



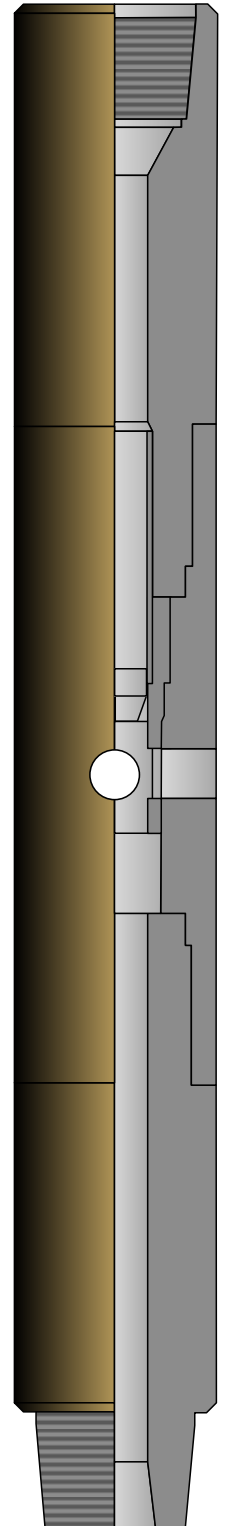
## DIVERTER SUB

### SURGE REDUCTION SYSTEM

A Diverter Sub is utilized when deploying liners or sub-sea casing on a work string in areas where formation surge or casing overfill may be a problem. Operators understand the benefits of getting casing to the desired depth with minimal mud losses for improved zonal isolation. The Diverter Sub provides these value-added benefits by allowing wellbore fluids to flow from the wellbore below, through the ID of the casing and into the annular space above the casing being installed. This process greatly reduces surge on the open-hole formation by eliminating the pressure drops across the casing/liner hanging equipment as well as the pressure drop caused by the reduced ID of the work string.

#### FEATURES AND BENEFITS

- High tensile, burst & collapse ratings
- Large bypass flow area
- Simple, reliable design
- Positive locking mechanism to ensure tool remains closed
- Diverter Test Device (DTD) available to verify closure and pressure integrity
- Compatible with most liner companies' setting balls & drill pipe darts
- Serves as a secondary test mechanism to verify location of drill pipe darts prior to reaching running tool and plugs.





**SPECIFICATIONS**

Series	Drill pipe size (in.)	Max OD (in.)	Min ID (in.)	Tensile Rating (Kips)	Torque Rating (ft- lb)	Bypass Port Flow Area (Sq. in)	Internal Pressure Rating (psi)
100	4 1/2" – 6 5/8"	9.50	3.00	2,366	193,800	15.90	8,500
150	4 1/2" – 6 5/8"	8.90	3.00	2,600	116,000	15.90	8,500
200	4 1/2" – 6 5/8"	8.90	3.00	1,690	116,000	12.57	8,500
300	4 1/2" – 6 5/8"	7.08*	2.68	1,264	74,500	8.30	8,500
400	4 1/2" – 6 5/8"	5.02	2.05	543	20,260	5.94	8,500
20	4 1/2" – 6 5/8"	9.75	3.00	1,690	116,000	20.36	8,500
1020	4 1/2" – 6 5/8"	9.75	3.00	2,366	148,000	14.56	8,500
30	4 1/2" – 6 5/8"	7.06*	2.68	1,066	74,200	6.28	8,500

\* Max OD can be larger than stated depending on rig end connections

\*\* Ratings do not include drill pipe/ rig end connections

