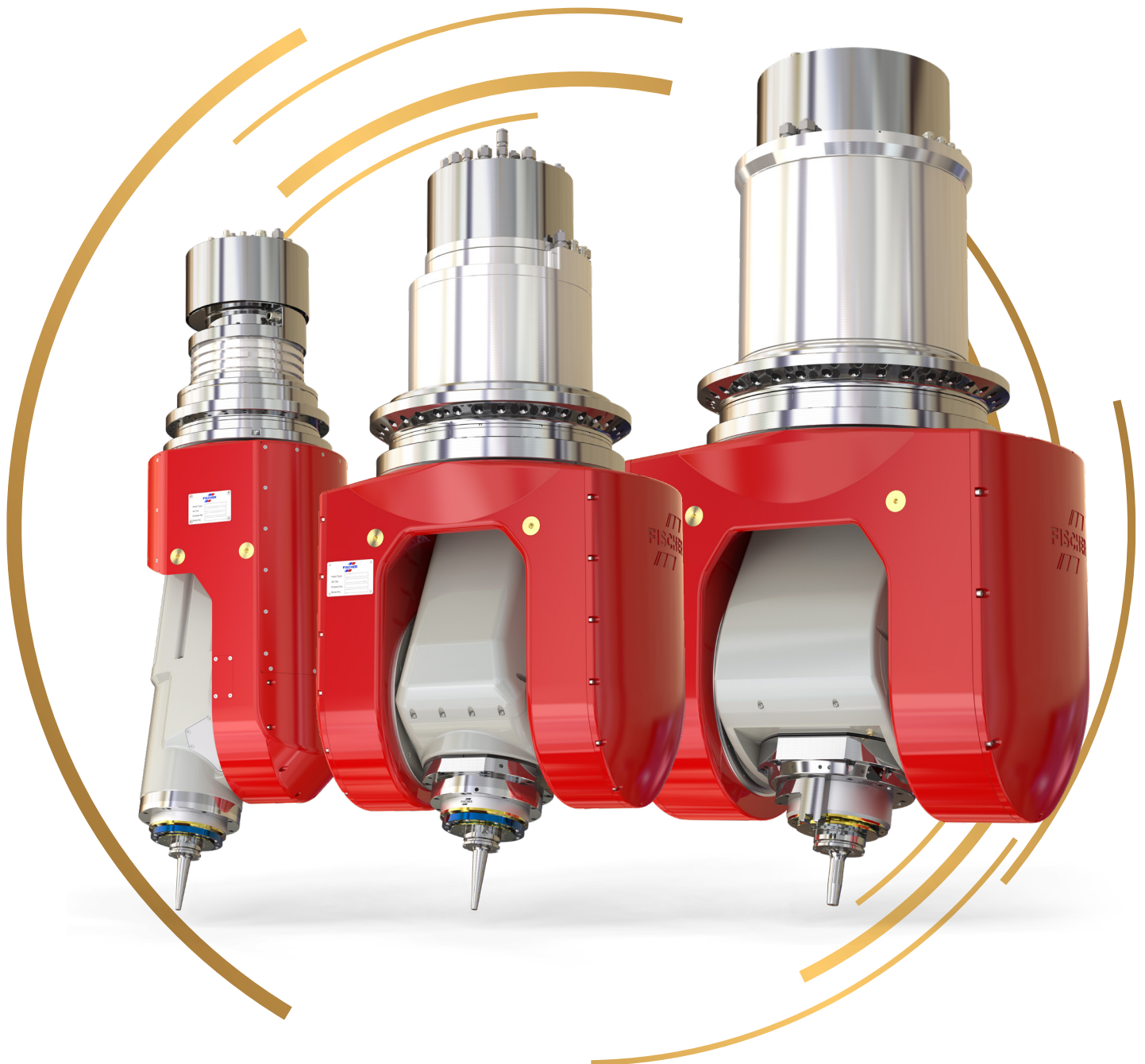
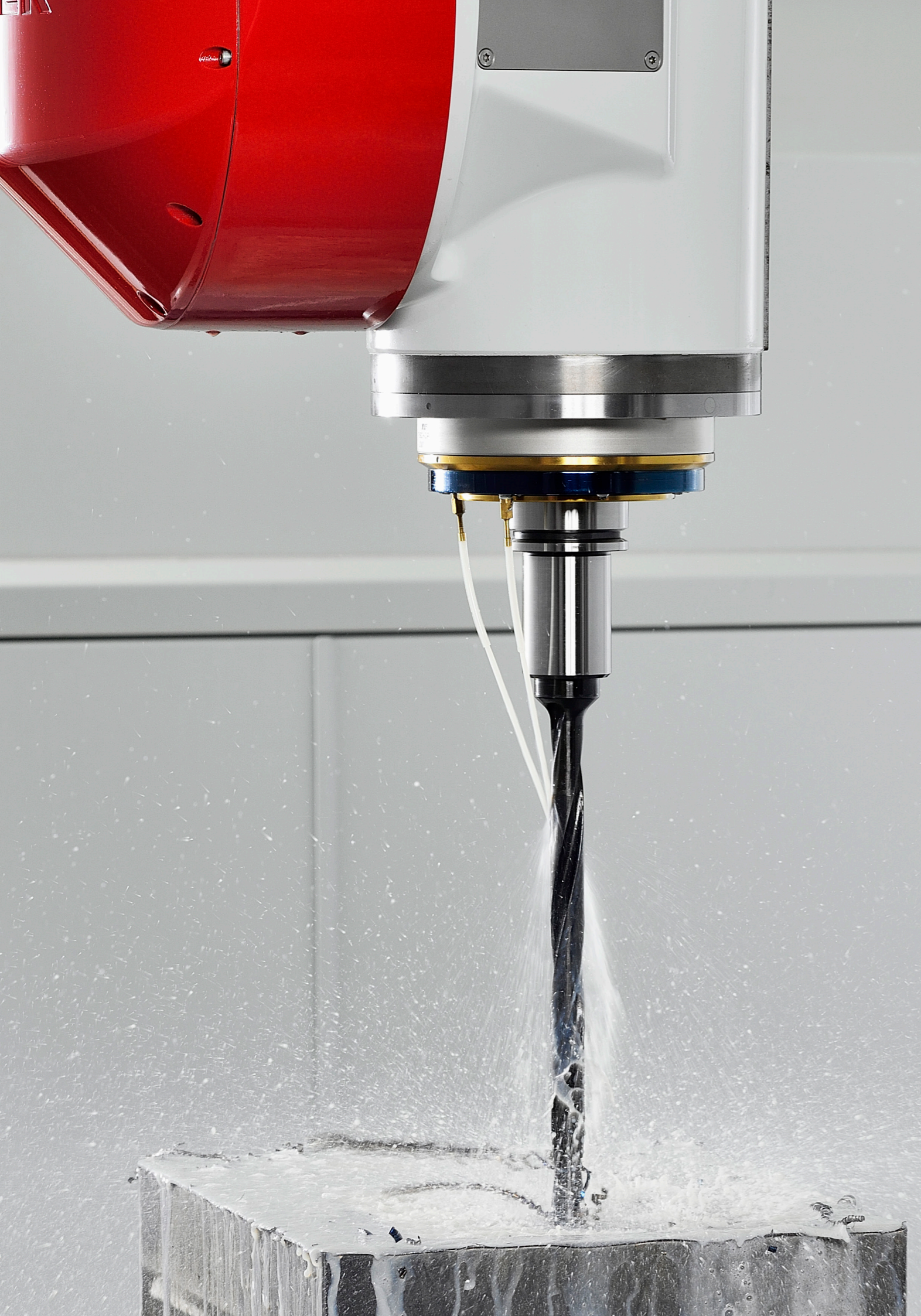


# FISCHER MILLING HEADS

TECHNOLOGY FOR 100% PERFORMANCE





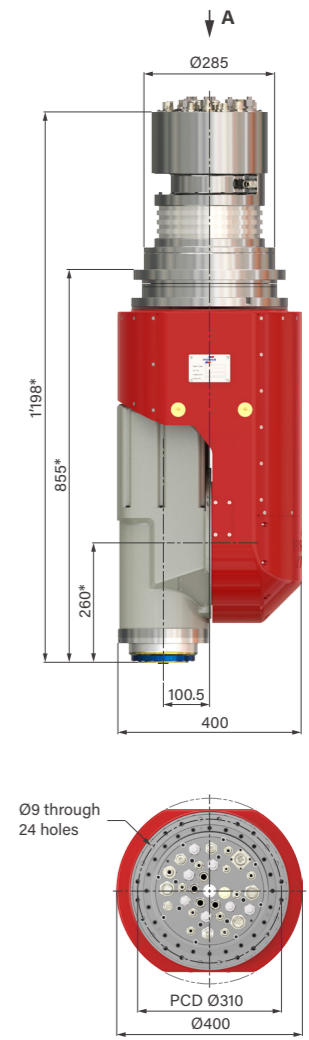
# MILLING HEAD S19i

All FISCHER milling heads are designed and produced to maximize the performance of our renowned FISCHER spindles.

The S19i is a single-armed head with an integrated spindle to reach the maximum milling performance in a smallest-possible size. It is the optimum solution for 3+2 axis applications.

All structures within the milling head S19i are designed, calculated and casted with high-grade cast-iron to ensure the highest stiffness in a very compact size. Supported by two YRT bearings and equipped with high-torque clamps, this robust milling head brings the full milling performance of the installed FISCHER spindles into your milling process.

For the different milling applications, the matching FISCHER spindles are carefully selected to pair perfectly with the S19i. Our premium FISCHER spindle options like shaft-cooling, coolant through, as well as special sensors are all available to fit your needs.



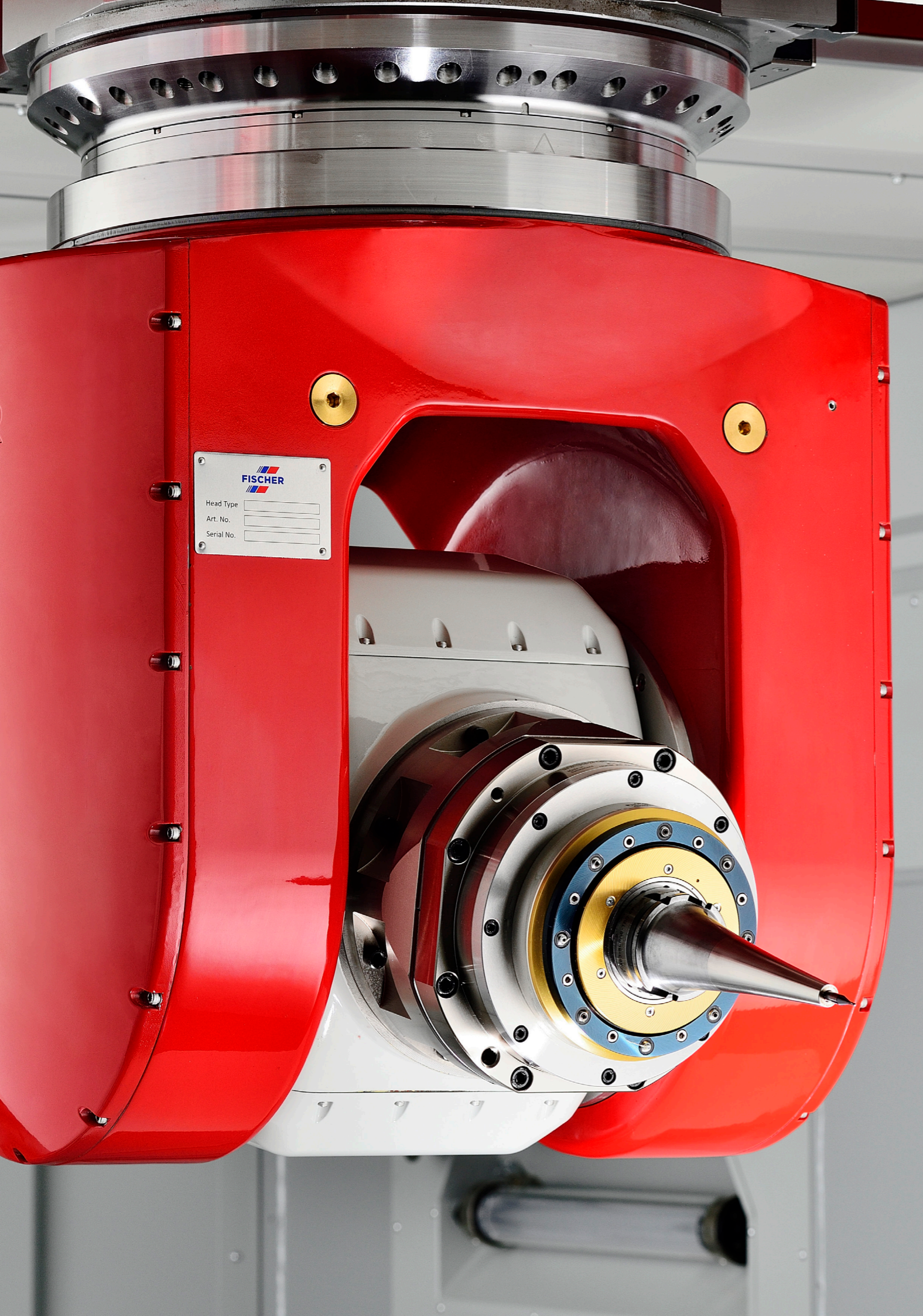
View A

Head Specifications	Unit	Value
C-axis range of motion	degree	±360
C-axis motor nominal torque	Nm	163
C-axis motor peak torque	Nm	318
C-axis clamping torque	Nm	1'900
Measuring system		Absolute / Optical
Interface		EnDat 2.2
A-axis range of motion	degree	±110
A-axis motor nominal torque	Nm	110
A-axis motor peak torque	Nm	404
A-axis clamping torque	Nm	1'900
Measuring system		Absolute / Optical
Interface		EnDat 2.2
Spindle gauge line to the middle of the A-axis/pivot point	mm	260*
Spindle gauge line to C-axis mounting surface	mm	855*
Total length (without connectors)	mm	1'198*
Distance from the center of the C-axis to both sides	mm	200
Total width (diameter)	mm	400
Distance from the center of the C-axis to the center of spindle	mm	100.5
C-Axis mounting hole of the Z-axis column	mm	Ø285
Pitch Circle Diameter (PCD) of mounting screw holes	mm	Ø310

\* Values subject to change with different spindle.

## Matching Spindles

Applications	Tool interface	Motor	Lubrication	Max. Speed	Torque	Power
Light Milling	HSK-A63	ASYN	Grease	18'000	34 Nm	20 kW
Mold & Die (Option: shaft cooling for highest precision)	HSK-A63	ASYN	Oil-Air	26'000	34 Nm	20 kW
High Speed Milling	HSK-E50	ASYN	Oil-Air	36'000	12,4 Nm	15,2 kW



## MILLING HEAD D19 FAMILY

Our D19 milling heads are designed to pair with our 190mm premium line of spindles.

There are two models: the D19STD and the D19LITE were designed to cover a variety of applications. Both heads utilize our well-designed mono-block fork with high stiffness made of high-grade cast iron. Combined with cross-roller bearing in the A-axis, we achieve a very stable foundation for our premium 190mm spindles; allowing you to get the most out of your spindle and milling head combination.

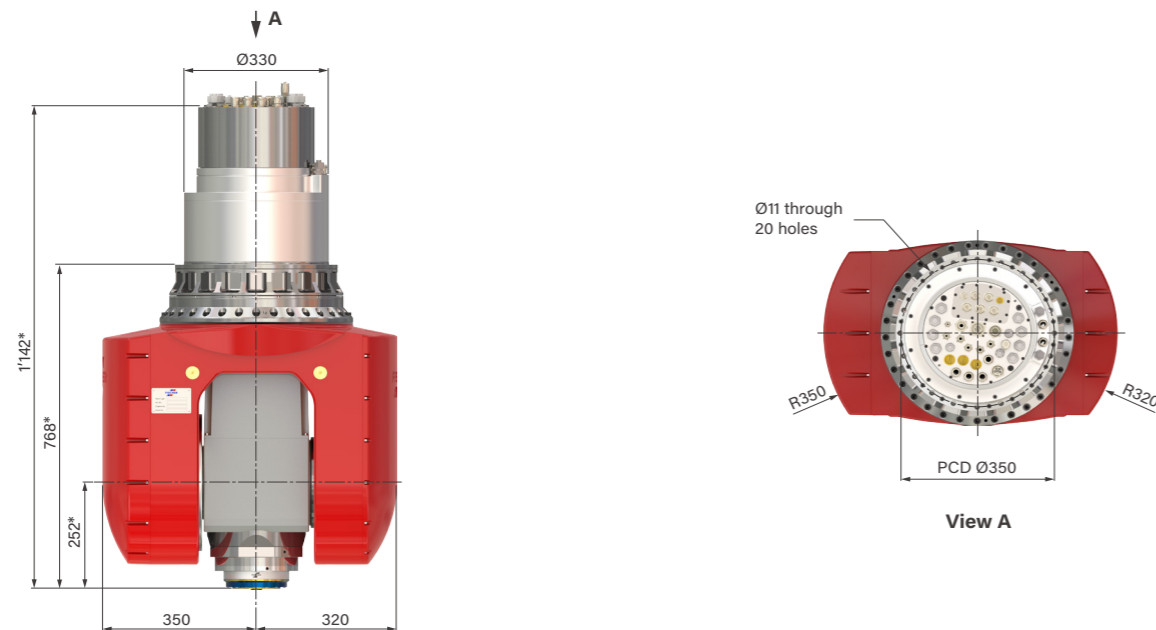
D19STD is fully symmetric, providing the highest precision for 5-axis milling applications. To ensure accuracy and repeatability, we have chosen to incorporate direct optical encoders, dual motors, dual bearings and dual clamps on the A-axis.

We have two C-axis modules available, the compact and the midsized. The compact C-axis is designed to allow for integration into smaller Z-axis ram configuration. Our midsized C-axis is designed for applications in need of ultimate power and heavier loads commonly found in the aerospace applications.

Whether you need a light-weight head for the 5-axis finishing and trimming; a robust head with high precision and stiffness for mold and die applications; or a head to deal with heavy loads and full power millings for aerospace, our D19 family has you covered.

# MILLING HEAD D19LITE

- Light weight
- Optimum structure for finishing/trimming
- Single drive and clamp for A-axis
- Optimized solution for 5-axis simultaneous milling applications
- Monoblock fork ensuring highest stiffness



Head Specifications	Unit	Value
C-axis range of motion	degree	±360
C-axis motor nominal torque	Nm	543
C-axis motor peak torque	Nm	1'030
C-axis clamping torque (Hyd./Pne.)	Nm	3'000 / 2'000
Measuring system		Absolute / Optical
Interface		EnDat 2.2
A-axis range of motion	degree	±120
A-axis motor nominal torque	Nm	543
A-axis motor peak torque	Nm	1'030
A-axis clamping torque (Hyd./Pne.)	Nm	2'000 / 2'000
Measuring system		Absolute / Optical
Interface		EnDat 2.2
Spindle gauge line to the middle of the A-axis/pivot point	mm	252*
Spindle Nose Extension	mm	Optional
Spindle gauge line to C-axis mounting surface	mm	768*
Total length (without connectors)	mm	1'142*
Distance from the center of the C-axis to both sides	mm	350/320
Total width (diameter)	mm	670
C-axis mounting hole of the Z-axis column	mm	Ø330
Pitch Circle Diameter (PCD) of mounting screw holes	mm	Ø350

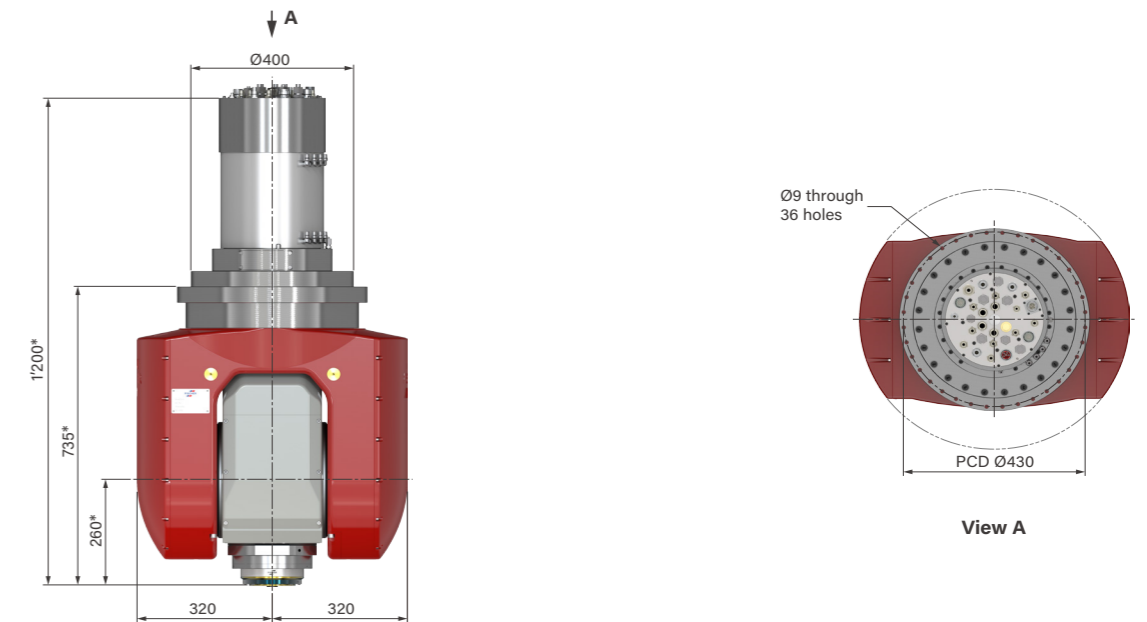
\* Values subject to change with different spindle.

## Matching Spindles

Applications	Tool interface	Motor	Lubrication	Max. Speed	Torque	Power
Light Milling	HSK-A63	ASYN	Grease	18'000	40 Nm	25 kW
Mold & Die (Option: shaft cooling for highest precision)	HSK-A63	ASYN	Oil-Air	28'000	40 Nm	25 kW

# MILLING HEAD D19STD

- Fully symmetrical design
- Dual motors, bearings and clamps for A-axis
- Small mounting diameter
- Totally sealed A-axis encoder
- Monoblock fork ensuring highest stiffness



Head Specifications	Unit	Value
C-axis range of motion	degree	±360
C-axis motor nominal torque	Nm	548
C-axis motor peak torque	Nm	1'040
C-axis clamping torque	Nm	4'000
Measuring system		Absolute / Optical
Interface		EnDat 2.2
A-axis range of motion	degree	±120
A-axis motor nominal torque	Nm	350 x 2 = 700
A-axis motor peak torque	Nm	1'330
A-axis clamping torque	Nm	4'000
Measuring system		Absolute / Optical
Interface		EnDat 2.2
Spindle gauge line to the middle of the A-axis/pivot point	mm	260*
Spindle Nose Extension	mm	Optional
Spindle gauge line to C-axis mounting surface	mm	735*
Total length (without connectors)	mm	1'200*
Distance from the center of the C-axis to both sides	mm	320
Total width (diameter)	mm	640
C-axis mounting hole of the Z-axis column	mm	Ø400
Pitch Circle Diameter (PCD) of mounting screw holes	mm	Ø430

\* Values subject to change with different spindle.

## Matching Spindles

Applications	Tool interface	Motor	Lubrication	Max. Speed	Torque	Power
Mold & Die	HSK-A63	SYN	Grease	18'000	67 Nm	42 kW
Mold & Die (Option: shaft cooling for highest precision)	HSK-A63	SYN	Oil-Air	24'000	67 Nm	42 kW
High Power Milling	HSK-A63/80	SYN	Oil-Air	30'000	36 Nm	80 kW



# MILLING HEAD D21STD

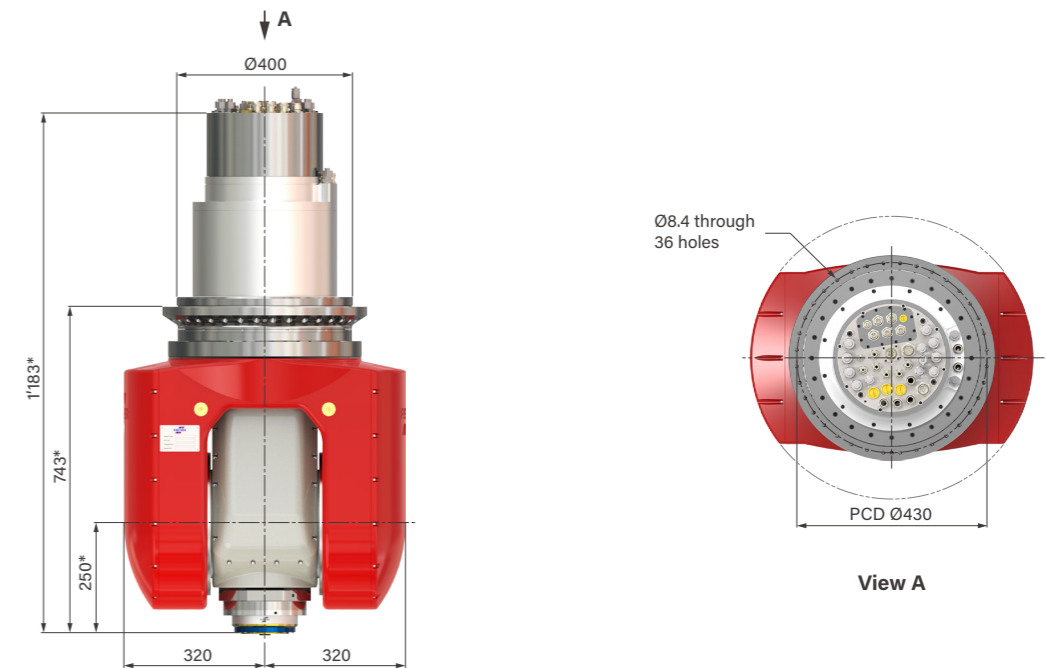
Our D21STD milling head is a robust solution specifically designed to provide a stable foundation to reach full performance of our high powered and high torque premium 210 mm line of spindles.

For machines requiring precise and powerful simultaneous 5-axis milling applications, the compact size of our D21STD allows for best utilization of working space vs. work piece envelope. High stiffness mono-block fork structure made of high-grade cast iron paired with cross-roller bearings on the A-axis provide the highest load capacity to handle the cutting forces across mold and die as well as aerospace applications.

To ensure accuracy and repeatability, we have chosen to incorporate direct optical encoders, dual motors, dual bearings and dual clamps on both sides of the A-axis to create a fully symmetric head. Larger cross-roller bearings for the A-axis provide sufficient stiffness for the powerful milling.

# MILLING HEAD D21STD

- Symmetric design for even stress and heat
- Dual motors and bearings for A-axis, single/dual clamps optional
- Robust structure for high dynamic 5-axis milling applications
- Monoblock fork ensuring highest stiffness



Head Specifications	Unit	Value
C-axis range of motion	degree	±360
C-axis motor nominal torque	Nm	782
C-axis motor peak torque	Nm	1'540
C-axis clamping torque (option)	Nm	4'000 (7'000)
Measuring system		Absolute / Optical
Interface		EnDat 2.2
A-axis range of motion	degree	±120
A-axis motor nominal torque	Nm	363x2=726
A-axis motor peak torque	Nm	1'370
A-axis clamping torque	Nm	4'000
Measuring system		Absolute / Optical
Interface		EnDat 2.2
Spindle gauge line to the middle of the A-axis/pivot point	mm	250*
Spindle Nose Extension	mm	Optional
Spindle gauge line to C-axis mounting surface	mm	743*
Total length (without connectors)	mm	1'183*
Distance from the center of the C-axis to both sides	mm	320
Total width (diameter)	mm	640
C-axis mounting hole of the Z-axis column	mm	Ø400
Pitch Circle Diameter (PCD) of mounting screw holes	mm	Ø430

\* Values subject to change with different spindle.

### Matching Spindles

Applications	Tool interface	Motor	Lubrication	Max. Speed	Torque	Power
Mold & Die (Option: shaft cooling for highest precision)	HSK-A63	ASYN	Oil-Air	26'000	72 Nm	30 kW
High Torque Cutting	HSK-A63	SYN	Oil-Air	20'000	119 Nm	65 kW
High Power Cutting	HSK-A63	SYN	Oil-Air	30'000	75 Nm	140 kW



## MILLING HEAD D27 FAMILY

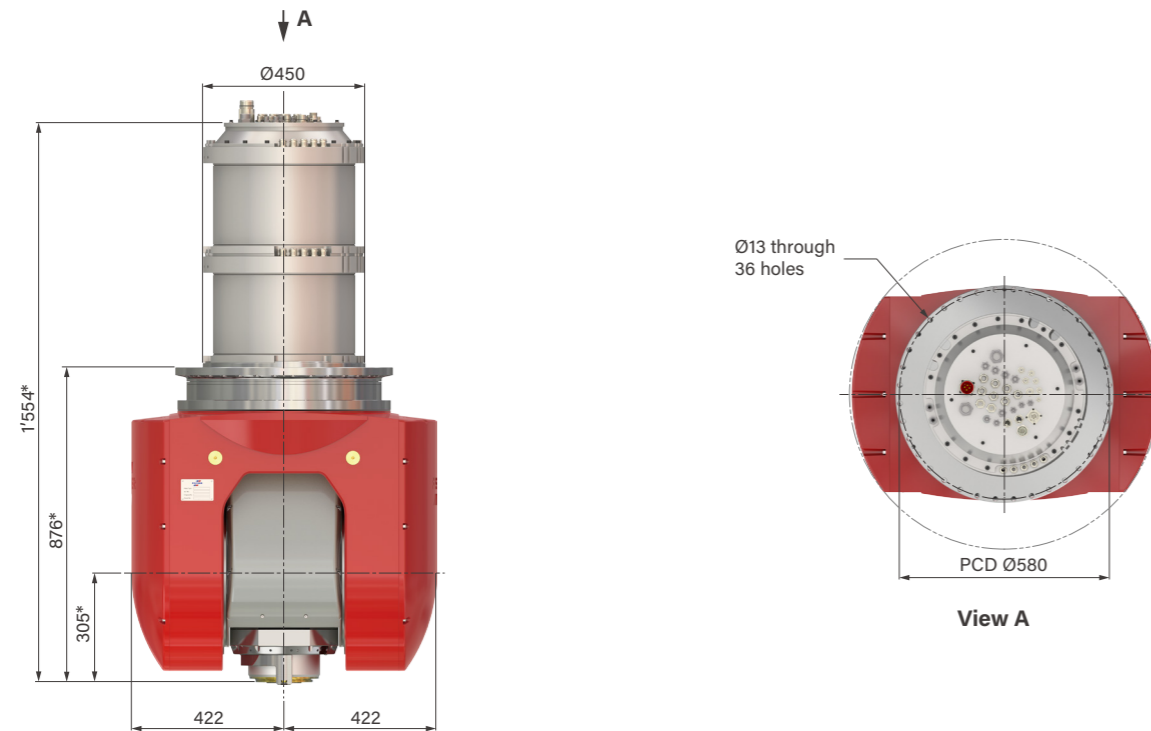
Our D27 line of milling heads are specifically designed for the absolute highest power, highest torque, longest tooling, 5-axis milling applications. Our precision mono-block structures made of high-grade cast iron paired with two large cross-roller bearings for A-axis allow for the highest load capacity to handle the cutting forces in all directions during precision-power milling.

With the high power and torque output, the D27 family of milling heads still maintains its sleek symmetric outline while being dynamic and robust. To ensure accuracy and repeatability we have chosen to incorporate direct optical encoders, dual motors, dual bearings and dual clamps on the A-axis.

The D27 milling head family is designed to utilize the maximum power and torque capacity of our 275mm spindles for the highest chip removal rate or critical, high torque milling applications.

# MILLING HEAD D27STD

- Symmetric design for even stress and heat
- Dual drives, bearings and clamps for A-axis
- Robust structure for high performance 5-axis milling applications
- Monoblock fork ensuring highest stiffness



Head Specifications	Unit	Value
C-axis range of motion	degree	±360
C-axis motor nominal torque	Nm	3'000
C-axis motor peak torque	Nm	5'000
C-axis clamping torque	Nm	6'000
Measuring system		Absolute / Optical
Interface		EnDat 2.2
A-axis range of motion	degree	±110
A-axis motor nominal torque	Nm	3'000
A-axis motor peak torque	Nm	5'000
A-axis clamping torque	Nm	6'000
Measuring system		Absolute / Optical
Interface		EnDat 2.2
Spindle gauge line to the middle of the A-axis/pivot point	mm	291*
Spindle gauge line to C-axis mounting surface	mm	766*
Total length (without connectors)	mm	1'500*
Distance from the center of the C-axis to both sides	mm	422
Total width (diameter)	mm	860
C-axis mounting hole of the Z-axis column	mm	Ø450
Pitch Circle Diameter (PCD) of mounting screw holes	mm	Ø580

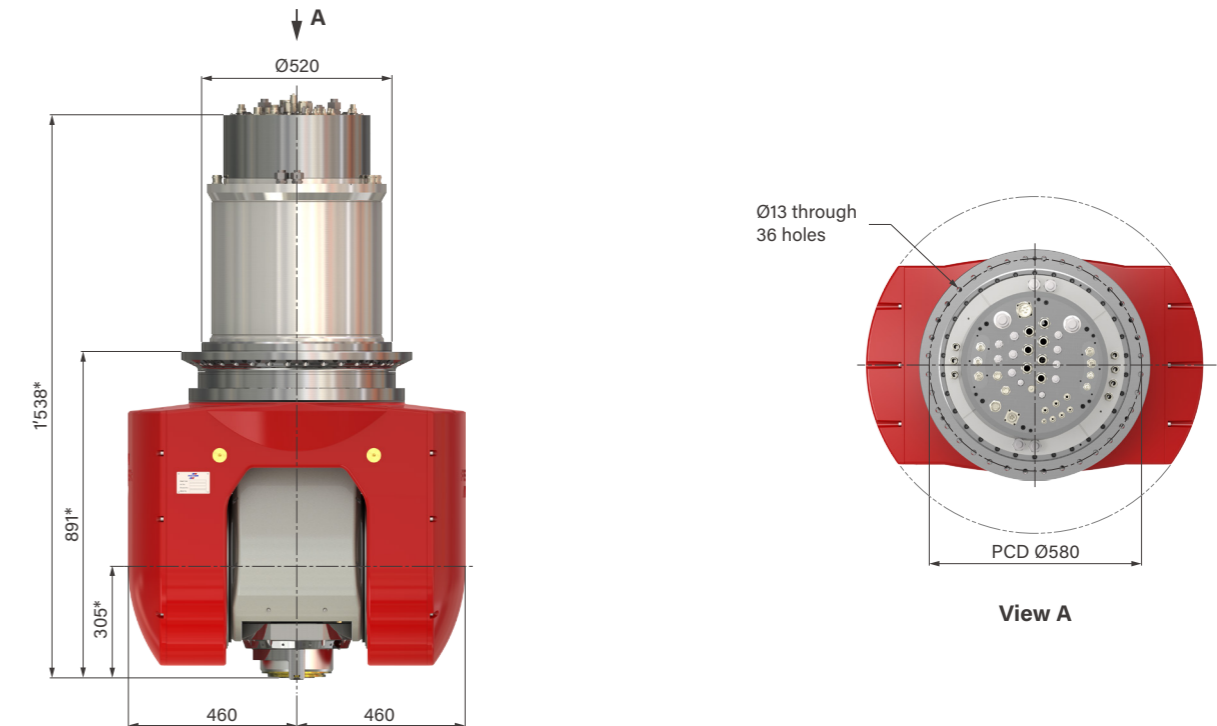
\* Values subject to change with different spindle.

## Matching Spindles

Applications	Tool interface	Motor	Lubrication	Max. Speed	Torque	Power
High Torque Milling	HSK-A100	SYN	Oil-Air	8'000	444 Nm	93 kW
High Performance Milling	HSK-A100	ASYN	Oil-Air	15'000	300 Nm	63 kW
High Speed Cutting	HSK-A100	SYN	Oil-Air	20'000	96 Nm	150 kW
High Precision with Shaft Cooling	HSK-A100	ASYN	Oil-Air	20'000	251 Nm	50 kW

# MILLING HEAD D27MAX

- Symmetric design for even stress and heat
- Dual drives, bearings and clamps for A-axis
- Robust structure designed for powerful heavy 5-axis milling applications
- Highest performance for powerful heavy millings
- Monoblock fork ensuring highest stiffness



Head Specifications	Unit	Value
C-axis range of motion	degree	±360
C-axis motor nominal torque	Nm	4'300
C-axis motor peak torque	Nm	8'000
C-axis clamping torque	Nm	8'000
Measuring system		Absolute / Optical
Interface		EnDat 2.2
A-axis range of motion	degree	±120
A-axis motor nominal torque	Nm	3'900
A-axis motor peak torque	Nm	7'300
A-axis clamping torque	Nm	8'000
Measuring system		Absolute / Optical
Interface		EnDat 2.2
Spindle gauge line to the middle of the A-axis/pivot point	mm	305*
Spindle gauge line to C-axis mounting surface	mm	891*
Total length (without connectors)	mm	1'538*
Distance from the center of the C-axis to both sides	mm	460
Total width (diameter)	mm	920
C-axis mounting hole of the Z-axis column	mm	Ø520
Pitch Circle Diameter (PCD) of mounting screw holes	mm	Ø580

\* Values subject to change with different spindle.

## Matching Spindles

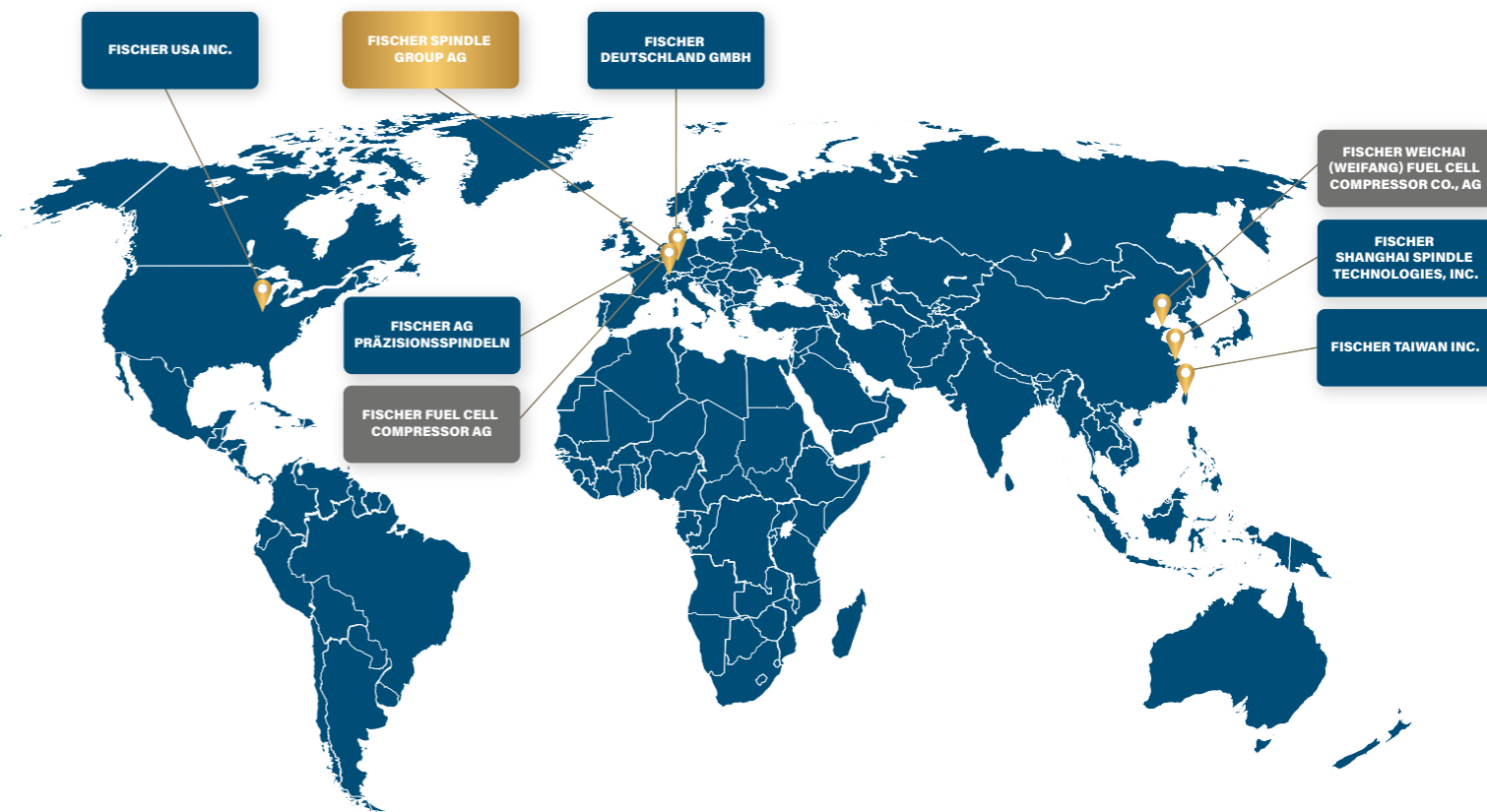
Applications	Tool interface	Motor	Lubrication	Max. Speed	Torque	Power
High Power Milling	HSK-A100	SYN	Oil-Air	20'000	140 Nm	200 kW



# LOCATIONS WORLDWIDE

## THE FISCHER HOLDING

The FISCHER family is present at five locations worldwide and employs over 400 people. A strong global team with the greatest enthusiasm for technology, ensuring customer satisfaction through successful, innovative products and outstanding service.



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