = 2,500... 25,000		1.48			
			On Request	YYY = Others			On Request	

¹⁾ Monostable switch. Other switching functions on request.²⁾ Customer specification on request.³⁾ For G threads, please replace "Mx" with "Ix" and "Nx" with "Gx".

Dimensions



URM with Female/Male Thread (F = Female/M = Male)												
Model	H	A	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
URM-xx 0...	8.27"	1.16"	F/M	F/M	F/M	-	-	-	-	-	-	-
URM-xx 1...	14.17"	1.16"	F/M	F/M	-/M	-	-	-	-	-	-	-
URM-xx 2...		1.57"	-	F/M	F/M	-/M	-	-	-	-	-	-
URM-xx 3...		1.95"	-	-	F/M	F/M	-/M	-	-	-	-	-
URM-xx 4...	17.32"	2.44"	-	-	-	F/M	F/M	F/M	-/M	-	-	-
URM-xx 5...		3.23"	-	-	-	-	F/M	F/M	F/M	F/M	-	-
URM-xx 6...	23.62"	4.80"	-	-	-	-	-	-	F/M	F/M	F/M	F/M



URM Application Guide

Rev 09/12/18

General Information

Contact Name: _____

Company Name: _____

Phone: _____

Email: _____

Quote Number (if already quoted): _____

Date: _____

Part Number: _____

Number of Pieces Required: _____

This has not been quoted yet and pricing is required.

Design Conditions

Accurate design pressure and temperature are essential to ensure the flowmeter will be built to operate without damage. Please fill out accurately and completely.

1. Maximum Pressure: _____ PSIG

2. Maximum Temperature: _____ °F

Calibration Conditions

Accurate calibration conditions are required to ensure that the flowmeter will be factory calibrated to give accurate readings at the user's normal operating conditions.

Conditions for Liquid Flow Applications

1. Type of Liquid: _____

2. Normal Operating Temperature: _____ °F

3. Viscosity at Normal Operating Temp: _____

4. Density or S.G. at Normal Operating Temp: _____

5. Desired Measuring Range and Units: _____

Note: Items 3 & 4 not required for water flow.

Version:

G Female Threaded: Size Desired _____

NPT Female Threaded: Size Desired _____

Tri Clamp: Size Desired _____

Conditions for Gas Flow Applications

1. Type of Gas: _____

2. Normal Operating Temperature: _____ °F

3. Viscosity at Normal Operating Temp: _____

4. Density or S.G. at Normal Operating Temp: _____

5. Desired Measuring Range and Units: _____

Note: The calibration pressure required is the pressure that the meter sees at its outlet fitting.

G Male Threaded: Size Desired _____

NPT Male Threaded: Size Desired _____

O-Ring:

NBR

FKM

PTFE

EPDM

Options:

PNP Switch (specify: none, 1, or 2): _____

Other Options / Custom Configurations / Special Requirements: