CYMILL

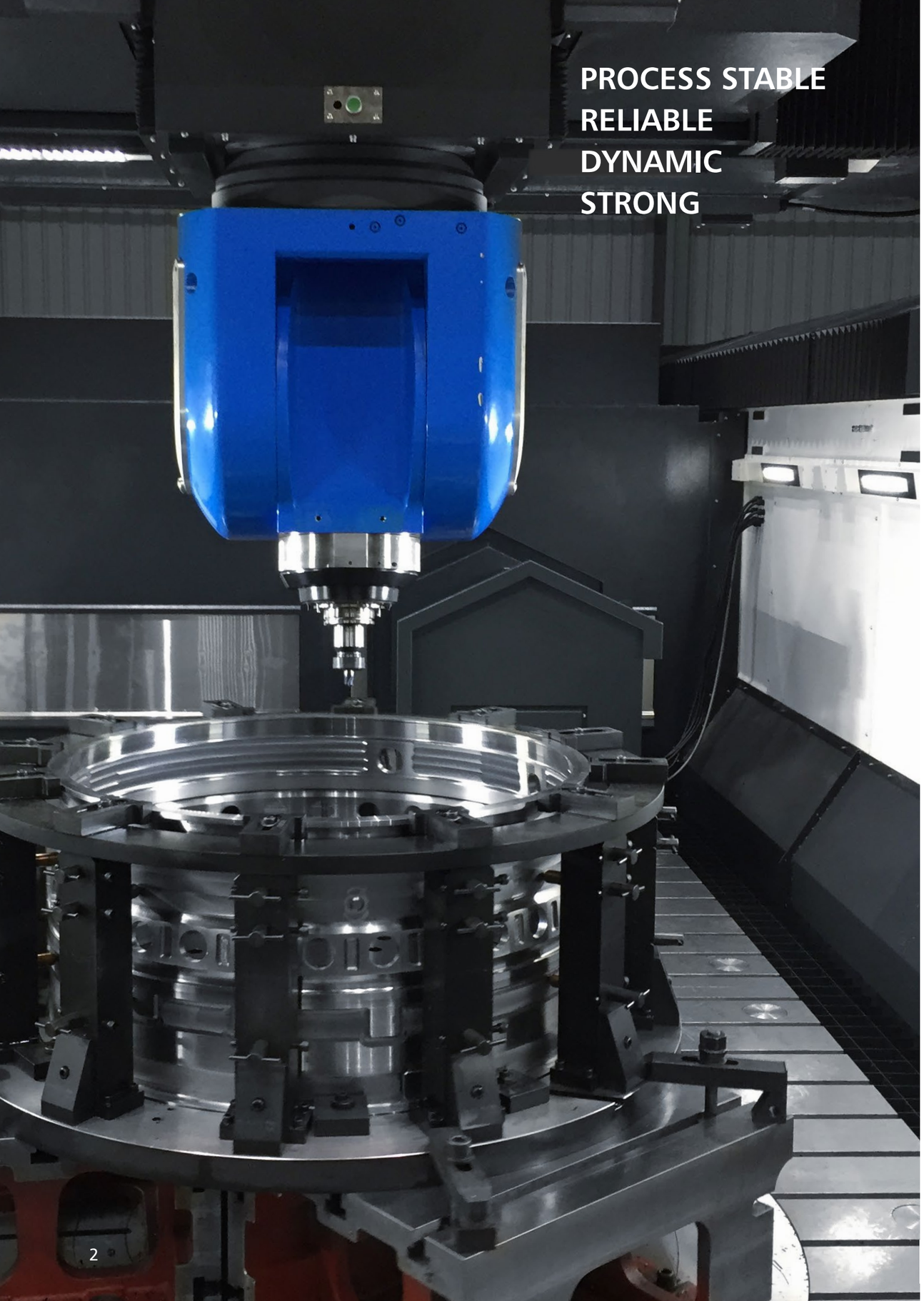
NC MILLING HEADS

CYTEC SYSTEMS

COMPONENTS PERFECTION.

CYTEC SYSTEMS TECHNOLOGY INSIDE COMPONENTS PERFECTION

MADE IN GERMANY



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.

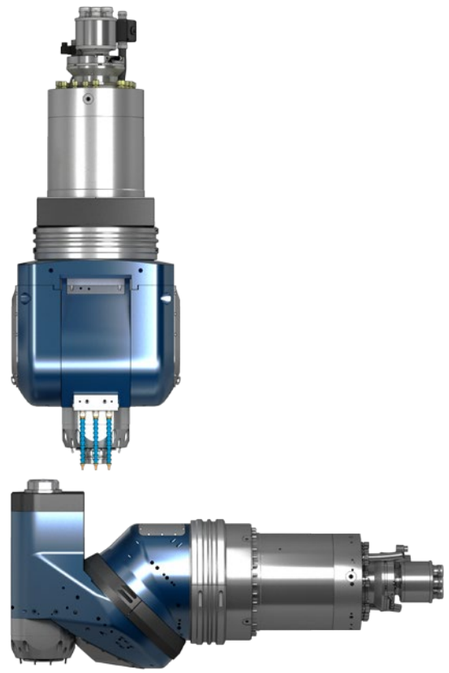
The destinctive characteristics of the series are performance, precision and a high level of reliability together with enormous power and dynamic.

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

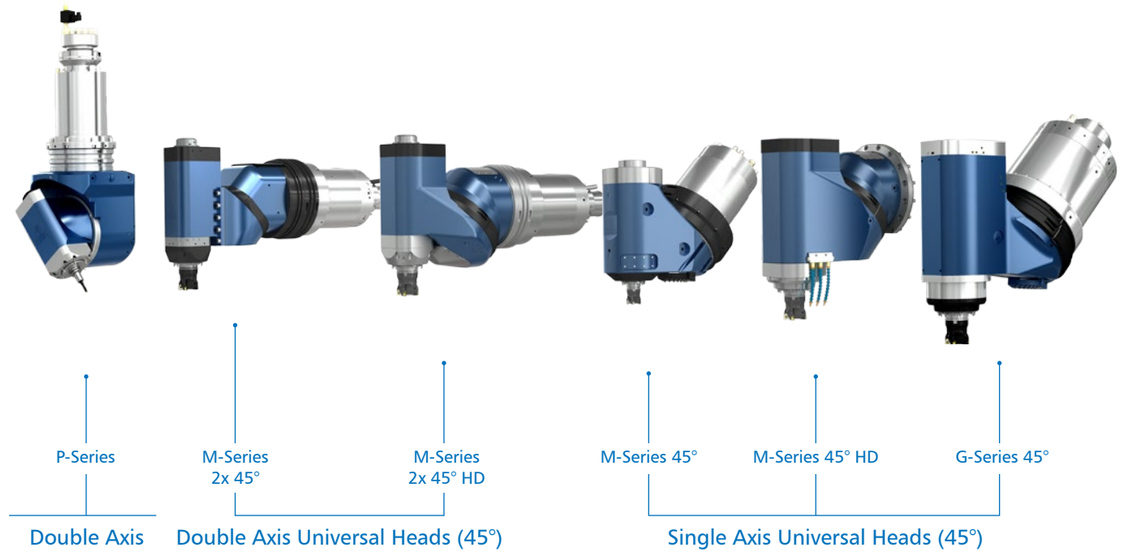
The powerful drive clamping device supports high precision positioning even for rough machining and high workpiece loads.

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



Content:

Options

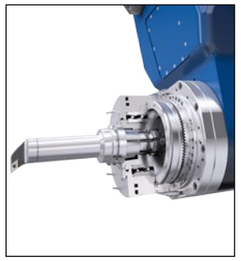

Automatic spindle exchange


Automatic head exchange


Horizontal head

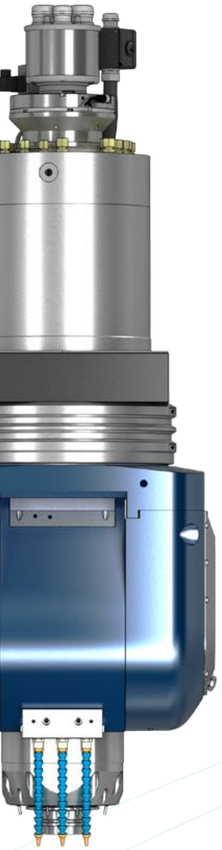

Vertical head


Suction device


Mill/turning function


High speed or high torque spindles

AT A GLANCE



- **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

UHT DirectDrives

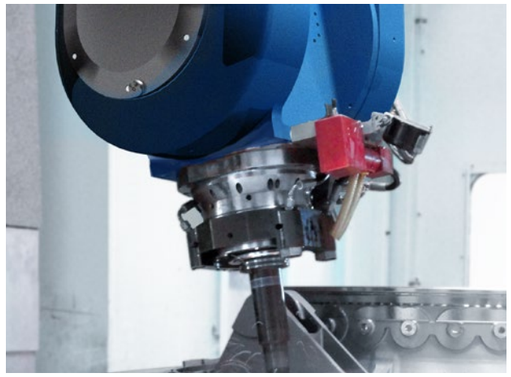
- **UltraHighTorque direct drives of the latest generation**
  - modular systems
  - for maximised power and dynamic
  - effective cooling solutions in A-/C axis
  - powerful hydraulic clamping
  - products of long term CYTEC experience and knowhow

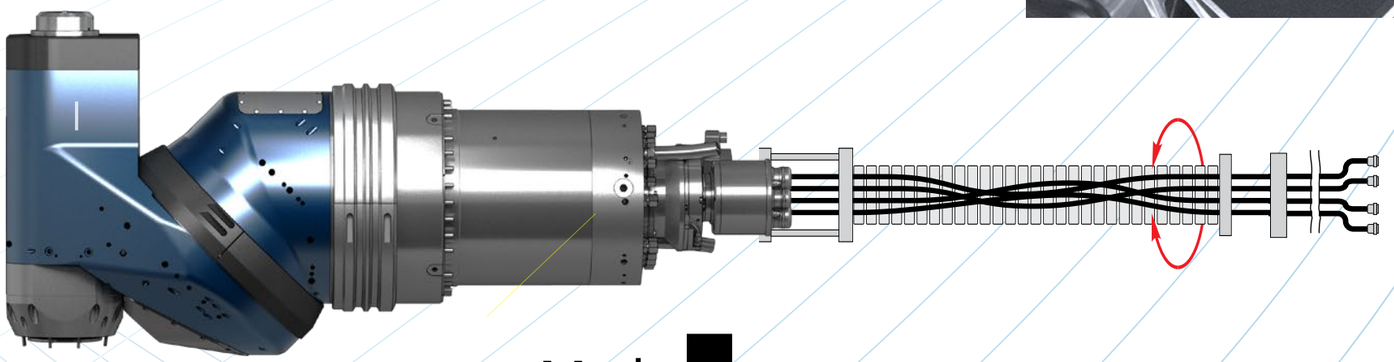
- **High system rigidity**
  as a result of extensive FEM calculation:
  - simulation of various stress situations caused by different loads and machining processes
  - optimised weight-reduced structure
  - for best machining quality and trouble free operation

- **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



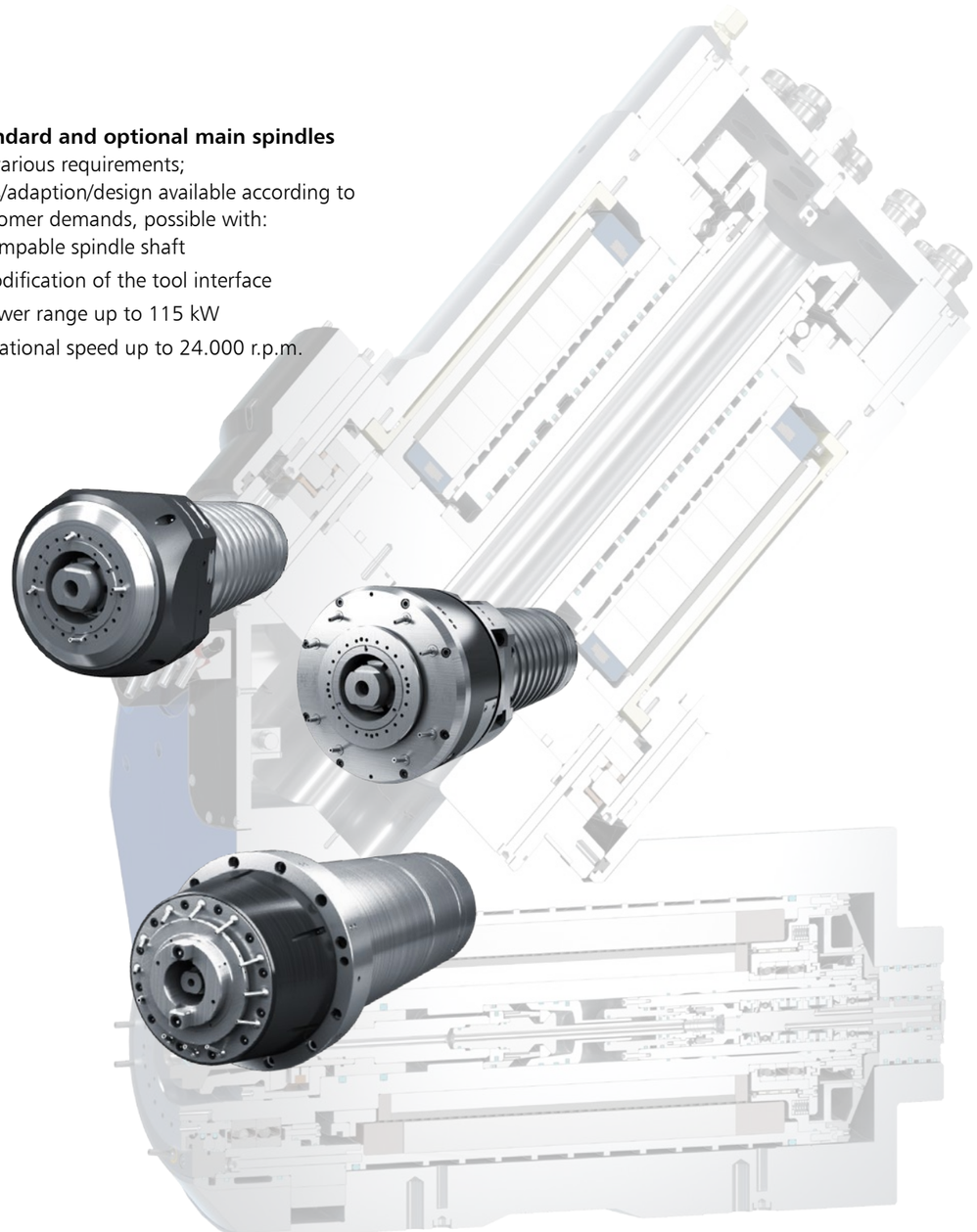


Made in Germany

OUR SPINDLE TECHNOLOGY

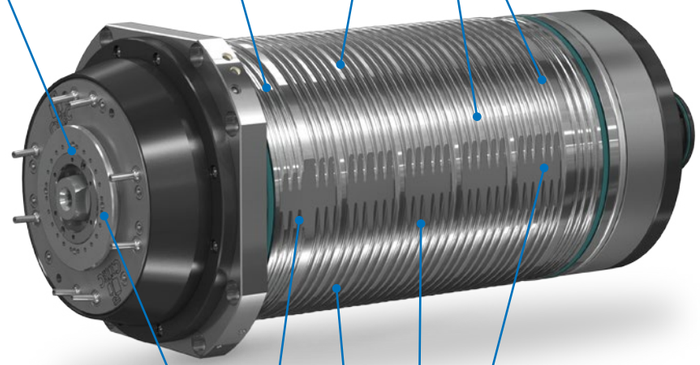
Standard and optional main spindles
for various requirements;
sizes/adaption/design available according to customer demands, possible with:

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



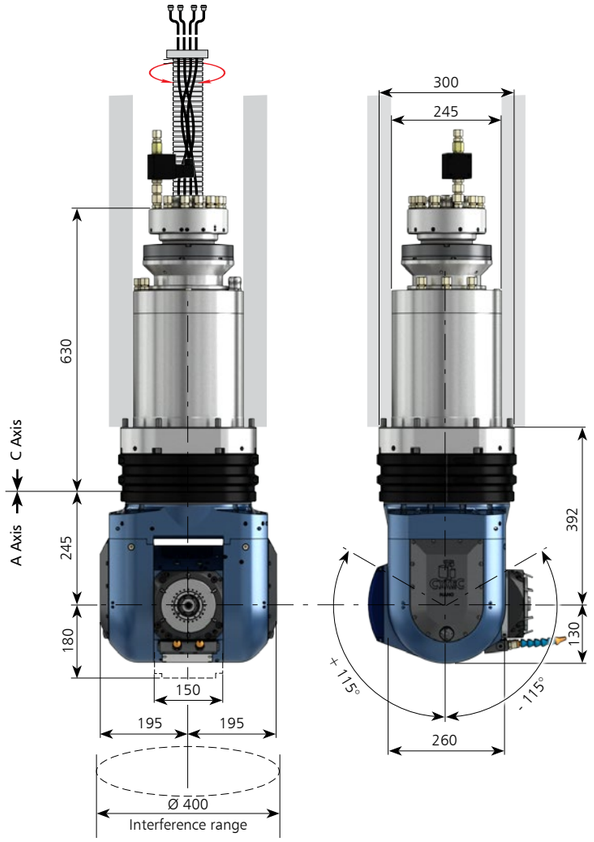
The modular System

- 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
- Automatic hydromechanical tool clamping system
- Complete integrated process monitoring:
  - Sensors for current, temperature and vibration
  - High definition incremental rotary encoders for the detection of speed and position
- 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
- External coolant supply for effective tool cooling
- Continuous or recirculating cooling of the rotary union
- Comprehensive media supply for separate cooling of stator and bearing unit



Fork Milling Head
Nano-Series

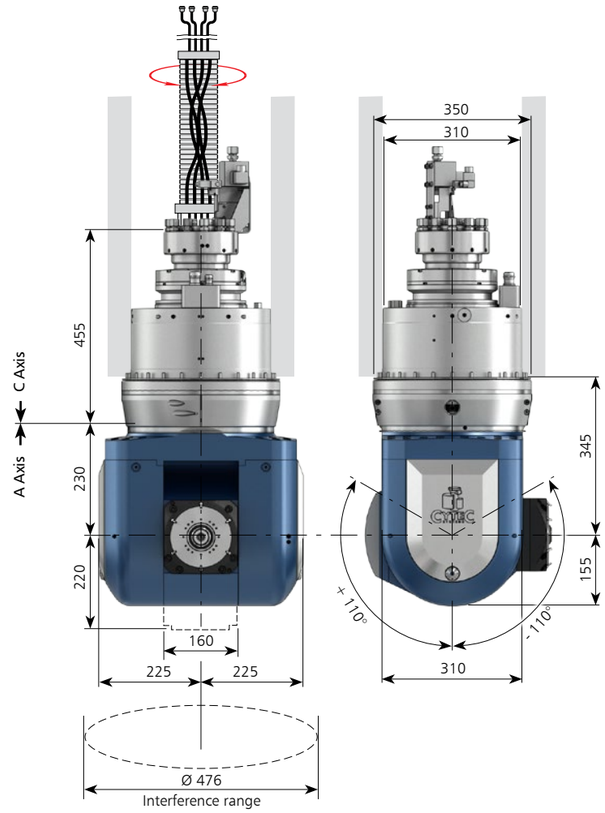
	A Axis	C Axis
Nom./Max. torque [Nm]:	165/310	605/1.130
Nom. current [A]:	26	30
Clamping torque 60 bar [Nm]:	700	2.500
Swivel angle [°]:	±115	±360
Measuring system:	absolute	absolute
Position accuracy [“]:	±5	±2
Total weight appr. [kg]:	290	



Fork Milling Head
S-Series

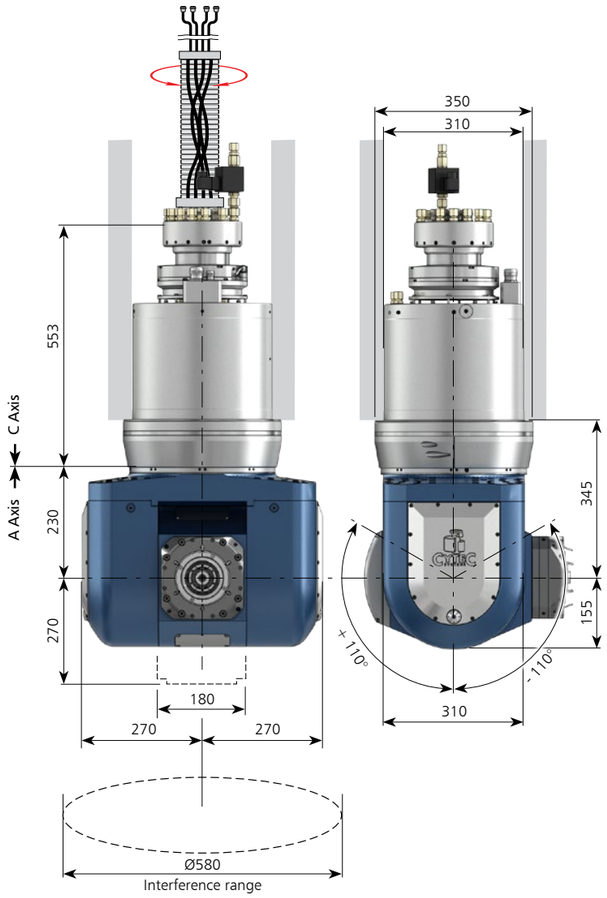
	A Axis	C Axis*
Nom./Max. torque [Nm]:	400/770	430/820
Nom. current [A]:	28	26
Clamping torque 60 bar [Nm]:	1.500	1.400
Swivel angle [°]:	±110	±360
Measuring system:	absolute	absolute
Position accuracy [“]:	±5	±2
Total weight appr. [kg]:	350	

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



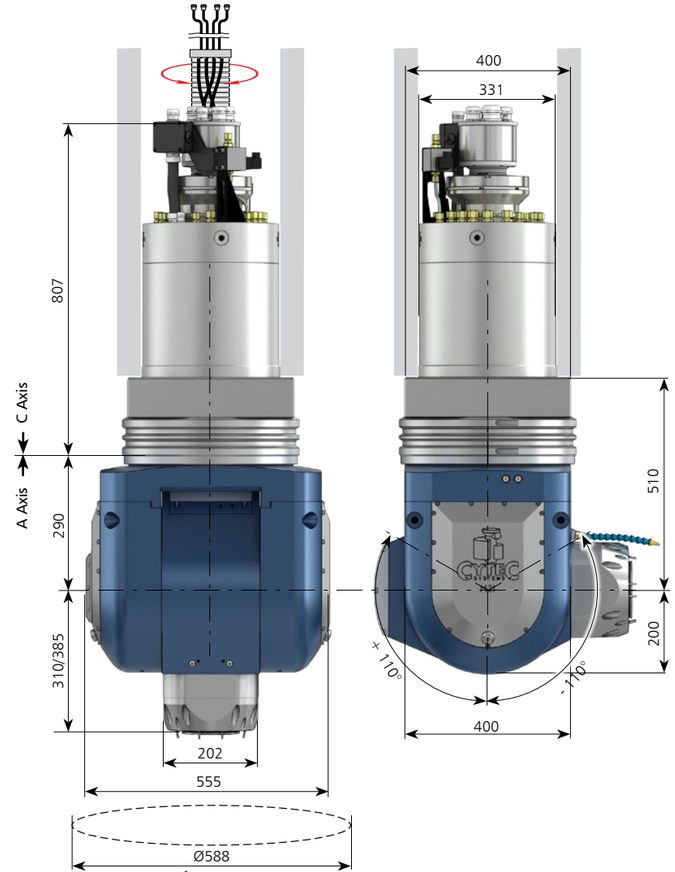
Fork Milling Head
S-Series HD

	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	



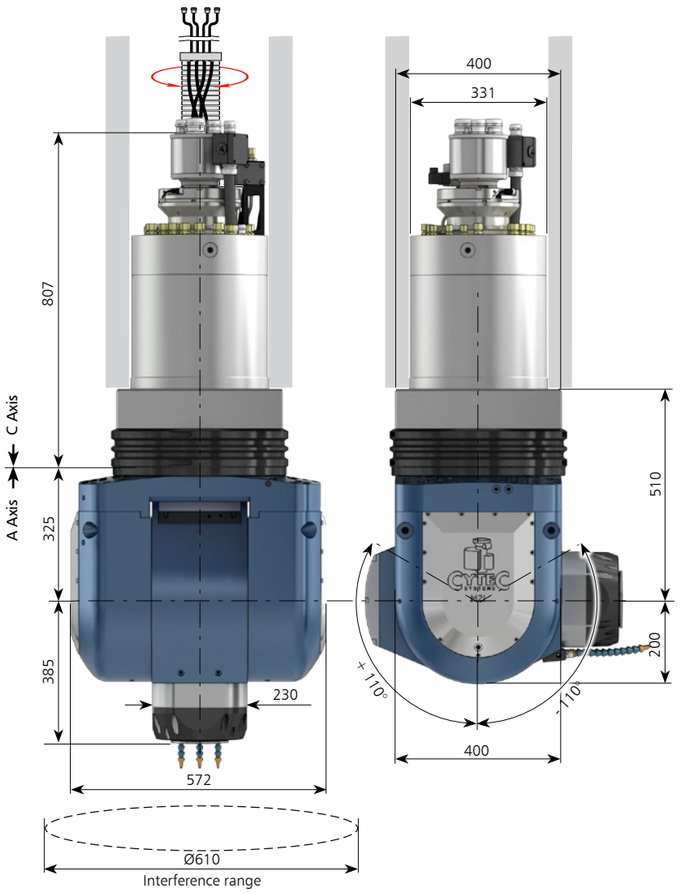
Fork Milling Head
M-Series

	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	



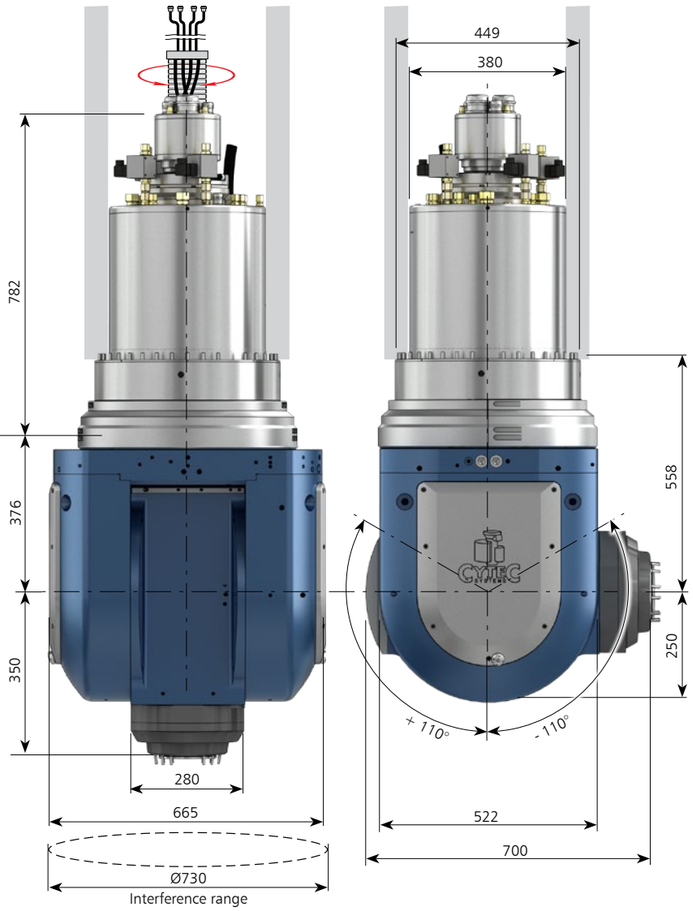
Fork Milling Head
M-Series HD

	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]:	960	



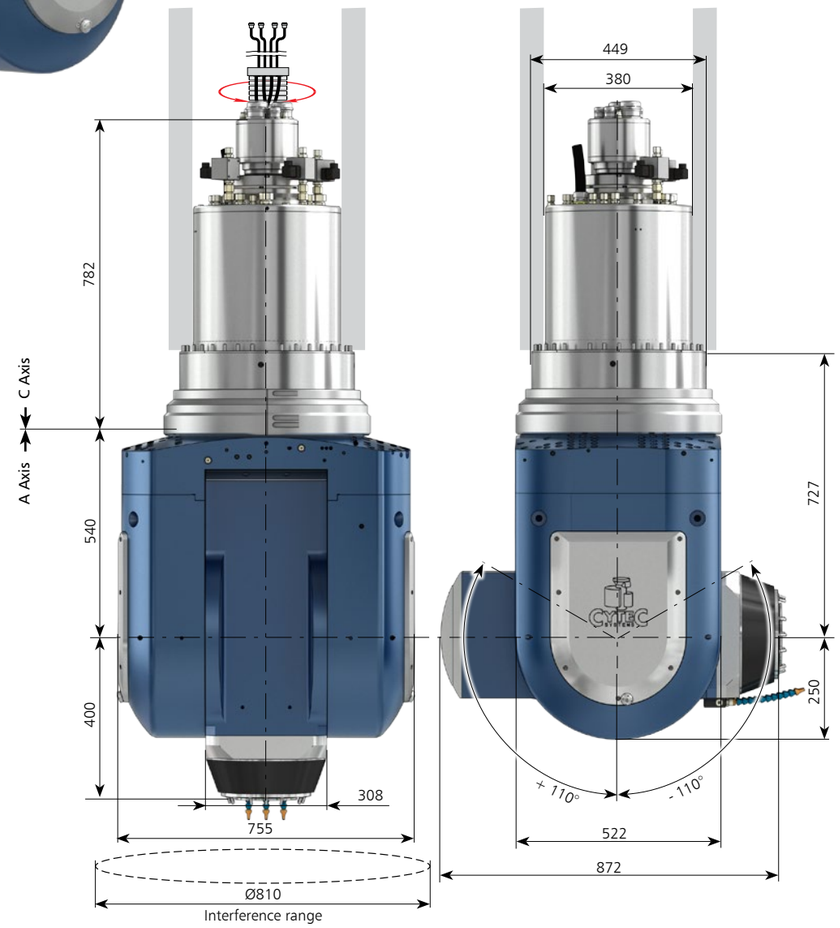
Fork Milling Head
G-Series

	A Axis	C Axis
Nom./Max. torque [Nm]:	2.000	1.830
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	



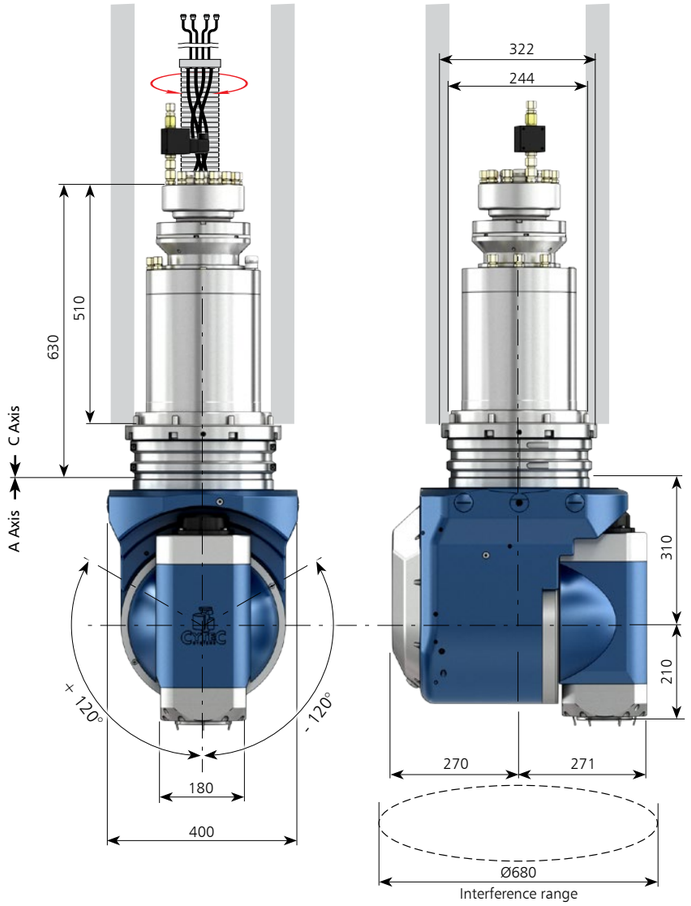
Fork Milling Head
G-Series HD

	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	



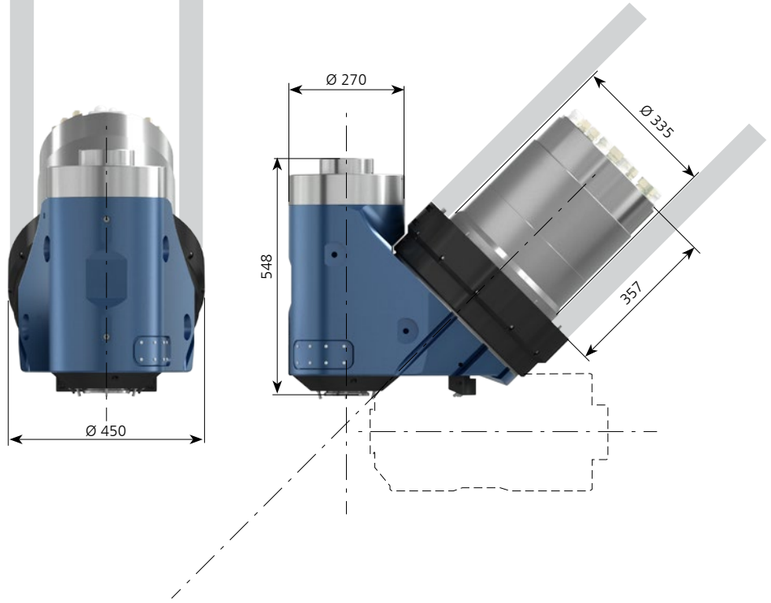
Orthogonal Milling Head
P-Series

	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	



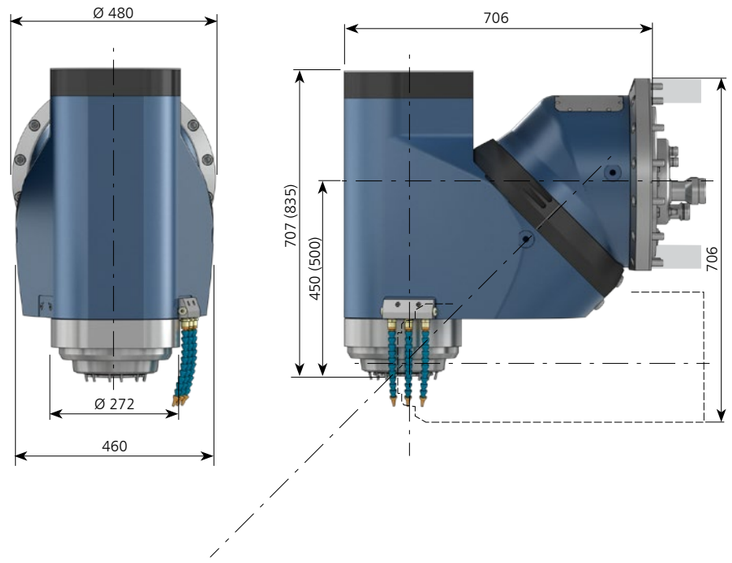
Universal Milling Head
M-Series 45°

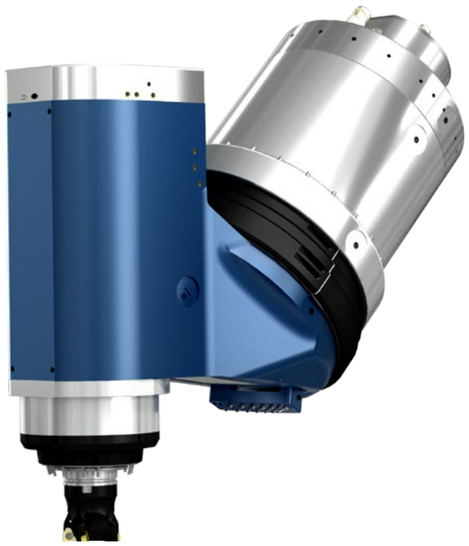
	A Axis
Nom./Max. torque [Nm]:	900/1.680
Nom. current [A]:	30
Clamping torque 50 bar [Nm]:	4.000
Swivel angle [°]:	±180
Measuring system:	absolute
Position accuracy ["]:	±2
Total weight appr. [kg]:	410



Universal Milling Head
M-Series 45° HD

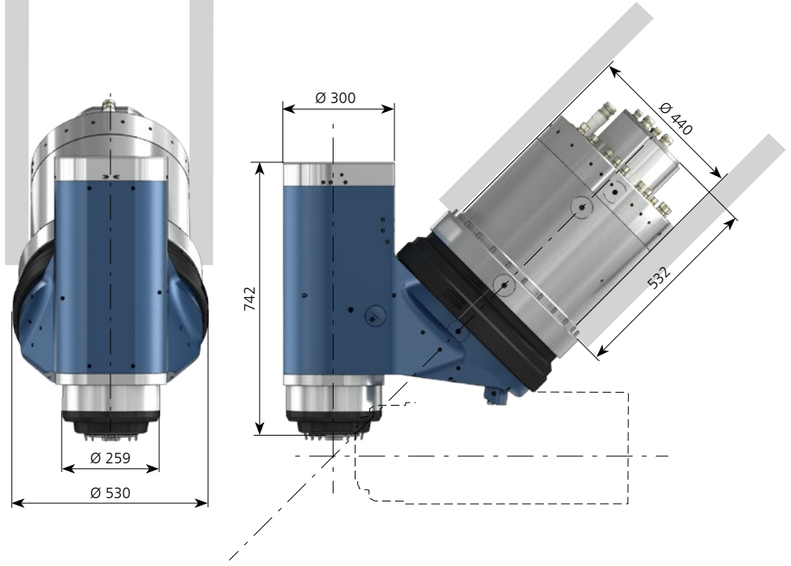
	A Axis
Nom./Max. torque [Nm]:	780/1.470
Nom. current [A]:	30
Clamping torque 50 bar [Nm]:	2.500
Swivel angle [°]:	±190
Measuring system:	absolute
Position accuracy ["]:	±2
Total weight appr. [kg]:	700

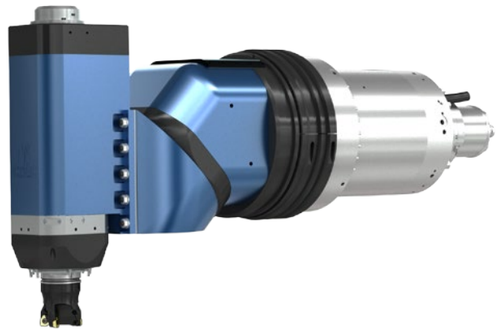




Universal Milling Head
G-Series 45°

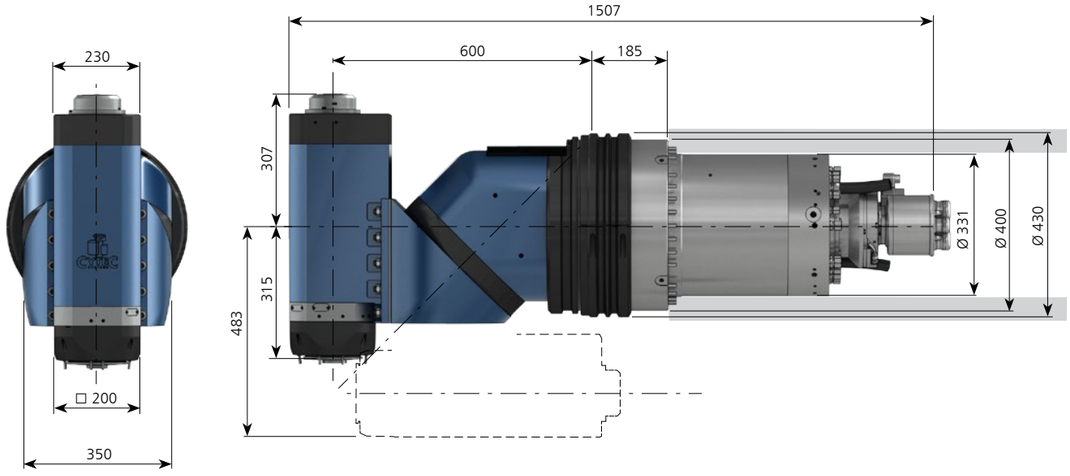
	A Axis
Nom./Max. torque [Nm]:	1.820/3.550
Nom. current [A]:	28,6
Clamping torque 60 bar [Nm]:	5.500
Swivel angle [°]:	±180°
Measuring system:	absolute
Position accuracy [“]:	±2
Total weight appr. [kg]:	840





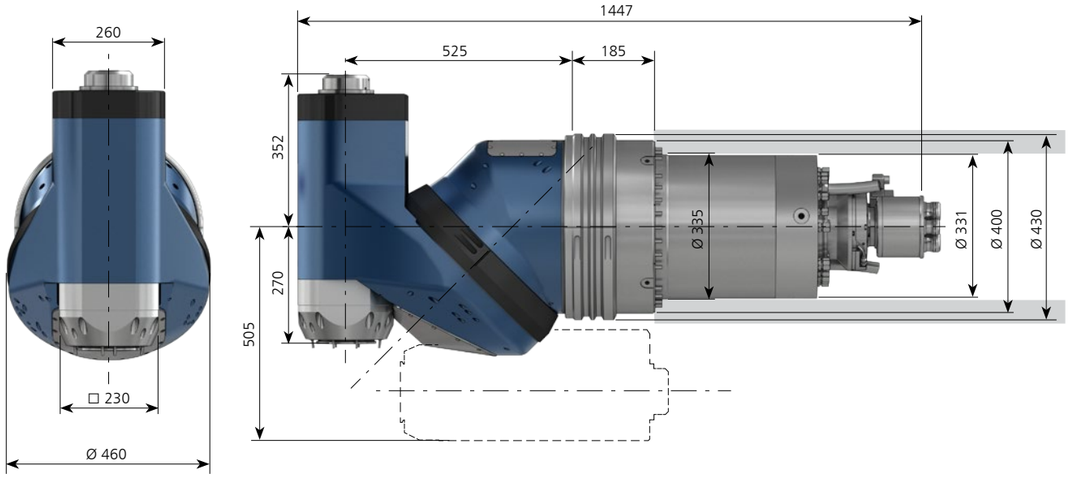
Universal Milling Head
M-Series 2x 45°

	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	



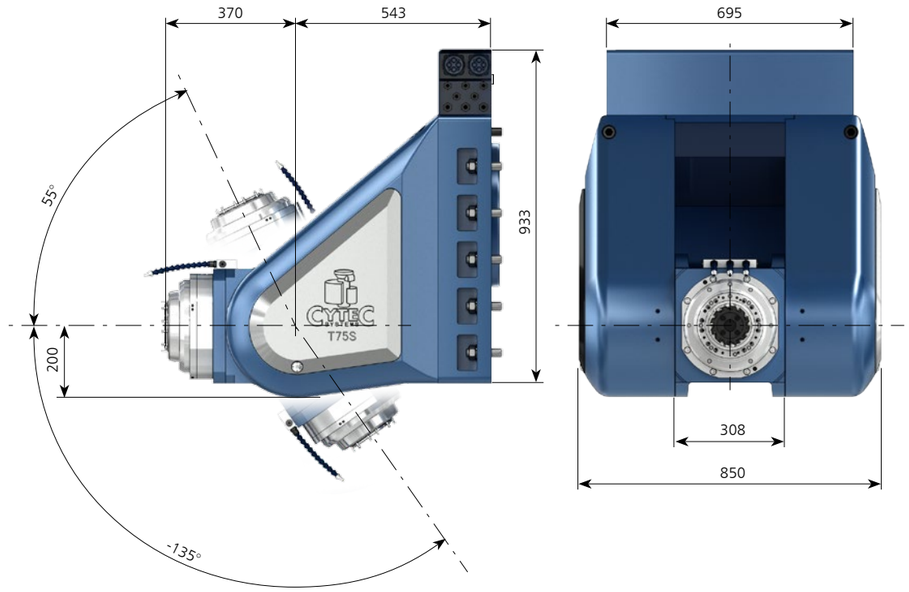
Universal Milling Head
M-Series 2x 45° HD

	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

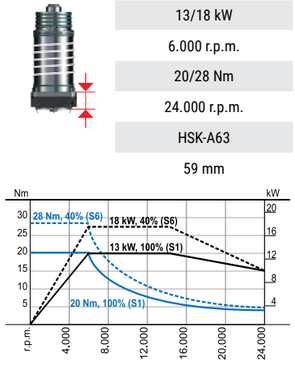
	A Axis
Nom./Max. torque [Nm]:	2.400/4.400
Nom. current [A]:	56
Clamping torque 60 bar [Nm]:	6.500
Swivel angle [°]:	-135 / +55
Measuring system:	absolute
Position accuracy [“]:	±2,5
Total weight appr. [kg]:	1.650

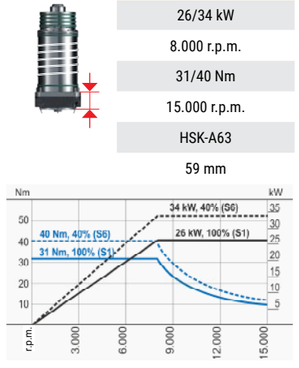


MOTOR SPINDLES

Applied in: **NANO**-Series

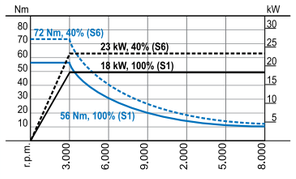
Series:	CS-13-135-A	CS-26-135-S
Power S1/S6:	13/18 kW	26/34 kW
Nom. speed:	6.000 r.p.m.	8.000 r.p.m.
Torque S1/S6:	20/28 Nm	31/40 Nm
Max. speed:	24.000 r.p.m.	15.000 r.p.m.
Tool system:	HSK-A63	HSK-A63
Spind. nose:	59 mm	59 mm

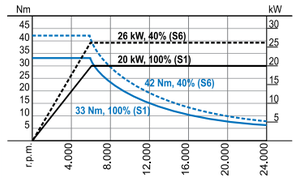




Applied in: **S**-Series

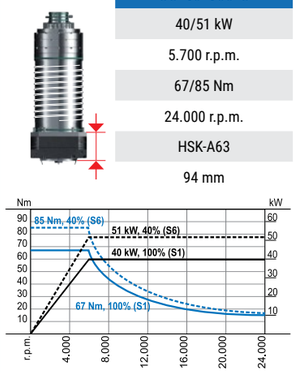
Series:	CS-18-135-S	CS-20-135-A
Power S1/S6:	18/23 kW	20/26 kW
Nom. speed:	3.000 r.p.m.	6.000 r.p.m.
Torque S1/S6:	56/72 Nm	33/42 Nm
Max. speed:	18.000 r.p.m.	24.000 r.p.m.
Tool system:	HSK-A63	HSK-A63
Spind. nose:	79 mm	79 mm

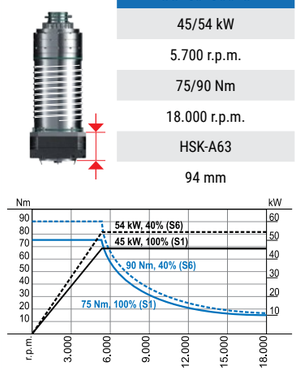




Applied in: **S**-Series HD

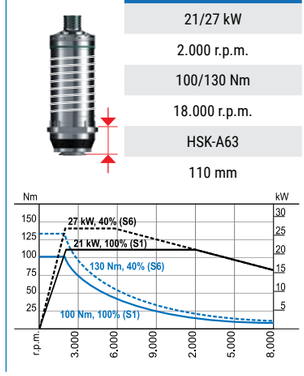
Series:	CS-40-160-S	CS-45-160-S
Power S1/S6:	40/51 kW	45/54 kW
Nom. speed:	5.700 r.p.m.	5.700 r.p.m.
Torque S1/S6:	67/85 Nm	75/90 Nm
Max. speed:	24.000 r.p.m.	18.000 r.p.m.
Tool system:	HSK-A63	HSK-A63
Spind. nose:	94 mm	94 mm

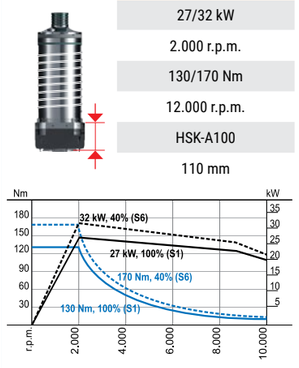


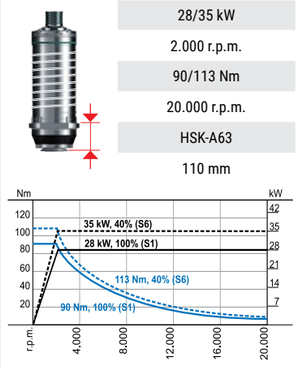


Applied in: **M**-Series

Series:	CS-21-180-A	CS-27-180-S	CS-28-180-A
Power S1/S6:	21/27 kW	27/32 kW	28/35 kW
Nom. speed:	2.000 r.p.m.	2.000 r.p.m.	2.000 r.p.m.
Torque S1/S6:	100/130 Nm	130/170 Nm	90/113 Nm
Max. speed:	18.000 r.p.m.	12.000 r.p.m.	20.000 r.p.m.
Tool system:	HSK-A63	HSK-A100	HSK-A63
Spind. nose:	110 mm	110 mm	110 mm

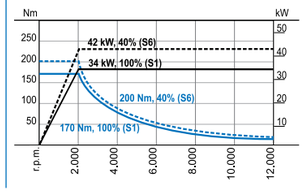


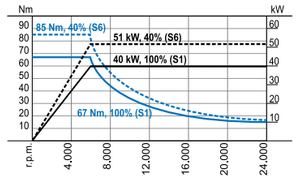


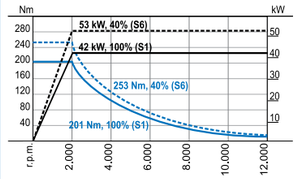


Applied in: **M**-Series

Series:	CS-34-180-S	CS-40-180-S	CS-42-180-S
Power S1/S6:	34/43 kW	40/51 kW	42/53 kW
Nom. speed:	2.000 r.p.m.	5.700 r.p.m.	2.000 r.p.m.
Torque S1/S6:	170/220 Nm	67/85 Nm	201/253 Nm
Max. speed:	12.000 r.p.m.	24.000 r.p.m.	12.000 r.p.m.
Tool system:	HSK-A100	HSK-A63	HSK-A100
Spind. nose:	185 mm	110 mm	185 mm

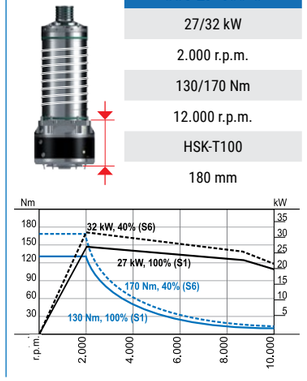


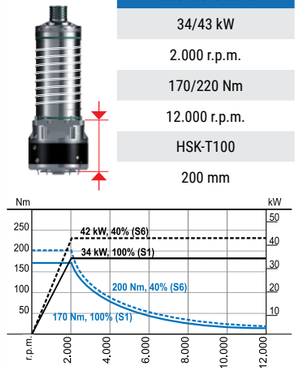


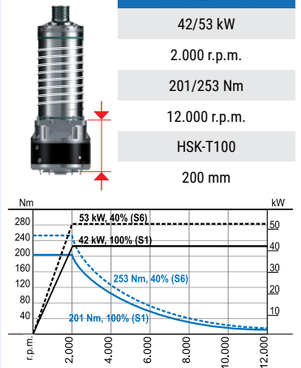


Applied in: **M**-Series

Series:	CST-27-180-S	CST-34-180-S	CST-42-180-S
Power S1/S6:	27/32 kW	34/43 kW	42/53 kW
Nom. speed:	2.000 r.p.m.	2.000 r.p.m.	2.000 r.p.m.
Torque S1/S6:	130/170 Nm	170/220 Nm	201/253 Nm
Max. speed:	12.000 r.p.m.	12.000 r.p.m.	12.000 r.p.m.
Tool system:	HSK-T100	HSK-T100	HSK-T100
Spind. nose:	180 mm	200 mm	200 mm



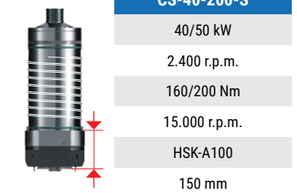


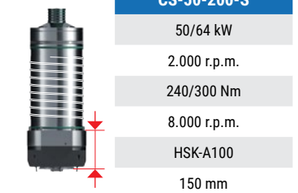


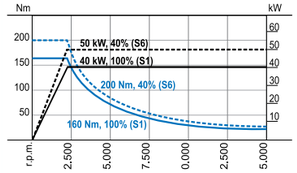
MOTOR SPINDLES

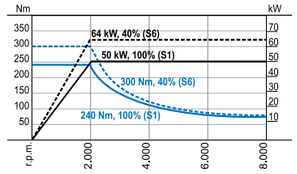
Applied in: **M**-Series HD

Series:	CS-40-200-S	CS-50-200-S
Power S1/S6:	40/50 kW	50/64 kW
Nom. speed:	2.400 r.p.m.	2.000 r.p.m.
Torque S1/S6:	160/200 Nm	240/300 Nm
Max. speed:	15.000 r.p.m.	8.000 r.p.m.
Tool system:	HSK-A100	HSK-A100
Spind. nose:	150 mm	150 mm



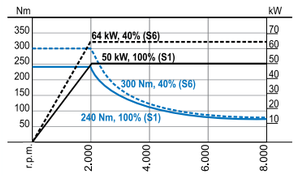


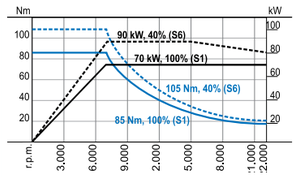




Applied in: **M**-Series HD

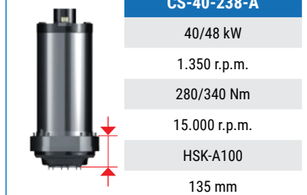
Series:	CST-50-200-S	CS-70-200-S
Power S1/S6:	50/64 kW	70/90 kW
Nom. speed:	2.000 r.p.m.	8.000 r.p.m.
Torque S1/S6:	240/300 Nm	85/105 Nm
Max. speed:	8.000 r.p.m.	22.000 r.p.m.
Tool system:	HSK-T100	HSK-A63
Spind. nose:	200 mm	150 mm

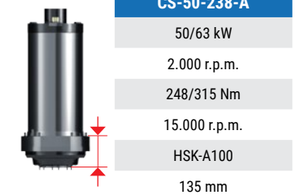


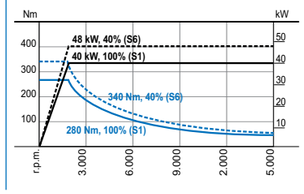


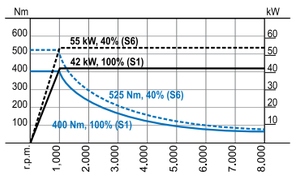
Applied in: **G**-/**T**-Series

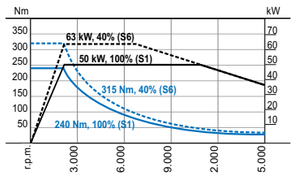
Series:	CS-40-238-A	CS-42-238-S	CS-50-238-A
Power S1/S6:	40/48 kW	42/55 kW	50/63 kW
Nom. speed:	1.350 r.p.m.	1.000 r.p.m.	2.000 r.p.m.
Torque S1/S6:	280/340 Nm	400/525 Nm	248/315 Nm
Max. speed:	15.000 r.p.m.	8.000 r.p.m.	15.000 r.p.m.
Tool system:	HSK-A100	HSK-A100 / SK50/C8	HSK-A100
Spind. nose:	135 mm	135 mm	135 mm





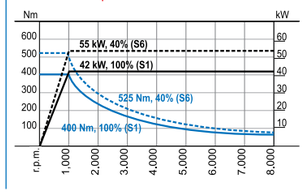


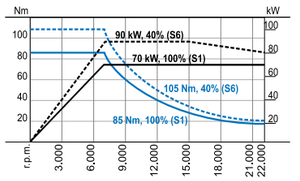




Applied in: **G**-/**T**-Series

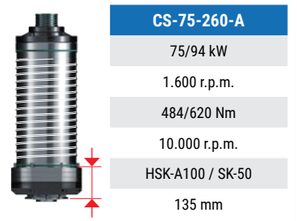
Series:	CST-42-238-S	CS-70-238-S
Power S1/S6:	42/55 kW	70/90 kW
Nom. speed:	1.000 r.p.m.	8.000 r.p.m.
Torque S1/S6:	400/525 Nm	85/105 Nm
Max. speed:	8.000 r.p.m.	22.000 r.p.m
Tool system:	HSK-T100	HSK-A63
Spind. nose:	200 mm	135 mm

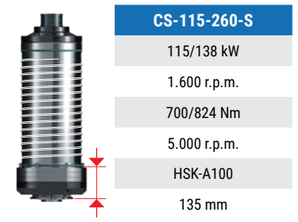


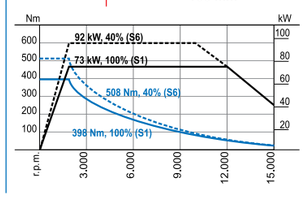


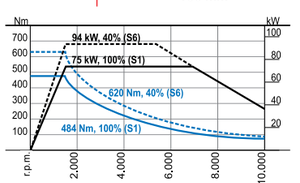
Applied in: **G**-Series HD/**T**-Series

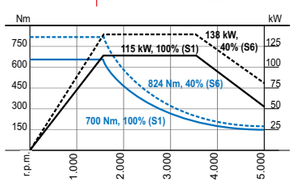
Series:	CS-73-260-A	CS-75-260-A	CS-115-260-S
Power S1/S6:	73/92 kW	75/94 kW	115/138 kW
Nom. speed:	1.750 r.p.m.	1.600 r.p.m.	1.600 r.p.m.
Torque S1/S6:	398/508 Nm	484/620 Nm	700/824 Nm
Max. speed:	15.000 r.p.m.	10.000 r.p.m.	5.000 r.p.m.
Tool system:	HSK-A100 / SK-50	HSK-A100 / SK-50	HSK-A100
Spind. nose:	135 mm	135 mm	135 mm











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