Coventry
ENGINEERING

MACHINING CENTRE DRIVEN TOOLING - RAD190 SERIES

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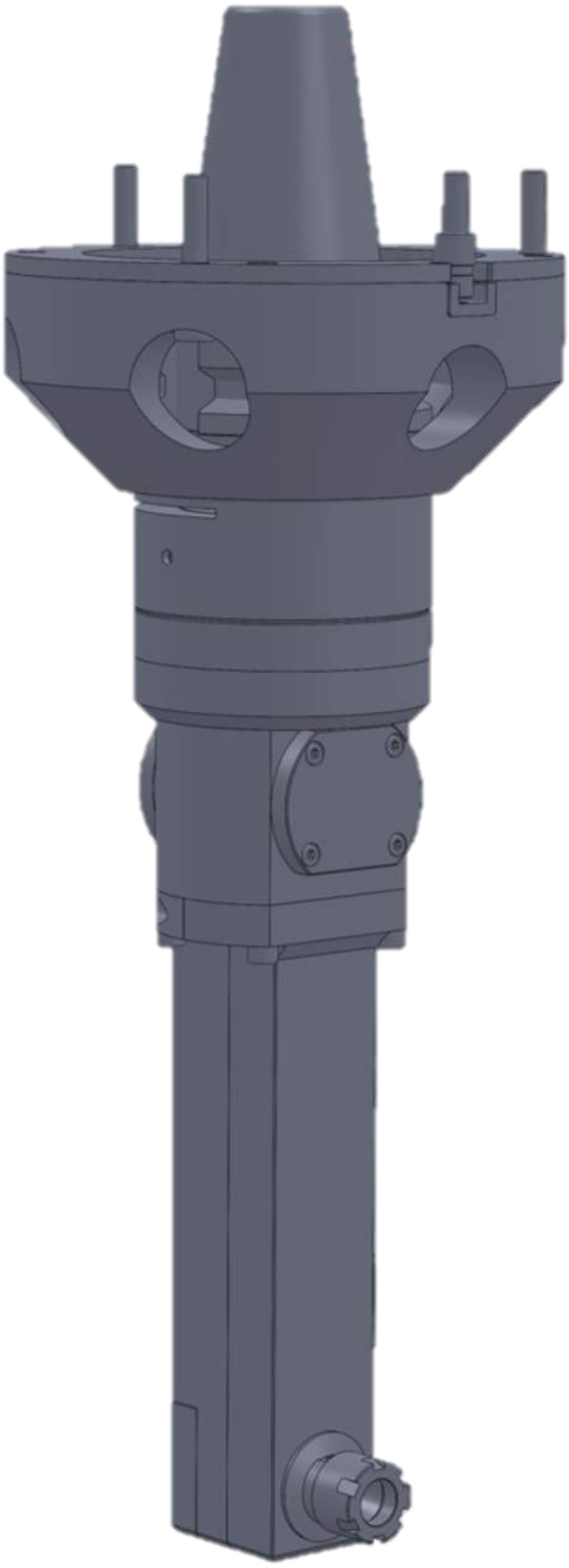
ENGINEERING



Coventry ENGINEERING

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Welcome to CTL Centreline

CTL Centreline, part of the Coventry Engineering Group of companies, was established over 30 years ago and is now a market leader in the design and manufacture of high quality Standard and Bespoke Driven Tooling solutions for all sectors of industry both in the UK and across the world.

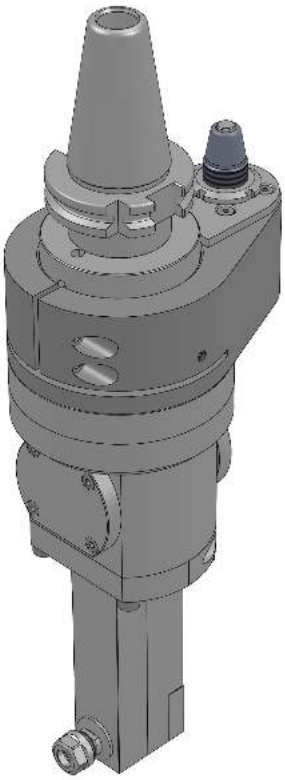
Our extensive product portfolio includes Standard 90 degree, Fixed Angle and Universal Angle Heads, Multi Spindle Drilling and Tapping Heads and Spindle Speed Increasers. One of the biggest strengths of the team at CTL Centreline is our ability to work closely with our customers to supply the correct solution to sometimes very challenging machining problems highlighted in modern component design. This means that sometimes a 'catalogue' solution is not the correct solution. It is our aim to give the best possible solution.

Our manufacturing facility in Coventry is very well equipped with a 3D design suite and a state of the art CNC machine shop working to the exacting standards required by our customers.

CTL centreline offers a full service and repair service for all standard and special products. Large stocks of all consumable items such as Bearings, Seals and Gears are held for quick turnaround so a head can be returned to production in just a few days.

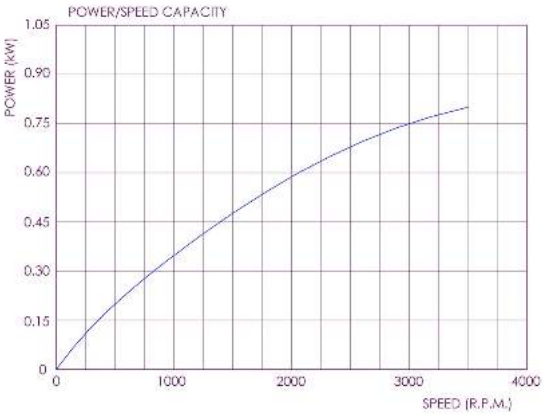
For tools being used in a production environment where breakdown time must be kept to a minimum, either spare units are kept in stock as service / exchange or spares are held in a bonded area against specific customers

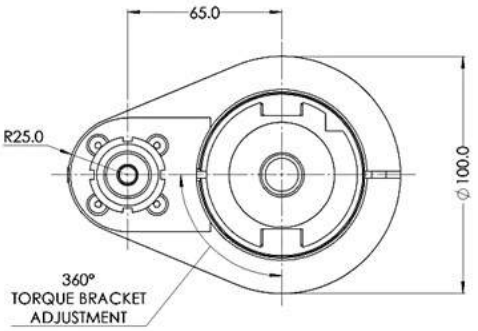
RAD 190 - 11 Modular 90º Angle Head

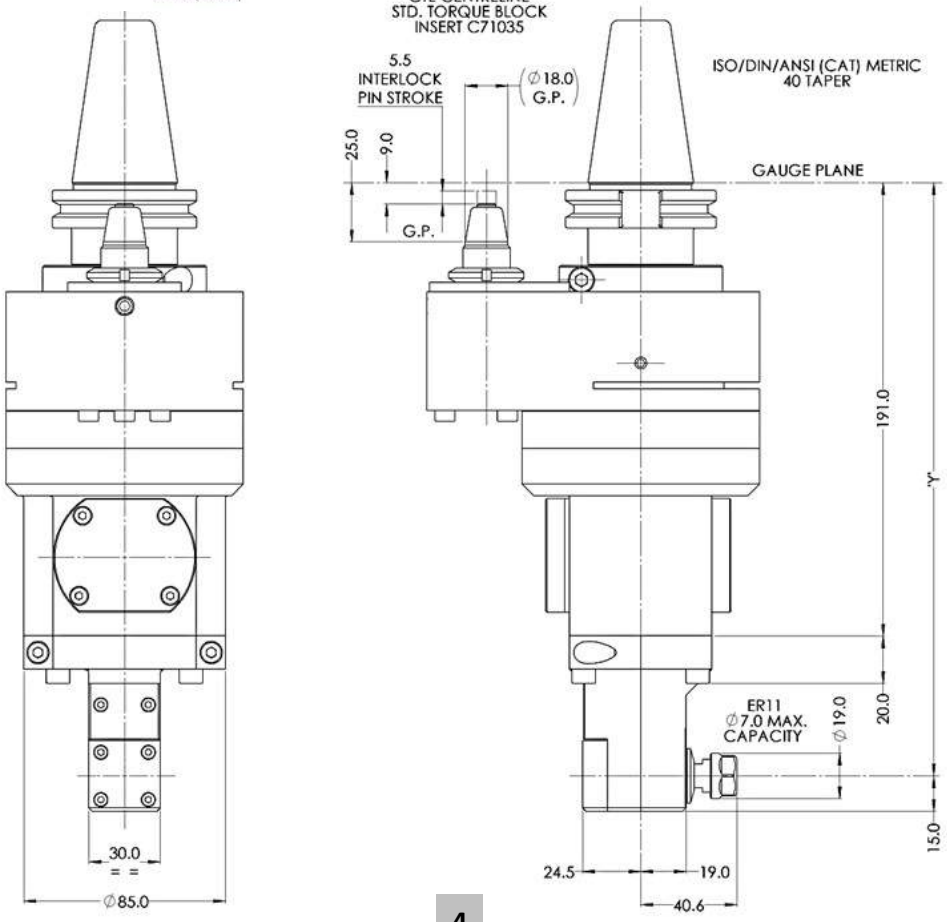


Technical Data

	ER11 —7mm / M5	
	Max. 3,500rpm	Speed ratio 1 : 1.2
	Max. @ 3,500rpm	0.8kW
	Max. @ 100rpm	4.8Nm
Kg	(Without tools)	See Table
	Input Opposite to Output	

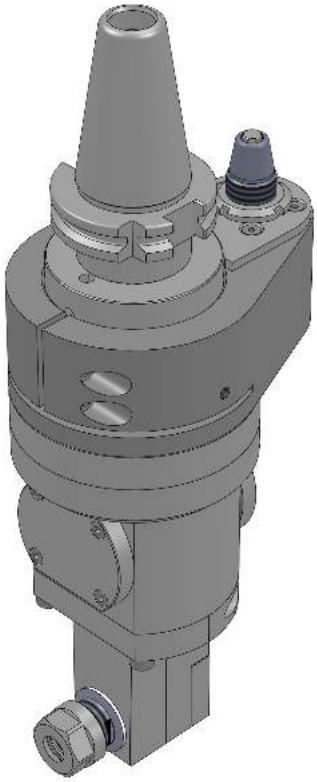






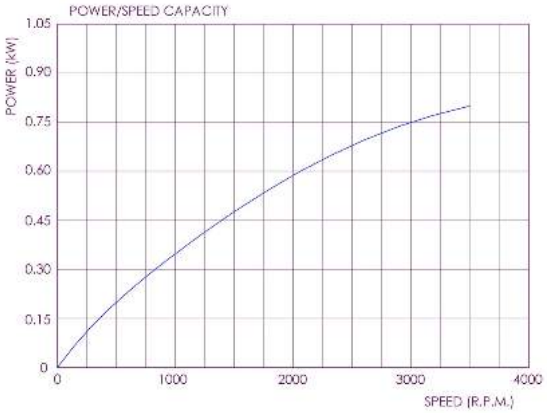
See table on page 35 for available gauge lengths

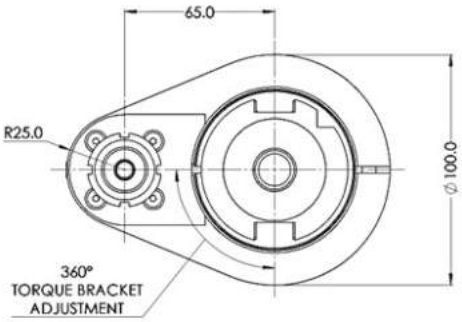
RAD 190 - 16 Modular 90º Angle Head

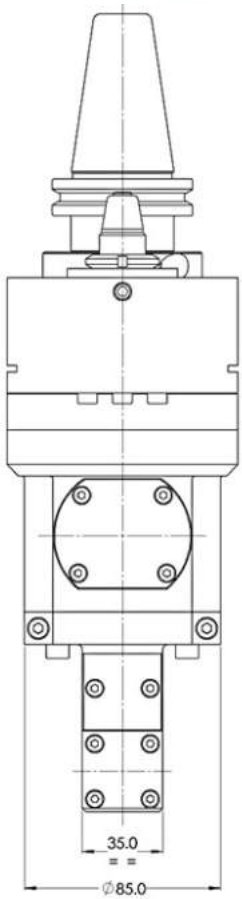


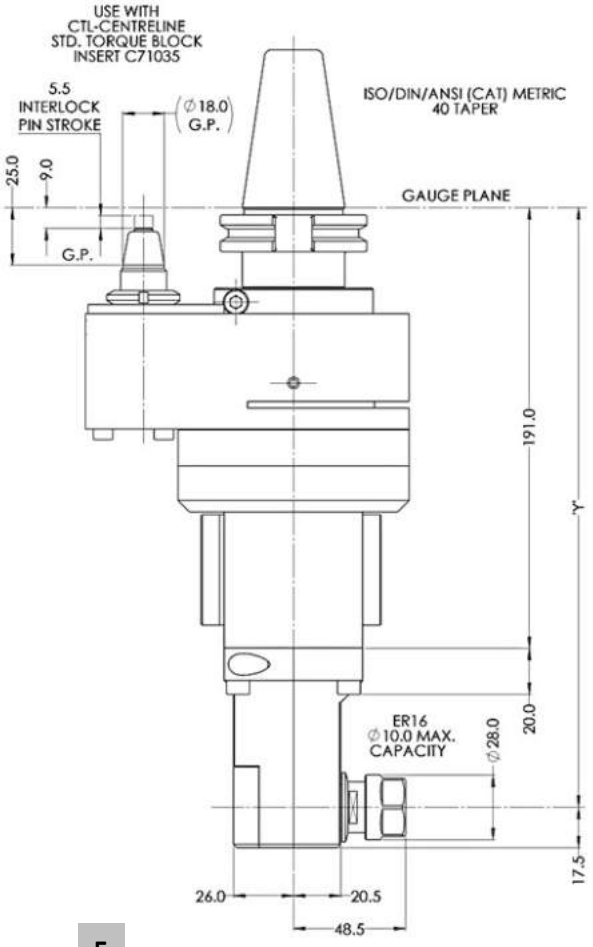
Technical Data

	ER16 —10mm / M6	
	Max. 3,500rpm Speed ratio 1 : 1	
	Max. @ 3,500rpm	0.8kW
	Max. @ 100rpm	4.8Nm
Kg	(Without tools)	See Table
	Input Opposite to Output	



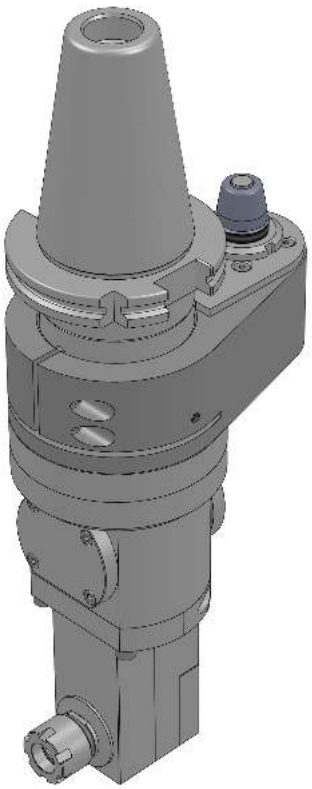






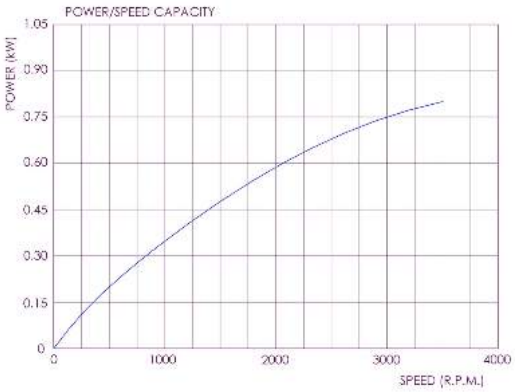
See table on page 35 for available gauge lengths

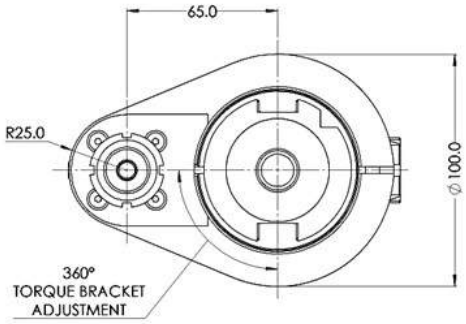
RAD 190 - 20 Modular 90º Angle Head

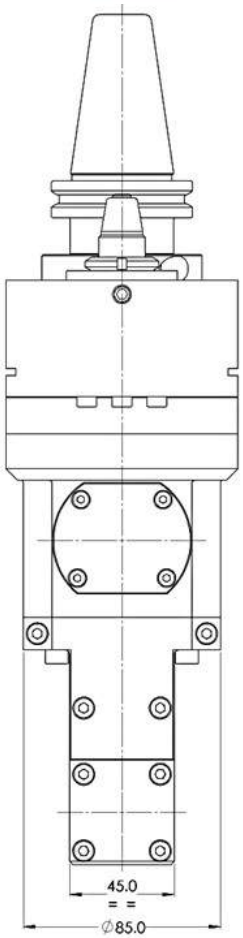


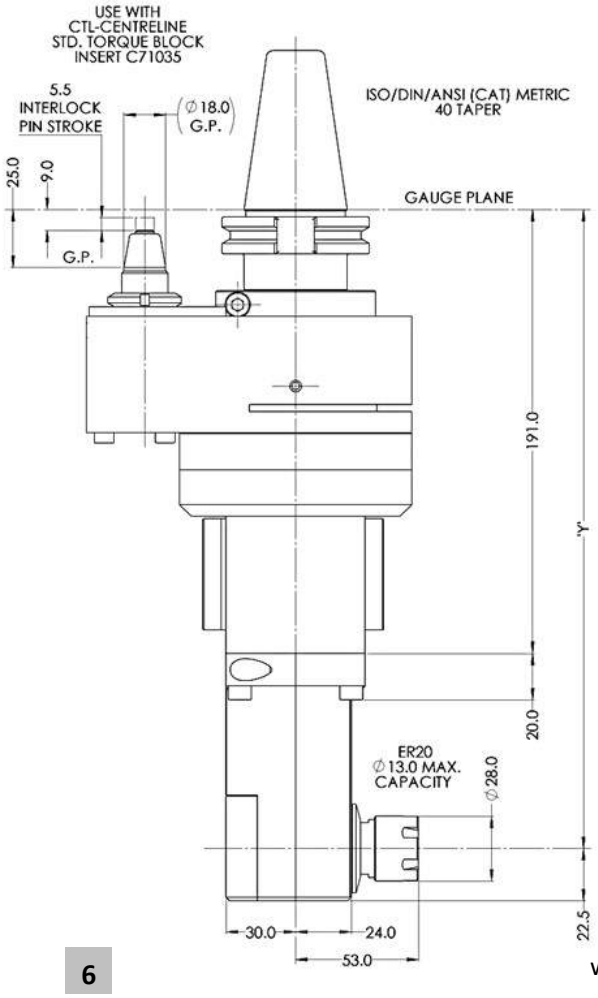
Technical Data

	ER20 —13mm / M10	
	Max. 3,500rpm Speed ratio 1.25 : 1	
	Max. @ 3,500rpm	0.81kW
	Max. @ 100rpm	48Nm
Kg	(Without tools)	See Table
	Input Opposite to Output	





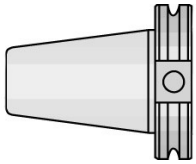


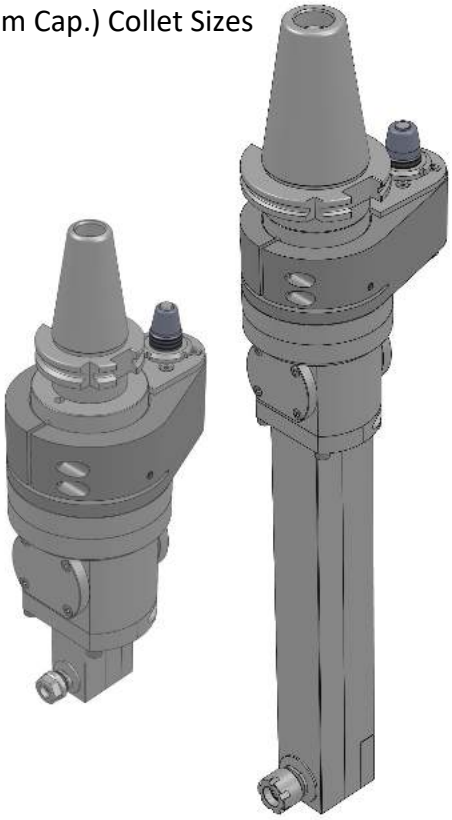


See table on page 35 for available gauge

190 Series Modular Slimline 90º Angle Heads

- Interchangeable length and collet size modules all on a common drive module
- ER11 (7mm Cap.), ER16 (10mm Cap.) or ER20 (13mm Cap.) Collet Sizes
- Double Output modules available on request
- 360º adjustability
- Maintenance free sealed design. Grease lubricated





Available drive Tapers:

BT40—BT50

CAT40—CAT50 (DIN / ANSI / SK)

HSK63A, HSK80A, HSK100A

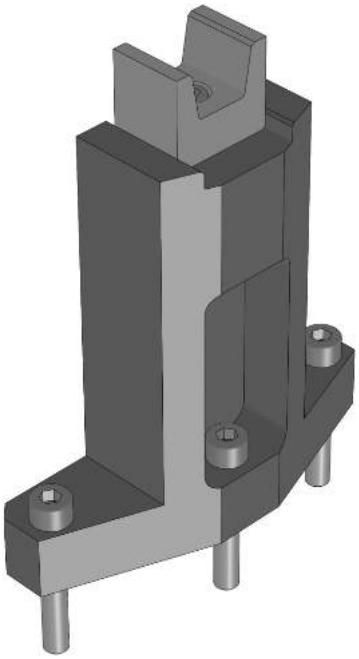
(Other options available on request)

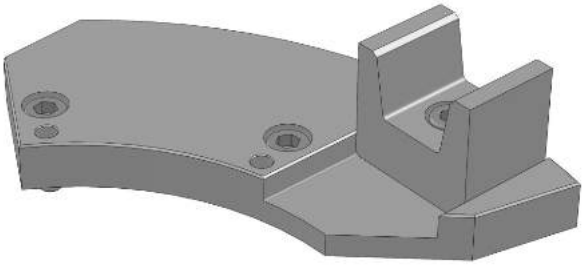
Increment	RAD190-11		RAD190-16		RAD190-20	
	Gauge Length -Y-	Weight (kg)	Gauge Length -Y-	Weight (kg)	Gauge Length -Y-	Weight (kg)
- 00	230.0mm	8.15	236.0mm	8.75	245.0mm	9.4
- 01	250.0mm	8.4	260.0mm	9.05	275.0mm	9.9
- 02	270.0mm	8.65	284.0mm	9.35	305.0mm	10.4
- 03	290.0mm	8.9	308.0mm	9.65	335.0mm	10.9
- 04	310.0mm	9.15	332.0mm	9.95	365.0mm	11.5
- 05	330.0mm	9.4	356.0mm	10.25	395.0mm	12.0
- 06			380.0mm	10.55	425.0mm	12.5
- 07			404.0mm	10.85	455.0mm	13.1
- 08					485.0mm	13.6
- 09					515.0mm	14.1

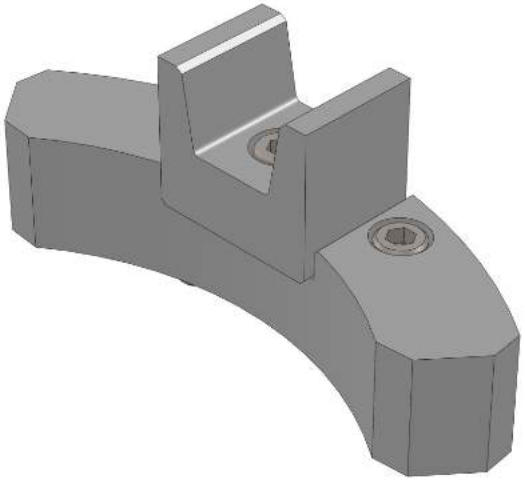
Machine Interface Options

Torque / Stop / Anti-Rotation Blocks

- Required for any CNC Auto Tool Change machine
- All Centreline Angle Heads and Speed Increasers utilise a tapered pin location for optimum rigidity
- A Hardened and ground Vee Insert is used where possible
- Standard pin centres on 65mm, 80mm, 100mm or 110mm depending on machine configuration
- Blocks manufactured to suit each machine spindle
- Optional Hardened Insert supplied with details for customer to manufacture his own base block





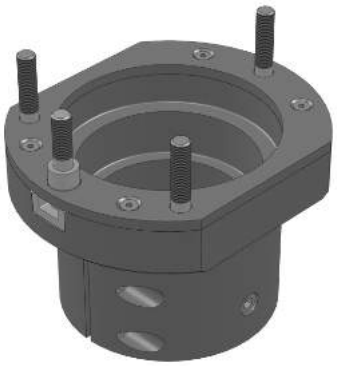


Full spindle nose details must be supplied in order to make a suitable block along with toolchange parameters for the machine tool

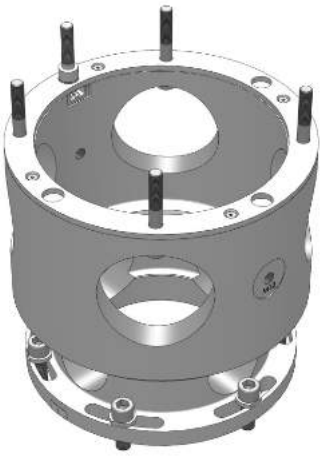
Machine Interface Options

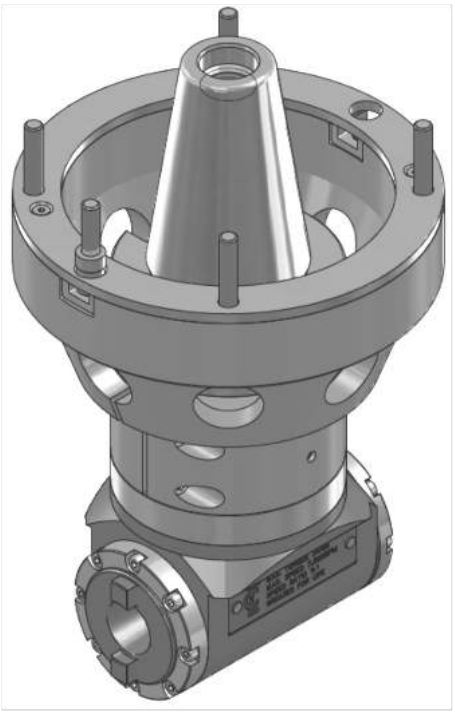
Cowl Mounting

- Required for any manual or CNC machine where the Angle Head is overweight for the machine tool changer but still within the power capability
- All Centreline Angle Heads can be cowl mounted to provide best rigidity during machining process



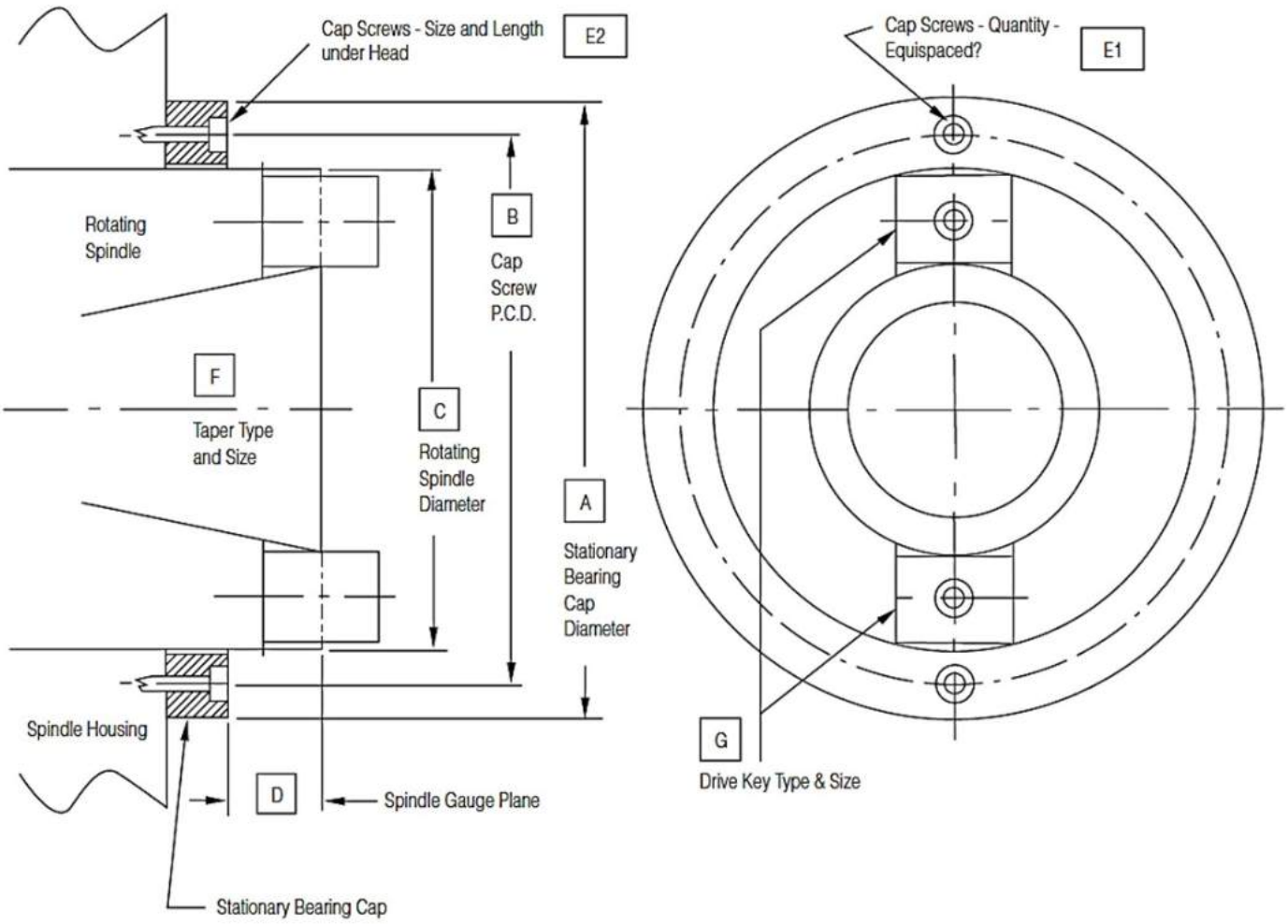
- Each Cowl Assembly is custom built to exactly match the spindle nose of the chosen machine
- A Hardened Master Locator Pin is supplied to be permanently fitted to the machine spindle nose and a matching Location Insert in the Cowl ensures repeatability each time the head is loaded
- Single position, 2 x 180º or 4 x 90º location positions are supplied as standard
- Machine Table mounted Cradles can be supplied in conjunction with cowl mounted heads for convenient or automatic pick up.





Full spindle nose details must be supplied in order to make a suitable block along with toolchange parameters for the machine tool

Machine Interface - Spindle Nose Details



PLEASE COMPLETE INFORMATION BELOW		
Machine:	Make	
	Model	
Spindle Bearing Cap Diameter (Stationary)	A	
Cap Screw Pitch Circle Diameter	B	
Rotating Spindle Diameter	C	
Spindle Gauge Plane to Bearing Cap Distance	D	
Bearing Cap Screws - Quantity / Equi-spaced ?	E1	
Bearing Cap Screws - Size and Length under Head	E2	
Spindle Taper Type (BT/CAT/ANSI/HSK…) and Size	F	
Drive key Type and Size	G	
Any Existing Tapped Holes in Spindle Bearing Cap?		If YES, Please provide dimensions and Picture

Full spindle nose details must be supplied in order to make a suitable block along with toolchange parameters for the machine tool

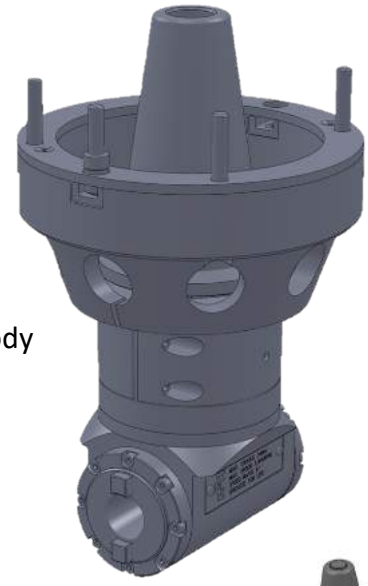
Special Application Angle Heads

To compliment its comprehensive Standard product Range, CTL Centreline also offers a full design and manufacture service for special application Driven heads.

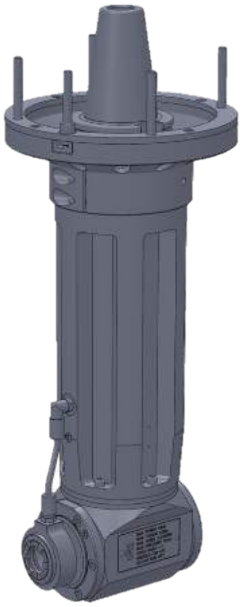
One of the strengths of the Engineering team at CTL centreline is the ability to work closely with its customers to provide solutions to the challenging machining problems highlighted in modern component design. it is our aim, rather than provide a 'from the catalogue' solution, but to give our customers the best possible solution to provide stable and long lasting tooling solutions.

All units are design and manufactured in house at Coventry and are fully supported with service and spares as required.

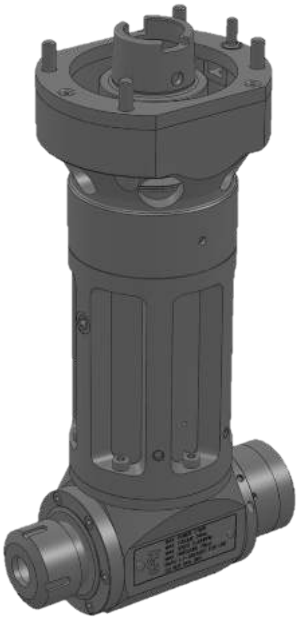
Standard Angle Head Modifications or Variants



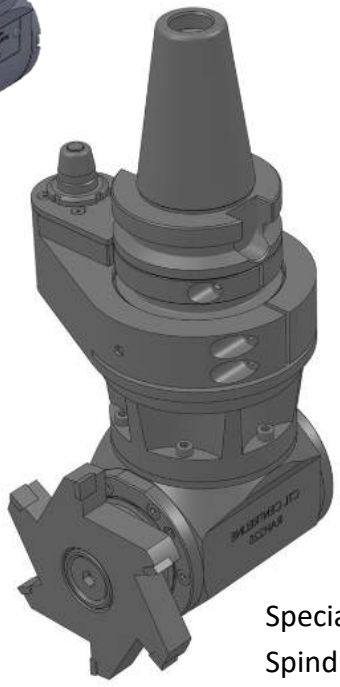
Special Steel contoured body



Special extended body and special coolant feed locknut



Full High Pressure Through Tool Coolant and Cowl Interface

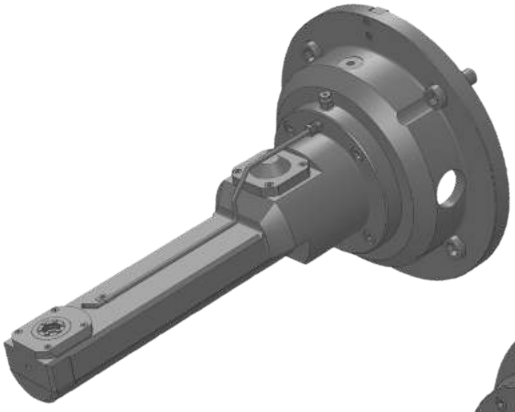


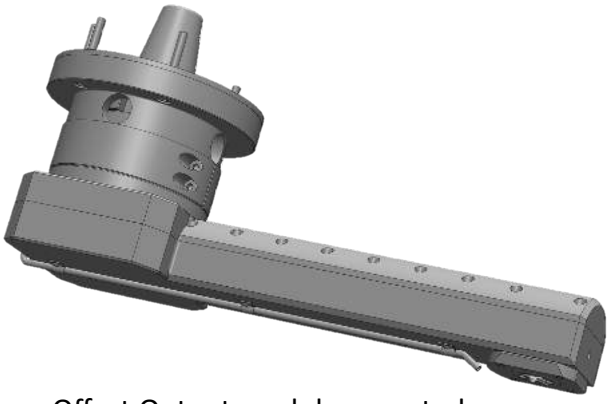
Special Integral Output Spindle to suit special cutter

Extended Internal Milling Heads

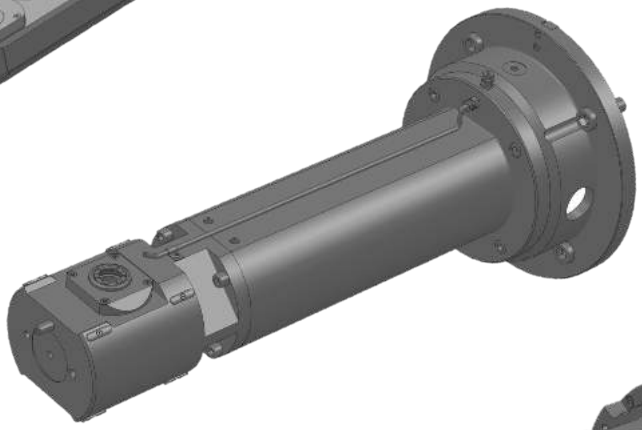
An increasing requirement for internal milling and keyway milling has given birth to a growing range of special extended milling heads, especially in the Oil and Gas sectors.

Centreline now has many milling and drilling head solutions in the field with the ability to access bore sizes as small as 40mm and reaches of over 1 metre can be accommodated with fully supported cuts. Heads are normally mounted on Horizontal Borers or millturn machines, but both Vertical and Horizontal drive solutions are available.

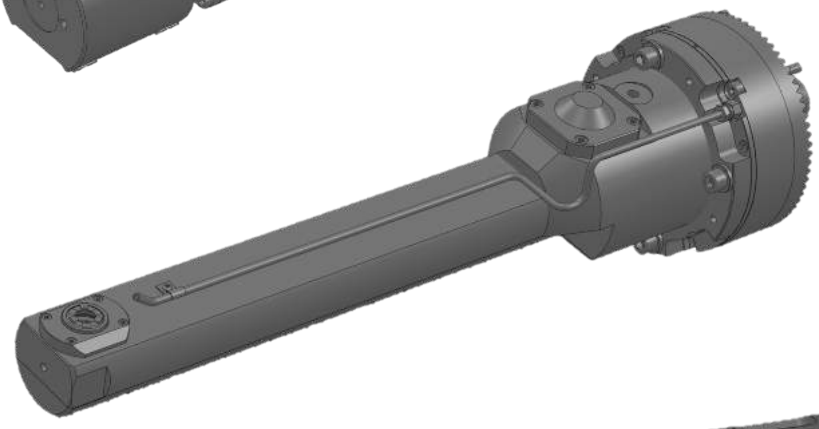


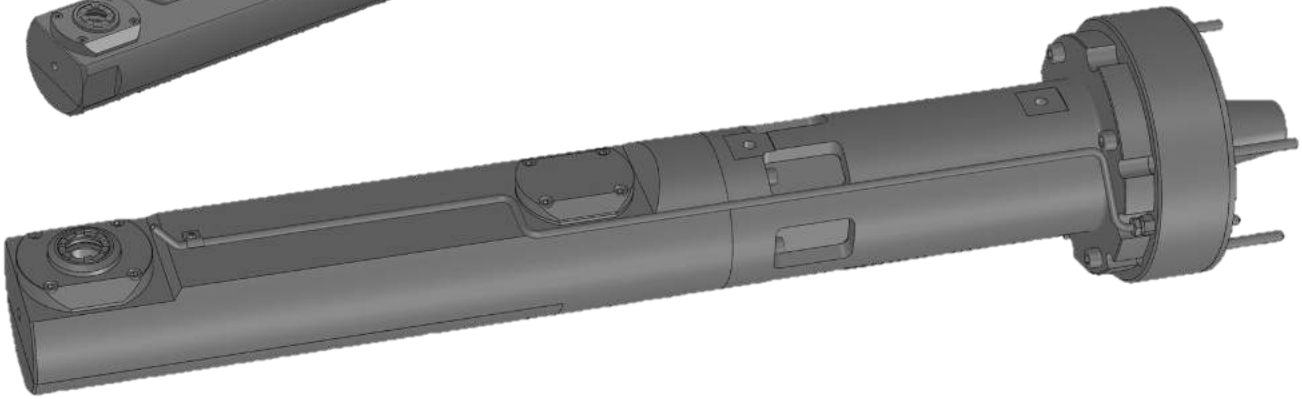


Offset Output module mounted on a 50 taper VMC



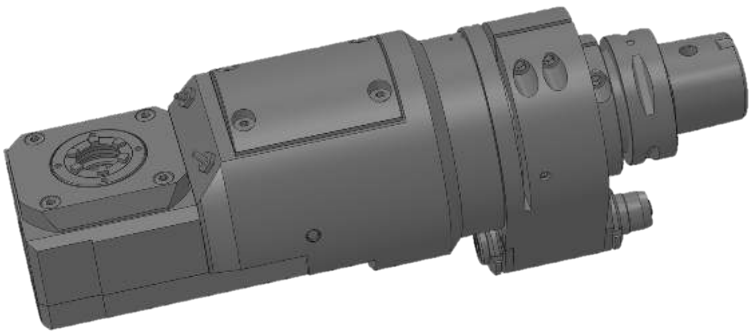
- Diameter to length ratios of up to 10:1
- Ground Spiral Bevel and Helical gear transmissions
- ER Collet output or dedicated milling arbor mount
- Heads can be fully supported in bore

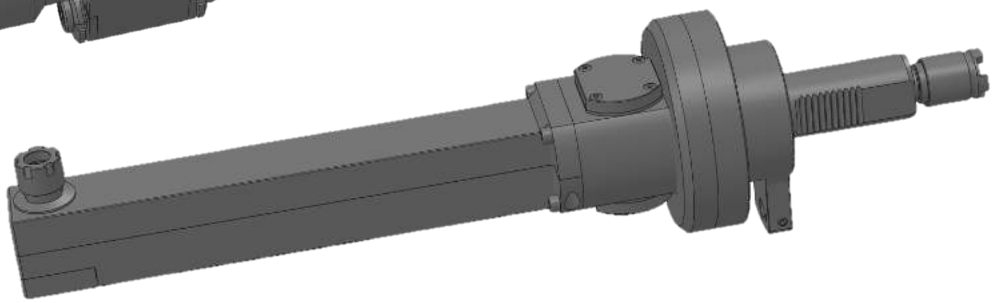


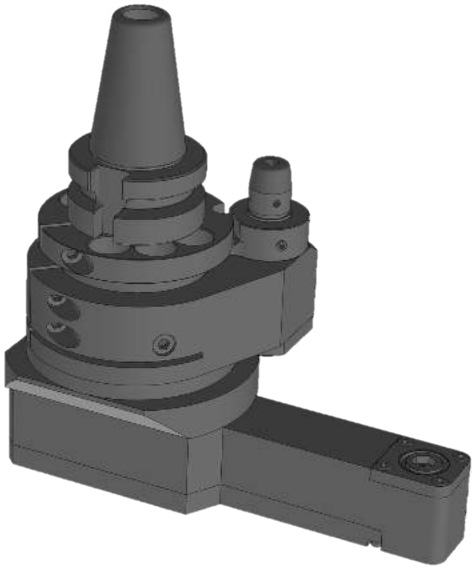


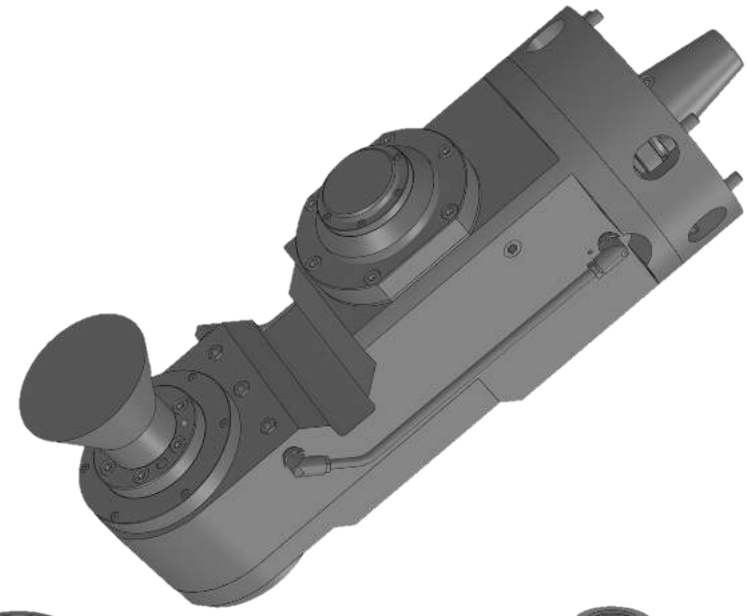
Special Milling head - 124mm body diameter with an 800mm unsupported reach and 20mm cutter capacity.

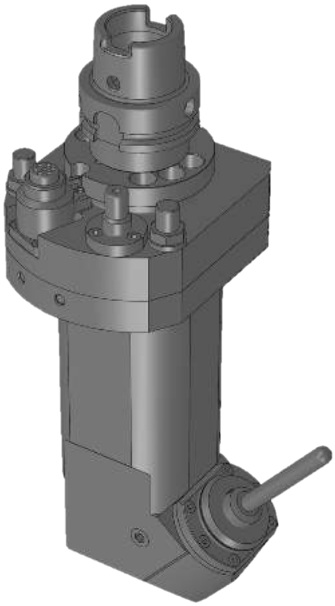
Bespoke solutions to suit complex machining requirements

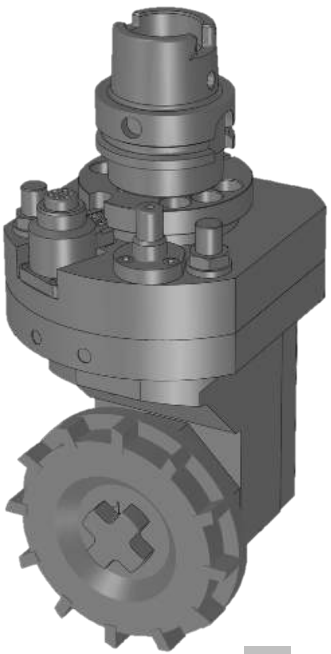


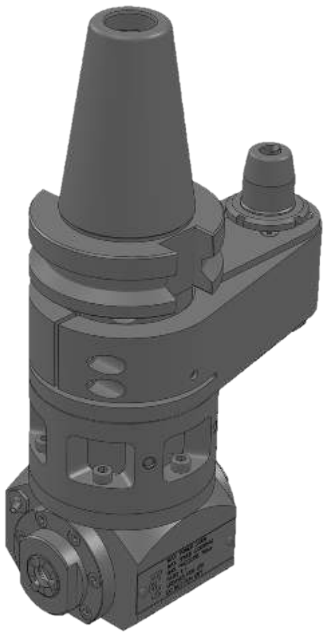




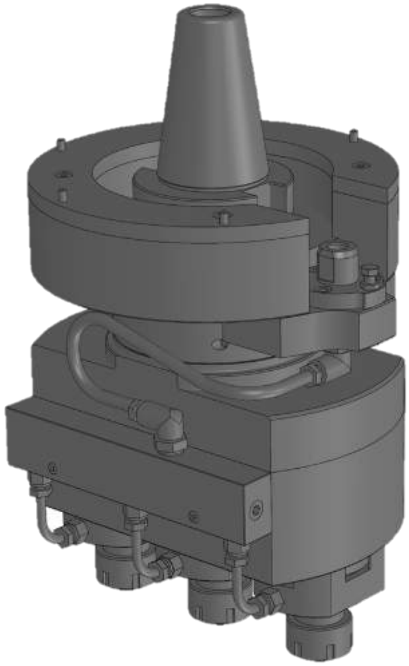


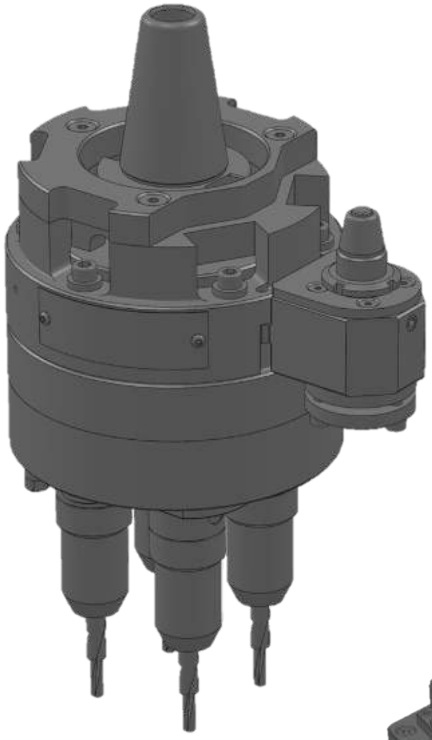


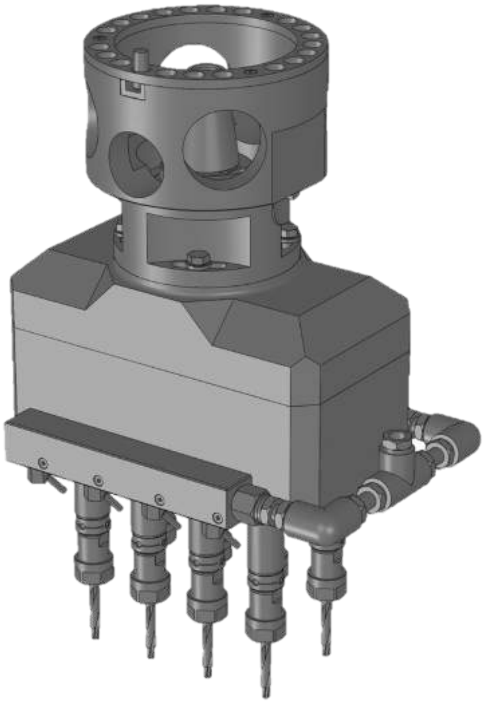


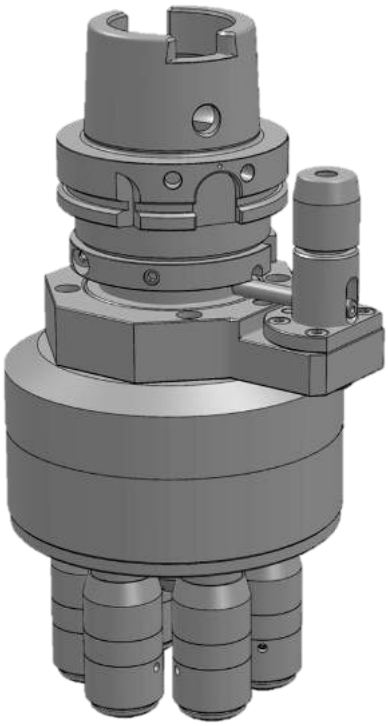


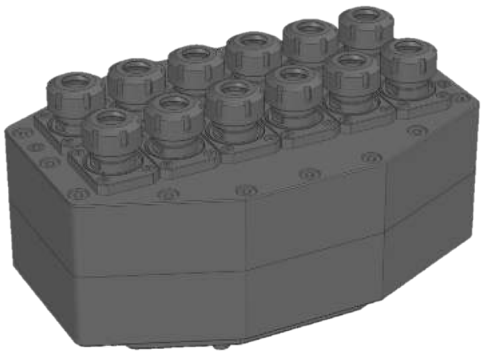
Multi Spindle Drilling and Tapping Heads

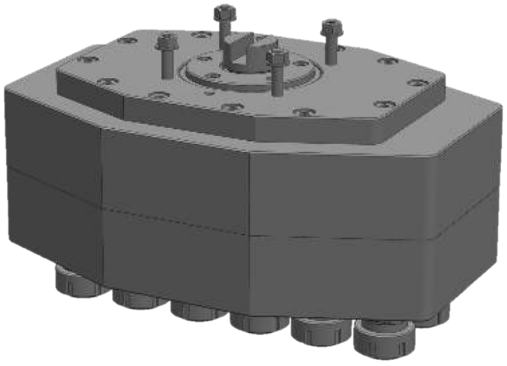












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