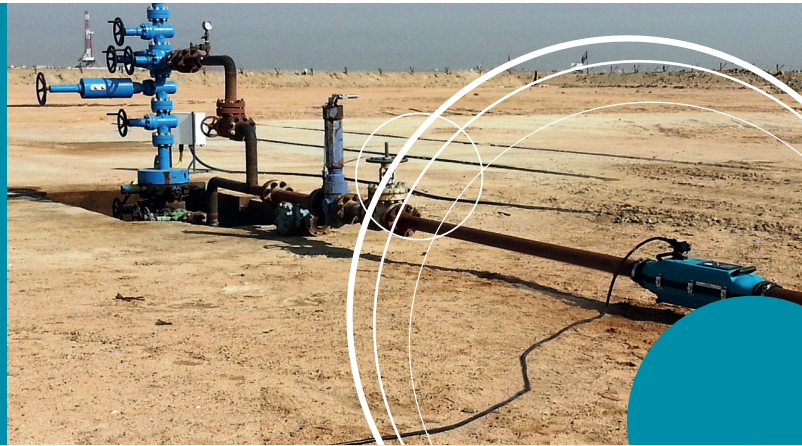


**EXPRO**

WELL FLOW MANAGEMENT™

/ Expro Excellence Meters

Expro's production surveillance on ESP lifted wells optimises installation and extends the ESP operational life



Objectives

- Approximately 120,000 oil wells across the world are equipped with electrical submersible pumps (ESPs) with significant investment by operators to install them – maximising their lift efficiency and extending their operational life is imperative to the ROI

Expro Excellence

- Expro has deployed its clamp-on SonarTest™ surveillance service on hundreds of ESP lifted wells to measure the production of the well and the lift efficiency of the ESP
- Consists of Expro's PassiveSONAR™ flow meter, which is clamped onto the wellhead production pipework – non-intrusive solution
- PassiveSONAR flow meter is integrated with a PVT and multiphase flow engine to calculate the properties of the produced fluids and the individual flow rates
- Flexible - can be installed either upstream or downstream of the choke manifold

- Quick installation – requires approximately 60 minutes for installation and commissioning, allowing multi-rate testing of wells in one day
- Easy deployment – only 1 or 2 Expro field technicians required and as the system is lightweight and portable it can be easily transported to the well site by a small vehicle or offshore via a single-man lift package

Value to client

- Clients step through several ESP drive frequencies during sonar testing to evaluate the production rate at various set points
- Data provided by Expro ensure correct installation of ESPs, monitors and diagnoses the performance of ESPs to optimise drive frequency and choke settings, and to detect the onset of mechanical failure
- Enables intelligent decision making to maximise production rates and data influences work-over strategies and extends the run life of ESPs

Key deliverables

- Non-intrusive design
- Accurate, real-time measurement
- No process shut down
- Cost-effective
- Flexible
- Quick installation
- Efficient deployment

Most oil wells are not equipped with flow metering as installing traditional multiphase flow meters on each well can be cost prohibitive. Because there is typically no individual wellhead production data, ESP wells are monitored using pump parameters and theoretical pump performance curves typically provided by the ESP supplier. Although useful, theoretical pump curves make certain assumptions with regard to pump efficiency, the mechanical integrity of the pump, and reservoir deliverability. The most useful tool to measure, analyse and ultimately improve the performance of the ESP system is to measure the actual pump flow rate from the well.

Many failures of ESP systems occur at start up for a variety of reasons. Production surveillance at the wellhead during ESP commissioning can help confirm:

- Successful installation and commissioning of the ESP
- Volumetric flow rates and the production index (PI)
- The ESP is not over-sized for the reservoir (resulting in pump off)
- The ESP is not under-sized for the reservoir and is achieving maximum production
- The ESP operation is efficient on the lift curve (achieving maximum production with minimum electrical power)

Contact

For further information, please visit:

www.exprometers.com/contact

or call **+1 (203) 303-5686**.

**Expro** Excellenceexprogroup.com**Meters**