Hot Hot Topics – September 2003

Yokogawa Releases the ADMAG AXF Series—World's First Magnetic Flowmeters with Electrode Adhesion Diagnostic Function

Tokyo, Japan, July 7, 20003—Yokogawa Electric Corporation announces the release of an upgraded version of its ADMAG series magnetic flowmeters, which can measure liquid flow with high accuracy, and will launch marketing of this as the ADMAG AXF series both inside and outside Japan on July 11.

Development Background

Magnetic flowmeters make use of the physical phenomenon in which conductive fluids generate electromotive forces in proportion to the speed with which they pass through a magnetic field. They are sophisticated devices that have no movable parts or other obstacles inside their flowtubes, and measurement is not influenced by the presence of solid objects in fluids. This makes them ideal for use in such industries as pulp and paper, water supply, chemicals, food, and steel where the calculation of a totalized flow, the reduction of pressure loss, and/or the measurement of fluids containing solid objects is required.

In 1955 Yokogawa became the first manufacturer in Japan to develop an industrial magnetic flowmeter, and in 1988 the company developed its ADMAG series of magnetic flowmeters which employed a unique, noise-resistant dual frequency excitation method. Yokogawa has been a technology leader in this field ever since.

The ADMAG AXF series retains all of its predecessor's qualities while differentiating itself from the competition with user-friendly features such as a new technology that monitors the adhesion of substances to electrodes and an enhanced dual frequency excitation method. These and other new features make this a truly easy to use product.

Yokogawa's magnetic flowmeters command the largest market share in Japan, and the second largest group in the international market. With the launch of this new series of integral type flowmeters and the simultaneous launch of new remote type converters and remote flowtube type flowmeters, Yokogawa aims to become the top manufacturer in this business segment worldwide.

Product Features

1. A world first: adhesion diagnostic function

The measurement accuracy of magnetic flowmeters is influenced by the adhesion of fluids or the build-up of material on their electrodes, a situation which requires periodical maintenance work. With conventional flowmeters the maintenance interval must be calculated based on simple experience and observation. Now, with the new adhesion diagnostic function, it is possible to monitor the status of adhesion in real time. This function issues alarms and also indicates on a full dot matrix LCD what corrective measures must be taken. This enables the performance of maintenance in a timely manner and reduces costs.

2. Increased resistance to fluid noise

Measurement of high concentration slurry, or fluids mixed with solid objects, causes noise due to the solid objects brushing by the electrodes. Another world first for the new ADMAG AXF Series flowmeters is the use of enhanced dual frequency excitation to alleviate this noise. With this enhancement, these flowmeters have 2.5 times the noise resistance of the ADMAG series, which uses conventional (non-enhanced) dual frequency excitation.

3. Enhanced performance

The ADMAG AXF Series flowmeters have been enhanced by reducing the lower limit for fluid conductivity from 5micro-S/cm (ADMAG series flowmeters) to 1 micro-S/cm and by improving their accuracy.

4. Improved user friendliness

The replaceable electrodes (as an option) used in the ADMAG AXF Series can be removed for easy cleaning or replacement. These flowmeters also feature a full dot matrix LCD that can display messages in Japanese (katakana) as well as the standard English and indicate what type of maintenance work must be performed when an alarm is issued.

German, French, Spanish, and Italian are now being prepared In addition to these major improvements in usability, a wider range of nominal sizes and process connections and the ability to change the position of the electrical connection have been provided at user request.

Remarks

ADMAG AXF will be available in Europe and North America in the near future.