



Technology Solutions

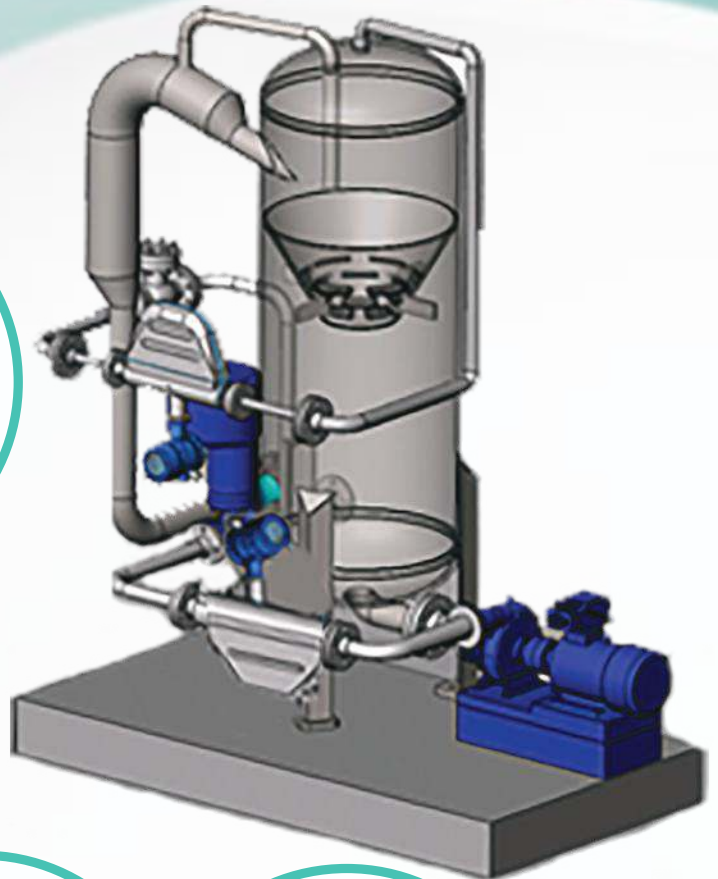
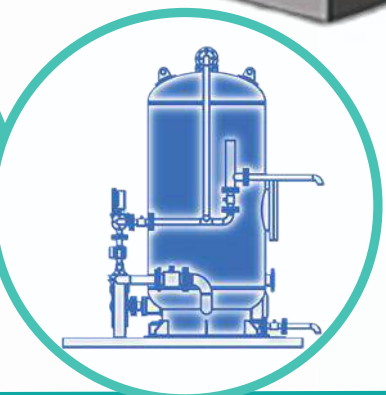
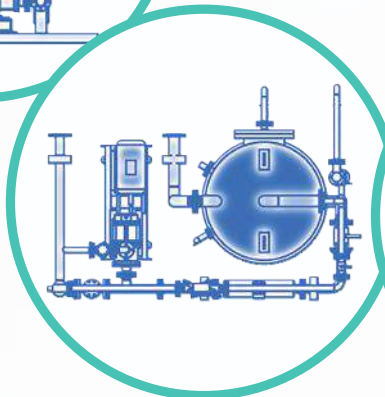
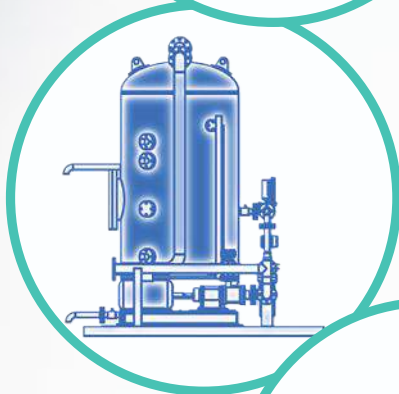
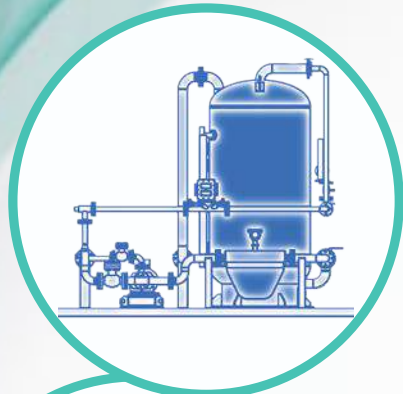


MPFM

Multi-Phase Flow Meter



TEKVALSYS



www.tek-trol.com

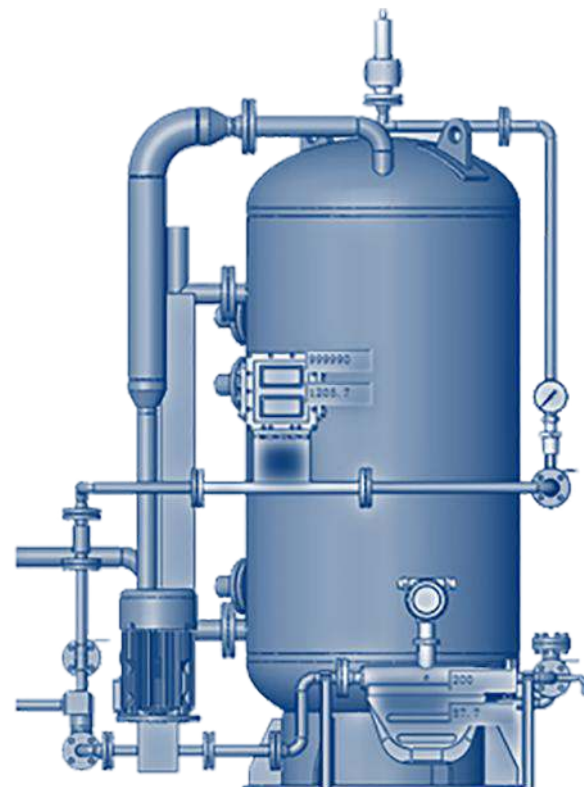
Flow | Level | Temperature | Pressure | Valves | Analyzers | Accessories | TekValSys

Introduction

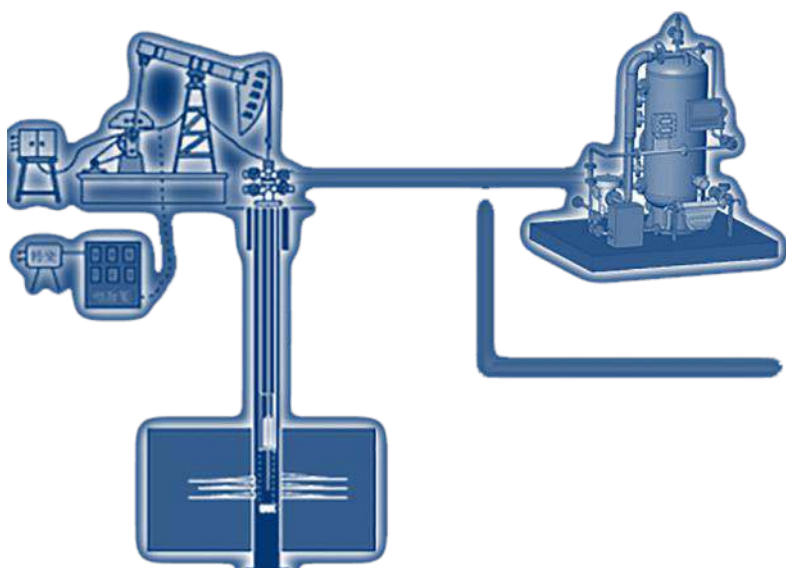
MPFM Multi-Phase Flow Meter performs continuous three-way separation of gas, oil and water in a one-pass process using a simple mechanical device, without added heat, chemicals or dead-end filters. It represents an inexpensive and scalable improvement in industrial oil and gas, wastewater processing, cleaning of brine waste from oil and gas production and field water purification, and food and beverage processing.

Measuring Principle

The flow from oil wells is a mixture of oil with water and gas, which is called three-phase flow or tri-phase flow. Tri-phase metering systems feature good performance, high accuracy, and real-time results. Multi-Phase Flow Meter can indicate the oil field production condition, improve the management of oil fields, and can solve the problems in measurement of single well, multi-wells and well stations. Gas from mixed mediums will get separated from liquid by going through a gas-liquid separating unit, including hydrocyclone separation, colliding to break up gas, and gas separating regulator. Then gas goes to a coriolis gas flowmeter and liquid goes to coriolis mass flowmeter that can get water-ratio by its water-oil density difference analysis. After final processing by the PLC controlling unit, the measured signals become data of liquid volume, oil percentage, water percentage, gas percentage, system pressure and temperature.



Operation



Sometimes, especially in the presence of hydrocarbons and water, the liquid phase of the separation will not be homogeneous. The resulting separation will result in 3 unique streams, one in the vapor phase and two in the liquid phase. The production stream first encounters the inlet deflector, which causes initial separation of gas from liquid. The heavier liquid descends while the gas rises. In the second stage the stream slows even further and the larger liquid particles fall from the gas. Next the mist extractor captures smaller liquid particles entrained in the gas. Liquids exit the bottom of the vessel and the natural gas exits the top.

Specifications

Accuracy	0.5% for liquid; 3% for water cut; 1% for gas
Flow rate	600M3/D
Working temperature	0 to 100C Deg
Working pressure	16 bar
Process connection	4" ANSI150# flange
Power Supply	380V
Signal Output	RS485
Process Connections	DIN, ANSI Flanges
Electric interface	1/2" NPT

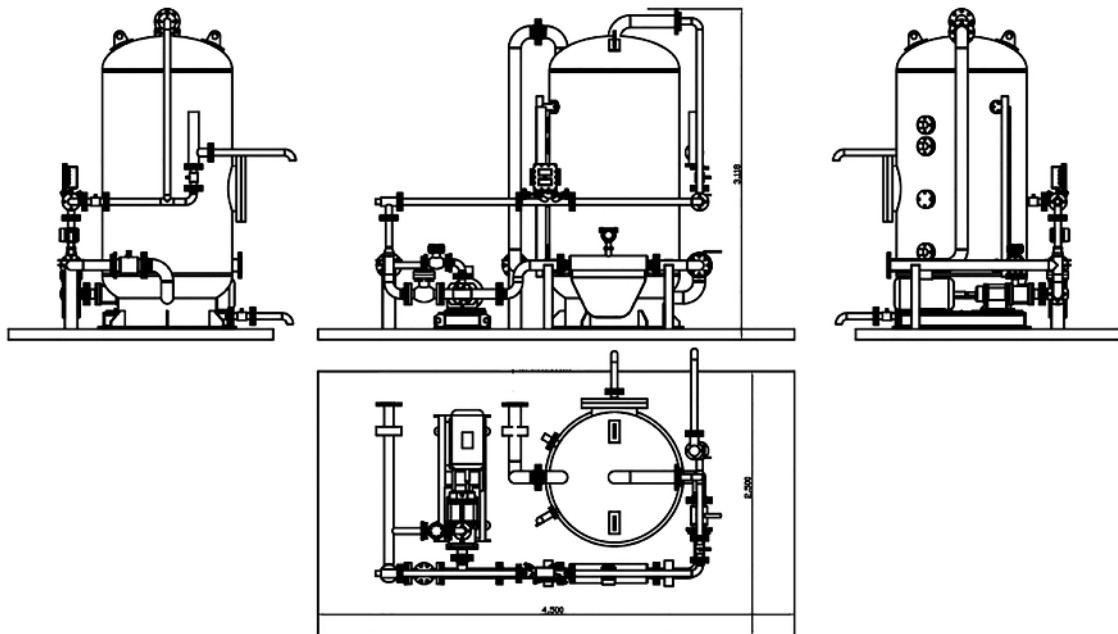


MPFM Multi-Phase Flow Meter Benefits

- Ability to accurately meter produced gas, water and oil
- Completely separates gas from liquids
- Monitors gas volume fraction (GVF) and liquid volume fraction (LVF) from wells
- Measures net oil/water cut



Schematics



Summary

Investing in a Multi-Phase Flow Meter is a wise decision for any company that maintains field production facilities. Without a high-performance separator, your operators will have to guess the volume and composition of outflowing resources, which can lead to poor decisions that may compromise your bottom line. When you use a Multi-Phase Flow Meter, you'll be able to make sound decisions when it comes to resource distribution and increasing each well's profit potential.



Customer Service and Support



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