LIQUI VIEW *Base*

The smart and lightweight vortex meter
for monitoring low viscosity, water-like liquids

> Introduction

Mass Flow ONLINE B.V. sells flow measuring and controlling products through the internet. From the website www.massflow-online.com flow meters or controllers can be ordered 24 hours a day 7 days a week. Most products are in stock and will be shipped world-wide within two working days.

> Description

The new LIQUI-VIEW *Base* series offer a compact, lightweight and cost-effective solution for monitoring the flow or consumption of cleansing water, cooling water or spa water. The unique sensor body and transmitter design makes LIQUI-VIEW *Base* one of the most compact, lightweight vortex meters in the industry.

> LIQUI-VIEW *Base* series

The LIQUI-VIEW *Base* series operate on the vortex principle. The obstruction (bluff body) placed in the flow of the liquid sheds vortices downstream at a frequency proportional to the velocity of the liquid. This pattern of vortices is named the Von Kármán vortex street. A piezo-electric sensor detects the vortices and creates electrical pulses which are proportional to the liquid flow rate.
The instruments may be mounted in any position.
LIQUI-VIEW *Base* flow meters can be supplied in ranges from 0,5 l/min up to 150 l/min at max. 12 bar pressure rating.
Furthermore the instruments can be supplied with a display for local readout and analog output or a pulse output.

> LIQUI-VIEW *Base* features

- No moving parts makes it:
  - Impervious to deposits of hard water
  - Maintenance free
- Low pressure drop
- Mounting in any position
- Wide flow ranges
- Fast response
- Suitable for dirty water (circulating, well or filtered waste water)
- Sustainable product design
  - Low power consumption
  - Lightweight and compact
- Available with a tilting display for local read out

> Fields of application

- Drinking water
- Cooling water monitor
- Deionized water (RO/DI skids)
- Ultra pure water distribution (medicare, biotech, semiconductor, pharmaceutical)

Model	Nominal size	Capacity	Output	Volume / pulse @ 50% FS	Pressure drop (mbar)[1)]
LVB-06	DN6	0.5 ... 10 l/min	[-A] 4-20mA or [-P] pulse (28 .. 427 Hz)	0.386 ml	(240 * Q^2) / 100
LVB-08	DN8	0.9 ... 15 l/min	[-A] 4-20mA or [-P] pulse (30 .. 384 Hz)	0.638 ml	(85.0 * Q^2) / 100
LVB-10	DN10	2.0 ... 40 l/min	[-A] 4-20mA or [-P] pulse (26 .. 473 Hz)	1.403 ml	(22.5 * Q^2) / 100
LVB-15	DN15	3.5 ... 50 l/min	[-A] 4-20mA or [-P] pulse (20 .. 272 Hz)	3.047 ml	(6.70 * Q^2) / 100
LVB-20	DN20	5.0 ... 85 l/min	[-A] 4-20mA or [-P] pulse (14 .. 227 Hz)	6.213 ml	(2.50 * Q^2) / 100
LVB-25	DN25	9.0 ... 150 l/min	[-A] 4-20mA or [-P] pulse (12 .. 201 Hz)	12.412 ml	(0.92 * Q^2) / 100

[1)] Q = flow rate in l/min
Example for LVB-06-A used at a flow rate of 8 l/min: (240 * 8^2) / 100 = 153.6 mbar

Mass Flow ONLINE

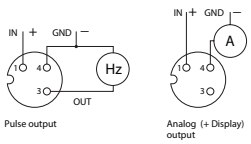
> Technical specifications

Performance	LVB A-/P-series	LVB AD-series
Acceptable liquids	Water and water like liquids (cooling, well, waste, pure, drinking, heating and tap water)	
Max. Operating pressure	(for lifetime) 12 bar(a) at +40°C (for lifetime) 6 bar(a) at +100°C (for 600 hours) 4 bar(a) at +125°C (for 2 hours) 4 bar(a) at +140°C	(for lifetime) 12 bar(a) at +40°C (for lifetime) 6 bar(a) at +85°C
Max. Test pressure	18 bar(a) at +40°C	18 bar(a) at +40°C
Operating temperature	< +125 °C	< + 85 °C
Ambient temperature	-15 °C ... +85 °C	-20 °C ... +50 °C
Accuracy at ≥ 50% FS	< 2% RD	< 2% RD
Accuracy at < 50% FS	< 1% FS	< 1% FS
Rangeability	up to 1:20	up to 1:20

Approvals		
Drinking water approval	KTW / W270 / WRAS / ACS	KTW / W270
EMC	EN 61326-2-3	EN 61326-2-3

Mechanical parts		
Materials (wetted parts) - Sensor paddle - Body - Seals	 ETFE PA6T/6I (40% GF) EPDM	 ETFE PA6T/6I (40% GF) EPDM
Ingress protection (housing)	IP65	IP65

Electrical specifications	Analog + Display	Analog	Pulse
Output	4 ... 20 mA	4 ... 20 mA	Square pulse signal
Power supply	10 ... 30 Vdc	8 ... 33 Vdc	4.75 ... 33 Vdc
Load	< (Uin - 10V) / 20 mA	< (Uin - 8V) / 20 mA	< 1 mA
Current consumption	< 50 mA		< 2 mA
Connection type	M12 x 1	M12 x 1	M12 x 1



Pin	Colour
1	brown
3	blue
4	black

> Model number identification

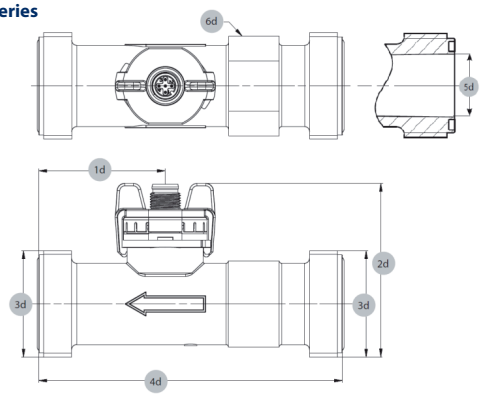
LVB - N N - A

Max. flow	
06	DN 6 / 10 l/min
08	DN 8 / 15 l/min
10	DN 10 / 40 l/min
15	DN 15 / 50 l/min
20	DN 20 / 85 l/min
25	DN 25 / 150 l/min

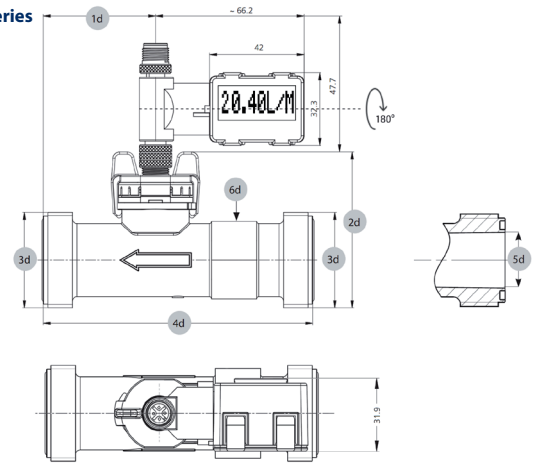
Output	
P	pulse
A	analog (4 - 20 mA)
AD	analog (4 - 20 mA) + display

> Dimensions and weights

LVB A-/P-series

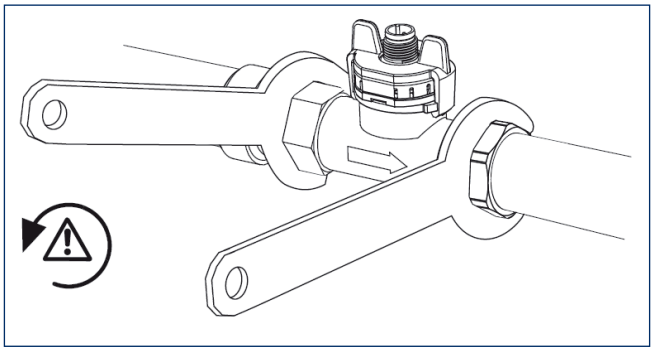


LVB AD-series



Model	1d	2d	3d	4d	5d	6d	weight
LVB-06	43.7	53.0	G½	77	12	12	47 g
LVB-08	43.7	53.0	G½	77	12	12	47 g
LVB-10	35.0	51.3	G½	81	12	19	57 g
LVB-15	36.6	56.1	G¾	87	16	22	68 g
LVB-20	36.6	61.5	G1	105	20	27	92 g
LVB-25	50.0	68.3	G1¼	120	26	34	100 g

> Admissible locking torque



Model	Admissible locking torque	Model	Admissible locking torque
LVB-06	min. 1, max. 12 Nm	LVB-15	min. 1, max. 12 Nm
LVB-08	min. 1, max. 12 Nm	LVB-20	min. 2, max. 12 Nm
LVB-10	min. 1, max. 12 Nm	LVB-25	min. 2.5, max. 15 Nm

Bronkhorst distributor

9.60.064C