

SERIES MFM

MUD FLOW METER (PATENTED)



FLOW IN



FLOW OUT



DYNAMIC DENSITY COLUMN

DESCRIPTION

The **MUD-FLOW-METER - MFM SERIES** is an innovative mud fluid metering system to be installed on oil / gas production wells. The goal of this system is to manage under increased safety the mud flow on wellheads in order to reveal:

- ✓ Flow / QMUD / QWATER / QGAS

Sensors are installed using Hammer Wing Union in order to have a simpler installation, while Venturi tube and Dynamic Density Column are supplied with IHC or flanged connections according to pressure class.

MFM is consisting of:

- ✓ MFM_{IN} mud flow meter complete with multiparametric sensors
- ✓ T7S_{IN} specific gravity transmitter on inlet mud tank
- ✓ KRG_{IN} radar level transmitter on inlet mud tank
- ✓ UNIT_{IN} electronic flow computing unit for mud inlet

- ✓ MFM_{OUT} mud flow meter complete with multiparametric sensors
- ✓ DDM Dynamic Density Meter complete with multiparametric sensors
- ✓ T7S_{OUT} specific gravity transmitter on outlet mud tank
- ✓ KRG_{OUT} radar level transmitter on outlet mud tank
- ✓ UNIT_{OUT} electronic flow computing unit for mud outlet

MAIN SYSTEM FEATURES

- ✓ Real time flow measurement
- ✓ Accurate real time measurement of Oil Water and Gas without separation of the phases

TRANSMITTERS PHYSICAL CHARACTERISTICS

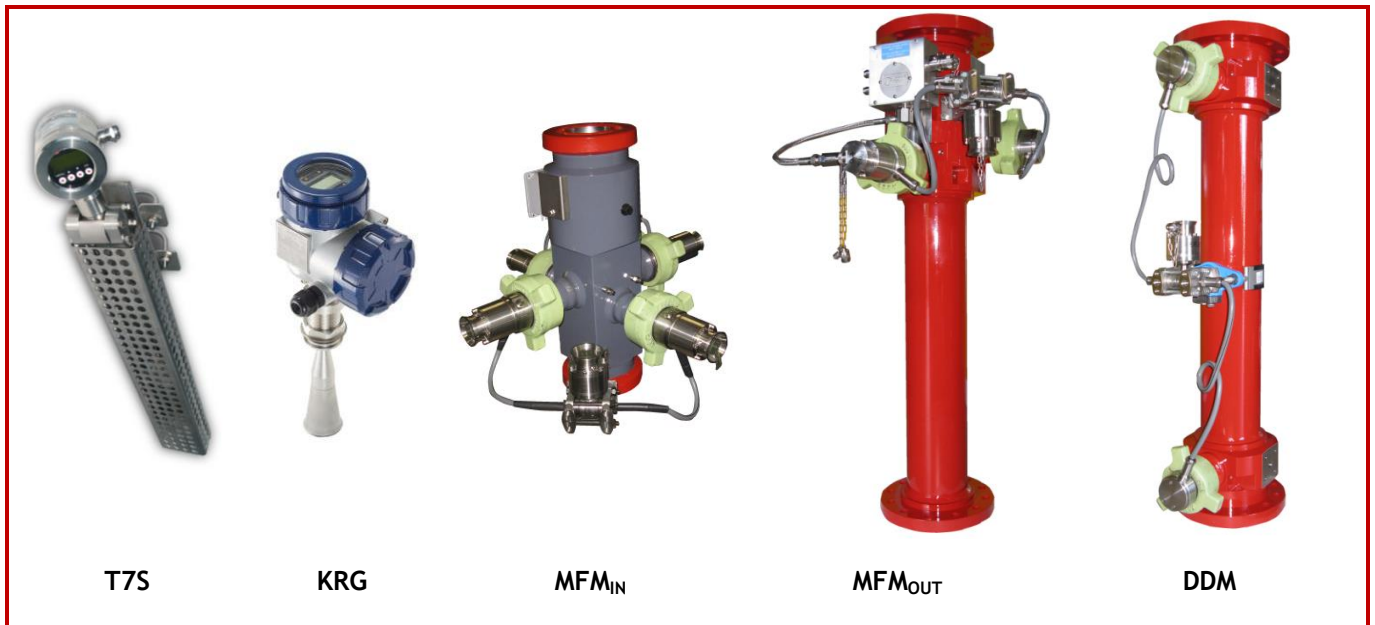
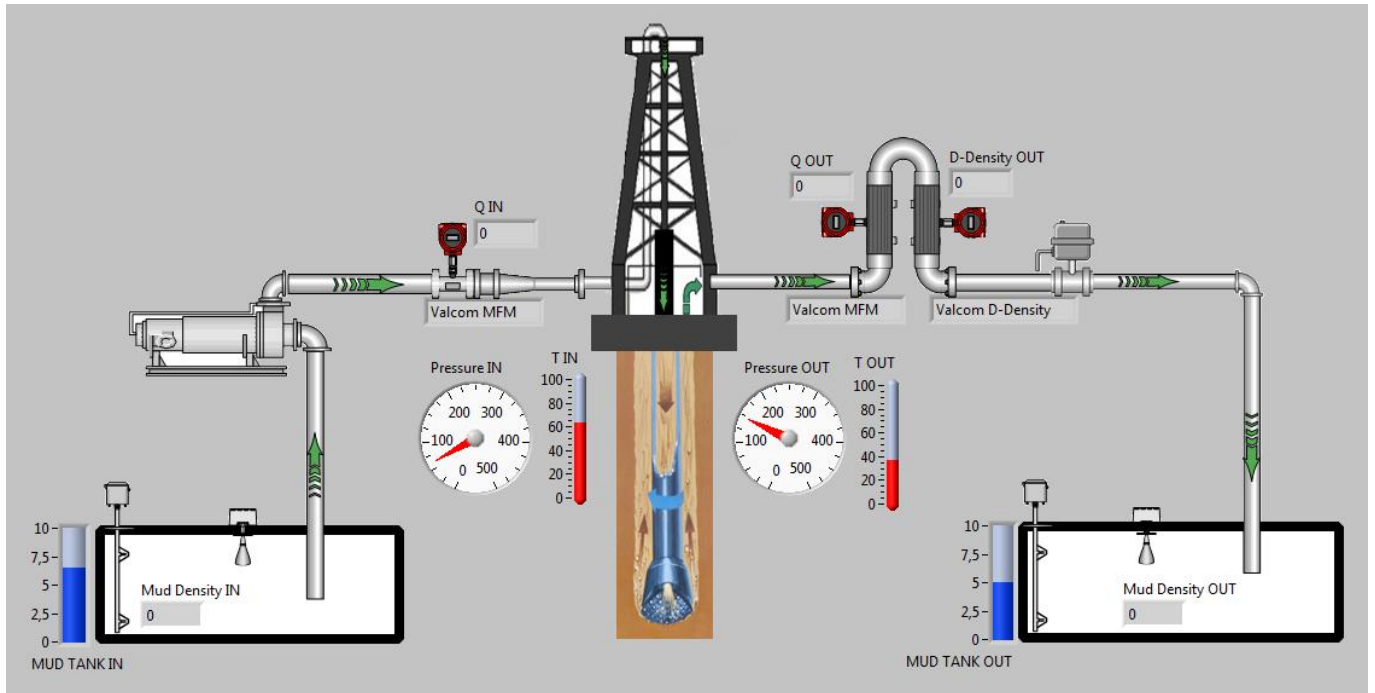
- ✓ Power supply: 12.5 - 30 Vdc
- ✓ Output signal: Analog 4-20mA, 2 wires / Digital HART[®] / MODBUS RS485
- ✓ Electrical connections: intrinsically safe plug connectors



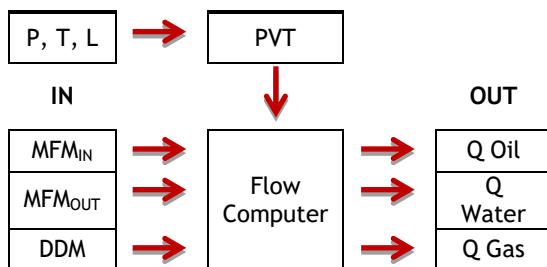
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SCREEN SHOT OF INSTALLATION

















DATA PATH



DIMENSIONS

The Mud Flow Meter MFM series can be supplied with different nominal diameters:
 ✓ 2", 3", 4", 6", 8"
 And with different ratings as:
 ✓ ANSI 300, 600, 900 or API 3000, 5000, 10000.
 Thus, the dimensions are depending on selected size and rating (please refer to our sales department).

EUROPEAN LEGISLATION APPROVALS

T7S _{IN/OUT}	Smart specific gravity transmitter				
KRG _{IN/OUT}	Smart radar level transmitter				
MFM _{IN}	Venturi Inlet Mud Flow Meter				
MFM _{OUT}	Venturi Outlet Mud Flow Meter				
DDM	Dynamic Density Meter				
FLOW COMPUTER	-				

Compliant with Directive 2004/108/EC (EMC).

AMBIENT CONDITIONS

- ✓ Temperature:
 - Process fluid (Std): -40 ÷ +80 °C (Std), up to 283 °C (On request)
 - Transmitters: -40 ÷ +80 °C
 - Handling and storage: -40 ÷ +90 °C
- ✓ Relative Humidity: from 0 to 100% R.H.

MFM PERFORMANCES

- ✓ MUD_{IN} and MUD_{OUT} better than ±5%
- ✓ GAS_{OUT} better than ±3%

TRANSMITTERS PHYSICAL SPECIFICATIONS

- ✓ Housing: SS AISI316 IP67, Dust and sand tight, protected against sea wave effects as defined by IEC IP67. Suitable for tropical climate operation as defined by DIN 50015.
- ✓ Covers O-ring: EPDM.
- ✓ Filling fluid: silicon oil.
- ✓ Nameplate: stainless steel, fixed on housing.

WETTED PARTS (TRANSMITTERS)

- ✓ AISI 316L Nace MR0175 compliance.
- ✓ Inconel.
- ✓ Tantalum and others on request.

OPTIONS

- ✓ Wetted parts: AISI 4130, Duplex, Hard insert, etc..

ORDERING CODE

MFM Mud Flow Meter

01 Configuration Type

- A MFM_{IN} + Flow Computer
- B MFM_{OUT} + DDM + Flow Computer

02 Pipe Nominal diameter

- 1 2"
- 2 3"
- 3 4"
- 4 6"
- 5 8"
- 9 Others

03 Pipe Rating

- A ANSI 300
- B ANSI 600
- C ANSI 900
- D API 3000
- E API 5000
- F API 10000
- Z Special

04 Body Material

- A AISI 4130
- B Duplex
- Z Other

05 Housing material (sensors)

- 1 SS AISI 316

06 Explosion protection (sensors)

- 0 Ex ia Intrinsic Safety
- 1 Ex d Explosion Proof