



**WWT
International**

Super 4 Long (S4-L) Non-Rotating Protectors (NRP)[™]

**Reduce rotary torque • Protect against casing, riser, and drill pipe wear
Reduce buckling, heat checking, vibration and stick-slip • Open-hole capabilities**



Features and Benefits

- Straight blade design with optimized spacing to mitigate incremental ECD increase.
- Global leadership in some of the world's most challenging drilling environments since 1989.
- Clamp-on design doesn't increase stand length, thereby simplifying derrick management.
- Significant torque reduction created by WWT's patented fluid bearing.
- Optimum operating performance range of 30 - 250 RPM.
- Free, no-obligation T&D, and casing wear analysis.
- Provides the greatest side force capabilities compared to similar tools on the market, backed with WWT's long standing 30+ year experience.
- Buoyancy effect results in negligible added weight to the drill string, thereby minimizing impact to max overpull margins.
- Compatible with most oil-, synthetic- and water-based drilling fluids.
- Each assembly accepts up to 120,000 lbs. of axial force before slippage.
- Installation time: Approximately 1 minute, enabling greater placement flexibility.

Model S4-L (16" Long Sleeve) Specifications

WWT NRP Model	S4-658-L	S4-658-LF
Drill Pipe Size	6.63"	6.63"
Sleeve Max OD	9.13"	9.63"
Hydraulic Effective OD	8.49"	8.81"
Collar OD	8.13"	8.13"
Sleeve Length	16"	16"
Sleeve Volume	265 in ³	386 in ³
Sleeve Weight	23 lbs	25 lbs
Side-Load Rating Continuous	5,000 lbs	5,000 lbs
Side-Load Rating Intermittent	15,000 lbs	15,000 lbs
Cross-Sectional Area	22.2 in ²	26.6 in ²
Total Flow Area		
12-1/4" x 134.25 ppf Csg.	21.9 in ²	17.5 in ²
13-3/8" x 72 ppf Csg.	63.1 in ²	58.7 in ²
13-5/8" x 88.2 ppf Csg.	63.6 in ²	59.2 in ²
14" x 115 ppf Csg.	63.6 in ²	59.2 in ²
16" x 97 ppf Csg.	116.5 in ²	112.1 in ²
16-1/4" x 136.04 ppf Csg.	110.7 in ²	106.3 in ²
18" x 117 ppf Csg.	163.7 in ²	159.3 in ²
Collar Material	6061-T651 Extruded Aluminum Alloy	
Sleeve Material	Proprietary High-Temperature, Wear Resistant Polyurethane	
Max. Temperature	275° F (135° C)	



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WWT International supports your operations from start to finish with full-service onsite mobilization and support 24/7. To find out more, visit:

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