

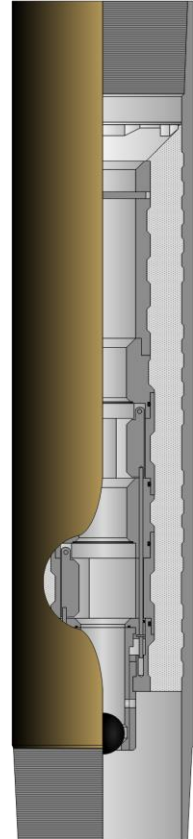


ULTRASEAL™ AUTO-FILL FLOAT EQUIPMENT

Blackhawk's UltraSeal™ Auto-Fill Float Equipment is designed for running and cementing tight-tolerance 9-5/8" and larger casing/liner strings. Industry-leading technology combined with exclusive features results in the most capable and flexible auto-fill system available.

FEATURES

- High-pressure holding capability from proprietary dual, composite flapper valves - fully PDC-drillable, temperature resistant to 300°F.
- Large ID through valves and ball seat to maximize running speeds, minimizing surge pressures.
- Activation flow rate and pressure can be adjusted "on-the-fly", just prior to running downhole via the removable ball seat.
- Only the activation ball is expelled, no auto-fill tube that needs to be caught downhole.
- "Stackable" without the need for modification; one deactivation ball can trip two or more collars.
- Activation ball can be trapped in place with optional retainer.
- Anti-rotation feature on landing surface prevents plugs from spinning during drill-out.
- Tapered landing surface compatible with most SSR plug sets.



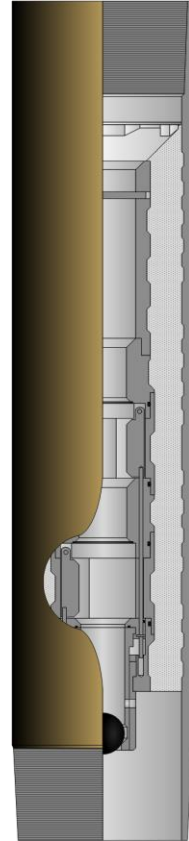
VALUE

- Maximized cement column height for increased well safety and regulatory compliance.
- Surge reduction while auto-filling casing decreases costly mud loss and improves well control.
- Tight-tolerance capability allows for optimized well tubular diameter
- Increased running speeds contributing to significant rig time savings while running casing
- Universal design reduces customer-owned inventory and costs.



SPECIFICATIONS

UltraSeal™ Auto-Fill – Model F5000	
Max Bump Pressure (9-5/8" to 14")	7,500 psi
Max Back Pressure (9-5/8" to 14")	7,500 psi
Max Bump Pressure (16" to 18")	5,500 psi
Max Back Pressure (16" to 18")	5,500 psi
Maximum Flow Duration	36 hrs @ 10 bpm
Conversion Flow Rate	0 to 7 bpm
Conversion Pressure	200 to 700 psi
Minimum Auto-Fill ID	3.00 in
Activation Ball OD	3.25 in
Temperature Rating	300°F
Sizes Available	9-5/8" to 18"



OPERATIONAL SEQUENCE

