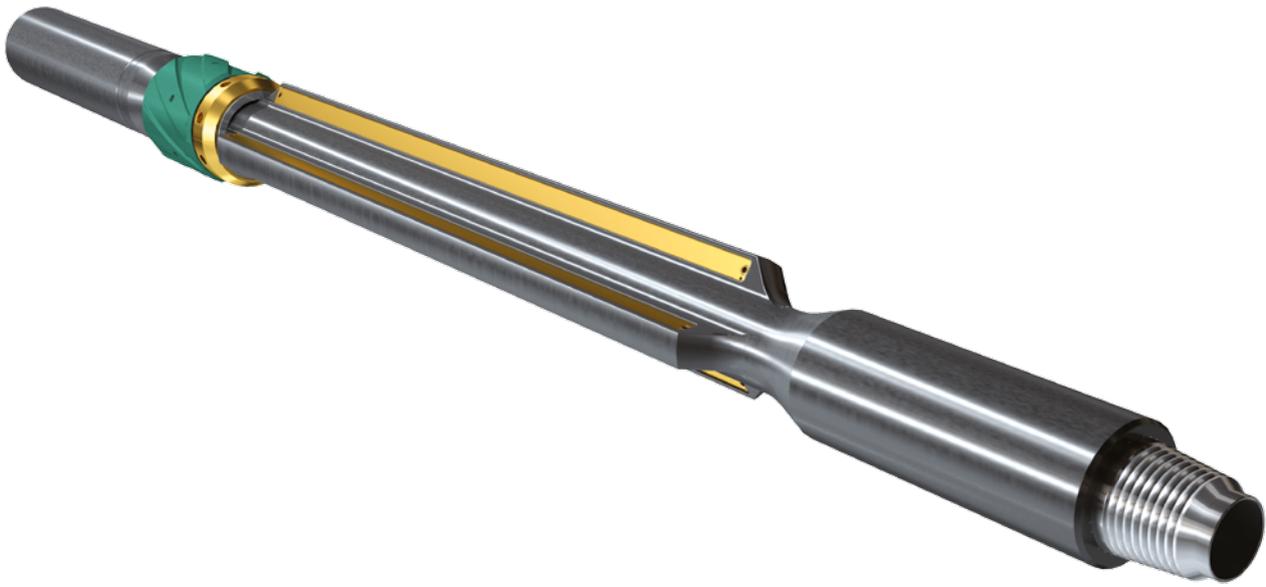


OWS Wellbore clean-up technology

MAGStar4™ HD Casing Magnet



The **MAGStar4™ HD Casing Magnet** is a robust, high strength, super capacity casing magnet with a free-rotating centralizer. It can be run individually or modularly as part of the OWS ArmRdillo™ Wellbore Clean-Up System. The MAGStar4™ HD Casing Magnet can be adapted to suit any casing size and drill pipe combination.

FEATURES

- 3 longitudinal ribs houses rows of high strength and temperature resistant Rare Earth magnets
- Excellent bypass area and carrying capability
- Debris is securely retained for retrieval at surface
- Single piece mandrel for superior strength in heavy duty and high torque applications
- Optional non-rotating Centralizer minimizes casing and tool wear
- Magnets are securely retained in integral slots with redundant back-up for maximum security
- Easily cleaned at surface to allow re-running in the hole
- No external bolts, clamps or fasteners that can come loose downhole

Patent number: US9121242B2



ODFJELL WELL SERVICES
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BENEFITS

Cost savings

- High Density magnet arrangement requires less tools and less runs to clean the wellbore during heavy milling operations

Increases Well Productivity

- A properly executed wellbore clean-up removes ferrous debris which can block screens or interfere with sensitive completions equipment

Integrity

- High strength mandrel with no internal connections for strength and reliability
- Available with any proprietary high torque connections eliminating the need for crossovers which reduce string integrity

Reducing Non-Productive Time

- A robust wellbore clean-up is proven to reduce nonproductive time during the completion of the well
- Reduces premature failure of completion equipment by debris which can interfere with valves, electronics and other hardware

APPLICATIONS

- Pre-completion wellbore clean-up operations to remove ferrous debris
- Drill out of completion equipment
- Post-milling operations
- Riser/BOP clean-up

OPERATIONAL

- The MAGStar4™ HD Casing Magnet can be run standalone or part of a wellbore or riser/BOP clean-up string
- The MAGStar4™ HD Casing Magnet is typically run above scrapers and/or filter debris recovery tools in a wellbore or riser/BOP clean-up
- Whilst running in hole the active magnets will attract and retain and ferrous material
- During displacement the drillstring can be rotated and reciprocated to improve hole cleaning efficiency without fear of damage to the casing, drillpipe or MAGStar4™ HD Casing Magnet

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