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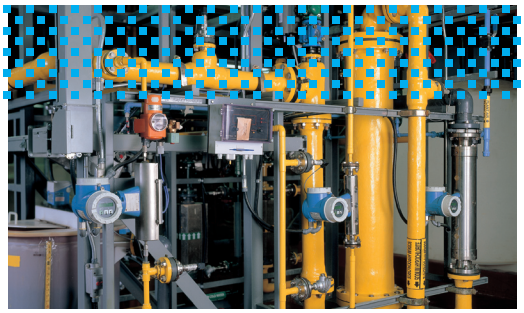
Promass 83 I Monitoring Promass Tube Erosion- Automotive

Monitoring tube erosion with the Promass I and FieldTool®

Using FieldTool® to monitor Promass function

Promass 83 I mass flow meter, side-view showing straight-through tube design



Typical Promass installation

In a highly abrasive fluid, FieldTool® provides the right information to determine when the flow tube of a Promass 83 I has erroded to the point where replacement is required.

Company Profile

A major automotive supply company.

Application

The customer is currently using a competitor's mass flow meter to measure the flow of a lapping compound. A lapping compound, or lapping abrasive, is used for cutting, smoothing and finishing of metal surfaces. The problem is that the lapping compound gradually wears away the flow tubes, eventually resulting in meter replacement.

Solution: Promass and FieldTool

Although we cannot prevent the lapping compound from eroding the flow tubes, we can monitor the change in tube mass or the tube damping to determine when the meter may be ready to fail. The first step is to use the FieldSafe module of FieldTool in conjunction with the advance diagnostics software option to record the meter's starting tube mass and tube damping values.

We can then use the historical values in FieldSafe that are recorded during the operation of the meter to monitor any changes in the original values. The customer can set a defined variation in these values to trip an alarm in the Promass to signal erosion of the tubes. Once it is determined that the excitation current or damping variation has exceeded the set tolerance limit, the customer can replace the sensor before a failure occurs.

The customer chose the Promass 83 I for two reasons. The first is that the process was not conductive enough for a magnetic flow meter, and they wanted a higher accuracy than the inferred mass calculation that the Promag could offer. They also compared our tube thickness to the competitor's, and the Promass 83 I tube was thicker allowing for more erosion before the need to replace the meter.

For more information contact:

Endress+Hauser, Inc.
317-535-7138
www.us.endress.com

Endress+Hauser
People for Process Automation

ISO 9001:2000 Certified

USA

Endress+Hauser, Inc.
2350 Endress Place
Greenwood, IN 46143
Tel. 317-535-7138
Sales 888-ENDRESS
Service 800-642-8737
Fax 317-535-8498
inquiry@us.endress.com
www.us.endress.com

Canada

Endress+Hauser, Canada
1075 Sutton Drive
Burlington, ON L7L 5Z8
Tel. 905-681-9292
800-668-3199
Fax 905-681-9444
info@ca.endress.com
www.ca.endress.com

Mexico

Endress+Hauser México, S.A. de C.V.
Fernando Montes de Oca 21 Edificio A Piso 3
Fracc. Industrial San Nicolas
54030. Tlalnepantla de Baz
Estado de México
México
Tel. +52 55 5321 2080
Fax +52 55 5321 2099
eh.mexico@mx.endress.com
www.mx.endress

Endress+Hauser

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