Vector Series 55 Drilling Motor

Vector™ Series 55 Drilling Motor – High-Performance, Durable, and Precision Engineered

The Vector™ Series 55 drilling motor features a next-generation universal joint design paired with a robust, mud-lubricated bearing assembly engineered for enhanced performance and durability in demanding drilling environments.

The motor's driveline features a high-strength bearing mandrel, fully supported along its length by a stack of mud-lubricated, highperformance ball bearings. This configuration ensures superior load distribution and operational longevity.

Custom-engineered spacers precisely preload the thrust bearing stack, maximizing its capacity to manage high axial loads. Tungsten carbide upper and lower radial bearings mitigate wear from erosion and significantly increase the motor's ability to withstand elevated radial forces.

Integrated with NOV's proprietary driveshaft design which transfers torque via flat faces, this innovative design enhances the motor's torque transmission capability and reliability. The motor's short bit-tobend geometry enables tight build rates, while the optional near-bit stabilization feature enhances directional control, stability, and steerability. These capabilities make the Vector™ Series 55 an optimal solution for a wide range of conventional drilling applications.

Size	5 in.	5¼ in.	5½ in.	6½ in.	7¼ in.	8½ in.	9⅝ in.
Bit to center of stabilizer	22.8 in.	22.4 in.	22.6 in.	24 in.	26.6 in.	33.1 in.	37.5 in.
Bit to bend (ADJ)	57.1 in.	56.7 in.	57.7 in.	n/a	65.0 in.	81.9 in.	101.7 in.
Bit to bend (Fixed)	53.5 in.	53.0 in.	54.0 in.	53.4 in.	57.2 in.	71.7 in.	n/a
Bit to stator	75.6 in.	75.1 in.	76 in.	81.9 in.	86.1 in.	105.5 in.	130.9 in.
Max WOB @ 100 RPM	85,000 lbf	87,000 lbf	89,000 lbf	93,000 lbf	116,700 lbf	202,000 lbf	298,000 lbf
Pull to re-run	155,000 lbf	167,000 lbf	176,000 lbf	199,000 lbf	241,500 lbf	526,000 lbf	615,000 lbf
Pull to yield	422,000 lbf	431,000 lbf	447,000 lbf	537,000 lbf	697,100 lbf	1,003,100 lbf	1,650,000 lbf
Bottom connection	3½ in. REG	3½ in. REG	3½ in. REG	4½ in. REG	4½ in. REG	6⅝ in. REG	6⅝ in. REG, 7⅝ in. REG

Features

- Short bit-to-bend
- Driveshaft design transfers torque via flat faces versus the traditional ball and socket driveshaft design
- Mud-lubricated bearing technology ideal for a wider range of temperatures and mud types
- Axial load is supported by multiple rows of bi-directional bearings
- Provides extended operating hours
- Fully protected flow diverter prevents accelerated erosion
- Robust bit box catch system

Benefits

- Provides higher operating torque capability with increased reliability
- Versatile; compatible with multiple drilling fluids
- Ideal for higher bottom hole temperatures
- Allows for higher WOB and radial load capacity
- Ideal for remote locations; easily serviced

Applications

- Hot hole
- Inverted mud systems
- Vertical drilling
- Curve drilling
- Lateral drilling