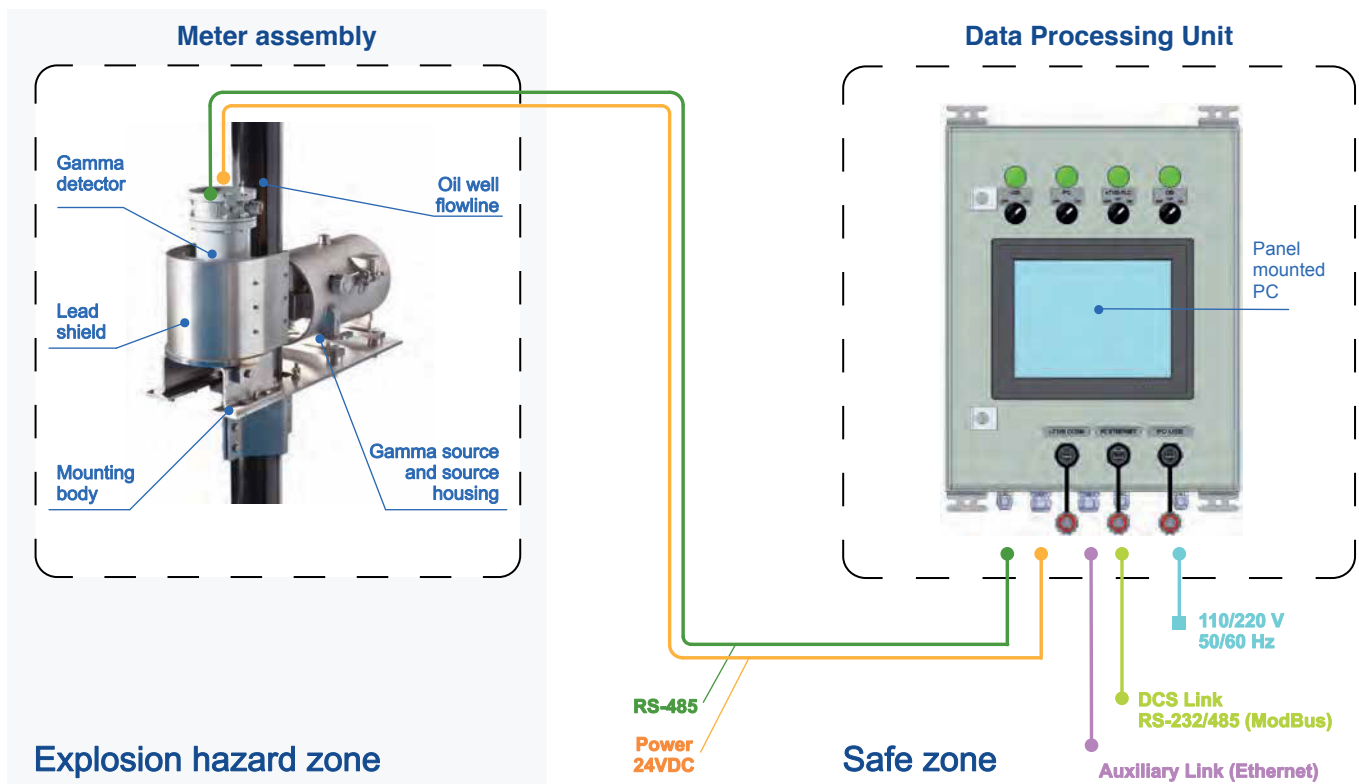


## MULTI PHASE WELL MONITOR

### Specification Sheet



Neftemer meter clamped-on to a 4in flowline



Typical Neftemer arrangement

## MULTI PHASE WELL MONITOR

### Neftemer basic specification

**Purpose:** Neftemer is a clamp-on multiphase flow meter intended for non-intrusive measurement of multi-phase flow lines. Neftemer provides measurement of oil, produced water and associated gas in the following units:

- **Mass of oil and produced water flow, tonnes/day**
- **Gas volumetric flow at line condition cm/day**
- **Water cut, mass fraction of water in the liquid**

**Principle of operation:** The density and composition of unseparated well fluids are determined from the attenuation of gamma radiation; liquid and gas flow velocities and flow rates are determined from measurements of the fluctuations in gamma ray attenuation. Neftemer secondary equipment is located in a non-hazardous area in a heated control or equipment room

**Basic operating range:** Neftemer has been tested on a wide range of crude oil types and has been installed on heavy oil applications

such as CHOP and SAGD.

- Crude oil density: 700-970 kg/m<sup>3</sup>
- Formation water density: 1,000- 1,060 kg/m<sup>3</sup>
- Water cut: 0 to 100%
- Gas hold up: 10% to 80%, also up to 95% depending on well flow profile
- Flow line diameter: 75-200 mm, up to 15 mm wall thickness

**Neftemer is used in the following applications:**

- Water-driven oilfield production
- Naturally flowing and artificial lift well operation
- When using rotary, screw and sucker-rod pumps
- Where thermal-steam formation treatment is applied

**Metrological specifications:**

Random measurement uncertainties at 95% confidence level are:

- Relative error of liquid mass flow rate: ±5%
- Relative error of gas volumetric flow rate: ±5%
- Absolute error of water cut: ±5%

**Power supply:**

- Voltage: 85 to 264 VAC
- Frequency: 47 to 63 Hz
- Power consumption: less than 100 VA

**External overall dimensions and mass of gamma-ray attenuation transducer:**

- Overall length: 900 mm
- Width: 300 mm
- Height: 700 mm
- Total mass of equipment kg: 200

**Service conditions of Gamma-ray attenuation transducer:**

- Ambient temperature range: -50°C to +50°C (under shade)
- Relative humidity range at 35°C up to 95%

**Warranty:**

12 months from the date of putting the meter into service but not more than 18 months from date of dispatch of equipment from Neftemer Ltd

**The following typical flow rates are for guidance only based on a fluid velocity of 1 m/s in a vertical flowline.**

Flowline dia. schedule 40 pipe	Typical flow in bbl. per day	Typical flow in cu. m. per day
2in	1,200	190
3in	2,600	413
4in	4,500	715
6in	10,200	1,620
8in	18,000	2,860