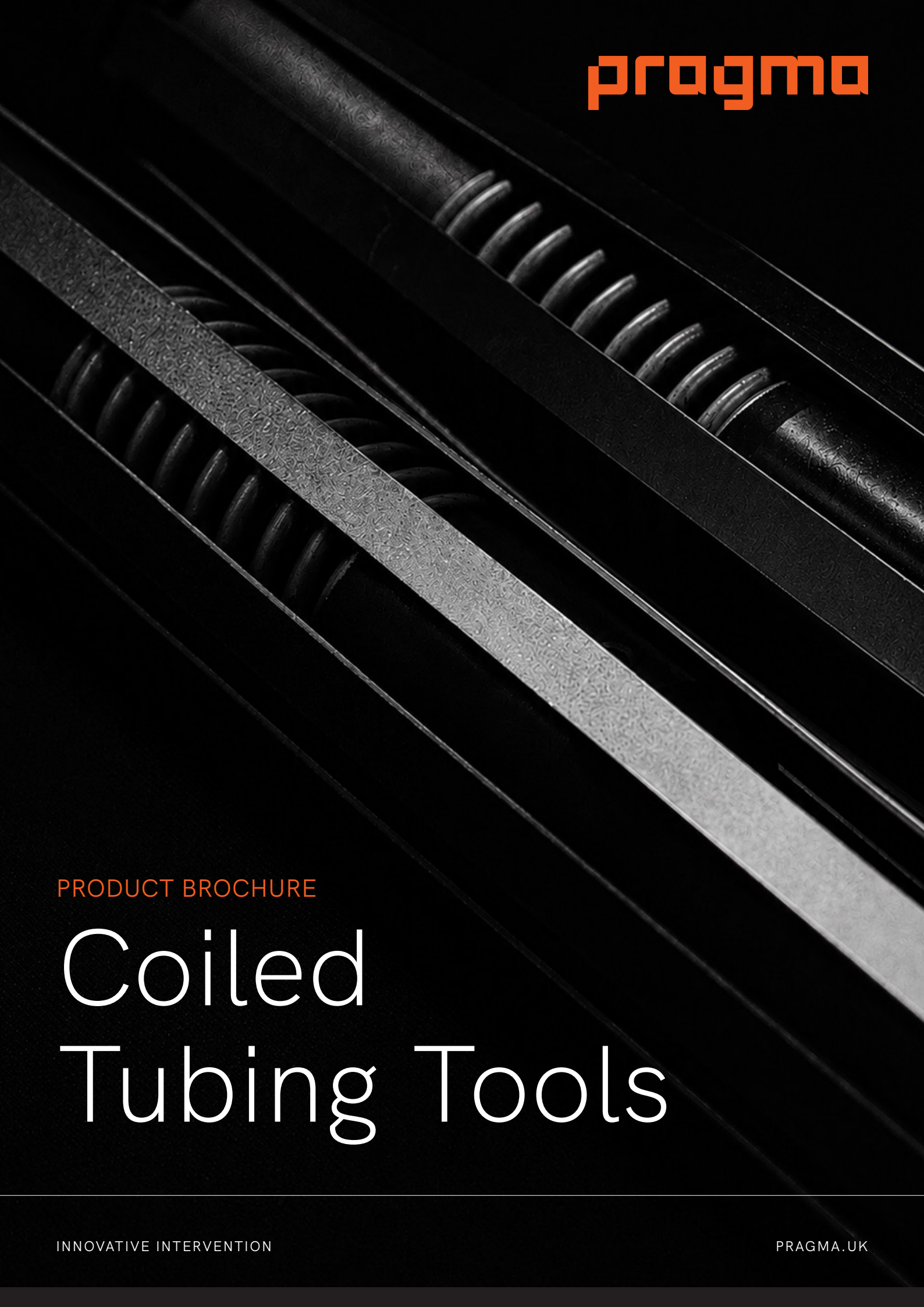


A close-up, high-contrast photograph of coiled tubing tools. The image shows several parallel, dark, ribbed tubes against a black background. A single, lighter-colored, textured tube runs diagonally across the frame, intersecting the darker tubes. The lighting highlights the metallic texture and the coiled structure of the tools.

pragma

PRODUCT BROCHURE

# Coiled Tubing Tools

INNOVATIVE INTERVENTION

PRAGMA.UK

# Technology innovation with quality and reliability at the core.

## Contents

|                     |    |
|---------------------|----|
| FEATURED PRODUCTS   | 4  |
| WELL CLEANOUT TOOLS | 8  |
| ADDITIONAL TOOLS    | 14 |
| GET IN TOUCH        | 15 |

Pragma is a specialist in innovative downhole technology for the global energy industry. We design and manufacture tools to solve current and emerging challenges for the oil and gas, gas storage, CCUS, hydrogen storage and geothermal production sectors.

IMPACT TOOLS

# Dual Action Coiled Tubing Hydraulic Jars

- ✓ High impact loads
- ✓ Ease of maintenance
- ✓ Reliable operation

Pragma Coiled Tubing Dual Action Hydraulic Jars enables repeatable upward or downward jarring blows to the work string. Pragma have refined the design of our jars over many years of successful deployments and now feature Pragma proprietary Vortex Metering Technology (VMT) for extremely reliable operation.

The field-proven closed and pressure-balanced hydraulic piston meters oil through the Pragma proprietary Vortex Metering Technology (VMT) so that a timed pull or push delivers a controlled jarring blow. The amount of tension or compression placed on the coiled tubing is proportional to blow delivered.



## KEY FEATURES

- Enables repeatable upward and downward impacts
- Designed for ease of use and redress
- Pressure balanced metering system
- Consistent activation times across a range of operating conditions and temperatures
- Proprietary Vortex Metering Technology (VMT)
- VMT reduces wear on and damage on critical parts
- Supported by matching spring or hydraulic accelerator

## DEPLOYMENT AND OPERATION

- The Dual Acting Hydraulic Jar should be placed as close to the required point of impact as possible
- The Pragma Dual Acting Hydraulic Accelerator or the Pragma Dual Acting Spring Accelerator should be positioned above the Jar in the tool string
- The Accelerator is highly recommended especially when operating at shallow depths where the stretch in the coiled tubing may not be sufficient to provide the maximum efficiency of transfer of energy to the jar

## TOOL SPECIFICATIONS

| Part Number | Inside Diameter | Length of Jar | Length of Accelerator | Jar Stroke | Firing Load (lbs) | Min. Torsional Yield (ft.lbs) |
|-------------|-----------------|---------------|-----------------------|------------|-------------------|-------------------------------|
| 1 11/16"    | 0.56"           | 57.5"         | 54.5"                 | 12"        | 0-10,000          | 39,000                        |
| 2 1/8"      | 0.75"           | 57.8"         | 67.1"                 | 12"        | 0-15,000          | 100,000                       |
| 2 7/8"      | 1.00"           | 56.5"         | 68.4"                 | 12"        | 0-22,000          | 198,000                       |



IMPACT TOOLS

# Hammerhead Bi-Directional Impact Hammer

- ✓ High impact loads
- ✓ Ease of maintenance
- ✓ Reliable operation

The Pragma Hammerhead Bi-Directional Impact Hammer delivers a controllable high frequency up or down impact to a downhole device.

The frequency and magnitude of the impacts delivered are controlled via the flow rate and applied force. A short length and the ability to configure the Impact Hammer as up only, down only or bi-directional make the Hammerhead suitable for many applications including shifting sleeves, breaking disks, pulling plugs, scale removal, cleanouts, tubing swaging and broaching. The ability to deliver high frequency impacts with low applied force and without the necessity to cycle the Coiled Tubing make the Hammerhead an attractive alternative to using a Jar.

A Hammerhead Accelerator Tool is also available to optimise the performance of the Hammerhead when there is little effective length of Coiled Tubing above the Hammer. The DTI Hammerhead Bi-Directional Impact Hammer is manufactured from high grade materials and has an operating mechanism that does not rely on elastomer performance, making the tool suitable for corrosive and high temperature environments.



## KEY FEATURES

- Compact length
- High frequency controllable up and down impacts
- Can be configured as Up Hammer, Down Hammer or Bi-Directional Hammer
- Reduces Coiled Tubing fatigue compared with jarring

## DEPLOYMENT AND OPERATION

- The Bi-Directional Impact Hammer should be placed as close to the required point of impact as possible
- The Pragma Hammerhead Accelerator or the Pragma Dual Acting Spring Accelerator should be positioned above the Jar in the tool string
- The Accelerator is highly recommended especially when operating at shallow depths where the stretch in the coiled tubing may not be sufficient to provide the maximum efficiency of transfer of energy to the impact hammer

## TOOL SPECIFICATIONS

| Size     | Length of Hammer | Length of Accelerator | Stroke | Pump Rate (gal/min) | Operating Pressure (psi) |
|----------|------------------|-----------------------|--------|---------------------|--------------------------|
| 1 11/16" | 69.0"            | 49.5"                 | 4"     | 10 - 40             | 500 - 3,000              |
| 2 1/8"   | 69.5"            | 49.3"                 | 4"     | 10 - 40             | 500 - 3,000              |
| 2 7/8"   | 81.0"            | 98.8"                 | 4"     | 10 - 40             | 500 - 3,000              |

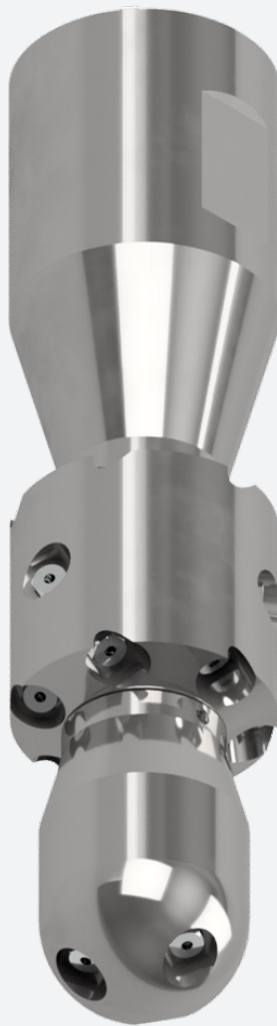
# VarioJet Wash Tool

- ✓ Wide Arc Of Fluid Coverage
- ✓ Adjustable Nozzle Configurations
- ✓ Easy To Maintain Tool

The Pragma VarioJet wash tool enables high-flow rate fluid rotational jetting through configurable multi-jetting nozzles. The VarioJet incorporates up to 3 downward facing stationary jets, 6 angled upward and downward spinning jets and 3 radial spinning jets. The angled jetting ports are set at an acute angle at both ends of the spinning barrel to provide optimal cleaning and enables the jetting fluid to flow in a wide arc-fan, giving maximized jetting coverage in both forward & side directions, to suit different applications and available pump capacity.

Fluid flow rate determines how fast the tool rotates. The ports are typically factory fitted with 0.125" nozzles which can be changed out to alternative size nozzles (0.082" or 0.165") or with blanks to adjust jetting/flow velocity.

The VarioJet is designed for extended well cleaning operations in exacting conditions and meets several specific operator stipulations



## KEY FEATURES

- Simple set up and easy to redress
- No elastomers
- High grade replaceable nozzles prevent abrasive wash out
- Flow ports nozzles can be varied in bore or with blanks if required
- Long life bearings

## TOOL SPECIFICATIONS

| Part Number | OD     | Jetting Nozzles | Operating Flow Rate (gal/min) | Length |
|-------------|--------|-----------------|-------------------------------|--------|
| VJET212AC09 | 2.125" | Up to 18        | 10 - 420                      | 10.0"  |
| VJET288AC23 | 2.875" | Up to 18        | 10 - 420                      | 11.9"  |

# Multi-Lateral Entry System

- ✓ High flow wellbore cleanout
- ✓ Access to multiple laterals in single deployment
- ✓ Industry leading pressure v expansion

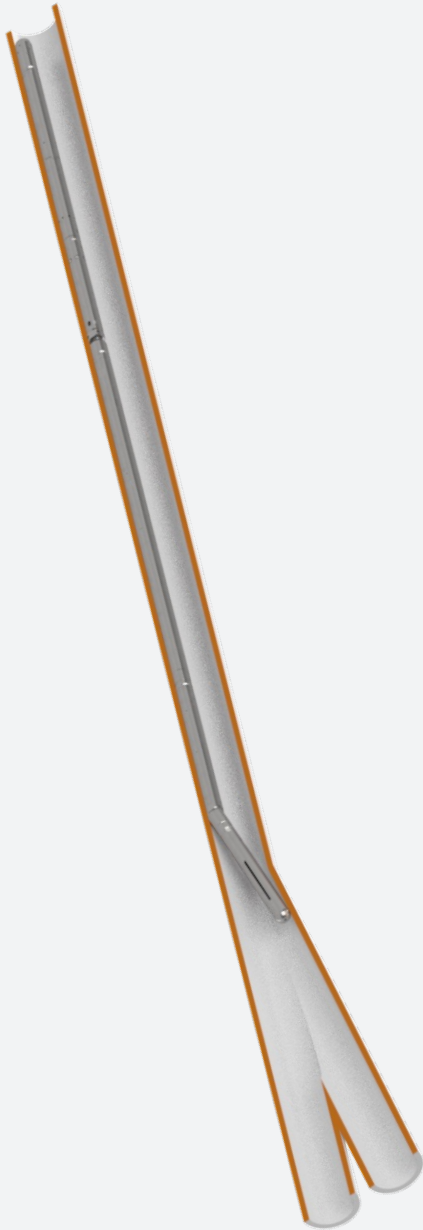
The Pragma Coiled Tubing Multi-Lateral Entry System (MLES) is designed to enable the repeatable entry of the desired lateral wellbore. The system typically consists of a Torque Through Coiled Tubing Connector, a Motorhead Assembly, a High Torque Indexing Tool , a Hydraulic Knuckle Joint and a Pump Out Choke Probe.

The system is flexible and to allow multiple lateral access in a single run and to enable large volume of fluid to be pumped at high flow rates a Velocity Check Circulation Valve (VCCV) can be placed above the indexing tool and the Pump Out Choke Probe replaced with a Nozzle. To gain access to longer laterals an Extended Reach Tool can be included in the tool string.

The Coiled Tubing High Torque Indexing Tool rotates the tools below it by 30° on each pressure cycle (15° and 45° indexes are available). Increasing the flow rate or pressure further activated the Hydraulic Knuckle Joint which kicks over the Pump Out Choke Probe. The length of the Probe is designed so that it will not fully articulate in the man bore unless it locates the casing window.

Typically, the casing window is located by cycling the High Torque Indexing Tool and then picking up the tool string. If the window is located, then the hydraulic Knuckle Joint can fully articulate and a circulation port will open. This will lead to a pressure drop giving a surface indication that the window has been located.

The Pragma Coiled Tubing MLES is commonly used for multi-lateral cleanout work. A similar system is also used for acid tunnelling applications.



## KEY FEATURES

- The Coiled Tubing High Torque Indexing Tool usures that the entire BHA is able to rotate or index on each cycle
- The Hydraulic Knuckle Sub delivers a large hinge force and when fully articulated provided a reliable bleed off to produce a large observable pressure drop
- Probe Length Calculator Provided
- A Velocity Check Circulation Valve can be incorporated to enable multiple lateral access together with high flow clean outs
- Can be used in Jetting Tunnelling Applications
- Probe Length Calculator Provided
- Running Procedure and Pre Job Testing Guidelines

## TOOL SPECIFICATIONS

| Tool String | Indexing Tool | Hydraulic Knuckle | Pump Out Choke Probe | Velocity Check Circulation Valve |
|-------------|---------------|-------------------|----------------------|----------------------------------|
| 1 11/16"    | CIT169AC08-1  | CKJHA169AC08      | POC169AC08-18        | N/A                              |
| 2 1/8"      | CIT212AC09-1  | CKJHA212AC08      | POC212AC09-18        | VCCV212AC09                      |
| 2 7/8"      | CIT288AC23-1  | CKJHA288AC23      | POC288AC23-18        | VCCV288AC09                      |

WELL CLEANOUT TOOLS

# Coiled Tubing Hydraulic Knuckle Joint with Adjustable Bleed Valve

The DTI Coiled Tubing Hydraulic Knuckle Joint with Adjustable Bleed Port is a coiled tubing service tool used to provide a controlled deviation within the coiled tubing tool string. The knuckle can offer a maximum deviation of 15°. The hydraulically activated bend in the DTI CT Hydraulic Knuckle Joint can support CT logging, Stimulation activities or help with cleanout runs, for example, to direct jetting nozzles close to the casing wall.



RUNNING, PULLING AND SHIFTING TOOLS

# Dual Action Shifting Tool

The Pragma Coiled Tubing Dual Acting Shifting Tool is a normally retracted hydraulic action tool used to position the closing sleeve of most Sliding Side Doors to the open position or to the closed position. Both can be achieved in the same run.

Normally retracted, the spring-loaded shifting keys are shaped to match a profile within the closing sleeve. The keys are expanded by increasing Coiled Tubing flow pressure to operate a piston which disengages a retractor sleeve from the shifting keys.



# High Torque Indexing Tool

The Pragma High Torque Indexing Tool can be used in any application where rotation of the BHA is required. Hydraulic tool string pressure is converted to torque of up to 1,500 ft.lbs and a pre-determined rotation of 15-45°. Each time the tool string pressure is bled off and increased the High Torque Indexing Tool cycles again, resulting in another tool-string rotation.



# Flow Activated Heavy Duty Pulling Tool

The Pragma Coiled Tubing (CT) Heavy Duty (HD) Hydraulic Pulling Tool is a hydraulic release action tool used for running or retrieving downhole tools with standard size external fishing necks.

The HD Hydraulic Pulling Tool has a collet dog ring arranged inside a cylinder body providing 360-degree shoulder engagement to the fishing neck, maximizing the bearing load and contact area with the fish.





RUNNING, PULLING AND SHIFTING TOOLS

# Flow Activated GS Pulling Tool

The Pragma Coiled Tubing GS Pulling Tool is a hydraulic release action tool used for running or retrieving downhole tools with standard size internal fishing necks.

The GS Pulling Tool has a collet dog arranged over a central core providing nearly 360-degree shoulder engagement to the fishing neck, so maximizing the bearing load capability.



Quality, innovation  
and technical  
support for slickline,  
coiled tubing and  
well barrier tools.

With a team of in-house engineers,  
we can deliver the solutions you need.  
We’re committed to your success and  
will support you through product supply,  
advice, training and first deployment.

## Additional Tools

Alongside our core product offering, we provide a comprehensive range of complementary tools and accessories designed to support a wide variety of downhole operations. Engineered for reliability and performance in demanding environments, these tools help maximize operational efficiency and ensure the right solution is available for every application.

OUR RANGE INCLUDES:

- |                           |                              |                    |
|---------------------------|------------------------------|--------------------|
| Coiled Tubing Connectors  | Downhole and Surface Filters | Mills and Motors   |
| Motorhead Assemblies      | Pulling Tools                | Wash Tools         |
| Twin Flapper Check Valves | Fishing Tools                | Crossovers         |
| Release Joints            | Shifting Tools               | Flow Control Tools |
| Circulation Subs          | Self-Aligning Connectors     | Jar Test Beam      |
| Centralisers              | Deployment Bars              |                    |

**Get in touch today** to find out  
more about Pragma’s technology  
for every well

[enquire@pragma.uk](mailto:enquire@pragma.uk)  
**+44 1224 937631**





[pragma.uk](https://pragma.uk)

**pragma**