FlowMentum™ Debris Management System

Helping protect the inside of tools in the casing string from debris damage during run in

Cuttings and debris are produced throughout the process of drilling a well. Despite drilling fluid circulation and hole cleaning operations prior to the casing run, a portion of these cuttings can be left behind. Further, unconsolidated formations can slough and introduce additional debris into the wellbore. During the casing run, these remaining solid materials can create problems and cause damage to various tools in the casing string if swept in through the shoe.

The FlowMentum™ debris management system is designed to be run in the lower most casing joint to trap wellbore cuttings and debris, preventing them from being swept into the casing string and causing damage such as:

- Early deactivation of auto-fill tools resulting in slower running speeds or formation surge.
- Damage to a valve seat preventing proper valve closure.
- Inability to properly land plug atop float collar due to a bed of solids ahead of the plug landing surface.
- Pack off or bridging of small ports or openings.
- Reduced ability to circulate cement through ports or openings.
- An inability to reach total depth (TD) on the first trip due to auto-fill pack off.
- Pack off of or setting issues with liner hangers.

The FlowMentum system provides an area for cuttings and wellbore debris to be collected and stored to help mitigate damage to auto-filling float equipment, liner hangers, or other tools in the casing string.

The FlowMentum debris management system is made up of a series of partial screens that are oriented to provide full-bore screen coverage with areas to collect and store wellbore debris, while maintaining a large fluid flow path to prevent formation surge and pack off. The unique design and configuration of the partial screens halts the otherwise unimpeded flow of cuttings and debris through the casing string while enabling optimized run-in speeds.

The large screening capacity helps overcome the risk of packing off. Additionally, the large fluid flow path through the system does not diminish the ability to pump cement through the shoe track. Verification testing shows a peak pressure drop across the tool of only 10 psi when circulating cement at 9 bbl/min.

The system is supplied in a kit of modular, non-metallic components that snap together easily and are sized to fill the lower most casing joint as specified (up to 45 feet). Assembly does not require the use of any hoisting equipment or special tools and installation can take place in a pipe yard or rig site, wherever is most convenient or appropriate for the job.

**Benefits**

- Halts the unimpeded flow of cuttings and debris inside the casing string, thus helping prevent damage.
- Provides large screening capacity without the risk of packing off as validated during verification testing where a pressure drop across the tool measured only 5 psi over a 40 ft system at maximum capacity.
- Back-flushable for improved shoe track displacement efficiency during cementing.
- Modular system is designed to be easily assembled at a pipe yard or rig site in the lower most casing joint.
- Large fluid flow path through the system enables standard cementing operations as validated during verification testing when a peak pressure drop across the tool when circulating cement was 10 psi at 9 bbl/min.
- Non-metallic construction enables rapid drill out with PDC bits.
- Compatible with all casing sizes, weights, threads, and material grades.
- Suitable for use in temperatures up to 300°F (149°C).
- Compatible with lost circulation material (LCM) systems.
Specifications

- Available in sizes 4 1/2-in. through 20-in.
- Compatible with all casing weights, threads, and material grades.
- Suitable for use in temperatures up to 300°F (149°C).
- Fits casing joints up to 45 ft in length.
- Compatible with all Halliburton Float Equipment.
- Composed of inert material that is compatible with wellbore fluids including oil and water based muds and spacers.
- Supplied in a kit that can be assembled and installed at rig site or pipe yard.
- Compatible with lost circulation material (LCM) systems.
- PDC drillable.

For more information on FlowMentum™ Debris Management System, please call your local Halliburton representative or email us at cementing@halliburton.com.