SIEMENS

Press

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Temperature measuring system lengthens the service lives of plants and improves product quality

- **Innovative Sitrans TO500 multipoint temperature measuring system**
- **Precise determination of the temperature profile to optimize processes**
- **Up to 48 measuring points per measuring lance**
- **Better exploitation of the reactor space through the smaller protective tube**
- **Especially suitable for applications in the chemical industry**

In the Sitrans TO500, Siemens is putting an innovative measuring system for fiber-optic temperature measurement onto the market. It enables complex temperature measurements and detection of the precise position of critical overtemperatures, for example in tube and tube-bundle reactors. The Sitrans TO500 is characterized by a large number of measuring points (up to 48 per measuring lance, depending on the temperature range) and the small diameter of the sensor measuring lance. This allows users to use a smaller protective tube in the reactor. This makes measurements more accurate, and so improves productivity and product quality. The precise determination of the temperature profile enables users to detect critical operating states in good time and initiate countermeasures. This lengthens the service lives of plants. The measuring system is especially suitable for use in the chemical industry.

The reliable determination of the temperature profile within the catalyst filling is of crucial importance in the catalytic conversion of gases and liquids in tube and tube-bundle reactors. It significantly affects the course of the reaction, the quality of the substance conversion and the aging process of the catalyst. The object is to detect areas with excessive temperatures (hotspots) at an early stage, and make adjustments if necessary, for example to optimize the reaction processes.

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This is where the Sitrans TO500 comes in. For the first time it uses a fiber Bragg grating (FBG) for the measurements. The Sitrans TO500 can evaluate 48 FBGs in each of four channels (a total of 192 measuring points), thus enabling precise determination of temperature changes in the smallest spaces. What is more, it is the first device to enable FBG-based measurements in industrial environments (i.e. under harsh plant conditions and at high temperatures). This new form of temperature measurement has already been successfully tested by several customers in the chemical industry.

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This press release and a press picture are available at
http://www.siemens.com/press/PR2016100002PDEN

For further information on topic of Sitrans, please see www.siemens.com/sitranst

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Further information is available on the Internet at www.siemens.com.