

CYMILL



NC MILLING HEADS

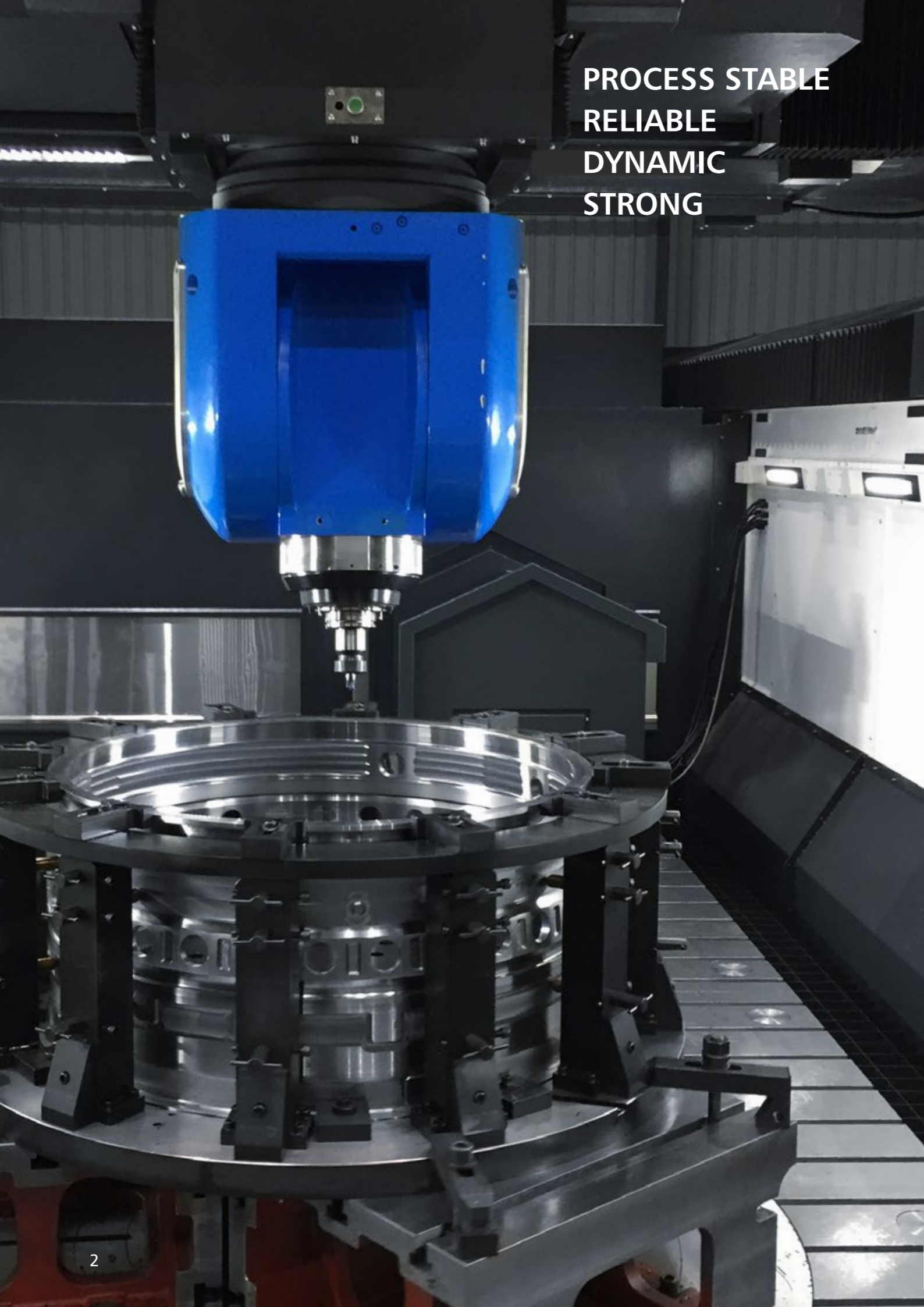
COMPONENTS
PERFECTION.



MADE IN GERMANY



**PROCESS STABLE
RELIABLE
DYNAMIC
STRONG**



DYNAMIC MEETS PRECISION

The CYTEC machining heads with synchronous drives for high dynamic applications are the result of long-term experience gained in the conception and design of torque motors produced by CYTEC Zylindertechnik GmbH.

CYTEC optimised them once more as latest generation of direct drives for rotating and swivel axes.

The distinctive characteristics of the series are performance, precision and a high level of reliability together with enormous power and dynamic.

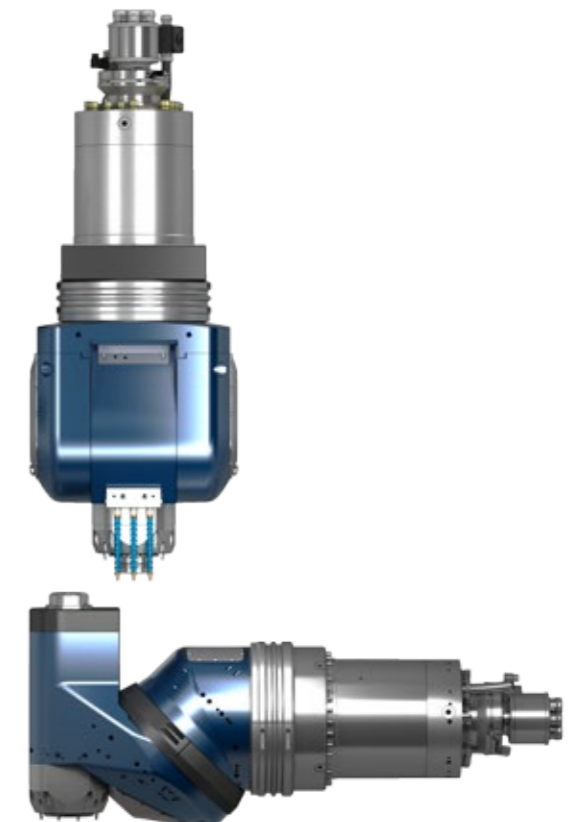
The drives are characterised by optimal control properties. A high overload capacity adapts ideally to most application requirements.

The powerful drive clamping device supports high precision positioning even for rough machining and high workpiece loads.

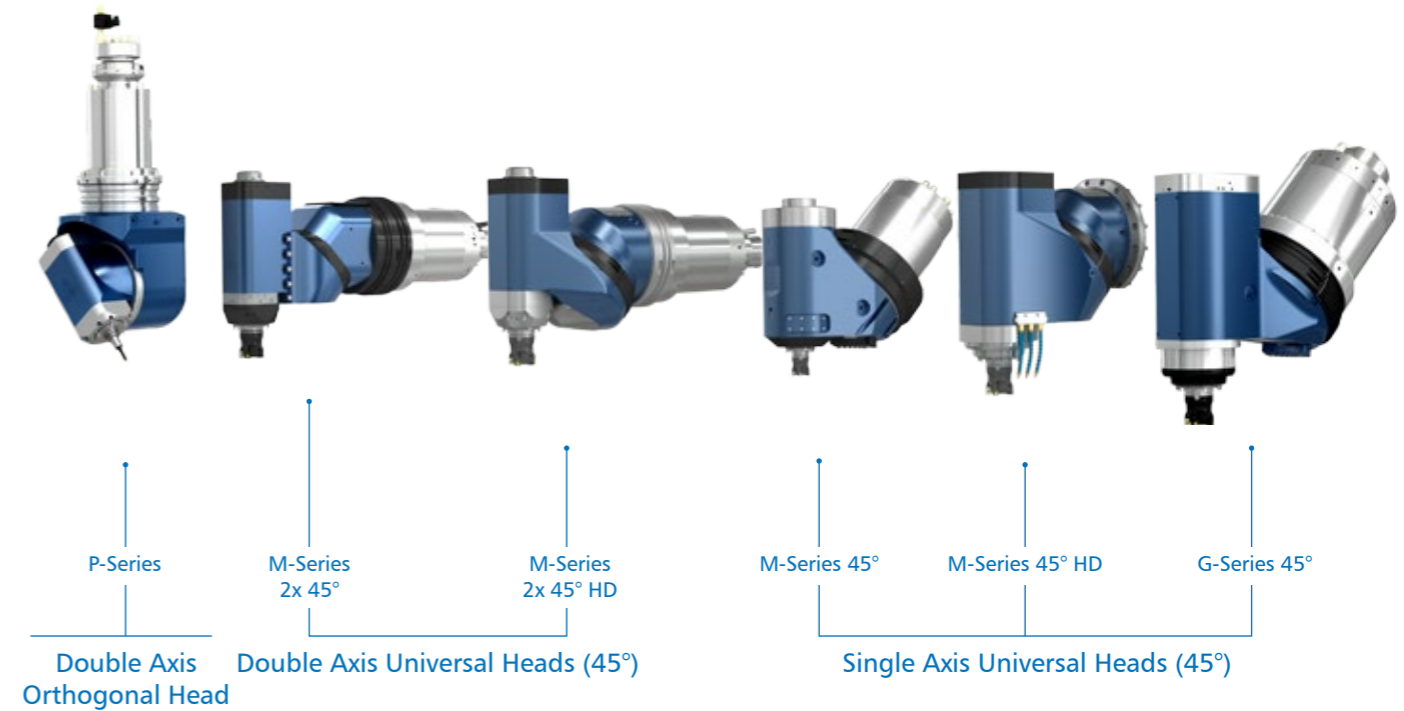
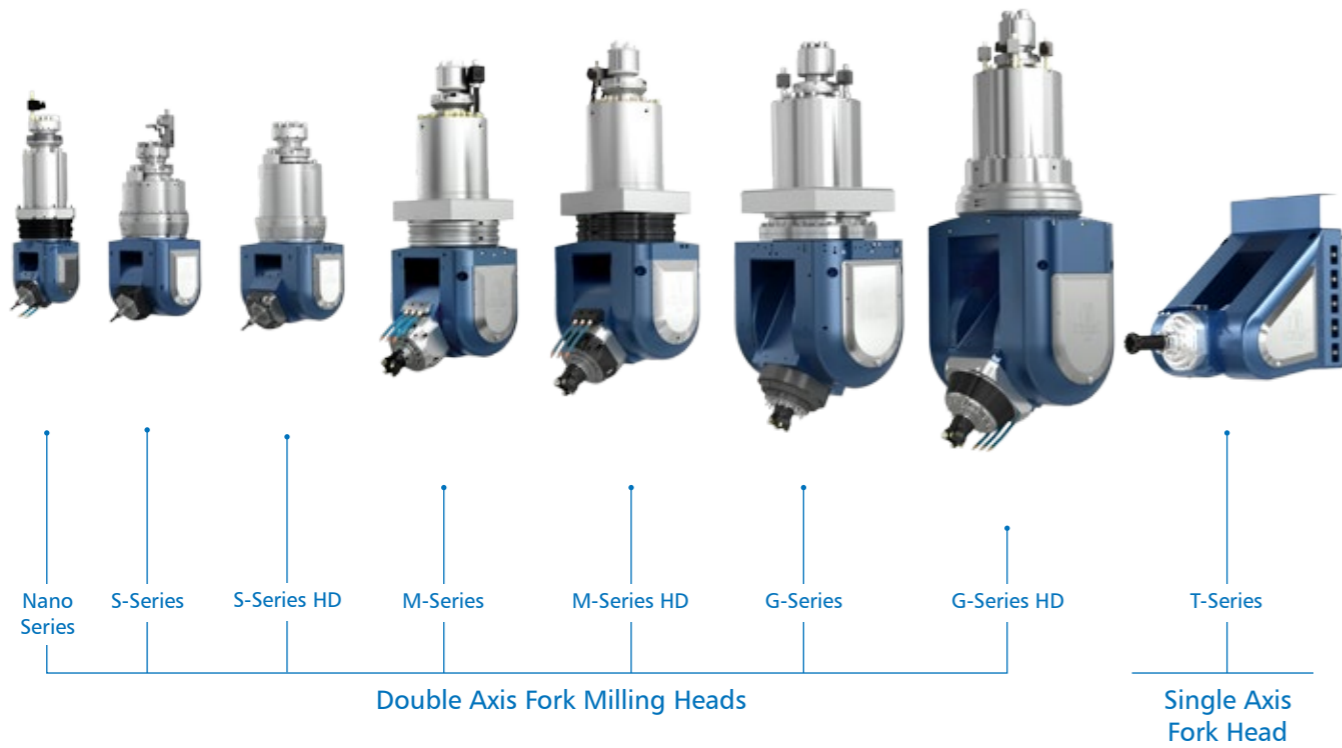


CYTEC Zylindertechnik GmbH is a proven system partner for the mechanical engineering, technical know-how and creativity gained over decades working in the machine tool industry.

The range of products comprises hydraulic and pneumatic clamping systems with positive lock, motor spindles, NC rotary tables and as well as single or multiple axis NC milling heads with ultra-high dynamic, patented direct drives. CYTEC Zylindertechnik GmbH is a developer and producer of tool machine components, that meet highest technical demands. Its in-house production depth and flexibility guarantee highest product quality.



THE RIGHT HEAD FOR ANY APPLICATION



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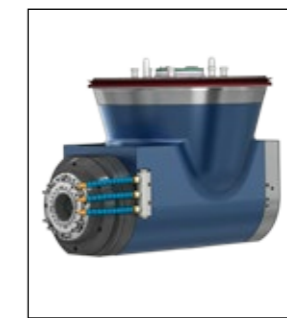
Options



Automatic spindle exchange



Automatic head exchange



Horizontal head



Vertical head



Suction device



Mill/turning function



High speed or high torque spindles

○ **Milling heads in individual configuration**

- adapted to the application
- single and double axis systems
- fork, universal and orthogonal versions

○ **Highest possible precision**

- by means of
 - radial/axial roller bearings
 - state of the art measuring systems
 - high torsional stiffness

○ **Integrated security pack**

- in terms of a complete sensor system for total monitoring of all functions during the operational process



○ **High system rigidity**

- as a result of extensive FEM calculation:
 - simulation of various stress situations caused by different loads and machining processes
 - optimised weight-reduced structure
 - for best machining quality and trouble free operation

○ **Cartridge axis housings**

- and sealings have built in reliable protection against harmful external influences and dirt.

○ **Effective simultaneous machining**

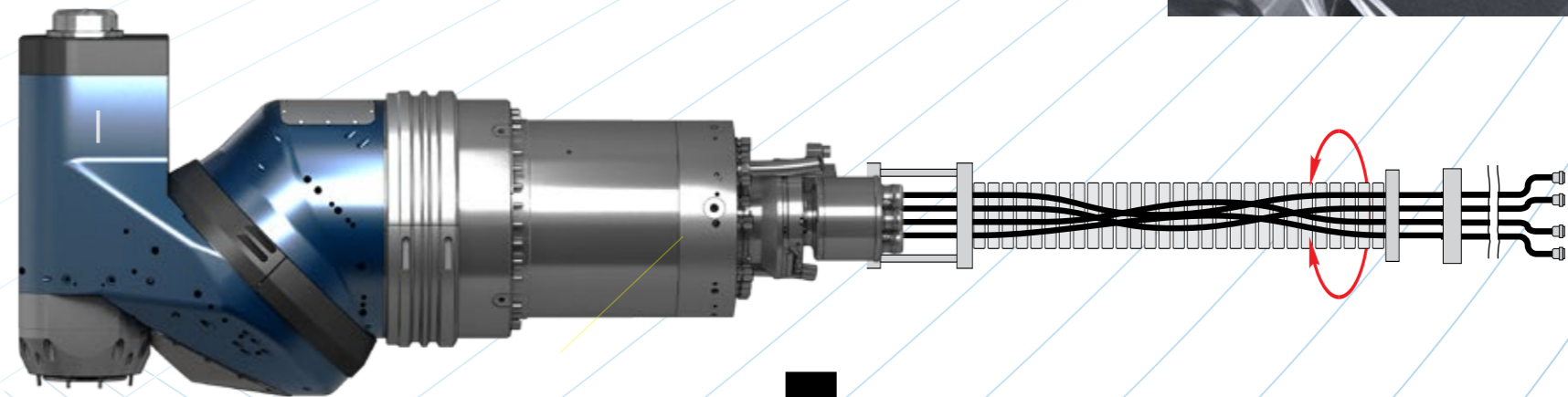
○ **Intelligent energy line/ data transmission concept**

- elaborated internal arrangement with flexible wiring/tubing
- complete flexible cable harness - at least 2m length
- i. e. simple integration into the existing customer machine periphery



○ **UltraHighTorque direct drives of the latest generation**

- modular systems
- for maximised power and dynamic
- effective cooling solutions in A-/C axis
- powerful hydraulic clamping
- products of long term CYTEC experience and knowhow

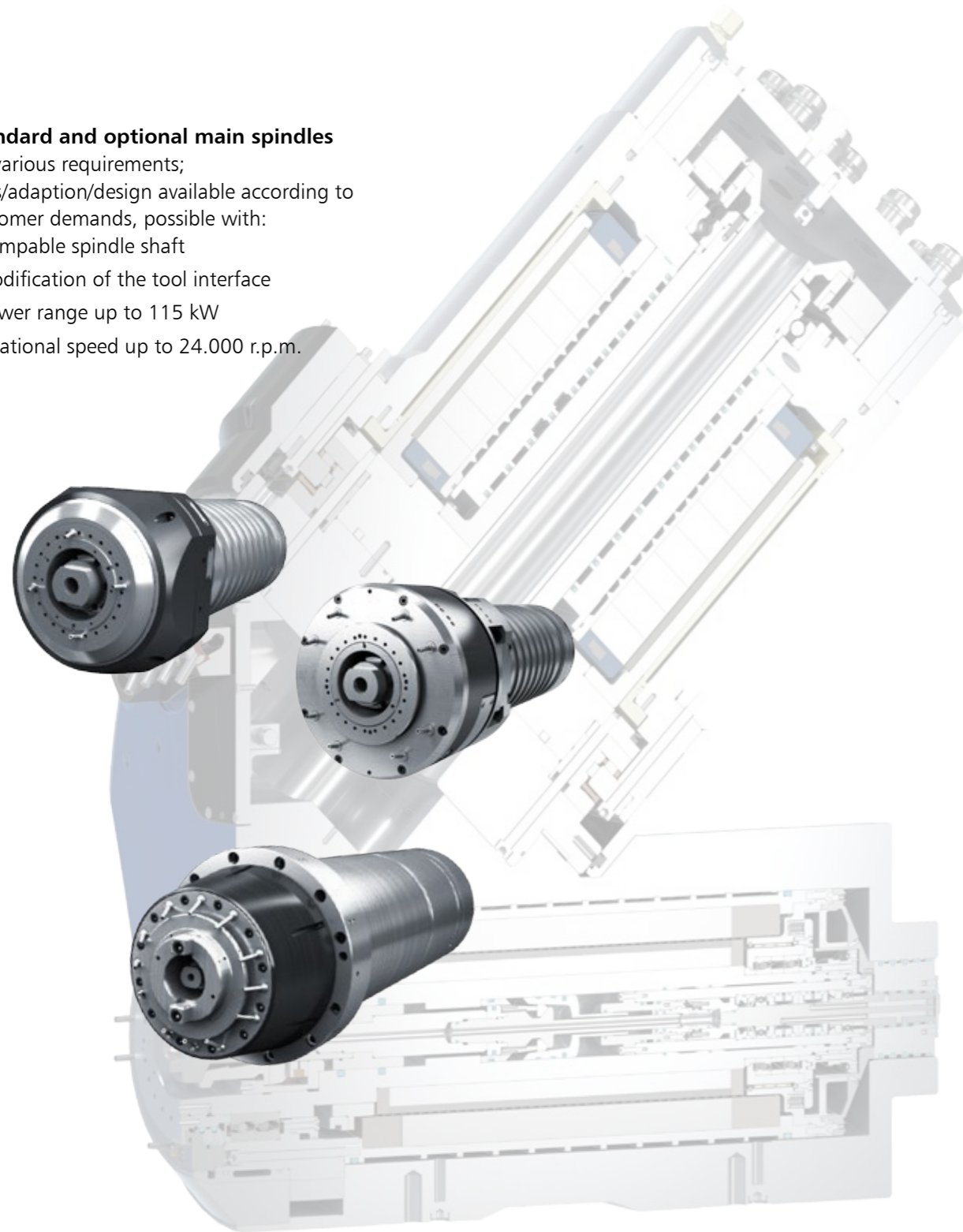


Made in  Germany

Standard and optional main spindles

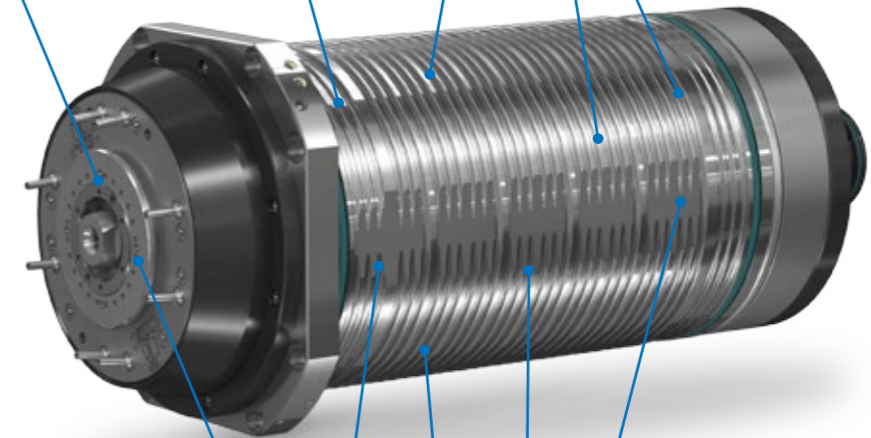
for various requirements;
sizes/adaption/design available according to
customer demands, possible with:

- clampable spindle shaft
- modification of the tool interface
- power range up to 115 kW
- rotational speed up to 24.000 r.p.m.



The modular System

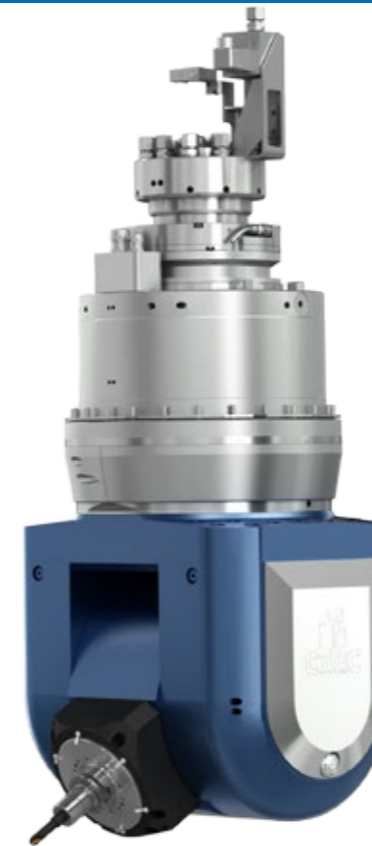
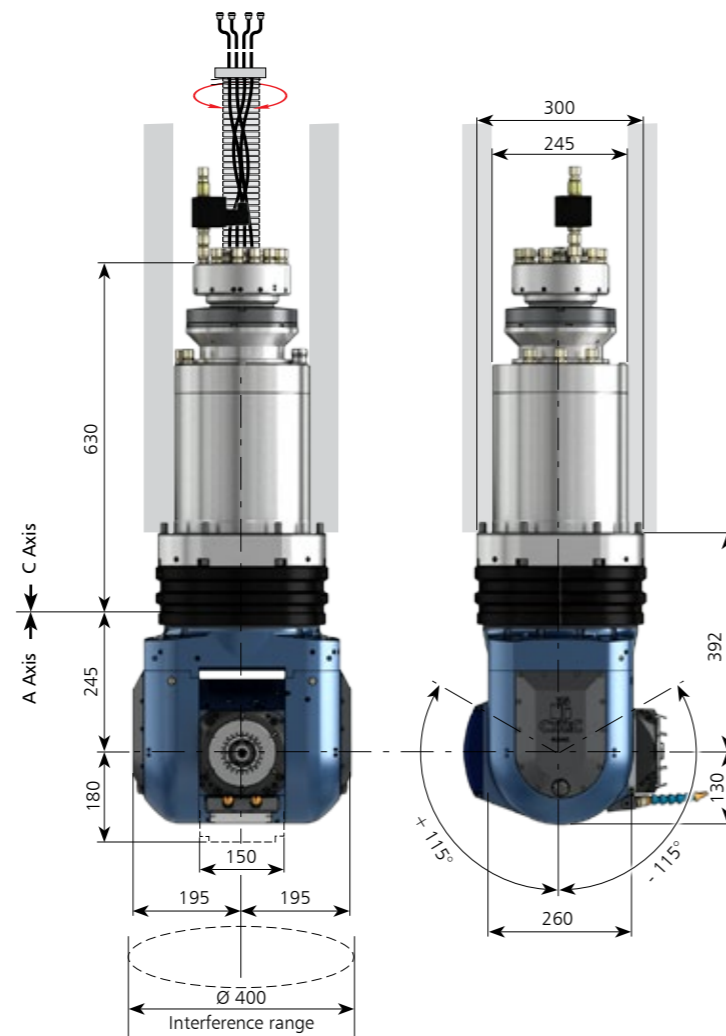
- Asynchronous / synchronous motors, depending on application either with high torque or speed, can be combined with all common control systems
- Tool interface standard HSK, option SK or Capto
- Heavy duty hybrid bearings for rotational speed up to 24.000 rpm
- Option: Minimal quantities of lubricant
- Monitoring of the state of the tool and locking system
- Automatic hydromechanical tool clamping system
- External coolant supply for effective tool cooling
- Complete integrated process monitoring:
 - Sensors for current, temperature and vibration
 - High definition incremental rotary encoders for the detection of speed and position
- Continuous or recirculating cooling of the rotary union
- Comprehensive media supply for separate cooling of stator and bearing unit





Fork Milling Head Nano-Series

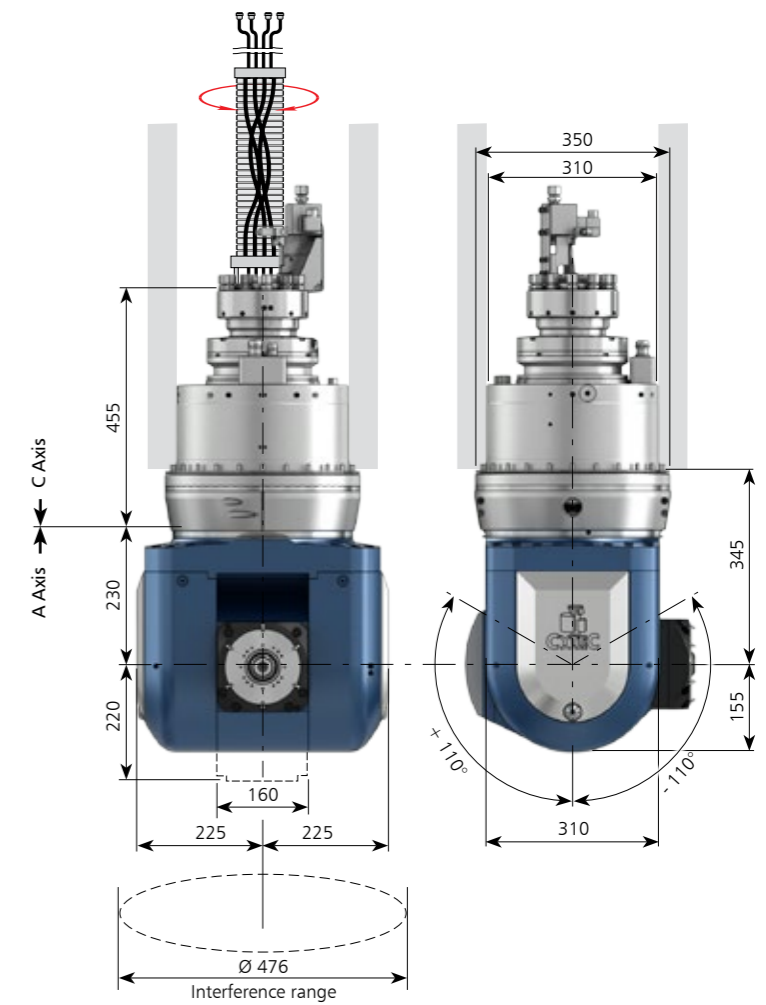
	A Axis	C Axis
Nom./Max. torque [Nm]:	165/310	605/1.130
Nom. current [A]:	26	30
Clamping torque 60 bar [Nm]:	700	2.500
Swivel angle [°]:	±115	±360
Measuring system:	absolute	absolute
Position accuracy [“]:	±5	±2
Total weight appr. [kg]:	290	



Fork Milling Head S-Series

	A Axis	C Axis*
Nom./Max. torque [Nm]:	400/770	430/820
Nom. current [A]:	28	26
Clamping torque 60 bar [Nm]:	1.500	1.400
Swivel angle [°]:	±110	±360
Measuring system:	absolute	absolute
Position accuracy [“]:	±5	±2
Total weight appr. [kg]:	350	

* as an option, the Nano C axis is also usable

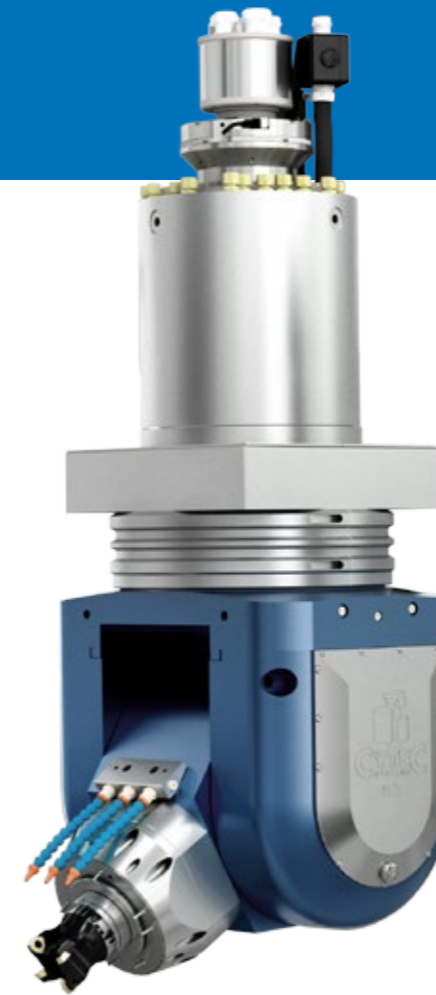
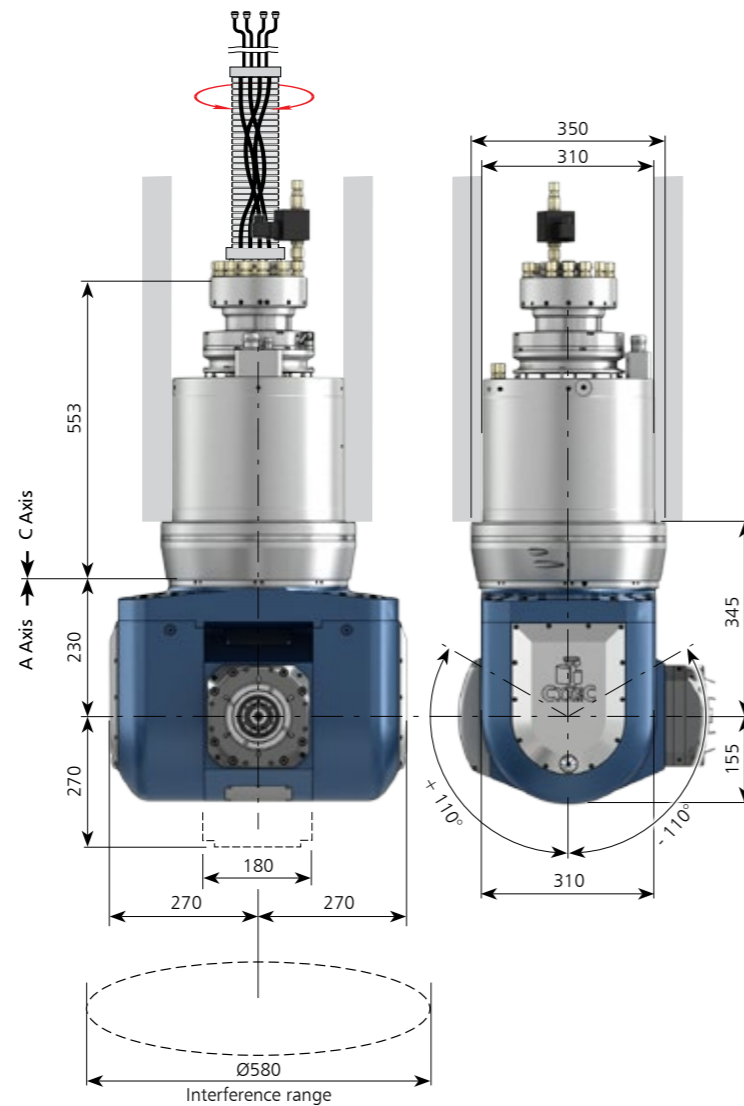


SERIES



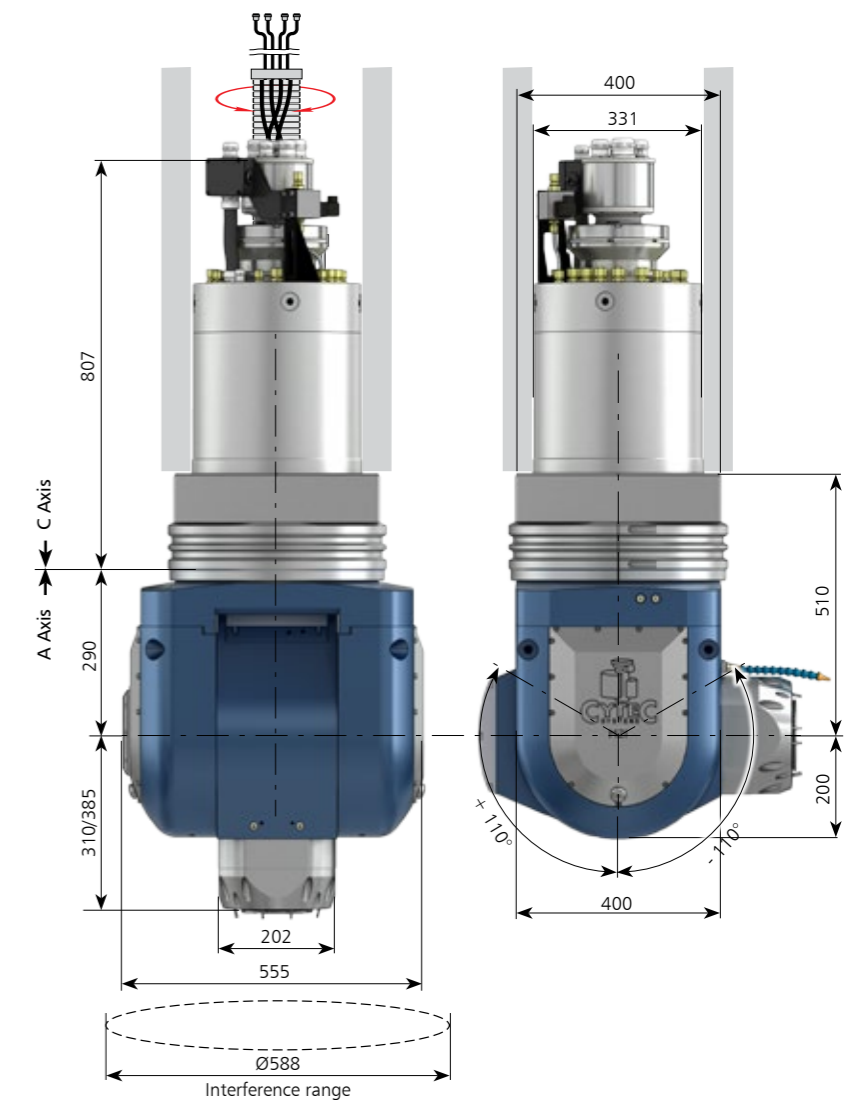
Fork Milling Head S-Series HD

	A Axis	C Axis
Nom./Max. torque [Nm]:	630/1.190	670/1.320
Nom. current [A]:	27	15
Clamping torque 60 bar [Nm]:	2.400	2.400
Swivel angle [°]:	±110	±360
Measuring system:	absolute	absolute
Position accuracy ["]:	±5	±2
Total weight appr. [kg]:	495	



Fork Milling Head M-Series

	A Axis	C Axis
Nom./Max. torque [Nm]:	840/1.340	1.020/1.960
Nom. current [A]:	30	30
Clamping torque 60 bar [Nm]:	4.000	4.000
Swivel angle [°]:	±110	±360/cont.
Measuring system:	absolute	absolute
Position accuracy ["]:	±5	±2
Total weight appr. [kg]:	950	

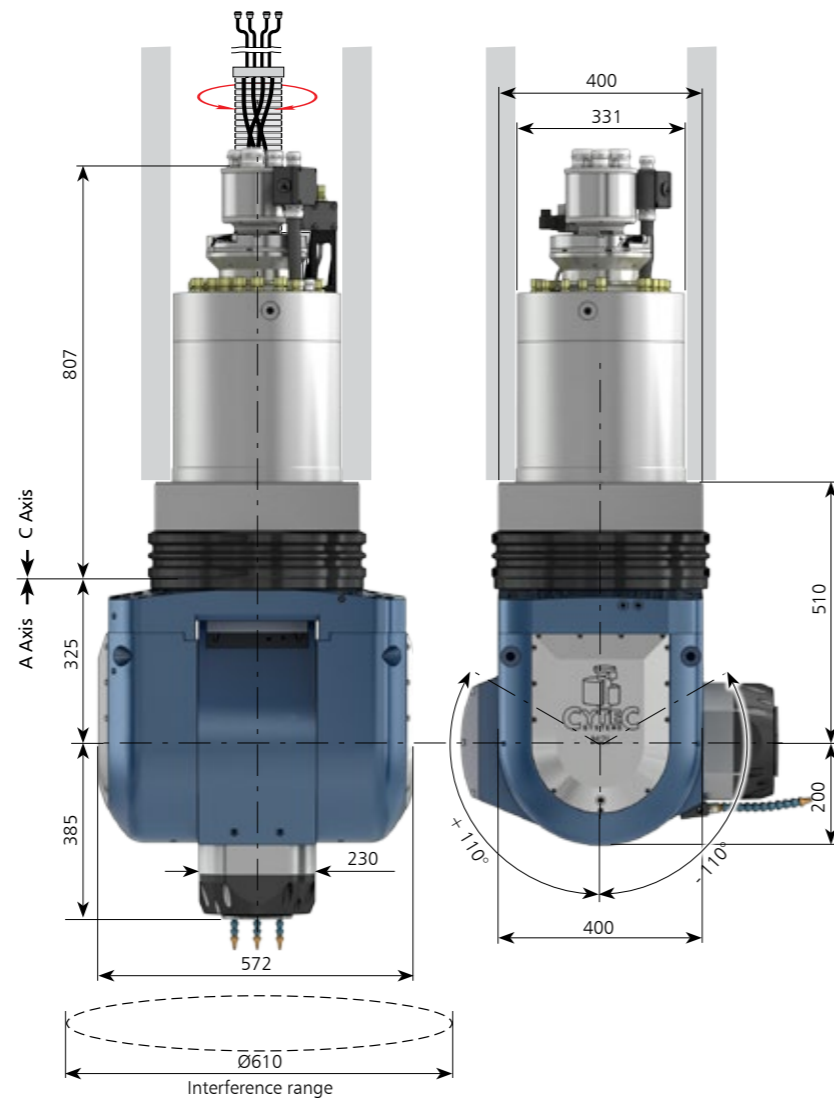


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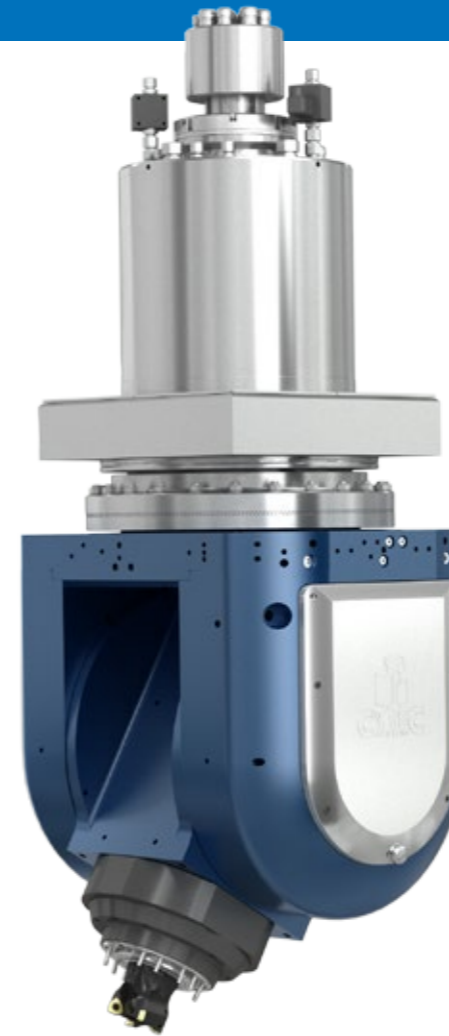


Fork Milling Head M-Series HD

	A Axis	C Axis
Nom./Max. torque [Nm]:	1.120/2.070	1.020/1.960
Nom. current [A]:	30	30
Clamping torque 60 bar [Nm]:	5.000	4.000
Swivel angle [°]:	±110	±360/cont.
Measuring system:	absolute	absolute
Position accuracy ["]:	±5	±2
Total weight appr. [kg]:	960	

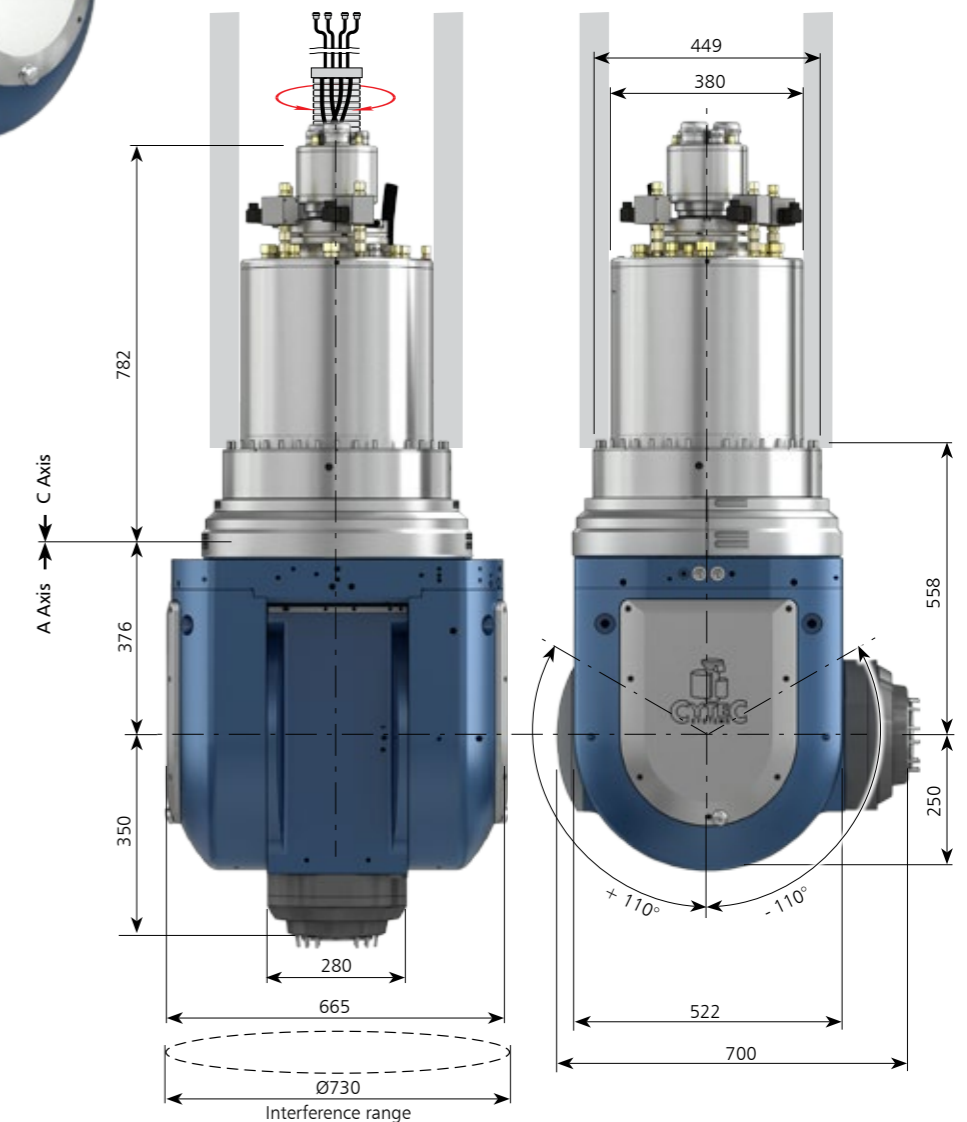


SERIES



Fork Milling Head G-Series

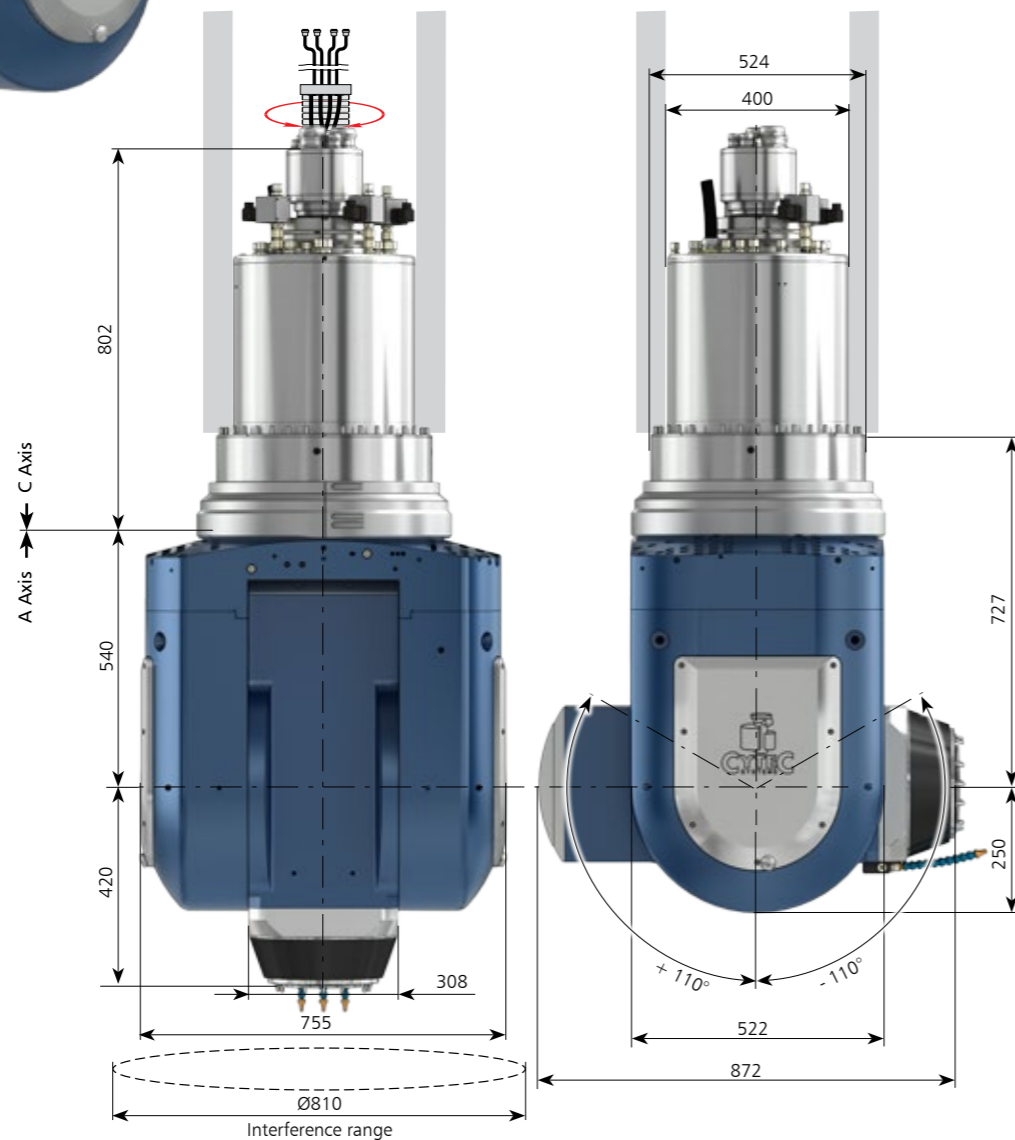
	A Axis	C Axis
Nom./Max. torque [Nm]:	2.000/3.700	1.830/3.550
Max. speed [r.p.m.]:	60	60
Nom. current [A]:	30	29
Clamping torque 60 bar [Nm]:	7.000	
Swivel angle [°]:	±110	±360/cont.
Measuring system:	absolute	absolute
Position accuracy ["]:	±2,5	±2
Total weight appr. [kg]:	1.200	





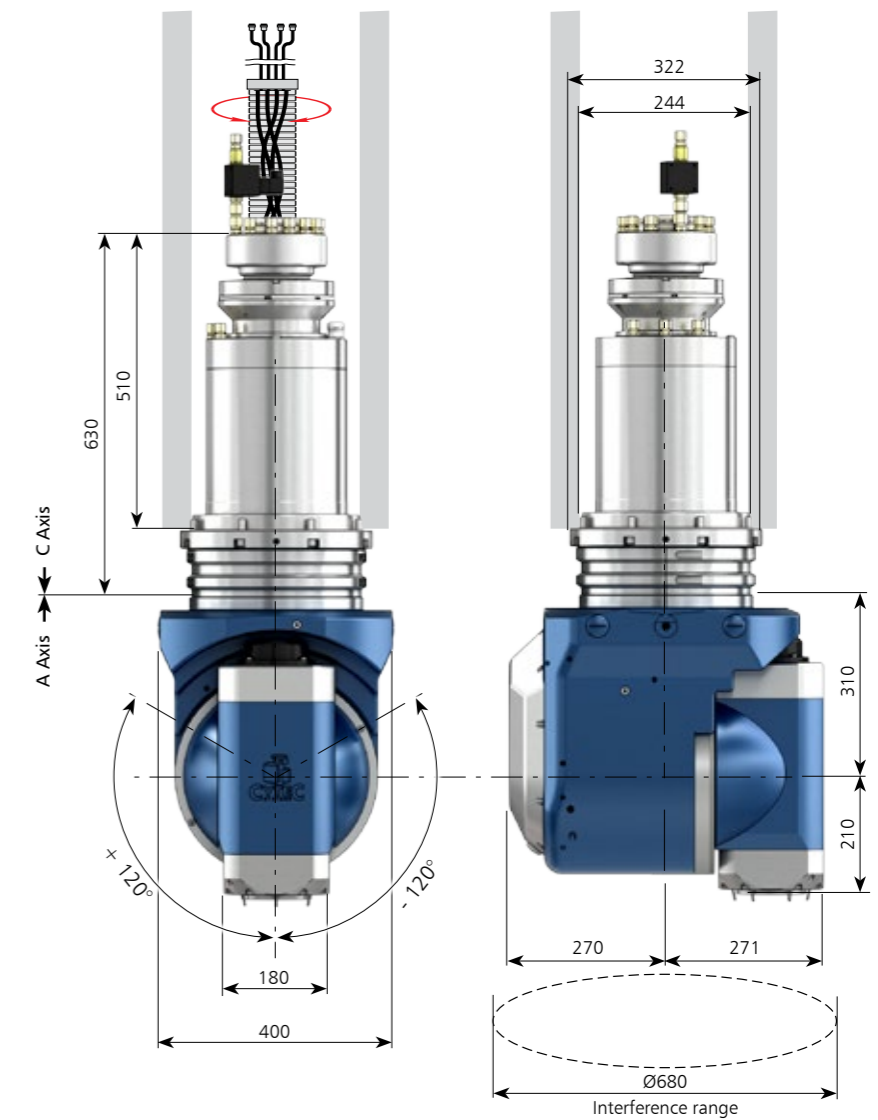
Fork Milling Head G-Series HD

	A Axis	C Axis
Nom./Max. torque [Nm]:	2.730/5.080	2.400/4.700
Max. speed [r.p.m.]:	60	40
Nom. current [A]:	54	30
Clamping torque 60 bar [Nm]:	7.500	
Swivel angle [°]:	±110	±360/cont.
Measuring system:	absolute	absolute
Position accuracy ["]:	±2,5	±2
Total weight appr. [kg]:	2.100	



Orthogonal Milling Head P-Series

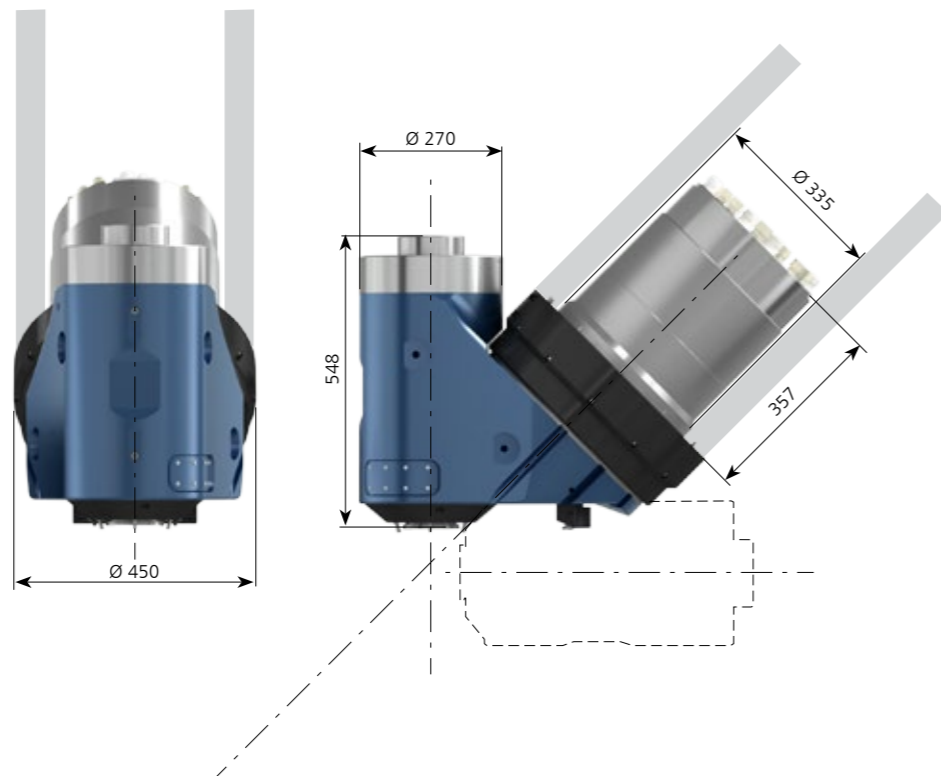
	A Axis	C Axis
Nom./Max. torque [Nm]:	433/817	490/820
Nom. current [A]:	14	30
Clamping torque 60 bar [Nm]:	1.400	2.500
Swivel angle [°]:	±120	±360
Measuring system:	absolute	absolute
Position accuracy ["]:	±2	±2
Total weight appr. [kg]:	470	





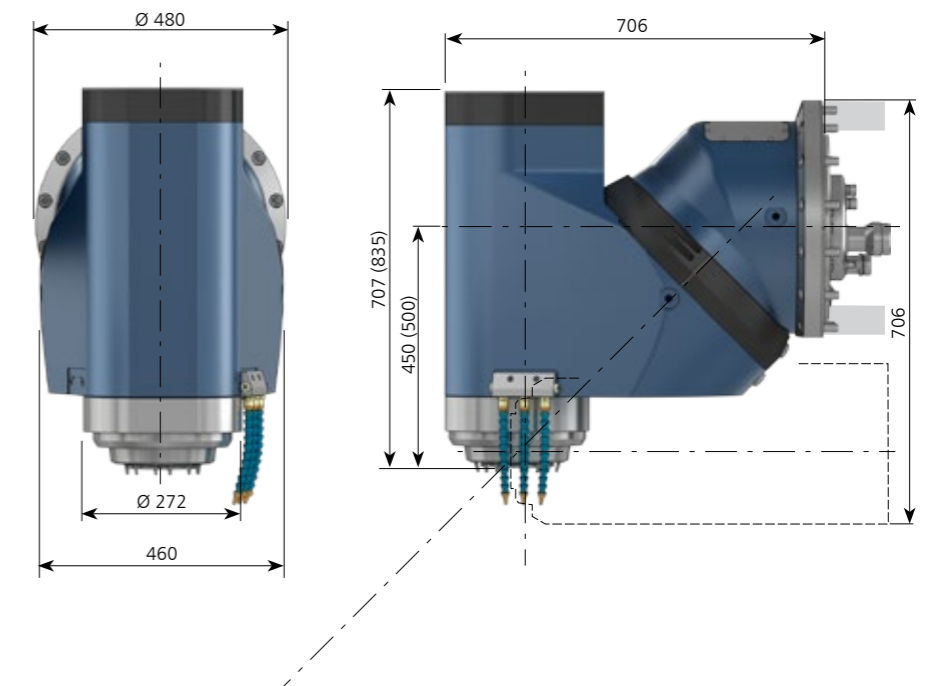
Universal Milling Head
M-Series 45°

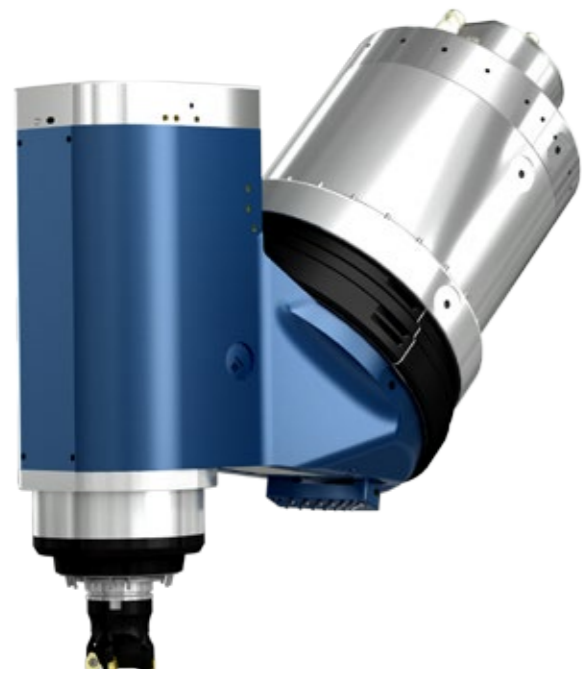
	A Axis
Nom./Max. torque [Nm]:	900/1.680
Nom. current [A]:	30
Clamping torque 50 bar [Nm]:	4.000
Swivel angle [°]:	±180
Measuring system:	absolute
Position accuracy ["]:	±2
Total weight appr. [kg]:	410



Universal Milling Head
M-Series 45° HD

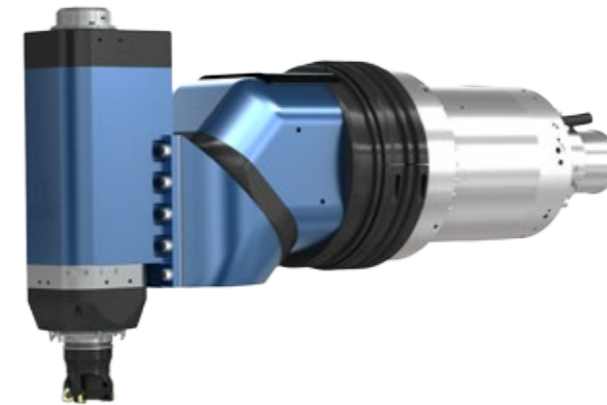
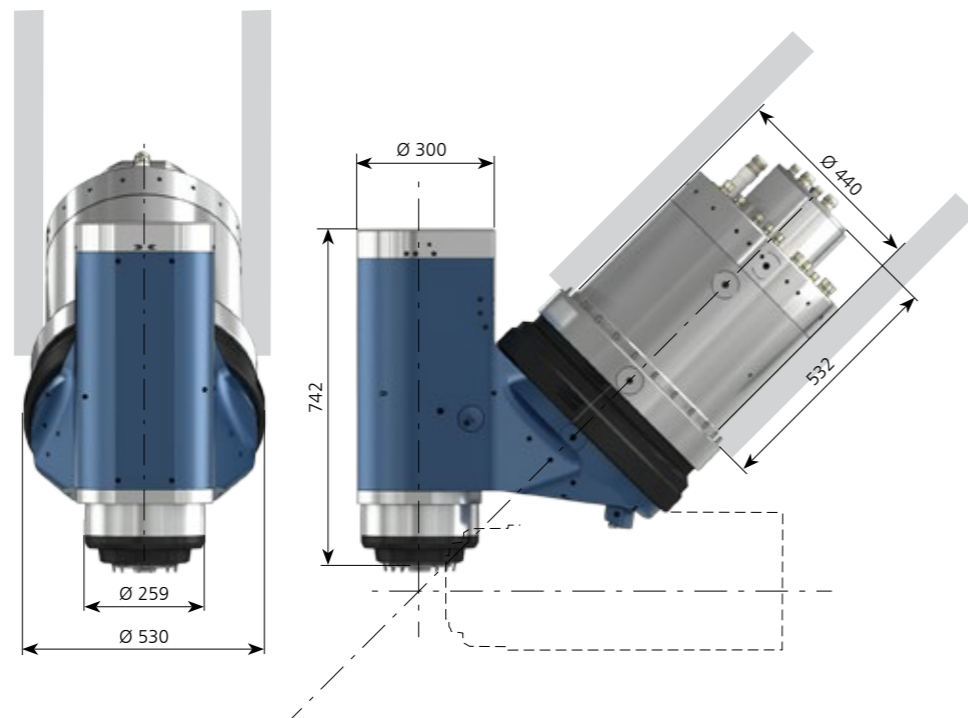
	A Axis
Nom./Max. torque [Nm]:	780/1.470
Nom. current [A]:	30
Clamping torque 50 bar [Nm]:	2.500
Swivel angle [°]:	±190
Measuring system:	absolute
Position accuracy ["]:	±2
Total weight appr. [kg]:	700





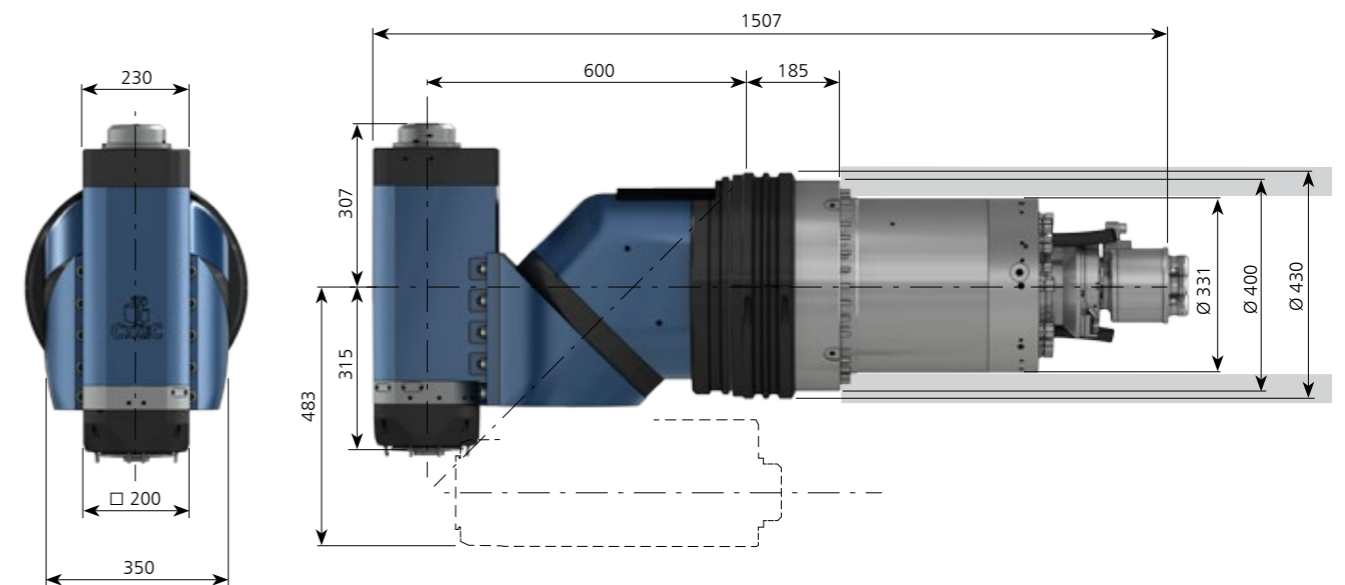
Universal Milling Head G-Series 45°

	A Axis
Nom./Max. torque [Nm]:	1.820/3.550
Nom. current [A]:	28,6
Clamping torque 60 bar [Nm]:	5.500
Swivel angle [°]:	±180°
Measuring system:	absolute
Position accuracy ["]:	±2
Total weight appr. [kg]:	840



Universal Milling Head M-Series 2x 45°

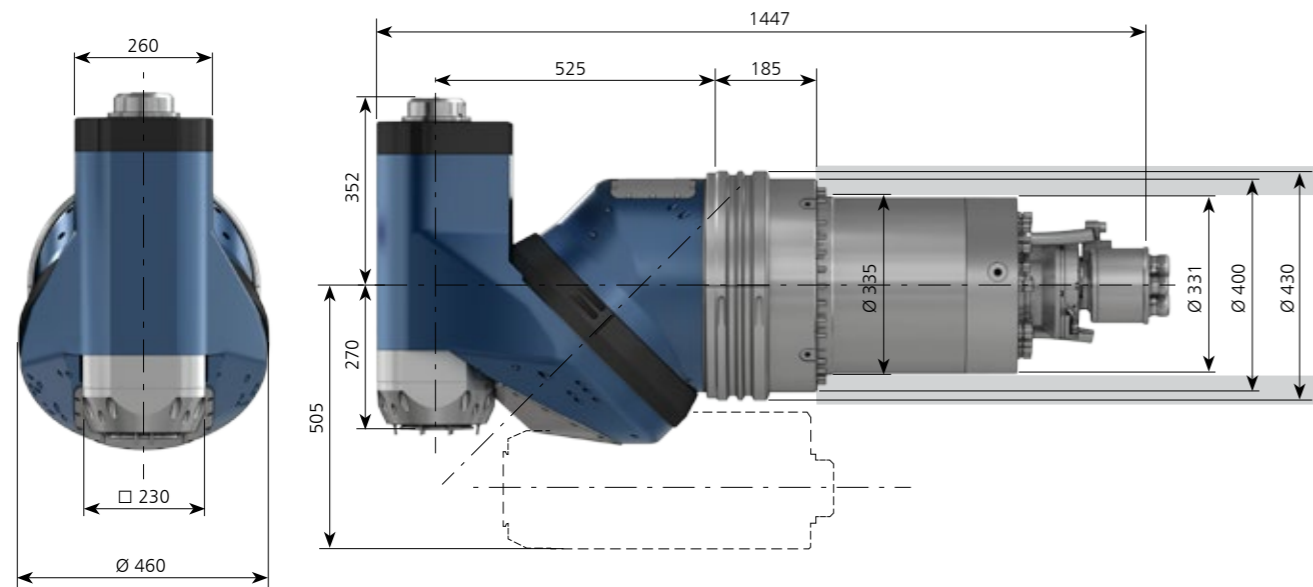
	A Axis	C Axis
Nom./Max. torque [Nm]:	552/1.058	1.022/1.985
Nom. current [A]:	14	30
Clamping torque 60 bar [Nm]:	2.000	4.000
Swivel angle [°]:	±180	±360
Measuring system:	absolute	absolute
Position accuracy ["]:	±2	±2
Total weight appr. [kg]:	870	





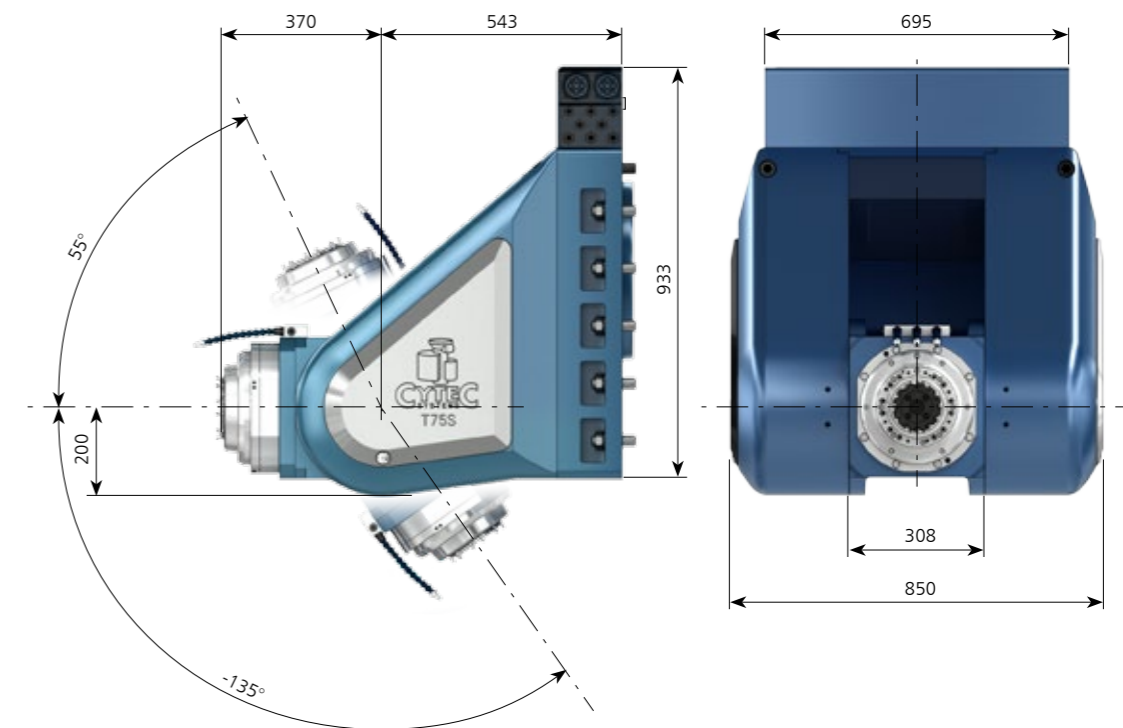
Universal Milling Head M-Series 2x 45° HD

	A Axis	C Axis
Nom./Max. torque [Nm]:	780/1.470	1.020/1.960
Nom. current [A]:	30	30
Clamping torque 60 bar [Nm]:	2.500	4.000
Swivel angle [°]:	±190	±360
Measuring system:	absolute	absolute
Position accuracy ["]:	±2	±2
Total weight appr. [kg]:	960	



Fork Milling Head T-Series



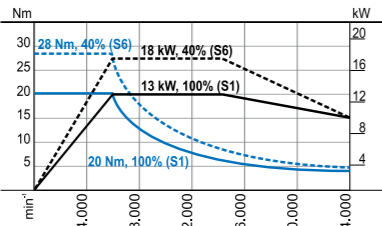
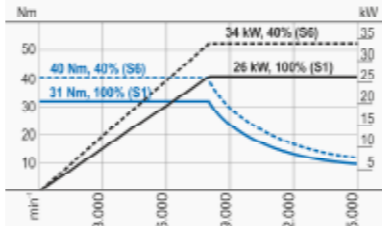
	A Axis
Nom./Max. torque [Nm]:	2.400/4.400
Nom. current [A]:	56
Clamping torque 60 bar [Nm]:	6.500
Swivel angle [°]:	-135 / +55
Measuring system:	absolute
Position accuracy ["]:	±2,5
Total weight appr. [kg]:	1.650



MOTOR SPINDLES



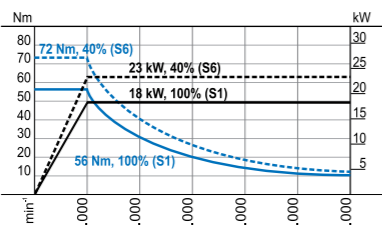
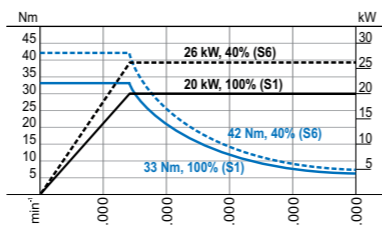
Used in: **NANO-Series**

Series:	CS-13-135-A	CS-26-135-S
Power S1/S6:	13/18 kW	26/34 kW
Nom. speed:	6.000 r.p.m.	8.000 r.p.m.
Torque S1/S6:	20/28 Nm	31/40 Nm
Max. speed:	24.000 r.p.m.	15.000 r.p.m.
Tool system:	HSK-A63	HSK-A63
↔ Spindle nose:	59 mm	59 mm



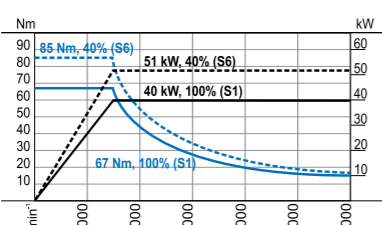
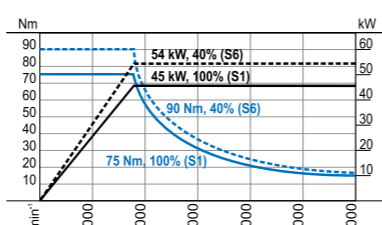
Used in: **S-Series**

Series:	CS-18-135-S	CS-20-135-A
Power S1/S6:	18/23 kW	20/26 kW
Nom. speed:	3.000 r.p.m.	6.000 r.p.m.
Torque S1/S6:	56/72 Nm	33/42 Nm
Max. speed:	18.000 r.p.m.	20.000 r.p.m.
Tool system:	HSK-A63	HSK-A63
↔ Spindle nose:	79 mm	79 mm



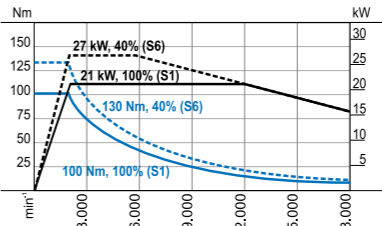
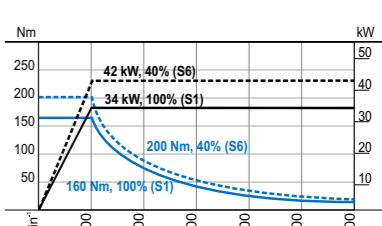
Used in: **S-Series HD**

Series:	CS-40-160-S	CS-45-160-S
Power S1/S6:	40/51 kW	45/54 kW
Nom. speed:	5.700 r.p.m.	5.700 r.p.m.
Torque S1/S6:	67/85 Nm	75/90 Nm
Max. speed:	24.000 r.p.m.	18.000 r.p.m.
Tool system:	HSK-A63	HSK-A63
↔ Spindle nose:	94 mm	94 mm



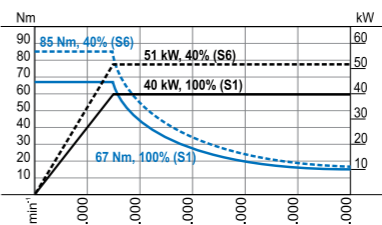
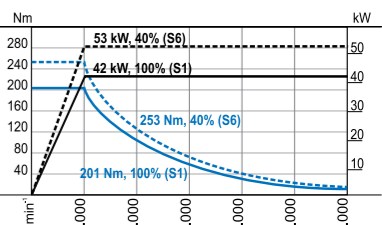
Used in: **M-Series**

Series:	CS-21-180-A	CS-34-180-S
Power S1/S6:	21/27 kW	34/42 kW
Nom. speed:	2.000 r.p.m.	2.000 r.p.m.
Torque S1/S6:	100/130 Nm	160/200 Nm
Max. speed:	18.000 r.p.m.	12.000 r.p.m.
Tool system:	HSK-A63	HSK-A100
↔ Spindle nose:	110 mm	185 mm



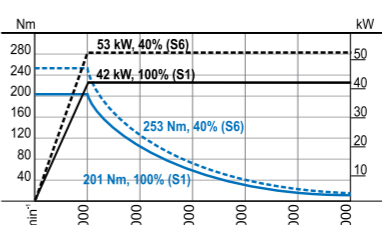
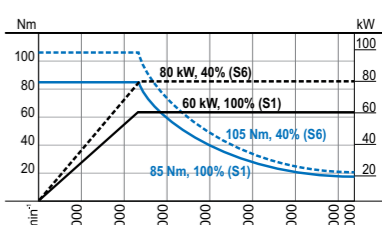
Used in: **M-Series**

Series:	CS-40-180-S	CS-42-180-S
Power S1/S6:	40/51 kW	42/53 kW
Nom. speed:	5.700 r.p.m.	2.000 r.p.m.
Torque S1/S6:	67/85 Nm	201/253 Nm
Max. speed:	24.000 r.p.m.	12.000 r.p.m.
Tool system:	HSK-A63	HSK-A100
↔ Spindle nose:	110 mm	185 mm

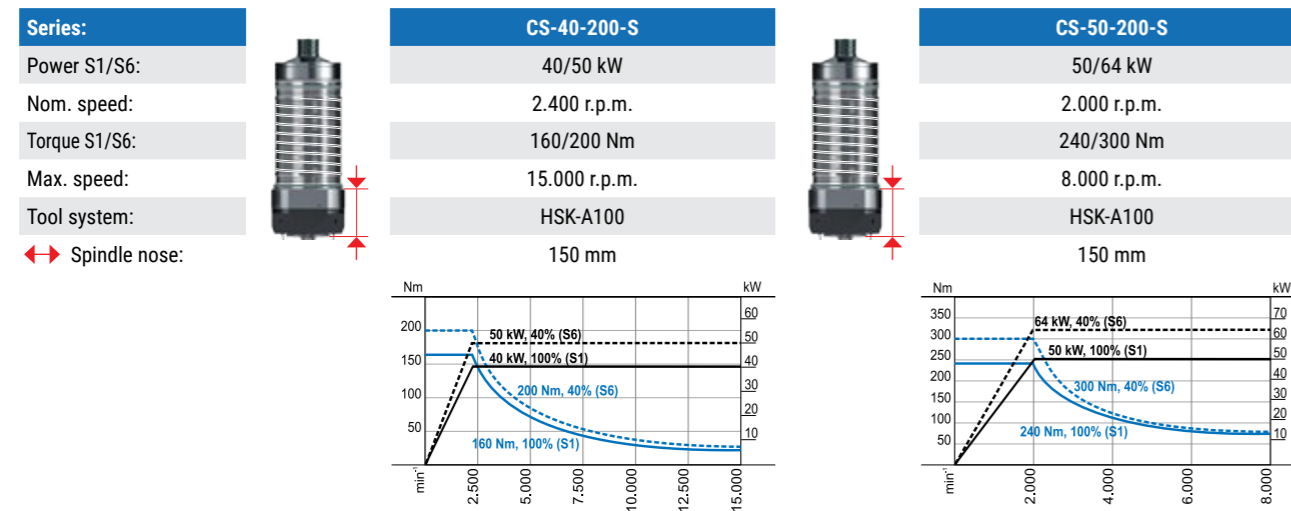
Used in: **M-Series**

Series:	CST-42-180-S	CS-60-180-S
Power S1/S6:	42/53 kW	60/80 kW
Nom. speed:	2.000 r.p.m.	7.000 r.p.m.
Torque S1/S6:	201/253 Nm	85/105 Nm
Max. speed:	12.000 r.p.m.	22.000 r.p.m.
Tool system:	HSK-T100	HSK-A63
↔ Spindle nose:	200 mm	110 mm

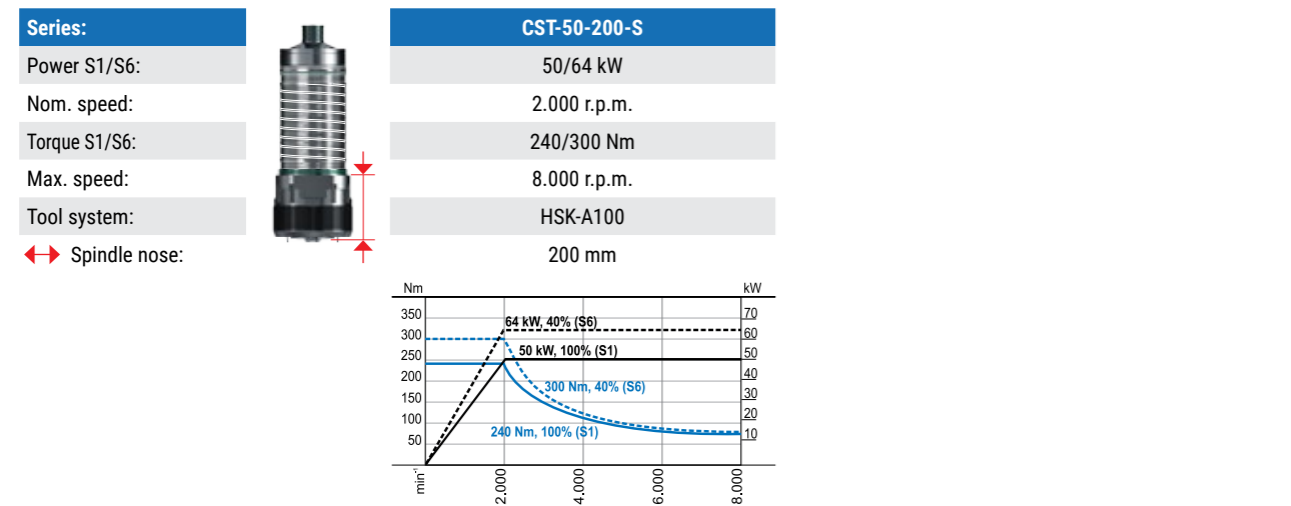





MOTOR SPINDLES

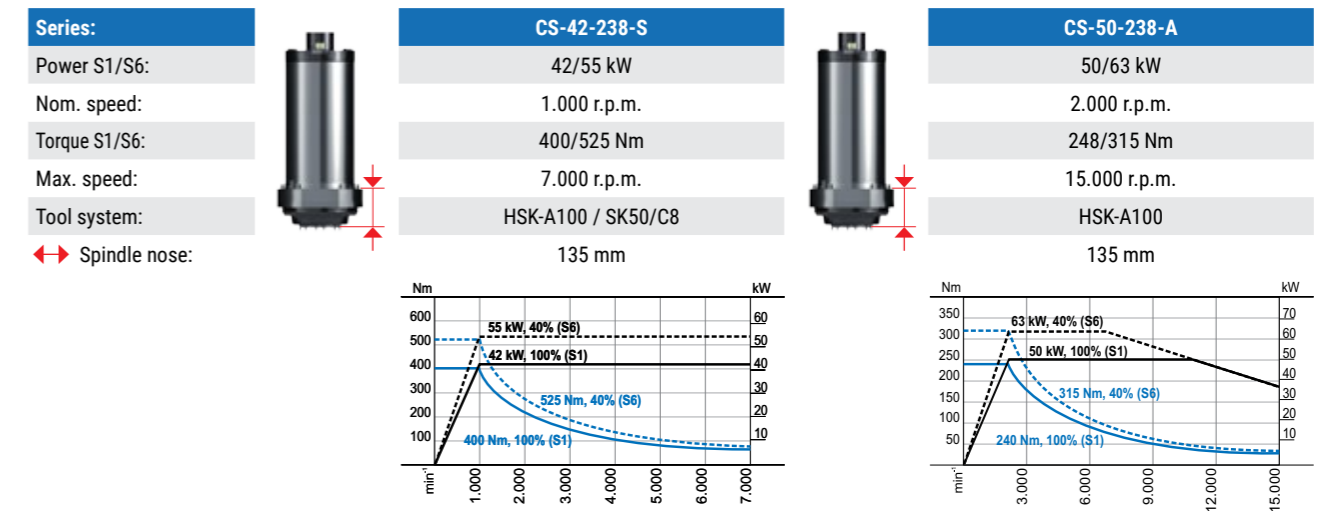
Used in: **M-Series HD**



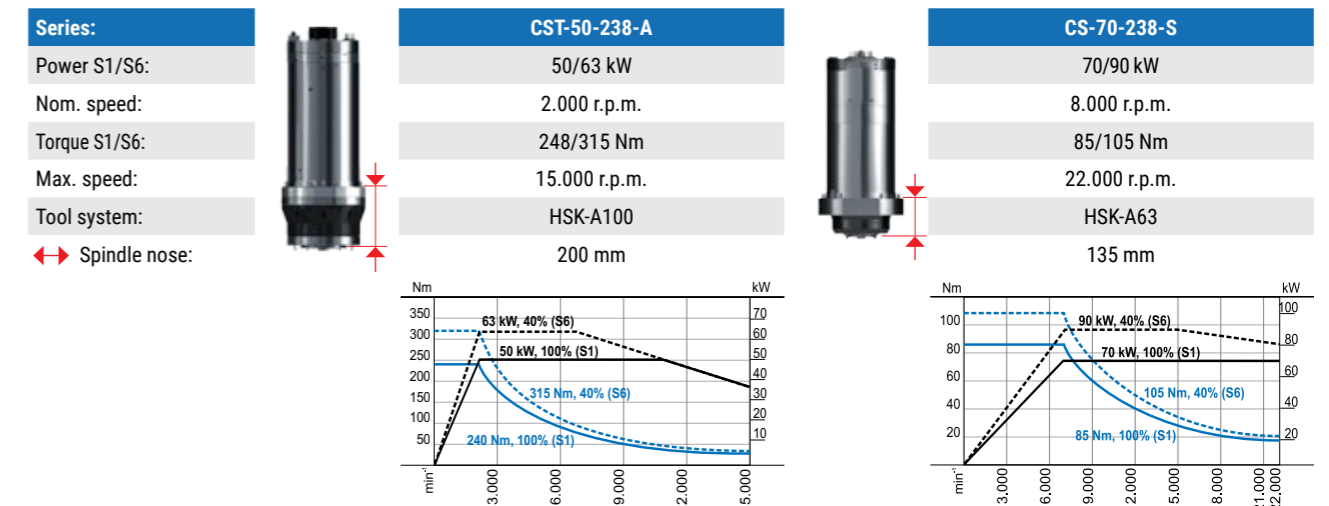
Used in: **M-Series HD**



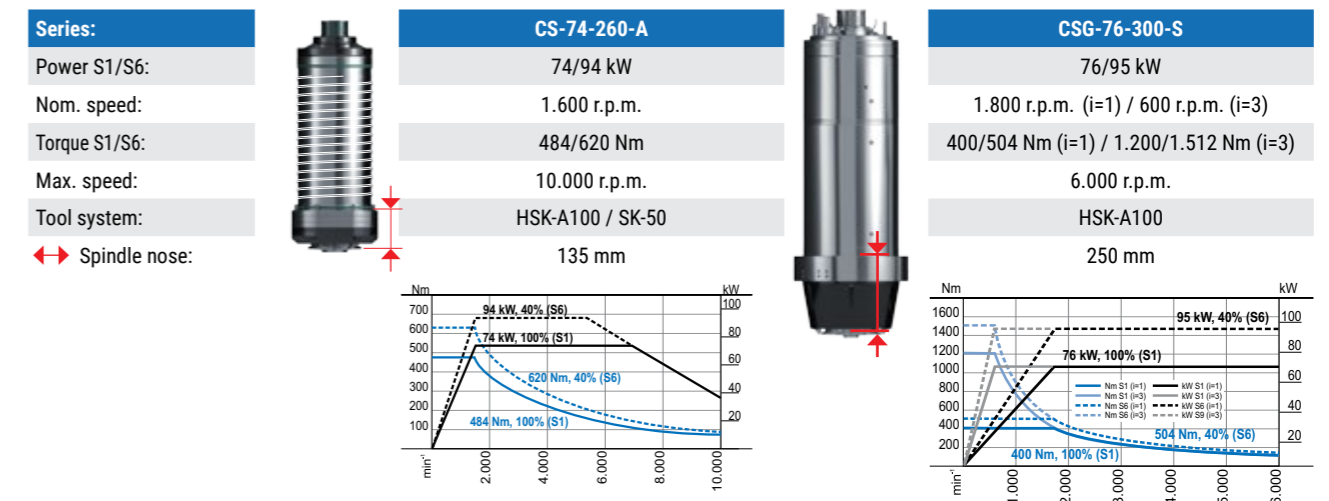
Used in: **G-/T-Series**



Used in: **G-/T-Series**



Used in: **G-Series HD/T-Series**





CYTEC WORLD WIDE

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