SITRANS FUH1010 Clamp-on Hydrocarbon Flowmeters

Dynamic compensation for viscosity changes due to shifting liquid properties makes clamp-on ultrasonic flowmeters from Siemens the perfect choice for a wide array of storage and transmission installations within the hydrocarbon industry.

For those applications that require more of a flowmeter than the mere capability of accurately measuring flow, the Siemens SITRANS FUH1010 high-precision clamp-on ultrasonic flowmeters are just right. They are designed specifically for hydrocarbon applications where dynamic viscosity compensation that goes beyond the capabilities of standard ultrasonic flowmeters is a prerequisite.

SITRANS FUH1010 flowmeters for the hydrocarbon industry are ideal for a very wide number of applications, including:

- Ship off-loading
- Pipeline transportation
- Line balance and allocation
- Transmix and check metering
- Liquid quality monitoring
- Process control metering
- Offshore production
- Water injection/recovery
- Storage tank inflow/outflow

As with any other clamp-on flow device from Siemens, it is not necessary to cut the pipe or shut down operations to install the flowmeter; the transducers are quickly and easily mounted on the outside of the pipe minimizing maintenance expenses and preventing deposits from forming. The clamp-on design also eliminates the need to modify pipes or interrupt the flow.

SITRANS F

Answers for industry.

SIEMENS

The WideBeam principle
All FUH1010 clamp-on flowmeters employ Siemens WideBeam ultrasonic transit time technology. The technology enables increased precision by reducing sensitivity to any change in the medium type or pressure. And by utilizing the pipe wall as an amplifier, the signal to noise ratio is optimized considerably resulting in a stronger ultrasonic signal. WideBeam also makes the flowmeter immune to most pressure reducing valve noises and permits continued operation over an exceptional range of viscosity.

WideBeam can be used for metal pipes and through numerous field tests it has proven especially valuable for hydrocarbon as well as gas applications.

Automatic zero adjustment
A feature that makes commissioning of the FUH1010 flowmeters particular easy is the automatic zero adjustment. At the end of initial setup, an automatic zero (AutoZero) routine is automatically invoked.

The AutoZero routine, which is performed on a full pipe, carries out a one-time analysis of the pipe wall component of the ultrasound signal to quantify any residual mismatch in the hardware. Once AutoZero is complete, the system memorizes the zero offset and subtracts this value from the flow reading.

Flexible product offering
There are two types of FUH1010 flowmeters: a viscosity compensated volume meter and a standard volume (mass) meter.

The viscosity compensated volume meter dynamically compensates for changes of viscosity as liquid properties change for continuous correction of Reynolds number. It allows analog output of inferred viscosity values in addition to valuable diagnostic data.

The meter infers the density for mass calculation and outputs the density and API values and for even more precise density compensation, an analog input from a densitometer can be utilized. Multiple analog outputs are generated when a liquid interface passes and a separate relay output for when a scraper passes.

The clamp-on ultrasonic hydrocarbon meters are available in three different enclosures: standard IP65 (NEMA 4X) for wall-mount installation; explosion proof compact IP65 (NEMA 7); and explosion proof wall mount with an IP66 (NEMA 7) enclosure. Depending on the required measurement accuracy and the flow profile, the FUH1010 meters are available in dual, triple or optional four beam versions.

SITRANS FUH1010 hydrocarbon flowmeters provide several benefits:

- WideBeam ultrasonic transit time technology ensures excellent accuracy
- Automatic zero adjustment makes installation and commissioning easy
- Choice between viscosity compensated gross volume and standard volume (mass) meter provides a solution for any application
- Multiple analog outputs enable interface and scraper distinction
- Accuracy tailored to application with option between dual, triple or optional four beam versions
- Three enclosures available to fit a variety of installation requirements
- No need to stop the flow or cut the pipe

Siemens Industry, Inc.
Industry Automation Division
CoC Ultrasonic Flow
Hauppauge, NY 11788
USA

www.siemens.com/flow

Subject to change without prior notice
Order No.: E20001-A290-P730-X-7600
Printed in the USA
DISPO 26100