

CLARK SOLUTIONS

Series RVL Vortex Flowmeter

1/4" to 3" Pipe Size, PVC, CPVC, or PVDF Construction

DESCRIPTION

The operation of the RVL vortex flow meter is based on the vortex shedding principle. As fluid moves around a body, vortices (eddies) are formed and move downstream. They form alternately, from one side to the other, causing pressure fluctuations. These are sensed by a piezoelectric crystal in the sensor tube, and are converted to a 4-20 mA, 0-5 VDC or pulse signal.

The frequency of the vortices is directly proportional to the flow. This results in extremely accurate and repeatable measurements with no troublesome moving parts.

Unlike stainless steel or paddle wheel designs, the vortex sensor is perfect for aggressive or easily contaminated flow media.

Applications include flow monitoring and control of corrosive chemicals and slurries in chemical processing, water/wastewater, and DI water.



SPECIFICATIONS

IN-LINE FLOWMETERS

Media: Liquids

Connection: Butt or NPT Male thread

Turndown Ratio: 12:1 (except 1/4": 8:1)

Accuracy: $\pm 1\%$ of full scale, 4-20 mA or 0-5 VDC;
 $\pm 2\%$ of full scale, frequency pulse

Repeatability: $\pm 0.25\%$ actual flow

Output Signal: 4-20 mA, 0-5 Vdc or
 frequency pulse (source-sink driver;
 1A source / 1.5A sink; typical output

resistance 10 Ohms) Power Supply: 13 to
 30 Vdc

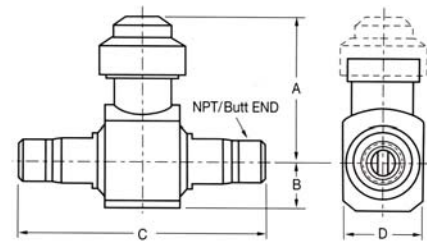
Weatherproof: NEMA-4X (IP 66)

Maximum Overrange: 125% for 1/2 hour,
 No overrange for Hi-Temp units

Response Time: 2 seconds minimum, step
 change in flow

CSA: CSA File: 215035

CSA Standard C22.2 No. O-M and No. 142-M



Dimensions (Inches)

Size	PVC/CPVC				PVDF (Butt)			
	A	B	C	D	A	B	C	D
1/4"	3.81	1.75	5.25	2.50	5.90	0.63	4.87	1.31
1/2"	3.81	1.75	7.13	2.50	5.75	0.78	4.87	1.31
3/4"	3.81	1.75	7.63	2.50	5.75	0.94	4.87	1.44
1"	3.92	1.75	8.03	2.50	5.88	1.19	5.09	2.00
1 1/2"	3.90	2.00	8.37	2.50	6.21	1.50	6.24	2.50
2"	4.31	2.00	8.37	2.50	6.60	1.88	6.77	3.00

Max. & Min Flow

Size	Weight	Min. Flow	Max Flow
1/4"	1.5 lbs	0.6 GPM	5 GPM
1/2"	1.6 lbs	1.3 GPM	15 GPM
3/4"	1.7 lbs	2.1 GPM	25 GPM
1"	1.8 lbs	4.2 GPM	50 GPM
1 1/2"	2.7 lbs	8.3 GPM	100 GPM
2"	3.1 lbs	16.7 GPM	200 GPM

Max. Fluid Operating Temperature

Temp.	PVC	CPVC	PVDF
203°F	NR	24 PSIG	40 PSIG
150°F	NR	63 PSIG	130 PSIG
100°F	93 PSIG	120 PSIG	150 PSIG
70°F	150 PSIG	150 PSIG	150 PSIG

ORDERING INFORMATION

ORDER NUMBER RVLA-BCDEF

EXAMPLE: RVL050-N4XN1

A Size/Range		B Body Style & End Connections	C Body Material	D Output	E Options ¹	F Display
Size/Range	Line Size					
Symbol	GPM LPM Inches MM					
025	5 19 1/4 6.35	B= Butt End Connection (available with PVDF material only) N= NPT (Male) Thread	1= PVC 2= CPVC 4= PVDF	X= 4-20 mA (standard) P= Frequency Pulse V= 0-5 Vdc	N= None C= Class 1000 Cleaning H= High Temperature rated: 203 °F (95 °C) ² S= Stainless Steel Tag 3= 3-Pin Connector	N= None 1= Top mount LCD 2= Bottom mount LCD 3= Right mount LCD 4= Left mount LCD
050	15 57 1/2 20					
075	25 95 3/4 25					
100	50 189 1 32					
150	100 379 1 1/2 50					
200	200 757 2 63					

¹Multiple options may be selected

²High Temperature option ONLY available with CPVC and PVDF body materials

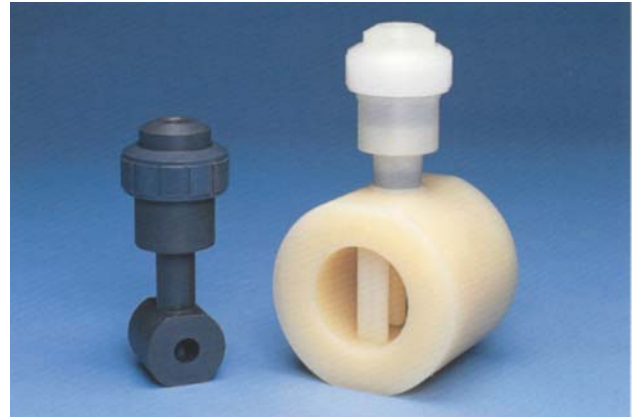
CLARK SOLUTIONS

Series RVL Vortex Flowmeter

SPECIFICATIONS

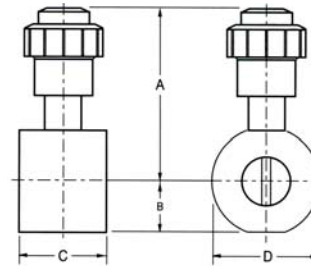
WAFER MOUNTING

Medium: Liquids
 Connection: Wafer
 Turndown Ratio: 12:1 (except 1/4": 8:1)
 Accuracy: $\pm 1\%$ of full scale, 4-20 mA or 0-5 VDC;
 $\pm 2\%$ of full scale, frequency pulse
 Repeatability: $\pm 0.25\%$ actual flow
 Output Signal: 4-20 mA, 0-5 Vdc or frequency pulse
 (source-sink driver; 1A source / 1.5A sink; typical output resistance 10 Ohms)
 Power Supply: 13 to 30 Vdc
 Weatherproof: NEMA-4X (IP 66)
 Maximum Overrange: 125% for 1/2 hour,
 No overrange for Hi-Temp units
 Response Time: 2 seconds minimum, step change in flow
 CSA: CSA File: 215035
 CSA Standard C22.2 No. O-M and No. 142-M



Max. & Min Flow Rates

Size	Weight	Min. Flow	Max Flow
1/2"	0.8	1.3 GPM	15 GPM
3/4"	0.9 lbs	2.1 GPM	25 GPM
1"	1.1 lbs	4.2 GPM	50 GPM
1 1/2"	1.7 lbs	8.3 GPM	100 GPM
2"	2.6 lbs	16.7 GPM	200 GPM
3"	4.8 lbs	25.0 GPM	300 GPM



Max. Fluid Operating Temp./Press.

Temp	PVC (PSIG)	PP (PSIG)	CPVC (PSIG)	PVDF (PSIG)
203°F	NR	NR	CF	CF
150°F	NR	90	100	130
100°F	400	130	130	150
70°F	150	150	150	150

Dimensions (Inches)

Size	PVDF- ANSI 150 Standard			
	A	B	C	D
1/2"	5.85	0.78	2.03	1.75
3/4"	5.90	0.94	2.03	2.13
1"	5.69	1.19	2.25	2.47
1 1/2"	6.00	1.50	2.63	3.25
2"	6.37	1.88	3.22	4.00
3"	6.88	2.50	4.25	5.24

ORDERING INFORMATION

ORDER NUMBER RVLA-BCDEF

EXAMPLE: RVL050-W4XN1

A Size/Range		B Body Style & End Connections	C Body Material	D Output	E Options ¹	F Display
Size/Range	Line Size					
Symbol	GPM LPM Inches MM					
050	15 57 1/2 20	W= Wafer	1= PVC	X= 4-20 mA	N= None	N= None
075	25 95 3/4 25	(mounts between	2= CPVC	(standard)	C= Class 1000 Cleaning	1= Top mount LCD
100	50 189 1 32	flanges)	3= Polypropylene	P= Frequency	H= High Temperature	2= Bottom mount LCD
150	100 379 1 1/2 50		4= PVDF	Pulse	rated: 203 °F (95 °C) ²	3= Right mount LCD
200	200 757 2 63			V= 0-5 Vdc	S= Stainless Steel Tag	4= Left mount LCD
300	300 1136 3 80				3= 3-Pin Connector	
¹ Multiple options may be selected ² High Temperature option ONLY available with CPVC and PVDF body materials						

CLARK SOLUTIONS

Series RVL Vortex Flowmeter

SPECIFICATIONS

IN-LINE FLARE END

Medium: Liquids

Connection: Tube (flare-end), Requires two flare tubing nuts (not included)

Turndown Ratio:

1/2" size = 8:1

3/4" size = 12:1

1" size = 12:1

Accuracy: $\pm 1\%$ of full scale, 4-20 mA or 0-5 VDC;

$\pm 2\%$ of full scale, frequency pulse

Repeatability: $\pm 0.25\%$ actual flow

Output Signal: 4-20 mA, 0-5 Vdc or frequency pulse

(source-sink driver; 1A source / 1.5A sink; typical output resistance 10 Ohms)

Power Supply: 13 to 30 Vdc

Weatherproof: NEMA-4X (IP 66)

Maximum Overrange: 125% for 1/2 hour,

No overrange for Hi-Temp units

Response Time: 2 seconds minimum, step change in flow

CSA: CSA File: 215035

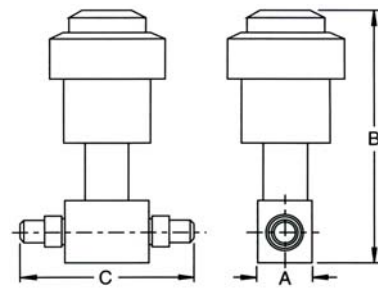
CSA Standard C22.2 No. O-M and No. 142-M

Max. & Min Flow Rates

Size	Weight	Min. Flow	Max Flow
1/2"	1.5 LBS	0.6 GPM	5 GPM
3/4"	1.6 LBS	1.3 GPM	15 GPM
1"	1.7 LBS	2.1 GPM	25 GPM

Max. Fluid Operating Temp./Press.

Temp	PVDF (PSIG)
203°F	20
150°F	37
100°F	67
70°F	150



Dimensions (Inches)

Size	A	B	C
1/2"	1.31	6.25	4.87
3/4"	1.31	6.25	4.66
1"	1.44	6.59	5.42

ORDERING INFORMATION

ORDER NUMBER RVLA-BCDEF

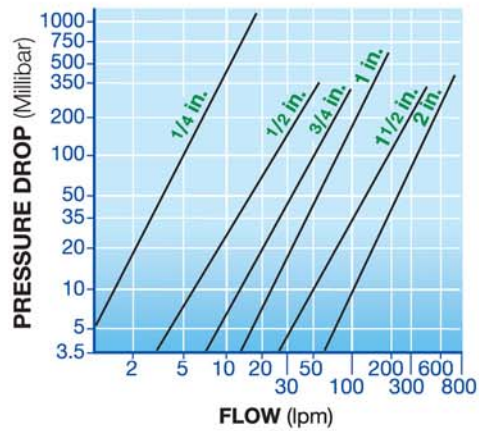
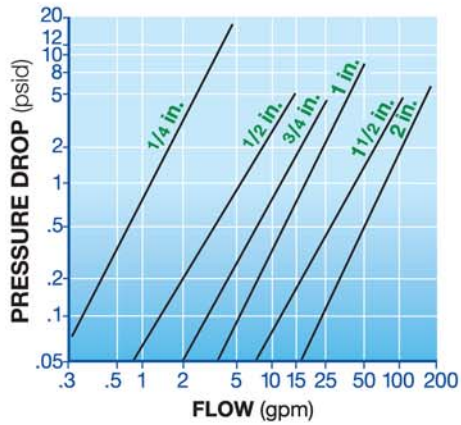
EXAMPLE: RVL050L-W4XN1

A Size/Range		B Body Style & End Connections	C Body Material	D Output	E Options ¹	F Display
Size/Range	Line Size	W= Wafer (mounts between flanges)	4= PVDF	X= 4-20 mA (standard) P= Frequency Pulse V= 0-5 Vdc	N= None C= Class 1000 Cleaning S= Stainless Steel Tag 3= 3-Pin Connector	N= None 1= Top mount LCD 2= Bottom mount LCD 3= Right mount LCD 4= Left mount LCD
Symbol	GPM LPM					
	Inches MM					
050L	15 57	1/2 20				
075L	25 95	3/4 25				
100L	50 189	1 32				

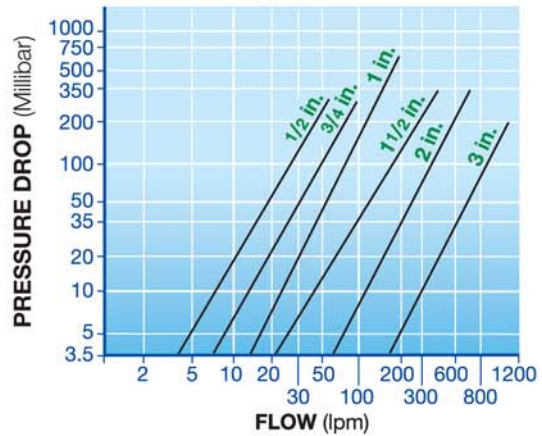
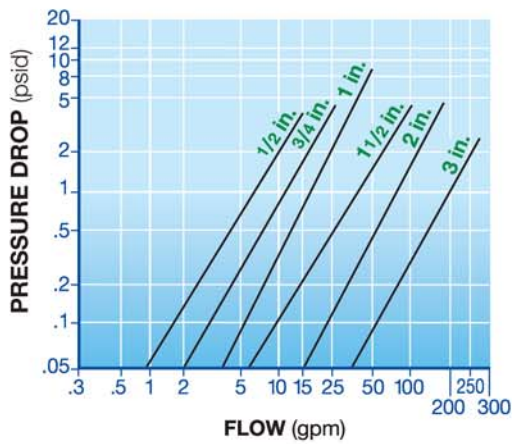
¹Multiple options may be selected

RVL Series Pressure Drop vs Flow Rate

In-Line Flow Meters for Liquids



Wafer Flow Meters for Liquids



In-Line Flare End Flow Meters for Liquids

