

# ESMER Mobile Multiphase Meter

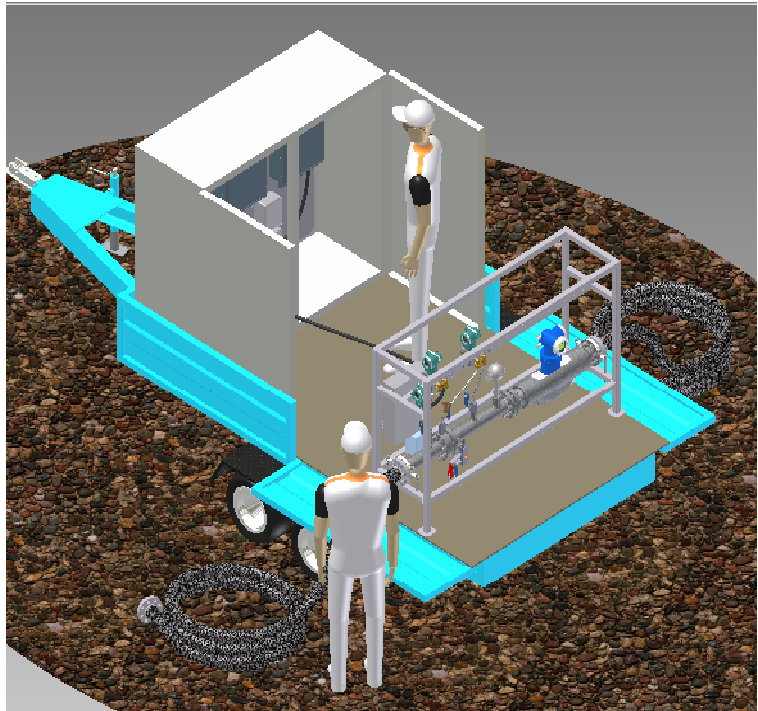
## Overview

ESMER Mobile Multiphase Meter is designed to provide well testing services directly at the well head. ESMER Mobile MPM is non-radioactive non-intrusive and gives rise to negligible pressure drop. ESMER Mobile MPM is suitable for use across a wide range of conditions.

The metering skid and the associated power supply and data acquisition system are mounted on a compact off-road trailer. The system is self-contained, robust, easy to move around and to use. The trailer weighing just over a ton with its load can be pulled by a light truck

The MPM hosted on the mobile skid can be any one of the standard ESMER models. Same technology, range and uncertainty characteristics described on the ESMER MPM Data Sheets apply except for uncertainty, which will not be as good as fixed meters due to the wider range of process conditions likely to be encountered (this makes it more difficult to adapt the factory calibration to field conditions)

The steel portacabin unit mounted at the front of the trailer contains a battery bank, charger and a flow computer. All electronic components are housed in Exd certified enclosures within the portacabin.



Visualisation of the Mobile Skid

## Battery & Charger

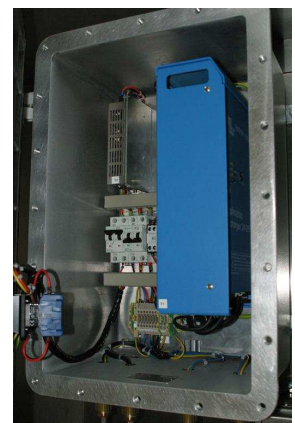
A battery and charger are provided on the trailer (mounted inside the portacabin). These are certified for use in hazardous area with following characteristics:

Battery (APB-1295):

- Maintenance free. Valve regulated advanced AGM technology
- Vibration tolerant/spill proof
- Low hydrogen gas off during overcharge
- Nominal voltage and Capacity: 12V, 115Ah

Battery Charger:

- Enclosed in Exd Enclosure (shown on the right) with Copper-free aluminum alloy body and cover.
- Input voltage of 90-265V AC 45-65 Hz.
- 24 DC regulator to maintain a stable 24 V DC power supply to flow computer
- Battery discharge protection circuit.



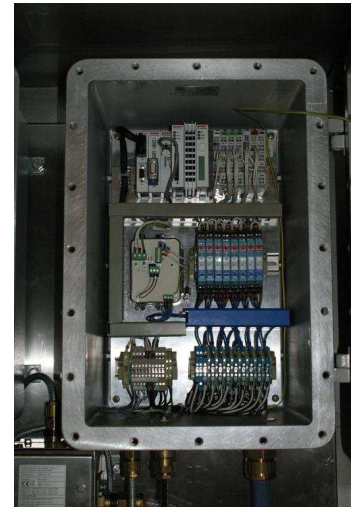
## Flow Computer

The Flow Computer is based on the Beckhoff microprocessor with integrated data acquisition and communication modules.

The microprocessor and its associated safety barriers are contained in an Exd. Enclosure (shown on the right). The enclosure itself is mounted inside the portacabin.

The Flow Computer runs *ESMER Measurement and Well Testing Software* on Windows XP embedded O/S.

A notebook PC (eg Panasonic Tough Book) is used for setting up physical properties of the fluids and other well test parameters on the Flow Computer prior to launching the test. The notebook PC is connected into the Flow Computer via Ethernet at a safe distance from the well head. From then on, the Flow Computer runs in a self contained manner during the course of the entire well test, collecting, converting and storing the data (original signals and the multiphase measurement) The Flow Computer can hold several days of well test data. The measurements are downloaded to the notebook PC at the end of the test.



- Flow Computer :Beckhoff BC9020
- DataAcquisition Modules:8 x 4-20 mA
- Software :ESMER Measurement & Well Testing Software
- Digital I/O: :RS232/RS485/Ethernet.
- Coms Software : Modbus
- Certification :Exd. Zone1
- Dimension (enclosure) : 380L x 295Wx 560H

## Flex Hose

Annular Corrugated High Pressure Hose

- A-240 316L Stainless Steel Butt Welded Tube
- Annular Close Pitch Corrugations
- T304 Stainless Steel Braid
- Nominal Hose I.D.(inches): As required.
- Maximum Working Pressure: 1000 psig
- Test pressure: 1500 psig.

End Connections:

- Meter Side: As required.
- Process Flow Line side : EN602 Hammer Union (6000 psi) or as required



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