



## Application Notes

### Crude Oil Metering



Project Name:  
Early Production System & Brownfield Facilities

Location:  
Majnoon, Iraq

EPC Contractor/Consultants:  
Petrofac International Ltd

End User:  
Shell

### Scope of Application

The scope of supply includes a crude oil metering system consisting of 2 x 50% 14" streams with 10" ultrasonic meter streams and a standby/master meter stream with fast loop and sampling system.

Also provided was a containerised control room, housing a control system and UPS batteries.





## Applicable Standards

API MPMS Chp. 4: Proving Systems

API MPMS Chp. 5: Liquid Metering

API MPMS Chp.12: Calculation of Petroleum Quantities

ISO 5168: Measurement of fluid flow - Estimation of uncertainty of a flow-rate measurement

## Main Equipment

- 3 x meter runs
- 10" NB 600# ultrasonic flow meter
- 14" NB 600# RF double block and bleed manual ball valves
- Temperature transmitters
- 14" NB 600# RF basket type strainer
- Temperature gauge with thermowell
- Pressure transmitter with 2-way manifold
- Fast loop with sampling system
- Differential pressure transmitter with 5-way manifold
- Containerised control room with metering control system, dual UPS, F&G system and dual HVAC units

