

TOP DRIVE

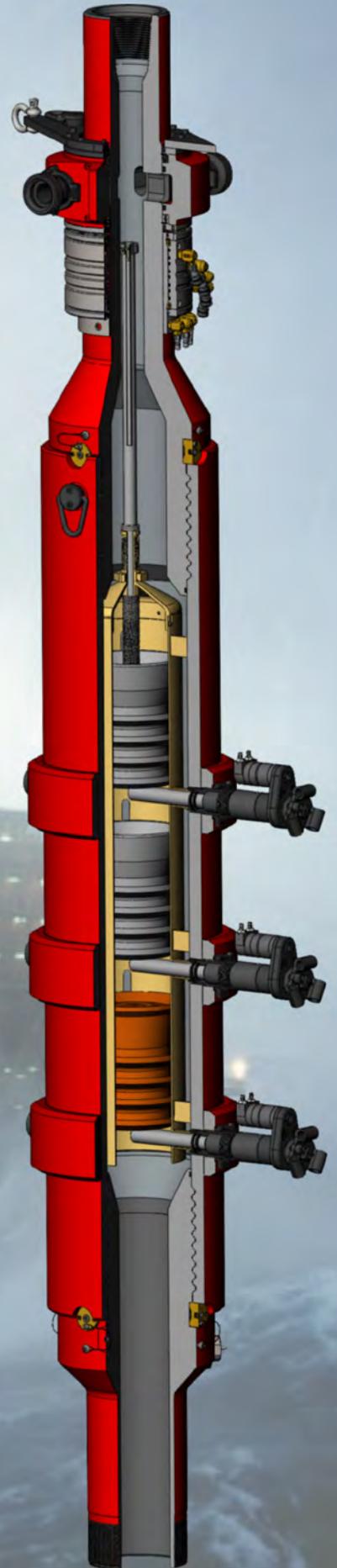
13 3/8 UNIVERSAL LIFTING CEMENT HEAD SYSTEM

with Remote Control

*Trust The Cement Heads
That Are Used
World-Wide*

**LIFT, ROTATE & CEMENT
SIMULTANEOUSLY**

 **HYBRID**
TECHNOLOGY



Top Drive Universal Lifting Cement Head System

The oil and gas industry welcomes bold technical innovation backed by sound research, development and attention to quality. Hybrid Technology backs the Top Drive Universal Lifting Cement Head System with more than 30 years of experience in the oil and gas industry.

This Hybrid Technology Universal Top Drive Lifting Cement Head was designed from its inception for use in a top drive system. While it is relatively light and compact, it has the highest lift/pressure rating in the industry. Its optional subs add considerable versatility.

The Top Drive Universal Lifting Cement Head allows the continuous and independent rotation, stroking (lifting) and high flow cementing simultaneously. Plugs can be loaded before the job and dropped by a manual or remote Pin Puller, without using a manifold. Slots in the Plug Cage allow the direct pressure on the bottom Plug from the flow passing the Cage to guarantee launch after the pin on the pin puller is retracted. The flow from circulation then cleans the head of cement.

Both hook load and combined hook/pressure capacities are increased by the one piece integral design. This no-weld construction contributes to the heads simplicity, compactness and lightness. The Sure Lock™ System has the ability to be customized by changing the cage and bottom sub only, minimizing inventory.

The cement head uses a flow around design that keeps the plugs out of the fluid path. Variable size Cages are available depending on which Launching Plug is being used. The head is designed so that ample annular area exists around the largest size Cage to allow fluid flow at a reasonable velocity.

A Mechanically operated Lever Tattle Tale Indicates the passage of Plug. It can be re-cocked without removal from the head. There is Flag Version and a Electronic Indicator version Available.

Loads are Carried through the Assembly by the Sure Lock™ connections that require no torquing and opens with only a 45° degree turn when the Puck Locks are removed from their lock positions.

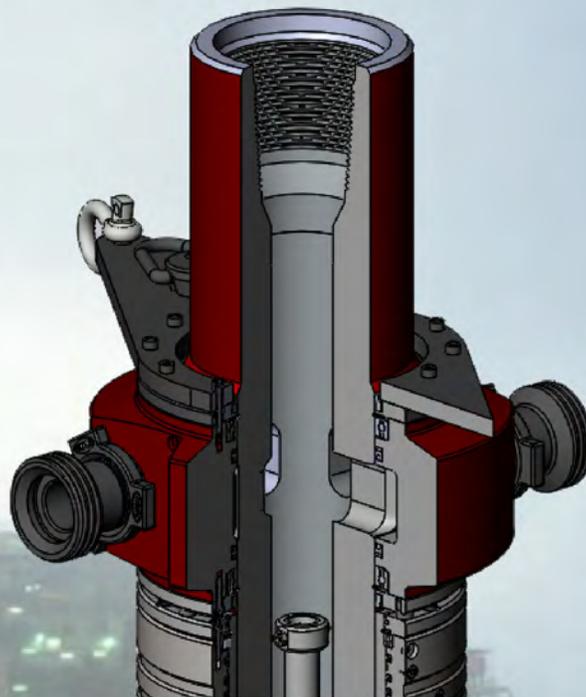
Plug cages are easily changed by removing the Pin Pullers and Bull Plugs that hold the Cage in place, then the cage will easily slide out of the body cavity. Plug Cages and Bottom Adapter can be easily changed on location to meet ever changing job requirements.

FEATURES

500 Metric Tons Lifting Capacity
Simultaneously Combined with
Working Pressure

Flexibility and Strength

One head is capable of handling the work of multiple cement head sizes



FLOW AREAS

Upper Sub

Sub Bore Size 4 1/4 in	14.19 sq in
Flow Slots (4 total)	15.35 sq in

Circulation Fittings

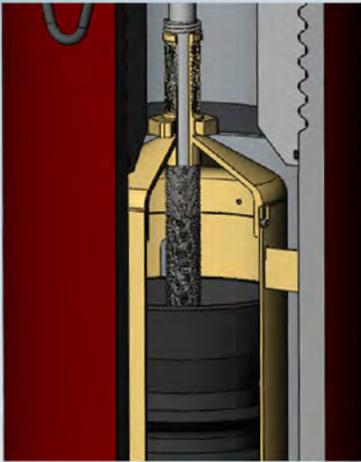
2 x 2 in 1502 (1.87 in ID)	5.49 sq in
----------------------------	------------

Body

14.43 in Body Bore Flow Area with Cage Installed	
7 in	119.36 sq in
9 5/8 in	83.04 sq in
10 3/4 in	64.14 sq in
13 3/4 in	12.34 sq in

Lower Sub flow areas based on casing thread

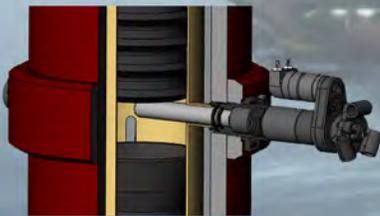
LIFT, ROTATE & CEMENT SIMULTANEOUSLY



All Plugs
are Designed to
Load from the Top with
No Torquing Required

“Proven”
Flow Around Plug Cages
are Inter-changeable
and size flexible from
6 5/8 in to 13 3/8 in

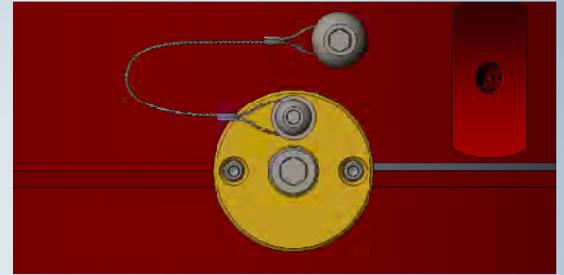
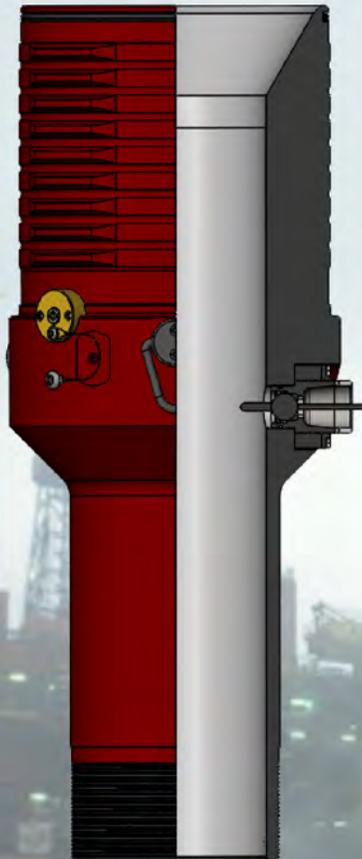
Flow Around Cage Design
Means No Plug Valve
Manifold is Required



Plugs are Dropped Remotely
By Hydraulic Pin Pullers
that can also be Operated
Manually

DNV Type Certification
Absolute Compliance with
UK, DNV, NPD and NMD

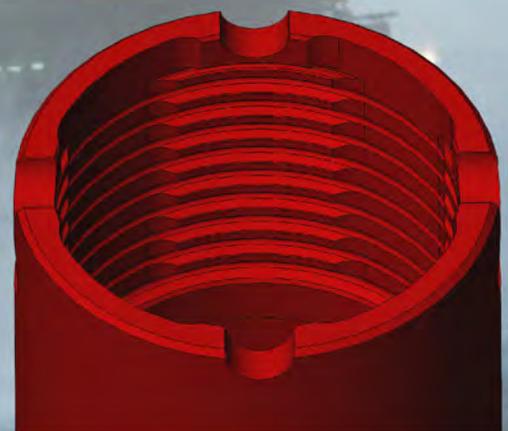
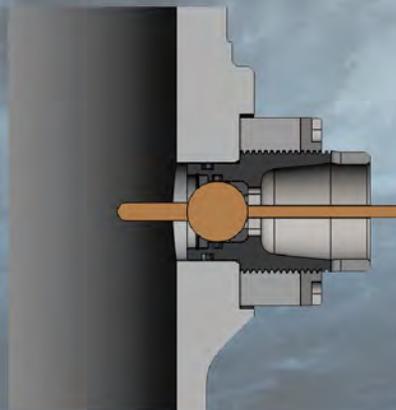
Bottom Casing Adapter
Engineered to meet all
Standard Casing sizes from
6 5/8 in to 13 3/8 in



The Puck Lock
Ensures that the Sure Lock™
system is in a secure and locked
position that can hold 70k ft-lbs
right & left hand rotation



Tattle Tale System
Has 3 Types Available:
• Mechanical Flag
• Mechanical Lever
• Electronic Lever Indicator



Loads are Carried through
the Universal Body Assembly
with Sure Lock™ Connections
No Torquing required as a
45° Turn Unlocks Connection

Flexibility Based On Reliability

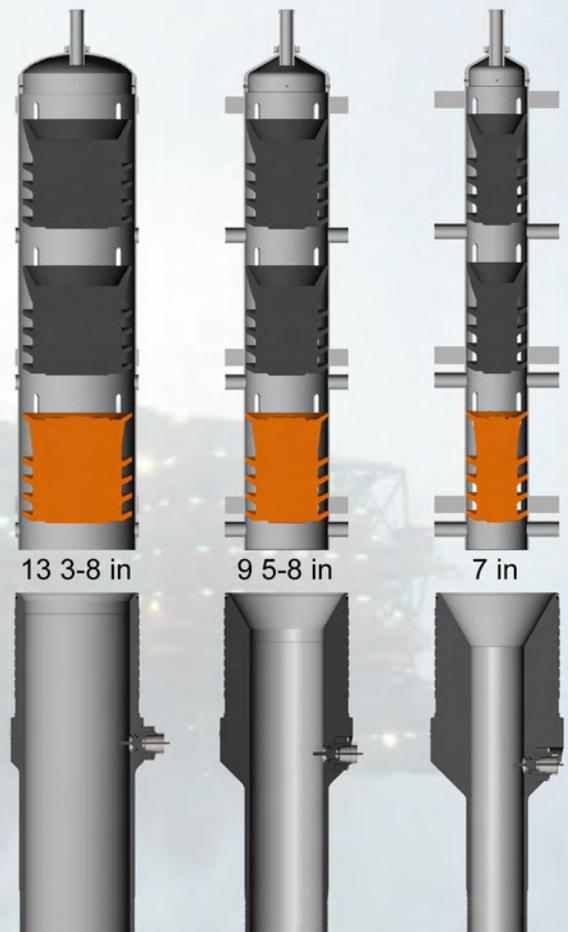
Plug Cage and Bottom Adapters can be Changed Easily to Meet any Job Requirement on Location

The flow around plug cage design has years of successful field tested experience on our Top Drive Cement Heads used by major oil field service companies worldwide.

13 3/8 in Specifications:

SPECIFICATION	SIZE
Casing Adapter Size	13 3/8 in
Recommended Crossover Size	13.375 -9.625
Max Hook Load Capacity	500 mT
Max Combined Hook & Pressure	500 mT @ 5,000 psi
Max Working Pressure	5,000 psi
Max Testing Pressure	7,500 psi
Max Swivel RPM	60 RPM
Min Operating Temperature	0° C
Max Torque Through Sure Lock™	70K RH 70K LH

Flow Around Plug Cage Assemblies



Available in Double & Triple Plug Configurations

Bottom Sub Casing Adapters

Engineered to Meet All Standard Casing Sizes

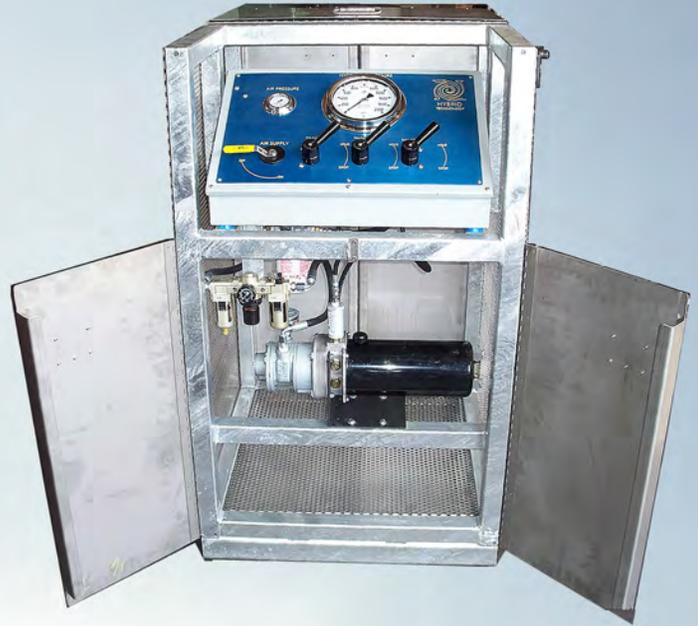
Remote Controlled Cement Head System

Hybrid Technology developed one of the First Remote Controlled Cement Heads in the industry. The systems simplistic design and ease of use keeps Hybrid Technology at the forefront of the industry.

The Control Frame is welded tubular steel that is Hot Dipped Galvanized inside and out, for optimal corrosion resistance. The Side Panels and Doors are made of Stainless Steel for a lifetime of service.

Control panels are engraved and colored for years of durability. The Valve systems can come with either sequential operating valves, Push Button Activated and T-handle Safety Valve controls.

The 80 psi pneumatically powered hydraulic motor puts out 1,800 psi of hydraulic power to the tools.



All connections are stainless steel construction with color coding for easy setup.

Hybrid Technology has released a new line of wireless control Systems. With wireless indication of Plug and dart passage. optional pressure, temp and plug passage feed back on an Atex Z1 Rated Tablet is Available on request.