

VORTEX

(VELOCITY FLOW METER)



VORTEX FLOW METERS OPERATE BASED ON THE VON KARMAN EFFECT, AND IT'S CONSISTS OF A BLUFF BODY. WHEN FLUID FLOW IT CREATES ALTERNATING VORTICES BEHIND A BLUFF BODY IN THE FLOW STREAM. THESE VORTICES ARE DETECTED BY A SENSOR, AND THE FREQUENCY OF THEIR FORMATION IS DIRECTLY PROPORTIONAL TO THE FLUID VELOCITY. BY MEASURING THIS FREQUENCY, THE VORTEX FLOW METER ACCURATELY CALCULATES THE FLOW RATE OF THE FLUID.



PERFORMANCE DATA

For LIQUID 0.5 to 7 m/s, GAS : 5 to 70 m/s, Steam : 5 to 80 m/s and up to 30 bar pressure and 350 °C Temperature, Sandwich and Joint Connection with various output.

MARKETS & AREAS OF APPLICATION

Vortex flow meter with SS 316 material find applications across various industries due to their versatility and ability to measure the flow of different fluids, including low viscosity liquids, gases, and steam. The market and areas of application for vortex flow meters include Measurement of hydrocarbons and natural gas flow in pipelines, Monitoring flow rates in refineries and petrochemical

Gas : Air, Oxygen, Nitrogen, coal gas, natural gas, chemical gas, and many more....

Liquid : High temperature water, chemical liquid, Clean and Low viscous liquid

Steam : Saturated Steam, superheated Steam

ADVANTAGES

vortex flow meter offers a reliable, cost-effective, and accurate solution for flow measurement in diverse industrial processes. Its robust design, ease of installation, and low maintenance requirements make it a popular choice for engineers and technicians seeking efficient flow monitoring solutions.

GENERAL SPECIFICATION

Enclosure : SS 316 / Pa 66

Lining : SS316 / PTFE / Pa66

Repeatability : 0.2%

Accuracy (standard position) : ± 0.5 for liquid / 1% for gas

Maximum Working Pressure : 30 Bar

Fluid & Ambient Temperature : -20° to 350 °C

Connection : Sandwich / Flange

DISPLAY WITH VARIOUS OUTPUT

Power Voltage : 24 V DC

Output Signal

Retransmit : (4 ~ 20) mA / Pulse

Communication : RS - 485 / HART Protocol / Alarm

Relay : High & Low Flow

Battery Operated Meter

Power Voltage : 3.6 V DC X 4 Lithium Batteries

Display Mode : Double row LCD as below

Q X.XXXXXX Seven Digit Instantaneous Flow
(t/h, l/m, l/day, Kg/h, Kg/m, Kg/s, g/h, g/m, g/s, Nm³/h, SCFM)

XXXXX.XXXX Eight Digit Cumulative Flow

Cumulative flow : Automatically expand the display precision.

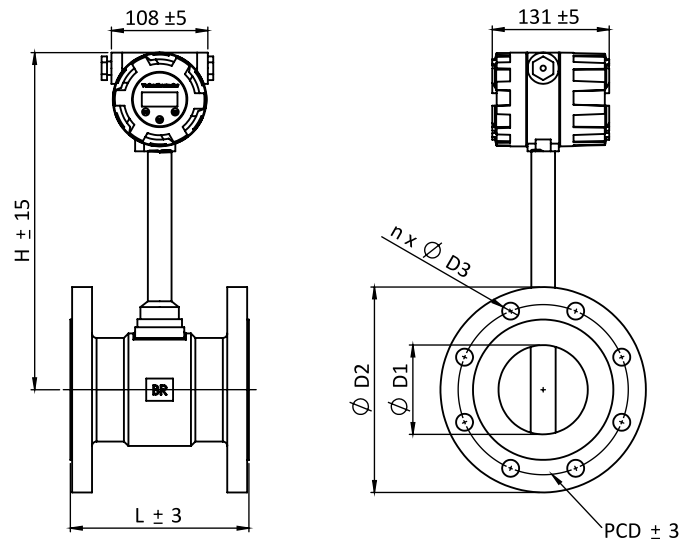
The cumulative flow values can be reset.

Power - fail protection : The instrument coefficient ensures that total flow values for the past ten years are retained even in the event of a power supply drop.

DISPLAY OUTPUT

* Please Check Display Manual

calculate pulse/liter at : 25%, 50%, 75% and 100% flow rate with air at Atm or room pressure and temperature



MODEL RANGE

Model Number	Water Flow Range (m ³ /hr)	Air Flow Range (m ³ /hr)
BT-VTM - 015	0.36 ~ 5.07	3.62 ~ 47.05
BT-VTM - 020	0.57 ~ 7.92	5.65 ~ 73.51
BT-VTM - 025	0.81 ~ 11.40	8.14 ~ 105.86
BT-VTM - 040	2.04 ~ 28.58	20.41 ~ 326.63
BT-VTM - 050	3.53 ~ 49.48	35.34 ~ 565.49
BT-VTM - 080	7.74 ~ 108.38	77.42 ~ 1238.64
BT-VTM - 100	13.30 ~ 186.22	133.02 ~ 2128.27
BT-VTM - 150	30.13 ~ 421.89	301.35 ~ 4821.57
BT-VTM - 200	56.55 ~ 791.68	565.49 ~ 9047.79
BT-VTM - 250	90.49 ~ 1266.87	904.91 ~ 14478.49
BT-VTM - 300	127.23 ~ 1781.28	1272.35 ~ 20357.52

WATER : VALUE BASED ON +20 °C

AIR : VALUE BASED ON +20 °C AND 1 - ATM

FLANGE END DIMENSION

Model Number	L	D1	D2	n X D3	PCD	H
BT-VTM - 015	220	16	90	4 X 16	60.3	431
BT-VTM - 020	220	20	100	4 X 16	69.9	431
BT-VTM - 025	220	24	110	4 X 16	79.4	431
BT-VTM - 040	170	38	125	4 X 16	98.4	428
BT-VTM - 050	170	50	150	4 X 19	120.7	431
BT-VTM - 080	200	74	190	4 X 19	152.4	448
BT-VTM - 100	220	97	230	8 X 19	190.5	459
BT-VTM - 150	270	146	280	8 X 22.3	241.3	484
BT-VTM - 200	310	200	345	8 X 22.3	298.5	504
BT-VTM - 250	370	253	405	12 X 25.4	362.0	535
BT-VTM - 300	400	300	485	12 X 25.4	431.8	560

ALL THE DIMENSION IN MILLIMETER

MODEL RANGE : (SATURATED STEAM)

Model Number	Pressure					
	1 barG	3 barG	5 barG	7 barG	10.5 barG	16 barG
BT-VTM - 015	5 ~ 37	6 ~ 71	9 ~ 103	10 ~ 136	12 ~ 192	15 ~ 279
BT-VTM - 020	7 ~ 87	10 ~ 167	14 ~ 244	16 ~ 321	19 ~ 446	23 ~ 619
BT-VTM - 025	11 ~ 149	15 ~ 284	19 ~ 416	22 ~ 546	28 ~ 754	33 ~ 891
BT-VTM - 040	27 ~ 373	36 ~ 712	49 ~ 1042	56 ~ 1368	69 ~ 1890	82 ~ 2234
BT-VTM - 050	47 ~ 646	63 ~ 1233	84 ~ 1805	97 ~ 2368	120 ~ 3272	142 ~ 3867
BT-VTM - 080	102 ~ 1414	138 ~ 2701	185 ~ 3953	212 ~ 5188	263 ~ 7167	311 ~ 8471
BT-VTM - 100	175 ~ 2430	238 ~ 4640	318 ~ 6792	365 ~ 8914	453 ~ 12315	534 ~ 14554
BT-VTM - 150	397 ~ 5505	539 ~ 10512	720 ~ 15387	826 ~ 20195	1025 ~ 27900	1210 ~ 32973
BT-VTM - 200	745 ~ 10330	1011 ~ 19726	1350 ~ 28874	1551 ~ 37895	1924 ~ 52355	2270 ~ 61875
BT-VTM - 250	1192 ~ 16530	1618 ~ 31567	2161 ~ 46205	2481 ~ 60641	3079 ~ 83779	3633 ~ 99013
BT-VTM - 300	1677 ~ 23242	2274 ~ 44384	3038 ~ 64967	3489 ~ 85265	4330 ~ 117798	5108 ~ 139218

FLOW UNIT : kg/hr