

# Well Construction

## Cementing Technologies

### ULTRAFLO™ Diverter System

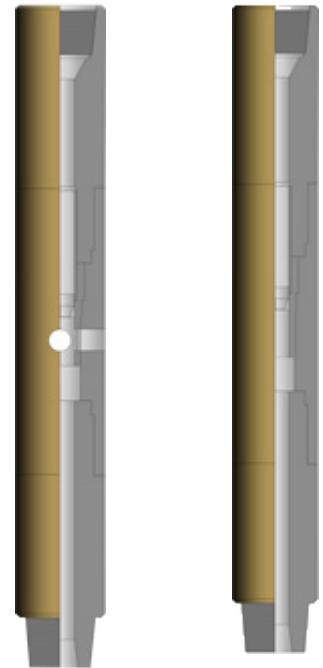
The ULTRAFLO™ Diverter System, available in single, dual, or triple configurations, is an integral part of our surge reduction system. The ULTRAFLO™ significantly increases well integrity by eliminating pressure drops across the casing or liner hanger equipment and reduced ID of the work string to reduce surge on the open-hole formation.

Diverter systems mitigate formation surge and drill pipe overfill to ensure casing and liner strings are installed with minimal mud loss for improved zonal isolation. The system allows fluids to flow from the wellbore below, through the ID of the casing and drill pipe, and into the annular space above the diverter.

The ULTRAFLO™ Dual Diverter System is an exclusive, patented method to run diverter subs above and below the hanger when running casing with an inner string for maximum surge reduction. When combined with ULTRASEAL™ Auto-Fill Float Equipment, the ULTRAFLO™ Diverter System provides optimal surge reduction in tight tolerance well bores.

#### Features and benefits

- High tensile, burst, and collapse ratings allow for increased operational flexibility
- Large bypass flow area minimizes surge on the formation to reduce costly mud losses
- Positive locking mechanism ensures diverter sub reliably remains closed throughout primary cementing operations
- Diverter test device (DTD) is run with all diverter systems to confirm the diverter sub is closed and ensure functional reliability of the system
- Pressure indications at diverter sub and DTD serve as a reliable secondary mechanism to verify location of drill pipe darts prior to reaching hanger running tool and plugs
- Compatible with most setting balls and drill pipe darts to accommodate various operational requirements





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Specifications						
Series	Max. O.D. (in.)	Min. I.D. (in.)	Tensile rating <sup>2</sup> (KIPS)	Torque rating <sup>2</sup> (ft-lbs)	Bypass port flow area (in <sup>2</sup> )	Internal pressure rating (psi)
100	9.50	3.00	2,366	193,800	15.90	8,500
150	8.90	3.00	2,600	116,000	15.90	
200	8.90	3.00	1,690	116,000	12.57	
300	7.08 <sup>1</sup>	2.68	1,264	74,500	8.30	
400	5.02	2.05	543	20,260	5.94	
20	9.75	3.00	1,690	116,000	20.36	
1020	9.75	3.00	2,366	148,000	14.56	
30	7.06 <sup>1</sup>	2.68	1,066	74,200	6.28	

For more information, contact your Expro representative or email: [wellconstruction@expro.com](mailto:wellconstruction@expro.com)

1. Max OD can be larger than stated depending on rig end connections

2. Tensile ratings do not include drill pipe/rig end connections