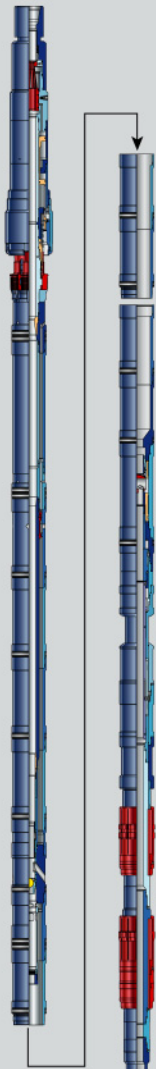


QUANTUM Antiswab Openhole Service Tool

Schlumberger

QUANTUM antiswab openhole gravel-packing service tool.



The QUANTUM* antiswab openhole gravel-packing service tool has been developed to optimize sandface completions in horizontal wellbores by enabling wellbore stability before gravel placement and filtercake cleanup after gravel placement.

The service tool has five primary modules:

- nonpressure-sensitive
- antiswab
- MudSOLV* or antiswab wash down
- fullbore set down
- packer pressure test.

Standard gravel-pack service tools swab the formation as they are moved into various positions before the gravel-pack treatment. Since those tools are moved while the seals are still engaged in the sealbores, a pressure drop results that can be detrimental to the integrity of the openhole filtercake. A loss of filtercake allows fluid loss, thereby compromising gravel-placement and well-control operations.

The QUANTUM antiswab service tool, on the other hand, keeps the hydrostatic pressure applied to the open hole constant, thereby eliminating the swabbing effects due to tool movement until placement of the gravel pack is complete.

The QUANTUM antiswab service tool is capable of wash-down operations prior to setting the packer. During the wash-down operations, the nonpressure-sensitive module isolates the service tool's setting mechanism to ensure that circulation pressures do not preset the packer.

The wash-down feature is disabled during the packer-setting procedure but the tool can be converted back to the wash-down mode at the end of the job for filtercake cleanup, eliminating the need for an additional run.

Design synergy among sand-control, drilling-fluids, and filtercake-cleanup operations results in customized treatment for individual wells and reduced health, safety, and environmental risks.

Applications

- Sand-control completion operations
- Openhole gravel packing
- Highly deviated and horizontal wells
- Floater or fixed-rig configurations
- Pressures to 6,000 psi [41,370 kPa]
- Temperatures to 250°F [121°C]

Benefits

- Low-erosion, stable wellbore
- Easy deployment
- Reliable performance
- Modular construction
- Good zonal coverage
- Rig-time and cost reductions

Features

- Antiswab, antisurge design
- Hydrostatic communication to open hole
- Single-trip gravel-pack and filtercake cleanup
- Innovative placement techniques using the MudSOLV ballseat module
- Set-down module available for weight-down positioning during gravel pack
- Wash-down capability during installation
- Indicated packer pressure test position
- Available for 4.000-in. [101.6-mm] and 6.000-in. [152.4-mm] bore systems

QUANTUM Antiswab Openhole Gravel-Packing Service Tool Specifications

	7.000 in. × 4.000 in.	7.625 in. × 4.000 in.	9.625 in. × 6.000 in.
Major OD (in. [mm])	5.812 [147.6]	6.250 [158.8]	8.250 [209.6]
Minor ID (in. [mm])	0.900 [22.9]	0.900 [22.9]	1.300 [33.0]
Matching bore size (in. [mm])	4.000 [101.6]	4.000 [101.6]	6.000 [152.4]
Setting ball OD, primary (in. [mm])	1.000 [25.4]	1.000 [25.4]	1.625 [41.3]
Setting ball OD, secondary (in. [mm])	1.625 [41.3]	1.625 [41.3]	2.125 [54.0]
MudSOLV ball OD (in. [mm])	1.250 [31.8]	1.250 [31.8]	1.750 [44.5]
Upper connection	3 1/2-API IF Box	3 1/2-API IF Box	3 1/2-API IF Box
Lower connection	2 3/8-EU 8 RD Pin	2 3/8-EU 8 RD Pin	2 7/8-E 8 RD Box
Max. set-down weight (lbf [kg])	125,000 [56,689]	125,000 [56,689]	150,000 [68,027]
Setting piston area (in. ² [cm ²])	26.610 [171.7]	26.610 [171.7]	33.350 [215.2]

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