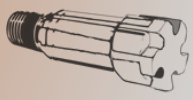
Thru Tubing Tools

Categories

Vibration and Energy



Motors and Cleaning

Separators and Flow Control

Coiled Tubing Conectors

Assemblies & Components

Surface & Control Systems

HERCULES
OIL & GAS

About Hercules O&G

Hercules O&G focuses on introducing new technologies to the coil tubing industry, specializing in the design of patented downhole tools along with the tubing. The company emphasizes *innovation*, *quality*, *service*, and *performance*. Hercules O&G's mission is to provide the global coil tubing industry with the highest level of technology available in the market.

Hercules O&G offers a complete line of proprietary tools, manufactured according to oil and gas specifications. These tools are available to all oil companies, coil tubing operators, and well service companies for use in through-tubing fishing, through-tubing well stimulation, maintenance work, and lateral drilling with coil tubing.

Hercules O&G offers tools both for rent and for sale. Maintenance services for these tools are performed at our workshops located in Houston, Texas; Villahermosa, Mexico; Khobar, Middle East; and Ojeda, Estado Zulia, Venezuela.

Vibration & Energy

Advanced downhole solutions engineered to minimize drag, prevent lock-up, and maximize efficiency in extended reach and thru-tubing operations.
These tools deliver controlled vibration, enhanced energy transfer, and powerful impact forces to improve drilling, fishing, and clean-out performance in the most challenging well conditions.

- **H X-ERT**
- **SHOCK SUB**
- **ACCELERATOR**
- **MAGNI HIT JAR**
- **HP ROTATIONAL HAMMER**

Motors & Cleaning

High-performance motor and cleaning technologies designed to deliver reliable rotation, efficient fluid dynamics, and effective debris removal during coil tubing operations. With metal-to-metal sealing and innovative hydraulic systems, these tools ensure durability, reduce maintenance costs, and optimize borehole cleaning under diverse well conditions.

- **H JETT-MOTOR**
- **HP TYPHOON**
- **JETTING WASH NOZZLES**

Separators & Flow Control

Engineered to ensure stability, reliability, and optimal flow management in coiled tubing operations. These tools provide effective gas separation, circulation control, and angular flexibility while maintaining torque integrity and full pressure sealing, enabling safer and more efficient performance in complex well environments.

- **H – GAS SEPARATOR**
- **INTEGRATED CENTRALIZER**
- **TORQUE-THRU KNUCKLE JOINT**

Coiled Tubing Connectors

A complete range of robust and high-integrity connection systems designed to secure tool strings to coiled tubing under demanding operating conditions. With options for slip, dimple, and combined ID/OD engagement, these connectors ensure pressure integrity, non-rotational stability, and maximum flow capacity while maintaining ease of installation and field reliability.

- **EXTERNAL SLIP CONNECTTOR**
- **EXTERNAL DIMPLE CONNECTOR**
- **INTERNAL / EXTERNAL SLIM LINE CONNECTOR (IES)**
- **INTERNAL DIMPLE CONNECTOR**
- **TEST SUB**

Assemblies & Complements

Integrated assemblies and complementary tools developed to enhance functionality, safety, and reliability in coiled tubing and thru-tubing operations. These solutions combine essential components such as check valves, disconnects, circulation subs, and weight systems, ensuring operational flexibility, extended service life, and efficient fishing performance.

- **MOTOR HEAD ASSEMBLY (MHA)**
- **HD HYDRAULIC DISCONNECT**
- **WEIGHT BARS**
- **HYDRAULIC GS PULLING TOOL**

H OS PULSE GENERATOR – OPERATION DELTA STRIKE (ODS)

Power. Precision. Control.

The HP OS Pulse Generator – Operation Delta Strike (ODS) is Hercules Oil & Gas' advanced surface pulse and jarring system for coiled tubing and workover operations.
Designed to transform surface energy into downhole efficiency, ODS introduces a new level of responsiveness, control, and adaptability.

Three Smart Functions. One Intelligent System.

1. Variable Frequency Control
ODS allows operators to adjust pulse frequency in real time, adapting to the well's dynamic friction and formation conditions.
This ensures optimal energy transfer without pressure spikes or mechanical stress.

2. Automatic Bypass Functionality
When pulsing is not required, the automatic bypass system opens to maintain smooth fluid flow.
reducing energy loss, preventing overheating, and extending component life.

3. High-Pressure Jarring Mode
When downhole resistance is detected, ODS automatically triggers a high-pressure jarring pulse, delivering instant hydraulic impact from surface, *no* additional downhole jars required.

Compact, *durable*, and *easy to integrate*, ODS streamlines every operation, helping crews reach Total Depth faster, safer, and with less complexity.

Pioneering the future of surface pulse systems.
Hercules Oil & Gas LLC

H X-ERT

Harness Hertz frequency for maximum reach and impact

The **H X-ERT** is the direct evolution of the proven Delta Pulse, developed through extensive Research & Development. Using advanced metallurgy and a proprietary poppet valve cycling at four times per second, the X-ERT generates Hertz frequency vibrations that disrupt fluid flow, creating a powerful water-hammer effect.

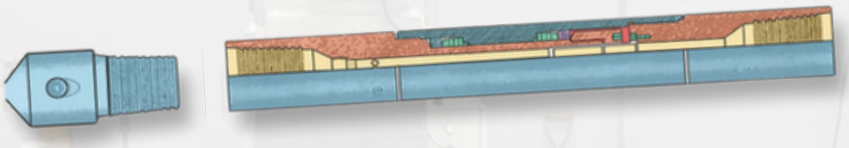
A unique eccentric vortex at the lower end produces back pressure to reset the internal valve system and introduces a secondary Hertz frequency, amplifying tool performance. In today's extended laterals, the HRC X-ERT minimizes friction, drag, and lock-up, while enhancing pulling efficiency for drill-out and fishing operations by directing fluid energy precisely to the BHA.

O.D SIZE	STANDARD CONNECTION	CONNECTION DIRECTION	LENGTH (in.)	WEIGHT (lbs)	FLOW RATE (gpm)	OPERATION PRESSURE DROP	TEMPERATURE (°F)	TORSIONAL	TENSILE YIELD
Ø2.875	2 3/8 PAC	BOX UP PIN DOWN	38	50 LBS	120-235	1100-1600 PSI	500°F	16,000 LBS	200,000 LBS
Ø3.125	2 3/8 REG	BOX UP PIN DOWN	38	60 LBS	120-235	1100-1600 PSI	500°F	28,000 LBS	300,000 LBS

2.875 / 3.125			
HERTZ	PRESURE DROP	GPM / LITER	IMPACT FORCE at BHA
3.2	300 PSI	120GPM/ 454L	60 Gallons x 28 = 1680 ft/ lbs.
4.1	325 PSI	140GPM/ 530L	120 Gallons x 28= 3360 ft/lbs.
4.8	375 PSI	160GPM/ 605L	130 Gallons x 32 = 3840 ft/lbs.
5.6	400 PSI	180GPM/ 681L	180 Gallons x 32 = 5760 ft/lbs.
6.4	500 PSI	200GPM/ 757L	190 Gallons x 35 = 6300 ft/lbs.
7.7	600 PSI	235GPM/ 889L	235 Gallons x 35 = 8225 ft/lbs.

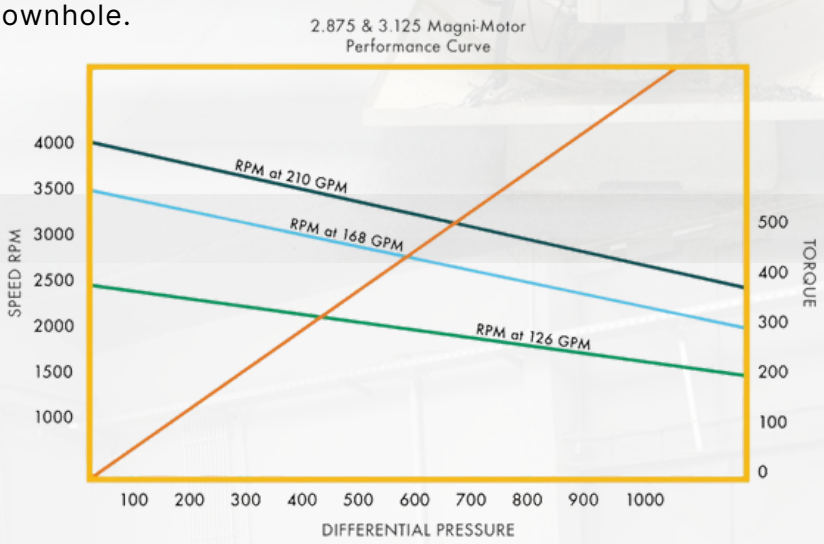
H – JETT MOTOR

High RPM, Zero Rubber, Maximum Performance



Engineered for the toughest coiled tubing and workover challenges, the **H Jett-Motor** eliminates rubber components with a reliable metal-to-metal sealing design. Capable of running with fluids, nitrogen, acids, or mixed media, it delivers consistent performance in clean-outs, formation drilling, cement plug milling, and high-temperature wells.

With minimal redress costs and compatibility with both conventional mills and Hercules' Patent Pending Nozzle Head, the HP Jett-Motor ensures **longer life**, **lower costs**, and **superior efficiency** downhole.



O.D SIZE	LENGHT	WEIGHT	FLOW RATE (gpm)	TEMPERATURE	RPM	TORQUE	TENSILE YIELD	TORSIONAL YIELD	MAX OVERPULL	OPERATING PRESSURE	UPPER CONNECTION	LOWER CONNECTION
1.69	1'1"	8lbs	21-63	500°F	2500	200	42,500 ft/lbs	6,000	22,000	450	1" MT	1" MT
2.125	1'2"	15lbs.	21-84	500°F	3000	350	65,000 ft/lbs	12,000	27,000	700	1-1/2" MT	1-1/2" MT
2.875	2'0"	20lbs.	30-252	500°F	4500	400	70,000 ft/lbs	17,000	42,000	1,100	2-3/8" PAC	2-3/8" PAC
3.125	2'0"	30lbs.	30-273	500°F	4500	400	100,000 ft/lbs	25,000	60,000	1,100	2-3/8" REG	2-3/8" REG

Note: Unless otherwise indicated, all strength figures given in this manual are the calculations based on the yield strength of the materials used in the manufacture of this product. These strength calculations are considered accurate within plus or minus 20% and are to be used only as a guide. They do not constitute a guarantee, actual or implied. In use appropriate allowance should be made as a safety factor

SHOCK – SUB

Maximum Energy, Faster Drill-Outs

Boost your HP X-ERT performance with the HP Shock Sub. By transferring reactive energy from overpull or set-down directly into the motor and bit, it shortens plug drill-out times and enhances overall efficiency. Its compact design keeps your coiled tubing BHA short and agile, ensuring maximum reach and power exactly where you need it – at the bit.

KEY BENEFITS

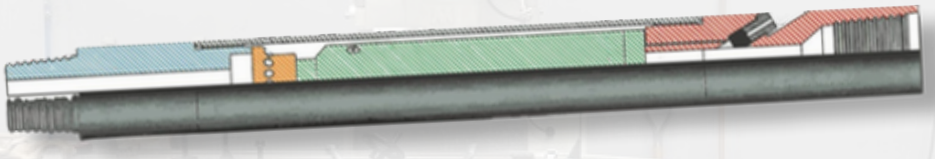
- *Faster plug drill-outs*
- *Concentrated energy at motor & bit*
- *Compact, short-string design*
- *High load and temperature resistance*

O.D SIZE	STANDARD CONNECTION	CONNECTION DIRECTION	LENGTH (in.)	I.D	OPER. OVERPULL	OPER. SET DOWN	STROKE OPEN (in)	STROKE CLOSE (in.)	TEMPERATURE
Ø 2.875	2 3/8 PAC	BOX UP PIN DOWN	42.5	1.03	45K	25K	3.5"	3.5"	500°F
Ø 3.125	2 3/8 REG	BOX UP PIN DOWN	42.5	1.03	70K	35K	3.5"	3.5"	500°F

Note: Unless otherwise indicated, all strength figures given in this manual are the calculations based on the yield strength of the materials used in the manufacture of this product. These strength calculations are considered accurate within plus or minus 20% and are to be used only as a guide. They do not constitute a guarantee, actual or implied. In use appropriate allowance should be made as a safety factor

H – GAS SEPARATOR

Keep Your Motor Running at Peak Performance



Maximize the life and efficiency of your PDM motors with the HP Cyclone Gas Separator. Its advanced hydrocyclone design efficiently removes gas before it reaches the motor, preventing overspeed, stator damage, and costly downtime. Compatible with all fluids, including sour gas, the Cyclone enhances cuttings transport and allows for multiday operations without tripping. Built tough, proven in the field, and fully hydraulic — it's the separator you can trust for reliability and performance.

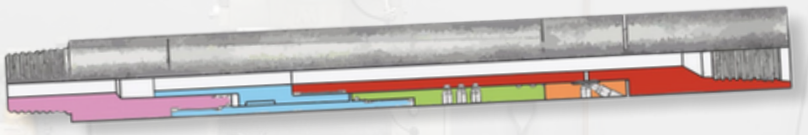
DESIGN ADVANTAGES & BENEFITS

- *Reduces motor overspeed*
- *Eliminating gas to stator damage*
- *Compatible with all fluids • Assist in lifting cuttings*
- *Sour gas compatible*
- *Multiday jobs without tripping*
- *Robust proven core/dog design*
- *Full hydraulic operation*
- *Multiple latch and release capability*

TOOL DIAMETER	1,689	2,875	3,125
LENGTH	20"	32"	32"
MAX FLOW COMMINGLED	2.5 BPM / 105 GPM	5.5 BPM / 231 GPM	6.0 BPM / 252 GPM
MAX PSI DROP	< 100 PSI	< 175 PSI	< 200 PSI
MAX TEMPATURE	500 °F	500 °F	500 °F
MAX TENSILE YIELD	50,000	175,000	200,000

H – TYPHOON

Intelligent Vortex Cleaning Tool



Maximize motor performance and wellbore cleaning in demanding plug drill-outs.
The Typhonn's patented vortex sleeve technology prevents PDM stator failures from over-pumping, while delivering constant flow and high-rate cleaning power. No balls required, no downtime—just reliable performance, extended tool life, and efficient cleanouts.

BENEFITS:

- Eliminates over pumping of the PDM Stator
- Allows optimal performance of the Motor
- Reduces Tool Washout
- No ball required to activate typhoon
- The Fluid Dynamics of the nozzles create a vortex cleaning action
- In the occurrence of motor pressure increase will be observed at surface

O.D SIZE	LENGTH INCHES	WEIGHT	FLOW RATE GPM	TEMPERATURE °F	TENSILE YIELD	TORSIONAL YIELD	MAX OVERPULL
Ø2.875	24	20 LBS	30-210 GPM	500°	100,000 LBS	17,000 FT.LBS	90,000 LBS
Ø3.125	26	30 LBS	30-252 GPM	500°	200,000 LBS	22,000 FT.LBS	95,000 LBS

H – MAGNI – HIT JAR

Maximum Impact with Fewer Cycles

Engineered to free stuck strings faster and safer, the H – Magni Hit Jar combines precision timing, minimal drag, and optimized acceleration to unleash maximum impact at detent release. When paired with the HP Accelerator, its performance multiplies, reducing fatigue on your CT equipment while enhancing downhole reliability.

KEY BENEFITS

- *Wide operational weight range (overpull and set down).*
- *Reduced CT fatigue with fewer jar cycles.*
- *Maximized hammer and anvil energy transfer.*
- *Compact, reliable, and proven in demanding fishing operations.*

Technical Specifications

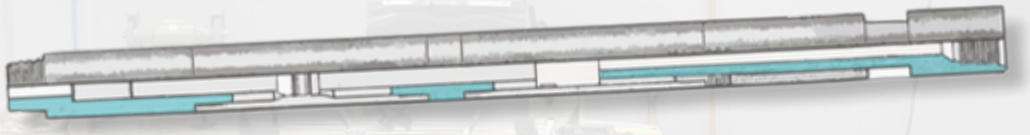
O.D SIZE	STANDARD CONNECTION	CONNECTION DIRECTION	LENGTH INCHES	I.D	OPER. OVERPULL	OPER. SET DOWN	STROKE OPEN INCHES	STROKE CLOSE INCHES	TEMPERATURE
Ø 1.6 8	1 MT	BOX UP PIN DOWN	57.5	0.562	8K	8K	3.5"	3.5"	500°F
Ø 2.1 2	1 1/2 MT	BOX UP PIN DOWN	57.5	0.625	26K	16K	3.5"	3.5"	500°F
Ø 2.8 7	2 3/8 PAC	BOX UP PIN DOWN	57.5	1.03	45K	25K	3.5"	3.5"	500°F
Ø 3.1 2	2 3/8 REG	BOX UP PIN DOWN	57.5	1.03	70K	35K	3.5"	3.5"	500°F

Operational Specifications

O.D SIZE	RECOMMENDED MAXIMUM OVER PULL WEIGHT (lbs)	MAXIMUM SET DOWN WEIGHT (lbs)	TORSIONAL YIELD	TENSILE YIELD
Ø1.689	28,000	28,000	1,500 ft. lbs	56,000
Ø2.125	46,000	36,000	5,500 ft. lbs	76,000
Ø 2.8 7	70,000	50,000	8,000 ft. lbs	100,000
Ø 3.1 2	95,000	60,000	14,000 ft. lbs	200,000

ACCELARATOR

Amplify Every Strike

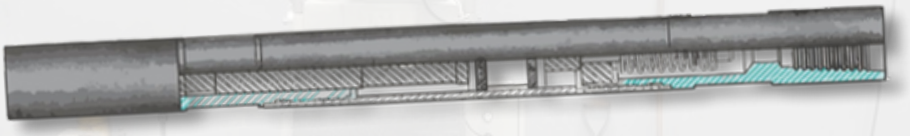


Deliver up to 4x more impact energy with a compact, high-performance tool designed to maximize jar efficiency. With a large I.D. for drop ball passage and flexible positioning in the string, the HP – Accelerator ensures shorter drill-outs, faster fishing operations, and ultimate reliability in coiled tubing environments up to 500°F.

O.D SIZE	STANDARD CONNECTION	CONNECTION DIRECTION	LENGTH INCHES	I.D	OPER. OVERPULL	OPER. SET DOWN	STROKE OPEN INCHES	STROKE CLOSE INCHES	TEMPERATURE
Ø 1.688	1 MT	BOX UP PIN DOWN	57	0.56	28K	28K	3.5"	3.5"	500°F
Ø 2.125	1 1/2 MT	BOX UP PIN DOWN	57	0.65	36K	36K	3.5"	3.5"	500°F
Ø 2.875	2 3/8 PAC	BOX UP PIN DOWN	60.5	1.03	45K	25K	3.5"	3.5"	500°F
Ø 3.125	2 3/8 REG	BOX UP PIN DOWN	60.5	1.03	70K	35K	3.5"	3.5"	500°F

HP – HAMMER

High-Frequency Power, Maximum Performance



Unleash high-frequency downhole impacts with Hercules Petro's HP–Hammer™.
Designed for coiled tubing workover, this rotating hammer delivers unmatched torque and energy to:

- Break through scale, paraffin, tar, and sludge.
- Drill barium, sand, and cement bridge plugs with ease.
- Push debris downhole with blind-box configurations.

Built to endure, engineered to perform.

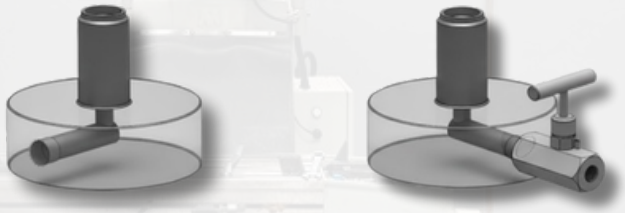
Compact, powerful, and compatible with multiple fluids – the HP–Hammer™ maximizes efficiency in the toughest wellbore conditions.

O.D SIZE	STANDARD CONNECTION	CONNECTION DIRECTION	LENGTH FT	FLOW GPM	SPEED RPM	OPER. DP PSI	CYCLES PER MIN	TEMPERATURE
Ø1.375	1/2 MT	BOX UP PIN DOWN	22"	20.0	75	500	1500	500°F
Ø1.689	1 MT	BOX UP PIN DOWN	22"	35	100	500	1500	500°F
Ø1.750	1 MT	BOX UP PIN DOWN	22"	35	100	500	2000	500°F
Ø2.125	1 1/2 MT	BOX UP PIN DOWN	25"	60	125	500	2000	500°F

TOOL DIAMETER	BIT RANGE	TENSILE YIELD	TORSIONAL YIELD	OPERATING PRESS	OPERATING WEIGHT	FLUID GPM
1,689	1.75 – 2.0"	25K	8K	500 PSI	200 LBS	27 GPM
1,750	1.87 – 2.25"	30K	12K	500 PSI	250 LBS	38 GPM
2,125	2.18 – 3.00"	40K	18K	500 PSI	250 LBS	60 GPM

TEST SUB

Coil connector pull / Tension plates



The HP Coil Connector Pull Test Sub is used immediately following the installation of the connector onto the coiled tubing.

It serves as a standard test component designed to verify the tensile strength and pull capability of the coil connector before running the complete tool string.

The tool incorporates a large-diameter integrated base plate engineered to prevent the assembly from being pulled through the Stuffing Box Union, allowing a controlled straight pull test to be performed on the connector.

An optional lower box thread can be provided to accommodate the installation of a needle valve for pressure testing when required.

DESIGN ADVANTAGES & BENEFITS

- *Robust, field-ready design for straight pull testing.*
- *Prevents unwanted tool passage through the stuffing box.*
- *Multiple connection options and fluid bypass capability.*
- *Optional threaded port for pressure testing.*

Ensure your coiled tubing connector strength from 1.00" to 2-7/8" before running the full string.

Test Sub Minor O.D.	I.D.	Base Diameter	Test Pull Range	Connection(s)
1.500"	.500"	5.50"	7,500 lbs	¾" AMMT or CS
1.688"	.625"	5.50"	10,000 lbs	1.00" MT or CS
2.250"	.875"	6.00"	12,000-18,000 lbs	1.25 CS or 1.50 MT
2.950"	1.00"	8.00"	25,000 lbs	2-3/8" PAC
3.125"	1.00"	9.00"	30,000-40,000 lbs	2-3/8" Reg, 2-7/8" PAC

Note: Test pull ranges are to be used only as a guide. End user to determine actual requirements based on coil unit, coil diameter, operator preference, specific tool string and well conditions.

EXTERNAL SLIP COIL CONNECTOR ASSEMBLY

Maximum Strength for Demanding CT Operations

Built to outperform coil tubing limitations, the Hercules External Slip Connector delivers 10,000 PSI integrity, unmatched tensile and torsional strength, and non-rotational stability. Designed with replaceable slips and dual O-ring seals, it ensures maximum reliability and flow capacity in the harshest downhole environments. Tested. Proven. Ready.

DESIGN ADVANTAGES & BENEFITS

- *Dual O'Ring Seals*
- *10,000 PSI Rating*
- *Non-Rotational*
- *Maximum Flow Rates*
- *Replaceable Slips*

Technical Specifications

Coiled Tubing Diameter	Max O.D.	Min I.D.	Thread Connection (*)	Max Over-Pull @ 80% (lbs)	Make-up Length	Max Torsional Yield (ft-lbs)	O'Ring Size	Coil Minimum Dia. for Seal
1.00"	1.688"	.750"	1.0" CS	40,000	8.875"	1,710	-214	.990"
1.25"	1.688"	.750"	1.0" CS/MT	38,000	8.17"	1,400	-218	1.240"
	1.850"	1.00"	1.25" CS	38,000	9.375"	2,630	-218	1.240"
1.50"	1.935"-SL	.750"(1.00")	1.0" CS/MT(1.25" CS)	37,000	9.375"	1,400	-222	1.490"
	2.125"	1.00"	1.50" MT/1.25" CS	50,000	9.000"	2,100	-222	1.490"
	2.188"	1.00"	1.25" CS	50,000	9.750"	3,275	-222	1.490"
1.75"	2.188"-SL	1.00"	1.25" CS	43,000	9.375"	2,525	-224	1.740"
	2.875"	1.375"	2.37" PAC	74,000	10.000"	4,800	-224	1.740"
2.00"	2.875"	1.375"	2.37" PAC	75,000	9.875"	4,800	-226	1.990"
2-3/8"	3.125"-SL	1.375"/1.000"	2.37" PAC/API Reg	87,000	11.375"	7,850	-332	2.365"
	3.250"	1.375"/1.000"	2.37" PAC/API Reg	104,000	11.375"	9,800	-332	2.365"
2-5/8"	3.375"-SL / 3.500"	1.500"	2.38" Reg / 2.87" PAC	129.581	14.125"	12,000	-334	2.615"

EXTERNAL DIMPLE CONNECTOR

Precision, Strength & Reliability

Unlock maximum performance with Hercules' External Dimple Connector. Engineered with precision-set dimples for a secure grip, this connector delivers unmatched pressure integrity (10,000 PSI), high torque resistance, and non-rotational stability. Ideal for challenging thru-tubing operations, it ensures safe, reliable, and efficient tool-to-coil connections—without the wear and tear of slip-type systems.

DESIGN ADVANTAGES & BENEFITS

- *Dual O'Ring Seals*
- *10,000 PSI Rating*
- *Non-Rotational*
- *Maximum Flow Rates*
- *High Torque*

External Dimple Technical Specifications

Coiled Tubing Diameter	2.00"	2-3/8"		2-5/8"
Max O.D.	2.875"	2.875"	3.125"	3.250"
Min I.D.	1.375"	1.375"	1.000"	1.000"
Thread Connection (*)	2-3/8" PAC	2-3/8" PAC	2-3/8" Reg	2-3/8" Reg
Make-up Length	8.000"	8.000"	8.000"	9.375"
Coil Minimum Dia. for Seal	1.990"	2.365"	2.365"	2.615"

Dimple Installation Tool Technical Specifications

Coiled Tubing Diameter	2.00"	2-3/8"	2-5/8"
Max O.D.	4.600"	4.750"	5.000"
Min I.D.	2.13"	2.00"	2.38"
Length	6.50"	6.50"	7.00"

COILED TUBING CONNECTORS

INTERNAL / EXTERNAL SLIM LINE COIL TUBING DIMPLE CONNECTOR

H Dual-Lock SlimLine Dimple Connector

Engineered to combine the strength of internal and external dimpling, the HP Dual-Lock delivers unmatched holding power for coiled tubing operations. With dual O-ring sealing, 10,000 PSI rating, and support from both the I.D. and O.D., it ensures maximum flow capacity, superior pressure integrity, and reliable BHA connection in demanding downhole environments. Available for coiled tubing sizes from 2.00" to 2-5/8".

DESIGN ADVANTAGES & BENEFITS

- *Dual O'Ring Seals*
- *10,000 PSI Rating*
- *Non-Rotational*
- *Maximum Flow Rates*
- *Coil Supported From Both the I.D. & O.D.*

Dimple Connector Technical Specifications

Coiled Tubing Diameter	2.00" SL	2-3/8" SL		2-5/8" SL
Max O.D.	2.875"	2.875"	3.125"	3.125"
Min I.D.	1.000"	1.000"	1.000"	1.000"
CT Wall	.134",.145",.156"	.134", .156",.175"	.134",.156",.175"	.134",.156",.175"
Thread Connection (*)	2-3/8" PAC	2-3/8" PAC	2-3/8" Reg	2-3/8" Reg
Make-up Length	12.250"	12.250"	12.250"	12.750"
O'Ring Size	TBD	.134"W (-225) .156"W (-224) .175"W (-224)	.134"W (-225) .156"W (-224) .175"W (-224)	.134"W (-227) .156"W (-227) .175"W (-226)
Coil Max I.D. for Seal	TBD	.134W (2.127") .156W (2.083") .175W (2.045")	.134W (2.127") .156W (2.083") .175W (2.045")	.134W (2.377") .156W (2.333") .175W (2.295")

Note: Coil wall thickness must be identified at time of order to correctly size.

Dimple Installation Guide Technical Specifications

Coiled Tubing Diameter	2.00" SL	2-3/8" SL		2-5/8" SL
Max O.D.	3.500"	4.200"	4.200"	4.450"
Min I.D.	2.875"	2.875"	3.125"	3.125"
CT Wall	.134",.145",.156"	.134", .156",.175"	.134", .156",.175"	.134", .156",.175"
Length	12.250"	12.250"	12.250"	12.250"
Redress Kits	200IES-DCT-RDK	238IES-DCT-RDK	238IES-DCT-RDK	262IES-DCT-RDK

INTERNAL DIMPLE CONNECTORS

Reliable, Simple, High-Pressure Connection

The Internal Dimple Connector provides a high-strength attachment between the coiled tubing and the BHA without the need for slips or torque. Using controlled dimples formed by a single-piece installation guide, the connector ensures a precise fit and pressure integrity up to 10,000 PSI.

Its dual O-ring seals, non-rotational design, and simplified make-up process make it the preferred choice for dependable coiled tubing connections in demanding well conditions.

DESIGN ADVANTAGES & BENEFITS

- *Dual O'Ring Seals 10,000 PSI Rating*
- *Non-Rotational*
- *Maximum Flow Rates*
- *Easy Make-Up with Optimal One-Piece Applicator*

Dimple Connector Technical Specifications

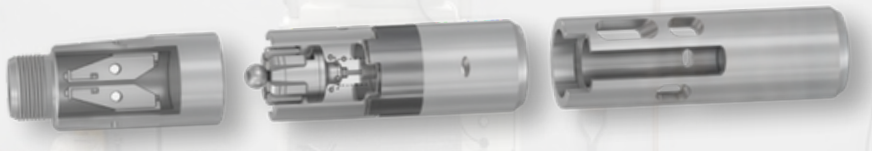
Coiled Tubing Diameter	1.50"	1.75"	2.00" SL	2-3/8" SL
Max O.D.	1.68"	2.12"	2.00"	2.375"
Min I.D.	.750"	.750"	1.000"	1.000"
CT Wall	Must Specify	Must Specify	Must Specify	Must Specify
Thread Connection (*)	1.00" AMMT	1.50" AMMT	1.50" AMMT	1.50" AMMT
Make-up Length	3.25"	3.38"	3.38"	5.25"

Dimple Installation Guide Technical Specifications

Coiled Tubing Diameter	1.50"	1.75"	2.00" SL	2-3/8" SL
Max O.D.	3.500"	4.600"	4.750"	5.000"
Min I.D.	1.69"	2.13"	2.00"	2.38"
Length	6.50"	6.50"	6.50"	7.00"

HD MOTOR HEAD ASSEMBLY

Compact Strength, Total Control



The HD Motor Head Assembly (MHA) has been engineered to meet today's demand for shorter and stronger bottom hole assemblies. This compact design integrates three key components—Dual Flapper Check Valve, Hydraulic Disconnect, and Dual Circulation Sub—into a single high-performance tool, reducing overall string length without compromising strength or reliability. The external slip connector is made up separately, providing multiple options for coil connector types and sizes to suit specific operational needs.

DESIGN ADVANTAGES & BENEFITS

- *Versatile compact design that shortens the overall BHA length versus running tools individually.*
- *Modular system—each section can be separated and run independently by adding top and/or bottom subs.*
- *Simple redressing and maintenance using supplied service tools.*

Dual Flapper Check Valve

Prevents backflow of wellbore fluids into the coiled tubing. Incorporates two stainless steel cartridges with corrosion-resistant materials and a dual-seal system (Viton + metal-to-metal) that ensures reliable sealing under high pressure.

Hydraulic Disconnect

Designed to withstand vibration, torque, and impact in extended milling or drilling operations.
Allows clean detachment at a preset release point via drop ball activation.
Its one-piece collet and locking sleeve provide high tensile strength, while a pressure-balanced piston ensures consistent shear values and smooth circulation recovery after release.

Dual Circulation Sub

Provides a bypass circulation system that diverts flow if the lower string becomes blocked, reducing motor wear and maintaining continuous operation.

Technical Specifications

MHA O.D.	Min I.D.	Makeup Length	MHA OverPull Yield @ 80%	Dual Flapper I.D.	Fishneck Internal Profile	GS Profile Over-Pull Yield @ 80%ods	Hydraulic Disconnect Min. I.D.	Hydraulic Release Drop Ball	Dual Circ Drop Ball	Working Pressure	Connection
1.688"	.406"	23.43"	47,000 lbs	.687"	2.00" GS	39,400	.468"	1/2"or 5/8"	7/16"	10,000 PSI	1.00" MT/ CS
2.125"	.406"	33.00"	60,000 lbs	.891"	2.00" GS	170,000	.468"	1/2" or 5/8"	7/16"	10,000 PSI	1.00" MT/ CS
2.125"	.406"	33.00"	60,100 lbs	.891"	2.50" GS	56,800	.531"	5/8"	1/2"	10,000 PSI	1.50" MTor 1.25" CS
2.875"	.750"	36.43"	93,000 lbs	1.034"	3.00" GS	140,000	.875"	15/ 16"	13/ 16"	10,000 PSI	2-3/ 8" PAC

HYDRAULIC DISCONNECT

Precision Release Under Pressure

Built for the most demanding coiled tubing operations, the HD Hydraulic Disconnect delivers a clean, controlled separation when it matters most. Its heavy-duty one-piece collet and torque-locking spline provide unmatched tensile strength, even under severe vibration and impact.

When activated by a drop ball, the pressure-balanced release piston shears the setting screws for an immediate and positive disconnect — restoring circulation and confirming the release at surface. The top sub, piston, and drop ball return safely to surface, leaving a standard GS fishneck for efficient retrieval.

With interchangeable pistons for multiple ball sizes and simple field redress tools, the HD Hydraulic Disconnect combines strength, precision, and serviceability in one robust design.

KEY BENEFITS

- *Torque-locking spline prevents body rotation under load*
- *One-piece collet ensures maximum pull strength*
- *Interchangeable pistons for variable ball sizes*
- *Pressure-balanced piston for consistent release*
- *Easy field redress with dedicated assembly tools*

Technical Specifications

O.D.	Min I.D.	Makeup Length	Tool Overpull Yield @ 80%	Fishneck Internal Profile	GS Profile Overpull	Release Ball Options	Drift Ball Options	Working Pressure	Connection
1.69"	.468"	15.00"	60,000	2.00" GS	39,400	1/2"	7/16"	10,000 PSI	1.00" MT
2.12"	.468"	17-3/8"	60,000	2.00" GS	58,400	1/2"	7/16"	10,000 PSI	1.50" MT
2.12"	.531"	17-3/8"	60,000	2.50" GS	91,000	5/8"	1/2"	10,000 PSI	1.50" MT
2.87"	.875"	20-7/8"	93,000	3.00" GS	140,000	15/16"	13/16"	10,000 PSI	2-3/8" PAC

Note: The strength calculations are considered accurate within +/- 20% and are to be used only as a guide. They do not constitute any actual or implied warranty or guarantee

NON – ROTATIONAL JETTING WASH NOZZLES MULTI – PORT & FULL BORE

Reliable. Efficient. Purpose-built for your well.

Engineered for precision fluid delivery and maximum downhole efficiency.
Available in Multi-Port and Full Bore designs, these nozzles ensure complete radial cleaning and controlled slurry placement across the wellbore.
Built from high-strength alloys, each configuration can be customized for your flow pattern, ensuring optimal performance in any coiled tubing wash or intervention operation.

DESIGN ADVANTAGES & BENEFITS

- *Simple robust design*
- *Optimal nozzle port size to maximize clean-out requirements*

SIZES

*The wash nozzles are available from **1.25**" to **3.75**" diameters with any connection*

INTEGRATED CENTRALIZER

Stability with Flexibility

Achieve superior tool string stability in drilling and fishing operations with the Hercules Integrated Centralizer. Its unique three-piece design allows quick blade section replacement, reducing costs while adapting to multiple O.D. requirements. With a full flow-through bore for drop ball passage and optimal circulation, this tool delivers reliability, versatility, and efficiency in every job.

KEY BENEFITS

- *Replace only the blade section – cut maintenance costs.*
- *Multiple O.D. options with one tool body.*
- *Full flow through bore for unrestricted fluid dynamics.*
- *Quick change design ensures minimal downtime.*

TORQUE – THRU KUNCKLE JOINT

Power, Flexibility, Reliability.

Designed for highly deviated or restricted wells, the Torque-Thru Knuckle Joint provides up to 15° angular deviation while fully transmitting torque and maintaining full bore flow. It prevents unnecessary side loads that can damage drill motors, ensuring extended tool life and superior performance. With a 10,000 PSI working pressure and tensile yields up to 100,000 lbs, this joint delivers the strength and flexibility your operations demand.

DESIGN ADVANTAGES & BENEFITS

- *Torque Transmitting*
- *15° Angular Deviation*
- *Flow Through Bore*

SIZES

*The Torque-Thru Knuckle Joints are available from **1.69”** to **3.75”** diameters with any connection of choice.*

Data Specifications

Tool O.D.	Min I.D.	Makeup Length	Overpull Yield @80%	Working Pressure	Connecton
1-11/ 16”	.500”	10.50”	40,000 Lbs	10,000 PSI	1.00” CSor MT
2-1/ 8”	.750”	10.75”	50,000 Lbs	10,000 PSI	1.25” CSor 1.50”MT
2-7/ 8”	1.00”	11.75”	80,000 Lbs	10,000 PSI	2-3/ 8” PAC
3-1/ 8”	1.00”	12.00”	100,000 Lbs	10,000 PSI	2-3/ 8” PACor Reg
3-3/ 4”	TBD	TBD	TBD	10,000 PSI	2-7/ 8” Reg

WEIGHT BARS

Solid Strength, Maximum Impact

Engineered from solid bar stock, the HP Weight Bar delivers unmatched durability and balance to your BHA. Whether extending tool length, adding controlled weight on bit, or enhancing impact with jars and accelerators, the HP Weight Bar ensures optimal performance in cleanouts, fishing, and coiled tubing drilling operations. With full flow bore design, multiple length options up to 60”, and versatile connections, it’s the reliable backbone your bottom-hole assembly needs.

DESIGN ADVANTAGES & BENEFITS

- *Full flow through bore*
- *One piece solid construction.*
- *Thread connection option to suit customer requirements*

Tool O.D.	Min I.D.	Make-Up Length	Connections
1,250	'.500	36”,48”,60”	.75” MMT
1,500	'.625	36”,48”,60”	.75” MMT
1,687	'.625	36”,48”,60”	1.00” MT
2,125	'.750	36”,48”,60”	1.50” MT
2,875	1.00	36”,48”,60”	2-3/ 8” PAC
3,125	1.00	36”,48”,60”	2-3/ 8” Reg

HYDRAULIC “GS” PULLING TOOLS

Reliable Multi-Cycle Fishing Solution

The Hydraulic “GS” Pulling Tool delivers unmatched reliability for latching and retrieving downhole tools with standard or modified internal fishing neck profiles. Powered by hydraulic pressure, it eliminates the need for shear pins or drop balls, enabling multiple latch-and-release cycles in a single run. Built with a proven dog mechanism and robust hydraulic design, this tool ensures operational efficiency and superior performance in demanding thru-tubing fishing operations.

KEY BENEFITS

- *Hydraulic operation – no shear pins, no drop balls.*
- *Multiple latch & release cycles.*
- *Proven, durable dog design.*
- *Standard GS compatibility.*

Technical Specifications

TOOL O.D.	TOOL I.D. (without choke)	MAKE-UP LENGTH	“GS” SIZE	PSI TO RELEASE	THREADTYPE
1.810”	.510”	18.250”	2.00”	1000 PSI	1.00” MTor CS
2.12”	.750”	18.250”	2.50”	1200 PSI	1.50” MTor 1.25” CS
2.87”	1.00”	17.750”	3.00”	1350 PSI	2-3/ 8” PAC
3.12”	1.00”	17.750”	3.50”	1200 PSI	2-3/ 8” REG

GS SIZE	TUBINGO.D. SIZE	A	B	C	D
2.00”	2-3/8”	1.38”	1.59”	.54”	1.47”
2.50”	2-7/8”	1.81”	1.98”	.54”	1.47”
3.00”	3-1/ 2”	2.31”	2.47”	.54”	1.47”