



## GENERAL

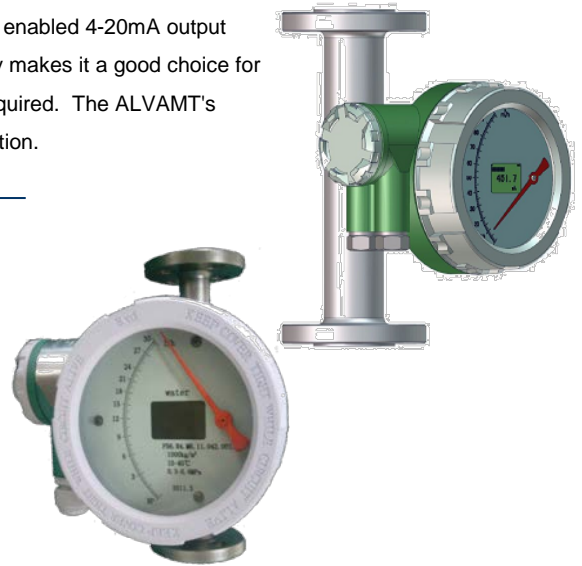
The **ALVAMT** rugged metal tube variable area meters (rotameters) are ideal for high pressure, high temperature and other demanding flow applications where safety is a concern. Features include: mechanical readouts for use in locations where power is not available or in hazardous areas; analog and digital LCD local display options, multiple process connection options; several available materials of construction for metering of aggressive fluids and corrosion resistance; and HART enabled 4-20mA output to provide for remote monitoring and control. The ALVAMT's excellent repeatability makes it a good choice for batching applications. For versions without electronic output, no power supply is required. The ALVAMT's low-pressure drop provides additional value by allowing for economical pump selection.

## FEATURES

- Versatile design may be used for gas, steam, and liquids
- High resolution and fast response time - 5 to 50 msec
- Wide temperature range from -40 up to +400°C
- High pressure operation up to 420 bars
- Process connections including NPT threads, ANSI flanged, & Tri-Clamp available
- Electronics either intrinsically safe EEx ia II CT5, or Ex proof EEx d II CT6
- Wide array of materials available including Hastelloy B & C, Ti, Cu, Al, etc..
- PTFE and other liner materials available
- NIST-traceable

## SPECIFICATIONS

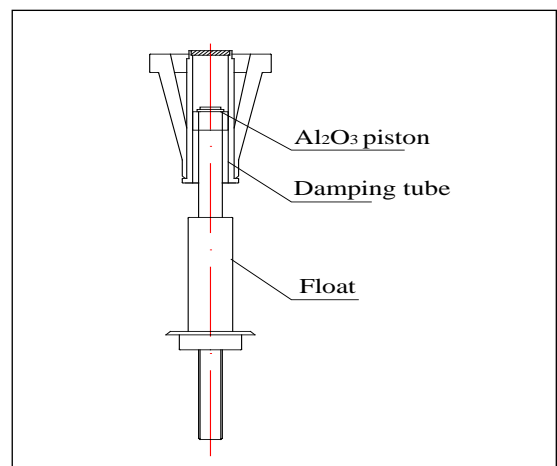
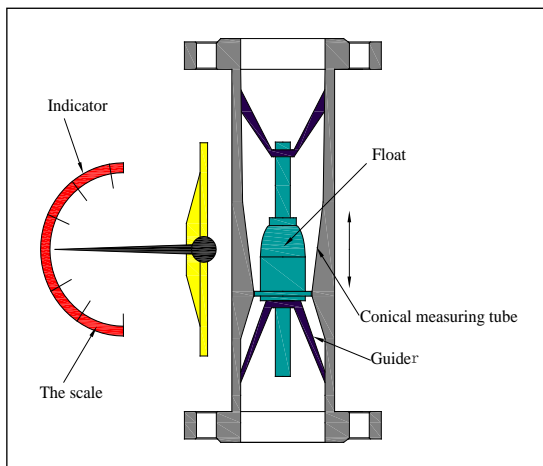
● Sizes	15 ~ 250mm	● Hazardous approvals	Ex ia II CT1-T6 Ex d II CT6
● Measuring Ranges	Water (20°C) 10~300,000 L/h Air (20°C, 0.1013MPa) 0.3 ~ 4500 m <sup>3</sup> /h	● Protection	IP67, IP65/NEMA 4X
● Temperature	Mechanical couter -80 up to +400 °C Electronic transmitter -40 up to +250 °C	● Ambient temperature	Mechanical couter -40 up to 120 °C Electronic transmitter -40 up to 60 °C
● Pressure	DN15~DN50 - 42.0MPa DN80~DN250 - 4MPa	● Cable entry	M20 x 1.5, ½"G, ½"NPT, ¾"G, ¾"NPT
● Process Connections	ANSI, DN & JIS flanges threaded and sanitary	● Display and electronics	<b>P8</b> - Stainless steel housing , dial indicating flow value <b>P10</b> - 2-wire (4-20)mA / HART output, Exi or Exd and alarms <b>P10I</b> - Mechanical indicator with Exd protection,selectable switches <b>P10B</b> - P10I indicator with LCD display and 3.6V lithium battery
● Turndown ratio	10:1	● Meter Structures	Top enter, bottom enter Bottom enter, left exit Bottom enter, right exit Left enter, right exit Right enter, left exit Left enter, left exit Right enter, right exit
● Accuracy	Mechanical couter ±1.5 % FS Electronic transmitter ±1.0% FS		
● Viscosity	DN15 <30 mPa.s, DN25 <250 mPa.s DN50-250 <300 mPa.s		
● Metering tube	316/316L SS, WNR 1.4401/1.4404 6Mo, Monel,Hastelloy C,B, Titanium Gr. II 316 SS (dual certified) with E/TFE lining		



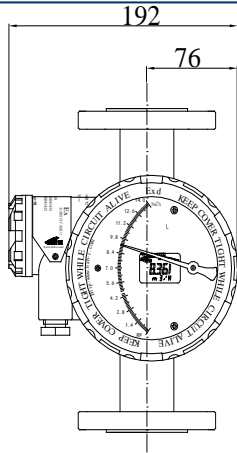
➤ Flow range

DN	Floats (please consult factory with float #)	Water (l/h)		Air (Nm <sup>3</sup> /h)	Pressure loss kPa
		CrNiSteel	PTFE	CrNiSteel	
DN15	KV15.00 to KV15.10	1-10 to 6-60	2.5-25 to 6-60	0.03-0.3 to 0.18-1.8	1.5
	KV15.11 to KV15.17	7-70 to 20-200	7-70 to 20-200	0.21-2.1 to 0.6-6	1.5
	KV15.18 to KV15.23	22-220 to 40-400	22-220 to 40-400	0.66-6.6 to 1.2-12	3
	KV15.24 to KV15.30	45-450 to 100-1000	Consult factory	1.35-13.5 to 3-30	3.5
DN20	KV20.0 to KV20.5	80-800 to 250-2500	80-800 to 160-1600	2.4-24 to 6-60	Consult factory
DN25	KV25.0 and KV25.1	100-1000 and 120-1200	100-1000 and 120-1200	3-30 and 3.6-36	1.5
	KV25.2 and KV25.3	160-1600 and 200-2000	160-1600 and 200-2000	4.8-48 and 6-60	3
	KV25.4 and KV25.5	250-2500 and 300-3000	350-3500 to 450-4500	7.5-75 and 9-90	3.5
	KV25.6 to KV25.8	350-3500 to 450-4500	350-3500 to 450-4500	10.5-105 to 13.5-135	8
	KV25.9 to KV25.11	500-5000 to 600-6000	Consult factory	15-150 to 18-180	16
DN32	KV32.0 to KV32.3	400-4000 to 800-8000	400-4000 to 500-5000	12-120 to 24-240	Consult factory
DN40	KV40.0 to KV40.3	500-5000 to 1000-10000	500-5000 to 600-6000	15-150 to 30-300	Consult factory
DN50	KV50.0 and KV50.1	600-6000 and 800-8000	600-6000 and 800-8000	18-180 and 24-240	3
	KV50.2 to KV50.4	1K-10K to 1.4K-14K	1K-10K to 1.4K-14K	30-300 to 42-420	4
	KV50.5 and KV50.6	1.6K -16K and 1.8K to 18K	1.6K-16K	48-480 and 54-540	8
	KV50.7 and KV50.8	2K-20K and 2.5k to 25K	Consult factory	60-600 and 75-750	16
DN65	KV65.0 to KV65.4	1.2K-12K to 3K-30K	1.2K-12K to 2K-20K	36-360 to 90-900	Consult factory
DN80	KV80.1 to KV80.3	2.5K-25K to 3.5K to 35K	2.5K-25K to 3.5K to 35K	75-750 to 105-1050	14
	KV80.4 and KV80.5	4K-40K and 5K to 50K	4K-40K	120-1200 and 150-1500	22
	KV80.6 and KV80.7	6K-60K and 6.5K to 65K	Consult factory	180-1800 and 195-1950	25
DN100	KV100.0-KV10.3	5K-50K to 8K-80K	5 50K, 6K-60K	150-1500 to 240-2400	30
	KV100.4 and KV100.5	9k-90K and 10K to 100K	Consult factory	270-2700 and 300-3000	40
DN125	KV125.0 and KV125.1	10K-100K and 12.5K-125K	10K-100K and 12.5K-125K	300-3000 and 380-3800	45
	KV125.2	15K-150K	Consult factory	Consult factory	48
DN150	KV150.0	12.5-125K	12.5-125K	380-3800	45
	KV150.1 and 150.2	15K-150K and 16K-160K	15K-150K	450.01-4500.1	50
	KV150.3 and KV150.4	18K-180K and 20K-200K	Consult factory	Consult factory	60
DN200	KV200.0 and KV200.1	16K-160K and 18K-180K	16K-160K and 18K-180K	Consult factory	60
	KV200.2 and KV200.3	20K-200K and 25K-250K	Consult factory	Consult factory	65
DN250	KV250.0	22K-220K	22K-220K	Consult factory	65
	KV250.1 and KV250.2	25K-250K and 30K to 300K	Consult factory	Consult factory	75

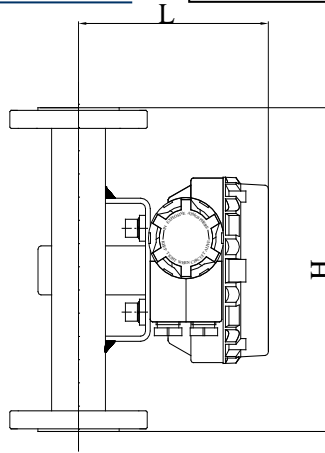
➤ Principle



Flange connection dimensions

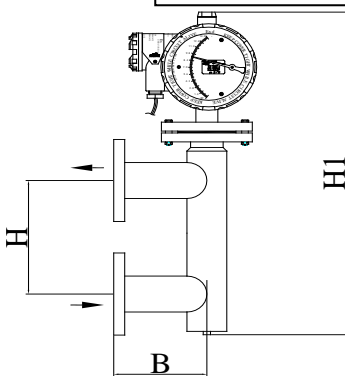


Vertical mounting



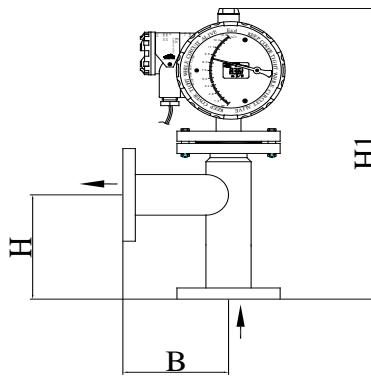
Dimensions		H	L
Nominal size	DN15	250	156
	DN20	250	162
	DN25	250	165
	DN32	250	171
	DN40	250	177
	DN50	250	180
	DN65	250	187
	DN80	250	194
	DN100	250	203
	DN125	400	213
DN150	400	225	
DN200	450	245	
DN250	450	253	

Side in side out mounting



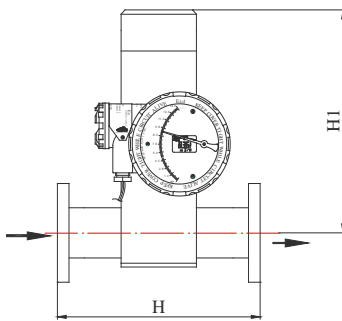
Dimensions		H	H1	B
Nominal size	DN15	200	500	100
	DN20	200	500	100
	DN25	200	500	100
	DN32	200	500	100
	DN40	250	600	120
	DN50	250	600	120
	DN65	350	700	160
	DN80	350	700	160
	DN100	350	750	180
	DN125	400	800	250
DN150	450	850	250	

Bottom in side out mounting



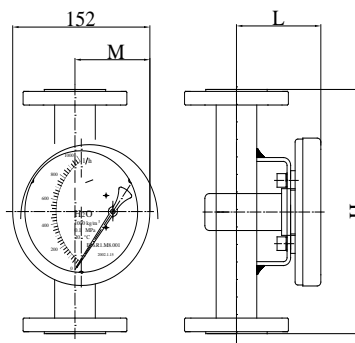
Dimensions		H	H1	B
Nominal size	DN15	200	500	100
	DN20	200	500	100
	DN25	200	500	100
	DN32	200	500	100
	DN40	250	600	120
	DN50	250	600	120
	DN65	350	700	160
	DN80	350	700	160
	DN100	350	750	180
	DN125	400	800	250
DN150	450	850	250	

Horizontal mounting



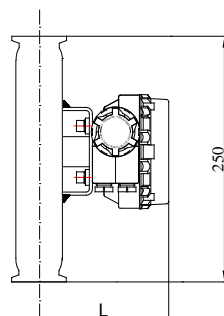
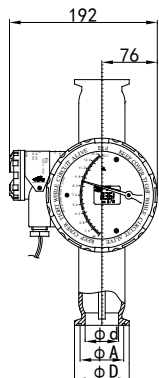
尺寸	H	H1
DN15	200	255
DN20	200	255
DN25	200	255
DN32	250	250
DN40	250	245
DN50	250	245
DN65	300	255
DN80	350	270
DN100	350	280
DN125	400	415
DN150	400	440
DN200	500	520

P8 mounting



Dimensions		H	L	M
Nominal size	DN15	250	87	69
	DN20	250	93	74
	DN25	250	96	78
	DN32	250	102	84
	DN40	250	108	89
	DN50	250	111	92
	DN65	250	118	100
	DN80	250	122	107
	DN100	250	128	116
	DN125	400	133	126
DN150	400	139	140	
DN200	450	150	165	
DN250	500	155	178	

Hygienic Clamp connection dimensions (mm)



Dimensions		D	A	d	L
Nominal size	DN15	34	28	15	150
	DN20	34	28	19	155
	DN25	51	44	24	159
	DN32	51	44	30	164
	DN40	51	44	36	170
	DN50	64	57	48	174
	DN65	91	84	64	181
	DN80	106	97	78	188
	DN100	119	110	97	197

**\*\* Please contact your local SMC application engineer**

**You also need to provide the following information:**

Type of Fluid	Please provide the name of your fluid, including operating density and viscosity
Full Scale Flow	Please indicate the maximum and minimum flow rates in units of m <sup>3</sup> /hr, GPM, LPM, etc..
Line Size	Please specify pipe size as well as preferred connection type (flange, threaded, etc..)
Pressure and Temperature	We will calibrate your Flowmeter as close to your operating conditions as possible

**Model Selection Guide**

ALVAMT Series														
Example: ALVAMT-100-FA-304-L-KV100.2-M1-N-NN-U-1SS-N														
ALVAMT-	**_	**_	**_	**_	**_	**_	**_	**_	**_	**_	**_	**_	**_	**_
code ** = DN**	**												Size	
Bottom enter, top exit	FA												Meter Structure	
Top enter, bottom exit	FU													
Bottom enter, left exit	FB													
Bottom enter, right exit	FBR													
Left enter, right exit	FD													
Right enter, left exit	FDR													
Left enter, left exit	FS													
Right enter, right exit	FSR													
304 SS	304												Material of Wetted Tube	
316 SS	316													
PTFE liner + SS #304 tube	PTFE													
Titanium	Ti													
Hastelloy B	HB													
Hastelloy-C	HC													
Liquid	L												Fluid	
Gas	G													
Float Number	KV**												Float Number	
Local indicator, cylindrical enclosure	M1												Indicator	
Intelligent indicator, cylin. enclosure, 4-20 mA	M2													
Other	**													
-80 ~ +150 °C	N												Operating Temperature	
-80 ~ +150 °C	1													
-80 ~ +200 °C	2													
-80 ~ +250 °C	3													
-80 ~ +300 °C	4													
-80 ~ +400 °C	5													
Standard	NN												Operating Pressure	
High pressure, up to ** Mpa	**													
None	0												Alarm Point	
Increasing Flow	U													
Decreasing Flow	D													
Increasing and Decreasing Flow	UD													
None	0												Jacket	
Heat Jacket	1													
Other	2													
ANSI 150# flange	SS												Connection	
ANSI 300# flange	S3													
DIN 2501 flange	1													
Other connection	**													
None	N												Options	
With filter	FL													
Additional alarm point	AP													