LINER HANGER SYSTEM
Advance Technology

SET FLEX SERIES
LHM SERIES
FLEX GRIP SERIES
SET FLEX SERIES
ACCESSORIES
The Hydraulic Set Liner Hanger with Integrated Packer provide a method for suspending a liner off bottom and in tension by anchoring, or hanging, the top of the liner in existing casing.

**MODEL: CT-HCLHP-MS**

**FEATURES:**
- Rotation can be provided at the time of run in and during cementing.
- Hanger Slips are mechanically contained under tool OD and protected in the Cone.
- Anti-preset feature top and bottom of hanger avoiding premature setting.
- Bonded type of element provide high running in speed while minimizing the effect of swabbing.

**BENEFITS:**
- The bypass area remains same before and after hanger setting.
- Equipped with Bonded Seal with special expandable Compatible with highly deviated and horizontal wells.
- Can be used with Hydro-Frac job sustaining high pressure and temperature.

**SET FLEX™ HYDRAULIC SET LINER HANGER**

V0 validation grade

Working Temperature: 0-400 °F

Pressures Rating: up to 15000 PSI
**FLEX GRIP™ HYDRAULIC SET LINER HANGER**

The Hydraulic Set Liner Hanger with Integrated Packer provide a method for suspending a liner off bottom and in tension by anchoring, or hanging, the top of the liner in existing casing.

**MODEL: CT-FGLHP-MS**

**FEATURES:**
- Rotation can be provided at the time of run in and during cementing.
- Slips are mechanically contained under tool OD and protected in the Cone.
- Anti-preset feature top and bottom of hanger avoiding premature setting.
- Bonded type of element provide high running in speed while minimizing the effect of swabbing.

**BENEFITS:**
- The bypass area remains same before and after hanger setting
- Equipped with Bonded Seal with special expandable Compatible with highly deviated and horizontal wells.
- Can be used with Hydro-Frac job sustaining high pressure and temperature.

V0 validation grade
Working Temperature: 0-400 °F
Pressures Rating: up to 15000 PSI
SET FLEX™ MECHANICAL LINER HANGER

The Mechanical Liner Hanger With Integrated Packer CT-MCLH-MS provide a method for suspending a liner off bottom and in tension by anchoring and hanging.

**FEATURES:**
- Rotation can be provided after setting of Liner Hanger and during cementing.
- Slips are mechanically contained under tool OD and protected in the Cone.
- Anti-preset feature top and bottom of hanger avoiding premature setting.
- Bonded type of element provide high running in speed while minimizing the effect of swabbing.

**MODEL: CT-MCLH-MS**

**BENEFITS:**
- The bypass area remains same before and after hanger setting.
- Special provision of for drag spring which is guided under the key slot protected from both the sides while employing high running in speeds.
- Field proven application in ‘S’ profile wells and highly deviated well.
- Equipped with tapered roller bearing which provides high load capacity during rotation.
- Suitable For H₂S, HP/HT Hydro-Frac job.

**V0 validation grade**
**Working Temperature:** 0-400 °F
**Pressures Rating:** up to 15000 PSI
Hydraulic Release Running Tool connects to the “HR Setting Sleeve”, A Liner Top Packer with HRT profile and provides a means to carry a liner into a open hole, Set a liner hanger and release from the liner. High torque ratings of the HRT system allow aggressive rotation if required to work a liner to bottom.

**FEATURE AND BENEFIT:**
- Push, pull and rotate while running the liner downhole.
- Multiple torque fingers permit rotation of the liner during cementing.
- Push straight the setting tool automatically latch into setting sleeve “HR” profile.
- After actuating the hydraulic cylinder, the tool is retrieved by straight pickup.
- Glide Buttons prevent metal to metal contact while stabbing or retrieving the setting tool from the tie-back extension.
- Emergency mechanical release by 1/4 turn left.
- Release pressure and torque are adjustable to allow use in a wide variety of running conditions.

**MODEL:** CT-HRRT-E

- High torque fingers
- High Tensile Yield Strength collet
Biggest highlight of **CT-NCLHP** hanger is that it is control set, doesn’t prematurely set until ball is dropped in the running tool. This type of control set version was not available before now in the oil and gas well tools market. Provide high load capacity so can be run with long liner string below the hanger while using number of open-hole packers and ECP packers.

**ADVANTAGES:**

- **Enhanced Pressure Rating** - As it doesn’t include any cylinder part hence provides increased burst and collapse rating.
- **Anti-Preset Feature** - Present at both top and bottom of hanger avoiding premature setting of the liner hanger.
- **Barrel Slip Design** - Minimizes the casing damage by application of radial load transfer and provide increased hanging capacity.
- **Metal Expandable Bonded Seal** - Provide high running in speed while minimizing the effect of swabbing.
- Suitable in ‘S’ profile wells and highly deviated well
- **High circulated rate.**
CT-RBS eliminates the extreme impact of shearing out a ball seat at the bottom of the liner which could possibly breakdown sensitive formations.

**MODEL: CT-RBS**

**BENEFIT:**
- Minimizes risk of ball-seating failure in horizontal sections.
- Saves operation time in long liners because ball does not have to reach liner toe.
- Reduces risk of fracturing formation because of sharp rise in equivalent circulating density (ECDs) when conventional liner toe ball seats shear.

**FEATURE:**
- Full-bore clearance after ball seat shears.
- High-inclination wells.
- Design that ensures that the ball is dislodged as the ball seat shears.
- Design that ensures that the ball seat is completely tripped and retained in full-bore open position.
- Variable shear-pressure settings for liner systems consisting of numerous hydraulic actuating parts.
Retrievable Pack off Bushing provides a superior liner to work string seal that retrieves with removal of the liner running/setting tools, and eliminates any bushing drill-out.

MODEL: CT-RPB-1

ADVANTAGES:
- Positive locking dogs.
- HNBR internal & external seals.
- Pressure loading on support sleeve not cementing seal joint
- Easy field installation.
- Heavy-duty design and construction, ensuring a long, usable service life.

Lugs assembly provides positive engagement in 360°
A liner wiper plug is used as a mechanical barrier between the cement and the displacement fluid. It displaces the cement and also wipes the liner ID, removing any cement or debris that may be clinging to it.

**APPLICATIONS:**

- Particular size of Liner Wiper Plug covers a range of PPF providing operational flexibility.
- Anti-rotation mechanism prevent the liner wiper plug and drill pipe wiper plug from rotating during drill-out of the liner ID.
- The LWP is made of aluminum and elastomeric materials, making it PDC drillable.
- The design of the LWP is robust. The sturdy body can withstand high bump pressures when it latches in the landing collar.
DRILL PIPE WIPER PLUG

COMPLETION OIL TOOLS Drill Pipe Wiper Plug is used to wipe the inside of drill pipe and running tools behind the cement, providing a mechanical barrier between the cement and spacer fluid. The Drill Pipe Wiper Plug is launched from the cementing head and is displaced through the drill pipe and running tools by cement. When it reaches at the bottom of the running tool string, then the Drill Pipe Wiper Plug latches into the Liner Wiper Plug and provide seals and rotationally locked by a latch ring.

MODEL: CT-DPWP

ADVANTAGES

- PDC drillable materials (aluminum and NITRILE), allow trouble-free drill-out, helping to conserve rig time.
- Seal ring provides a positive bi-directional seal with the Drill Pipe Wiper Plug
- Fins and O-rings are made of Nitrile as standard material, which is suitable for most well conditions.

APPLICATION

- Wiping any drill pipe in conjunction with an drill pipe wiper plug.
- Wiping drill pipe before it is pulled out of the hole.
PLUG RELEASE TOOL

The running tool incorporates a safety device to ensure that the cement job is displaced through the liner, it eliminates chances of pre-release of the plug as this tool is equipped with hydraulic activated piston which is only activated when dart latches on to the latching profile.

HIGHLIGHTS:
- Eliminates chances of pre-release of the plug as this tool is equipped with hydraulic activated piston which is activated when dart latches on to the latching profile.
- Can be used in deep water floaters where it is not effected by static weight variation and rig floating effects.
- Provides provision of secondary release mechanism of plug by means of a rupture disk in case of emergency.

MODEL: CT-PRT

FEATURE AND BENEFIT:
- Subsea Application-Can be used with deep water floaters where it is not effected by static weight variation and rig floating effects.
- Slim Body Design & compatibility - To different sizes of liner wiper plugs.
- Secondary Release Mechanism- Provided by rupture disk provision.
- No Premature Release- As the tool utilizes a collet system in place of shear pins, which is more reliable under various loading effects.
HYDRAULIC RETRIEVABLE ANCHOR CATCHER

Hydraulic Anchor eliminates the need of large lengths of polished bore receptacle. One of the biggest highlights of the tool is that it doesn’t latch into the polished bore receptacle but bites the casing directly.

OPERATIONAL BENEFIT:
- High pressure application - can be used in hydro-fracturing job.
- Field adjustable annular release - provides freedom to the operator to alter the number of shear pins according to their requirement

MODEL: CT-HRAC-3

ADVANTAGES:
- No Tubing Movement - makes this model suitable for mono bore completion while using TRSV as control lines remains secured.
- Superior tensile rating - due to equivalent outer diameter to that of liner.
**MXP™ TIEBACK SEAL NIPPLE PACKER**

**COMPLETION OIL TOOLS** Tieback Seal Nipple Packer is Single Grip, Compression Set, Liner Top Isolation Packer that is most frequently run on drill pipe to repair a liner lap leak or for a monobore liner top completion, using a mechanical setting tool and a liner setting sleeve with PBR Extension.

**FEATURES AND BENEFITS:**

- **Bonded seal packing element** resist mechanical damage and swab off.
- **Conventional v-type chevron packing**

**MODEL:** CT-TSNP-MS

- **Working Temperature:** 0-400 °F
- **Pressures Rating:** up to 15,000 PSI
- **Available for all standard casing size and grades**

**FEATURES:**

- Full Bore single mandrel—Provides an unrestricted ID to the liner top once in place.
- Collet lock Nose feature prevents presetting while running in the hole.
- Positive set is held by internal body lock ring.
- Unique design eliminates tubing forces from being transferred into the Packer element.
- Hold down slips available to prevent floating of short liners.
- Allows higher circulating rates for better mud removal.
- Permits faster running speeds, greatly reducing tripping time.
Notes