

CENetic water pumping systems

More water, less risk...and NSF-certified



Communities depend on a water supply that is reliable, plentiful, affordable, and safe

But decades-old pumping technology isn't keeping pace. Traditional pumps can drive up drilling costs, limit production rates, and create reliability issues that lead to higher operating costs. But, more importantly, they can put your community's water supply at risk.

IT'S TIME TO INJECT SOME INNOVATION INTO YOUR WATER WELLS

CENetic™
Water pumping systems

Keep the water flowing

The challenges you face are no problem for pumping systems developed by experts trained to design and support equipment that can withstand the harshest, dynamic downhole conditions. Baker Hughes has been inventing smarter ways to pump fluids to surface from the most complex environments for decades. Certified by the National Sanitation Foundation (NSF), the robust **CENetic™ water pumping systems** overcome your toughest problems.

Bio fouling | Erosion | Corrosion

Protect against solids, bacteria, and oxygen in the fluid stream with superior pump metallurgy.

Water hammering

Mitigate stress on the motor and handle thrust loads up to 23,000 lb (10 432 kg) with robust seal section and motor designs.

Electrical failure

Prevent water and particulate ingress with redundant protective mechanisms in the seal section and with the industry's only epoxy encapsulated motor.

Prevent damage due to cycling with superior motor protection.

Prevent premature wear with hardened construction materials in the seal and motor.

Changing downhole conditions

Know downhole events in real time with sophisticated sensors and remote monitoring solutions to protect the

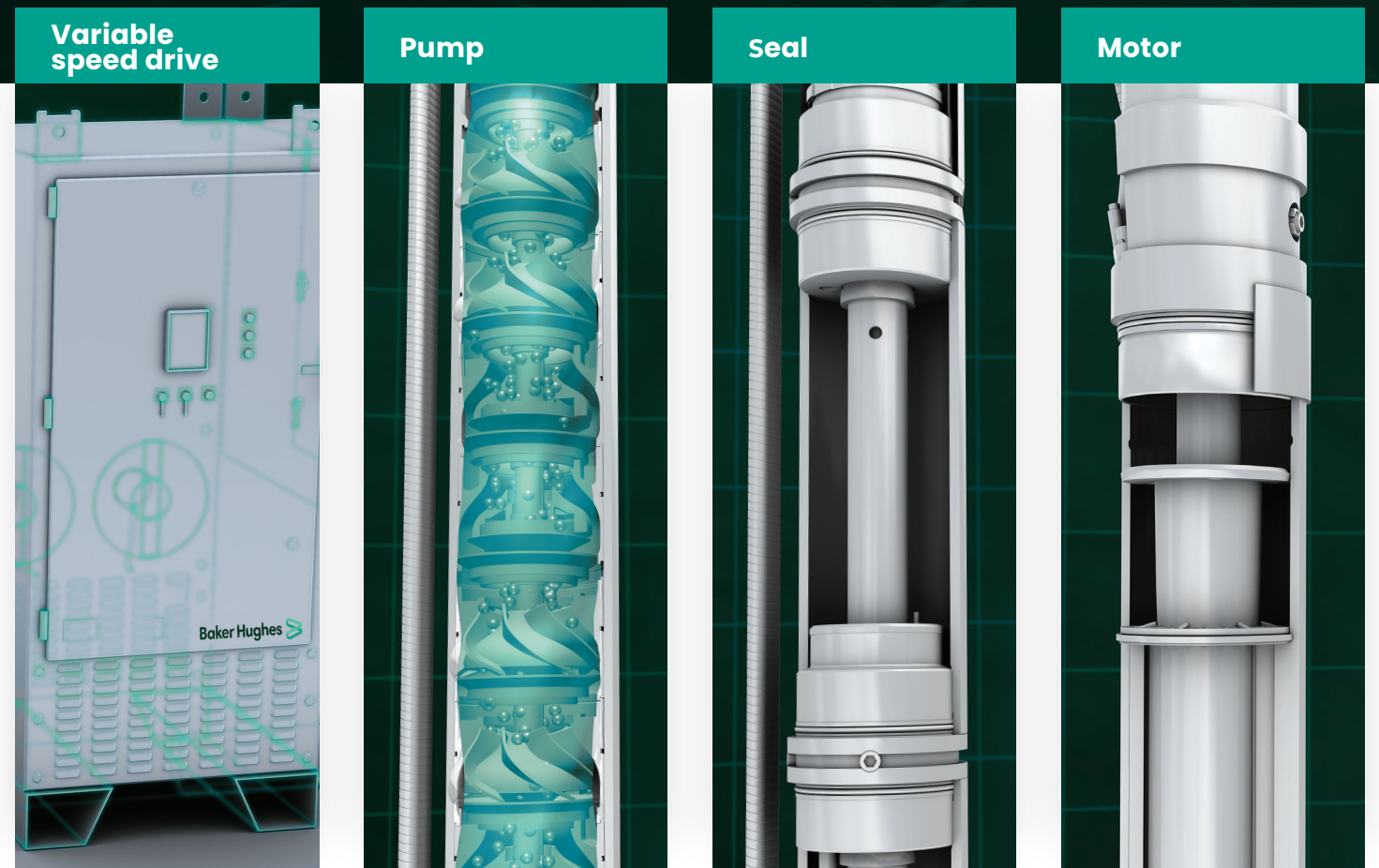
pumping system and keep it operating at peak performance.

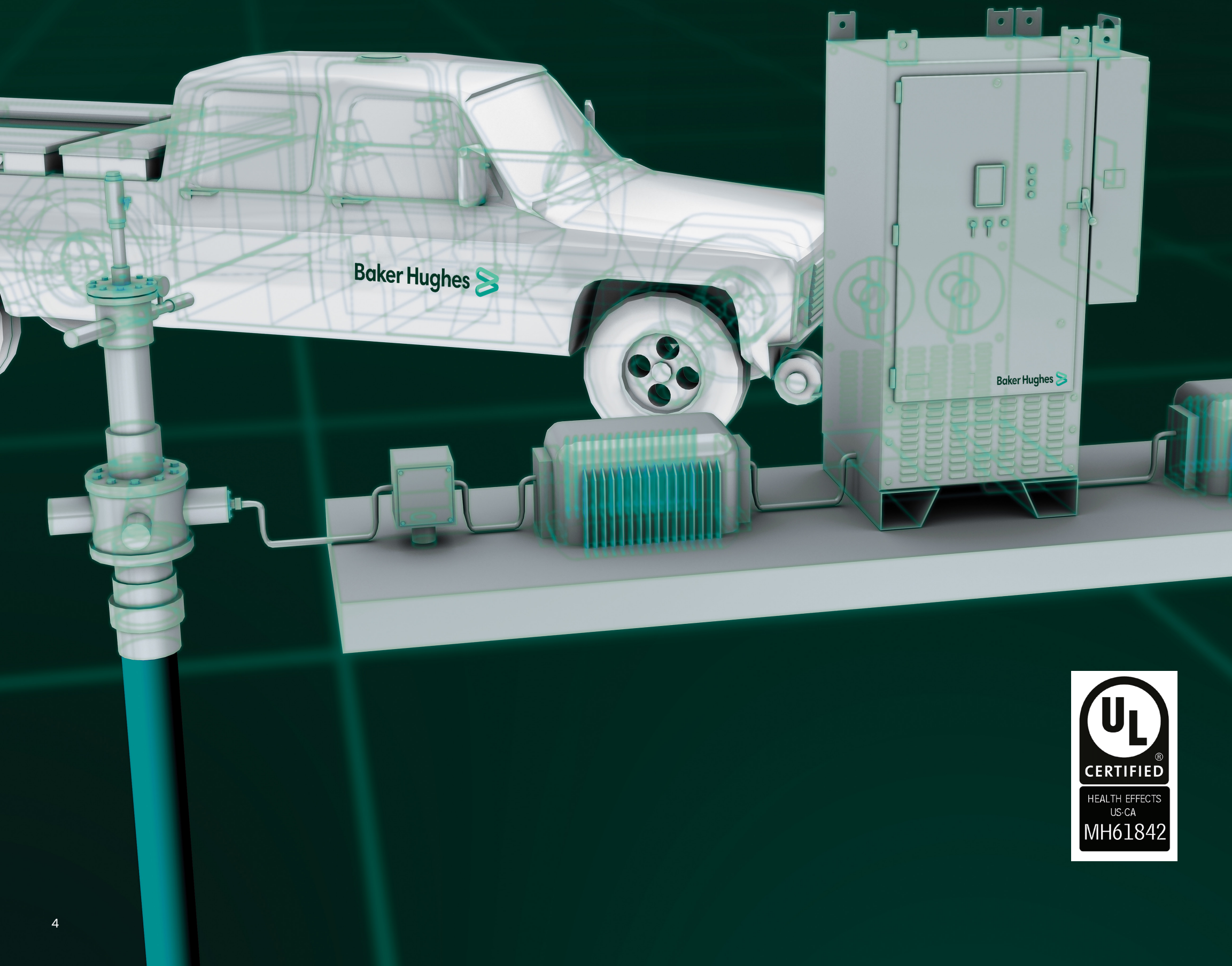
Hard starts

Limit wear and tear on the pumping system caused by abrupt starts with a variable speed drive that slowly ramps up system operation.

Bio contamination and foul taste

Eliminate excessive sit time in storage tanks by matching production rates to demand requirements in real time with a fit-for-purpose variable speed drive and tank monitors.





Get more water for less

Drilling costs and subsequent operational costs are a significant financial drain and traditional pumping systems using 4-pole motor designs require you to make a trade-off between the size of your well and the production rate you can achieve. With the Baker Hughes 2-pole motor that turns the pump twice as fast as traditional 4-pole motors, you don't have to settle for higher costs or less production. You can:

- **Drill smaller diameter wells**—or half the number of wells—to get the same production rates as standard water pumping systems. For example, in a 13³/₈-in. diameter well, a CENetic water pumping system can deliver flow rates comparable to a typical 20-in. well
- **Achieve twice the production rate from existing wells** or get the same production with a smaller system. CENetic water pumping systems can be configured with housed or bolted-bowl centrifugal pumps to economically lift up to 4,680 gallons of fluid per minute (17.7 m³/min) at depths up to 15,000 ft (4572 m)
- **Deploy the pump that meets your specific application requirements** to ensure the highest possible system efficiency
- **Reduce electrical costs** with a variable speed drive vs. inefficient choke and store methods with fixed frequency systems

Protect the water supply and the environment

When it comes to protecting the quality of the water you deliver, there is zero margin for error. That's why you need a **NSF/ANSI 61 and 372 certified CENetic water pumping system to ensure water quality and regulatory compliance.** And, unlike surface-driven pumps, CENetic water pumping systems minimize potential oil leaks into the aquifer and reduce surface noise pollution and safety concerns.

Get what you need, when you need it

Of course, the pumping equipment is only part of a full-service solution. Quick delivery schedules, combined with rapid-response technical support teams that provide everything from application-specific system configurations to maintenance to troubleshooting, are essential to keep your operations running efficiently and effectively.

For more information contact your Baker Hughes representative today.

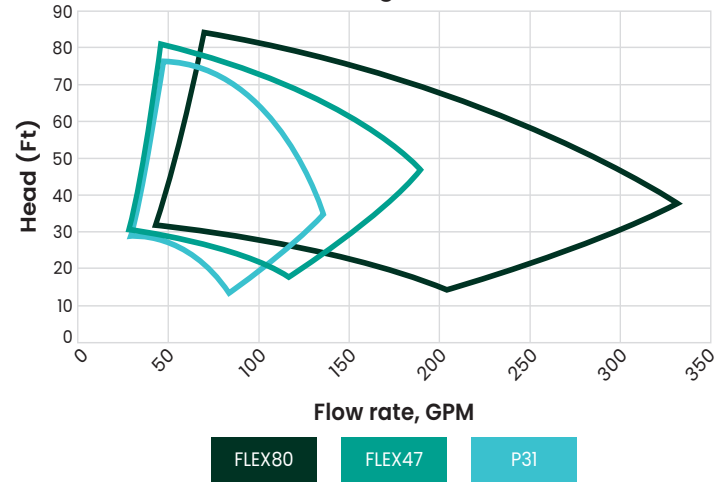


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Baker Hughes pumping systems can be used effectively in a variety of applications. The series number indicates the outside diameter (OD) of the pump. The 538 pump has a 5.38-in. OD while the 1038 features a 10.38-in. OD.

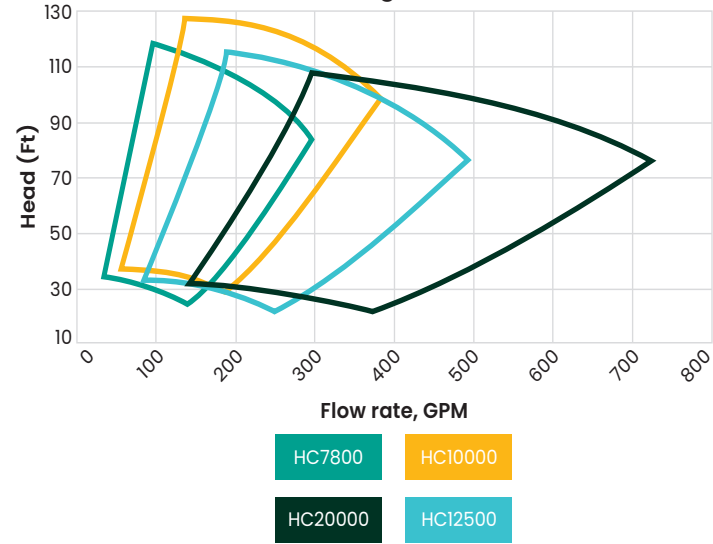
538 PUMP SERIES

Variable frequency head comparison (35 to 65 Hz)
Curve tested for one stage in fluid 1.00 SG



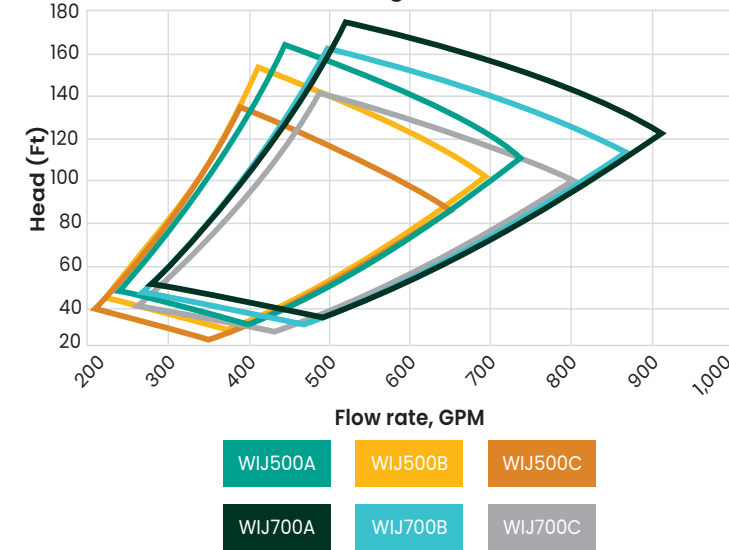
675 PUMP SERIES

Variable frequency head comparison (35 to 65 Hz)
Curve tested for one stage in fluid 1.00 SG



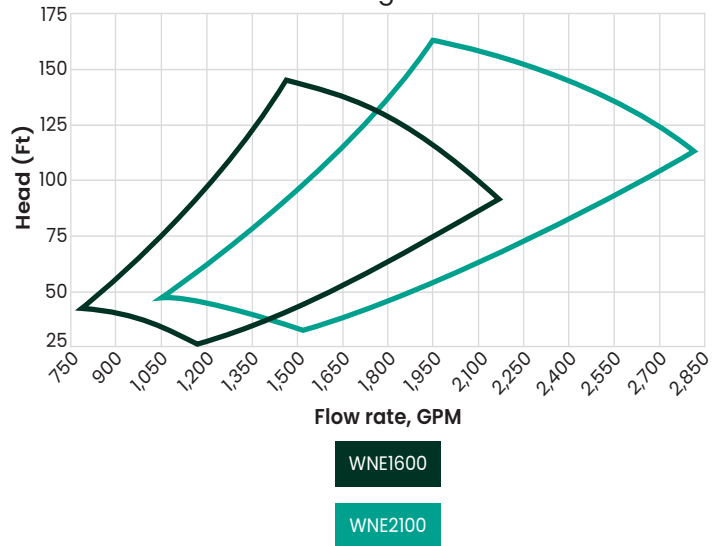
862 PUMP SERIES

Variable frequency head comparison (35 to 65 Hz)
Curve tested for one stage in fluid 1.00 SG



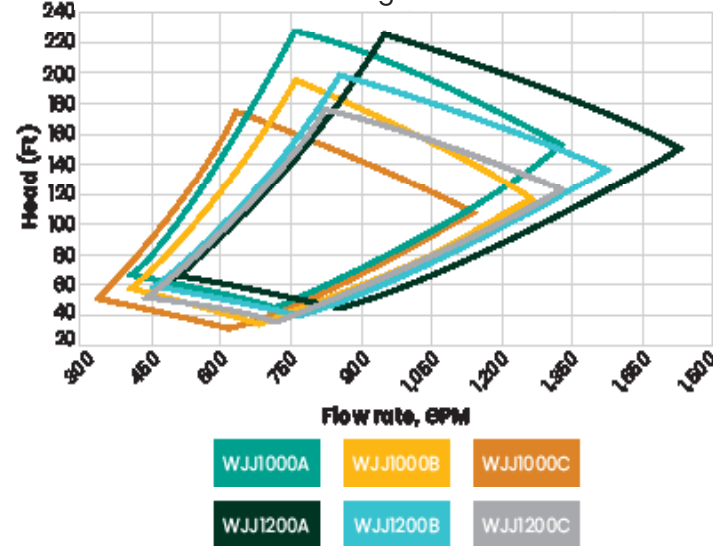
900 PUMP SERIES

Variable frequency head comparison (35 to 65 Hz)
Curve tested for one stage in fluid 1.00 SG



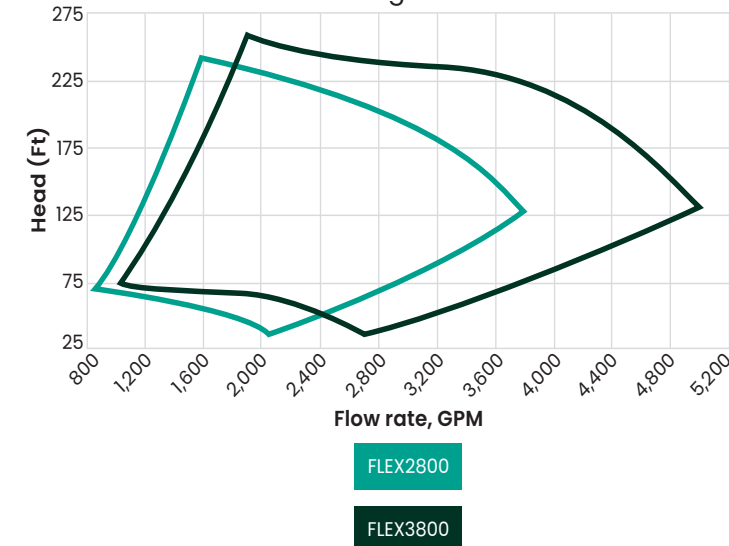
1000 PUMP SERIES

Variable frequency head comparison (35 to 65 Hz)
Curve tested for one stage in fluid 1.00 SG



1038 PUMP SERIES

Variable frequency head comparison (35 to 65 Hz)
Curve tested for one stage in fluid 1.00 SG



Baker Hughes Artificial Lift Research and Technology Center

The Baker Hughes Artificial Lift Research and Technology Center (ALRTC) is the industry's premier artificial lift research facility. This world-class engineering and testing center makes it possible for dedicated artificial lift engineers to create, develop, and test solutions for today's and tomorrow's fluid production challenges.

Engineers from the Baker Hughes R&D, manufacturing, quality, and reliability teams work synergistically to:

- Model and test fundamental research concepts
- Test new equipment designs to increase system reliability
- Accelerate new product development
- Conduct system integration testing at full power and speed

At the core of the ALRTC are multiple research laboratories and vertical test wells with diameters up to 40-in. and depths up to 900 ft (274 m) to test everything from a single pumping system component to the full system.

