BaraMag[®] Ditch Magnets

REDUCE MANUAL HANDLING WITH BARAMAG ZIP-KLEAN DITCH MAGNETS

OVERVIEW

Rotating pipe while drilling wells, and tripping tubulars into and out of wellbores, generate measurable quantities of swarf (metallic shavings, filings, and particulates) in the fluid system, due to the metal-on-metal friction with these operations. Additionally, section and window milling to sidetrack wells, or for plug and abandonment (P&A) and decommissioning purposes, often generate large quantities of swarf.

CHALLENGE

Fine swarf particles are present in virtually all fluids that have been used in wellbores during drilling and completion activities. These fine particles can be circulated around the wellbore and surface system, and can contribute to the overall wear and tear of equipment in the circulating system. Expensive downhole drilling assemblies, measurement-while-drilling/logging-while-drilling (MWD/LWD) strings, packers, valves, and sensors can be susceptible to damage from this material, potentially leading to costly failures and non-productive time (NPT).

Milling operations generate large quantities of coarse swarf, requiring removal with dedicated equipment such as the BaraMag[®] swarf separation and recovery unit, but the finest swarf might still pass through and remain in the fluid system.

Traditional "bar" ditch magnets are large and heavy, and are often placed in a ferrous flowline which adds to the difficulty when removing to clean and measure the swarf collected. This also limits placement options, and their capability to remove swarf might change depending on the level of fluid in the flowline, as pump rates increase: fluid levels rise, and the risk of swarf bypassing the magnetic field increases.

SOLUTION

The Halliburton BaraMag Zip-Klean ditch magnets are designed for the particular application with frame size, magnet quantity and length selected to maximize fluid coverage. These magnets are installed in the flowline upstream or downstream of the shakers where 100 percent of fluid returns from the well will pass the magnets. A system typically comprises five to nine individual Zip-Klean magnets set on two to four mounting racks with individual magnets offset from those in the rows upstream or downstream. This distribution gives more complete coverage of the fluid flow in the horizontal plane. Additionally, the rod-like nature of the magnets in the vertical plane means that all flow rates have similar coverage, with swarf particles to magnet rod separation being well within the magnetic field at all times.

Each individual BaraMag Zip-Klean ditch magnet is lightweight and easily handled (even at height). As swarf builds up, each magnet is removed for cleaning. The strong rare-earth rod magnet is contained within a non-ferrous tube, so swarf does not come into contact with the magnet. With the Zip-Klean magnet held over a suitable container, the magnet is withdrawn from the non-ferrous, tube thereby removing the magnetic field, and the swarf simply falls into the collection container.



BENEFITS

- » Effectively removes swarf from fluid
- » Mitigates contamination of the circulating system
- » Enables operators to avoid manual handling of heavy magnets

FEATURES

- » Zip-Klean design is scalable and lightweight, allowing for simple inspection and cleaning
- » Variety of placement options
- » High-powered magnets
- » Stainless-steel, non-magnetic outer tubing is the only wet surface

APPLICATIONS

- » General particulate swarf removal for drilling and completion operations
- » Plug and abandonment
- » Platform decommissioning
- » Sidetracks
- » Offshore platforms, semisubmersibles, jackups, and drillships
- » Onshore drilling and workover rigs

Technical Specifications

BaraMag [®] Ditch Magnets	
Standard Dimensions, L x W x H	750 x 100 x 150 mm
Weight	2.5 kg
Construction	316 stainless steel
Magnet Strength	12,000 Gauss



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