

VN2000 SERIES

Accurately Measure Steam



The VN2000 Compact Insertion Vortex Flow Meter measures the flow of steam over a large flow range. The meter includes a mounting assembly alignment pin to simplify the installation. The meter is designed for specific pipe sizes and includes parts for installation. The vortex sensing element is CNC machined out of one piece of solid stainless steel and engineered to stand up to abusive environments inside and outside the pipe. The dual ceramic piezoelectric sensors are bonded inside the vortex element, which is press-fit to the stainless steel insertion bar and completely welded together. There are no internal o-rings or seals of any kind and absolutely no leak paths into the sensors or electronics. These sensors do not touch the process fluid, which gives them an almost unlimited life span.

SPECIFICATIONS

Flow Accuracy	±1% of reading
Repeatability	±0.25% of reading
Straight Run Requirements	Upstream 10 diameters; downstream 5 diameters with one 90° elbow before the meter
Media Temperature	-250 to 400 °F (-120 to 204 °C)
Maximum Pressure	1000 psi (68.9 bar)
Wetted Materials	Stainless steel 304L
Connections	"1-1/2 in. carbon steel mounting assembly Sealing assembly: Two ethylene propylene O-rings"
Sensors	Dual piezo vortex sensors
Units of Measure	Pounds, kilograms, tons, metric tons, cubic feet, cubic meters, gallons, liters
Measurement interval	Second, minute, hour, day

TRANSMITTER

Display	2x16 characters reflective display, Rotatable display
	Flow rate: 6 digits with decimal; Totalizer
Keypad	4 membrane buttons
Power	14 to 36 V DC; loop powered with 4 to 20 mA option, 28V DC max
Operating Temperature	32 to 140° F (0 to 60° C)
Operating Humidity	5 to 95% relative humidity non-condensing

Onboard display

Provides several units of measure

Easy installation

Insertion meter and pipe mounting assembly designed for specific pipe sizes

Stainless steel construction

Vortex assembly is machined from a single piece and stands up to the abusive environment inside the pipe

APPLICATIONS

- Steam flow rate or volumetric measurement

Multiple outputs

4-20mA and pulse outputs standard with optional BACnet and Modbus

No moving parts or o-rings

No parts to service means long product life

High temperature

Standard model handles process temperatures up to 400° F (204° C)

Analog Output	One 4 to 20 mA, 10 to 36V max load, 24-bit resolution
Digital Output	One min. input resistance 1000 Ohm; Max output frequency = 12.5 Hz; Opto isolator 5 to 24 Vdc
Communications	Optional via special order: EIA-485 with Modbus RTU or BACnet MS/TP*
Enclosure	General Purpose
Mounting	Integral meter mount; remote mount available via special order*

WARRANTY

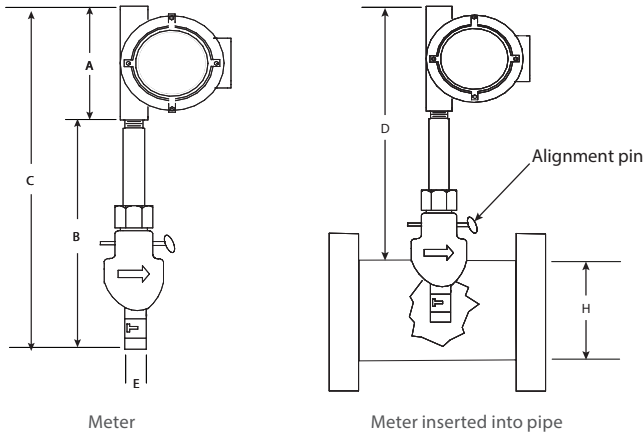
Limited warranty	1 year
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*Other meter sizes and configurations are available. Consult Veris for availability.



VN2000 METER WITH 1-1/2" NPT CONNECTION

Dimensional Drawing



H	A	B	C	D	E
2" (51 mm)	5" (127 mm)	11" (279 mm)	16" (406 mm)	15" (381 mm)	1.25" (32 mm)
3" (76 mm)	5" (127 mm)	11" (279 mm)	16" (406 mm)	14.5" (368 mm)	1.25" (32 mm)
4" (102 mm)	5" (127 mm)	12" (305 mm)	17" (432 mm)	15" (381 mm)	1.25" (32 mm)
6" (152 mm)	5" (127 mm)	13" (330 mm)	18" (457 mm)	15" (381 mm)	1.25" (32 mm)
8" (203 mm)	5" (127 mm)	14" (356 mm)	19" (483 mm)	15" (381 mm)	1.25" (32 mm)

SATURATED STEAM FLOW RATES (LBS/HR)

PIPE LINE SIZE	5 PSIG 0.0486 LB/FT ³	50 PSIG 0.1503 LB/FT ³	100 PSIG 0.2577 LB/FT ³	150 PSIG 0.3614 LB/FT ³	200 PSIG 0.4688 LB/FT ³	300 PSIG 0.6481 LB/FT ³	400 PSIG 0.8613 LB/FT ³
2"	58.38 (min.) 1019 (max.)	124.0 (min.) 3152 (max.)	177.7 (min.) 5404 (max.)	222.7 (min.) 7580 (max.)	264.9 (min.) 9832 (max.)	328.7 (min.) 13592 (max.)	397.4 (min.) 18064 (max.)
3"	128.6 (min.) 2244 (max.)	273.2 (min.) 6945 (max.)	391.4 (min.) 11905 (max.)	490.5 (min.) 16698 (max.)	583.5 (min.) 21662 (max.)	724.2 (min.) 29944 (max.)	875.5 (min.) 39797 (max.)
4"	221.5 (min.) 3865 (max.)	470.5 (min.) 11959 (max.)	674.0 (min.) 20501 (max.)	844.7 (min.) 28755 (max.)	1005 (min.) 37302 (max.)	1247 (min.) 51565 (max.)	1508 (min.) 68531 (max.)
6"	502.6 (min.) 8771 (max.)	1068 (min.) 27140 (max.)	1530 (min.) 46525 (max.)	1917 (min.) 65256 (max.)	2280 (min.) 74653 (max.)	2830 (min.) 117021 (max.)	3421 (min.) 155525 (max.)
8"	870.4 (min.) 15188 (max.)	1849 (min.) 46997 (max.)	2649 (min.) 80564 (max.)	3319 (min.) 112999 (max.)	3949 (min.) 146586 (max.)	4900 (min.) 202637 (max.)	5924 (min.) 269310 (max.)

Note: Other meter sizes and configurations are available. Consult Veris for availability.

ORDERING INFORMATION

VERIS PART #	MANUF. PART #	DESCRIPTION
BGR-VCA020-C-S-S-W-V-E-WW-SSSG	VCA020-C-S-S-W-V-E-WW-S-S-S-G	Flow,Vortex,2",Steam,Insertion,4-20mA/Pulse
BGR-VCA030-C-S-S-W-V-E-WW-SSSG	VCA030-C-S-S-W-V-E-WW-S-S-S-G	Flow,Vortex,3",Steam,Insertion,4-20mA/Pulse
BGR-VCA040-C-S-S-W-V-E-WW-SSSG	VCA040-C-S-S-W-V-E-WW-S-S-S-G	Flow,Vortex,4",Steam,Insertion,4-20mA/Pulse
BGR-VCA060-C-S-S-W-V-E-WW-SSSG	VCA060-C-S-S-W-V-E-WW-S-S-S-G	Flow,Vortex,6",Steam,Insertion,4-20mA/Pulse
BGR-VCA080-C-S-S-W-V-E-WW-SSSG	VCA080-C-S-S-W-V-E-WW-S-S-S-G	Flow,Vortex,8",Steam,Insertion,4-20mA/Pulse

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