

Safely controlling small amounts of gas

Variable area flowmeters with SIL 2 classification

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In the chemicals industry, measuring gases is often more than simply measuring the flow: process analysis technology is an important instrument when indicating quality and when it comes to guaranteeing process reliability. At the same time, it also helps in process monitoring and optimisation.



To reduce risks for humans and the environment, certain critical processes must be fitted with safety functions. To do so, the safety variables such as the probability of failure and the portion of dangerous and non-dangerous errors must be calculated for all relevant components and analysed.

In the course of the current standardisation to IEC 61508, process analytics are coming increasingly into focus, i.e. process analysis systems including integrated flowmeters are also taken into account when considering the safety of critical applications. This also includes classification according to the Safety Integrity Level (SIL) of the measuring devices used, for example, in the supply lines of gas analysers for flow monitoring. Specifically for the field of process analytics, KROHNE now introduces its DK32/34/37 variable area flowmeters with suitability as per SIL 2 for measuring liquids from 0.2 l/h and gases from 2 l/h. For larger flow rates, the tried and true variable area classic H250 with SIL 2 classification has been in use since 2005 in applications where measurement safety is of prime importance.

To put it simply, the SIL rating of a component is a gauge for measuring its suitability for use as part of a PCT protective device to reduce risk. The DK32, DK34 and DK37 with inductive limit switches, both the basic variant and the variant featuring an optional differential pressure regulator or flange connection adapter, are designed for use in SIL 2 applications.



Variable-area flowmeters DK32, DK 34; DK37 and H250

The probability of failure on demand (PFD) of the SIL2 devices is so small that the functionality must only be checked using a proof test every 10 years. This is proof of the quality of KROHNE variable area flowmeters in the DK32/DK34/DK37 and H250 series.

The safety variables were determined and documented by an independent test station in an FMEDA inspection to IEC 61508-2. The safety manual issued by KROHNE contains a detailed account of all of the data relevant to safety as well as information relevant to the planning and operation of a DK device in a fail safe application.

About KROHNE: Established in 1921, KROHNE is a family-owned business employing 2,510 people around the world with representatives on all continents. The company has its headquarters in Duisburg, Germany and develops, manufactures and sells products in the field of measuring technology, standing for innovation and superior product quality. KROHNE is one of the market leaders in industrial process measuring technology.

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