

SandKleenSM Service

CONCENTRIC COILED TUBING CLEAN-OUT

OVERVIEW

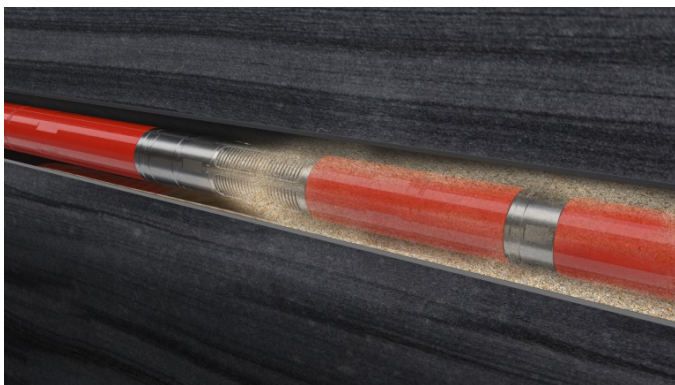
SandKleenSM Service utilizes a specialized cleaning BHA deployed on concentric coiled tubing (CCT) to provide the ability to clean sand or other particulate debris from wellbores with very low bottom-hole pressure, very large diameters, severe leak-off, or other issues that may prevent a standard clean-out operation. SandKleen is also an alternative to large volumes of Nitrogen for scenarios where a foamed cleaning operation is normally planned,

SandKleen features both a jetting and a vacuum mode, and the ability to toggle between the two modes on the fly, by cycling flow rate through the BHA. The jetting mode features powerful forward jets, capable of blasting through debris and sand bridges in the wellbore. The Vacuum mode utilizes the venturi effect to provide a drawdown through the tool to pull the fluidized debris into the return flow, with an intake screen to prevent larger particles from creating blockages.



HAL 124200

SandKleenSM High Pressure Jetting Mode uses powerful forward jets to fluidize sand bridges and return settled fill into suspension.



HAL 124199

SandKleenSM Vacuum / Sand Removal Mode generates a draw-down force to pull loose fill into the return path through the intake screen. Secondary jets help to maintain particle suspension around the screen.

APPLICATIONS

- » Sand / particulate solids removal from depleted wells, and wells with insufficient lift capacity.
- » Fluid removal, such as lowering top of fluid, dewatering, or an alternative to N2 lifting

BENEFITS

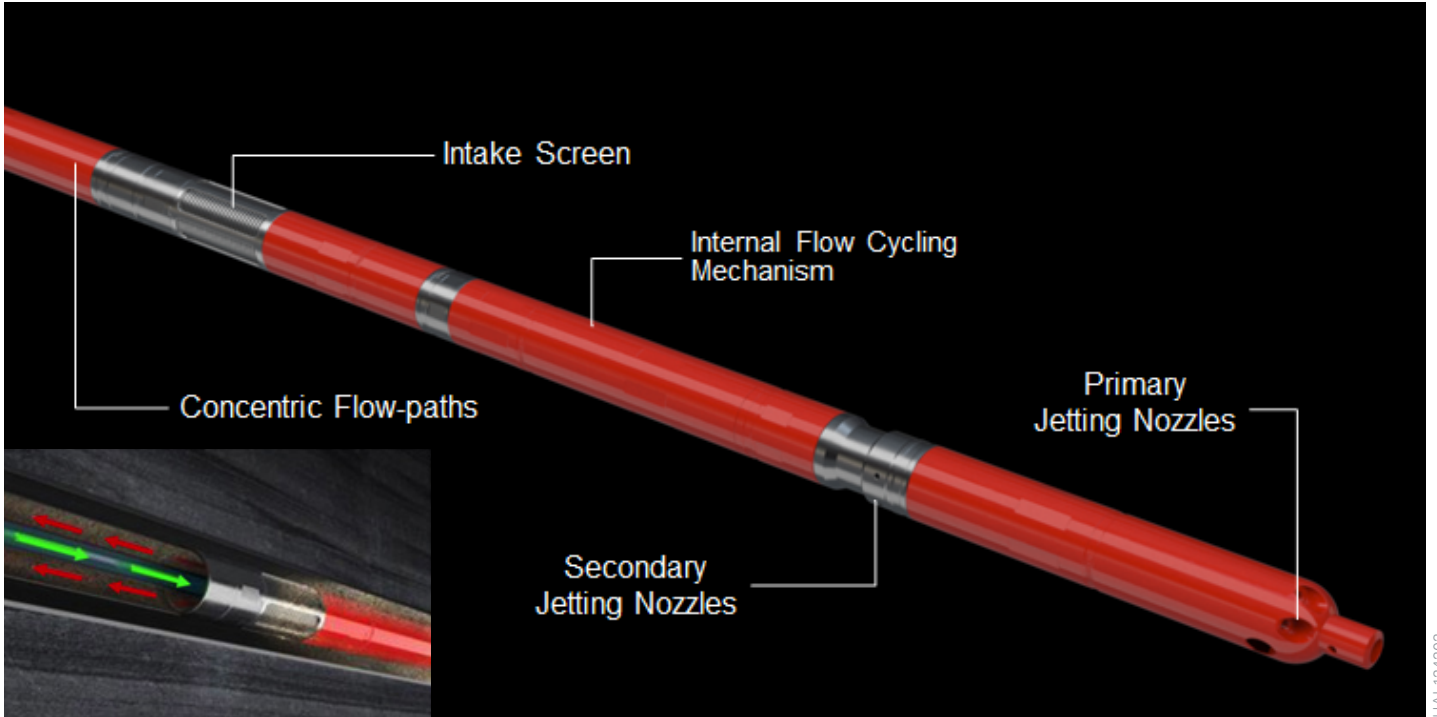
- » Effective sand removal in wells with extremely low bottom hole pressure.
- » Enables sand removal without applying hydrostatic pressure to the wellbore.
- » Performs challenging cleanouts with no Nitrogen requirements.

FEATURES

- » Utilizes concentric CT to create a vacuum that pulls sand and debris out of the wellbore.
- » High pressure jets to break up sand bridges and debris.
- » Intake screen prevents clogging of the return annulus.
- » Ability to switch between vacuum and jetting operations without having to pull out of hole.
- » Internal chokes may be dressed to suit downhole pressure environment.

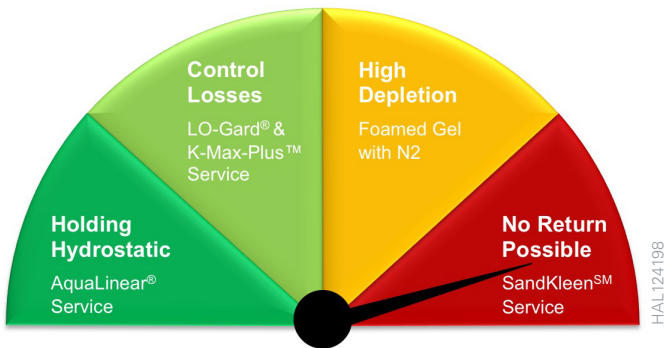
Specifications

Outer Diameter	2.125 in.
Over-all Length	12.14 ft
Inner CT String Diameter	1 in. / 1.25 in.
Outer CT String Diameter	2 in. / 2.375 in.



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Features of the SandKleenSM BHA enable cycling between jetting and vacuum modes to provide the ability to wash past bridges and obstructions, and remove fill material via the concentric flow path.



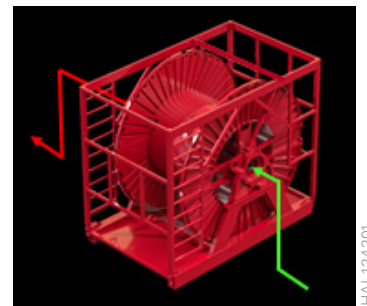
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Halliburton offers a complete portfolio for sand cleaning solutions tailored to suit a range of downhole conditions, such as wellbore geometry, reservoir pressure, and formation characteristics. SandKleenSM concentric CT service is intended for the most challenging cleanout scenarios.

By using concentric coiled tubing, the return annulus is conveyed into the well with the tool, allowing the flow rates to be controlled independent of wellbore geometry or leak-off points. In this way clean-outs can be performed in even the most challenging wellbore environments.



HAL124203



HAL124201

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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