**New vortex flowmeter for advanced energy measurement**

* New OPTISWIRL 4200 vortex flowmeter for internal monitoring of energy flows for saturated and superheated steam or hot water
* Gross and net heat volume calculation for hot water and steam
* Energy measurement to support advanced energy management systems

**Text:**

Duisburg, October 1, 2014: KROHNE introduces the new OPTISWIRL 4200 vortex flowmeter for the measurement of conducting and non-conducting liquids, gases and steam. The new device is targeted at auxiliary and supply applications in various industries, such as internal monitoring of energy flows for saturated and superheated steam or hot water, and heat metering applications. Areas of usage also cover steam boiler monitoring, burner consumption measurement or compressed air network monitoring, including FAD applications.

Based on the experience gained with the predecessor OPTISWIRL 4070, the new flowmeter comes with some advanced features: in addition to gross heat calculation for steam, the OPTISWIRL 4200 now includes net heat calculation for steam and condensate (hot water) as well. With one temperature sensor integrated as standard, the device can be installed as heat meter in the feed line directly connected with an external temperature sensor in the return line. The gross and net heat calculation can be fed into a DCS to support advanced energy management.

As established with the predecessor, temperature and pressure compensation options are also available for the new OPTISWIRL 4200 to enable calculation of standard flow volume under fluctuating pressures and temperatures (online density compensation). Both compensation functions are based on the standards of NIST (for gas) respectively IAPWS (for steam). Another advantage is that by combining three measurements (flow, temperature and pressure) in one 2-wire-device, the line has to be opened only once for installation.

In addition to the standard sensor range, a version with integrated reduction of nominal diameter up to two sizes is now available for space-saving installations and large measuring spans. About 90% of all vortex flowmeters are ordered one size smaller than line diameter in order to increase the flow speed and to get a wider measuring range. Here, the line has to be reduced before and widened after the sensor, typically including 20 DN inlet and 5 DN outlet. With the reduction and widening of nominal diameter included in the sensor, this is no longer necessary. To compensate for no straight inlet between reduction and the vortex bluff body, these devices are specially calibrated and linearised.

The remote version OPTISWIRL 4200 F with field housing converter is now available with connection cable up to 50 m/164 ft. As with the predecessor, a dual version with two independent sensors and two signal converters is also available for multiproduct pipelines, redundant measurement or increased safety demands.

Enhancements have also been made on the electronics side: equipped with new AVFD function (Advanced Vortex Frequency Detection), the newly developed signal converter VFC 200 of the OPTISWIRL 4200 features advanced signal processing and filtering: interferences and disturbances in the pick-up signal are suppressed, and signals apart from the relevant frequency band are filtered out. Redundant data management prevents loss of calibration and configuration data when changing electronics or display.

By default, all OPTISWIRL devices are wet-calibrated at factory (traceable to international standards) and pre-set to match customer specifications. OPTISWIRL 4200 also comes with an installation wizard to ease installation; e.g. in a steam application it will only show related settings.

About KROHNE: KROHNE is a full-service provider for process measuring technology for the measurement of flow, mass flow, level, pressure and temperature as well as analytical tasks. Founded in 1921 and headquartered in Duisburg, Germany, the company employs over 3,000 people all over the world and is present on all continents. KROHNE stands for innovation and maximum product quality and is one of the market leaders in industrial process measuring technology.

**Picture**:



**Caption**: OPTISWIRL 4200 C: New vortex flowmeter for advanced energy measurement

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