

BICO SpiroStar Stators provide strength, durability and increased power output making them the smart choice for optimum performance in today's ever-changing and harsher environments. Proven performance derived over years of field testing has established SpiroStar as the market leader. SpiroStar Stators are commercially available in sizes ranging from 1-11/16" through 8".

- **More power** – Underlying steel lobes permit the rubber to achieve a stronger seal resulting in 2x more power than most conventional motors. This often results in higher effective ROP's due to more time on bottom drilling in directional steering applications due to a more consistent tool face. This can be critical in high angle, extended reach, performance drilling, over thrust drilling or applications where you need more power such as when you require high weight on bit or run larger bi-center bits in a deepwater application.
- **Longer life** – Uniform thickness of injected elastomer in each tool reduces the probability of chunking due to hysteretic failure since the elastomer is structurally supported by the steel tube. We currently have stators in the field that have in excess of 1200 circulating hours without being relined.
- **Higher temperature ratings** – Thin, uniform thickness of the rubber causes it to expand very little with temperature changes. Heat generated in standard drilling operations is more readily dissipated through the thin layer of rubber, directly to the steel tube. Even Wall power sections have been run in wells with temperatures approaching 400 Degrees.
- **Chemical resistance** – Fluids that tend to swell or soften other various rubber compounds on the market do not effect the Even Wall stators in many cases. Performance in oil based and synthetic muds has been impressive and the number of relines has been greatly reduced.
- **Improved performance capability** – In many directional applications a shorter tool can be run due to the higher power output per unit length. This has permitted higher dogleg capability and increased the use of motors in specialty applications. Some of the specialty applications have included dual laterals, open hole sidetracks, use on production decks of offshore platforms, coiled tubing and coal bed methane applications.



For illustrative purposes only.



## PERFORMANCE CHART

Motor Type		Motor Output			Motor Input			Physical Motor Data		
Dia (IN)	Model	Bit Speed RPM	Torque FT-LBS (NM)	Power HP (KW)	Flow Range GPM (LPM)	Motor DP PSI (BAR)	Bit Size (IN)	STAGES	LOBES	REV/GAL
1-11/16"	-									
	SS100	202-405	168 (227)	13 (9.7)	20-40 (76-151)	575 (40)	1-7/8" to 2-3/4"	2.3	5/6	10.12
2-1/8"	SS150	270-680	412 (559)	53 (40)	20-50 (76-190)	1500 (103)	2-3/16" to 3-1/4"	6	5/6	13.61
	SS150	200-400	535 (725)	48 (36)	60-120 (225-450)	875 (60)	3-1/4"	3.5	5/6	3.333
2-7/8"	SS150AD	191-383	535 (725)	39 (29)	225-450 (637-1275)	875 (60)	to 4"	3.5	5/6	0.851
	SS150	125-281	2000 (2712)	100 (75)	80-180 (300-680)	1075 (75)	4-1/8" to 5-1/2"	4.3	4/5	1.56
3-3/4"	SS150SR	125-281	1023 (1387)	55 (41)	80-180 (300-680)	550 (38)		2.2	4/5	1.56
	SS100	78-130	4930 (6684)	122 (91)	150-250 (568-946)	950 (65)	5-3/4"	3.8	7/8	0.521
4-3/4"	SS170	150-300	3600 (4880)	197 (147)	150-300 (570-1135)	1350 (93)	to 6 3/4"	5.4	5/6	1.00
	SS300	230-680	3020 (4095)	390 (290)	100-300 (379-1136)	1975 (136)		7.9	2/3	2.27
6-1/4"	SS100	50-130	9570 (12975)	235 (175)	150-400 (586-1514)	1200 (83)	7-7/8" to 8-3/4"	4.8	7/8	0.330
	SS100	58-173	11625 (15760)	383 (286)	200-600 (760-2270)	1250 (86)		5.0	7/8	0.288
6-3/4"	SS110	60-170	10540 (14290)	340 (255)	200-600 (760-2270)	950 (66)	8-1/4" to 9-7/8"	3.8	6/7	0.285
	SS150	100-250	18945 (12130)	430 (320)	300-600 (1140-2270)	1550 (107)		6.2	4/5	0.497
8"	SS100	66-149	16540 (22425)	469 (350)	400-900 (1510-3410)	1000 (69)	12-1/4" to 26"	4.0	7/8	0.166



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