

The Spirax Sarco VIM20 Flowmeter

Easy metering without process shutdown



First for Steam Solutions

EXPERTISE | SOLUTIONS | SUSTAINABILITY

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The VIM20

The VIM20 vortex insertion flowmeter delivers volumetric, mass and energy flow monitoring of gas, liquid or steam. It is suitable for hot tapping, which means it can be installed and maintained under full flow conditions, without shutdown. This avoids the expense and disruption to processes that are often associated with the installation of equipment and helps you to start gathering performance data sooner; allowing you to monitor energy costs and make adjustments where necessary to improve efficiency.

How the VIM20 works

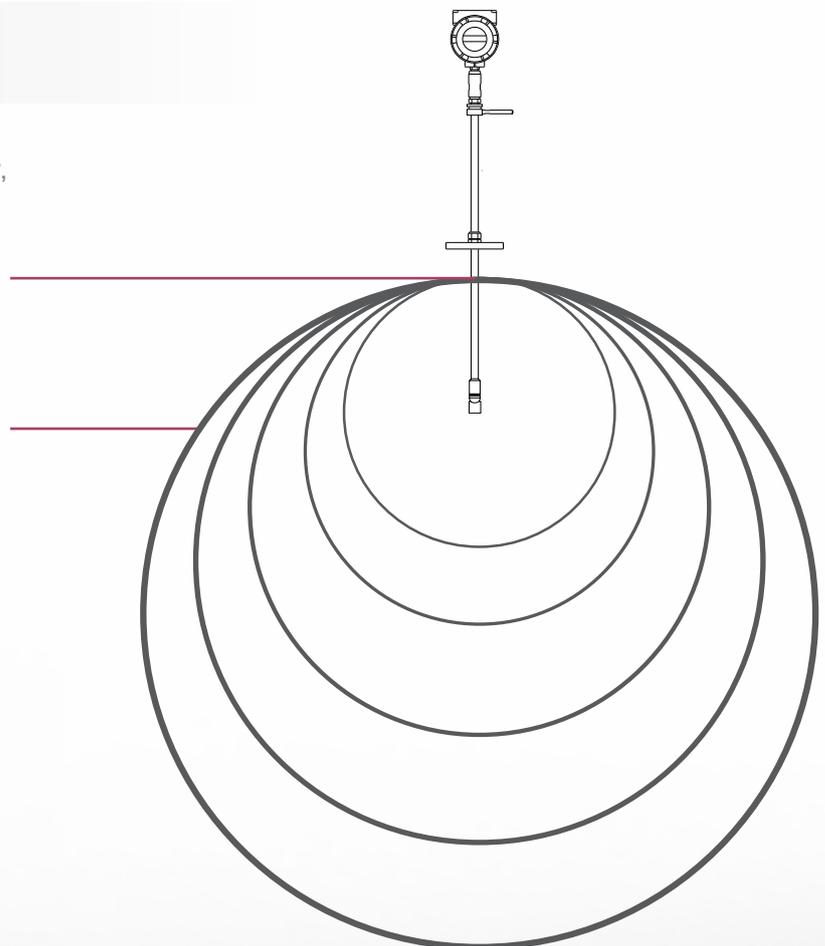
The VIM20's bluff body is accurately positioned within the flow. As flow passes over the bluff body, vortices are shed from either side of the bluff body at a frequency that is proportional to the flow velocity. These vortices are measured by a sensor positioned behind the bluff body and translated into flow velocity past the bluff body. A calculation of the pipeline flow profile is made and is used to correlate the local flow velocity to the overall flow rate in the pipe.

The integral RTD provides real-time temperature monitoring for sensor calibration and accurate flowrate monitoring, as well as for the flow computer to output a true density-compensated mass flow signal accurate to $\pm 1.5\%$ of rate with liquids and $\pm 2.0\%$ of rate with gas or steam.

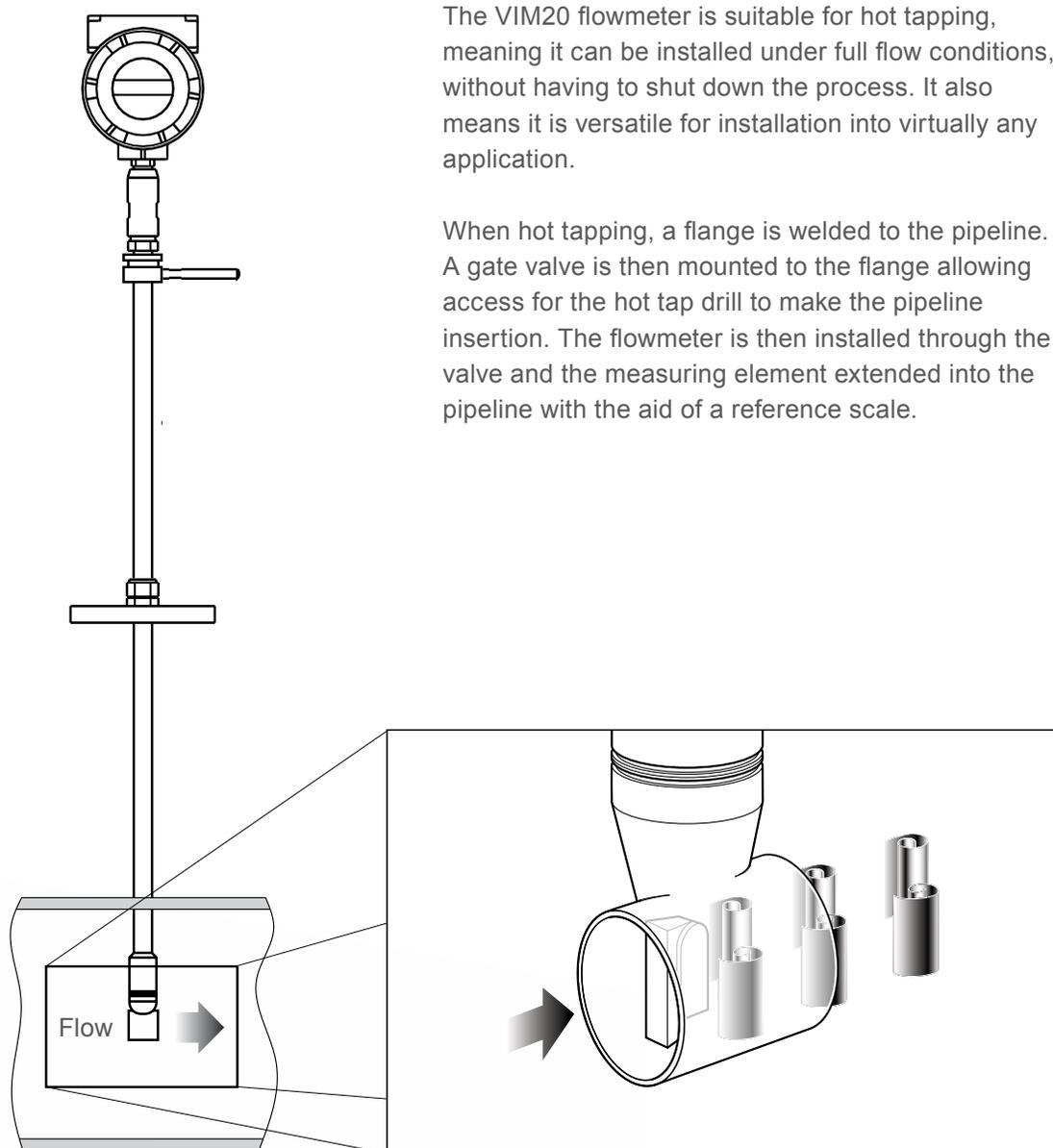
One For All

The VIM20 has only one access point for flow, pressure and temperature, reducing the cost and effort usually associated with installation and maintenance.

It can be used on a wide range of pipe sizes, from DN50 (2") upwards, making it a suitable meter for installation in many applications.



Hot tapping



The VIM20 flowmeter is suitable for hot tapping, meaning it can be installed under full flow conditions, without having to shut down the process. It also means it is versatile for installation into virtually any application.

When hot tapping, a flange is welded to the pipeline. A gate valve is then mounted to the flange allowing access for the hot tap drill to make the pipeline insertion. The flowmeter is then installed through the valve and the measuring element extended into the pipeline with the aid of a reference scale.

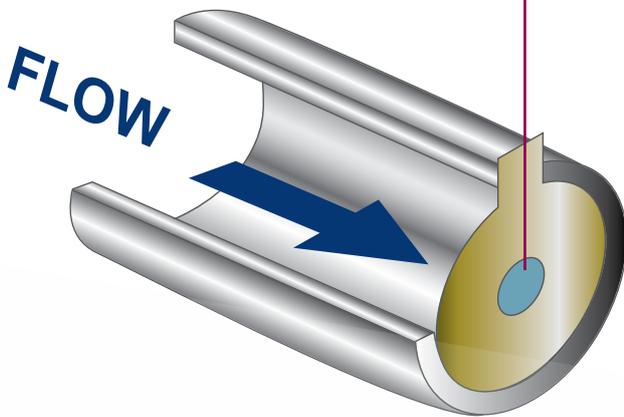
As the VIM20 can be fitted directly into operational pipework, installation is quick and easy without process shutdown. The cost of labour is reduced and data can be gathered more swiftly. Typical savings can be as much as 80% for DN600 pipelines and 50% for the DN250 pipelines.

Furthermore, as the flowmeter can be removed and re-fitted without downtime, the costs associated with repair, maintenance and re-calibration are reduced.

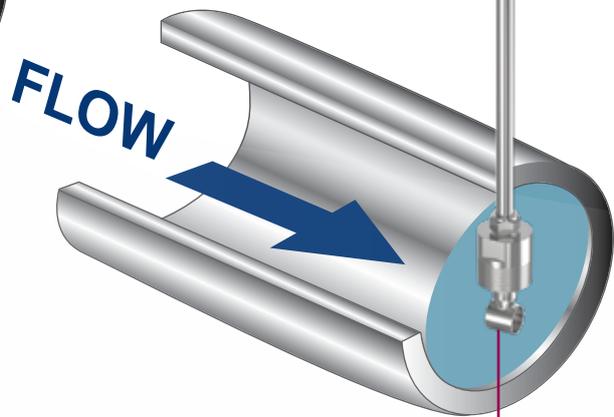
Low Pressure Drop

As the VIM20 has minimal flow obstruction, there is negligible pressure drop, and energy loss when you install the flowmeter is up to 10 times less than an orifice plate.

ORIFICE PLATE



INSERTION



Unobstructed area

The insertion probe occupies a small area, leaving most of the pipeline unobstructed. Because it has a low pressure drop it is very efficient and flow pressure remains high.



Specifications

Temperature	Process	S option - Standard	-200 °C to +260 °C	-330 °F to +500 °F
		H option - High	-267 °C to +400 °C	-488 °F to +750 °F
	Ambient	Operating	-40 °C to +60 °C	-40 °F to +140 °F
		Storage	-40 °C to +85 °C	-40 °F to +185 °F

Pressure ratings	Style connection	Connection/Rating		
	Compression fitting	2" Male NPT ASME Class 600		
		2" ASME B16.5 Class 150 or DN50 EN1092-1 PN16		
		2" ASME B16.5 Class 300 or DN50 EN1092-1 PN40		
		2" ASME B16.5 Class 600 or DN50 EN1092-1 PN63		
	Packing gland and Removable retractor	2" Male NPT ASME Class 300		
		2" ASME B16.5 Class 150 or DN50 EN1092-1 PN16		
		2" ASME B16.5 Class 300 or DN50 EN1092-1 PN40		
	Packing gland and Permanent retractor	2" Male NPT ASME Class 600		
		2" ASME B16.5 Class 150 or DN50 EN1092-1 PN16		
		2" ASME B16.5 Class 300 or DN50 EN1092-1 PN40		
		2" ASME B16.5 Class 600 or DN50 EN1092-1 PN63		

Display	Alphanumeric 2 line x 16 character LCD digital display
	Six pushbuttons for full field configuration
	Pushbuttons can be operated with magnetic wand without removal of the enclosure covers
	Display can be mounted in 90° intervals for better viewing

Accuracy	Mass flowrate accuracy for gas and steam based on 50 - 100% of pressure range
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Process variables	Liquids	Gas and steam	Repeatability	Stability over 12 months
Volumetric flowrate	± 1.2% of rate	± 1.5% of rate	± 0.1% of rate	± Negligible
Mass flowrate	± 1.5% of rate	± 2.0% of rate	± 0.2% of rate	± 0.2% of rate
Temperature	± 1.0 °C (± 2.0 °F)	± 1.0 °C (± 2.0 °F)	± 0.1 °C (± 0.2 °F)	± 0.5 °C (± 0.9 °F)
Pressure	± 0.3% of full-scale	± 0.3% of full-scale	± 0.05% of full-scale	± 0.1% of full-scale
Density	± 0.3% of reading	± 0.5% of reading	± 0.1% of reading	± 0.1% of reading

Response time	Adjustable from 1 to 100 seconds
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