

MAGNO SHOE TOOL



MAGNO SHOE end of string magnet with modular sleeve

FEATURES

- Fully encased rare earth magnet
- Magnet components rated to 300° C (570° F) without deteriorating strength
- Forward facing circulation ports
- Simple three piece construction
- Modular sleeve with circulating/ draining ports
- Fully tested protective shroud for safe shipping and handling

ADVANTAGES

- High-strength magnet array can carry and retain oddly shaped and heavy debris
- Held up to 680 kg (1500 lb) in shop testing
- Allows circulation below magnet face to remove or disturb debris prior to engaging ferrous material
- Captured debris is not disturbed by fluid draining from ports on modular sleeve
- Proper modular sleeve can be selected to provide appropriate capture space for the varying size and shape of debris
- Easily cleaned on rig for subsequent runs
- Can be safely shipped by air with no special packaging

The **MAGNO SHOE*** tool is the latest addition in the M-I SWACO line of magnetic specialized tools designed to simplify completions and enhance displacements.

Designed with the best magnet technology available, the MAGNO SHOE tool picks up large ferrous debris that has fallen to the bottom of the wellbore and cannot be circulated back into the annular path of a conventional drillstring magnet.

Applications

The MAGNO SHOE tool can be used in any situation where large metallic debris has fallen to the bottom (or low side) of the wellbore or on top of another element higher up in the well. Since larger debris can be difficult to mill and circulate back into the fluid stream, it must be retrieved mechanically. For drilling or a wellbore preparation activity such as displacement or dedicated cleanout, the MAGNO SHOE tool can be deployed quickly on the end of the workstring. The tool then gets directly on top of the item(s) that is to be captured and retains the target debris until it can be retrieved on surface. The tool is easily removed to proceed with the next operation.

Operations

The MAGNO SHOE tool leaves the shop and arrives at the rig in a protective shroud that shields the environment from the powerful magnetic field. The MAGNO SHOE has passed an independent compass deflection test in accordance with IATA Packing Instruction 953, making it fully compliant for shipping via passenger or cargo aircraft. This protective shroud and the designation for safe shipping facilitate safe transport to the rig. It also protects personnel from injury while handling the tool on the rig floor. The tool is connected on the end of the workstring with this shroud in place. The shroud is removed just before the tool is lowered through the rotary table.



Protective shroud over MAGNO SHO E for safe shipping and handling



Load test in shop showing MAGNO SHO E picking up and retaining 200kg (440 lb) crossover

The MAGNO SHO E tool can be used in conjunction with other wellbore preparation tools, including the MAGNO STAR* or the MAGNO SWEEP* II. As the tool is lowered, a unique fluid circulation ring incorporated in the modular sleeve helps disturb debris so the tool can locate directly on the top of the target. When the MAGNO SHO E tool contacts the targeted debris, the magnetic forces hold it on the magnet until it is physically removed on the surface. In shop tests, the magnet was able to retain up to 680 kg (1,500 lb) while suspended in air. While tripping out, the circulation ports facilitate draining the string so the fluid is directed away from the collected debris so it is not dislodged from the magnet on the way out of the hole.

The modular sleeve comes in a standard and elongated version to suit different size and shape targets. When the tool and its captured debris are brought out of the hole, the MAGNO SHO E tool can be quickly removed from the string and set aside to prepare for the next operation. The tool can be cleaned offline to be ready for another run or stored in its protective shroud and transported to another location.

Mi SWACO
A Schlumberger Company

This information is supplied solely for informational purposes and M-I SWACO makes no guarantees or warranties, either expressed or implied, with respect to the accuracy and use of this data. All product warranties and guarantees shall be governed by the Standard Terms of Sale. Nothing in this document is legal advice or is a substitute for competent legal advice.

P.O. Box 42842
Houston, Texas 77242-2842
www.miswaco.slb.com
Email: questions@miswaco.slb.com