

The Spirax Sarco VLM20 Flowmeter

For gases, liquids and steam

A compact all in one solution, the VLM20 is an excellent, flexible option for measuring a wide range of fluids including saturated and superheated steam, liquids and other gases. The VLM20 can measure volumetric flow, mass flow and energy flow using built in temperature and pressure measurement. Also, with inputs available to receive external pressure and temperature inputs, the VLM20 can function as a Heat Meter, making it perfect for district heating or energy transfer applications.

The VLM20's robust, welded design with moving parts, integrated pressure and temperature sensors ensures no leak paths for safe operation and minimal maintenance.

- **High accuracy** – delivers accurate flow measurement across a range of applications helping to identify energy saving opportunities
- **Reliable** – No moving parts provides greater reliability
- **Cost effective** – It measures flow without the need for extra instrumentation

Measure.
Monitor.
Manage.



For more information visit
spiraxsarco.com/flowmetering

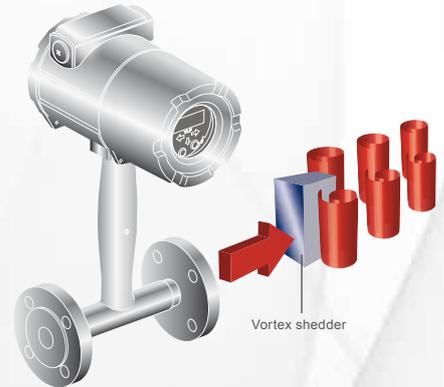
How the VLM20 Flowmeter works

Vortex flowmeters operate using the von Karman effect, whereby an obstruction within the flow causes eddies (or vortices) to be shed on either side of the obstruction in an alternating fashion.

Over a certain range of Reynolds Numbers (a number which loosely describes the flow pattern or characteristics), the frequency at which vortices are shed is proportional to the flow velocity. This range is mainly dependent on the design of the obstructing bar. A sensor is used to detect each vortex and the electronics convert this signal into a meaningful velocity or volumetric flow measurement.

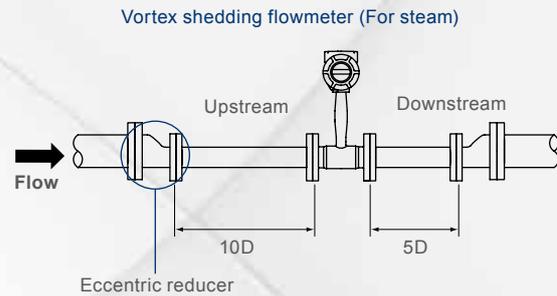
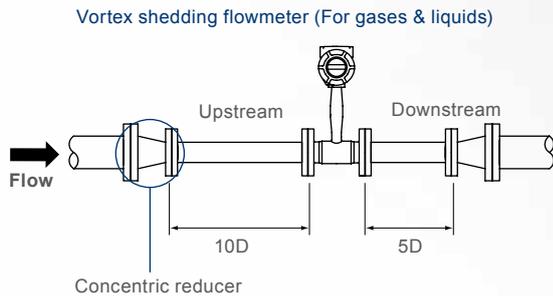
The lack of moving parts in the design helps improve the working life of the product because less can go wrong. This allows vortex flowmeters to be installed in applications where other technologies cannot.

What's more, when the VLM20 is ordered with optional built-in temperature and/or pressure sensors, the electronics can also calculate the mass or energy flow rate from the volumetric flow measurement.



Pipeline Reducers

When sizing flowmeters, a vortex flowmeter will often need to be smaller than the line size because a high velocity is needed to maintain measurement accuracy. It is important to fit reducers correctly, particularly if the flow is a gas with a small amount of liquid, to maintain product accuracy and length of service.



Technical Overview			
Line Size	DN15 - DN100 (1/2" - 4") Wafer DN15 - DN300 (1/2" - 12") Flanged		
Turndown	Up to 30:1		
Temperature Limits	Max process temperature; Standard version 260°C High temperature; version 400°C Min process temperature; -200°C Electronic ambient temperature range; Storage -40 to 60°C Operating -40 to 85°C		
Output	A range of communications options: 1 or 3 x 4-20mA, pulse, 1 or 3 x alarms, HART, Modbus RTU and BACnet MS/TP		
Accuracy	Process variables Mass flowrate Volumetric flowrate Temperature Pressure Density	Liquids ±1% of rate ±0.7% of rate ±1°C (±2°F) ±0.3% of full-scale ±0.3% of reading	Gas & Steam ±1.5% of rate ±1% of rate ±1°C (±2°F) ±0.3% of full-scale ±0.5% of reading



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