



水下多相流量计

水下多相流量计可安装在海底采油树或管汇等处进行单井油、气、水产量的实时在线计量，设计压力10000psi，设计水深3000米。该产品基于业内最成熟的伽马射线及文丘里技术，并结合经过长期现场验证的动态计量模型，可在0-100%的含气率范围内得到精确的油、气、水各相流量。产品严格按国际规范设计（API 6A, API 17D, API 17F, API 17S等），关键部件采用冗余设计以保证可靠性，并由国际权威第三方挪威船级社（DNV）完成型式认证。自2020年开始产业化，先后获得一系列国内外批量订单。

技术指标

内容	技术指标
型号	SMPFM-5000
设计压力	10000psi
设计温度	-29~121°C (-46~121°C optional)
设计水深	3000m
设计寿命	30 years
材质等级	HH
通讯协议	Modbus RTU, Modbus Ethernet 或 CANopen
产品规范等级	PSL 3G
参考标准	API 6A, API 17D, API 17F, API 17S 等
能耗	≤ 15W
供电	18~36 VDC
尺寸	900(L) x 800(W) x 900(H) mm (Typical)
含水率范围	0~100%
含气率范围	0~100%

产品特点

- 在线式
- 无可动部件、非插入式
- 冗余设计、高可靠性
- 权威第三方认证
- 实时、准确的测量数据
- 远程操作及控制
- 优异的动态响应
- 压损小
- 能耗小

应用

- 单井计量、水突监测

应用效果

- 降低油气田开发投资成本
- 监测早期出水
- 单井实时、连续的产量监控
- 协助优化生产管理
- 提升油藏开发效能

Subsea Multiphase Flow Meter (Subsea-MPFM)

Subsea Multiphase Flow Meter (SMPFM) can be installed on subsea Christmas trees or manifolds for real-time and online measurement of oil, gas, and water production from individual wells. This product is based on the matured technologies of gamma-ray and Venturi, driven by a dynamic and field proven flow model. It is capable of accurately measuring the individual flow rates of oil, gas and water within 0-100% Gas Volume Fraction (GVF) range. The product is designed in strict accordance with international standards (API 6A, API 17D, API 17F, API 17S), with redundant designs in key components to ensure high reliability. It has been qualified by the authoritative third party, DNV, and has got both domestic and international orders since 2020.

Applications

- Single well metering, water breakthrough monitoring

Specifications

Items	Specifications
Model	SMPFM-5000
Design Pressure	10000psi
Design Temperature	-29~121°C (-46~121°C optional)
Water Depth	3000m
Design Life	30 years
Material grade	HH
Communication protocol	Modbus RTU, Modbus Ethernet or CANopen
PSL level	PSL 3G
Design Reference	API 6A, API 17D, API 17F, API 17S etc.
Power consumption	≤ 15W
Power supply	18~36 VDC
Dimension	900(L) x 800(W) x 900(H) mm (Typical)
WLR range	0~100%
GVF range	0~100%

Features

- Inline flow meter, non intrusive, no moving parts
- Suited for all flow regimes
- Real-time and accurate data
- Built-in redundancy for longevity and reliability
- Remote operation and data acquisition
- Outstanding dynamic and sensitive response
- Low pressure loss
- Low power consumption
- Light weight

Benefits

- Reduces capital investment costs in oilfield development
- Monitors early water breakthrough
- Real-time, continuous production monitoring of single wells
- Production optimization
- Enhances reservoir development efficiency

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