



HI-KALIBRE

EQUIPMENT

NEXT GENERATION ROTARY TOP-DRIVE ACTUATOR

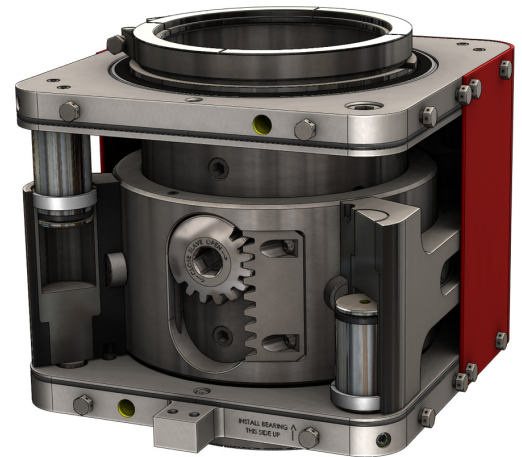
Hi-Kalibre Equipment Ltd. is pleased to announce the next generation of rotary top-drive mud saver valve actuators slated for release in the 3rd quarter of 2015! Our all new patent pending design addresses the technical shortcomings of existing top drive actuators. With no rotary seals to wear and output torques starting at 1,000 ft. lbs available even when the drill stem is rotating, this is a robust, and powerful actuator in a compact and lightweight package

Design features include:

- Isolated Hydraulics – no rotary seals
- Can be operated while drill stem is in motion
- Compact and lightweight
- Backwards compatible with existing Hi-Kalibre valves
- Powerful units with high output torques
- Adjustable travel stops
- Auto-centralizing quick mounting system available
- All internal hydraulic plumbing
- Fail-last design, will not change position if hydraulic power is lost.



A key feature of this actuator is that the hydraulic system is 100% isolated from the rotation of the drill stem. The outer portion of the actuator is stationary while the inner portion mounts securely to, and rotates freely with the upper Kelly valve. This eliminates the need for historically problematic rotary hydraulic seals to transfer fluid power from the rig's hydraulic pumps to the rotating actuator. The design has the added benefit of allowing the valve to be functioned while the drill stem is in motion.



API Spec Q1
Registered
Q1-2163



API Spec 7-1
Licensed
7-1-1144



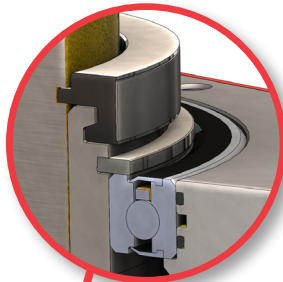
BLOW OUT PREVENTION EXPERTISE - by design



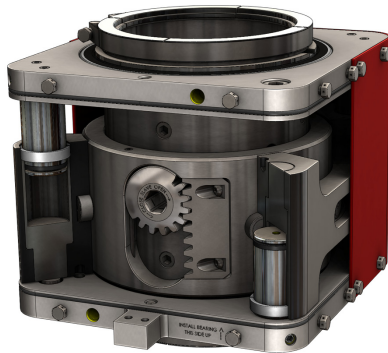
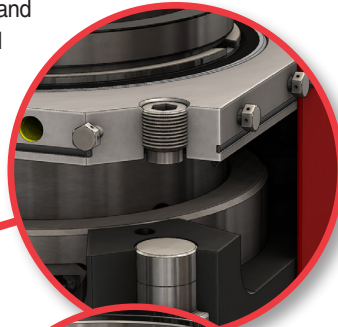
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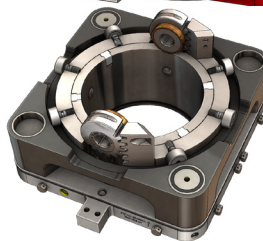
Introducing our new **J-band mounting system** which quickly and securely mounts the actuator to the Kelly valve body with only two bolts. This system auto-centralizes the actuator around the valve body without the need for shimming. The actuator is equally easily stripped from the Kelly valve by removing the two T-bolt clamps and separating the 4-piece split rings.



Adjustable travel stops allow for fine adjustment of the actuator's travel and the Kelly valve's open and closed positions ensuring the valve can be aligned and drifted when open to eliminate valve washout caused by over, or under-travel.



Inner rotating and outer stationary assemblies separate the hydraulics from the drill string **eliminating the need for rotary hydraulic seals**. As the hydraulics are isolated from the drill string, the actuator can be functioned while the drill stem is rotating



All internal hydraulic porting eliminates tubing and fittings, reducing the number of leak points. Only two hydraulic connections to the actuator are required.

Series Number	Compatible Kelly Valve form factor	Basic Dimensions (inch)	Max Hydraulic pressure (psi)	Torque @ max Hyd. Pressure (ft.lbs)	Weight (lbs)
3287-TDA-SERIES	5.38" OD	10.81H x 11.25 Square	2,000	900	200
4287-TDA-SERIES	6.94" OD	10.75H x 12.25 Square	2,000	1,000	215
5287-TDA-SERIES	7.75" OD	10.75H x 13.50 Square	2,000	1,200	260
6287-TDA-SERIES	10.00" OD	14.97H x 18.28 Square	2,000	5,500	660
7287-TDA-SERIES	9.00" OD	14.97H x 16.00 Square	2,000	2,300	505

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