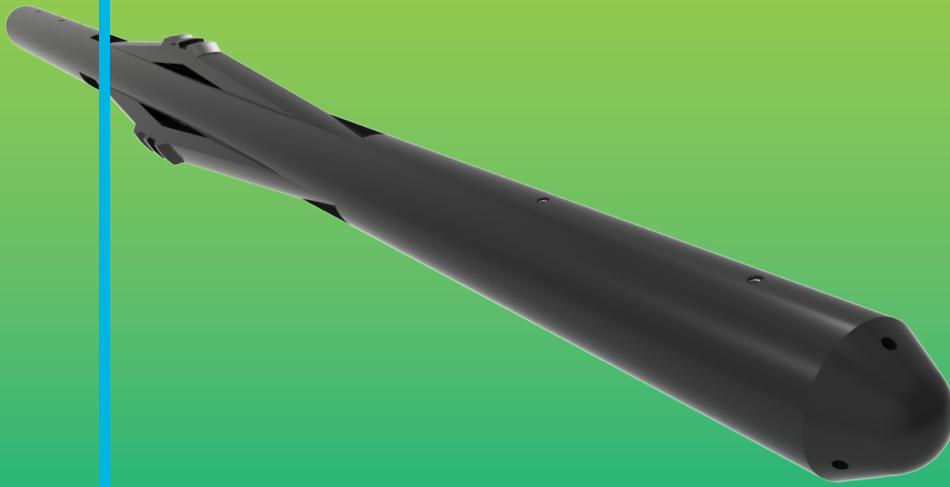


High-expansion Shifting Tool (HEST)

Enable reliable, single-trip tool actuations in wells with restrictions



The High-expansion Shifting Tool (HEST) features an ultra-slim design and bidirectional key sets to enable single-trip opening and closing of downhole valves and sleeves that have a significantly larger shifting profile inside diameter (ID) than restrictions higher in the wellbore. Because the key sets are bidirectional, they do not require modifications to shift tools open and closed, helping operators to reduce downhole trips, accelerate operations, and minimize OPEX.

The HEST is run and operated on coiled tubing. Once at depth, pressure is applied through the tubing to create back pressure that expands the keys into the downhole tool shifting profile, allowing the HEST to engage the tool and shift it in the required direction. Once the downhole tool has been shifted,

pressure is reduced and the HEST's internal springs retract the keys so the HEST can be retrieved. If the keys do not retract, a shear facility, which can be field-adjusted up to a 40,000 lb (18 144 kg) shear threshold, can collapse the keys back into the HEST body to ensure reliable retrieval.

When coiled tubing operations are not possible or desirable, the HEST can be deployed with a wireline stoker and tractor and still reach even the most challenging profiles. The HEST can be configured with various key sets that fit common tool profiles and sizes, and it comes standard with an Otis B or CM profile. Custom key sets can also be ordered if needed.

The HEST can be used to actuate a wide range of Baker Hughes, a GE company

Applications

- Mechanical opening and closing of valves and sleeves
- Wells with restrictions above tools requiring actuation

Features and benefits

- Ultra-slim design
 - Enables the shifting tool to pass through tubing as small as $2\frac{3}{8}$ in.
 - Permits reliable downhole tool shifting in wells with restrictions
- Bidirectional key sets
 - Shift tools open and closed without requiring a second trip to modify keys
 - Reduce rig time and OPEX
- Field-replaceable choke nozzles
 - Allow quick, easy adjustment of key activation pressure at the rig
- Shear facility for shifting keys
 - Ensures reliable tool retrieval if keys do not retract when de-activated
 - Enables shear threshold adjustments up to 40,000 lb at the rig for added operational flexibility
 - Provides positive surface indication of shear versus shift downhole events
- Robust and simple design
 - Allows a single shifting tool to accommodate multiple key sizes that can be changed at the rig
 - Minimizes redress time and cost
 - Helps to ensure fast, trouble-free operations

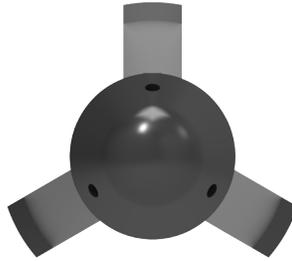
(BHGE) tools when wellbore restrictions do not permit the use of traditional mechanical shifting tools. When ID restrictions are not a concern, the BHGE Stinger shifting tool is an ideal solution because it enables the same, single-trip open/close operations as the HEST.

Contact your local BHGE representative today to learn more about how the HEST enables efficient and reliable tool shifting operations in

HEST Specifications		
Parameter	2.2 in.	3 in.
Maximum profile size	5½ in. (4.562 in.)	7 in. (5.953 in.)
Maximum OD	2.2 in. (55.88 mm)	3 in. (76.2 mm)
Length	56 in. (1422 mm)	
Tensile rating	90,000 lbf (400 kN)	76,000 lbf (338 kN)



HEST with keys retracted



HEST with keys expanded

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