LIBERTY LIFT

TOOLWORX SUITE

THE HELIX™

ESP/ROD PUMP SAND BYPASS:
The Most Effective and Strongest Tool on the Market

MAXIMIZED FLUID VELOCITY WITH PATENTED SAND DRAIN

The HELIX is designed to work with both ESP and Rod Pump lift systems. It utilizes a pecision-cut, dual-channel vortex to maximize fluid velocity and trap solids in the solids channel, directing it to the dedicated sand drain at the bottom of the vortex. The solids then drop through the sand drain, which ends directly above the entrance to the mud anchor. This patented technology is the only tool on the market that moves the sand discharge away from the pump suction.

DESIGNED TO ELIMINATE SAND CUTTING

The operator will notice The HELIX utilizes a stainless steel dip tube and is ceramic coated, creating greater wall thickness on both the inner and outer tubes. The purpose of this is to prevent sand erosion caused by higher fluid velocities. Our metallurgy, wall thickness and erosion mitigation makes ours the strongest tool available on the market.

TODAY'S WELLS ARE DYNAMIC. SHOULDN'T YOUR SAND SEPARATOR BE TOO?

The HELIX is deliberately engineered as a one-size-fits-all solution to sand separation. Our innovative design utilizes restricted clearance and downward fluid velocities to yield positive results regardless of production levels.

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US Patent No. 10605064B1

THE HELIX
HOW IT WORX

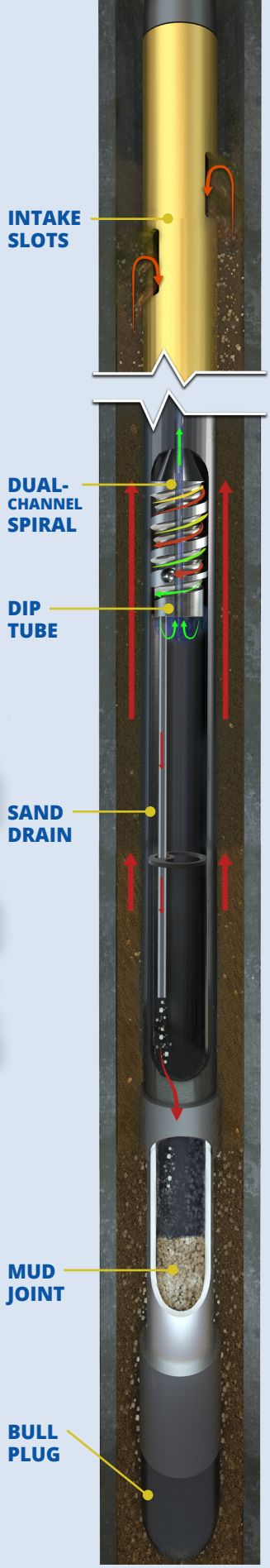
1. Fluid enters the intake slots located at the top of the tool. Once inside, fluid and solids are forced downward while velocity is increased.

2. Fluid then reaches the dual-channel spiral, which forces fluid and solids into a centrifugal motion, moving solids towards the ID of the tool barrel and into the lower solids channel while lighter fluid is retained in the higher channel.

3. All solids in the solids channel are drained into the mud joints via the solids drain.

4. Solids then settle in the mud joint and clean, solid-free fluid rises up the dip tube and straight to the pump.

5. The patented sand drain ensures protection of the pump from excessive wear and abrasion, extending run times and reducing maintenance costs.



- OIL & SAND
- SEPARATION
- CLEAN FLUID

PATENTED SAND DRAIN

Using state-of-the-art, patented drain technology, ours is the only tool on the market that moves sand discharge away from the pump suction.

COMPETITIVE ADVANTAGES

IMPROVED PERFORMANCE

- Aggressive downward pitch of spiral
- Dual channel spiral increases capture of fine sand particles
- Patented drain allows for discharge directly into mud anchor and away from pump suction
- ESP model boasts a custom ceramic coating to reduce tool wear and fluid friction effects
- Strongest tool available on the market with the greatest wall thickness, built for durability in harsh conditions

GREATER SUCTION/ DISCHARGE VELOCITY RATIO

Larger dip tube diameter reduces suction and increases downward velocity.

- Forces higher rotational velocity due to more spirals
- Precision Machine-Cut Spiral
- Effective on mesh sizes 20-100

RUNNING ORDER

- Pump Assembly
- Packer Assembly *(ESP application only)*
- The Helix Sand ByPass
- Mud Joints
- Bull Plug

APPLICATIONS

- 4.5", 5.5", 7" Casings
- Conventional & Unconventional Wellbores

LIBERTY LIFT SOLUTIONS

DOWNHOLE TOOLS

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