



Excalibre Downhole Tools Ltd.

Centralized Torque Anchor (CTA)

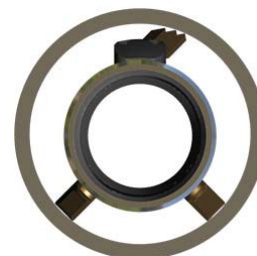
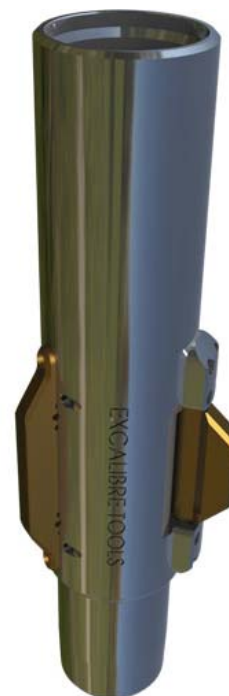
The **Centralized Torque Anchor (CTA)** is designed to anchor the Tubing String and Progressive Cavity Pump (PCP) within the wellbore. The CTA consists of a unique anchor design, which incorporates 1 Floating Slip and 2 Rigid Slips that guarantee the Torque Anchor stays concentric within the wellbore casing. The CTA stops the right hand rotation of the PC Pump, by providing “**Superior Stabilization**” of the PC Pump and eliminates tubing back-off.

Benefits: The following are additional features incorporated in the design:

- Centralizing the Torque Anchor in the casing, allows for increased production, by lifting the Slotted Tag Bar and Gas Separator Intakes off the casing ID and out of the Sand
- The open By-Pass area and centralized design, allows for greater annular space, for gas migration up the annulus, rather than inside the PC Pump. It also, allows for sand and coiled tubing to pass the CTA
- The CTA having a main body the same OD as the Stator leaves no place for sand to build up on the Tool. Result, the tool can be removed easily from sanded in wells
- The Rigid Slips provide a space to carry and protect the tech cable and/or diluent cables down well
- Solid Drive Pin and Floating Slip design for simple setting and straight pull-up release procedures
- Inconel springs for H₂S and CO₂ resistance
- Rebuilding procedure can be performed in the field.

Operation: The **Centralized Torque Anchor (CTA)** is threaded onto the tubing string above or below the PC Pump. The CTA is run to the desired setting depth, and left hand pre-torque is applied to the Tubing String/PC Pump.

The CTA is released by straight pull-up from the wellbore.



CDN Patent No. 2,611,294 / USA Patent No. 7,748,447 B2

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Centralized Torque Anchor (CTA)

Technical Data:

| Casing Size | | Casing Specifications | | | | Tool Major O.D. | | | Thread Connection | Tool I.D. |
|-------------|-------|------------------------|--------------------|----------------------|--------------------|-----------------|-------|-------|-------------------|--------------------|
| in. | mm. | Casing Weight lbs./ft. | Nominal (I.D.) in. | Casing Weight kg./m. | Nominal (I.D.) mm. | Tool Series | in. | mm. | 8rd-EUE Box x Pin | Main Body I.D. in. |
| 4-1/2 | 114.3 | 9.5 | 4.090 | 14.14 | 103.89 | S1 | 3.808 | 96.7 | 2-3/8" EUE | 2.00 |
| 4-1/2 | 114.3 | 11.6 | 4.000 | 17.26 | 101.60 | S2 | 3.726 | 94.6 | 2-3/8" EUE | 2.00 |
| | | | | | | | | | | |
| 5-1/2 | 139.7 | 13 | 5.044 | 19.35 | 128.12 | S1 | 4.600 | 119.6 | 2-7/8" EUE | 2.44 |
| | | 17 | 4.892 | 25.3 | 124.26 | | | | | |
| 5-1/2 | 139.7 | 17 | 4.892 | 25.3 | 124.26 | S2 | 4.389 | 116.3 | 2-7/8" EUE | 2.44 |
| | | 23 | 4.670 | 34.22 | 118.62 | | | | | |
| | | | | | | | | | | |
| 7.0 | 177.8 | 17 | 6.538 | 25.3 | 166.07 | S1 | 6.103 | 155.0 | 2-7/8" EUE | 2.50 |
| | | 23 | 6.336 | 34.22 | 161.70 | | | | 3-1/2" EUE | 3.00 |
| 7.0 | 177.8 | 23 | 6.366 | 34.22 | 161.70 | S2 | 5.935 | 150.7 | 2-7/8" EUE | 2.50 |
| | | 29 | 6.184 | 43.15 | 157.07 | | | | 3-1/2" EUE | 3.00 |
| 7.0 | 177.8 | 32 | 6.094 | 47.62 | 154.79 | S3 | 5.863 | 149.5 | 2-7/8" EUE | 2.50 |
| | | | | | | | | | 3-1/2" EUE | 3.00 |
| 7.0 | 177.8 | 26 | 6.276 | 38.69 | 159.41 | SA | 5.942 | 150.9 | 2-7/8" EUE | 2.50 |
| | | 29 | 6.184 | 43.15 | 157.07 | | | | 3-1/2" EUE | 3.00 |
| | | | | | | | | | | |
| 8-5/8 | 219.1 | 20 | 8.191 | 29.76 | 208.05 | S1 | 7.750 | 196.9 | 2-7/8" EUE | 2.50 |
| | | 24 | 8.097 | 35.71 | 205.66 | | | | 3-1/2" EUE | 3.00 |
| | | | | | | | | | | |
| 9-5/8 | | 40 | 8.835 | 59.52 | 224.41 | | | | 3-1/2" EUE | 3.00 |
| 9-5/8 | 244.5 | 43.5 | 8.755 | 64.73 | 222.38 | S1 | 8.283 | 210.4 | 4-1/2" EUE | 4.00 |
| 9-5/8 | | 47 | 8.681 | 69.94 | 220.50 | | | | 5-1/2" LTC | 4.00 |
| 9-5/8 | 244.5 | 29.3 | 9.063 | 43.60 | 230.20 | S2 | 8.400 | 213.4 | 3-1/2" EUE | 3.00 |
| | | 36 | 8.921 | 53.57 | 226.59 | | | | 4-1/2" EUE | 4.00 |
| | | | | | | | | | 5-1/2" LTC | 4.00 |

Note: Other tool sizes and thread connections available upon request

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