

Centrilift 400FLEX Pump 17.5 pump

Increase ESP system efficiency with exclusive pump design

Expanding possibilities

The new Centrilift FLEX Pump™ series multistage centrifugal pumps have the industry's highest efficiency and widest operating range, providing the operational flexibility required in dynamic well conditions. The advanced-engineering hydraulic designs of the pump stages maximize production while extending electrical submersible pumping (ESP) system run life. The 400FLEX Pump 17.5 pump, a model in the FLEX Pump family, is designed for flow rates from 500 to 2,600 B/D.

Improving efficiency and reliability with ATM design

The 400FLEX Pump 17.5 pump's mixed-flow design features a patent-pending advanced turbulence mitigation (ATM) technology to increase efficiency and reduce gas locking. The ATM design helps prevent plugging from solids and reduces the erosive wear caused by abrasive fluids to improve ESP system uptime and overall run life. The particle swirl suppression ribs in the diffuser provide further abrasion resistance by reducing the buildup of abrasives that can cause erosive wear and the potential for housing perforation down hole.

The FLEX Pump series pumps incorporate innovative hydraulic design concepts to expand the application range of ESP systems. The 400FLEX Pump 17.5 pump expands the ESP system's optional flexibility for the duration of the well's production cycle and operates more efficiently in a wider flow range to reduce operating costs, improve reliability, and optimize production in changing downhole conditions.

The 400FLEX Pump 17.5 pump's improved hydraulic design increases total system efficiency. This efficiency improvement increases ESP system uptime while lowering power costs. The hydraulic balance of the stages reduces thrust wear as the pump expands the edges of the recommended operating range. This results in higher reliability, less stress on the system, and longer operating life.

The wider operating range of the 400FLEX Pump 17.5 pump enhances ESP system adaptability as the well's production index changes. The mixed-flow design allows gas to pass more easily through the pump compared to a radial-flow stage, mitigating gas locking and well cycling conditions that can cause electrical shorts and other issues that can reduce ESP system run life.

Applications

- Conventional oil fields
- Unconventional resource plays
- Mature oil fields
- Wells with quickly changing flow rates, high gas/oil ratios (GOR), and high solids content

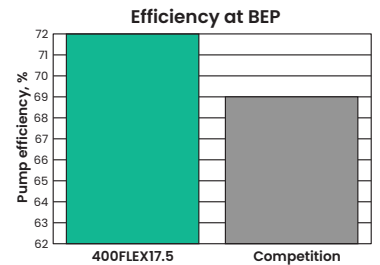
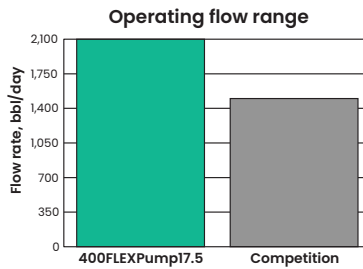
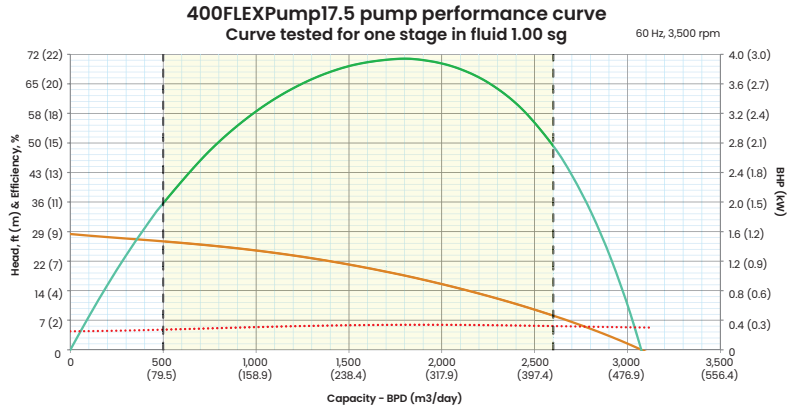
Features and Benefits

- Patent-pending ATM design
 - Improves hydraulic performance
 - Reduces pump plugging
 - Reduces gas locking
- Higher ESP system efficiency
 - Reduces OPEX
- Wide operating range
 - Adaptable to changing well conditions
 - Enhances reliability
 - Reduces pulling costs
- Improved hydraulic thrust balancing
 - Increases reliability
- Mixed-flow design
 - Improves gas handling
 - Increases ESP uptime and production by reducing gas locking and well cycling

Specifications

400FLEXPump17.5 pump

Series	400
OD, in (mm)	4.00 (101.6)
Standard stage alloy	Ni-Resist™
Stage geometry	Mixed flow
Flow range, bbl/d at 60 Hz (m ³ /d at 50 Hz)	500 to 2,600 (66 to 344)
Head per stage at BEP, ft at 60 Hz (m at 50 Hz)	18.6 (3.9)
Power per stage at BEP, bhp (kW at 50 Hz)	0.34 (0.15)
Efficiency at best efficiency point (BEP), %	71
Burst pressure, psi (kPa)	5,627 (38,797)
Standard housing alloys	Carbon steel and 9Cr-1Mo
Standard shaft alloys	Monel® and Inconel®
Shaft diameter, in (mm)	0.6875 (17.463)
Abrasion resistant options	SND, SHD, SSD, SXD
Radial and axial bearing material	Tungsten carbide
Construction	Floater (No shimming required)



The 400FLEXPump17.5 pump still maintains a steep head curve toward shut-in on the performance curve. This provides for better gas handling and reduces pump off conditions. A steeper head slope to the left helps to compress gasses back into solution to improve drawdown and reduce cyclic shut downs due to gas locking.

Contact your Baker Hughes representative or bakerhughes.com to find out how the exclusive 400FLEXPump17.5 pump's advanced turbulence mitigation technology can improve ESP system performance and deliver operational flexibility in dynamic well conditions.