The RIM20

The RIM20 rotor 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 RIM20 works

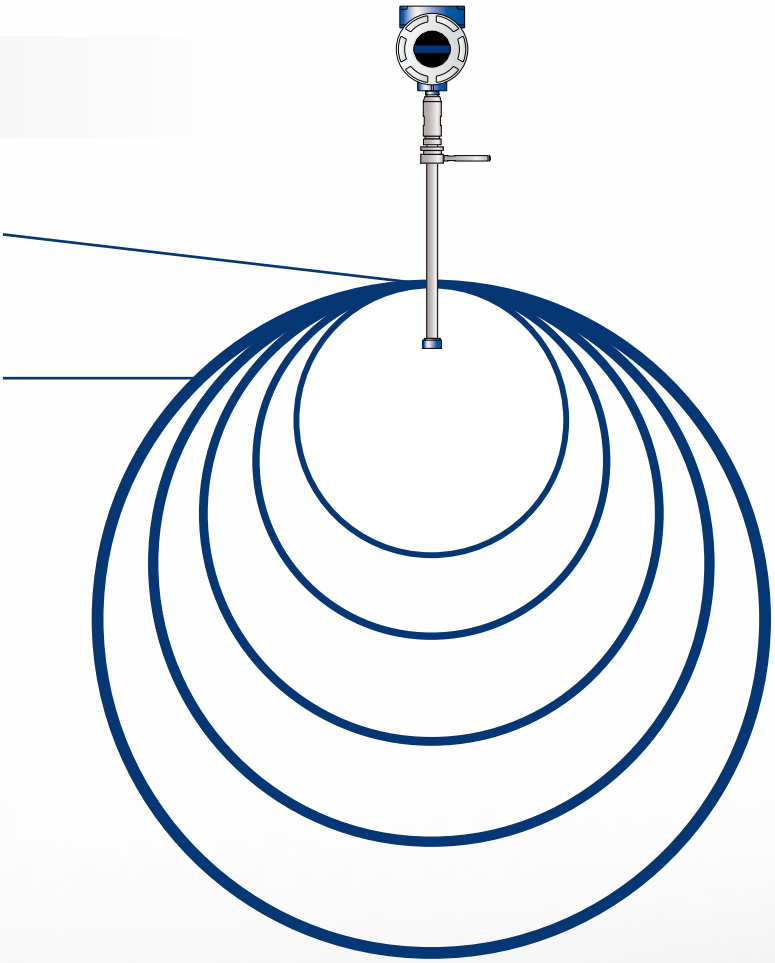
The RIM20's stainless steel rotor is accurately positioned and the kinetic energy in the fluid stream causes it to spin in direct proportion to flow. As each turbine blade rotates past the magnetic pickup coils, the magnetic field is broken which generates a small voltage pulse that can be translated into flowrate data.

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 ±1.5% of rate with liquids and ±2.0% of rate with gas or steam.

One For All

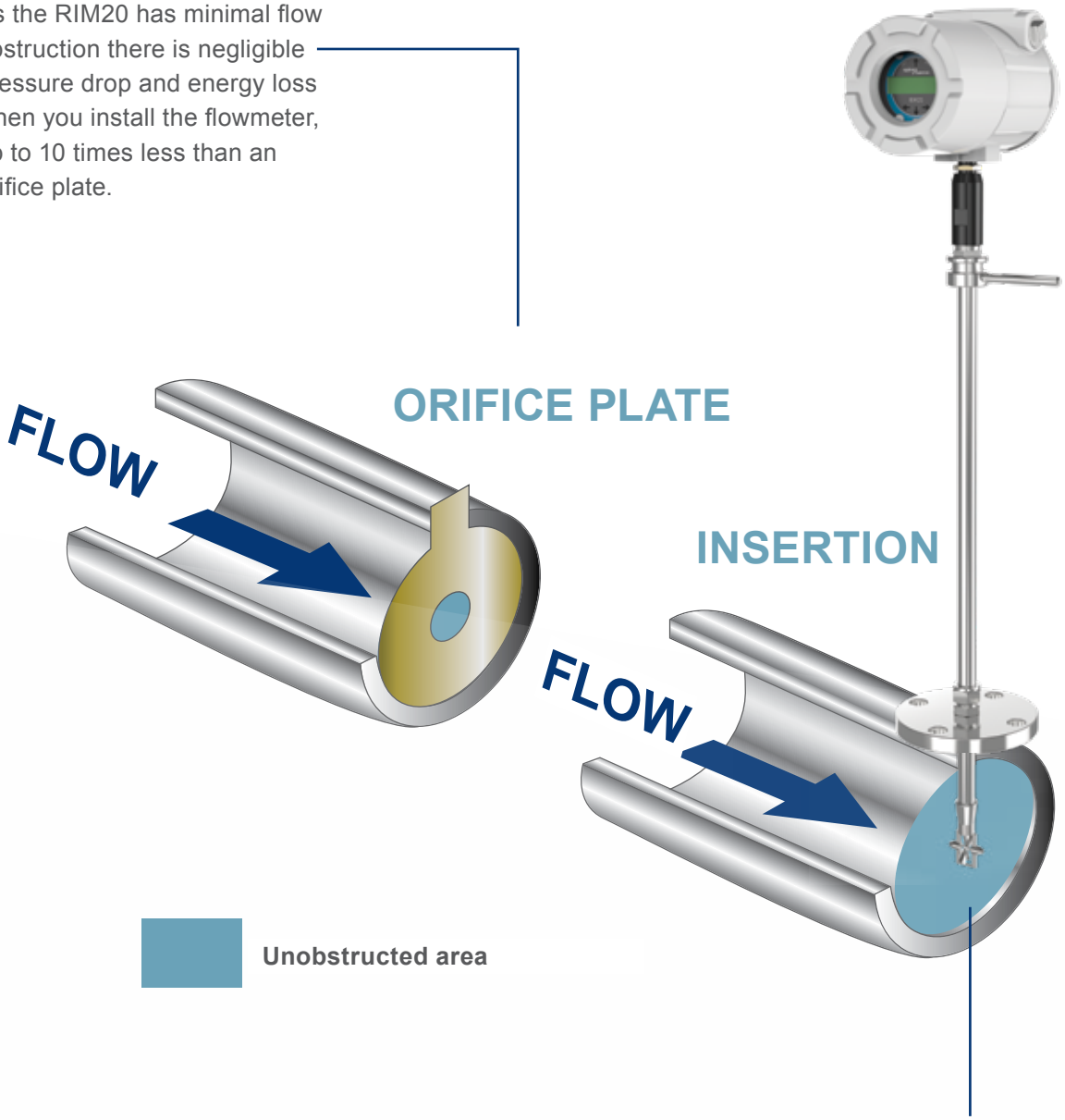
The RIM20 has only one access point for flow, pressure and temperature, reducing the cost and effort usually associated with installation and maintenance.

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.



Low Pressure Drop

As the RIM20 has minimal flow obstruction there is negligible pressure drop and energy loss when you install the flowmeter, up to 10 times less than an orifice plate.

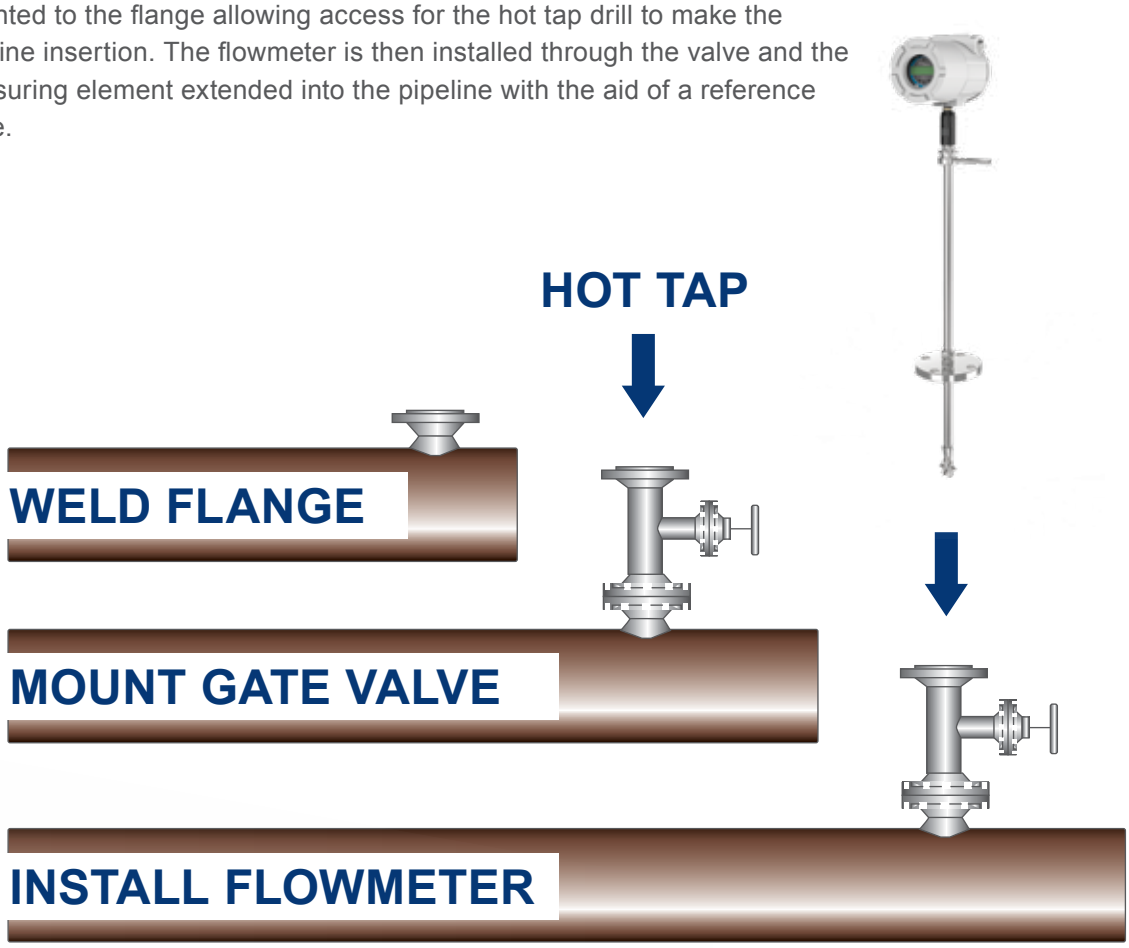


The insertion probe occupies a small area, leaving most of the pipeline unobstructed. Because it has a low pressure drop it is very efficient and flow pressure remains high.

Hot tapping

The RIM20 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 RIM20 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.

Specifications

Temperature	**Process**	**S** option - **Standard**	-55 °C to +232 °C	-67 °F to +450 °F
		H option - **High**	-267 °C to +454 °C	-448 °F to +850 °F
	Ambient	**Operating**	-40 °C to +60 °C	-40 °F to +140 °F
		Storage	-40 °C to +85 °C	-40 °F to +185 °F

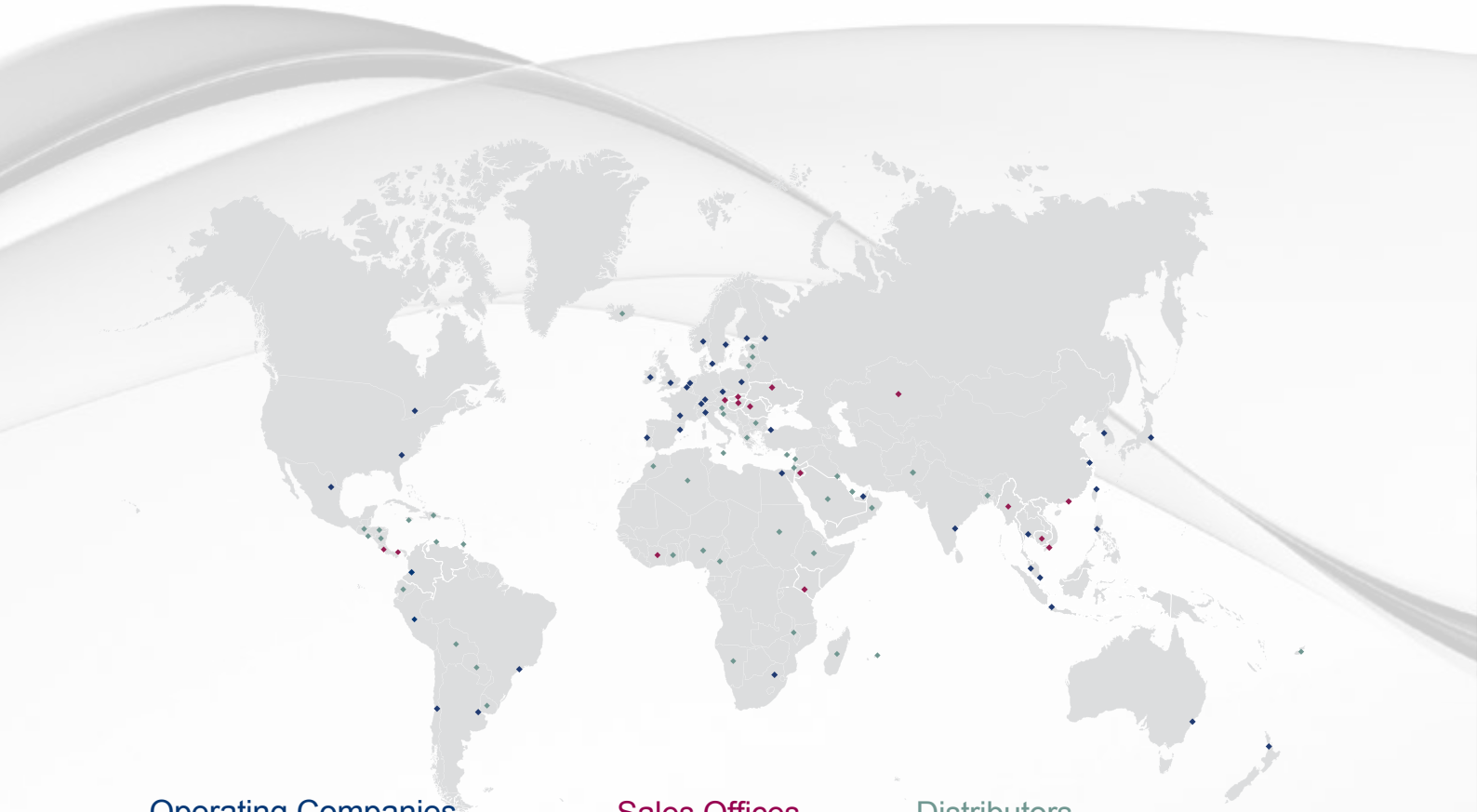
Pressure ratings	**Style connection**	**Connection/Rating**
	Compression fitting	2" Male NPT ASME Class 600
		2" ASME B16.5 Class 150 or DN50 EN1092-1 PN16
		2" ASME B16.5 Class 300 or DN50 EN1092-1 PN40
		2" ASME B16.5 Class 600 or DN50 EN1092-1 PN63
	Packing gland and Removable retractor	2" Male NPT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

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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The Spirax Sarco RIM20 Flowmeter

Easy metering without process shutdown

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