



Chester 5 Axis Milling Machine • 1200-5AX



Powerful High Precision 5 Axis Machining with Superior Performance

The 5 Axis series offers high productivity and accurate performance. Using Finite Element Method software to design and achieve the machines optimal structure this also enhances machine rigidity and stability.

Chester's 5 Axis Machines have excellent access to the front of the machine table ,all models can be fitted with a front loading robotic arm.

The 5 Axis models Chester 400-5AX and 620-5AX size machines also have available an 8 pool automated pallet loading system.

These machines have the perfect machining platform for high speed process and intensive manufacture in all sectors.

Standard Accessories:

- ✓ Siemens 840Dsl (5-Axis/5-Interactive)
- ✓ Spindle Oil Cooler
- ✓ Spindle Motor Cooling System
- ✓ Spindle Programmable Air Blow System
- ✓ Circle Injection System
- ✓ Chain-type Chip Conveyor
- ✓ Chip Collector
- ✓ Water Gun
- ✓ Air Gun
- ✓ Manual Top Cover (1200-5AX has programmable top cover)
- ✓ Full Enclosure
- ✓ Large Worktable
- ✓ Front Door/Safety Switch/ATC Backdoor
- ✓ ATC
- ✓ 3-Axis Roller Type Linear Guideways
- ✓ 3 Axes Linear Scales (Heidenhain)
- ✓ A Axes Linear Scales (Heidenhain)
- ✓ C Axes Linear Scales (Heidenhain)
- ✓ Z-Axis Motor System with Brake
- ✓ Worklight(LED)
- ✓ Alarm Light(LED)
- ✓ M30 Automatic Shutdown System
- ✓ Air Conditioner
- ✓ Air Condition Software for TNC-640)

Optional Accessories:

- ☐ Coolant Through Spindle
- ☐ ZF Gearbox
- ☐ Worktable Washing System
- ☐ Oil Path Tool Handle Stopper
- ☐ Coolant Cooling System
- ☐ Programmable Top Cover (Standard for 1200-5AX)
- ☐ Laser Tool Length Measuring
- ☐ Wireless Workpiece Measuring
- ☐ Worktable Clamp Air Hydraulic Source
- ☐ Increased Tool Magazine Capacity
- ☐ Heidenhain TNC-640(5-Axis/5-Interactive)
- ☐ Centering Calibration Function
- ☐ Oil Demister System
- ☐ Rotary Window

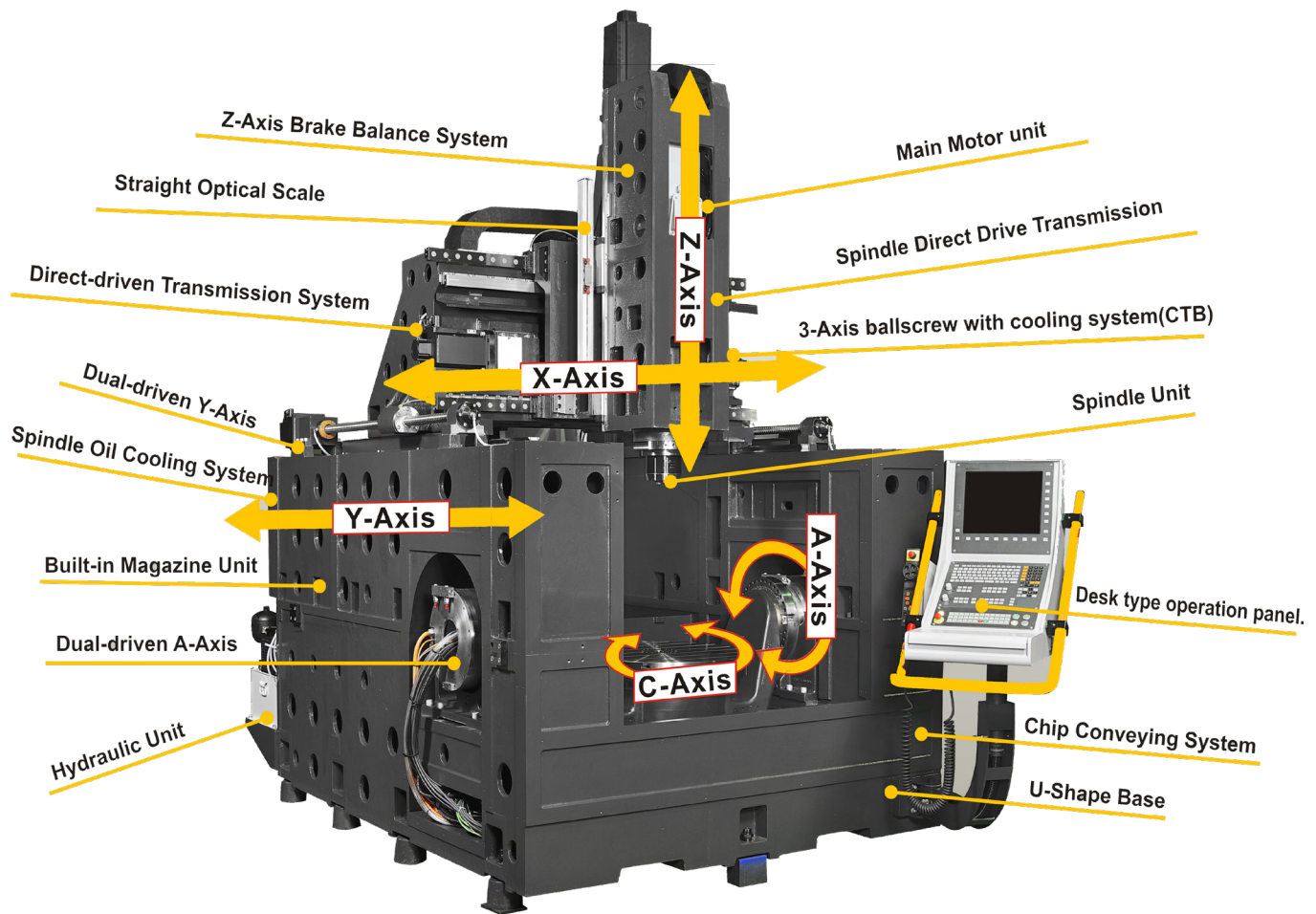
Technical Specifications		1200-5AX		
Travel				
X-Axis Travel		1110mm		
Y-Axis Travel		1370+380mm		
Z-Axis Travel		620mm		
Distance from Spindle Nose to Table Surface		150-950mm		
Worktable Dimensions		1150mmx900w		
Worktable Load		2000kg		
Feed System				
Rapid Feed(X/Y/Z)		48/48/48m/min		
Cutting Feed(X/Y/Z)		0.001-20m/min		
Motor				
Spindle Motor		31.5kw(42.84hp)		
X/Y/Z Motor Power		8.17/4.87/8.17kw(11.11/6.62/11.11hp)		
B/C Axes Motor		16.2/8.5kw(22.03/11.56hp)		
Accuracy Standards	VDI3441	ISO 10791-4 ISO 230-2	JIS B6338	
Positioning Accuracy	0.008mm	0.008mm	0.003/300	
Repeatability Accuracy	0.004mm	0.004mm	± 0.002	
B/C axis 0.001 - Positioning		10"	10"	
B/C axis 0.001 - Repeatability		5"	5"	
Rotary Axis				
A-Axis Rotation Angle		±120°degree		
C-Axis Rotation Angle		360°degree		
A-Axis Max.Speed		26rpm		
C-Axis Max.Speed		50rpm		
Spindle System				
Spindle Transmission Type		Direct Drive(standard)/Built-in(OP)		
Spindle Speed(max.)		8000rpm		
Max.Torque		400Nm		
Tool Handle Spec.		#50/HSK A100		
ATC System				
Magazine Capacity		24T(Standard)		
Tool Change Method		DRUM		
Max.Tool Dis./with Adjacent Tool		125/200mm		
Max.Tool Length		400mm		
Max.Tool Weight		15kg		
Control System				
Controller		Siemens 840D		
Other				
Chip Conveyor		Chain Type		
Machine Occupancy(LxWxH)		5600x2980x4196mm		
Machine Weight		32000kg		

* The above specifications are subject to change without prior notice, no liability for mistakes. Machines may be shown with optional equipment.





New Level of Kinematics



High Performance 5 Axis Machining Centre's

- Through the interaction of 5 axes, the Chester 5AX series will execute machining of complicated Workpiece shapes, they also feature one-process clamping for multi-face machining.
- This new generation of machines offer high-efficiency production achieved by high quality machining and working sequence.
- They provide the perfect integral configuration by combining ergonomics and the latestest operation technology.

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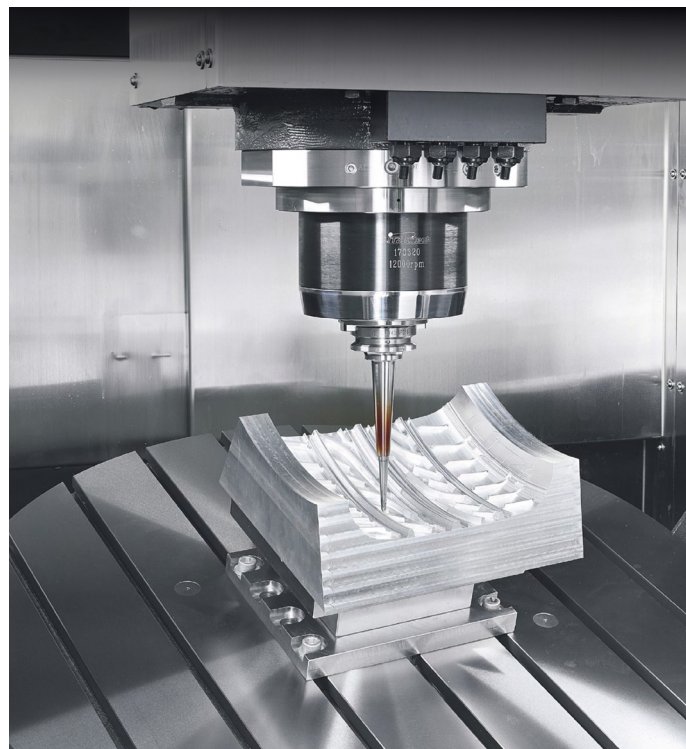
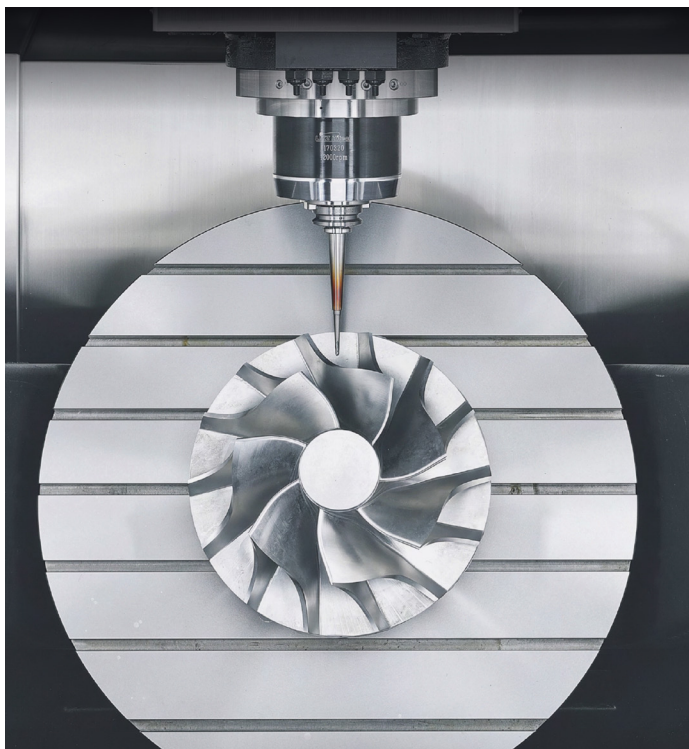
High Performance Control

The Chester 5AX Series are designed for highly efficient production. They are equipped with a high performance control system to execute high-speed contour control for achieving the optimal surface precision and accuracy within the shortest machining and working time. Driven by a highly dynamic 5-axis.



Vertical Machining Centre (5 Axis)
Entering a new era for 5 axis machining.

Crane-type High-Level 5 Axis Machining Centre
The most advanced Direct drive spindle can handle high speed tooling to carry out economical and accurate machining by direct drive to the Rotary C-Axis and tilt A-Axis.

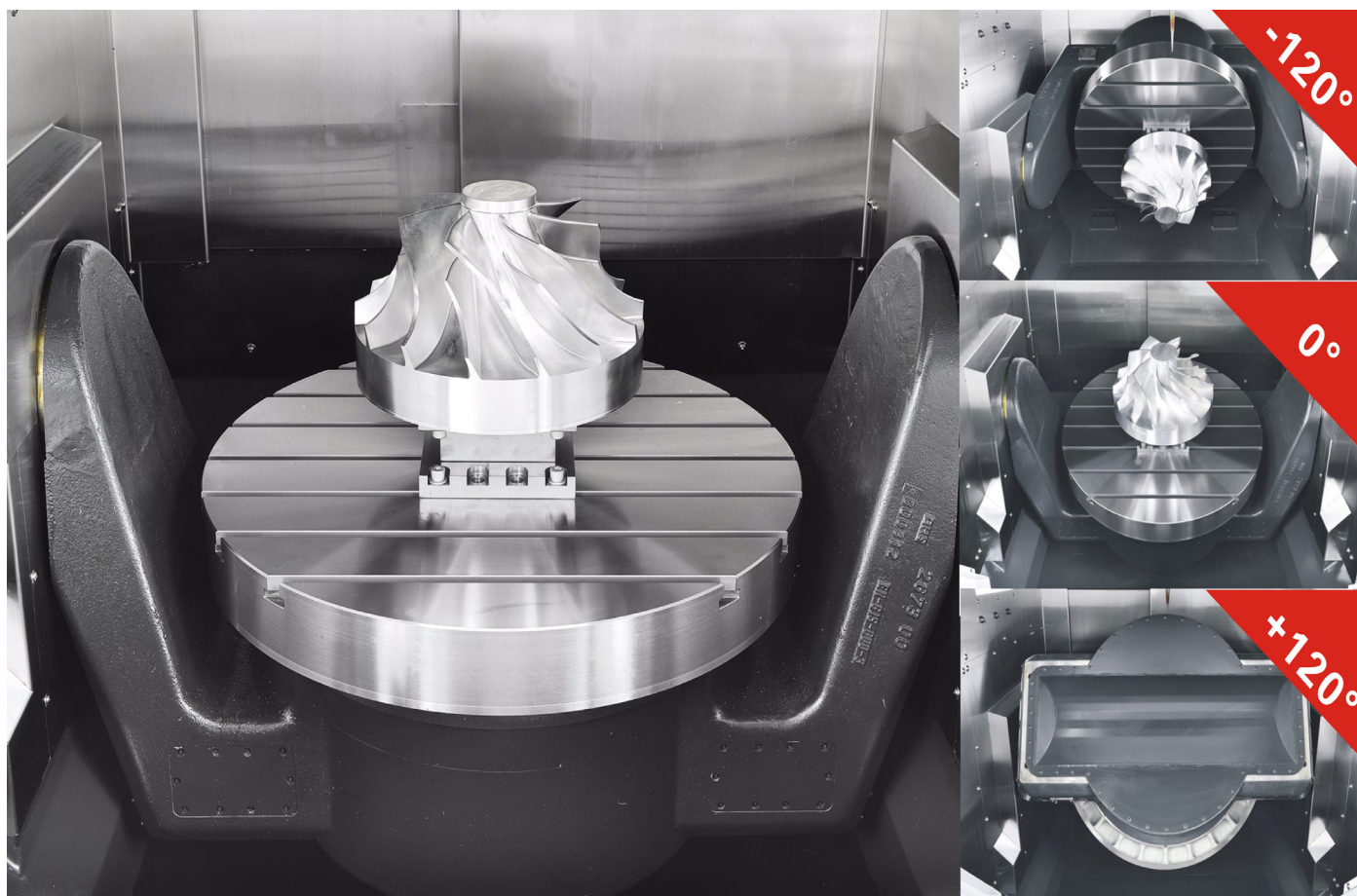


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A, C Axes (Rotary Axes) Unit



A, C Axes are using the Direct Drive Motor to work with the Rotary Table detected by the encoder. Its performance is superior in power transmission efficiency and the reduction of power consumption than conventional worm gear configuration.

Higher freedom in the working area

Working Bench load:

- Chester 1200-5AX A/B max. load up to 2000kgs
- Chester 800-5AX A/B max. load up to 1000kgs
- Chester 620-5AX A/B max. load up to 300kgs
- Chester 400-5AX A/B max. load up to 150kgs

Table free of chip swarf

The tilting A-Axis and the Rotary C Axis are in the Workpiece centre (U-shape)

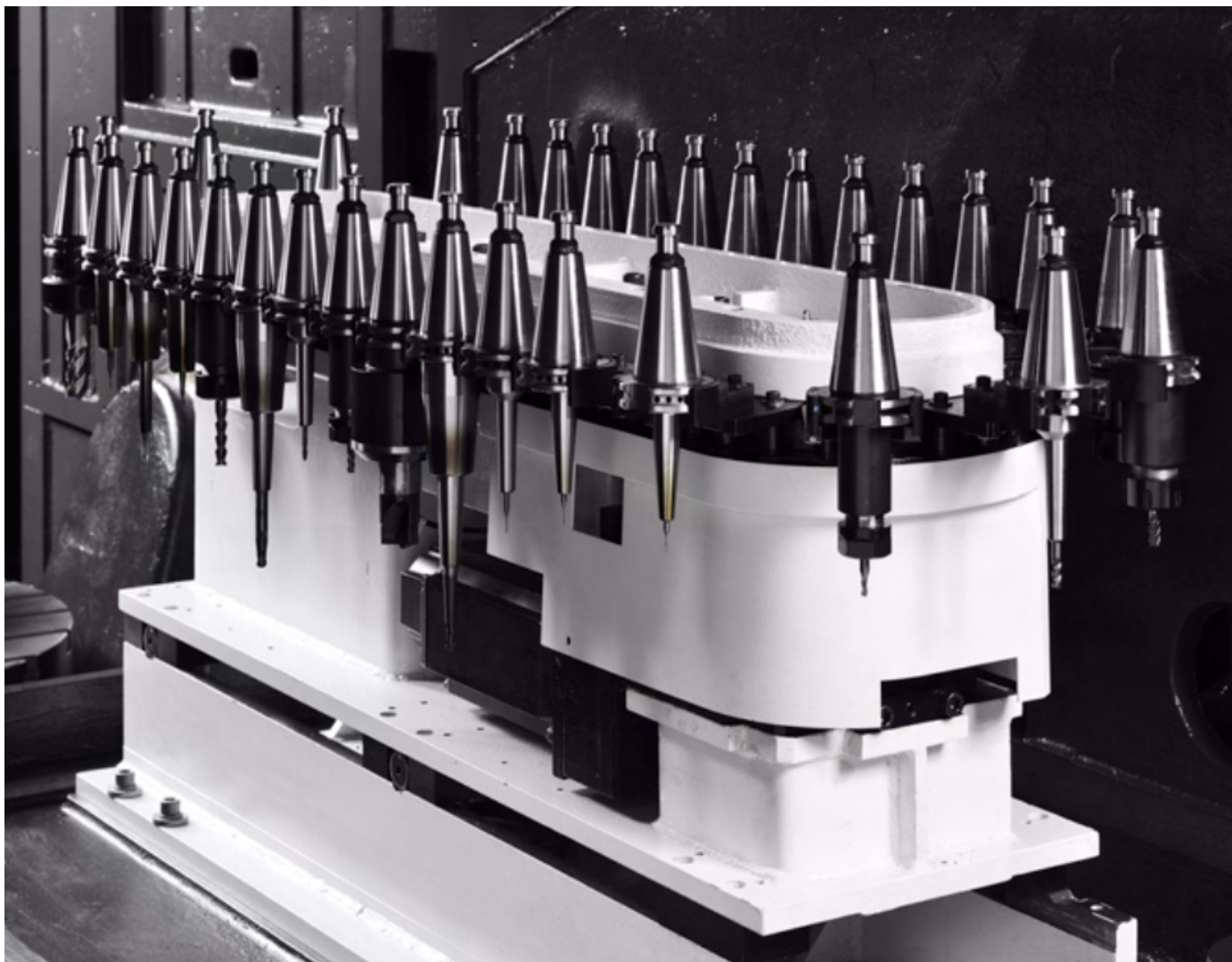
The dual-drive calibration function prevents twisted deformation

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Tool Magazine Unit



■ 1200-5AX

Magazine capacity: 24T
 Max. Tool Length: 400mm
 Max. Tool Dia.: 125mm
 Max. Tool Weight: 15kgs
 Max. Machine Load: 240kgs

■ 800-5AX

Magazine capacity: 32T
 Max. Tool Length: 300mm
 Max. Tool Dia.: 75mm
 Max. Tool Weight: 7kgs
 Max. Machine Load: 128kgs

■ 620-5AX

Magazine capacity: 32T
 Max Tool Length: 250mm
 Max Tool Diameter
 (No adjacent tool): 75 (127)
 Max Tool Weight: 7kgs
 Maximum Tool Load: 224kgs

■ 400-5AX

Magazine capacity: 30T
 Max tool length: 250mm
 Max Tool Diameter
 (No adjacent tool): 75 (127)
 Max Tool Weight: 7kgs
 Maximum Tool Load: 210kgs

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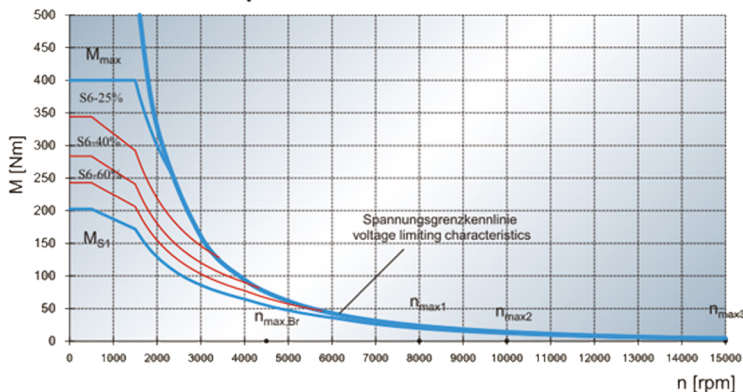


Spindle Motor Torque

Advanced spindle technology ensures a total-torque output within the low speed range, comprising of a highly stabilised ceramic spindle bearing and housing fitted with a constant temperature cooling unit to maintain the spindle at a fixed temperature during the entire operation process.

Spindle Motor Torque Curve - 1200-5AX

Spindle Motor: 1PH8137

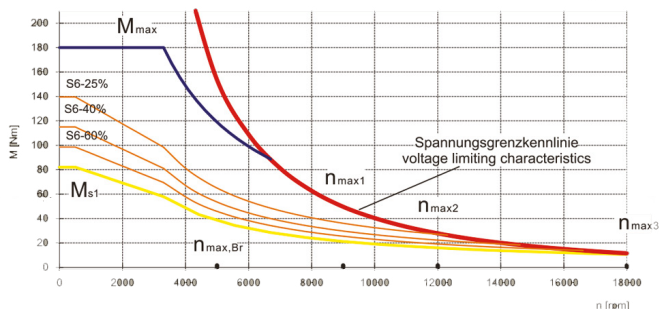
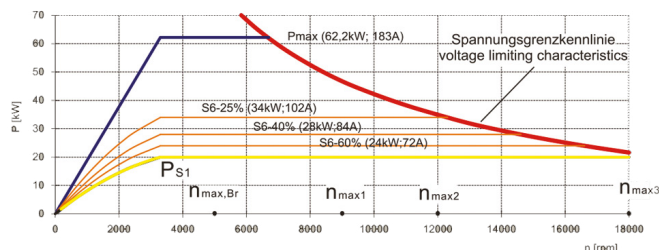


Spindle Motor Torque Curve - 620-5AX

Heidenhain TNC-640

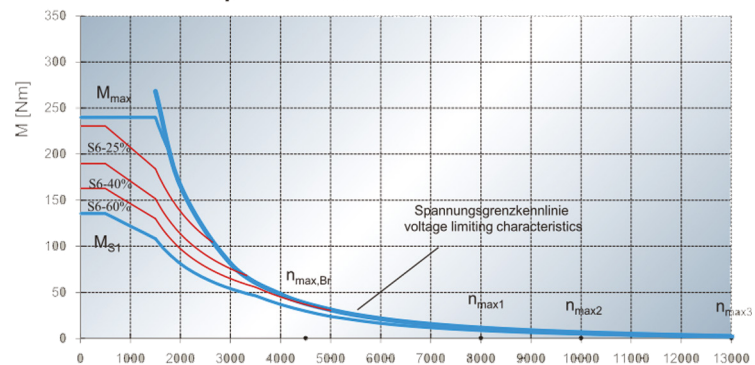
Tabelle 1-476 SINAMICS, 3 AC 400 V, Active Line Module, (ALM), 1PH8107-□□M2□□.

n_N [rpm]	P_N [kW]	M_N [Nm]	I_N [A]	n_{max1} [rpm]	n_{max2} [rpm]	n_{max3} [rpm]	$n_{max.Br}$ [rpm]	n_2 [rpm]	M_{max} [Nm]	I_{max} [A]	M_0 [Nm]	I_0 [A]
3300	20,0	58	60,0	9000	12000	18000	5000	18050	180	183	82	73
3000	18,0	57	60,0					18050				



Spindle Motor Torque Curve - 800-5AX

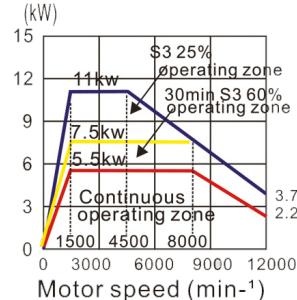
Spindle Motor: 1PH8133



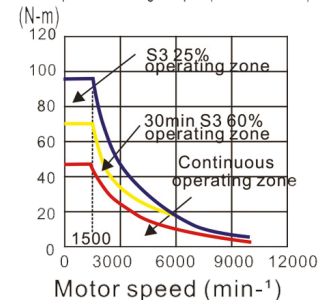
Spindle Motor Torque Curve - 400-5AX

FANUC 0iMF Applicable amplifier αiSP 11
βiSVSP*-11

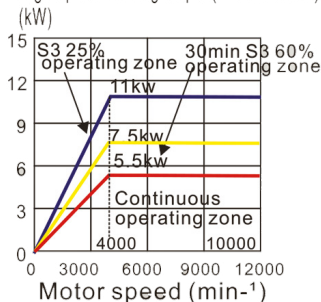
Low-speed winding output (Y connection)



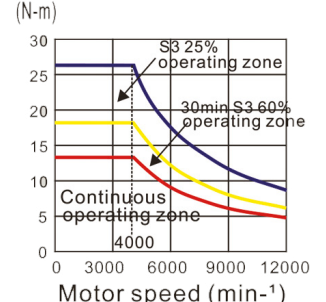
Low-speed winding torque (Y connection)



High-speed winding output (Δ connection)



High-speed winding torque (Δ connection)



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