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Modum Flow flowmetering system

Calculate production flow rates in real time and review them remotely with an economical smart choke system

Temperature:
–20 to 250 degF [–28 to 121 degC]

Applications

- Production tree on land or offshore wells, especially in remote locations
- Wells with flow assurance issues requiring production flow rate data for optimization initiatives

How it improves wells

Modum Flow* flowmetering system is an economical smart choke that calculates production flow in real time, enabling continuous, real-time remote access to the data and optional remote control of choke settings. This enables operators to respond quickly to production changes and spread out well testing schedules for stable wells and focus more testing resources on wells where changes have been detected.

How it works

Intended to complement conventional separators and multiphase flowmeters, Modum Flow system is a choke flowmeter that approximates production rates from pressure and temperature measurements and delivers the data to an operator's SCADA system.

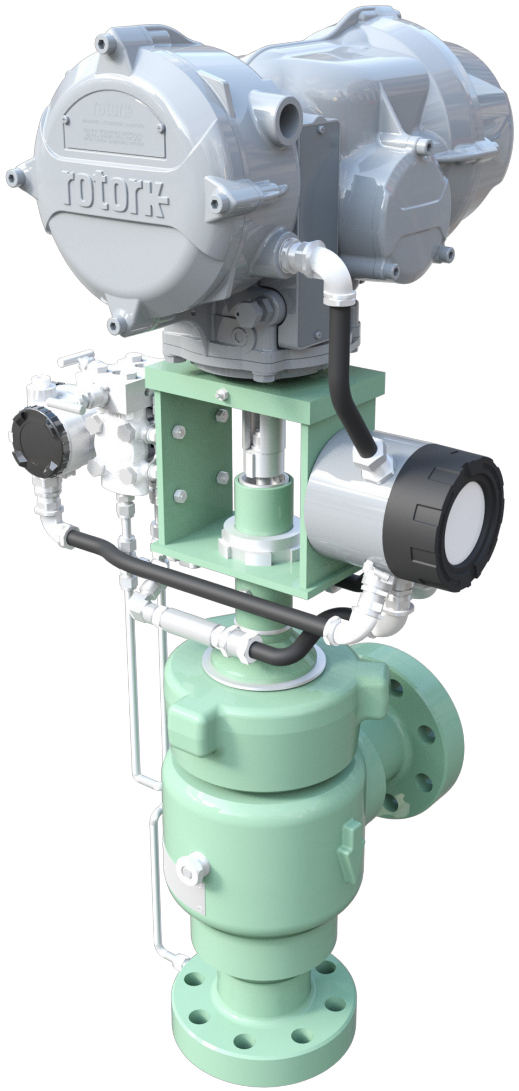
To optimize calculation accuracy, fluid property data from periodic well testing is used to recalibrate the system. Operators can then use the Modum Flow system's data to plan well test frequency based on actual well conditions rather than calendar dates.

Modum Flow system comprises a flow controller, temperature and pressure sensors, and an LCD that shows flow rate, valve position (if applicable), inlet and outlet pressure, pressure differential, voltage, and current. It can be installed onto any adjustable or fixed Cameron choke product:

- For fixed-choke applications, the system's flow controller measures production rate and pressure drop across the choke.
- For adjustable-choke applications with remotely addressable actuators, the system can obtain flow measurements and has an optional feature that enables self-regulation of the flow rate or pressure using its onboard flow controller.

What it replaces

Because of their high cost, multiphase flowmeters and separators are often shared among several wells for periodic production measurements. The gap between measurements leaves operators unaware of well behavior changes that could be remedied—perhaps at lower cost—before the next well test.



Modum Flow system is a smart choke that calculates production flow rate in real time and enables remote data access as well as an option for remote choke control.

Modum Flow

Additional information

The system's flow controller can be connected to existing customer SCADA system or a Schlumberger AgoraGateway* ruggedized edge computing device to enable remote monitoring. Standard modules use MODBUS® protocol; other communication protocols are available. Software is available to enable real-time visualization or remote control through the cloud.

No wireless or hardwired connection is required at the wellsite to view the LCD.

Modum Flow system can be delivered as an aftermarket retrofit kit; however, machining of the inlet and outlet flanges to accept the sensors would be required. For the complete system or retrofit kit, no additional footprint is required at the wellsite as the system is self-contained within the space already allocated to the choke.

An erosion-resistant trim is available for extreme conditions to ensure long-term drift accuracy.

Modum Flow System Specifications	
Choke model	Surface-actuated control choke (all sizes)
Service and applications	Production flow, single- and multiphase
Recommended calibration frequency	12 months, typical; 6 months for newer wells
Trim type	Various
Pressure rating	Choke limited
Actuation or operation	Fixed or adjustable
API Spec 6A temperature rating	Class U, 0 to 250 degF [–17 to 121 degC]; or Class P+U, –20 to 250 degF [–28 to 121 degC]
API Spec 6A material class	Choke-specific
ANSI leakage class (from ANSI B16.104 / FCI 70-2)	IV
Design codes	API Spec 6A, ISO 10423

All specifications are subject to change without notice.

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