Universal ESP (applicable for geothermal wells)

Meeting standards

Advantages

- Wide range of flow rates from 80 to 140,000 bblpd (from 12 to 22,000 m³/day)
- Wear-resistant stages materials, as Ni-resist, nickel aluminum bronze, 3XX/4XX stainless steel, austenitic-ferritic stainless steels (duplex and super duplex)
- High efficiency of asynchronous motor up to 89% and PMM up to 95%
- Stable operation in gassy environments up to 75%
- 10% higher efficiency compared to similar equipment
- Wide power capacity range 15 -1000 HP (11-750 kW)
- High temperature motors up to 392 °F (200 °C)
- Short delivery: up to 2 months
- Flexible customized service terms
- Applicability for geothermal wells

Application limits

- Min casing size 4.5" (114.3 mm)
- Max sand content 1,000 ppm (1,000 mg/l)
- Max free gas at intake 75%
- Max reservoir temperature 392 °F (200 °C)

We have improved the standard ESP to enhance the efficiency and reliability of Lex pumps in various well environments. Our engineering team thoroughly analyzes the incoming data to select the optimum efficiency and specific power consumption of each system (formation-wellbore-ESP). As a result, our solutions achieve the maximum efficiency and provide 30-40% runlife increase and 20-50% lower OPEX.

Lex Universal ESP systems are equally effective for low and high production, operate deeper than 10,000 ft, have a simple and compact design of surface equipment, and long runlife.

Lex Universal ESP system consists of the following components: centrifugal pump, Lex permanent magnet motor or asynchronous motor, seal, intake, gas separator and/or gas handler, and a telemetry system. We implement the latest engineering into every system component to boost reliability in any environment, including high sand production, high free gas content, higher viscosity, or well deviation.

Lex pumps burst pressure is up to 6,000 psi, have large vane openings and tungsten carbide bearings. Vortex and rotary gas separators have high abrasive resistance and provide up to 95% separation efficiency.

The modular design of the seals with more than 3 mechanical seals maximizes protection from reservoir fluid entry. High-temperature elastomers have capability up to 482 °F (250 °C), thrust bearing provides high load capacity. This makes Universal ESP applicable for geothermal wells.

The Universal PMMs with a wide power range from 15 to 800 HP have high-temperature design option for the environments up to 392 °F (200 °C). They are manufactured with the use of wear corrosion resistant and coating and stainless steels.

Figure 1. Low and medium rate pumps

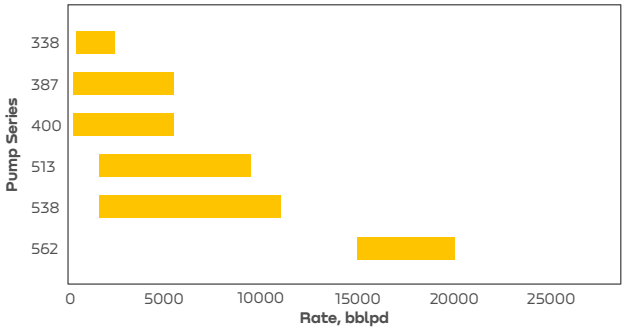
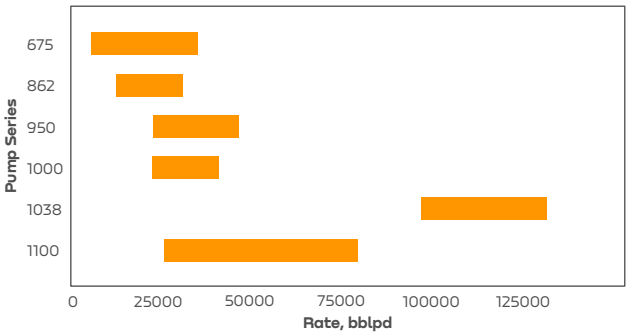
Figure 2. High-rate pumps