Schlumberger

10K ASST

HPHT openhole gravel-pack antiswab service tool

Rated to 10,000 psi [69 MPa]

Rated to 177 degC [350 degF]

APPLICATIONS

- Sand control completion operations on land or offshore
- Openhole gravel-packing operations

BENEFITS

- Enables openhole gravel packs in long wellbore segments (5,000 ft [1,500 m] or more)
- Improves wellbore stability by maintaining hydrostatic pressure on the formation during the operation
- Saves rig time by
  - Enabling washdown while running screens
  - Facilitating filtercake cleanup and MudSOLV* filtercake removal service after gravel placement without additional trips downhole

FEATURES

- Compatibility with QUANTUM* gravel-pack packer and QUANTUM MAX* HPHT gravel- and frac-pack packer
- Antiswab, antisurge design
- Hydrostatic communication to open hole
- Single-trip gravel-pack and filtercake cleanup
- Annular check valve for alternate means of reverse-out operations
- Enhanced-reliability MudSOLV service module
- Setdown module with up to 150,000-lbf weight-down positioning
- Packer pressure test position indicator
- Fullbore setdown (FBSD) ball valve for well control barrier
- Availability for 6.000-in [152.4-mm] bore systems

The 10K openhole antiswab service tool (ASST) helps optimize gravel-pack operations in openhole horizontal wellbores by enabling wellbore stability before gravel placement and filtercake cleanup after gravel placement. It is ideally suited for use with QUANTUM and QUANTUM MAX packers.

The service tool has three primary modules: a nonpressure-sensitive (NPS) packer-setting module, MudSOLV service or washdown circulating module, and fullbore setdown module.

Set, test, and release reliably and easily

The 10K ASST is coupled to the packer, enabling rotation of the bottomhole assembly, if required. The tool is used to hydraulically set and release the packer with applied tubing pressure. Backup releasing can be accomplished through right-hand workstring rotation. The packer is pressure tested by an indicated packer pressure test position.

Maintain filtercake by eliminating swabbing effects

During standard gravel-packing operations, an annular check valve simplifies operations by eliminating the need to cycle the ball valve and ensures hydrostatic pressure is continuously applied to the open hole even after the gravel pack is complete. This eliminates tool movement swabbing effects, which can be detrimental to the integrity of the openhole filtercake. Filtercake damage allows fluid loss, which compromises gravel placement and well control.

Avoid presetting during washdown

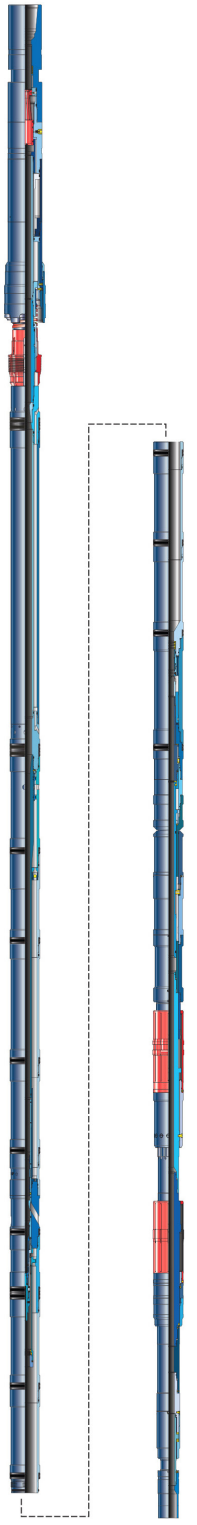
The tool enables washdown operations before setting the packer. During the washdown operations, the NPS packer-setting module isolates the setting mechanism to ensure that circulation pressures do not preset the packer.

Minimize screen plugging risk

The service tool enables displacing the open hole in the reverse-circulation flow path after setting the packer if the annular check valve is not installed. This flow path minimizes screen plugging by creating flow radially outwards through the screen filter.

Maintain weight during gravel-pack pumping

The FBSD module enables weight to be set down on the gravel-pack assembly in the circulating position. This prevents the tool from being pumped out of position during the gravel-pack pumping operation.



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Eliminate separate run for filtercake cleanup

The washdown feature is disabled while setting the packer, but the tool can be converted back to washdown mode afterward for filtercake cleanup, eliminating the need for an additional run. Design synergies among sand control, drilling fluids, and filtercake-cleanup operations optimize treatments for individual wells and reduce health, safety, and environmental risks.

10K ASST Specifications	
Nomimal casing size, in	9⅝ and 10¾
Matching bore size, in [mm]	6.000 [152.4]
Major outside diameter (OD), in [mm]	8.250 [209.6]
Minor inside diameter, in [mm]	1.137 [28.9]
Setting ball OD (primary), in [mm]	1.625 [41.3]
Setting ball OD (secondary), in [mm]	2.125 [54.0]
MudSOLV service ball OD, in [mm]	1.750 [44.5]
Upper connection (workstring), in	4.500 API IF box
Lower connection (washpipe), in	4.000 Hydril 511 pin
Tensile rating, lbf [kg]	400,000 [181,406]
Max. setdown weight, lbf [kg]	150,000 [68,000]
Makeup length, ft [m]	43.6 [13.3]
Torque-through rating, ft.lbf [N.m]	10,000 [13,558]
Max. differential pressure, psi [MPa]	10,000 [69]
Max. working temperature, degF [degC]	350 [177]
Max. pump rate, bbl/min	10

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