HALLIBURTON

Tiger Shark® IV 400 Series Pumps

Engineered to excel in dynamic well conditions, providing both flexible extending operating range and significantly longer run life

Tiger Shark® IV 400 Series Flexible Extended-Range Pumps

Designed to provide a flexible extended operating range and longer run life in deep high-pressure wells

The Tiger Shark® IV (TS4) 400 series of high-performance electric submersible pumps (ESP), offered by Summit ESP® – A Halliburton Service, is the next-generation pump designed with an enhanced bolt design providing an increase in allowable discharge pressure up to 6,200 psi without welding or collaring, setting a new industry standard ahead of major competitors. This new design also allows for a 33% increase in pull rating and improves assembly efficiency while also reliably extending the pumps' operating range and run life in the most challenging environments with high discharge pressure — anywhere in the world.

BUILT TO LAST

Summit ESPs Tiger Shark pumps stand as a designation of robust engineering, setting the standard for reliability and longevity. The pumps' consistent performance under the most demanding conditions is impressive.

These pumps consistently exceed expectations. Our unwavering commitment to quality and service not only enhances production efficiency but also instills a sense of trust and dependability. Tiger Shark pumps are reliable for maximizing well productivity and optimizing production.

"Summit ESPs Tiger Shark pumps are a testament to robust engineering. They are our go-to choice for reliability and longevity in the field. They consistently outperform and outlast, making them an ESP industry favorite."

- Production Supervisor

FEATURE HIGHLIGHTS

The TS4 pumps feature new technological advancements designed to solve the challenges of both conventional and unconventional wells, which can include significant amounts of abrasive material that need to be pumped, along with fluids exceeding normal pressure operating limits

- Enhanced bolt design provides an increase in allowable discharge pressure up to 6,200 psi eliminating the need to weld or collar pumps
- Enhanced bolt design allows for a 33% increase in pull rating, reflecting an advancement in assembly efficiency
- Abrasion-Resistant Overlap (ARO) bearing system extends run life in highly abrasive environments and allows for secondary torque transfer even if the key is eroded*. It also widens the operating range, allowing for operations in flow rates as much as 15% lower than a standard XR bearing system pump
- XRange® Xtreme (XRX) advanced bearing system provides upthrust protection, thus enabling a wider operating range*

** Application-specific option*

Tiger Shark® IV (TS4) 400 series pumps: The only choice for deep, high-pressure wells

TS4 400 series pump is highly dependable, enhancing performance with a newly designed threaded connection that eliminates the need to weld or collar – and increasing reliability in deeper wells where higher discharge pressure normally occurs. These specialized advancements have resulted in first-rate pump performance in extremely abrasive and high-pressure wells.

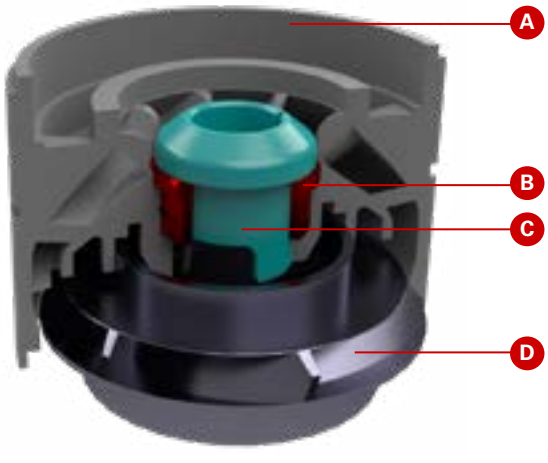
Tiger Shark IV 400 series pump features and benefits

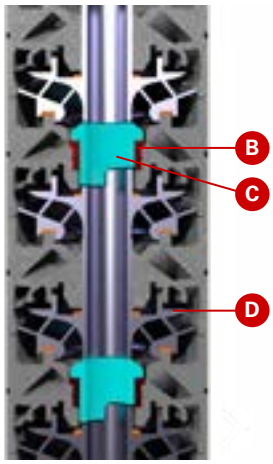
FEATURES AND BENEFITS
Enhanced bolt design provides increase in allowable discharge pressure without welding or collaring, with the pump capable of up to 6,200 psi
Enhanced bolt design allows for a 33% increase in pull rating, reflecting an advancement in performance and efficiency
Dual sealing system with back up rings designed for deep high-pressure wells
Abrasion-Resistant Overlap (ARO) bearing system extends run life in highly abrasive environments and allows for secondary torque transfer even if the key is eroded*. It also widens the operating range, allowing for operations in flow rates as much as 15% lower than a standard XR bearing system pump
Abrasion-resistant XRange® Xtreme (XRX) bearing system allows for the widest operating range, and this additional up thrust protection allows for more range to the right side of the curve*
Top snap trap sleeve interlocks shaft and snap ring to provide secondary retention in the running position
Exclusive Erosion Buster® technology provides abrasion resistance to the diffusers and pumps housing
Enhanced and highly reliable abrasion-resistant flange sleeve module design improves run life and increases uptime performance
Abrasion-resistant RingLock high thermal expansion material (HTEM) bearing system is standard on all 400 series pumps, and this exclusive HTEM ring provides secondary bushing retention
Coating options for stage metallurgy offer reduced corrosion and erosion while providing chemical protection
Wide flow range stage designs allow for extended operation in dynamic wells (see pump curves for capacities)
High-efficiency stages reduce total cost of ownership and operation (see pump curves for efficiency rates)

** Application-specific option*

Tiger Shark IV (TS4) 400 series pump technology

Abrasion-resistant overlap (ARO)

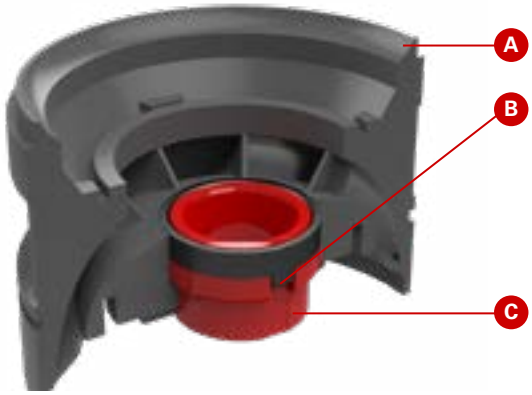


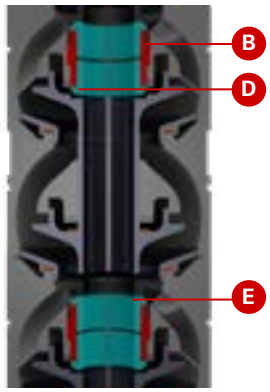


A. Diffuser
B. RingLock bushing
C. ARO sleeve
D. ARO impeller

Abrasion-Resistant Overlap » Bearing system that provides additional run life in extremely abrasive environments and allows for secondary torque transfer if the key is eroded. This is an application-specific option.

XRange® Xtreme (XRX)





A. Diffuser
B. Retainer ring/bushing anti-rotational interlock
C. XRX bushing
D. Upthrust flange sleeve
E. Downthrust flange sleeve

XRange® Xtreme » Abrasion-resistant bearing system that allows for the widest operating range. This additional upthrust protection allows for more range to the right side of the curve. This is an application-specific option.

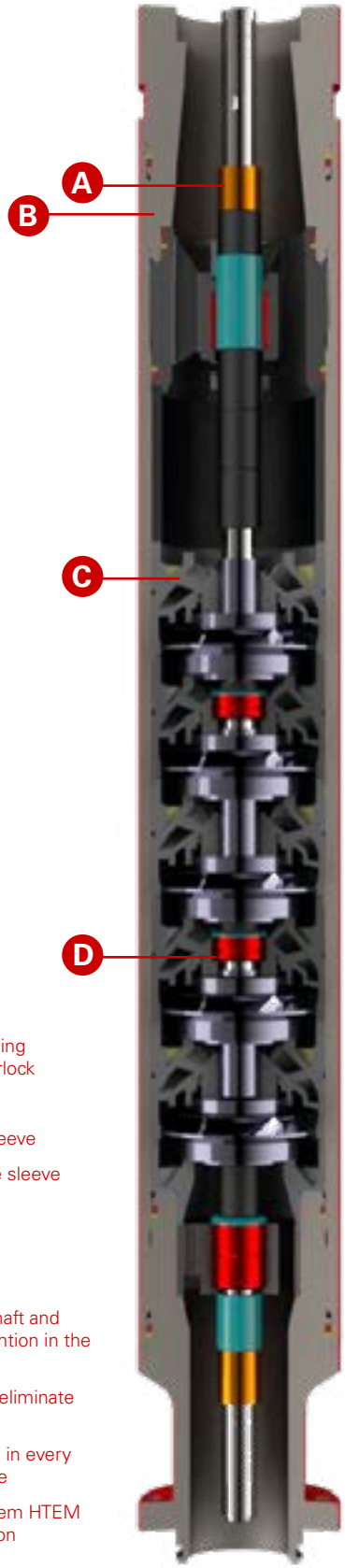
Erosion Buster® » Design that redirects fluid path inward and into the primary flow path, thus decreasing wear on critical areas and increasing run time.

A. Top snap trap sleeve interlocks shaft and snap ring to provide secondary retention in the running position

B. Enhanced threaded connections eliminate the need for welding or collaring

C. Exclusive Erosion Buster® design in every diffuser provides abrasion resistance

D. Abrasion-resistant RingLock system HTEM provides secondary bushing retention



halliburton.com

SUMMIT ESP

A HALLIBURTON SERVICE