

Super 4 (S4) 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



Model S4 Specifications

| WWT NRP Model | S4-350 | S4-400-SLIM | S4-400 | S4-450-SLIM | S4-500 | S4-550 | S4-578 | S4-658 |
|-------------------------|-----------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Drill Pipe Size | 3.50" | 4.00" | 4.00" | 4.50" | 5.00" | 5.50" | 5.88" | 6.63" |
| Sleeve Max OD | 5.50" | 5.50" | 5.75" | 6.25" | 7.30" | 7.75" | 8.00" | 9.13" |
| Hydraulic Effective OD | 5.12" | 5.24" | 5.48" | 5.98" | 6.87" | 7.28" | 7.57" | 8.64" |
| Collar OD | 5.00" | 5.07" | 5.38" | 5.88" | 6.50" | 7.00" | 7.38" | 8.13" |
| Sleeve Length | 12" | 12" | 12" | 12" | 12" | 12" | 12" | 12" |
| Sleeve Volume | 123 in ³ | 102 in ³ | 127 in ³ | 140 in ³ | 196 in ³ | 199 in ³ | 202 in ³ | 265 in ³ |
| Sleeve Weight | 8.9 lbs | 7.4 lbs | 9.2 lbs | 10.1 lbs | 11.6 lbs | 12.3 lbs | 12.5 lbs | 15.4 lbs |
| Side-Load Rating | 2,200 lbs | 2,200 lbs | 2,200 lbs | 3,000 lbs | 3,000 lbs | 3,000 lbs | 3,500 lbs | 3,500 lbs |
| Cross-Sectional Area | 11.2 in ² | 9.0 in ² | 11.0 in ² | 12.2 in ² | 17.4 in ² | 17.9 in ² | 17.9 in ² | 24.1 in ² |
| Total Flow Area | | | | | | | | |
| 7" x 32 ppf Csg. | 8.3 in ² | 7.6 in ² | 5.6 in ² | | | | | |
| 7" x 29 ppf Csg. | 9.2 in ² | 8.5 in ² | 6.5 in ² | | | | | |
| 7" x 26 ppf Csg. | 10.1 in ² | 9.4 in ² | 7.4 in ² | | | | | |
| 7-5/8" x 39 ppf Csg. | 13.7 in ² | 12.9 in ² | 10.9 in ² | 6.4 in ² | | | | |
| 9-5/8" x 53.5 ppf Csg. | 36.4 in ² | 35.6 in ² | 33.6 in ² | 29.1 in ² | 20.2 in ² | 15.6 in ² | 12.2 in ² | |
| 10-3/4" x 55.5 ppf Csg. | 54.0 in ² | 53.2 in ² | 51.2 in ² | 46.7 in ² | 37.8 in ² | 33.2 in ² | 29.8 in ² | 16.2 in ² |
| 13-3/8" x 72 ppf Csg. | 98.9 in ² | 98.2 in ² | 96.2 in ² | 91.6 in ² | 82.7 in ² | 78.1 in ² | 74.7 in ² | 61.2 in ² |
| Collar Material | 6061-T651 Extruded Aluminum Alloy | | | | | | | |
| Sleeve Material | High-Temperature Polyurethane | | | | | | | |
| Max. Temperature | 275° F (135° C) | | | | | | | |

Features and Benefits

- Positive protection against casing and riser wear during drilling operations.
- Significant torque reduction created by our patented fluid bearing design allows for improved ROP.
- Compatible with most oil-, synthetic- and water-based drilling fluids.
- Optimum operating performance range of 30 - 250 RPM.
- Reduces drillstring and surface equipment stress.
- Each assembly accepts up to 30,000 lbs. of axial force before slippage.
- Installation time: less than 1 minute.
- Free, no-obligation confidential torque, drag and wear analysis.
- Global leadership in some of the world's most challenging drilling environments since 1989.
- On/off-site technical support 24/7.



WWT
International

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

www.wwtco.com



Houston, Texas, USA • Midland, Texas, USA • Anaheim, California, USA • Aberdeen, Scotland
Al Khobar, KSA • Abu Dhabi, UAE • Dubai, UAE • Singapore • Quito, Ecuador