

Coiled Tubing Tool

EXTERNAL SLIP CONNECTOR

The External Slip Connector is designed through a unique non-rotational slip, the upper end is connected with the coiled tubing, and the lower end is connected with the work string. The slip is positively engaged into the bottom sub via drive teeth, therefore transmitting any rotational torque from the work string directly to the pipe. Tensile is more larger, the occlusion is more tighter, and the anchoring is more reliable.

The External Slip Connector is suited for drilling, milling, under-reaming and fishing applications.

Feature

- Simple structure, convenient connection and running quickly.
- Maximum pressure 5,000 Psi.
- High tensile strength.
- Internal pressure seal.
- Non-rotation.

Specification			
Coiled Tubing O.D. (inch)	Tool O.D. (inch)	Tool I.D. (inch)	Conn.
1 1/4	1.687	0.75	1" AMMT
1 1/2	2.125	1.00	1.5" AMMT
1 3/4	2.375	1.00	
2.00	2.875	1.00	
2 3/8	3.125	1.50	2 3/8" PAC
2 7/8	3.625	1.50	2 7/8" PAC



INTERNAL SLIP CONNECTOR

The Internal Slip Connector is designed by the hexagonal nuts to transmit tension. This feature is provided through rotating the hexagonal nuts, the slips are fully opened, anchored the pipe and locked the hexagonal nuts. It provides the continued effective support to the slips.

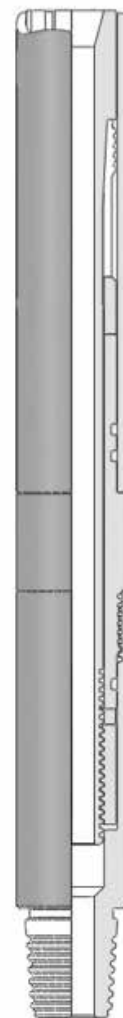
The Connector does not rely on the grub screws to transmit torque from the work string through to the coiled tubing. It can withstand extremely high tensile and torsional loads. It is ideally suited for drilling, milling, under-reaming and fishing applications.

The connector outside diameter is smaller or same as the coiled tubing, this enables the connector to be used.

Feature

- High tensile strength.
- Non rotational after fastening.
- Internal pressure seal.
- Replaceable slips.

Specification			
Coiled Tubing O.D. (inch)	Tool O.D. (inch)	Tool I.D. (inch)	Conn.
1 1/4	1.250	0.625	1" AMMT
1 1/2	1.500		
1 3/4	1.750	0.680	1.5" AMMT
2.00	2.000	0.870	



DOUBLE ENDED ROLL ON CONNECTOR

The Double Ended Roll-on Connector is designed for using the Roll-on Connector Crimping Tool to ensure easy field installation of the connector to the coiled tubing. It allows the inline attachment of two lengths of coiled tubing. The Connectors have the same outside diameter as the coiled tubing.

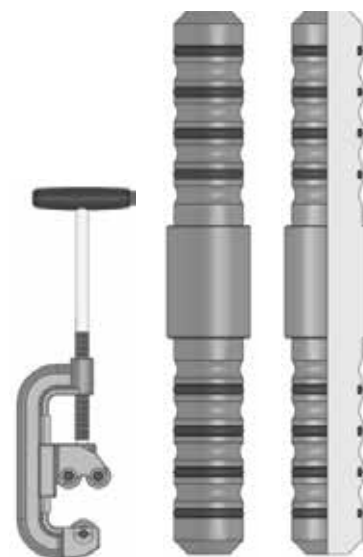
Feature

- High tensile strength and high pressure.
- Internal pressure seal.
- Easy make up and easy operation.

ROLL-ON CONNECTOR CRIMPING TOOL

The Roll-on Connector Crimping Tool is used to connect the coiled tubing and the Roll-on Connectors. The Crimping Tool has two interchangeable wheels, one of which is used to swage the coiled tubing onto the Roll-on Connector. The other is a cutting wheel which can be used to cut the coiled tubing.

Specification	
Coiled Tubing Size (inch)	Tool O.D. (inch)
3/4	0.750
1.000	1.000
1 1/4	1.125
1 1/2	1.500
1 3/4	1.750
2	2.000
2 3/8	2.375
2 7/8	2.875



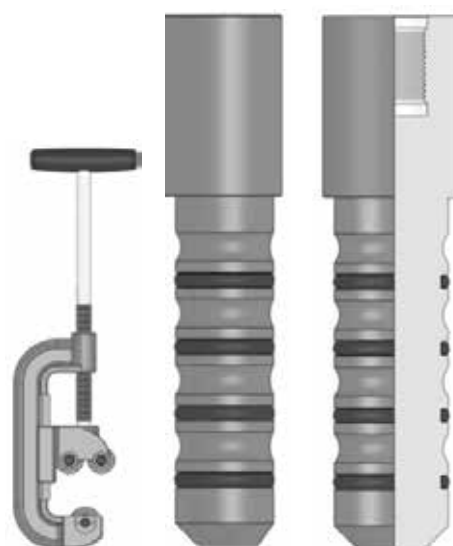
ROLL-ON CONNECTOR

The Roll-on Connector is designed for using the Roll-on Connector Crimping Tool to ensure easy field installation of the connector to the end of coiled tubing. It allows the attachment of Coiled Tubing to work string via the provision of a threaded connection, and are available to other sizes tools.

Feature

- High tensile strength and high pressure.
- Internal pressure seal.
- Easy make up and easy operation.

Specification	
Coiled Tubing O.D. (inch)	Tool O.D. (inch)
3/4	0.750
1 1/2	1.5
1 3/4	1.75
2	2
2 3/8	2.375
2	2.000



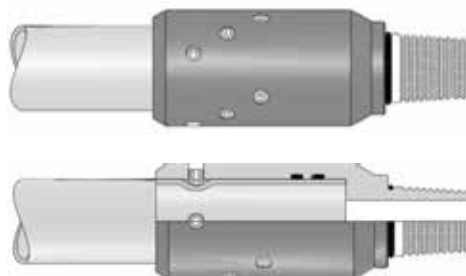
GRUB SCREW CONNECTOR

The Grub Screw Connector is attached to the coiled tubing by grub screws that engage in preformed dimples in the tubing wall. The dimples are formed by using the Dimple Hammer/Extractor Tool that places the indents identical positions to the screws on the connector. The bottom of connector is a standard coiled tubing thread and it's easy to connect with work string.

Specification			
Coiled Tubing O.D. (inch)	Tool O.D. (inch)	Tool I.D. (inch)	Conn.
1 1/4	1.687	0.687	1" AMMT
1 1/2	2.000		
1 3/4	2.125	1.000	1.5" AMMT
2.00	2.750		

Feature

- Internal pressure seal;
- Easy make up;
- High torque.



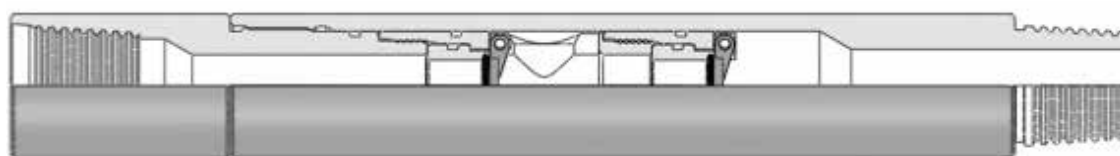
TWIN FLAPPER CHECK VALVE

The Twin Flapper Check Valve is a standard coiled tubing string component. The design of the Valve incorporates a dual sealing system in each flapper assembly for increased safety. A seal provides the primary low-pressure seal while at higher pressure the flapper seals on a metal to metal arrangement. It prevents the back flow of failure or damage to the coiled tubing string or surface equipment.

Specification			
Tool O.D. (inch)	Tool I.D. (inch)	Tool Length (inch)	Conn.
1.687	0.687	15.00	1" AMMT
1.750		16.00	
2.125		12.00	
2.250	1.031	15.00	1.5" AMMT
2.375		16.00	
2.875	1.375	17.00	2 3/8" PAC
3.125		18.00	

Feature

- Dual sealing system, mutual independence and sealing reliable.
- Plug-in seal valve and easy to maintain.
- Full bore fluid passage.



DUAL VALVE CHECK VALVE

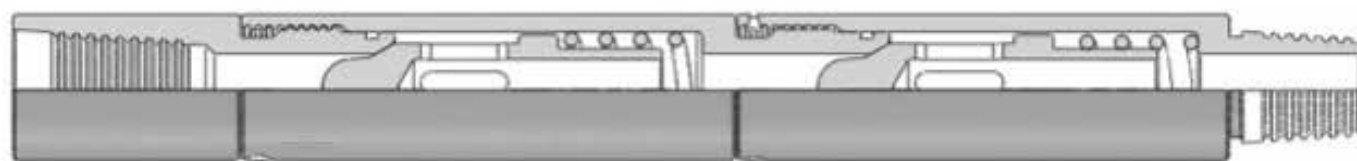
The Dual Valve Check Valve connects the tools to run into the well. As the tubing pressure is greater than the casing pressure, the spring is compressed and allowed the fluid flow into the casing. Through releasing pressure, the spring is rebounded and the valve is closed. It can prevent back flow after operation completion.

The Check Valve relies on metal sealing and also as a reverse pressure.

Specification		
Tool O.D. (inch)	Tool Length (inch)	Conn.
1.650	15.31	1"6AMMT
2.875	25.59	2 3/8" PAC

Feature

- Metal sealing and pressure-bearing reliable.
- Two-stage independent seal system and double security.
- Simple structure and flexible operation.



BALL CHECK VALVE

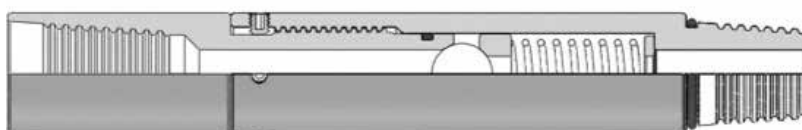
The Ball Check Valve is designed with compression spring to ensure the spherical surface is fit closely with the ball seat. Metal sealings are effectively preventing the back flow of fluids into the coiled tubing in the event of failure or damage to the surface equipment.

As injecting fluid into downhole, by pumping 1-3Mpa can open the underground passage.

Specification		
Tool O.D. (inch)	Tool I.D. (inch)	Conn.
1.687	0.750	1" AMMT
2.215	1.000	1.5" AMMT
2.250	1.031	
2.375	1.031	
2.875	1.375	2 3/8" PAC
3.125	1.500	

Feature

- Large flow area.
- Metal sealing and pressure-bearing reliable.
- Simple structure and convenient operation.



CEMENT VALVE

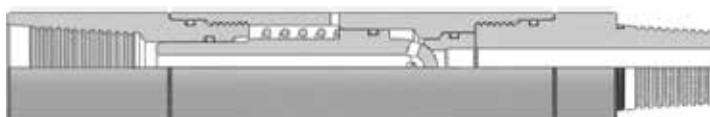
The Cement Valve is designed to increase the flow at surface to the coiled tubing. As pressure reaches the set value of the Cement Valve, the spring are compressed, holding the piston on seat, the valve will open and the column of fluid will be allowed to flow through the valve.

By reducing pressure to the column of fluid to its original level the valve will close and the fluid will cease to flow.

Specification		
Tool O.D. (inch)	Pressure Range (Psi)	Conn.
1.687	800---2000	1" AMMT
2.125	600---2200	1.5" AMMT

Feature

- Suitable for the negative pressure well conditions.
- Suitable for most fluid applications.
- Multiple operating delivery pressure configuration.



DUAL ACTIVATED CIRCULATION VALVE

The Dual Activated Circulating Valve is ball actuated and normally is run below the hydraulic disconnect and above the downhole motor. The primary means of actuation is accomplished by pumping a ball which will shift the piston sleeve, exposing circulation ports and allow a circulation path above a mud motor from tubing to annulus.

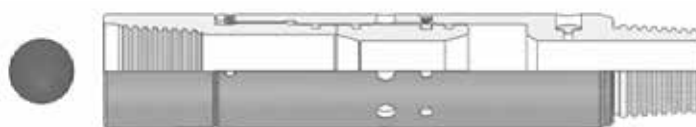
The secondary means of actuation is through a rupture disc. In the unlikely event that the bottom hole assembly becomes plugged, increased pressure from the surface will rupture the disc and allow circulation of an actuation ball.

When the motor services is complete, fluid may need to be pumped for several hours to clean or displace the wellbore. The use of this valve can save unnecessary wear on the mud motor during this operation.

Specification			
Tool O.D. (inch)	Tool I.D. (inch)	Ball Size (inch)	Conn.
1.687	0.406	7/16	1" AMMT
1.750			
2.125			
2.250	0.625	1 1/16	1.5" AMMT
2.375			
2.875			
	1.540	1 5/8	2 3/8" PAC

Feature

- Balanced piston.
- Full bore permits maximum flow rates and circulating more thoroughly.
- Shear screws value and rupture disc value can be adjusted according to the actual situation.
- The rupture disc allows actuating circulation when the drill cannot normal circulation.



HYDRAULIC DISCONNECT

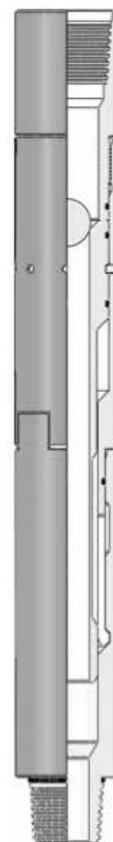
The Hydraulic Disconnect is designed to allow the work string to detach at a predetermined point via drop a suitable ball through the coiled tubing. The drop ball locates on a piston sleeve creating sufficient back pressure to shear the pins and disconnect the tool.

The design of joints with cross embedded is to release more flexible and also effective transmit torque. A standard internal fishing neck for retrieval purpose.

Specification				
Tool O.D. (inch)	Tool I.D. (inch)	Ball Size (inch)	Fish Neck	Conn.
1.687	0.468	5/8	2"GS	1" AMMT
1.750				
2.125				
2.250	0.782	13/16	2 1/2"GS	1.5" AMMT
2.375				
2.720				
2.875	0.875	13/16	3"GS	2 7/8" PAC
3.500				

Feature

- Ball sizes can be adjusted.
- Effective transmit torque.
- Safety and reliable to release.
- Release pressure can be adjusted according to the actual situation.



MECHANICAL RELEASE JOINT

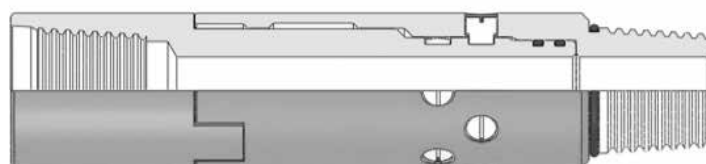
The Mechanical Release Joints is designed for and used primarily in cement stinger operations as a simple effective emergency release. Through lifting the tool to shear the pins and achieve release.

The design of joints with cross embedded to release more flexible and also effective transmit torque. A standard internal fishing neck for retrieval purpose.

Specification			
Tool O.D. (inch)	Tool I.D. (inch)	Fish Neck	Conn.
1.687	0.500	2"GS	1" AMMT
1.750			
2.125			
2.250	0.750	2 1/2"GS	1.5" AMMT
2.375			
2.875			
3.125	1.250	3"GS	2 3/8" PAC

Feature

- Simple structure and convenient operation.
- Internal pressure seal.
- Release pressure can be adjusted according to the actual situation.
- Release location can be adjusted.
- A internal fishing neck for easy recycling.
- Without activating the steel ball.



OVER PRESSURE RELEASE JOINT

The Over Pressure Release joint is mainly composed of two parts----upper and lower releasing joint. The upper releasing joint with ball seat and the lower releasing joint with slips. The slips can withstand high tensile load and high tensile strength.

Drop ball and pump pressure from ground in releasing operation. As the pressure reaches a predetermined value, the piston down and the shear pins are cut. At the same time, the special design slips make the release joints disconnect with slips and achieving releasing.

A standard "GS" internal fishing neck is left looking up in the lower half of tool for future retrieval. And the design of joints with cross embedded to transmit torque.

Specification			
Tool O.D. (inch)	Tool I.D. (inch)	Fish Neck	Conn.
1.687	0.468	2"GS	1" AMMT
1.750			
2.125			
2.250	0.782	2 1/2"GS	1.5" AMMT
2.375			
2.875	0.875	3"GS	

Feature

- High tensile strength.
- Release pressure can be adjusted according to the actual situation.
- Effective transmit torque.
- A standard internal fishing neck for easy retrieval.



FLUTED CENTRALIZER

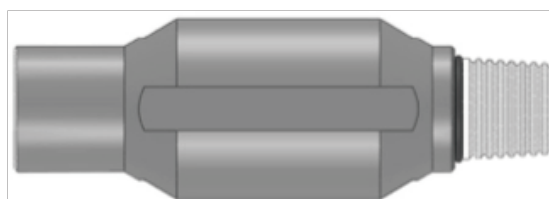
Specification		
Tool O.D. (inch)	Tool I.D. (inch)	Conn.
2.000	0.750	1" AMMT
2.250		1.5" AMMT
2.625	0.875	
2.750	1.000	
3.000		2 7/8" PAC
3.500		3 1/2" PAC
4.000		
4.250		
4.500	1.250	

The Fluted Centralizer is designed to be included as part of the coiled tubing work string to assist in providing centralization to allow easier location of tools during fishing or to provide general stability in the tubing.

The Centralizer with large bore has a full flow through bore allowing drop a ball.

Feature

- Connected with standard coiled tubing by connectors.
- Full flow through bore.
- Simple structure.



SPRING CENTRALIZER

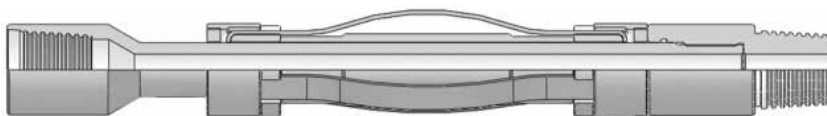
The Spring Centralizer is designed to allow work strings or parts of work string to be centralized in the tubing/casing for various operations and transmit tubing torque. It's convenient for cutting, milling, reaming, washing and other operations.

In natural condition, the bow springs are mounted above a coiled spring. This is to allow the bow in order to pass through a restricted bore while still expanded.

Specification		
Tool O.D. (inch)	Tool I.D. (inch)	Conn.
1.687	0.560	1" AMMT
2.215		1.5" AMMT
2.875	1.000	

Feature

- Transmit tubing torque.
- A kind of centralizers is applicable to a variety of specifications.
- Simple structure and convenient operation.



SWIVEL JOINT

The Swivel Joint's design includes integral sealed bearing which ensure full integrity of flow through the joint, and is used to permit full rotation of the whole tools and eliminate torque.

The Swivel Joint is necessary where work string orientation is required such as in the running and pulling of gas lift mandrels.

Specification		
Tool O.D. (inch)	Tool I.D. (inch)	Conn.
2.125	0.375	1.5" AMMT
2.250		
3.125	1.125	2 7/8" PAC

Feature

- Sealed bearing for integrity of flow.
- Bearing for flexibility rotation.
- Maximum flow area.
- Simple structure and convenient operation.



TORQUE THRU KNUCKLE JOINT

The Torque Thru Knuckle Joint, when incorporated between the jars and the manipulation tool, will provide additional flexibility into the directional wells or deviated wells. The internal key can effectively transmit torque and ensure the flexibility and agility of the work string. The full flow through bore also allows the use of flow activated tools below the Knuckle Joint.

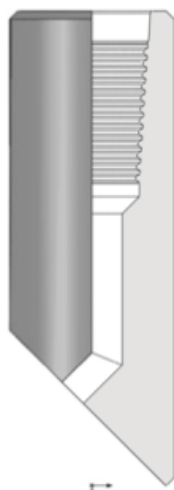
Specification		
Tool O.D. (inch)	Tool I.D. (inch)	Conn.
1.687	0.500	1" AMMT
1.750		
2.125	0.750	1.5" AMMT
2.250		
2.375		
3.125	1.000	2 7/8" PAC

Feature

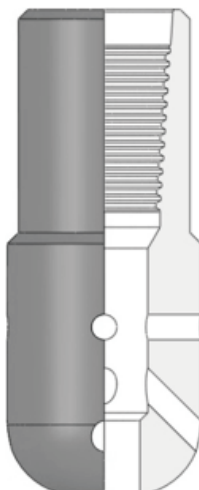
- High metal sealing.
- Full flow through bore.
- Transmit torque.
- Internal pressure seal.



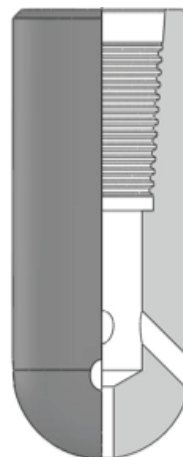
WASHING TOOL



**Single Flow
Port Muleshoe
Nozzle**



**Multiple Up
Flow Port Nozzle**



**Multiple Flow
Port Nozzle**

Specification								
Model	Tool O.D. (inch)	Tool I.D. (inch)	Nozzle Specification	Model	Tool O.D. (inch)	Tool I.D. (inch)	Nozzle Specification	
Single Flow Port Muleshoe Nozzle	1.687	0.625	1X0.625" @45°	Multiple Up Flow Port Nozzle	1.687	0.250	1X0.500 4X0.187" @45° 4X0.187" @90°	
	2.125	0.875	1X0.875" @45°		2.125		1X0.500 4X0.250" @45° 4X0.250" @90°	
	2.375				2.375	0.312	1X0.625" 4X0.312" @45° 4X0.3127" @90°	
	3.125	1.000	1X1.000" @45°					
Multiple Flow Port Nozzle	1.687	0.250	1X0.250" 4X0.250" @135°			3.125	0.375	1X0.750" 4X0.375" @45° 4X0.375" @90°
	2.125							
	2.375	0.312	1X0.312" 4X0.312" @135°					
	3.125	0.375	1X0.375" 4X0.375" @135°					

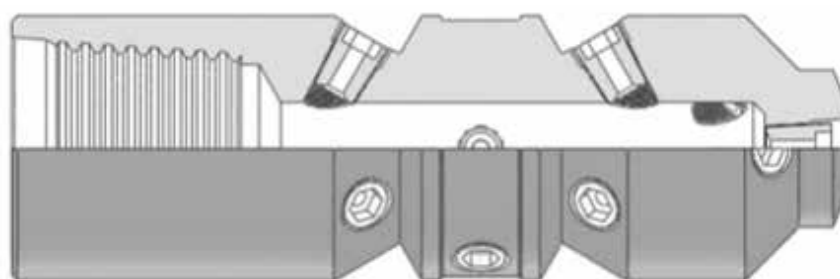
MULTI-JET WASH TOOL

The Multi-Jet Wash Tool is designed to be used for both jetting and circulation operations when cleaning and washing the inside of the tubing, a full 360° rotating action and the washing passage can be adjusted according to the actual situation.

Specification		
Tool O.D. (inch)	Jet I.D. (inch)	Conn.
1.750	3/16	1" AMMT
2.125		1.5" AMMT
2.375		
2.500		2 3/8" PAC
2.875		
3.125		2 7/8" PAC

Feature

- A full 360° rotating action.
- The washing passage can be adjusted and flexibility operation.
- Simple structure.
- Easily filed redressed.



MOTORHEAD ASSEMBLY

The Motorhead Assembly is composing of Slip Connector, Twin Flapper Check Valve, Hydraulic Disconnect and Dual Circulation Valve. The high torque capability of the MHA provides the ideal Motorhead for today's high demand coiled tubing drilling applications. The choice of tubing connector is not dictated by the MHA, therefore giving the operator the flexibility to choose. Most Coiled Tubing connectors can be used with the MHA. With a considerable reduction in the number of component parts, seals and thread connectors, the MHA is uncomplicated to assemble/disassemble and inexpensive to redress.

Feature

- Full internal pressure integrity.
- Effective security barrier.
- Effective torque transmission.
- Standardized connectors for easy to use.

Specification		
Tool O.D. (inch)	Tool I.D. (inch)	Conn.
1.750	0.375	1" AMMT
1.810		
2.125	0.500	1.5" AMMT
2.250		
2.875	0.750	2 3/8" PAC
3.125	1.000	2 7/8" PAC

