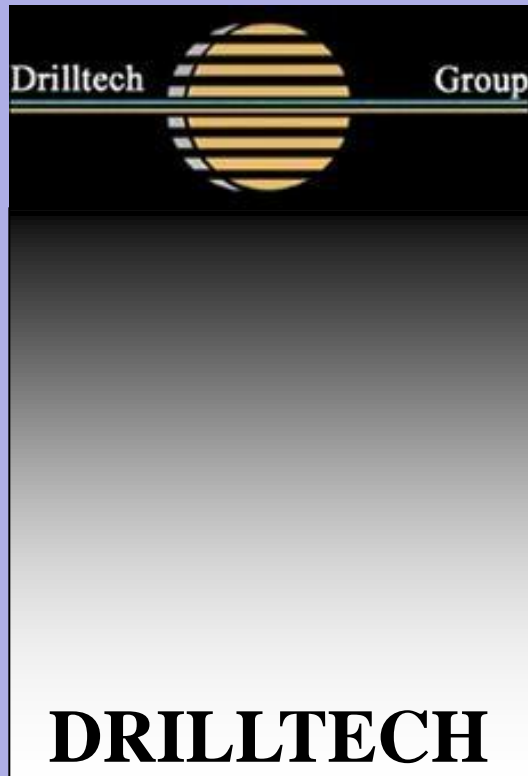


DRILLTECH GROUP



PRODUCT CATALOGUE





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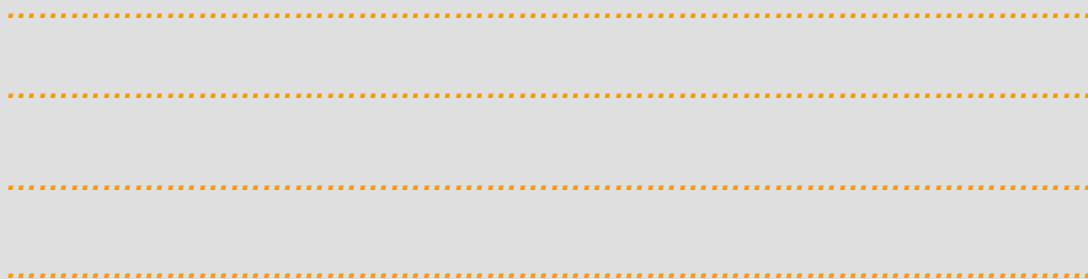
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Corporate Profile

WELCOME TO THE DRILLTECH GROUP

The Drilltech Group is a leading specialist drilling rental tool company whose primary focus is supporting complex drilling campaigns i.e. ERD, Deepwater, Horizontal, Multi-Lateral and HP/HT wells. We stock a large inventory of premium drill strings with high torque capabilities manufactured to the highest industry standards (NS-1).

Complementing our comprehensive tubular inventory are Drilltech's proprietary products. Our innovative technology, Spiro-Torq®, is the industry leading casing wear protection and torque reduction device with proven 100% fail-safe record in the market. In addition, other proprietary products include the M2000™ Mud Containment System, Vari-Catch™ and MPC (Multi Purpose Carrier).

We remain committed to our motto "Value Added Technology, Quality Driven" through all our divisions and are proud of our reputation as suppliers of quality equipment, innovative technology and delivering professional service working in partnership with our customers. Our aim is to work closely with our partners to provide the most effective solutions and help them reduce their operational costs.

We were one of the first rental tool companies to be awarded with the ISO 9002:1994 accreditation and have aligned our QA system to meet the latest ISO 9001:2000 standard. This demonstrates our ongoing commitment to the highest product and service quality standards, combined with Health, Safety and Environmental awareness.

Through our regional offices around the world, Drilltech's professional team is able to meet the needs and challenges of our customers in today's tough drilling environment.

TUBULAR SERVICES DIVISION : Drilltech carries a complete range of premium drill pipe manufactured to NS-1 and inspected to NS-2 (industry's highest standards) with high torque connections, and a full range of complementary accessories and handling equipment.

SPIRO-TORQ® : The only 100% Fail-Safe device in the market that provides casing wear protection, torque reduction, hole cleaning and prevents differential sticking. An innovative, simple to use device that delivers results without the need for costly service engineers.

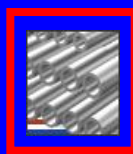
M-2000™ MUD BUCKET : Drilltech's latest generation in pneumatic mud containment technology offers enhanced safety on the rig, environmental protection and cost savings for the operator with 100% retention of drilling fluids.

MPC : The Multi-Purpose Carrier has been designed for the SAFE loading, unloading and transport of subs, X-overs, valves and handling equipment from the yard to the rig site.

VARI-CATCH™ : Circulating Spear and Overshot : Drilltech's mechanical / hydraulic actuation circulating fishing tool offers true latch / release reliability. Suitable for use on slickline or coil tubing operations.

www.drilltech.com





Tubulars

Manufactured to Shell Sqair and NS-1 specifications, and inspected to NS-2 criteria, Drilltech's tubulars are second to none in the industry. Deeper wells and Extended reach drilling are pushing the limits of more conventional drill pipe designs. Drilltech specialises in the more esoteric designs and diameters of drillpipe, including 4", 5-1/2", 5-7/8" and 6-5/8" strings. The demand for connections which can tolerate the higher torques associated with these more difficult drilling environments has allowed Drilltech to offer high torque designs such as NKK's DSTJ connection, the Hydril Wedge Thread and various Grant Prideco high torque connections.

A range of handling equipment, elevators, slips etc can also be furnished for each drillpipe package.

**In summary, Drilltech can provide the following equipment,
all certified to meet the highest OCTG standards :-**

Tubulars

Drillpipe

- Size range from 6-5/8" through 2-7/8"
- Connection types - High Torque and API
- Manufactured to **Shell Sqair/NS1** Specifications
- Inspected to **NS-2** criteria

Hevi-Wate Drillpipe

Drill Collars, Pony Collars

Tubing / Test Strings

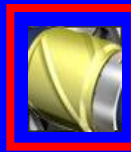
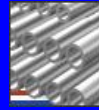
Full compliment of X-Overs, subs, pup joints etc.

Handling Equipment

Pneumatic and Manual Elevators, Slips, Safety Clamps, Tongs,
Stab-In/Out Guides, Lifting Subs / Nubbins, etc.

Drillstring Accessories

Kelly Valves, Safety Valves, Drop in Check Valves and Inside BOP's.



Non Rotating Sleeve Type (NRST) Spiro-Torq®



The NRST Spiro-Torq® is recommended for use in the cased hole and is generally used for the purpose of reducing torque, eliminating casing wear and protecting the drill pipe tool joint against wear. The one piece, very robust design of the sleeve allows for side loading in excess of 8,800 lbs whilst a minimum of 350 rotating hours is permitted before tools need to be laid down (to date a record 1000 rotating hours per sleeve has been achieved). The all metal construction also allows the tool to be run for short durations in the open hole until the bit change/trip out.

KEY FEATURES:

Non Rotating One Piece Sleeve.
Mud Lubricated .

Sleeve Material - Steel 4140 H.
Low Coefficient of Friction Chromium Alloy on sleeve and Mandrel Stress Area.

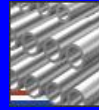
One Piece Mandrel - Steel 4145H.
No Rubbers, Elastomers or Bearings.
Failsafe Design.

MAJOR ADVANTAGES:

Eliminates Casing Wear.
Eliminates Rotary Friction.
Significantly Reduces Torque.
Significantly reduces Wall Contact.
Unaffected by Wellbore Fluids
Reduces Drillpipe tool joint wear.
HP/HT / Geothermal User Friendly.

Connection Type	6 5/8 FH	ST-58 Tenaris	XT-57 Grant	XT-55 Grant	5 1/2 ES-IS Mannesmann	5 1/2 FH NKK-DSTJ	5 1/2 FH	HT-55 Grant	XTM-50 Grant	XT-50 Grant	NC-50 4 1/2 IF	HT-40 Grant	XT-39 Grant	HT-38 Grant	3 1/2 IF NKK-DSTJ	NC-38 3 1/2 IF
Mandrel Diameter	8"	7"	7"	7"	7 1/2"	7"	7"	7"	6 1/2"	6 1/2"	6 1/2"	4 3/4"	5"	4 3/4"	5"	4 3/4"
Minimum I.D.	5"	4 1/4"	4 1/4"	4"	4"	3 1/2"	3 1/2"	3 1/2"	3 3/4"	3 3/4"	3 1/4"	2 1/2"	2 1/2"	2 1/4"	2 1/4"	2 1/4"
Fishing Neck Length	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"
Sleeve Nominal O.D.	10"	8 1/6"	8 1/6"	8 1/6"	8 1/2"	8 1/6"	8 1/6"	8 1/6"	8 1/6"	8 1/6"	8 1/6"	5 1/2"	5 3/4"	5 1/2"	5 3/4"	5 1/2"
Sleeve Length	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"
Shoulder to Shoulder	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"





Integral Type (IT) Spiro-Torq®



The IT Spiro-Torq® is recommended for use in the open hole and is generally used to assist with hole cleaning, eliminate differential sticking problems, reduce torque and protect the drill pipe tool joint against wear.

KEY FEATURES:

The Fluted Upset increases flow area of drill cuttings returns hence minimising the effect of E.C.D and maximising hole cleaning action.

The tool is unaffected by wellbore fluids.

The contact area is dressed with Chromium Alloy.

The specially grooved mandrel provides flexibility and minimises the risk of cuttings pack-off.

Fail safe design.

MAJOR ADVANTAGES:

Assists with Cuttings Agitation.

Reduces Differential Sticking.

Reduces Casing Wear.

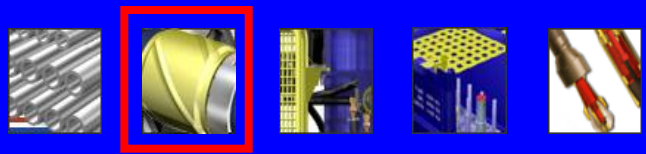
Reduces downhole torque and drill string harmonics.

Reduces drill string wear.

HP/HT / Geothermal User friendly.

Connection Type	6 5/8 FH	ST-58 Tenaris	XT-57 Grant	XT-55 Grant	5 1/2 ES-IS Mannesmann	5 1/2 FH NIKK-DSTJ	5 1/2 FH	HT-55 Grant	WT-56 Hydril	XTM-50 Grant	XT-50 Grant	NC-50 4 1/2 IF	HT-40 Grant	XT-39 Grant	HT-38 Grant	3 1/2 IF NIKK-DSTJ	NC-38 3 1/2 IF
Mandrel Diameter	8"	7"	7"	7"	7 1/2"	7"	7"	7"	7"	6 1/2"	6 1/2"	6 1/2"	4 3/4"	5"	4 3/4"	4 3/4"	4 3/4"
Minimum I.D.	5"	4 1/4"	4 1/4"	4"	4"	3 1/2"	3 1/2"	4"	4 1/2"	3 3/4"	3 3/4"	3 1/4"	2 1/4"	2 1/2"	2 1/4"	2 1/4"	2 1/4"
Fishing Neck Length	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"	20"
Upset Nominal O.D.	10"	8 1/8"	8 1/8"	8 1/8"	8 1/2"	8 1/8"	8 1/8"-10"	8 1/8"	8 1/8"	8 1/8"	8 1/8"	7 7/8"-8 1/8"	5 1/2"	5 1/2"	5 1/2"	5 1/2"	5 1/2"
Upset Crown Length	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"	8"
Upset Bevel Angle	18°	18°	18°	18°	18°	18°	18°	18°	18°	18°	18°	18°	18°	18°	18°	18°	18°
Shoulder to Shoulder	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"	42"





Case Histories Spiro-Torq®

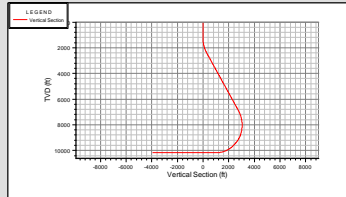
Non Rotating Sleeve Type Caribbean

The Well Profile in this case generated significant side forces which in turn directly contributed to a high surface torque prediction at TD.

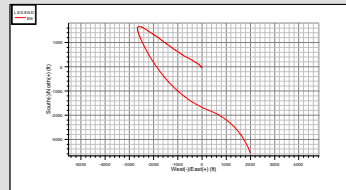
The complete section from the 9-5/8" Casing Shoe to TD was planned to be drilled in one bit run, using Rotary Steerable technology, a distance of over 5,000ft. Predicted Surface Torques of around 40,000ft lbs were close to the limits of both the Drillpipe and the Top Drive, hence the need to reduce the Torque using our Non Rotating Sleeve Type (NRST) Spiro-Torq®s.

Spiro-Torq®s were placed (at one tool per stand of drillpipe (93ft)) to cover the zones of high side forces, with additional tools placed above these zones to provide continuous coverage during the bit run.

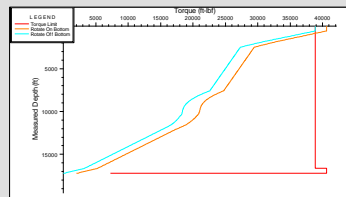
A distinct advantage of the NRST Spiro-Torq®s was their ability to withstand the open hole environment without harm. The long bit run necessitated movement of a portion of the tools into the open hole. Any other type of device would have required special trips to be made to displace tools away from the Casing shoe (with consequent enormous wastes of rig time and money). The use of a low coefficient of friction chromium alloy bearing surface also precluded any limitation to rotary speed of the drillpipe, essential to ensure efficient operation of the Rotary Steerable system. In total 141 NRST Spiro-Torq®s were deployed in the string, with Torque reduction of around 23% observed.



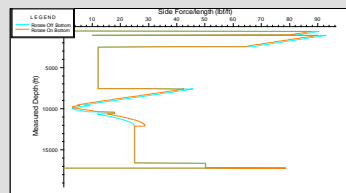
Vertical Section



Plan View



Torque Profile



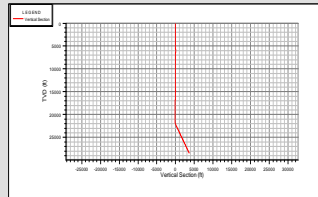
Side Forces

Non Rotating Sleeve Type Gulf of Mexico

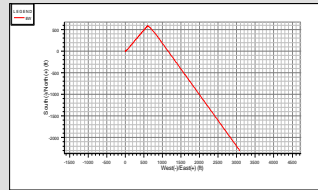
This side-tracked exploration well was drilled in the Gulf of Mexico to a target depth of 29,600 ft MD. Use of the Non Rotating Sleeve type Spiro-Torq® was warranted in this case due to a combination of factors, including slow penetration rates and high side forces increasing the risk of substantial Casing Wear and producing elevated surface torques. The NRST Spiro-Torq®s had several major advantages over any of the competitors tools. For instance, from the outset it was known that the Spiro-Torq®s would be required on the rig for several months. The Spiro-Torq®s are normally run by the rig crew themselves – there is no need for any Drilltech personnel to continually service the tools. A simple Straight Edge test is used to evaluate any wear on the Non Rotating Sleeve, and this can be performed by the rig crew. As there are no bolts or grub screws in the design, no one is required on the rig floor to tighten them if they loosen up. In short, valuable bed space was not required, logistics were simplified, and cost reduced.

The robustness of the tool, the sleeve being guaranteed for a minimum of 2.6 million revolutions of the string, ensured that no replacement tools were required prior to the sending of the tools back to town at the completion of the job.

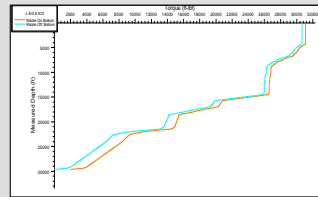
During tripping operations the Spiro-Torq®s were simply racked back in the stands ready for running back into the hole. No fuss, no hassle, no problem !



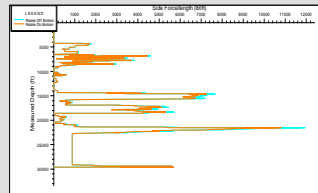
Vertical Section



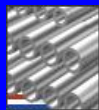
Plan View



Torque Profile



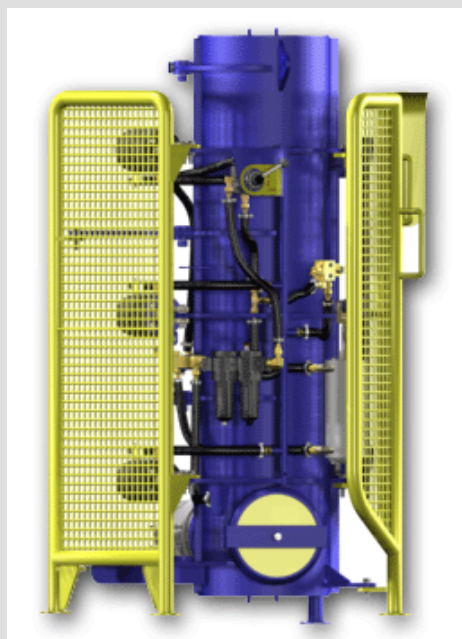
Side Forces



Mud Containment System *M-2000™*

Drilltech's latest generation in pneumatic mud containment technology offers enhanced safety on the rig, environmental protection and cost savings with 100% retention of drilling fluids.

KEY FEATURES:



The M-2000™ is compact and weighs less than 250Kg allowing easy maneuverability around the rig floor. Better retention of expensive drilling fluids results in significant cost savings. Pneumatically operated, this bucket offers a range of improved safety and operational features.. Guard cages provide superior protection for the rig crew at all times during operation. Quick release bolts allows change out of pipe seals in just a few minutes. Seals are available for pipe sizes ranging from 6 5/8" through to 2 3/8". Helps ensure a clean, mud free drill floor, minimizing risks of accident due to spillage.

SPECIFICATIONS:

M-2000

LENGTH : 1.60 m

WEIGHT : 248 Kg

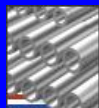
HANDLING BASKET

TARE WT : 650 Kg

SWL WT : 350 Kg

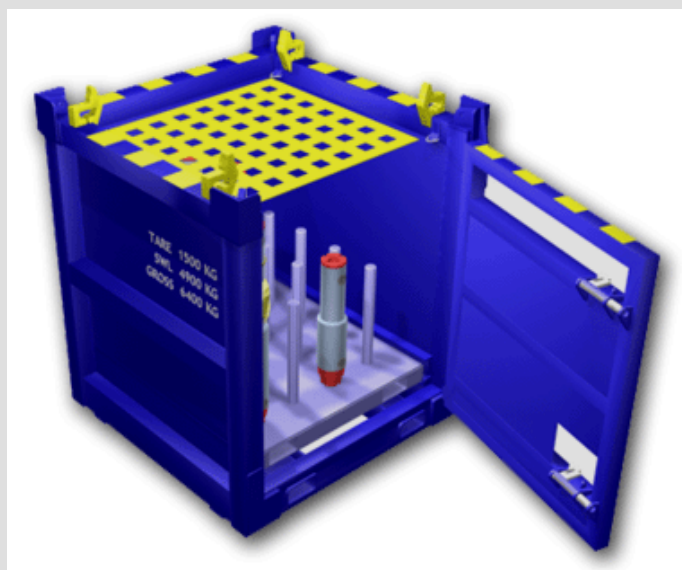
GROSS WT : 1000 Kg

DIMENSIONS : 1.96 m X 1.21 m X 1.35 m



Multi-Purpose Carrier *MPC*

The Multi-Purpose Carrier has been designed for the **SAFE** loading, unloading and transport of subs, crossovers, valves and handling equipment from the yard to the rig site.



SAFETY:

Ensures the safe loading and unloading of handling tools, subs, crossovers and valves.
Fully certified to DNV, Latest Edition.
All welded steel construction.

FLEXIBILITY:

Cassettes can be custom designed to handle a range of tools and accessories.

EQUIPMENT TRACKING:

Allows accurate tracking and location of equipment.

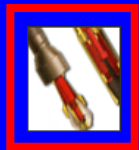
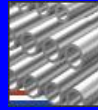
SPECIFICATIONS:

TARE WT : 1,500 Kgs

SWL WT : 4,900 Kgs

GROSS WT : 6,400 Kgs

DIMENSIONS : 1.58m X 1.57m X 1.84m



Circulating Fishing Tool *Vari-Catch™*



Spear Overshot

Tried and proven by the oil industry in the wire-line mode, this innovative tool incorporates all the proven features with the ability of fluid circulation. Designed and tested to 3,000 PSI, the tools are furnished with a 1/2" through bore and with top subs manufactured to customers specifications.

Utilized in conjunction with circulating jars and accelerators, the Drilltech Vari-Catch range of tools provides coil tubing units with true mechanical latch-release reliability.

Operator confidence is also ensured utilizing the coil tubing method for cleaning and fishing operations knowing that the tools are mechanically weight set and that release of the fish is possible at all times

Spear Grapple Range Selection Chart

Range	Grapple No.	Nose Cone No.	Stop No.
1.750" - 2.000"	3	2	2
2.000" - 2.250"	4	2	2
2.250" - 2.625"	5	3	3
2.625" - 3.000"	6	3	3
3.000" - 3.375"	7	4	4
3.375" - 3.750"	8	4	4
3.750" - 4.125"	9	5	5
4.125" - 4.500"	10	5	5

Overshot Grapple Range Selection Chart

Range	Grapple No.	Bowl No.	Adapter	Bowl Exten.
0.875" - 1.187"	1	1	/	/
1.000" - 1.375"	2	1	/	/
1.375" - 1.750"	3	2	/	X
1.750" - 2.125"	4	3	1	X
2.125" - 2.500"	5	4	2	X
2.400" - 2.750"	6	5	3	X
2.650" - 3.000"	7	5	3	X
2.900" - 3.250"	8	6	4	X
3.150" - 3.500"	9	6	4	X
3.400" - 3.750"	10	7	5	X
3.650" - 4.000"	11	7	5	X
3.900" - 4.250"	12	8	6	X
4.150" - 4.500"	13	8	6	X





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