

TURBINE FLOWMETERS BY **HOFFER**

Perfecting Measurement

TRIFLO LIQUID FLOW LOGGER “PATENT PENDING”

The **Hoffer TriFlo System** provides both system integrators and operators with the most flexible measurement solutions for liquid flow including produced water flow and hydrocarbon condensate flow measurement. The system includes the Hoffer TriFlo metering system that provides complete interchangeability of components between three different sizes of flow meters (1”, 1½” and 2”), all of which can be accessed without having to break piping connections. The TriFlo’s are offered both with complete inline meter bodies and in OEM versions which allow the integrator/manufacturer to install the meters into their own piping system. The use of identical internal parts for all three meter sizes reduces the number of spare parts that a service company or operator needs to stock by a factor of 3. The simple design of the meters and the ability to access and replace the internal components further reduces both parts costs as well as field servicing time.

The TriFlo however, goes one step further and provides the capability to integrate up to three flow meter inputs into a single device rather than three separate displays and at a price competitive with that of a single display from other suppliers. The cost, space and weight savings the TriFlo provides makes it ideal for offshore installations and it may be used with other turbine flow meter brands as well.

The TriFlo system flow monitor has been designed for the environmental rigors of the wellhead and for long term operating cost efficiencies. Using its innovative features it will reduce your operating costs by making your data collection more efficient as well as reducing the overall installation price. The simplicity and ease of use for the operator are integral to this flow computer design. The data collected from this unit is critical for production accounting purposes as well as optimization of the well itself.

FEATURES

- Complete interchangeability of components between three different sizes of flow meters (1”, 1½” and 2”).
- Simple design of the meters reduces both parts costs and field servicing time.
- Hard Carbon, Ceramic and Tungsten Bearing options available.
- System accuracy of $\pm 1\%$ or better.
- Displays rate and total simultaneously.
- Easy to read LCD display with operating temperature from -40° to $+60^{\circ}\text{C}$.
- Up to 16 point linearization.
- Optional three turbine pulse inputs offers cost, space and weight savings.
- RS-485 modbus protocol and SD card download for easy data retrieval.
- Interface software available at no charge.
- Class 1 Div. 1 explosion proof or IS certification.



Detailed Database Capacity

10 Second log:	35 days of history
1 Minute log:	200 days of history
5 Minute log:	800 days of history
15 Minute log:	5 years of history
30 Minute log:	15 years of history
1 Hour log:	25 years of history

DATA RETRIEVAL

To minimize this cost and to optimize productivity the TriFlo provides three different ways of reporting flow rates:

- Read the forty day flow log via the onboard LCD display.
- Download information via the onboard SD flash card slot. Our windows software (provided with system) will process the data and automatically email a data file to your production/accounting department.
- Access the RS-485 Modbus communication. If your SCADA system has an ENRON compliant driver, all the flow logs can be downloaded automatically.



One size internal kit fits all three meter sizes (1", 1½" and 2").

DISPLAY SPECIFICATIONS

Power Requirements

Power: Two 3.6 VDC Lithium C or A cells
 Battery Life: Three to four years

Inputs

Optional three turbine inputs
 4 to 20 mA input for BS & W
 Pressure and temperature sensors (IS model only)
 API 11 Flow Correction

Safety

EX Model: Class 1 Div 1 Explosion Proof
 IS Model: Class 1 Div 1 Group A, B, C, D

Environmental

Operating Temperature: -40°C to +80°C
 Operating Humidity: 5 to 95%
 Non-Condensing

Communication Options

Field Bus
 Intrinsically safe Haz Net RS-485
 Protocols
 ENRON ModBus
 Modicon ModBus

Programming and Reporting

Windows 98/2000/XP/Vista
 Complete configuration and real time data Month end reporting.

FLOWMETER SPECIFICATIONS

1" Flowmeter with Magnetic Coil

Linear Range: 5 GPM to 75 GPM turn down 15:1
 Linearity: Less than ±1%
 Repeatable: 4 GPM to 85 GPM turn down 21:1
 Repeatability: Less than ±0.1%

1.5" Flowmeter with Magnetic Coil

Linear Range: 13 GPM to 182 GPM turn down 14:1
 Linearity: Less than ±1%
 Repeatable: 11 GPM to 188 GPM turn down 17:1
 Repeatability: Less than ±0.1%

2" Flowmeter with Magnetic Coil

Linear Range: 20 GPM to 260 GPM turn down 14:1
 Linearity: Less than ±1%
 Repeatable: 17 GPM to 280 GPM turn down 17:1
 Repeatability: Less than ±0.1%

Pressure Rating and Suggested Maximum Working Pressure

1"	4,000 psi
1.5"	2,800 psi
2"	2,500 psi

Pressure Loss at Maximum Linear Flow

1"	2.3 psid
1.5"	1.1 psid
2"	.55 psid

Temperature

With a Butyl, Buna-n (Nitril) O-ring (-65°F to +250°F)
 Lower temperatures can be obtained with proper O-ring material selection.

HOFFER FLOW CONTROLS, INC.
 107 Kitty Hawk Lane, P. O. Box 2145, Elizabeth City, NC 27906-2145
 800-628-4584 252-331-1997 FAX 252-331-2886
 www.hofferflow.com email: info@hofferflow.com

The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specification are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.

The quality system covering the design, manufacture and testing of our products is certified to International Standard ISO 9001.



TRIFLO-9500A