

# DTR® and Multi-Lobe Torque Rings





# THE RIGHT CONNECTION

Volant's DTR® DeltaTORQ and Multi-Lobe torque rings are designed to increase the torque capacity of API connections (LTC, Buttress, EUE, NUE and STC) by providing a positive shoulder that stops makeup at the correct position. They fit standard API casing and tubing connections, providing a cost-effective, enhanced connection solution with a short-lead time.

Volant offers four ring lengths to ensure each connection of a casing or tubing string is made up to API position specification. A Volant selector gauge is required to determine correct ring size. Once confirmed, the correct ring is selected and installed using the Volant installation tool. Rings are conveniently installed at the **pipe mill, pipe yard** or **rig site** to optimize rig operations.

These casing accessories increase the ability to get through tight spots and hit target depth in casing operations. Torque rings can also be used for rotation during cementing, optimizing production and well integrity.

## DTR & MLT Benefits

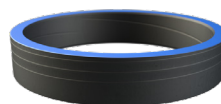
- Increase torque capacity of API connections
- Prevent incremental connection makeup
- Reduce connection back-offs
- Improve flow by providing a smooth transition from pipe-to-pipe
- Eliminate the need for tubing anchors
- Increase tubing connection life and reduce connection re-cut frequency

## Additional DTR Benefits

- Larger torque boost
- Increased retention force
- Greater tolerance of poor pin tip geometry

# CASING APPLICATION

## Running, Reaming, Drilling, Cementing



- Volant torque rings convert standard API connections to shouldering connections with superior torsion capacity, allowing the string to withstand higher torque loads in rotating applications and work past downhole obstructions.
- Both Volant rings fill the gap between the pin tips, providing a smooth transition between connections to help prevent wash out in applications where high flow rates are present.
- DeltaTORQ Rings offer a larger torque capacity due to a larger cross-sectional area. The increased torque can be up to 20% higher than available with MLT rings in ring-limited situations.

# TUBING APPLICATION

## Progressive Cavity Pump, Workover, Tubing String



- Volant torque rings fit into standard API tubing connections and provide a higher breakout torque reducing the likelihood of the connection backing off down hole and eliminating the need for additional downhole hardware. This results in less time and money working over a well and more time spent producing it.
- Both rings provide a positive shoulder that stops connection makeup at the correct position, every time. When the pin shoulders, over-penetration and thread deformation are prevented. Ultimately, reducing the frequency of connection re-cuts.
- By making optimal use of the available space in the J-section of API connections, torque rings smooth the flow stream and protect the coupling from erosion typically caused by high velocity gas flow.

	<b>DTR®</b>	<b>MLT</b>
External Upset End (EUE)	<b>2.88 - 4.5 in.</b> (73.15 - 114.3 mm)	<b>2.38 - 4.5 in.</b> (60.45 - 114.3 mm)
Non Upset End (NUE)	<b>On Request*</b>	<b>On Request*</b>
USS Buttress	<b>4.5 in.</b> (114.3 mm)	<b>4.5 in.</b> (114.3 mm)
Buttress Threaded and Coupled (BTC)	<b>4.5 - 13.38 in.</b> (114.3 - 339.7 mm)	<b>4.5 - 20.0 in.</b> (114.3 - 508.0 mm)
Long Threaded and Coupled (LTC)	<b>4.5 - 9.63 in.</b> (114.3 - 244.6 mm)	<b>4.5 - 9.63 in.</b> (114.3 - 244.6 mm)
Short Threaded and Coupled (STC)	<b>On Request*</b>	<b>On Request*</b>
OTTM	<b>N/A</b>	<b>On Request*</b>



Doing more with less.

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