

# VORTEX FLOWMETER

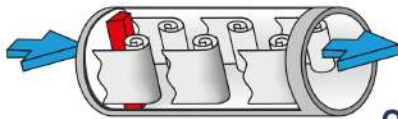
VRTX series of vortex flowmeters operate based on KARMAN principle. It provides an advantage to the user for massive and volumetric flow measuring of some fluids such as liquids, gases, and steam. With this product, measurements can be taken with an accuracy of 0.5% in liquid measurements and 1.0% in gas and steam measurements. For less error rates, high sensitivity up to 0.2% can be achieved by precise calibration in our ISO 17025 certified calibration laboratories.

In the measurement logic based on the Von Karman Vortex path principle, the flow is divided into 2 by the effect of the object placed in the direction perpendicular to the flow and eddies rotating in the opposite direction are created. The frequency of these eddies, which propagate in waves, is measured.

Via the sensor in the VRTX series vortex flowmeters

(piezoelectric) element measures the speed by counting the frequencies, and the flow rate with the result of mathematical calculations. These measured frequencies are proportional to the amount of flow.

Pressure and temperature data are used directly in mathematical calculations, especially since they directly affect the density in mass flow measurement of gas fluids. For cases where these 2 values are variable, the compensated model is preferred and the changing density is also calculated to provide accurate flow measurement.



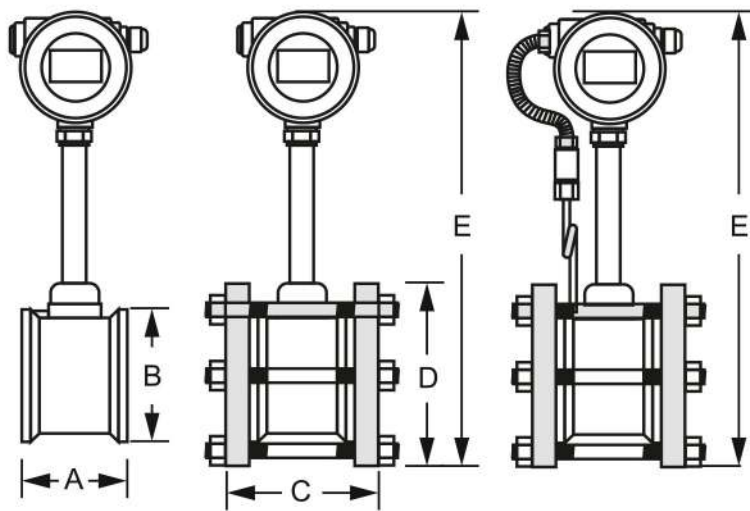
## Overview



- Equipped lattice LCD display screen
- Easy operation and maintenance
- Configure with temperature/pressure sensor. For temperature sensors, Pt100 or Pt1000; For pressure sensor, gauge pressure sensor or absolute pressure sensor
- Multiple Outputs can be optional: Two-Wire 4-20mA, Three-Wire pulse and Three-Wire equivalent output
- Excellent nonlinearity correction function, greatly improve the appearance of linearity
- Spectral analysis, improve the ability of anti-interference and vibration resistance
- A variety of measuring medium: vapor, liquid, gas and natural gas, etc.
- Low power consumption, one dry cell can maintain 1 year
- Automatic switching ability of the working modes: Battery supply, Two-Wire and Three-Wire
- Self-checking function: the rich self-checking information make easy maintenance and debugging
- Independent password setup, the parameters setup, total flow reset and calibration can be set with different-level passwords, it is convenient for management
- Three-Wire system supports RS485 communication
- The display unit can be selected and user-defined

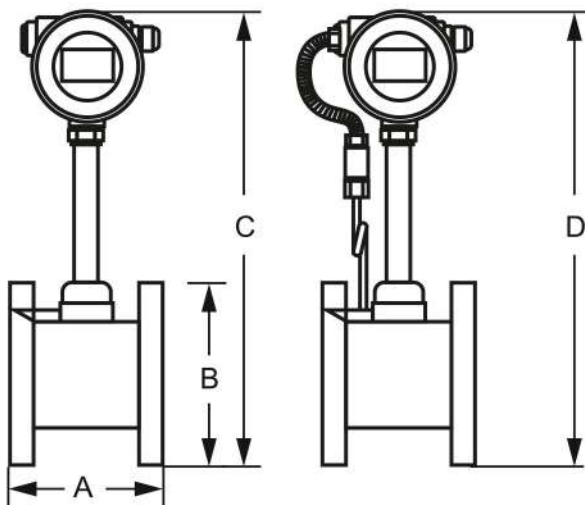
# VORTEX FLOWMETER

## Sandwich Type Connection Dimensions



mm	A	B	C	D	E	F
15-20-25-32	68	54	96	100	440	470
40	82	78	110	140	460	490
50	85	87	110	145	490	520
65	84	105	112	165	510	540
80	88	120	116	176	540	570
100	91	140	120	200	560	590
125	92	168	126	230	580	610
150	96	194	130	265	600	630
200	101	248	140	320	630	660
250	114	300	160	370	660	690
300	128	350	170	445	690	720

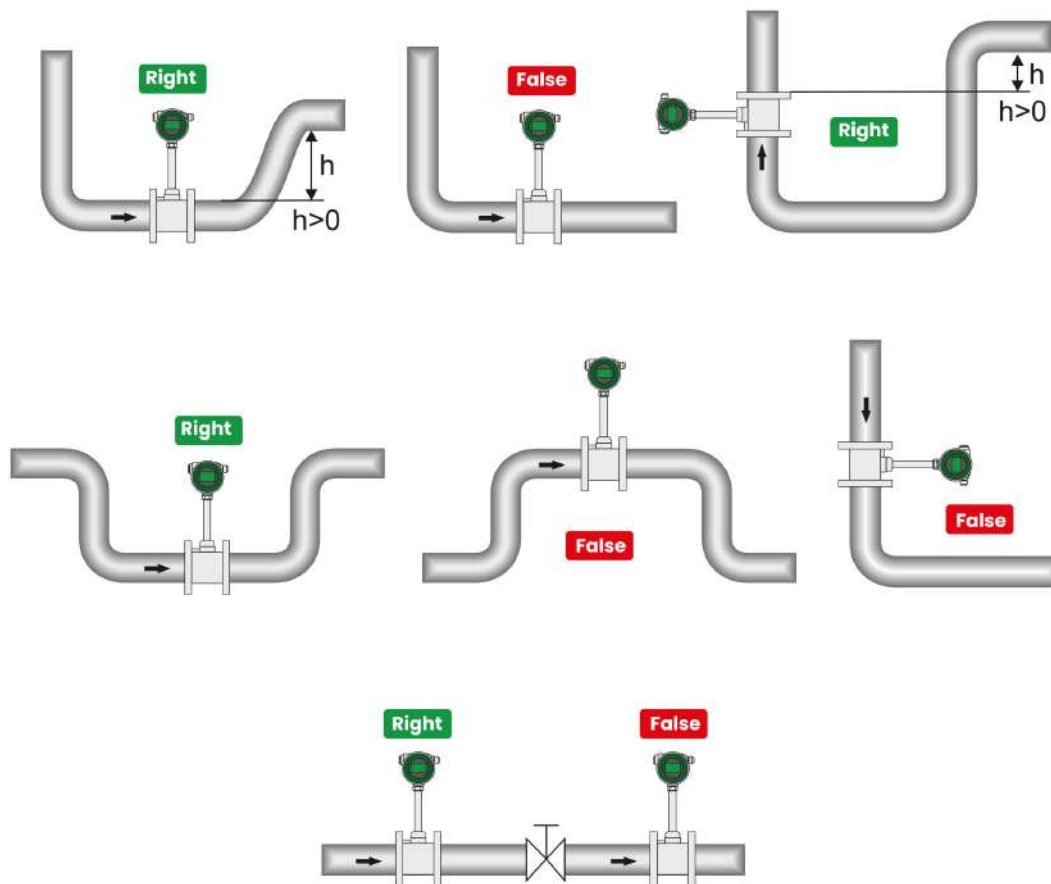
## Flanged Type Connection Sizes



mm	A	B	C	D
15	170	95	430	460
20	170	105	430	460
25	170	115	440	470
32	170	132	450	480
40	160	150	480	510
50	160	160	480	510
65	160	180	530	560
80	180	195	530	560
100	180	215	550	580
125	180	245	560	590
150	180	280	590	620
200	200	340	620	680
250	200	405	710	740
300	350	460	750	780

# VORTEX FLOWMETER

For accurate and precise measurements in liquid fluids, avoid the formation of air bubbles in the pipe. Air bubbles in the line cause measurements to be taken.



## Pipe Connection Type

Concentric Heat Shrinkable Tube  
Concentric Expanding Tube  
90 ° Elbow  
90 ° Double Elbow (Same Plane)  
90 ° Double Elbow (Different Plane)  
Valve (Full Open)  
Valve (Half Open)

## Straight Distance

Login	Exit
15D	5D
35D	5D
20D	5D
25D	5D
30D	5D
20D	5D
40D	5D

# VORTEX FLOWMETER

MEASURABLE FLOW RANGES ACCORDING TO PRODUCT DIAMETERS AND FLUID

DN	K-factor	Liquid (m3/h)	Frequency (HZ)	Gas (m3/h)	Frequency (HZ)	Gas (m3/h)	Frequency (HZ)
15	350000	0.5-5	88-580	3-20	240-2350	4-50	260-2000
20	148000	0.6-10	38-422	5-40	210-2132	7-80	210-1900
25	74980.3	1-16	25-336	8-60	190-1140	10-80	210-1680
32	30511	1.8-18	16-264	20-120	150-1100	12-120	156-1080
40	17523.5	2-30	10-200	30-180	140-1040	25-180	126-910
50	9451.2	3-50	8-160	40-350	94-1020	40-260	100-700
65	4113	5-50	6.1-77.1	70-650	80.7-807	35-800	94-940
80	2346	7-100	4.1-82	90-900	55-690	100-800	63-500
100	1153.5	15-180	4.7-69	150-1500	42-536	160-1100	50-350
125	573.1	20-210	3.3-41.6	250-2200	38-416	150-2000	38-475
150	334	30-400	2.8-43	350-3500	33-380	400-3500	38-350
200	141.5	50-700	2-31	600-7000	22-315	580-7000	23-270
250	70.8	70-1000	1.5-25	1000-9000	18-221	960-9600	20-200
300	42.98	100-1800	1.2-24	1500-14000	16-213	1300-13000	16-160

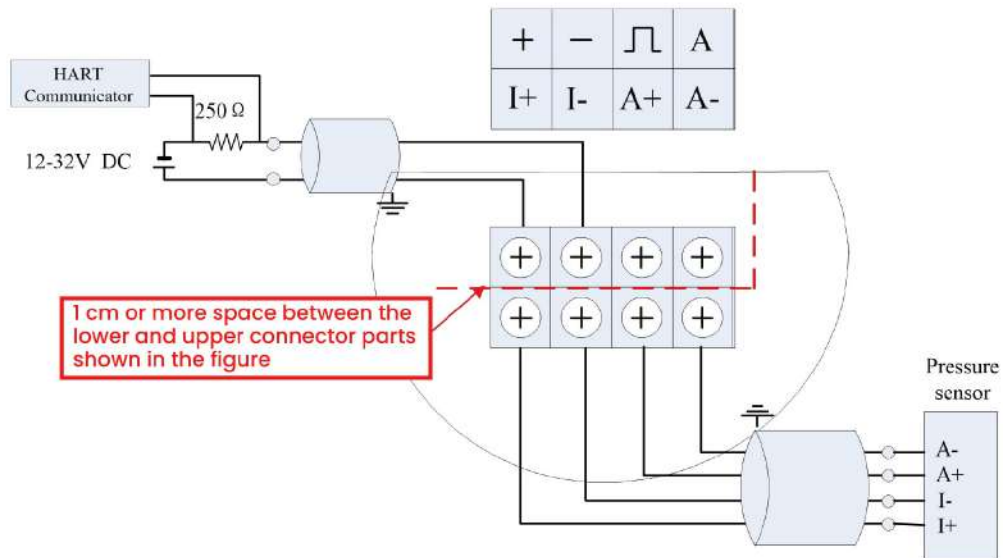
TABLE OF FLOW CHANGES BY PRESSURE

DN ( mm )	Debi	Measurable Flow Rates ( kg/h )									
		1 Bar	2 Bar	4 Bar	6 Bar	8 Bar	10 Bar	15 Bar	20 Bar	25 Bar	
15	Min	2,2	3,2	5,1	7,1	8,9	10,8	15,5	20,2	25,0	
	Max	54,5	79,6	128,4	176,3	223,7	270,8	388,2	505,9	624,5	
20	Min	3,8	5,6	9,0	12,3	15,7	19,0	27,2	35,4	43,7	
	Max	95,4	139,2	224,6	308,5	391,4	473,9	679,3	885,3	1092,9	
25	Min	6,1	8,9	14,4	19,8	25,2	30,5	43,7	56,9	70,3	
	Max	153,4	223,7	361,0	495,7	629,1	761,6	1091,8	1422,8	1756,5	
32	Min	10,2	14,9	24,1	33,0	41,9	50,8	72,8	94,9	117,1	
	Max	255,6	372,9	601,7	826,2	1048,4	1269,3	1819,7	2371,4	2927,5	
40	Min	15,7	22,9	36,9	50,7	64,3	77,9	111,6	145,4	179,6	
	Max	392,0	571,8	922,6	1266,9	1607,6	1946,3	2790,1	3636,1	4488,8	
50	Min	23,9	34,8	56,2	77,1	97,9	118,5	169,8	221,3	273,2	
	Max	596,5	870,1	1404,0	1927,8	2446,3	2961,8	4245,9	5533,2	6830,7	
65	Min	49,1	71,6	115,5	158,6	201,3	243,7	349,4	455,3	562,1	
	Max	1227,0	1789,9	2888,2	3965,8	5032,5	6092,8	8734,4	11382,6	14051,8	
80	Min	61,4	89,5	144,4	198,3	251,6	304,6	436,7	569,1	702,6	
	Max	1533,8	2237,4	3610,3	4957,3	6290,6	7616,0	10918,0	14228,2	17564,7	
100	Min	95,4	139,2	224,6	308,5	391,4	473,9	679,3	885,3	1092,9	
	Max	2385,8	3480,4	5616,0	7711,3	9785,3	11847,1	16983,5	22132,8	27322,9	
125	Min	150,0	218,8	353,0	484,7	615,1	744,7	1067,5	1391,2	1717,4	
	Max	3749,2	5469,3	8825,2	12117,8	15376,9	18616,8	26688,4	34780,1	42935,9	
150	Min	204,5	298,3	481,4	661,0	838,7	1015,5	1455,7	1897,1	2342,0	
	Max	5112,5	7458,1	12034,3	16524,2	20968,5	25386,6	36393,2	47427,4	58549,0	
200	Min	374,9	546,9	882,5	1211,8	1537,7	1861,7	2668,8	3478,0	4293,6	
	Max	9373,0	13673,2	22062,9	30294,4	38442,3	46542,0	66720,9	86950,3	107339,9	
250	Min	599,9	875,1	1412,0	1938,8	2460,3	2978,7	4270,1	5564,8	6869,8	
	Max	14996,8	21877,1	35300,6	48471,0	61507,7	74467,3	106753,4	139120,4	171743,8	
300	Min	852,1	1243,0	2005,7	2754,0	3494,8	4231,1	6065,5	7904,6	9758,2	
	Max	21302,2	31075,4	50142,9	68850,9	87368,9	105777,4	151638,4	197614,2	243954,2	

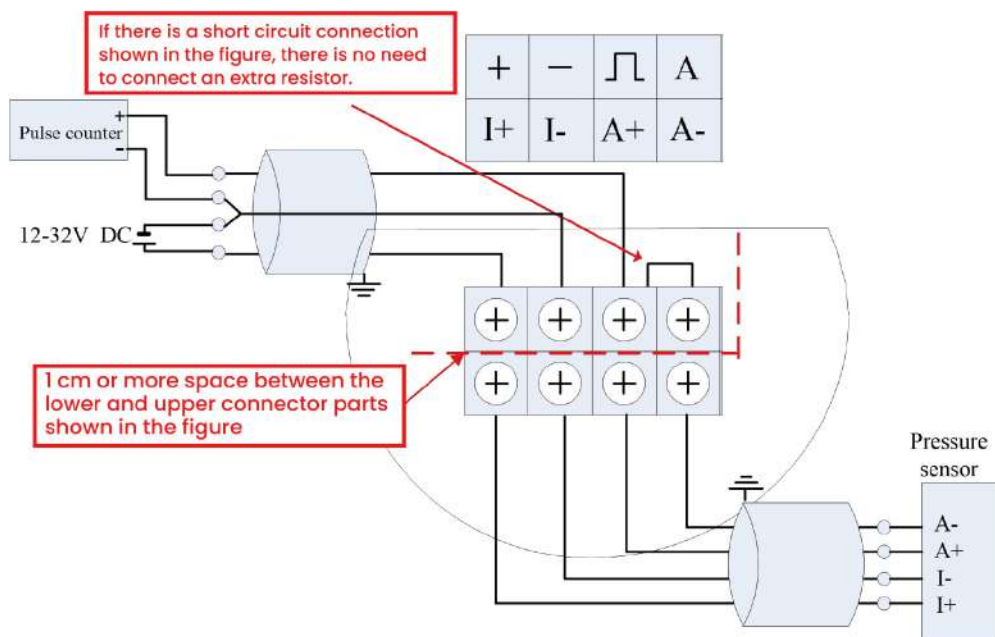


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## 4 ~ 20mA Output + HART + External Pressure



## Pulse Output + External Pressure and Temperature Sensor



# VORTEX FLOWMETER

			Example Code
Product Type	VRTX	-	VRTXCW0050P10GXSS
Model	C	Temperature & Pressure Compensated	Temperature Compensated
	I	With Indicator - No Compensation	
	P	Without Indicator - Pulse Output	
Connection Type	W	Wafer	Wafer
	F	Flange	
Connection Size	0010	DN15	DN50
	...	-	
	0050	DN50	
Pressure Rating	P10	PN10	PN10
	P16	PN16	
	P25	PN25	
	P32	PN32	
	P100	PN100	
Fluid	S	Liquid	Gas
	G	Gas	
	SV	Saturated Steam	
	HV	Superheated Steam	
Ex-proof Protection	X	None	Non Ex
	E	Ex-Proof	
Optional Temperature	S	Standard	Standard
	H	High Temperature 350 °C	
Optional Output	S	Standard	Standard
	H	Hart	
	R	RS485	

Please complete the above selection table according to the requested product type