

High-Efficiency Pumps

For the REDA electric submersible pump system

APPLICATIONS

- ESP systems

BENEFITS

- Reduces power consumption with high-efficiency designs
- Improves reliability and extends system run life in abrasive applications using ceramic shaft radial bearings and premium stage metallurgy options

FEATURES

- Application flexibility with production rates from 200 to 96,000 bbl/d
- Compression-pump design with factory shimming
- Computational fluid dynamics (CFD) for optimized hydraulic stage design
- High-strength MONEL® and INCONEL® shafts
- Radial bearings from hard ceramic materials with spacing options to fit various applications

Part of the REDA* ESP system, high-efficiency pumps can handle production rates from 200 to 96,000 bbl/d with boost pressures of up to 6,000 psi. In addition to typical applications in oil, water, and brine production, REDA pumps are used for booster service, ballast transfer, waterfloods, direct injection, cavern storage, mine dewatering, fire protection, irrigation, and commercial water systems.

These submersible pumps are multistage centrifugal pumps. Each stage consists of a rotating impeller and a stationary diffuser. These components are carefully designed to deliver the best combination of hydraulic efficiency and lift performance. Cast, high-nickel, Ni-Resist™ alloy stages are standard, and special metallurgies are available for optimum performance in more corrosive or abrasive wells.

High-strength MONEL alloy shafts are standard, and optional higher-strength Inconel 718 material is available for higher HP applications.

Corrosion-resistant coatings and stainless steel construction are available for H₂S, CO₂, and other corrosive environments.

Patented abrasion-resistant bearing configuration with tungsten carbide provides the basis for reliable and technologically advanced submersible pumps in sandy wells and other highly demanding applications. Proprietary, compliant-mounted radial bearing systems minimize vibration and wear.

The compression design of REDA system pumps enables the axial thrust created by the impellers to be transferred via shaft to the high-load hydrodynamic bearing in the motor protector, which runs in a clean and confined oil environment. This greatly extends the application envelope of the pumps, in terms of flow rate, and improves reliability in abrasive wells with changing or uncertain productivity and high GOR. Factory shimming of components ensures that the pumps can be easily connected in the field.



Full-bearing housing configuration of a REDA system abrasion-resistant ESP.

High-Efficiency Pumps

Pump Capacity Ranges

Series	OD, in [mm]	Min. Casing, in [mm]	60-Hz Min. Flow, bbl/d	60-Hz Max. Flow, bbl/d	50-Hz Min. Flow, m ³ /d	50-Hz Max. Flow, m ³ /d
A	3.380 [85.9]	4.500 [114.3]	400	3,400	53	450
D	4.000 [101.6]	5.500 [139.7]	200	7,000	26	927
G	5.130 [130.3]	6.625 [168.3]	800	12,000	106	1,590
S	5.380 [136.7]	7.000 [177.8]	1,600	16,500	210	2,186
H	5.630 [143.0]	7.000 [177.8]	5,000	36,000	660	4,770
J	6.750 [171.5]	8.625 [219.1]	4,500	25,000	596	3,313
M	8.630 [219.2]	10.750 [273.1]	12,000	32,500	1,590	4,306
N (950)	9.500 [241.3]	11.750 [298.5]	24,000	47,500	3,180	6,293
N (1000)	10.000 [254]	11.750 [298.5]	10,000	59,000	1,325	7,817
P	11.250 [285.8]	13.625 [346.1]	53,600	96,000	7,102	12,718
L	7.250 [184.2]	8.625 [219.1]	11,000	54,000	1,450	7,150



Enhanced stability configuration of a REDA system abrasion-resistant ESP.

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