

Acumen

2600 Multiphase Flow Meter (MPFM)

Multiphase and wetgas flow meter for direct and continuous multiphase flow monitoring.

The 2600 MPFM measurement technology is a combination of electrical impedance measurement for water phase detection, cross correlation velocity measurement, gamma densitometer for gas phase detection and venturi for velocity measurement.

The 2600 MPFM accurately characterises flow and provides a cost-effective and flexible solution for a range of applications, from measurement at the wellhead to complex well testing.

Applications

- Wellhead production surveillance
 - Heavy oil
 - Black oil
 - Gas condensate
 - Wet gas
- Process Measurement
 - Production allocation
 - Individual well testing
 - Well remediation validation
 - Production optimisation
- Facility audits
- Check metering
- Reservoir management

Features and Benefits

- Portable compact design
- Large turn down
- Full range 0=100% GVF
- High resolution water cut measurement
- Real time results
- Internet data to desk enabled
- Self-calibrating
- Zone 1 operation



Acumen

2600 Multiphase Flow Meter (MPFM)

Technical specifications		
Parameter	Specifications	Comments
Operating range 0-100% Water in Liquid Ratio (WLR) 0-100% Gas Volume Fraction (GVF)	0-70% WLR in wetgas mode 0-98% GVF without wetgas mode	
Meter sizes	OD=4" ID=50mm OD=4" ID=67mm	Other sizes available: 1.5", 3", 6", 8", & 10"
Installation	Vertical upwards flow	
Design temperature	-20°C (4°F) to 130°C (266°F)	
Design pressure	Up to 3,750 psi (258 bar) Hub interface with 5,000 psi (345 bar) version available	#Optional: ANSI 300#, 600#, 900# and 1500#
Input requirements	Oil permittivity, water salinity, PVT phase densities	Wetgas mode requires gas-condensate PVT characterization to determine ratios at measured pressure and temperature
Typical uncertainty		
Multiphase operating mode:	Liquid rate: +/-3-5% relative Gas rate: +/-5-8% relative Water cut: +/-2-4% absolute	Measurement uncertainties can be improved with inline calibration
Wetgas operating mode:	Total hydrocarbon: +/-5% relative Water volume fraction: +/-0.2% absolute	

Acumen

2600 Multiphase Flow Meter (MPFM)

Technical specifications		
Parameter	Specifications	Comments
Mechanical and electrical components		
Meter body wetted parts material	Duplex UNS 31803	Optional: Super duplex UNS 32760, Stainless steel UNS 31600, Alloy 625 UNS N06625
Flange connection	ANSI flanges or Grayloc® hubs or Techlok® hubs	
Length (m)	730mm for a 3" meter size	Approximately, depending on the flange rating
Venturi	Insert design, field replaceable, with a compact isolation valve and manifold Rosemount Multivariable™ Transmitter (dP,P&T)	
Density measurements	Compact gamma system: Source: Cs-137, 2-5mCi, half-life 30.1 years or Non-Gamma or wetgas software	
Sensor technology	Electrical impedance and ZECTOR™ technology	
Power supply	10-36 VDC, 85-264 VAC Power consumption: 20 W	
Communication interface	RS-232/RS-485/Ethernet Communication protocol: Modbus RTU or TCP	
Flow computer mounting	19" rack mounted or wall mounted stainless steel enclosure for safe area installations	Optional: SS316 or aluminum exd housing for hazardous area installations
Electrical certification	ATEX, IECEx, CSA C/US and EAC	
Software	Service console	
Skid		
Dimensions (H x W x L)	2585mm x 1400mm x 1800mm (102" x 55" x 71")	
Weight	1,700kg (3748lbs)	
Certificates	[1] DNV GL Standard DNVGL-ST-E271 "2.7-1 Offshore containers", August 2017 [2] ISO 10855:2018 Offshore containers and associated lifting sets – Design, manufacture, testing, inspection and marking. [3] IMO MSC / Circular 860.	

Note: Other sizes and configurations are available to meet most applications, for more information contact your local Expro representative or email acumen@exprogroup.com