



MANTL is partnered with **Evolution Oil Tools**.

## TORQUE ANCHORS



The Evolution CTA-XB - Centralizing Dynamic Torque Anchor® with Extra Bypass provides a simple and reliable solution for tubing back-off when progressing cavity pumps are used. The tool addresses the need for extra bypass required with large volume pumps and horizontal or deviated wells.

The bypass capability of the Evolution Advanced Torque Anchor (ATA) is second to none. In most configurations, the ATA offers greater than 95% of the potential bypass available past a similarly sized EUE coupling. Additionally, because the ATA remains centralized there are no limits to pump size used with the tool.



## TUBING SWIVELS

The Evolution CDHS Clutched Down Hole Swivel Assembly is designed to be run in conjunction with the Evolution Tubing Rotator on pumping wells that utilize a progressive cavity pump and an antirotation anchor.



MANTL is partnered with **Premium ALS**.

## TORQUE ANCHORS



The Premium Cam Set Torque Anchor's design en-sures that regardless of the torque load from the pump, the anchor blocks will continue to engage the casing without slipping. The higher the torque load on the Premium Cam Set Torque Anchor, the harder the anchor blocks will bite the casing.

## TUBING CENTRALIZER



The Premium Tubing Centralizer can be installed directly above the pump for vibration and harmonics dampening effects and other units can be installed further up the tubing string to provide the tubing and casing protection.

## GAS SEPARATORS/INTAKES



The Spiral Jet PC Pump Gas Separator separates free gas from fluids by centrifugally forcing the heavier solids and liquids to the outside of the inner housing, allowing the separated gas to follow the flow path of the gas separation mandrel.



The Premium Horizontal "Weighted" Intake Sub has a weighted eccentric mandrel that will always orient the intake to draw from the bottom of the horizontal wellbore. This will allow the pump to draw more liquid and less free gas.

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## TRIPLE SET TORQUE ANCHOR

- Drag blocks (x3) are positioned to allow more lateral movement within the tubing and prevent shearing of the tag bar
- More annular flow area than conventional anchors
- No crossovers, threads directly to tag bar
- Torque tested to 2200 ftlbs
- Comes in 4 1/2", 5 1/2", 7" and 8 5/8"
- Tool can be coated for corrosive environments

FROM THE WELLHEAD BACK...  
MANTL DESIGNED



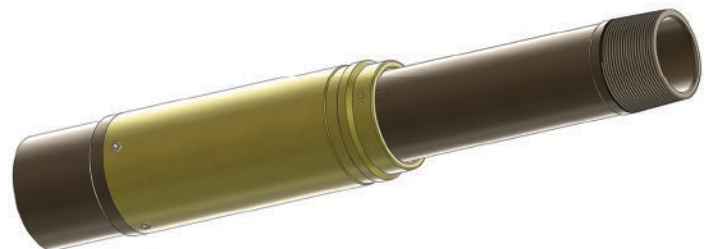
CASING OD		TOOL OD		TOOL ID		TOOL LENGTH		CONNECTION	TOTAL BYPASS	OD BLOCKS COLLAPSED		WORKING RANGE	
Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	Sq In	Inch	mm	Inch	mm
4-1/2"	114.3	3.63	92.2	2	50.8	30	762	2-7/8" EU	4.12	3.63	92.20	3.83 - 4.09	97.2 - 103.9
5-1/2"	139.7	4.25	108	2.44	62	28	711	3-1/2" EU BOX, 2-7/8" PIN	9.03	4.25	108.00	4.67 - 5.04	118.6 - 128.1
5-1/2"	139.7	4.5	114.3	2.9	73.9	28	711	3-1/2" EU	7.31	4.50	114.30	4.67 - 5.04	118.6 - 128.1
7"	177.8	5.63	143	2.99	75.9	30	762	3-1/2" EU	12.18	5.63	143.00	6.09 - 6.54	154.8 - 166.1
8-5/8"	219.1	7.25	184.2	3	76.2	30	762	3-1/2" EU	20.64	7.25	184.20	7.51 - 8.1	190.8 - 205.7

4-1/2" BASED ON 9.5 LB CASING, 5-1/2" BASED ON 13 LB CASING, 7" BASED ON 17 LB CASING, 8.5/8" BASED ON 24 LB CASING

## EXTENDED TUBING SWIVEL

This One-Way Tubing Swivel is used in conjunction with tubing rotators to allow the tubing to be rotated during production. The Extended Tubing Swivel is designed to allow torque anchors and right hand set tension anchor catchers to be set. Once the swivel is sheared with right hand torque, the tubing is able to rotate with right hand torque only. If left hand torque is applied, the unique multi-cam mechanism engages, allowing the torque anchor or right hand set anchor to be unset.

FROM THE WELLHEAD BACK...  
MANTL DESIGNED



- Male end has been extended for easier make-up/removal
- Robust design
- Continuous functioning under high torque loads.
- Reduces the risk of rig tongs damaging the outer body

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