



Always Striving Beyond Reaching

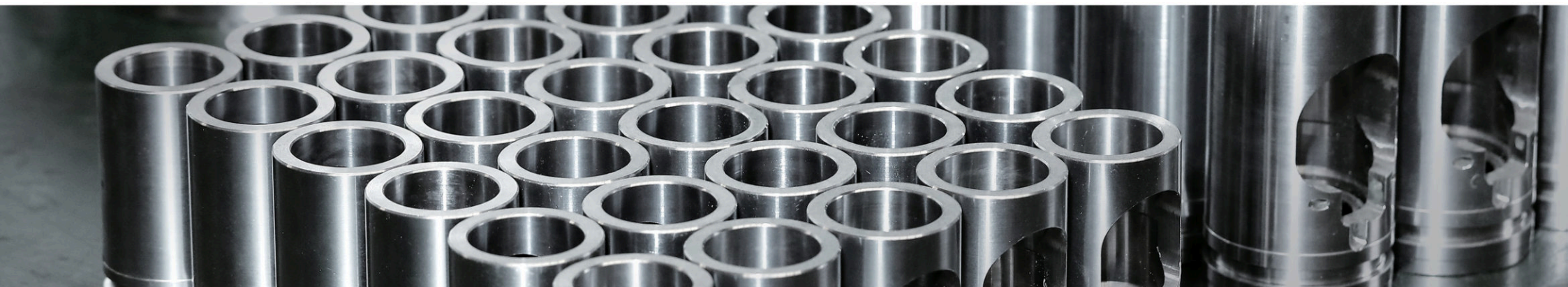
CHENGDU ASBR TECHNOLOGY CO., LTD.
Coiled Tubing Tools Product Manual



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PRODUCT INTRODUCTION-COILED TUBING TOOLS

3.1 Roll-On Connector



The ASBR Roll-On Connector is specifically designed for coiled tubing operations. It is suitable for high-pressure and high-tensile conditions, effectively connecting tools to coiled tubing, and improving operational efficiency and safety. The Roll-On connection method uses mechanical deformation to securely fix the connector to the coiled tubing, avoiding the stress concentration issues of traditional threaded connections. It is simple to operate and enhances connection reliability. Based on different operational needs, two types are available: a single-end Roll-On connector and a double-end Roll-On connector.

PRODUCT FEATURES

- **High-Strength Connection:** The mechanical deformation connection ensures a uniform transition between the connector and the coiled tubing, with no stress concentration, thus reducing the risk of fracture.
- **Reliable Seal:** Precision machining and a double seal ensure excellent sealing performance. It is suitable for high-pressure environments, preventing liquid or gas leakage.
- **Adaptable to Complex Conditions:** Can be used in harsh conditions such as acidic environments and high-temperature/high-pressure wells, with superior corrosion resistance.
- **Convenient Installation:** Uses a special Roll-On jig for quick connection, without the need for welding or thread processing, improving on-site operational efficiency.
- **Multiple Specifications Available:** Can be adapted to different sizes and wall thicknesses of coiled tubing to meet a variety of operational requirements.

OD in	Length in	CT Size in	ID in	Press. psi	Tensile Strength klbs	Connection
1.5	9	1.5	0.55	10000	34	1 AMT
1.69	9	1.75	0.55	10000	40	1 AMT
1.89	9	1.75	0.75	10000	48	1 AMT
2	9	2	1	10000	52	1 1/2 AMT
2.375	9	2.375	1	10000	60	1 1/2 AMT
2.875	9	2.375	1.18	10000	87	2 3/8 PAC

* Can be customized according to user requirements.

3.2 Internal Dimple Connector



The ASBR Internal Dimple Connector is specifically designed for coiled tubing operations. Using an internal connection structure, it provides a reliable connection under high-pressure and high-torque conditions. The dimple connection method, through mechanical deformation and a gripping structure, securely embeds the connector into the inner wall of the coiled tubing, ensuring a high-strength connection while avoiding external interference and improving pass-through capability. Based on different operational needs, two types are available: a single-end dimple connector and a double-end dimple connector.

PRODUCT FEATURES

- **High-Strength Connection:** The combination of mechanical deformation and a gripping structure ensures a stable connection with superior pull-out resistance and torque resistance.
- **Reliable Sealing Performance:** The connector fits tightly against the inner wall of the coiled tubing, and a double seal ensures a high-pressure seal, preventing the risk of leakage.
- **Optimized Fluid Flow:** The internal connection method does not increase the outer diameter, reducing the risk of downhole sticking and improving pass-through capability.
- **Convenient Installation:** An optional dedicated hydraulic installation tool can be used for quick connection, without the need for welding or additional thread processing, making it suitable for quick on-site replacement and installation.
- **Strong Corrosion Resistance:** Suitable for high-temperature/high-pressure wells and environments with acidic fluids, ensuring long-term stable operation.

OD in	ID in	CT Size in	Length in	Press. psi	Tensile Strength klbs	Torsional Strength ft-lb	Connection
1.5	0.47	1.25	9.25	10000	37	1133	1 AMT
1.5	0.55	1.5	9.25	10000	34	1115	1 AMT
1.69	0.59	1.75	9.25	10000	47	1514	1 AMT
2	0.75	2	9.25	10000	50	1565	1 1/2 AMT
2.375	0.87	2.375	9.25	10000	60	1720	1 1/2 AMT
2.875	1.18	2.375	9.25	10000	87	2126	2 3/8 PAC

* Can be customized according to user requirements.

3.3 Dimple Connector



The ASBR Dimple Connector is a high-strength, easy-to-install coiled tubing connector designed for quick and secure connection between coiled tubing and downhole tool strings. This connector uses knurled set screws combined with a dimple-locking mechanism to achieve excellent pull-out and torque resistance, as well as superior sealing capabilities, making it suitable for high-pressure, high-torque downhole operational environments. With its convenient installation method, this connector is widely favored by field personnel, and can significantly improve operational efficiency.

PRODUCT FEATURES

- **High-Strength Connection, Prevents Loosening:** 16 knurled set screws provide strong mechanical locking force, ensuring a safe and reliable connection with excellent tensile and torque resistance.
- **Dual-Seal Design, High-Pressure Resistant:** Uses composite dual O-rings with a rated pressure of up to 70MPa, suitable for high-pressure well environments, and providing more stable sealing performance.
- **Convenient Installation, Low Tool Requirements:** Used with a dimpling tool, it flexibly adapts to different operational needs.
- **Mechanical Locking, High Connection Strength:** The dimple bolts create high-strength grooves in the coiled tubing wall, providing a more reliable connection.
- **Multiple Specifications, Customizable:** Adapts to various coiled tubing sizes, and different connection threads can be customized as needed to meet diverse operational conditions.

OD in	ID in	CT Size in	Length in	Press. psi	Tensile Strength klbs	Torsional Strength ft-lb	Connection
2.05	0.67	1.5	8.9	10000	49	1180	1 AMT
2.28	0.67	1.75	8.9	10000	49	1180	1 AMT
2.375	1	1.75	8.9	10000	68	1696	1 1/2 AMT
2.56	1	2	8.5	10000	79	1696	1 1/2 AMT
2.875	1.5	1.75	7.5	10000	108	3024	2 3/8 PAC
2.875	1.5	2	8.5	10000	108	3024	2 3/8 PAC
3.125	1.5	2.375	10.43	10000	108	3024	2 3/8 PAC

3.4 External Slip Connector



The ASBR External Slip Connector is a pin-less coiled tubing connector that provides high tensile strength through a slip-wedge self-locking mechanism. It meets the demands of high-intensity downhole operations such as sandblasting, fishing, and sand washing. This connector uses an external slip mechanical locking method, where the slips automatically wedge into the coiled tubing under tension, ensuring a reliable connection. It is also equipped with a composite sealing structure to ensure effective pressure sealing.

PRODUCT FEATURES

- **Wedge-Slip Self-Locking Structure:** Under tension, the slips wedge into the outer wall of the coiled tubing. The locking force increases with tension, ensuring a secure and reliable connection.
- **Pin-Less Design, Improves Operational Convenience:** No need for dimpling or drilling, avoiding damage to the coiled tubing. Installation is quick and simple, improving on-site operational efficiency.
- **High Tensile Capability:** Suitable for drilling, fishing, and completion operations that require high torque transfer, ensuring safety and stability.
- **Excellent Sealing Performance:** Uses a composite sealing structure to ensure a reliable seal in high-pressure environments, preventing downhole fluid leakage.
- **Multiple Specifications Available:** Provides various outer diameters and threaded connections to meet different operational needs. It can be directly connected to a downhole tool string without the need for additional adapters.

OD in	ID in	CT Size in	Length in	Press. psi	Tensile Strength klbs	Torsional Strength ft-lb	Connection
2.125	1	1.5	8.9	10000	301	1298	1 1/2 AMT
2.375	1	1.75	8.9	10000	324	1593	1 1/2 AMT
2.875	1.5	2	8.5	10000	324	1593	2 3/8 PAC
3.125	1.5	2.375	10.43	10000	648	1991	2 3/8 PAC

3.5 Flexible Connector



The ASBR Flexible Connector is a high-flexibility connection tool specifically designed for coiled tubing operations. It uses a multi-joint structure to provide excellent bending and flexibility, effectively enhancing the deflection capability of the downhole tool string. The bending angle of each joint can be superimposed to achieve a large total deflection angle, ensuring the tool can smoothly enter the target well section and improving operational stability and efficiency. This connector uses an internal connection method and can be directly connected to coiled tubing. It is widely used in downhole operations such as logging, running liners, and retrieving tubing, making it an ideal choice for optimizing downhole tool performance.

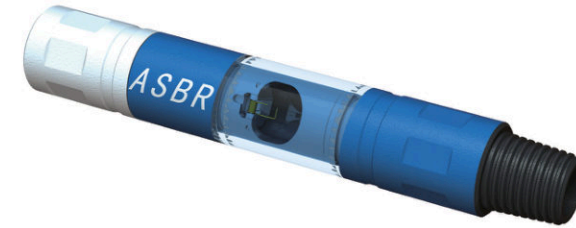
PRODUCT FEATURES

- **High-Flexibility Structure, Provides Large Deflection Capability:** Adopts a multi-joint design where the bending angle of each joint can be superimposed, enhancing the bendability of downhole tools to adapt to complex well conditions.
- **Optimized Flow Path Design:** An optional flow-through design is available. The connection area has strong flow capacity and high sealing reliability.
- **Internal Connection Design, Adapts to Coiled Tubing:** The internal connection method allows for direct connection to coiled tubing or other downhole tools, making installation convenient and reducing operational risks.
- **Corrosion-Resistant, High-Strength Material:** Made of high-strength alloy steel, it has excellent tensile strength and corrosion resistance, suitable for high-pressure, high-temperature, and complex well conditions.
- **Hexagonal Flats Design, Easy to Tighten and Loosen:** Improves operational safety and convenience, and reduces the difficulty of manual operation.
- **Adapts to Various Downhole Operations:** Can be used with logging tools, liners, tubing retrieval tools, etc., to improve overall operational efficiency.

OD in	Length in	CT Size in	Tensile Strength klbs	Radius of Curvature ft	Deflection Angle
1.5	17	1.5	33	1.64	45°
2	21	2	55	1.64	45°
2.375	21	2.375	66	1.64	45°

* Can be customized according to user requirements.

3.6 Double Flapper Check Valve



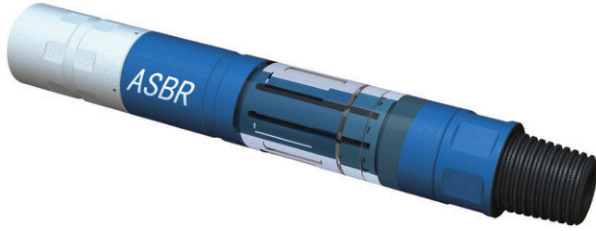
The Double Flapper Check Valve is a one-way valve designed specifically for coiled tubing operations. It is used to prevent wellbore fluids from backflowing into the coiled tubing, ensuring operational safety and stability. Its double-flapper design, combined with a high-performance sealing system, provides reliable one-way sealing even in high-temperature and high-pressure well conditions. It is widely used in operations such as acidizing, fracturing, and downhole fluid control.

PRODUCT FEATURES

- **Insertable Sealed Valve Body, Easy for Maintenance:** The compact structure and removable valve body design allow for quick replacement or repair, improving operational efficiency.
- **Two-Stage Independent Sealing System, More Reliable Sealing Performance:** The dual-layer sealing design ensures reliable one-way sealing even in high-pressure environments, enhancing safety.
- **Large Bore Design, Allows Passage of Tools like Steel Balls:** Strong compatibility allows downhole equipment such as steel balls and drop-balls to pass through smoothly, ensuring operational continuity.
- **Replaceable Valve Assembly, Reduces Usage Costs:** The modular component design eliminates the need to replace the entire valve body, effectively reducing long-term usage costs and improving economic efficiency.

OD in	Length in	ID in	Press. psi	Tensile Strength klbs	Torsional Strength ft-lb	Connection
1.5	12.17	0.63	10000	49	1106	1 AMT
1.69	12.17	0.67	10000	54	1180	1 AMT
2.125	13.58	0.94	10000	79	1696	1 1/2 AMT
2.375	13.58	0.94	10000	83	1770	1 1/2 AMT
2.875	18.15	1.26	10000	108	2950	2 3/8 PAC
79	18.15	1.38	10000	110	3024	2 3/8 PAC

3.7 Heavy Duty Hydraulic Disconnect



The Heavy Duty Hydraulic Disconnect is an emergency release device designed specifically for coiled tubing and workover operations. It is suitable for situations where downhole tools become stuck or need to be quickly released. Through an adjustable hydraulic shear mechanism, the disconnect operation can be precisely controlled, enhancing operational flexibility and safety. After a disconnect, the tool leaves a standard GS fishing neck, which can be recovered later using a GS fishing tool.

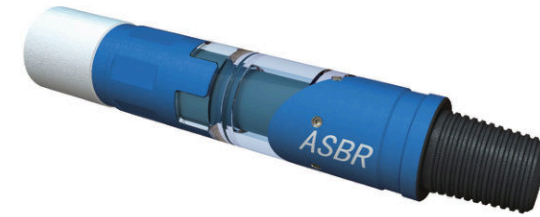
PRODUCT FEATURES

- **Adjustable Hydraulic Shear Pressure:** Adaptable to different well conditions, the shear pressure can be adjusted as needed, improving operational safety and precision.
- **GS Fishing Neck, Easy Recovery After Disconnect:** No need for extra fishing aids after a disconnect. The tool can be recovered directly using a standard GS overshot, improving operational efficiency.
- **Can Be Provided with a Matching GS Pulling Tool:** Strong compatibility ensures smooth recovery operations after a disconnect, enhancing operational reliability.
- **Compact Structure, Strong Load Capacity:** Suitable for high-torque, high-tensile downhole operations, with excellent impact and fatigue resistance, allowing for stable operation in harsh conditions.

OD in	Length in	ID in	Drop Ball Size in	Press. psi	Tensile Strength klbs	Fish Neck/ GS in	Single Pin Shear Pressure psi	Single Pin Shear Force lbs	Connection
1.5	13.98	0.24	0.35	10000	25	1 1/4	1000	270	1 AMT
1.69	16.93	0.28	0.39	10000	34	1 1/2	1000	500	1 AMT
2.125	16.93	0.55	0.64	10000	46	2	1000	840	1 1/2 AMT
2.375	16.93	0.55	0.64	10000	67	2	1000	840	1 1/2 AMT
2.875	19.76	0.78	0.94	10000	79	3	360	840	2 3/8 PAC
3.125	19.76	0.78	0.94	10000	79	3	360	840	2 3/8 PAC

* Single Pin Shear Pressure can be customized according to user requirements.

3.8 Mechanical Disconnect



The Mechanical Disconnect is a downhole tool release device that relies on upward tensile force to shear a pin. It is designed for coiled tubing operations. When a downhole tool becomes stuck or requires an emergency release, the operator can apply a preset upward tensile force to shear the pin, achieving a safe release while leaving a standard GS fishing neck for subsequent fishing operations. This tool does not require hydraulic or rotational operations, making it suitable for a variety of complex well conditions and improving operational safety and reliability.

PRODUCT FEATURES

- **No Hydraulic Control, Simple Operation:** The disconnect is completed by shearing a pin with upward tensile force, making it suitable for low-pressure wells or non-pressure operational environments.
- **Standard GS Fishing Neck Design:** After a disconnect, a GS fishing tool can be used for quick retrieval, improving operational efficiency.
- **Replaceable Shear Pins, Adjustable Tensile Force:** The specifications of the shear pins can be adjusted according to different operational needs, allowing for a controlled release.
- **Compact Structure, Strong Load Capacity:** Suitable for high-tensile and high-torque operational environments, ensuring the safety and stability of downhole operations.
- **No Ball-Drop or Rotation Requirements, Strong Adaptability:** Suitable for complex conditions such as horizontal wells, extended-reach wells, and high-pressure gas wells, and is not affected by well-bore fluids or pressure.

OD in	Length in	ID in	Press. psi	Fish Neck (GS) in	Total Shear Load klbs (All Pins)	Connection
1.69	14.96	0.5	10000	1 1/2	23.8±10%	1 AMT
2.125	16.54	0.75	10000	2	23.8±10%	1 1/2 AMT
2.375	16.54	0.75	10000	2	23.8±10%	1 1/2 AMT
2.875	17.72	1.25	10000	3	23.8±10%	2 3/8 PAC
3.125	17.72	1.25	10000	3	23.8±10%	2 3/8 PAC

3.9 Motor Head Assembly



The Motor Head Assembly is a core component in the coiled tubing tool string, responsible for ensuring the normal operation of the tool string downhole. It integrates a double flapper check valve, a hydraulic disconnect tool, and a ball-activated circulating valve. While maintaining each function, it optimizes the tool's length, reduces connection time, and improves operational efficiency. It is suitable for coiled tubing operations of various sizes.

PRODUCT FEATURES

- **Three Functions Integrated into One, Reducing Tool Installation Time:** The modular design combines three core tools, lowering operational complexity and improving installation efficiency.
- **Compact Structure, Shorter Length:** The optimized design shortens the tool's length, making it suitable for various sizes of coiled tubing and increasing downhole operational flexibility.
- **Simplified Operational Process, Improved Operational Reliability:** Reduces connection points for individual tools, lowering the potential risk of leakage and enhancing overall reliability.
- **Strong Versatility:** Suitable for a variety of well conditions and process requirements, and widely used in coiled tubing drilling, workover, and fishing operations.

OD in	Length in	ID in	Press. psi	Tensile Strength klbs	Drop Ball Size in	Circular Ball Size in	Release Shear Pin	Circular Shear Pin	Connection
1.5	0.24	25.65	10000	25	0.35	/	3 pieces 1000 psi/piece 270 lbs/piece	/	1 AMT
1.69	0.28	27.6	10000	34	0.35	/	3 pieces 1000 psi/piece 500 lbs/piece	/	1 AMT
2.125	0.39	32.87	10000	79	0.67	0.5	3 pieces 1000 psi/piece 840 lbs/piece	4 pieces 1000 psi/piece 1190 lbs/piece	1 1/2 AMT
2.375	0.39	32.87	10000	79	0.67	0.5	3 pieces 1000 psi/piece 840 lbs/piece	4 pieces 1000 psi/piece 1190 lbs/piece	1 1/2 AMT
2.875	0.69	34.53	10000	79	0.94	0.71	8 pieces 400 psi/piece 840 lbs/piece	8 pieces 435 psi/piece 1070 lbs/piece	2 3/8 PAC
3.125	0.69	34.53	10000	79	0.94	0.71	8 pieces 400 psi/piece 840 lbs/piece	8 pieces 435 psi/piece 1070 lbs/piece	2 3/8 PAC

3.10 Knuckle Joint



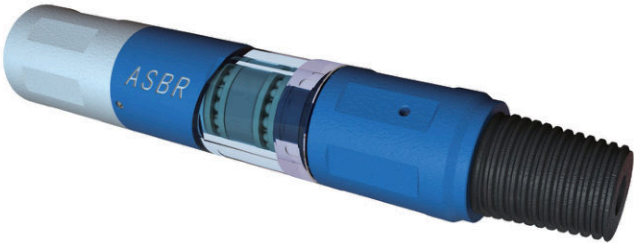
The Knuckle Joint is a high-flexibility connection tool used to increase the flexibility and pass-through capability of the tool string, helping tools smoothly enter directional, deviated, or complex well sections and reducing downhole operational resistance. In situations where tools must pass through a restricted-size hole or where the wellbore trajectory has a large deviation, the knuckle joint provides 360° free rotation and allows for a 15° angle deviation throughout the rotation, ensuring the tool string passes through the wellbore smoothly. Its core structure, consisting of a ball head and a sleeve, maintains a sealed state during rotation while withstanding downhole pressure, ensuring operational stability.

PRODUCT FEATURES

- **Compact Structure, Short Length:** The optimized design reduces the total length of the tool string, making it convenient for operations in narrow well sections.
- **Excellent Sealing Performance:** Maintains a good seal during rotation, preventing downhole leakage.
- **15° Angle Deviation:** Adapts to complex wellbore trajectories and improves downhole pass-through capability.
- **360° Free Rotation:** Allows the lower tool to freely adjust to the direction of the wellbore, reducing frictional resistance.
- **Full Bore ID Design:** Compatible with ball-drop operations, eliminating the need for additional tools for fluid control.

OD in	ID in	Length in	Press. psi	Connection
1.69	0.5	10	10000	1 AMT
2.125	0.75	10	10000	1 1/2 AMT
2.375	0.75	10	10000	1 1/2 AMT
2.875	1	14.17	10000	2 3/8 PAC
3.125	1	16.54	10000	2 3/8 PAC

3.11 Swivel Joint



The Swivel Joint is a high-flexibility connection tool used for downhole operations. It enables the lower tool to achieve 360° free rotation, reducing the impact of wellbore trajectory on the tool string, and is suitable for rotary well washing and other downhole operations. The swivel joint uses a high-strength sealed bearing structure to ensure the tool remains sealed and stable during rotation, effectively preventing fluid leakage. Its design allows the tool to rotate freely, enabling the operator to adjust the tool's direction more flexibly, reducing drill string torque, and improving operational efficiency.

PRODUCT FEATURES

- **360° Free Rotation:** Enables the lower tool to adjust direction with the wellbore, improving operational flexibility.
- **Full Bore ID Design:** Compatible with ball-drop operations, without the need for additional modifications to the tool's structure.
- **High-Performance Sealing System:** Uses a sealed bearing structure to ensure sealing during downhole operations.
- **Reduces Tool String Torque:** Suitable for operations requiring rotation, such as rotary well washing and sand cleaning.

OD in	ID in	Length in	Press. psi	Connection
2.125	0.39	12.05	10000	1 1/2 AMT
2.375	0.47	12.05	10000	1 1/2 AMT
2.875	0.87	13.78	10000	2 3/8 PAC
3.125	1.1	14.76	10000	2 3/8 PAC

3.12 Quick Connector



The Quick Connector is a self-aligning connector designed for coiled tubing operations, enabling a quick and secure connection in situations where the coiled tubing or downhole tool string cannot be rotated. Its interlocking structure ensures the tool can withstand high torque without compromising the reliability of the connector.

PRODUCT FEATURES

- **Quick Connection, Reduced Operational Time:** The interlocking connection can be completed with just a 10° rotation, improving operational efficiency.
- **High Torque Capacity:** The interlocking structure can withstand high torque loads, making it suitable for complex operating conditions.
- **Compact Design, Suitable for Offshore Rig Floor Operations:** Easy to use in space-constrained environments.
- **Optional Pressure Release Plug, Enhances Safety:** An additional pressure release device strengthens pressure management capabilities.
- **Robust Structure, Easy Maintenance:** Durable design facilitates on-site maintenance and reusability.

OD in	ID in	Length in	Press. psi	Tensile Strength klbs	Connection
1.69	0.75	12	10000	42	1 AMT
2.125	0.98	19.13	10000	90	1 1/2 AMT
2.375	0.98	19.13	10000	101	1 1/2 AMT
2.875	1.26	19.84	10000	124	2 3/8 PAC
3.125	1.26	19.84	10000	130	2 3/8 PAC

3.13 Crossover



A crossover is used to connect tools with different specifications or thread types, ensuring tool string compatibility and meeting the needs of various downhole operations.

PRODUCT FEATURES

- **Supports Multiple Thread Specifications:** Adapts to different downhole tools, enabling seamless connection.
- **Compact Structure, High Strength:** Made from high-strength materials, ensuring safe and reliable operation.
- **Customized Design:** We can quickly customize the design and manufacturing according to user needs to ensure the best match.
- **Fast Response, Short-Cycle Manufacturing:** Possesses efficient production capabilities, allowing for the completion of design, manufacturing, and delivery in a short time.

* Can be customized according to user requirements.

3.14 Straight Bar



The Straight Bar is a downhole tool with a large wall thickness, primarily used to add weight to the tool string, increasing the impact force of operations such as jarring and fishing to ensure they are completed successfully. It also helps the tool string enter the wellhead and descend smoothly and stably.

PRODUCT FEATURES

- **Enhanced Impact Force:** By increasing the weight of the tool string, it improves the effective impact force of jarring operations.
- **Full Bore ID Design:** Supports reverse circulation, ensuring smooth fluid flow and improving operational efficiency.
- **Optimized Tool String Stability:** By adding weight, it reduces tool string oscillation, improving the stability of the descent.
- **Customization Support:** Can be provided in different lengths, specifications, and materials according to customer needs to adapt to various downhole conditions.

OD in	ID in	Length in	Connection
2.125	1	40	1 1/2 AMT
2.375	1	40	1 1/2 AMT
2.875	1.25	40	2 3/8 PAC
3.125	1.25	40	2 3/8 PAC

3.15 Gauge Cutter



A gauge cutter is used to check the wellbore drift, ensuring that the tool string can pass through the downhole channel smoothly. It is typically used before or after an operation to check if the inner diameter of the wellbore or pipe string meets the requirements, preventing tool sticking caused by deformation, scaling, or plugging.

PRODUCT FEATURES

Precise Wellbore Drift Detection: Timely detection of deformation, scaling, or plugging to reduce operational risks.

Simple Structure, Easy to Use: The check can be completed simply by running it through the wellbore.

Wear and Corrosion Resistant: Made of high-strength wear-resistant materials, suitable for different downhole environments.

Customizable: Different sizes, shapes, and connection methods can be provided according to customer needs to meet various well conditions.

* Can be customized according to user requirements.

3.16 Rigid Stabilizer



The Rigid Stabilizer is used to provide centralization and stable support for the tool string during coiled tubing operations. It reduces tool deviation and improves operational accuracy. It is suitable for logging, fishing, milling, and other coiled tubing operations.

PRODUCT FEATURES

- **Rigid Structure, Stable and Reliable:** Provides effective support, preventing the tool string from deviating within the wellbore.

- **Wear and Corrosion Resistant:** Made of high-strength alloy materials to adapt to various downhole environments.

- **Multiple Sizes Available:** Customizable design can be provided based on coiled tubing specifications and downhole conditions.

- **Optimized Fluid Channel:** The design is reasonable, ensuring smooth fluid circulation and not affecting operational efficiency.

- **Easy to Install and Maintain:** Compact structure facilitates quick on-site assembly and replacement.

* Can be customized according to user requirements.

3.17 Bi-Directional Hydraulic Jar



The Bi-Directional Hydraulic Jar is a jarring tool designed specifically for coiled tubing operations. It provides both upward and downward jarring force to free a stuck tool string, increasing the success rate of the operation. It is suitable for coiled tubing logging, fishing, milling, and other downhole operations. The hydraulic bi-directional jar uses a hydraulic delay mechanism to store energy, which is then released after the piston bypasses, creating a downward or upward impact to the bottom or top of the tool string, thereby freeing it.

PRODUCT FEATURES

- **Bi-Directional Jarring Function:** Can jar both downward and upward, increasing the success rate of freeing the tool.
- **Simple Structure, Easy to Maintain:** The optimized design reduces wear and extends service life.
- **Composite sealing system:** Ensures smooth operation, reduces friction, and improves reliability.
- **Hydraulic Compensation Design:** No need to adjust hydraulic oil before running downhole, as it adapts to different downhole temperatures and pressures.
- **Suitable for Both Pressure and Tension Operations:** Adapts to different working conditions, increasing operational flexibility.

OD in	ID in	Length in	Pull Activation Force lbs	Push Activation Force lbs	Tensile Strength klbs	Torsional Strength ft-lb	Connection
1.69	0.47	82.75	9000	3000	40	885	1 AMT
2.125	0.7	86.33	9000	3000	56	1696	1 1/2 AMT
2.375	0.7	81.1	9000	3000	81	1844	1 1/2 AMT
2.875	0.97	87.0	9000	3000	94	2950	2 3/8 PAC
3.125	1	86.92	9000	5000	108	3319	2 3/8 PAC
3.5	1.26	101.88	23000	16000	153	4942	NC26
3.75	1.26	101.88	23000	16000	171	5310	2 7/8 REG

3.18 High-Load Accelerator



The High-Load Accelerator is an auxiliary tool designed to enhance the impact of a jar. Typically installed above the jar, it improves jarring speed and impact intensity through energy storage and instantaneous release, increasing the success rate of downhole jarring operations. The High-Load Accelerator uses a stack of Belleville springs to accumulate energy. When the jar fires upward or downward, the spring stack instantly releases its stored energy, providing additional acceleration and increasing the jar's impact force.

PRODUCT FEATURES

- **Enhanced Jarring Effect:** Instantly releases a high load to increase the jar's impact intensity and free a stuck tool.
- **Simple Structure, Easy Maintenance:** Optimized design reduces downhole failures and extends service life.
- **Full-Bore Design:** Allows for downhole reverse circulation, improving operational flexibility.
- **High Tensile Strength:** Can withstand large tension and loads, adapting to complex well conditions.

OD in	ID in	Length Closed in	Length Extended in	Stroke Up in	Stroke Down in	Tensile Strength klbs	Torsional Strength ft-lb	Connection
1.69	0.31	40.55	44.68	2.09	2.05	49	1180	1 AMT
2.125	0.39	44.49	49.41	2.52	2.40	79	1696	1 1/2 AMT
2.375	0.39	44.49	49.41	2.52	2.40	94	2065	1 1/2 AMT
2.875	0.7	59.29	68.07	4.45	4.33	108	2950	2 3/8 PAC
3.125	0.7	59.29	68.07	4.45	4.33	117	3319	2 3/8 PAC
3.5	0.98	65.94	74.64	4.33	4.37	153	4942	NC26
3.75	1.18	65.94	74.64	4.33	4.37	171	5015	2 7/8 REG

3.19 High-frequency Bidirectional Impact Hammer



The High-frequency Bi-directional Impact Hammer is an efficient tool designed specifically for coiled tubing workover operations. It's used for fishing out junk, jarring free stuck tools, and opening/closing sliding sleeves, among other tasks. It provides a downward impact under compression and an upward impact under tension. The tool can be used with rotary tools, jars, etc., to further enhance its operational capabilities. Driven by fluid power, the tool is self-activating and starts using pumped liquids or gases (including foam or nitrogen), eliminating the need for mechanical locking devices or extra operations.

PRODUCT FEATURES

- **Bidirectional Impact Capability:** It provides both upward and downward jarring, improving the ability to free stuck tools.
- **Compatible with Various Drive Fluids:** Works with liquids, foam, nitrogen, and other media.
- **High-Temperature Adaptability:** Rated for an operating temperature up to 180°C, making it suitable for harsh well conditions.
- **Resonance and Jarring Operation:** Can be used for high-frequency resonance operations, increasing work efficiency.
- **Reduces Coiled Tubing Kinking:** Optimizes string movement to prevent kinking issues at the gooseneck.
- **No Re-triggering Needed:** Fluid self-activation reduces operational steps and improves ease of use.

OD in	ID in	Length in	Flow Rate GPM	Working Press. psi	Upstroke Freq. Hz	Downstroke Freq. Hz	Tensile Strength klbs	Torsional Strength ft-lb	Connection
2.125	0.49	125.7	11-70	700-1800	2-29	3-17	350	2300	1 1/2AMT

3.20 High-frequency Accelerator for Impact Hammer



The High-frequency Accelerator is an auxiliary tool specifically designed for the Bi-directional High-frequency Impact Hammer. It provides additional acceleration during high-frequency jarring operations, increasing impact force and improving the success rate of freeing stuck tools and fishing operations. Unlike the High-Load Accelerator, the High-frequency Accelerator is optimized for high-frequency conditions and is suitable for operational environments with limited load-bearing capacity.

PRODUCT FEATURES

- **Designed for High-Frequency Operations:** Adapts to the Bi-directional High-frequency Impact Hammer to enhance impact performance.
- **Efficient Energy Release:** Uses a Belleville spring system to provide instantaneous acceleration, improving the efficiency of freeing stuck tools.
- **Optimized Force Design:** Suitable for operational environments with limited force capacity, avoiding overload issues.
- **Compact Structure, Convenient Maintenance:** Easy to handle and maintain on-site, improving operational efficiency.

OD in	ID in	Length Closed in	Stroke in	Tensile Strength klbs	Torsional Strength ft-lb	Connection
2.125	0.55	43.3	3.94	74	1696	1 1/2AMT

3.21 Fishing Low-speed Motor



The Fishing Low-speed Motor is a hydraulically driven downhole power tool specifically designed for coiled tubing fishing operations. It provides rotational power for tools like junk baskets, thereby increasing the success rate of fishing for junk. Additionally, this motor can also be used for workover operations such as washover and milling.

PRODUCT FEATURES

- **Low-Speed, High-Torque Output:** Suitable for operations like fishing and washover.
- **Resistant to High Temperatures and Oil-Based Drilling Fluids:** Adapts to a variety of well conditions.
- **High Rubber Hardness:** Not prone to wear, extending its service life.
- **Short Structure Design:** Reduces length constraints during coiled tubing operations.

OD in	Length in	Flow Rate GPM	RPM	Working Press. psi	Max Torq ft-lb	Max Temp °C
2.125	41.81	26-79	20-60	232	113	160
2.375	38.78	34-103	20-60	232	235	160
2.875	61.53	40-119	20-60	232	344	160
3.5	61.53	50-151	20-60	232	496	160

3.22 Non-release Overshot



The Non-release Overshot is a fishing tool specifically designed for coiled tubing or workover operations. It effectively captures and secures a fish. This tool features a simple structure and high load-bearing capacity, making it suitable for situations where the fish cannot be released downhole.

Depending on the slip type, it can be categorized as:

Segmented Slips: Ideal for irregularly shaped or fragile fish, providing multi-point contact to enhance gripping force.

Ring-Type Slips: Suitable for regularly shaped fish, providing uniform contact for stable gripping and less chance of damaging the fish.

PRODUCT FEATURES

- **Non-releasable Design:** Ensures the fish will not be accidentally dropped.
- **Suitable for Coiled Tubing and Workover Operations:** Compact structure adapts to complex downhole environments.
- **High-Strength Alloy Steel Construction:** Wear-resistant, and can withstand high temperatures and high pressures.

OD in	Fishing OD in	Length in	Tensile Strength klbs	Connection
4.13	3.125	56.85	100	2 3/8 PAC
4.13	2.875	56.85	100	2 3/8 PAC
4.13	2.125	56.85	100	2 3/8 PAC
4.13	2.00	56.85	100	2 3/8 PAC
3.15	2.00	53.54	100	2 3/8 PAC
3.86	1.50	55.12	100	2 3/8 PAC

*Can be customized with various sizes and extension barrels according to user requirements.

3.23 Hydraulic Releasable Overshot



The Hydraulic Releasable Overshot is a downhole fishing tool designed for coiled tubing operations, specifically for retrieving tools or junk dropped into the well. This tool features a hydraulic release mechanism that allows it to be unlatched by adjusting the pump rate and applying pressure, which increases operational flexibility and safety when the tool string becomes stuck or the fish needs to be released.

PRODUCT FEATURES

- **No Pipe String Rotation Needed:** The fishing operation can be completed simply by running the tool downhole, which simplifies operation.
- **Controllable Hydraulic Release:** Allows for a quick release of the fish when stuck or unrecoverable, reducing risks.
- **Compact Structure and Shorter Length:** Suitable for operations in confined downhole spaces.
- **High-Strength Materials:** Resistant to high temperatures and pressures, adapting to harsh downhole environments.

OD in	Fishing OD in	Length in	Release Flow Rate GPM	Release Press. psi	Tensile Strength klbs	Connection
3.75	2.875	30.71	24-32	520	100	2 3/8 PAC
2.95	2	30.71	24-32	520	85	2 3/8 PAC

*Can be customized with various sizes and fishing release parameters

3.24 JDC Overshot



The JDC Overshot is a downhole tool used for deploying and fishing tools with specific diameters. It's widely applicable for coiled tubing and conventional well operations. It uses hydraulic control to enable deployment and fishing functions, improving operational safety and efficiency.

PRODUCT FEATURES

- **Internal Nozzle Design:** Allows for circulating and washing the fish head to prevent plugging and increase the success rate of the operation.
- **Replaceable Nozzles:** Adapts to different operational flow rates and various downhole conditions.
- **Heavy-Duty Design:** Ensures the fish will not be accidentally released during retrieval, improving operational reliability.
- **High Overall Strength:** Excellent tensile strength, making it suitable for high-load operational environments.
- **Replaceable Deploy/Retrieve Slips:** Can accommodate different sizes of fish, increasing the tool's versatility.

OD in	ID in	Length in	Fish OD in	Working pressure psi	Tensile Strength klbs	Connection
2	0.2	14.5	1.22-1.37	580	220	1" AMMT

* Can be customized according to user requirements.

3.25 Coiled Tubing Venturi Junk Basket



The Venturi Junk Basket is a cleaning tool based on the Venturi principle, designed for coiled tubing operations. It's used to clear non-magnetic objects (such as rubber or plastic fragments) and various high-density debris and particles that are difficult to circulate to the surface from cased or open-hole wells.

PRODUCT FEATURES

- **Hydraulic-driven:** Easy to operate and adaptable to a variety of downhole environments.
- **Fully Enclosed Flapper Valve:** Captures debris and ensures it won't be accidentally released, increasing the success rate of fishing.
- **Handles a Range of Debris:** Can handle both large fragments and small sand particles, offering both high efficiency and broad adaptability.
- **Connects to Any Mill Shoe:** Can be connected to any type of dressing mill shoe to clean up debris directly after a milling operation.
- **Adjustable Debris Storage:** The outer filter barrel's debris storage capacity can be adjusted to meet the needs of different well conditions.
- **Replaceable Nozzle Specifications:** Adapts to different flow rate requirements, increasing flexibility.

OD in	Length in	Working Press. psi	Flow Rate GPM	Fishing Volume gal	Tensile Strength klbs	Torsional Strength ft-lb
2.125	55.71	870-1450	26-63	0.13	63	1844
3.15	102.36	870-1450	79-132	1	94	2950

* Can be customized according to user requirements.

3.26 Reverse Circulation Junk Basket



The Reverse Circulation Junk Basket is a downhole fishing tool based on the principle of reverse circulation. It's suitable for coiled tubing, workover, and drilling operations. It effectively guides junk into the basket and prevents it from being washed out during retrieval by using a fluid circulation method that flows from the annulus into the tool.

PRODUCT FEATURES

- **Reverse Circulation Design:** Fluid enters the tool from the annulus, making it easier to guide junk into the basket.
- **Prevents Forward Washing:** Avoids washing the junk away, which increases the success rate of the fishing operation.
- **Front-end Mill Shoe:** Can be used to mill or dress the junk, improving adaptability.
- **Replaceable Grapple Assembly:** Reduces maintenance costs and can be used for different sized junk.
- **Compact and Short Structure:** Facilitates downhole operations and is suitable for small-bore well conditions.

OD in	ID in	Length in	Press. psi	Tensile Strength klbs	Connection
2.99	1.26	26.77	10000	85	2 3/8 PAC
3.39	1.26	26.77	10000	90	2 3/8 PAC
3.78	1.26	28.74	10000	94	2 3/8 PAC

3.27 Coiled Tubing Magnet Fishing Rod



The Coiled Tubing Magnet Fishing Rod is a fishing tool specifically designed to retrieve magnetic debris downhole. It is suitable for workover, coiled tubing, and drilling operations. The tool can directly attract iron fragments from the wellbore during a trip, and its large inner diameter allows for compatibility with circulating well-washing operations, which ensures a clean wellbore.

PRODUCT FEATURES

- **Simple Structure:** Easy to replace the magnet block, leading to low maintenance costs.
- **Full-Bore Design:** Can be used with circulating well washing to prevent downhole sediment buildup.
- **Three-Sided Groove Design:** Increases the magnetic surface area and improves fishing capability.
- **Simple Operation:** Fishing can be completed quickly.
- **Customizable Strong Magnets:** Can be customized based on temperature to suit high-temperature or special well conditions.

OD in	ID in	Length in	Max Temp °C	Tensile Strength klbs	Torsional Strength ft-lb	Connection
2.135	0.59	41.73	150	101	1549	1 1/2 AMT
2.375	0.59	41.73	150	101	1696	1 1/2 AMT
2.875	0.59	41.73	150	112	2434	2 3/8 PAC
3.125	0.71	41.73	150	112	2876	2 3/8 PAC

* Can be customized according to user requirements.

3.28 Releasable GS Spear



The Releasable GS Spear is a fishing tool specifically designed for running and retrieving downhole tools with a standard internal fishing neck. It is widely used in workover, coiled tubing, and drilling operations. Its unique hydraulic release mechanism allows for fishing and releasing through pressure changes, without the need for shear pins or ball drops, which significantly improves operational efficiency.

PRODUCT FEATURES

- **No Ball Drop Required:** Fishing and releasing are achieved simply by changing the pressure, which increases operational efficiency.
- **Simple Structure:** Easy to operate, reducing complex on-site procedures.
- **Safe and Reliable Release Mechanism:** Effectively prevents accidental operation that could lead to losing the fish.
- **Reusable:** The tool can be used for repeated fishing operations, adapting to multiple-run requirements.
- **High Tool Strength:** Can withstand large tensile loads, making it suitable for a variety of complex conditions.
- **Effective Fishing:** Ensures smooth recovery of downhole tools.

OD in	ID in	Length in	Fish Neck/ GS in	Tensile Strength klbs	Connection
1.69	0.18	16.89	2	34	1 AMT
1.89	0.18	16.89	2	38	1 1/4 AMT
2.125	0.22	19.88	2.5	47	1 1/2 AMT
2.875	0.26	25.67	3	67	2 3/8 PAC

3.29 Lead Impression Block



A lead impression block is a critical tool for determining the depth and shape of a fish, as well as general downhole conditions. It's widely used in fishing operations and casing inspections. By creating an impression of the fish's top in the lead body, the fishing crew can accurately determine the shape and orientation of the fish, allowing them to select the correct fishing tool and increasing the success rate of the operation.

PRODUCT FEATURES

- **Accurately Determines Fish Top Shape and Position:** Increases the success rate of fishing.
- **Can Be Used for Casing Deformation Detection:** Helps to assess wellbore conditions.
- **Simple Structure, Easy to Install:** Strong applicability.
- **Available with or without Water Courses:** Meets different operational needs.
- **Improves Operational Efficiency:** Reduces the time and cost associated with blind fishing.

* Can be customized according to requirements.

3.30 Hydraulic Anchor



A hydraulic anchor is a tool used to anchor a tubing string, preventing its relative movement. It is typically used with a hydraulic cutter and other downhole tools, and is widely applied in coiled tubing, live well, and workover operations. This tool can withstand high torque loads, ensuring stable and reliable operations.

PRODUCT FEATURES

- **Strong Anchoring Force:** Ensures stable operation of downhole tools.
- **Minimal Casing Damage:** Reduces the risk of long-term use.
- **Easy to Release:** Increases operational flexibility.
- **Compact Structure:** Suitable for confined downhole spaces.
- **Reusable:** Durable and reliable.

OD in	ID in	Length in	Active Flow Rate GPM	Tensile Strength klbs	Torsional Strength ft-lb	Anchor ID in	Connection
1.69	0.37	31.46	18	49	1180	1.77-2.68	1 AMT
2.125	0.55	33.58	24	79	1696	2.17-3.19	1 1/2 AMT
2.875	0.63	44.92	53	90	3098	3.15-4.72	2 3/8 PAC

3.31 Hydraulic Cutter



A hydraulic cutter is an internal cutting tool used to cut tubing or other tubulars. It is activated by fluid and uses a mud motor to rotate the cutting arms. The cutting arms can extend up to twice the tool's body diameter, ensuring stable and reliable cutting performance even in complex conditions such as hard spots, eccentricity, or discontinuous cuts. This tool features a compact structure, fast cutting speed, and easy maintenance. It can withstand severe vibration and is suitable for various downhole operational environments.

PRODUCT FEATURES

- **Fluid-Activated:** Efficiently cuts tubing.
- **Self-Locking and Limiting Cutting Arms:** The cutting arms have a self-locking and limiting function.
- **Compact Structure:** Suitable for confined downhole spaces.
- **Fast Cutting Speed:** Improves operational efficiency.
- **Extendable Cutting Arms:** Arms can extend to twice the body diameter, adapting to complex well conditions.
- **Reasonable Design:** Easy to maintain and has a long service life.

Tool OD in	Length in	Max Cutting OD in	Flow Rate GPM	Press. psi	Tensile Strength klbs	Torsional Strength ft-lb	Connection
1.69	18.07	3.54	21-32	218-725	49	1106	1 AMT
2.125	19.41	4.05	48-58	218-725	79	1696	1 1/2 AMT

2.875 25.23 5.50 79-119 435-1015 92 3172 2 3/8 PAC

3.32 Sliding Sleeve Shifting Tool



The Sliding Sleeve Shifting Tool is a coiled tubing tool used to open or close sliding sleeves in horizontal wells. It is suitable for downhole fluid control and zonal isolation operations. The tool uses internal pressure to control the extension and retraction of the shifting keys, allowing for efficient sleeve operations without the need for ball drops. Additionally, the tool is equipped with a backup release function: in the event of an abnormal situation, the keys can be forcibly retracted by shearing a pin, ensuring safe and reliable operation.

PRODUCT FEATURES

- **No Ball Drop Needed:** The keys are extended and retracted via pressure control.
- **Backup Release Function:** The keys can be forcibly retracted by shearing a pin.
- **One-Trip Operation:** Can both open and close sliding sleeves in a single trip, eliminating the need to change tools mid-operation.
- **Two Sets of Keys:** The upper and lower keys are designed for sliding sleeves that open in different directions.
- **Compact Structure:** Suitable for horizontal wells, multi-zone completions, and other operational environments.

OD in	ID in	Length in	Key Range OD	Release Press. psi	Press. psi	Max Temp °C	Connection
2.13	0.39	48.03	2.15-2.60	580	5000	150	1 1/2 AMT
2.56	0.71	49.21	2.72-3.16	580	5000	150	1 1/2 AMT

3.33 Coiled Tubing Motor



The Coiled Tubing Motor is a downhole power drilling tool that uses drilling fluid to drive a stator and rotor, generating rotational motion to provide stable, efficient power output for a drill bit or other downhole tools. This motor is characterized by its strong wear resistance, high torque output, and broad environmental adaptability. It can operate efficiently in a variety of complex conditions and is widely used in coiled tubing drilling, milling, workover, and completion operations.

PRODUCT FEATURES

- **Strong Wear Resistance:** Uses high-strength alloy materials and high-hardness rubber to significantly extend the motor's life.
- **High Torque Output:** An optimized stator and rotor design improves drilling capability and enhances tool power transmission.
- **High-Temperature Resistance:** High-temperature-resistant rubber (up to 204°C) is optional, making it suitable for high-temperature well operations.
- **Broad Adaptability:** Can operate efficiently in conventional liquids, foam and nitrogen two-phase flow, and pure nitrogen environments.
- **Optimized Structure:** The bearing system and transmission mechanism have an optimized design to reduce vibration and improve stability.
- **Long Service Life:** The combination of high-quality materials and advanced processes ensures stability during long-term operations.

PART OF COILED TUBING MUD MOTORS TECHNICAL PARAMETERS

OD in	Models	Flow Rate GPM		RPM		Power hp	Rotate Rev/Gal	Max Press psi	Max Torque ft-lb
		Min	Max	Min	Max				
1.50	AR150562.0	10	30	133	400	33	12.00	493	199
1.69	AR169565.0	26	55	390	860	40	15.72	1189	229
2.125	AR212566.0	21	61	260	770	54	12.78	1421	339
2.375	AR238784.0	32	100	150	500	40	5.03	943	468
2.875	AR287564.7	50	151	170	500	80	3.32	1117	830
3.125	AR312565.0	380	800	260	560	134	2.64	1189	1228

3.34 Ultra-Short Radius Mud Motor



The ASBR Ultra-Short Radius Mud Motor is designed for short-radius sidetracking, directional drilling, and horizontal well operations. It features a high build-up rate, large torque, high drilling efficiency, a compact structure, and strong composite drilling capabilities. Unlike a traditional adjustable first-stage motor, this second-stage motor uses a fixed build-up structure. This allows for composite drilling without the need to replace the stabilizer, which is simpler and more efficient than changing stabilizers. It is especially suitable for short-radius sidetracking and drilling in complex well conditions.

PRODUCT FEATURES

- **Extreme Build-Up Rate:** The ultra-short bend sub distance design gives it a build-up capability far beyond that of a traditional mud motor. The maximum theoretical build-up rate can reach 193.6°/30m (radius of curvature 8.9m), meeting high build-up rate demands.
- **High Torque Output, More Efficient Composite Drilling:** Building on the adjustable build-up rate of a first-stage motor, the ASBR motor uses a fixed build-up second-stage design. This enables composite operations without replacing the stabilizer, which is more convenient than the traditional method and significantly boosts operational efficiency.
- **Compact Structure, Fast Penetration:** The short-structure design significantly reduces overall length, improving downhole maneuverability, decreasing friction, and increasing the rate of penetration (ROP).
- **Stable Toolface Control:** The optimized structure ensures the toolface remains stable, reducing drilling deviation and improving wellbore trajectory control accuracy.
- **High Reliability, Long Service Life:** Made from high-strength, wear-resistant alloy materials, it has an extended service life, reduced maintenance frequency, and improved operational safety.

OD in	Lobes	Stages	Flow Rate GPM	RPM	Max Press. psi	Max Torq. ft-lb	Bend Distance in	Length in	Bend Angle
3.125	7:8	1.0	79-159	136-272	232	475	18.74	61.41	1°-2°
3.5	7:8	2.0	79-159	148-296	522	1310	19.29	74.80	1°-2°

3.35 Shockwave® Coiled Tubing Extended Reach Tool



The Shockwave® Coiled Tubing Extended Reach Tool is a highly efficient friction-reduction tool designed specifically for coiled tubing operations. Its working principle uses hydrodynamic effects to simultaneously generate low-frequency axial negative pressure pulses and radial pulses during an operation. This significantly reduces pipe string friction and increases the coiled tubing's reach. The tool not only helps coiled tubing reach the target depth smoothly but also effectively transfers drilling weight to the mill shoe during milling, fishing, and other operations, improving work efficiency and saving time and cost.

PRODUCT FEATURES

- **Starts at Low Flow Rates:** Adaptable to various pumping conditions, increasing versatility.
- **Dual Axial and Radial Oscillation Force:** Effectively reduces friction and improves tool-running stability.
- **High Flow Rate Design, Low-Pressure Drop:** Reduces fluid energy loss and improves pump efficiency.
- **Low-Frequency Vibration:** The oscillation force has a longer continuous duration, enhancing the coiled tubing's propulsion capability.

OD in	Length in	Working Press. psi	Oscillation Freq. HZ	Flow Rate GPM	Tensile Strength klbs	Torsional Strength ft-lb	Max Temp °C	Connection
2.125	55.51	363-696	5-14	21-58	61	1696	160	1 1/2 AMT
2.375	57.08	363-696	3-14	21-92	79	1696	160	1 1/2 AMT
2.875	58.66	363-696	2-14	21-148	93	2950	160	2 3/8 PAC
3.125	62.20	363-696	2-14	26-185	108	2950	160	2 3/8 PAC

* Customizable All-Metal Shockwave® Coiled Tubing Extended Reach Tool.

3.36 Adjustable Frequency Coiled Tubing Extended Reach Tool



The Adjustable Frequency Coiled Tubing Hydraulic Oscillator is a high-efficiency friction reduction tool designed for coiled tubing operations. It generates periodic pressure fluctuations, creating a water hammer effect that converts the static friction between the pipe string and the casing into kinetic friction. This reduces friction and enhances the coiled tubing's propulsion capability. Unlike traditional oscillators, this tool allows for the adjustment of its oscillation frequency to adapt to different well conditions, optimizing coiled tubing operations.

PRODUCT FEATURES

- **Adjustable Oscillation Frequency:** Adapts to different well conditions, allowing for pressure adjustments from low to high frequency.
- **Extends Tool Performance:** Effectively reduces friction and increases the push depth of the coiled tubing tool string.
- **High-Performance Wear-Resistant Rubber:** Provides a long service life, which reduces maintenance costs.
- **High-Temperature Resistant Design:** High-temperature-resistant rubber is optional, ensuring stable operation in high-temperature downhole environments.

OD in	Length in	Working Press. psi	Oscillation Freq. HZ	Flow Rate GPM	Tensile Strength klbs	Torsional Strength ft-lb	Max Temp °C	Connection
1.69	55.23	363-696	5-10	13-37	49	1180	160	1 AMT
2.125	56.30	363-696	5-10	21-58	63	1696	160	1 1/2 AMT
2.375	56.30	363-696	5-10	21-79	72	1770	160	1 1/2 AMT
2.875	57.24	363-696	5-10	21-119	108	2950	160	2 3/8 PAC
3.125	57.24	363-696	5-10	32-127	110	3024	160	2 3/8 PAC

3.37 Economic Spring Oscillator



The Economic Spring Hydraulic Oscillator is an efficient friction-reduction tool used for coiled tubing operations. It uses high-frequency pressure changes to make the entire pipe string oscillate, converting static friction between the string and the casing into kinetic friction. This reduces drag and increases the coiled tubing's downhole depth. The tool has a simple, highly reliable structure, making it particularly suitable for operations such as drilling out plugs, cleaning out wells, and milling. It effectively improves the transfer of weight and optimizes overall operation.

PRODUCT FEATURES

- **High-Frequency Pressure Fluctuation:** Effectively reduces friction and improves the string's propulsion capability.
- **Compact and Short Length:** Suitable for tool string designs with limited space.
- **Low Maintenance Cost:** The simple structural design reduces repair and replacement costs.

OD in	Length in	Working Press. psi	Oscillation Freq. HZ	Flow Rate GPM	Tensile Strength klbs	Torsional Strength ft-lb	Connection
2.125	27.56	363-870	14-20	40-66	65	1033	1 1/2 AMT
2.875	32.91	363-870	14-20	66-132	94	2729	2 3/8 PAC

3.38 Coiled Tubing Accumulator Tool



The Coiled Tubing Accumulator Tool is a highly efficient and stable power transmission tool designed for coiled tubing operations. It provides a consistent pressure and torque output during milling, wellbore cleanouts, and other high-torque operations. The tool's internal energy storage system eliminates torque variations caused by flow rate fluctuations, which improves operational stability and efficiency, and ensures power is precisely delivered to the downhole tools.

PRODUCT FEATURES

- **Consistent Torque Output:** Improves the stability of milling and wellbore cleanout operations.
- **Energy Storage for Pressure Stabilization:** Reduces the impact of pressure fluctuations on the operation.
- **Reduced Mechanical Shock:** Increases the service life of the coiled tubing and tools.
- **Reduces the Risk of Coiled Tubing Sticking:** When this tool is used, the milled cuttings are smaller.
- **Suitable for Various Conditions:** Can be used in conventional fluids, foam nitrogen, and two-phase flow environments.

OD in	Length in	ID in	Stroke in	Tensile Strength klbs	Max Temp °C	Connection
2.875	48	0.98	1.97	79	190	2 3/8 PAC

3.39 Hydraulic Jet Propulsion Tool



The Hydraulic Jet Propulsion Tool is a downhole tool used to optimize coiled tubing drilling and milling operations. It uses intelligent flow path switching to achieve multiple functions, including propulsion, cleaning, and drilling/milling. The tool can efficiently clean out bottom hole debris without affecting the milling operation, improving downhole hydraulic efficiency, reducing friction, and increasing overall operational efficiency. The hydraulic jet propulsion tool is installed between the mud motor and the mill shoe. Its core component is a flow path switching device that automatically changes its flow state based on contact with a bridge plug and changes in drilling weight.

PRODUCT FEATURES

- **Efficient Bottom Hole Debris Cleanup:** Creates a Venturi effect in bypass mode to effectively carry debris away.
- **Provides Hydraulic Propulsion:** Reduces pipe string friction and improves drilling and milling efficiency.
- **Automatic Flow Path Switching:** The flow path automatically adjusts upon contact with a bridge plug, ensuring operational continuity.

OD in	Length in	Switch Flow Rate GPM	Max Flow Rate GPM	Tensile Strength klbs	Connection
2.125	15.12	40-48	63	40	1 1/2 AMT
2.375	15.12	40-48	79	54	1 1/2 AMT
2.875	13.42	92-106	132	67	2 3/8 PAC
3.125	13.42	92-106	148	79	2 3/8 PAC

*Optimized Fluid Utilization: High-flow return enhances wellbore cleanliness.

3.40 High-Performance Blade Mill Shoe



The Blade Mill Shoe is a downhole tool specifically designed for efficient milling of bridge plugs. It has a strong cutting action and high milling efficiency. Its unique blade design, combined with high-performance carbide teeth, allows it to successfully mill both composite and dissolvable bridge plugs while reducing the risk of sticking, ensuring operational stability and efficiency.

PRODUCT FEATURES

- **Blade Design Enhances Pass-Through and Scraping Capability:**
When a dissolvable bridge plug dissolves well, the blade design can act as a mixer, allowing the tool to pass smoothly through plug residue.
When a dissolvable plug does not dissolve as expected, or when milling composite plugs, the individual carbide teeth on the blades can powerfully scrape and ensure the plug is completely broken up.
- **Self-Sharpening Carbide Teeth for Improved Durability:**
The blades are angled to keep the carbide teeth consistently sharp.
After the front row of teeth wears down, the back row automatically engages, extending the tool's service life.
- **Staggered Cutter Design Optimizes Cutting Path:**
Each carbide tooth on the blades has an independent positioning radius, ensuring that every tooth has its own cutting surface. This design maximizes the mill shoe's service life and prevents excessive wear at a single point.

OD in	Length in	Nozzle	Channel OD in	Connection
1.5-2.09	11	3×Φ0.31 in	0.75	1 AMT
2.13-2.83	12.4	3×Φ0.39 in	1	1 1/2 AMT
2.87-4.5	12.4	5×Φ0.39 in	1.5	2 3/8PAC

* All technical specifications are customizable and can be manufactured to your requirements.

3.41 PDC Bit for Dissolvable Bridge Plugs



The PDC bit is an efficient milling tool designed specifically for dissolvable bridge plugs that have not fully dissolved. In some complex well conditions, a dissolvable bridge plug may not fully dissolve or may be affected by the downhole environment, leading to low milling efficiency with a traditional carbide mill. This PDC bit uses high-performance PDC (polycrystalline diamond compact) cutters, which can more effectively crush undissolved metal materials, increasing drilling speed and operational reliability.

PRODUCT FEATURES

PDC Cutter Design

- **Full PDC cutter layout:** Provides strong cutting capability, suitable for undissolved metal materials.
- **Strong impact and wear resistance:** Extends the bit's service life.
- **Rapid scraping and crushing:** Efficiently breaks up metal bridge plugs and increases milling efficiency.

Extra-Long Crown Design

- **Extra-long bladed crown:** Increases initial aggressiveness and allows for rapid penetration into the bridge plug.
- **Optimized cutter arrangement:** Maintains continuous milling capability even after wear.
- **Extended service life:** Reduces the frequency of trips.

Special Gage-Protection Structure

- **Precise gage control:** Ensures the bit does not get under-gage.
- **Avoids casing damage:** Ensures downhole operational safety.

Efficient Cuttings Evacuation Design

- **Optimized junk slot design:** Reduces debris buildup and the risk of sticking.

OD in	Length in	Nozzle	Cutter OD in	Blade Qty	Connection
2.13-2.83	12.4	3×Φ0.39 in	0.31	3	1 1/2 AMT
2.87-4.5	12.4	5×Φ0.39 in	0.31	5	2 3/8PAC

* All technical specifications are customizable and can be manufactured to your requirements.

3.42 PDC Bit for Cement Plugs



The PDC bit for cement plugs is a high-efficiency tool specifically designed for milling cement plugs. It offers advantages such as fast milling speed, uniform cuttings, and a low risk of sticking. This mill shoe features an optimized cutter layout, with its main cutting teeth made of high-performance PDC (polycrystalline diamond compact) cutters. Wear-resistant alloy is hardfaced onto the blade surfaces to ensure efficient crushing of cement plugs and improve operational efficiency.

PRODUCT FEATURES

High-Performance PDC Cutter Structure

- **Main cutting teeth:** Uses high-performance PDC cutters for strong milling capability.
- **High wear and impact resistance:** Ensures continuous and stable milling.
- **Optimized cutter layout:** Enhances crushing ability and accelerates penetration.

Efficient Flow Path Design on Crown and Junk Slots

- **Optimized fluid dynamics:** Improves cutting returns efficiency.
- **Enhanced blade cooling:** Extends service life.
- **Smooth cuttings evacuation:** Prevents debris buildup and reduces the risk of sticking.

Compatible with a Variety of Drilling Tools and Well Conditions

- **Can be used with:** High-speed mud motors or turbine drilling tools to meet various operational needs.
- **Strong compatibility:** Suitable for coiled tubing or drill pipe operations.
- **Versatile:** Works well in vertical, horizontal, and directional wells, among other conditions.

OD in	Length in	Nozzle	Cutter OD in	Blade qty.	Connection
4.25	12.4	3×Φ0.47 in	0.51	6	2 3/8PAC

* All technical specifications are customizable and can be manufactured to your requirements.

3.43 Ball/Conical Jet Mill Shoe



The Ball/Conical Jet Mill Shoe is a highly efficient wellbore cleaning tool that uses a dual cleaning method of high-pressure jetting and mechanical crushing. It "pulverizes" and removes compacted debris while also providing deep cleaning of the inner wall of the tubing or casing. It is primarily used to clear scale, hard deposits, compacted debris, and other blockages from the inner wall of the tubing or casing to ensure a clear path and improve downhole operational efficiency. Unlike traditional mill shoes, this tool focuses on efficient cleaning rather than solely on milling bridge plugs, allowing it to restore the full inner diameter in the shortest time, which increases operational safety and reliability.

PRODUCT FEATURES

Multi-Nozzle Jetting Design

- **Multiple high-pressure jet nozzles:** Positioned on the surface of the mill shoe, they can spray directional fluid jets to rapidly break up and wash away blockages.
- **High-energy jetting:** Cuts and strips away scale, effectively removing hard deposits and stubborn residue from the inner wall of the pipe string.
- **Jet-induced self-rotation with a mud motor:** Ensures cleaning coverage with no dead spots.

Mechanical Milling + Hydraulic Flushing

- **Rotary milling action:** Crushes hard blockages.
- **Simultaneous hydraulic jetting:** Cleans debris and carries it out of the wellbore, preventing secondary deposition.
- **Adapts to complex downhole environments:** Improves the cleaning effect on tubing or casing.

High-Efficiency, Low-Damage Design

- **Wear-resistant alloy materials:** Enables stable operation in high-pressure, high-speed rotating environments.
- **No damage to pipe walls:** Avoids the risk of pipe wall wear that can occur with traditional milling methods.
- **Compatible with multiple fluids:** Can be used with oil-based fluids, foam, fresh water, and other operational fluids.

OD in	ID in	Length in	Nozzle OD in	Nozzle Qty	Connection
1.81	0.71	7.09	0.12/0.16/0.2	3	1 AMT
2.13	1.00	9.84	0.12/0.16/0.2	3	1 1/2 AMT

* All technical specifications are customizable and can be manufactured to your requirements.

3.44 Bear Claw Mill Shoe



The Bear Claw Mill Shoe is a specialized tool for efficient milling and wellbore cleaning. Its unique claw-like blades and distributed carbide teeth give it strong cutting force, aggressiveness, and stability during milling. It combines powerful crushing, stable control, and efficient debris removal. This tool is suitable for complex environments with cement plugs, tubing scale, and bottom-hole debris, ensuring smooth milling operations.

PRODUCT FEATURES

Balanced Milling Functionality

- **Bladed structure with carbide teeth:** Can quickly crush cement plugs, hard scale, and other blockages.
- **Optimized tooth layout:** Ensures each carbide tooth receives a uniform load, which improves cutting efficiency.

Enhanced Stability, Reduced Risk of Sticking

- **Bear Claw design:** Makes the tool more stable during milling, reduces bouncing, and improves operational control.
- **Bladed structure:** Assists in debris removal, preventing debris buildup that could lead to sticking.

Efficient Debris Removal and Wellbore Cleaning

- **Specialized junk slot structure:** Can quickly remove cuttings, preventing debris buildup from slowing down the milling process.
- **Can be combined with high-pressure jets:** This allows for wellbore cleaning, preventing secondary blockages.

OD in	Length in	Chanel OD in	Cutter OD in	Connection
2.125	9.84	1	0.31	1 1/2 AMT
2.375	9.84	1	0.31	1 1/2 AMT

* All technical specifications are customizable and can be manufactured to your requirements.

3.45 Fixed Divert Circulation Valve



The Fixed Divert Circulation Valve is a downhole tool used for mud motor protection and flow distribution. During high-flow rate operations, it prevents the mud motor from stalling by diverting a portion of the flow through a nozzle. This reduces the pressure drop across the entire tool string and ensures stable tool operation. The fixed divert circulation valve uses optional nozzles and a main port to adjust the flow distribution, bypassing a portion of the fluid to optimize the mud motor's operating flow rate.

PRODUCT FEATURES

- **Reduces Mud Motor Pressure Drop:** Prevents stalling during high-flow rate operations.
- **Ensures Optimal Operating Conditions:** Diverts a portion of the fluid through the bypass ports, keeping the mud motor in its ideal working state.
- **Flexible Flow Distribution:** The proportion of diverted flow can be adjusted by choosing different sizes of nozzles and a main port.
- **Optimizes Overall Flow:** Reduces the pressure drop across the entire tool string, improving the overall flow path.

OD in	Length in	Tensile Strength klbs	Torsional Strength ft-lb	Connection
1.69	7.09	34	1475	1 AMT
2.125	8.66	79	1623	1 1/2 AMT
2.375	8.66	81	1770	1 1/2 AMT
2.875	8.66	108	2950	2 3/8 PAC

* All technical specifications are customizable and can be manufactured to your requirements.

3.46 Ball-Activated Circulation Valve



The Ball-Activated Circulation Valve is a downhole tool used to create a circulation path between the inside of the coiled tubing and the annulus. It's suitable for operations where the tool string requires circulation to be established from the middle of the string, or when the lower part of the tool string becomes blocked. In such cases, the valve can be opened by applying pressure, which ensures smooth fluid circulation and improves operational efficiency.

PRODUCT FEATURES

- **Simple Structure, Easy to Install:** High reliability.
- **Supports Two Methods for Opening Circulation:**
 - Drop a ball and apply pressure.
 - Apply pressure to shear a pin.
- **Adjustable Shear Pressure:** The shear pressure of the pin can be adjusted to meet different operational needs.
- **Suitable for a Variety of Coiled Tubing Operations:** Improves fluid circulation efficiency.

OD in	ID in	Press. psi	Shear Press. psi	Connection
1.69	0.31	10000	3500	1 AMT
2.125	0.50	10000	3500	1 1/2 AMT
2.375	0.50	10000	3500	1 1/2 AMT
2.875	0.75	10000	3500	2 3/8 PAC
3.125	0.75	10000	3500	2 3/8 PAC

* All technical specifications are customizable and can be manufactured to your requirements.

3.47 Rupture Disk Circulation Valve



The Rupture Disk Circulation Valve is an intelligent circulation control tool that integrates ball-activated circulation, rupture disk pressure relief, and fluid diversion. It is primarily used for coiled tubing operations. This tool allows for the rapid switching of fluid flow between the inside and outside of the tool string by either dropping a ball or by a pre-set pressure triggering a rupture disk, which meets the needs of complex downhole operations.

PRODUCT FEATURES

- **Dual-Mode Switching:** The combination of a ball drop and a rupture disk increases operational flexibility.
- **Rupture Disk Pressure Relief:** Protects the tool string and the pipe string, enhancing safety.
- **Fluid Diversion Design:** Optimizes the flow path and reduces flow resistance.
- **Customizable Rupture Disk Pressure:** The pressure value can be customized to meet different operational requirements.

OD in	ID in	Press. psi	Shear Press. psi	Rapture Pressure psi	Connection
1.69	0.31	10000	3500	5000	1 AMT
2.125	0.50	10000	3500	5000	1 1/2 AMT
2.375	0.50	10000	3500	5000	1 1/2 AMT
2.875	0.75	10000	3500	5000	2 3/8 PAC
3.125	0.75	10000	3500	5000	2 3/8 PAC

* All technical specifications are customizable and can be manufactured to your requirements.

3.48 Auto-Divert Circulation Valve



The Auto-Divert Circulation Valve is an intelligent diversion tool that automatically switches fluid direction based on changes in flow rate. During downhole operations, it enables automatic switching between direct flow and bypass, which increases the fluid distribution efficiency of the tool string.

OPERATING MODES

Low-Flow Mode: Direct Flow Mode

- When the flow rate is below the preset bypass activation value, all fluid passes directly through the mud motor to the lower tool, ensuring the mud motor operates at its optimal flow rate.

High-Flow Mode: Automatic Bypass Mode

- When the flow rate exceeds the bypass activation value, the bypass nozzle opens automatically. A portion of the fluid is diverted through the bypass channel into the annulus, which improves wellbore cleaning efficiency.
- The increase in bypass flow effectively overcomes the flow limitations of the mud motor, allowing the entire tool string to handle higher flow rate operations.

PRODUCT FEATURES

- **Intelligent Automatic Switching:** Automatically diverts fluid at high flow rates without manual intervention.
- **Mud Motor Protection:** Prevents the motor from stalling at high flow rates, extending its service life.
- **Optimized Wellbore Cleaning:** Improves returns efficiency and reduces the risk of sticking.
- **High-Pressure, High-Flow Operation:** Can handle high-pressure and high-flow operations, making it suitable for complex well conditions.
- **Customizable Flow Threshold:** The flow rate threshold can be customized to meet different downhole operational needs.

OD in	Length in	ID mm	Bypass Nozzle	Switch Flow Rate GPM	Tensile Strength klbs	Torsional Strength ft-lb	Connection
2.125	34.88	0.31	0.16in×3	48-53	79	1696	1 1/2 AMT
2.375	34.88	0.31	0.16in×3	79-85	94	2065	1 1/2 AMT
2.875	39.80	0.45	0.18in×3	110-116	101	3098	2 3/8 PAC
3.125	39.80	0.43	0.18in×3	127-132	117	3319	2 3/8 PAC

3.49 Gas-Liquid Separator



The Gas-Liquid Separator is a high-efficiency separation tool designed specifically for coiled tubing downhole operations. It can effectively separate gas from liquid, reducing the amount of gas entering tools such as mud motors. This improves operational stability, prevents gas-locking, and protects the proper function of the tools below.

PRODUCT FEATURES

- **Efficient Gas-Liquid Separation:** The tool effectively separates free gas from downhole fluids, ensuring stable operation of tools during coiled tubing jobs, especially when a motor is part of the assembly.
- **Extends Tool Lifespan:** By reducing gas cavitation and gas-locking, the tool significantly increases the working life and reliability of motor-driven tools.
- **Optimized Fluid Dynamics:** The internal structure has been optimized through fluid simulations to ensure high separation efficiency while minimizing pressure loss.
- **Excellent Compatibility:** The tool can be easily integrated into a standard coiled tubing bottom-hole assembly, and connection sizes can be customized to meet client needs.

OD in	Length in	Press. in	Flow Rate GPM	Tensile Strength klbs	Torsional Strength ft-lb	Gas Content After Separation %	Connection
2.875	25.8	435-1015	92-119	108	2950	<0.5	2 3/8 PAC

3.50 Downhole Filter



A downhole filter effectively blocks downhole impurities and debris, preventing blockages in critical components like small nozzles, mud motors, and chokes. This extends the lifespan of the tools, increases operational reliability, and reduces the risk of failure caused by blockages.

PRODUCT FEATURES

- **Filters particles 200 microns and larger:** This reduces the impact of solid impurities on precision components like all-metal mud motors and chokes.
- **Prevents tool string blockage:** Ensures fluid flows smoothly, which improves operational stability.
- **Limits downhole debris:** Effectively stops debris from entering critical components of the BHA (Bottom Hole Assembly).
- **Reduces risk of interruption and equipment damage:** Minimizes the chance of operational downtime and equipment failure caused by debris blockages.

OD in	Length in	Filter Mesh	Tensile Strength klbs	Connection
1.69	14.96	200	20	1 AMT
2.125	14.96	200	124	1 1/2 AMT
2.875	16.93	200	145	2 3/8 PAC

3.51 Rotating Wash Nozzle



The Rotating Wash Nozzle is a downhole tool that combines jetting and circulation, specifically designed to clean the inner walls of tubing and casing, as well as clear blockages within the wellbore. It uses fluid pressure to drive a rotating nozzle. This rotating jet design provides a full 360° cleaning coverage, effectively removing scale, mud deposits, and other impurities from the pipe walls and improving downhole operational efficiency.

PRODUCT FEATURES

- **High-Pressure Jetting:** Uses high-pressure jets to effectively remove dirt, scale, and blockages from the inner walls of the pipe.
- **Rotating Nozzle Design:** Ensures a thorough, dead-spot-free cleaning.
- **Multiple Jetting Modes:** The nozzle direction can be adjusted for different downhole conditions.
- **Versatile Jet Patterns:** Supports forward, reverse, or mixed jet streams to meet various operational needs.

OD in	Length in	Press. psi	Tensile Strength klbs	Connection
1.69	7.48	5000	18	1 AMT
2.125	7.87	5000	21	1 1/2 AMT
2.375	8.50	5000	28	1 1/2 AMT
2.875	10.24	5000	42	2 3/8 PAC

3.52 Low-Speed Rotating Nozzle



The Low-Speed Rotating Nozzle is a downhole tool specifically designed for sand cleanout, unblocking, and clearing tubing. It features a controllable low-speed rotation that combines milling and jetting actions to effectively improve the cleaning efficiency of the inner wall of the tubing while extending the service life of the equipment.

PRODUCT FEATURES

- **Controllable Low-Speed Rotation for Precise Cleaning:** The adjustable speed mechanism allows the rotation speed to be customized based on operational needs, which improves safety and efficiency.
- **Dual Cleaning Action (Milling + Jetting) for Enhanced Results:** The wash head combines a carbide milling function to remove stubborn blockages. High-pressure water jets further flush the inner wall of the tubing, enhancing the cleaning effect.

OD in	Length in	Press. psi	Flow Rate GPM	RPM	Connection
2.125	35.43	10000	21-58	20-200	1 1/2 AMT
2.375	35.43	10000	21-79	20-200	1 1/2 AMT
2.875	37.28	10000	13-119	20-200	2 3/8 APC

3.53 Fixed Jetting Nozzle



The Fixed Jetting Nozzle is a downhole tool used for cleaning the inner walls of tubing or casing, while also flushing out debris. Its multi-jet port design improves the efficiency of the fluid flush, effectively removing deposits and debris from the wellbore to enhance wellbore cleanliness.

PRODUCT FEATURES

- The fixed jetting nozzle optimizes its jet port diameters to change the fluid's velocity and pressure as it passes through, which enhances the flushing capability of the jets. Its main functions include:
 - **Cleaning Tubing and Casing Inner Walls:** Uses high-pressure jets to flush away deposits, which reduces wellbore blockages and improves fluid flow.
 - **Flushing Debris:** The powerful jets can break down downhole deposits and assist with milling and cuttings removal, improving overall operational efficiency.

OD in	Length in	Nozzle OD in	Nozzle Qty	Tensile Strength klbs	Torsional Strength ft-lb	Connection
1.50	7.87	0.16	5	43	1106	1 AMT
1.69	5.12	0.16	5	49	1180	1 AMT
2.125	5.12	0.20	5	79	1696	1 1/2 AMT
2.875	9.05	0.39	5	108	2950	2 3/8 PAC

* Specific materials and parameters can be customized according to your needs.

3.54 Thru Tubing Packer



The through-tubing packer string is a downhole system for boosting low-pressure gas well production. It is stably hung inside the tubing to enhance liquid-carrying capacity and restore stable production.

Run into the well via coiled tubing or conventional tubing, it is positioned by setting and releasing tools. It can be mechanically unset and retrieved with GS-type fishing tools for maintenance.

Compared with conventional wellhead hanging technology, it saves tubing, cuts costs, and enables fast deployment, reliable setting and smooth unsetting, ideal for old well rehabilitation and low-pressure well reconstruction.

PRODUCT FEATURES

- **In-Tubing Setting:** Installed inside tubing, no surface suspension needed, simple structure.
- **Flexible Deployment:** Compatible with coiled tubing and conventional tubing.
- **Mechanical Activation:** Reliable mechanical setting and release.
- **Cost-Effective:** Reduces coiled tubing length and operation costs.
- **Reusable:** Retrievable and replaceable for well maintenance.
- **Boosts Production:** Enhances liquid-carrying capacity and restores gas well productivity.

Casing/Tubing				Packer		
Specification in	Class Rating lb/ft	Max ID in	Min ID in	Specification in	OD in	ID in
2-3/8	4.6	2.04	-	1.81-1	1.81	1
2-7/8	6.4	2.44	-	2.28-1.38	2.28	1.38
3-1/2	9.2~10.2	2.99	2.92	2.72-1.63	2.72	1.63
4	9.5~10.7	3.55	3.48	3.11-1.63	3.11	1.63
4-1/2	12.6	3.96	3.96	3.62-1.81	3.62	1.81
5-1/2	17-23	4.90	4.67	4.53-2.81	4.53	2.81

*Specific materials and parameters can be customized according to your needs.

3.55 Packer Setting Tool



The Packer Setting Tool is a compact mechanical running tool for reliably setting Thru Tubing Packers at target wellbore depths, deployed via coiled or conventional tubing. Activated by hydraulic pressure or mechanical force, it anchors packer slips and completes setting to suspend the string and isolate wellbore fluid paths. Versatile and compatible with mechanical, hydraulic and retrievable packers, it features release function for independent production or testing. Used with a GS fishing tool, it allows reliable packer retrieval, serving as key for full-life-cycle string operations.

PRODUCT FEATURES

- **Compact Structure:** Can be run in with either coiled tubing or conventional tubing.
- **Precise Positioning:** Achieves accurate depth placement and reliable setting activation.
- **Release Function:** Supports independent string operations after setting.
- **Wide Compatibility:** Works with multiple types of packers.
- **Reliable Operation:** Functions dependably in various wellbore environments and conditions.
- **Supports Retrieval:** Can be used with a GS fishing tool for easy future release and retrieval.

Casing	The Packer Setting Tool		
Specification in	OD in	ID in	Tensil Strength klbs
2-7/8	2.13	0.47	56.20
3-1/2	2.44	0.55	67.44
4-1/2	3.62	1.10	74.18

*Specific materials and parameters can be customized according to your needs.

3.56 Packer Retrieval Tool



The Packer Retrieval Tool is a downhole tool specifically designed to retrieve a thru-tubing packer. It provides a reliable mechanical release and retrieval function. Typically run in on coiled tubing, its mechanism is based on the principle of a standard GS fishing tool, enabling it to unlock and retrieve the packer by pulling up. The tool also integrates a release function: if it encounters a blockage or gets stuck downhole, it can be jarred to release, which ensures the safety of both the tool and the operation.

PRODUCT FEATURES

- **Simple structure:** Easy maintenance, ideal for frequent field use.
- **Dual-stage setting system:** Activates at low hydraulic pressure, high adaptability.
- **Versatile:** Works with standard GS fishing tools.
- **Easy unlocking:** Push down to align, then pull up or jar.
- **Full retrieval:** Pull up directly to retrieve the packer.
- **Safe release:** Jar to release GS structure if stuck, ensuring safe disengagement.

Casing	The Packer Retrieval Tool	
Specification in	OD in	Tensil Strength klbs
2-7/8	2.13	56.20
3-1/2	2.44	67.44
4-1/2	3.62	74.18

*Specific materials and parameters can be customized according to your needs..

3.57 Coiled Tubing Perforator



The coiled tubing perforator is a hydraulically driven mechanical punch that penetrates tubing walls to establish internal-external communication. It uses forward hydraulic actuation, avoiding chemical or corrosive methods that may cause contamination. Perforations can be made at multiple depths. After retrieval, only shear pins and screws need replacement for re-use. An emergency release sub allows retrieval in case of sticking or incomplete penetration.

The tool uses a two-stage piston to drive a slotted mechanism, converting motion by 90° for rapid punching. Upon completion, centering blocks release to ensure smooth retrieval.

PRODUCT FEATURES

- Fluid-activated design.
- Forward hydraulic drive – no chemical or corrosive methods, no contamination.
- Perforate at multiple depths; only a few consumables need replacement after retrieval.
- Emergency release sub for retrieval in case of sticking or incomplete penetration.
- Reliable, easy to operate, well-designed.
- Easy to maintain.

OD in	Length in	Tubing Size in	Tubing Wall Thickness in	Effective Stroke in	Perforation Diameter in	Piston Actuation Pressure MPa	Max. Pulling Capacity klb	Connection
2.13	65.75	2.875	0.22	11.02	0.3	8 (1,160 psi)	22.48	1 1/2" AMMT
2.48	65.75	3.5	0.22-0.29	11.02	0.3	8 (1,160 psi)	22.48	1 1/2" AMMT
3.62	65.75	4.5	0.22-0.33	11.02	0.3	8 (1,160 psi)	22.48	2 3/8" PAC

*Specific parameters can be customized according to your needs.

3.58 Pump Out Plug



A pump-out plug is a downhole tool specifically designed for velocity string operations. It's used to temporarily or permanently seal the fluid path inside coiled tubing. This tool can create an effective seal downhole to accommodate various operational needs, such as fluid separation, pressure control, downhole testing, and optimizing artificial lift.

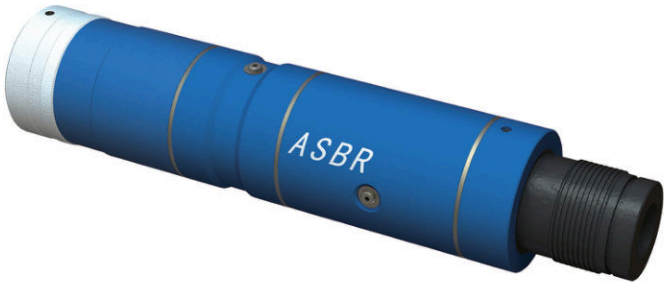
PRODUCT FEATURES

- **High-Performance Seal:** Uses high-performance sealing components to maintain a stable seal in high-temperature, high-pressure, and corrosive environments.
- **Mechanical or Hydraulic Activation:** The tool can be activated either mechanically or hydraulically, adapting to different operating conditions.
- **High Pressure and Flow Tolerance:** Can withstand high flow rates and high-pressure differentials, making it suitable for various fluid environments.
- **Compact Structure:** Fits in narrow wellbores and long-reach horizontal wells.
- **Flexible Application:** Can be used for either temporary or permanent sealing, providing flexibility for different operational needs.
- **Retrievable or Non-Retrievable:** Can be designed to be either retrievable or non-retrievable to meet specific job requirements.

OD in	Length in	ID in	Tensile Strength klbs	Torsional Strength ft-lb	Single Pin Shear Press. psi	Connection
3.5	20	1.42	90	2580	870-1160	2 7/8 TBG

*Specific parameters can be customized according to your needs.

3.59 Abrasive Perforating Tool



The Abrasive Perforating Tool is a downhole tool used for hydraulic pipe cutting and abrasive jetting perforation. High-pressure fluid is directed through specially designed nozzles to create a high-velocity jet. This jet carries quartz sand or other abrasives, which are then blasted at high speed onto the casing surface. The process erodes and penetrates the casing locally, entering the formation to create an effective channel that improves reservoir connectivity. The tool is often used for abrasive jetting perforation, pipe cutting, and unblocking, and it can be combined with fracturing operations to enhance production.

PRODUCT FEATURES

- **Durable Nozzles:** The nozzles are manufactured using a Metal Injection Molding (MIM) process with a blend of hard alloy and rare metals. This significantly reduces wear and extends their lifespan.
- **High-Strength Body:** The tool body is made of high-strength alloy steel with a nitriding treatment, making it resistant to high temperatures and pressures and suitable for harsh downhole environments.
- **Enhanced Durability:** The anti-splash surface is laser-clad with a hard alloy to further improve durability and reduce equipment damage from abrasive rebound.
- **Optimized Flow:** The nozzle's flow channel is designed to ensure stable, high-velocity jetting, which increases perforation efficiency.
- **Versatile Nozzles:** It can be equipped with 4 or 6 replaceable hard alloy nozzles to meet different downhole operational needs.
- **Spiral Phase Design:** The spiral phase design ensures a more uniform perforation coverage, which improves the overall effectiveness of the perforation.

OD in	ID in	Length in	Nozzle Qty	Press. psi	Connection
3.54	1.38	16.53	4	15000	2 1/2-8 SA
3.54	1.38	20.47	6	15000	2 1/2-8 SA

*Specific parameters can be customized according to your needs.

3.60 Internal Weld Bead Removal Tool



The Internal Weld Bead Removal Tool is a downhole tool specifically designed to remove the internal weld beads from coiled tubing. It can be used with Roll-On, internal slip, and dimple connectors. The tool uses a mechanical cutting action to clean up the internal weld seams, which improves the installation precision and sealing performance of the connectors.

PRODUCT FEATURES

- **Precise Cutting:** Accurately mills the weld beads, which improves the smoothness of the inner tubing wall and enhances connection reliability.
- **Wide Compatibility:** Suitable for use with various connector types, including Roll-On, internal slip, and dimple connectors.
- **Modular Design:** Features a modular design that allows for the replacement of different sized milling heads, adapting to various coiled tubing sizes.
- **Simple to Use:** The tool is easy to operate, allowing for quick weld seam cleanout and reduced operational time.

OD in	Length in	CT Size in	Wall in	Cutter Qty
2.95	18.11	1.75	0.175	8
3.07	18.11	2	0.175	8

* Customizable based on tubing size and wall thickness.

3.61 Dimple Connector Installation Jig



The Dimple Connector Installation Jig is a specialized tool used for installing dimple connectors. It creates precise depressions on the coiled tubing to provide a secure anchor for the connector's pins, ensuring a safe and reliable connection.

PRODUCT FEATURES

- **High-Strength Pins:** Uses Grade 12.9 high-strength pins to ensure consistent and precise dimple depth, which improves connection reliability.
- **Separable Pin Heads:** The pin heads have a two-part design, made of high-strength alloy steel with a surface hardening treatment. This enhances wear resistance and extends their service life.
- **Ergonomic Design:** Features handles to improve operational safety and reduce operator fatigue.

CT Size in	Length in	Tensile Strength klbs	Connection
1-1/2	24.33	79	1 AMT
1-3/4	24.33	94	1 1/2 AMT
2	24.33	108	2 3/8 PAC
2-3/8	24.33	126	2 3/8 PAC

*Specific parameters can be customized according to your needs.

3.62 Hydraulic Dimple Jig

The Hydraulic Dimple Jig is a tool used for installing dimple connectors. It uses a hydraulic drive to efficiently press multiple standard dimples into the outer surface of coiled tubing, ensuring a reliable, anchored connection between the connector and the tubing. Compared to traditional manual dimple-making, this hydraulic tool is more efficient, precise, and repeatable. It's especially suited for fast-paced construction in high-intensity operational environments.



FEATURES & ADVANTAGES

- **Hydraulic-Powered, Labor-Saving, and Efficient:** It replaces manual pressing, significantly reducing labor intensity and increasing operational efficiency.
- **Precise and Consistent Dimples:** The tool allows you to adjust the dimple position, number, and depth for different connector specifications, providing high precision and excellent repeatability.
- **Strong Adaptability:** It's suitable for making dimples on various sizes of coiled tubing and for multiple types of dimple connectors.
- **Safe, Convenient, and Quick:** The integrated design is easy to assemble and disassemble on-site. The short dimple-making time significantly boosts construction efficiency.

Item	Specifications
CT Size	1" -2 7/8" (Customizable)
Dimple Qty	1-6 (According to connector specifications customized)
Control Mode	Hydraulic
Single Working Time	< 15 s

3.63 Internal Dimple Connector Installation Jig



This tool is designed specifically for installing dimple connectors. Using a mechanical lever or a screw press, it accurately positions a dimple head on the coiled tubing surface. The user then applies manual or tool-assisted force to create standard dimples, which allows for a reliable anchored connection between the connector and the coiled tubing. It is easy to use and has a compact structure, making it ideal for remote sites and confined work areas.

FEATURES & ADVANTAGES

- **Simple Structure, Easy to Operate:** The tool is portable and quick to assemble, and a single person can complete the operation.
- **Efficient with Dimple Connectors:** Creates precise dimples, ensuring the connector embeds correctly for a secure connection.
- **Long-Lasting Screws:** Imported high-strength screws and a hardened dimple head ensure long-term use without deformation.
- **Adapts to Various Tubing Sizes:** Simply replace the dimple head to accommodate different sizes of coiled tubing, providing strong versatility.

OD in	ID in	CT Size in	Length in
2.91	1.51	1.5	5.12
3.19	1.76	1.75	5.12
3.62	2.01	2	5.12
4.02	2.39	2.375	5.12
4.29	2.89	2.375	5.12

3.64 Roll-On Connector Installation Jig



The Roll-On Connector Installation Jig is a specialized tool used to press standard circumferential grooves onto the outer diameter of coiled tubing. This allows for a reliable, interlocking connection with Roll-On type connectors. The tool uses a hydraulic or manual press to uniformly create one or more circular grooves around the circumference of the coiled tubing using a special roller head. The depth, width, and position of the grooves are precisely controlled according to the connector's design standards, which ensures the connector is securely and safely installed.

PRODUCT FEATURES

- **Precise Grooves and High Compatibility:** The rolled grooves have a standard profile, ensuring a tight and secure fit with the connector that prevents loosening or slipping.
- **Adaptable to Various Tubing Sizes:** By changing the tooling, it can adapt to coiled tubing with different outer diameters.
- **Strong Repeatability:** A multi-position guiding structure makes it easy to maintain consistency during continuous operations.
- **Compact and Portable:** The tool's design is ideal for well sites and remote construction environments.
- **Customizable:** It can be customized to meet user-specific needs for different groove standards or multi-groove pressing.

3.65 Pull/Pressure Test Plate



The Pull/Pressure Test Plate is a device designed for performing pressure and axial tensile tests on coiled tubing or connectors. It can be used on-site or in a workshop to verify the strength and integrity of critical connection points, such as connectors, joints, and welds. This ensures their safety and reliability during actual downhole operations.

PRODUCT FEATURES

- **Dual Functionality:** Integrates both pressure and tensile testing in one device.
- **Versatile:** Adapts to a variety of tubing and connector sizes.
- **Portable:** The compact design makes it easy to transport and set up.
- **Data-Driven:** The testing process is visual and supports data recording and analysis.
- **Customizable:** Can be customized to support dual-station or multi-station testing.

Max Press. psi	Tensile Strength klbs	Test Medium	Connection
10000	157	Water	1 AMT, 1 1/2 AMT, 2 3/8 PAC

3.66 Portable Hydraulic Makeup Device



The Portable Hydraulic Makeup Device is a lightweight hydraulic tool designed specifically for making up and breaking out small-diameter downhole tool threads. The device uses two clamps to grip both ends of a threaded connection. A manual hydraulic pump drives a two-way hydraulic cylinder to apply torque. This tool is widely used on-site or in a workshop to provide a safe, controlled, and consistent way to apply torque, which eliminates the safety risks of using manual pipe wrenches.

PRODUCT FEATURES

- **Portable and Compact:** Lightweight and easy to carry, suitable for both on-site and workshop operations.
- **Safe and Efficient:** Operators can stand away from the torque application area, which eliminates the risks of traditional pipe wrenches.
- **Precise and Controllable:** The hydraulic control provides stable and repeatable torque output.
- **Versatile:** The adjustable clamps can fit a variety of small-sized downhole tools and pipe strings.
- **Easy Maintenance:** The clamp dies are made of high-strength heat-treated material, making them wear-resistant and easy to replace.

Multi-Angle Use: Can be used in both vertical and horizontal positions.

Tool OD in	Hydraulic Press. psi	Max Torq. ft-lb	Weight lb
1.69-3.125	2320	3430	35