

# PRIMNER

## GT428-5X

5 Axis High Speed Double Column Center



Technical Specifications		GT428-5X	
Table size	4000×2400 mm		
X/Y/Z Travel	4200/3300/1200 mm		
X/Y/Z Rapid feed	20 m/min		
A/C Max. speed	50 rpm		
Spindle taper	HSK A100		
Spindle speed	12000 rpm	15000 rpm	

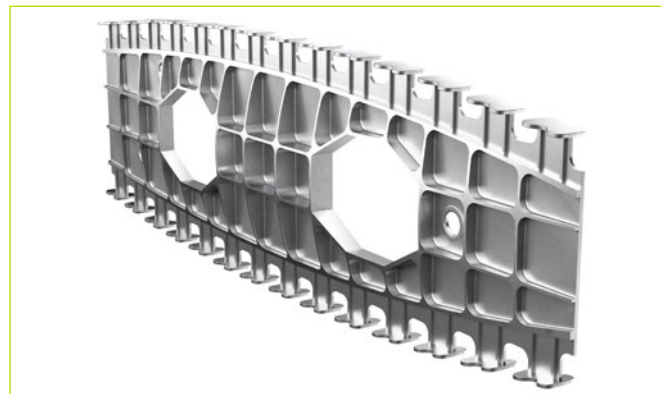


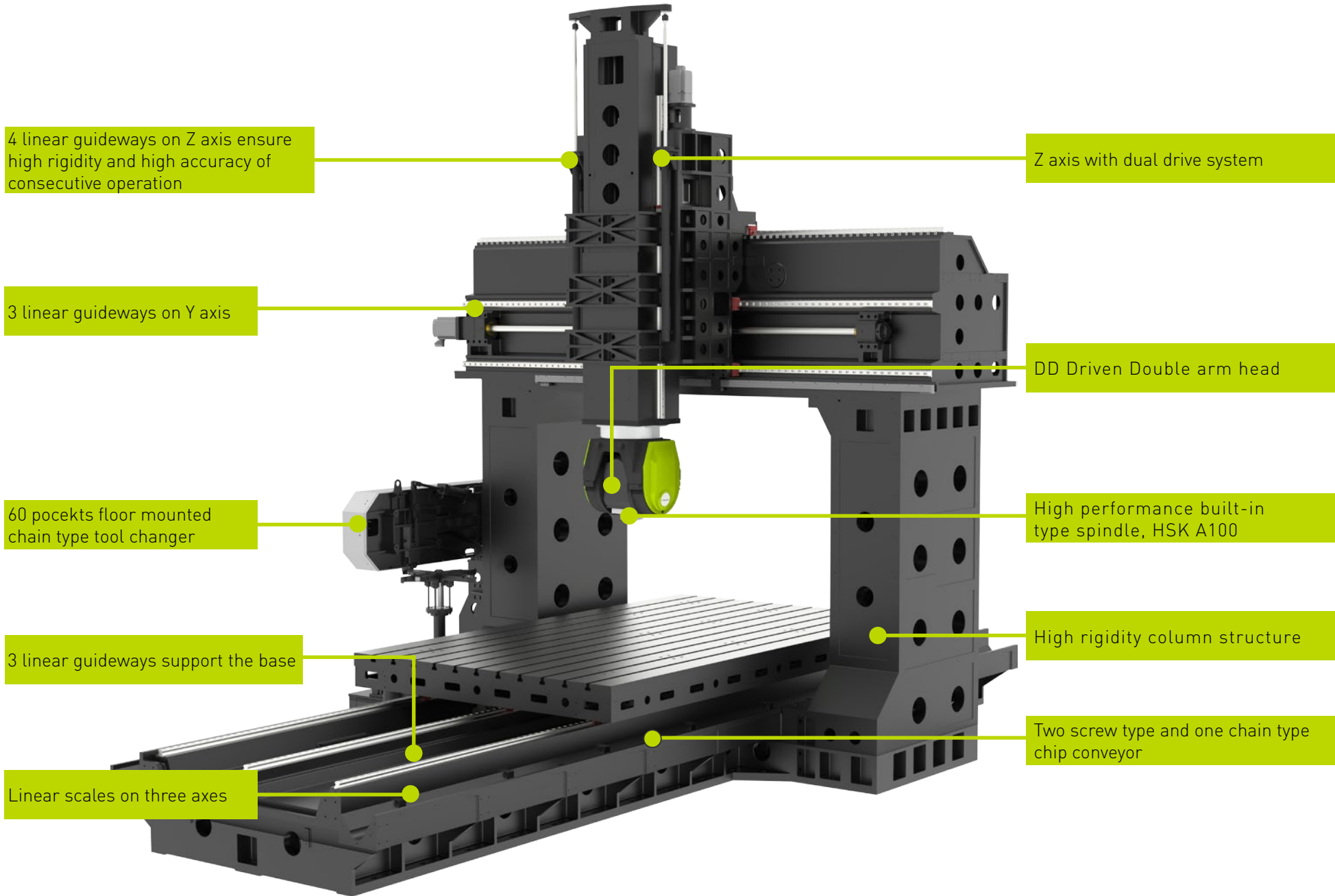
# APPLICATIONS

● Aerospace

● Big Die & Mold

● Machine structure





# DD DRIVEN DOUBLE ARM HEAD

## Model L

- ✓ A axis travel  $\pm 115^\circ$
- ✓ C axis travel  $360^\circ$
- ✓ A axis clamping torque 10500 Nm
- ✓ C axis clamping torque 5400 Nm
- ✓ Built-in spindle HSK A100, 15000 rpm
- ✓ Spindle motor power 50/61 kW
- ✓ Spindle motor torque 160/193 Nm

## Model XL

- ✓ A axis travel  $\pm 110^\circ$
- ✓ C axis travel  $\pm 250^\circ$
- ✓ A axis clamping torque 8000 Nm
- ✓ C axis clamping torque 8000 Nm
- ✓ Built-in spindle HSK A100, 12000 rpm
- ✓ Spindle motor power 40/47 kW
- ✓ Spindle motor torque 248/293 Nm

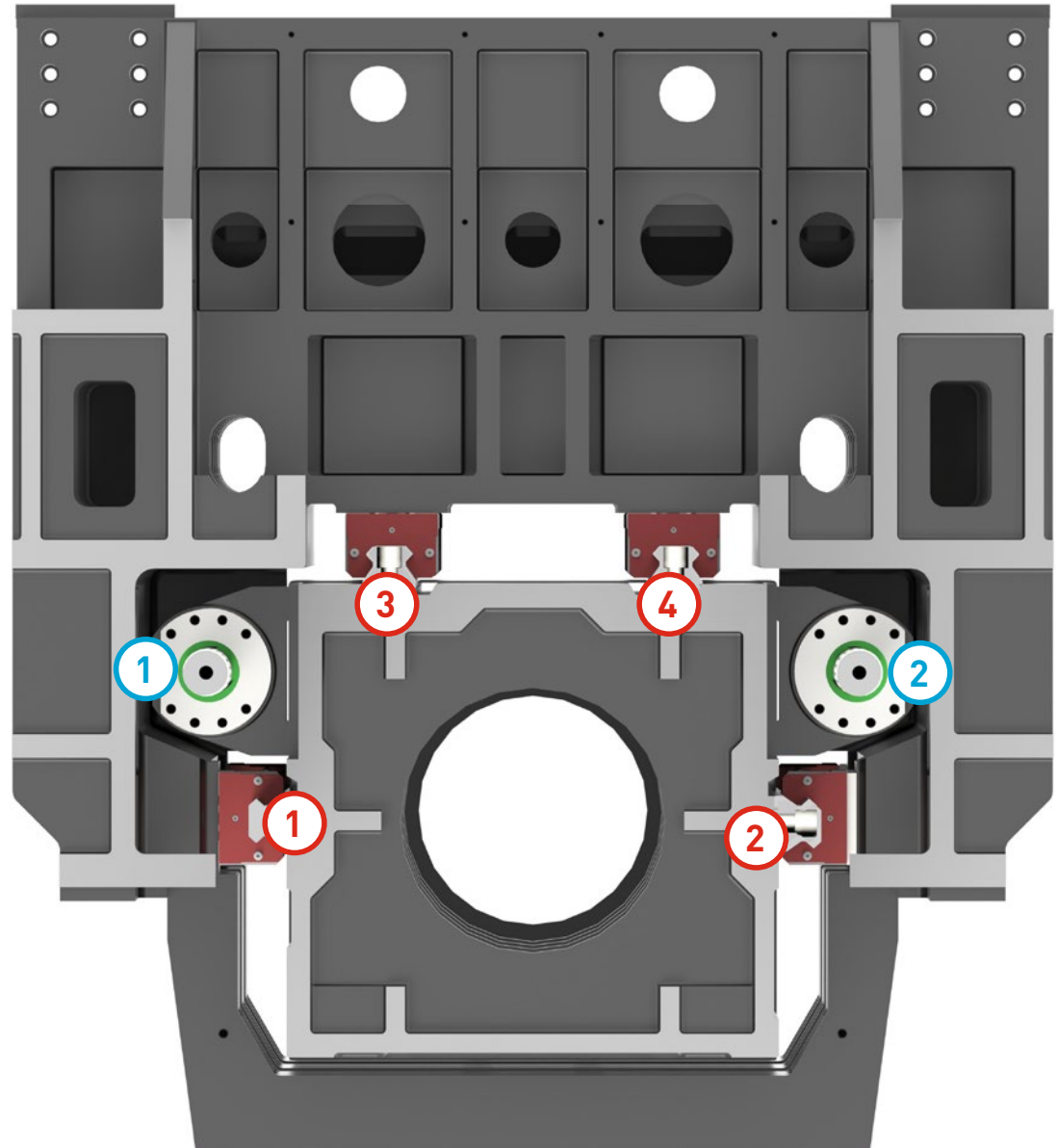
## Model S

- ✓ A axis travel  $\pm 108^\circ$
- ✓ C axis travel  $\pm 270^\circ$
- ✓ A axis clamping torque 1800 Nm
- ✓ C axis clamping torque 2000 Nm
- ✓ Built-in spindle HSK A100, 15000 rpm
- ✓ Spindle motor power 40/50 kW
- ✓ Spindle motor torque 103/129 Nm

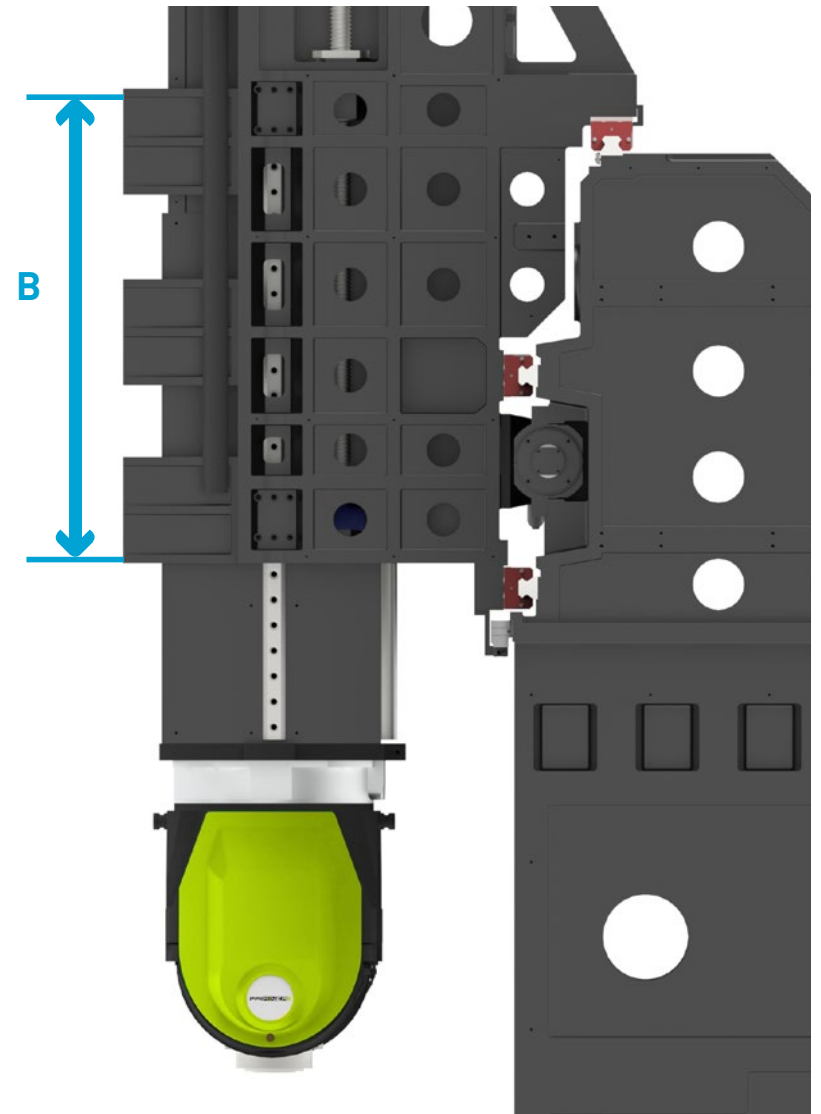
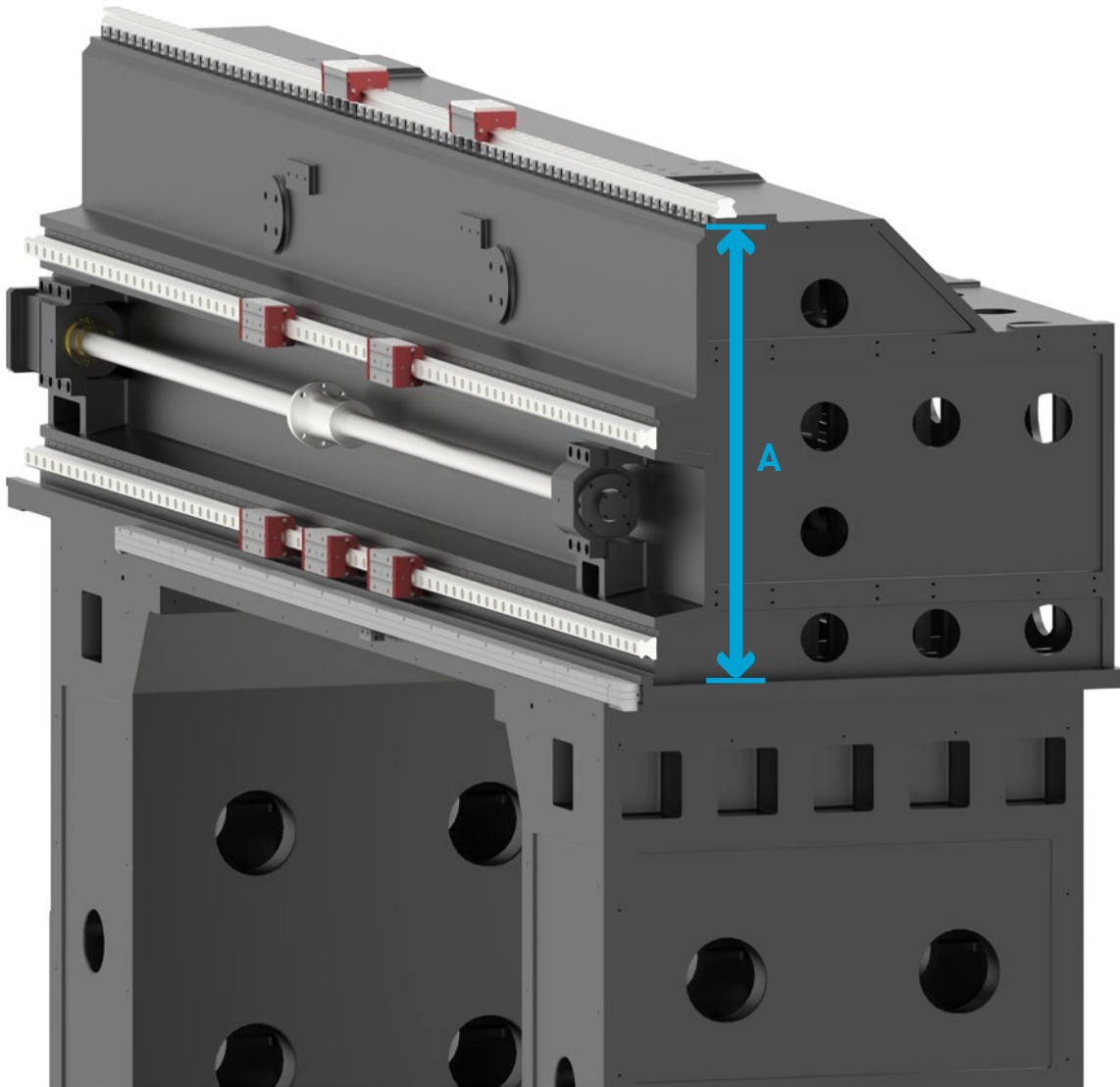


# HIGH RIGIDITY BED STRUCTURE

- 4 linear guideways on Z axis ensure high rigidity and high accuracy
- Z axis designed with dual drive technology two ballscrews for high dynamic machining



- 3 linear guideways on Y axis
- Height of A and B nearly same with Z axis travel



# HIGH STABILITY BASE

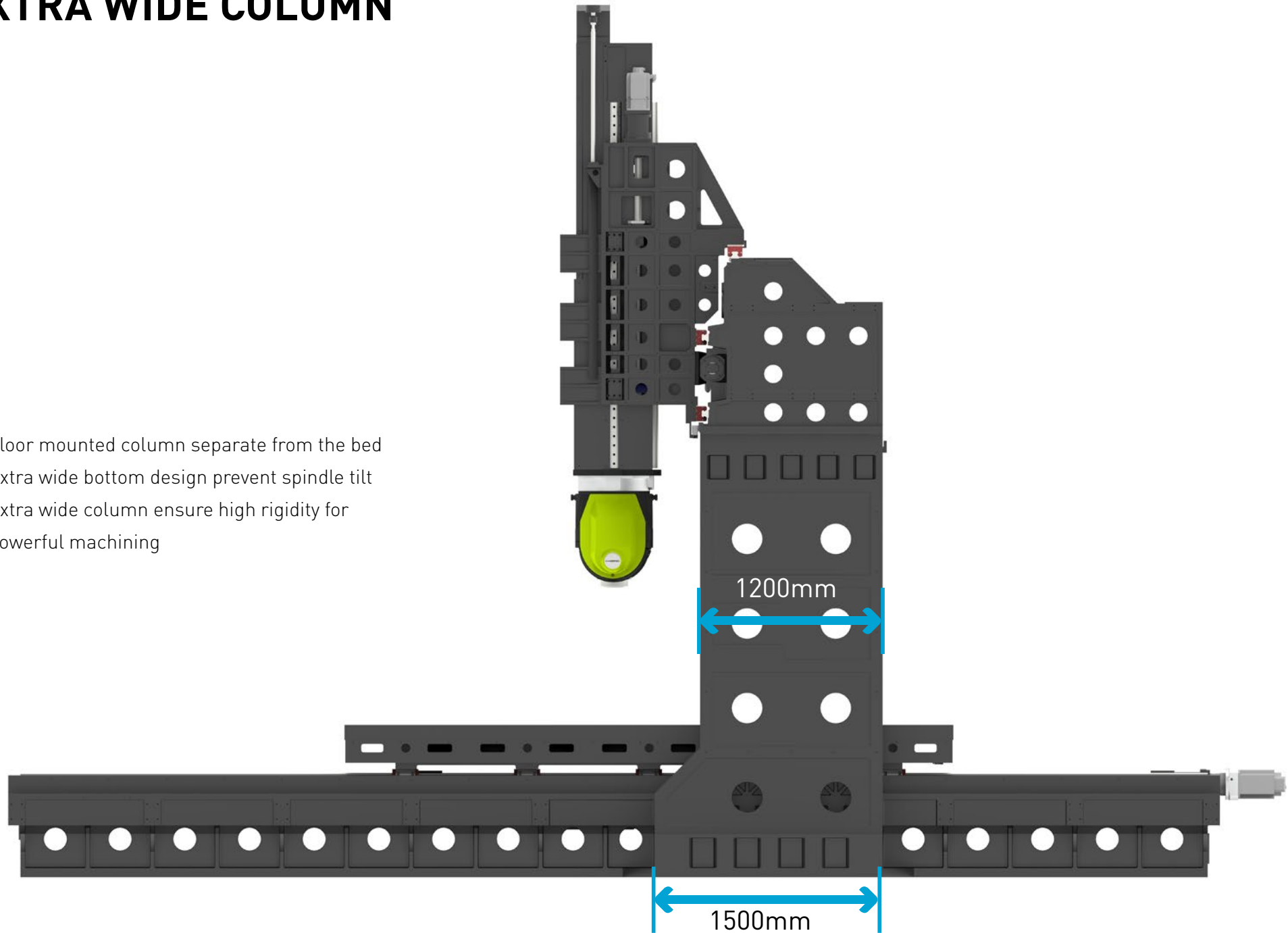
- X axis designed with 3 linear guideways and 15 blocks providing structural stability without deformation for working table





# EXTRA WIDE COLUMN

- Floor mounted column separate from the bed
- Extra wide bottom design prevent spindle tilt
- Extra wide column ensure high rigidity for powerful machining



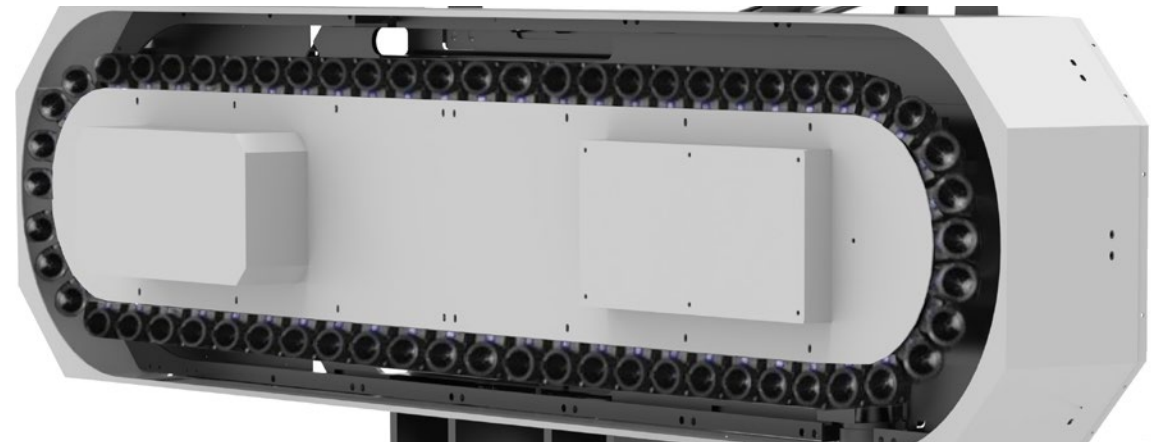
# FLOOR MOUNTED CHAIN TYPE TOOL CHANGER



- Heavy floor mounted tool changer separating with the bed ensure the stable accuracy for vibration during changing tools
- User-Friendly interface make the loading and unloading of workpiece easier
- High production efficiency

## Technical Specification

- ✓ 60 pockets HSK A100
- ✓ Max.tool length 400 mm
- ✓ Max.tool diameter  $\Phi 125/\Phi 250\text{mm}$ (next release)
- ✓ Max.tool weight 16 kg



# BLUM MEASURING SYSTEM

## Universal High-Speed touch probe with multidirectional measuring mechanism

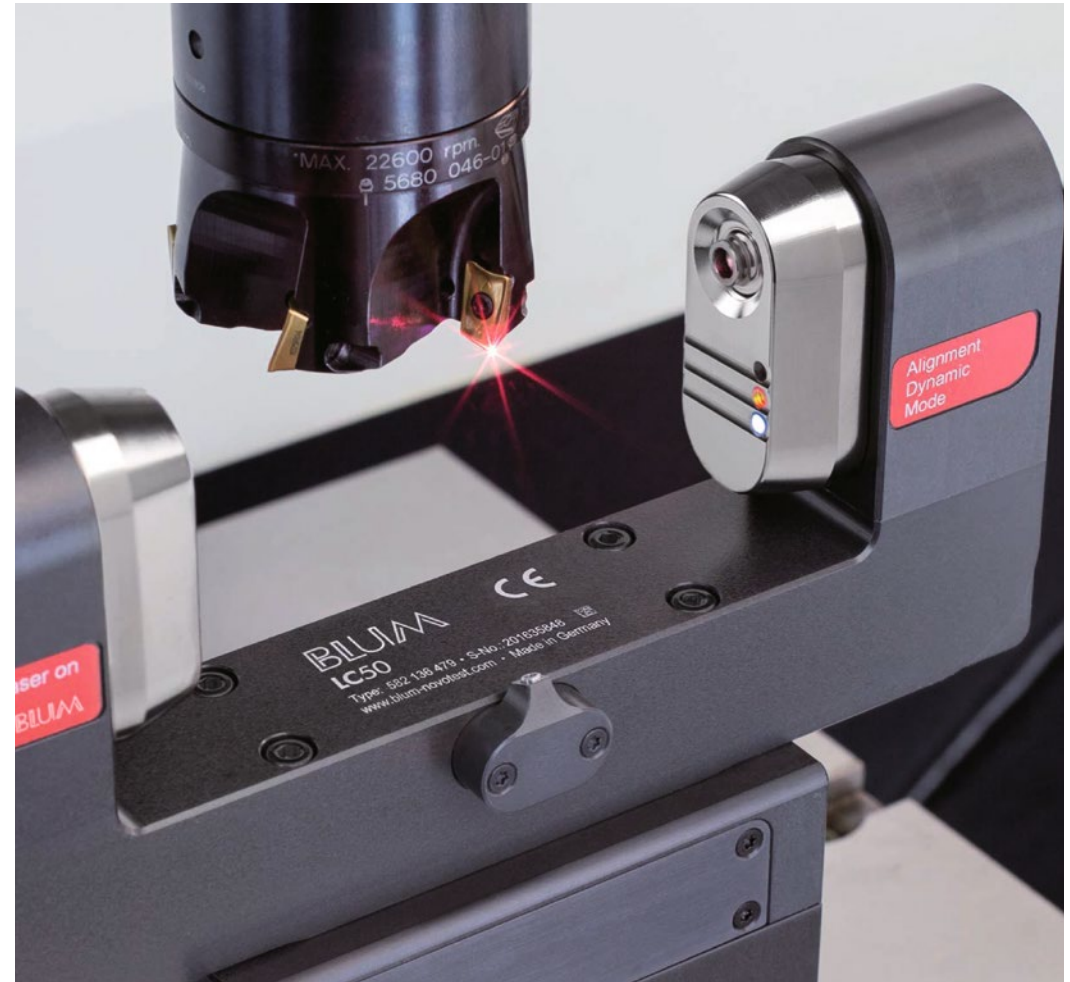
- ✓ Detection of workpiece position
- ✓ Correction of workpiece orientation
- ✓ Thermal compensation of the machine tool
- ✓ Contour measurement

### Your benefit:

- ✓ Measuring speed up to 3 m/min
- ✓ Precise, non-lobing touch characteristics
- ✓ No-wear, optoelectronic measuring mechanism
- ✓ Use of two measuring systems with one IR receiver
- ✓ Extended battery life
- ✓ Precise measurement even with coolant
- ✓ Proven and robust design

### Highlights

- ✓ Proven high-precision laser measuring system;
- ✓ Non-contact, optical tool measurement;
- ✓ 100 % reliable due to BLUM protection system





# HEIDENHAIN TNC 640

The TNC contouring control for milling and milling-turning machines

## Key features:

### Intelligent-Dynamic Precision Machining

- ✓ Dynamic Collision Monitoring (DCM)
- ✓ Dynamic Efficiency
- ✓ Active Chatter Control (ACC)
- ✓ Adaptive feed control (AFC)
- ✓ Machine any contour slot with trochoidal milling

### Fast and reliable machining at high contour fidelity

- ✓ Optimal tool guidance by the TNC 640

### Programming, Editing, Testing and Automated machining

- ✓ A full range of possibilities with the TNC 640
- ✓ Graphical support in any scenario
- ✓ Straightforward function keys for complex contours
- ✓ Programming free contours and Data Matrix codes
- ✓ Easy calibration of rotary axes with KinematicsOpt

### Tool measurement and Workpiece measurement

- ✓ Measuring length, radius, and wear inside the machine
- ✓ Setup, preset setting, and measuring with touch trigger probes
- ✓ Machining and measuring 3-D contours
- ✓ The TNC 640 makes setup easy

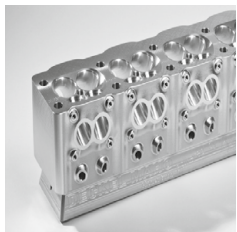
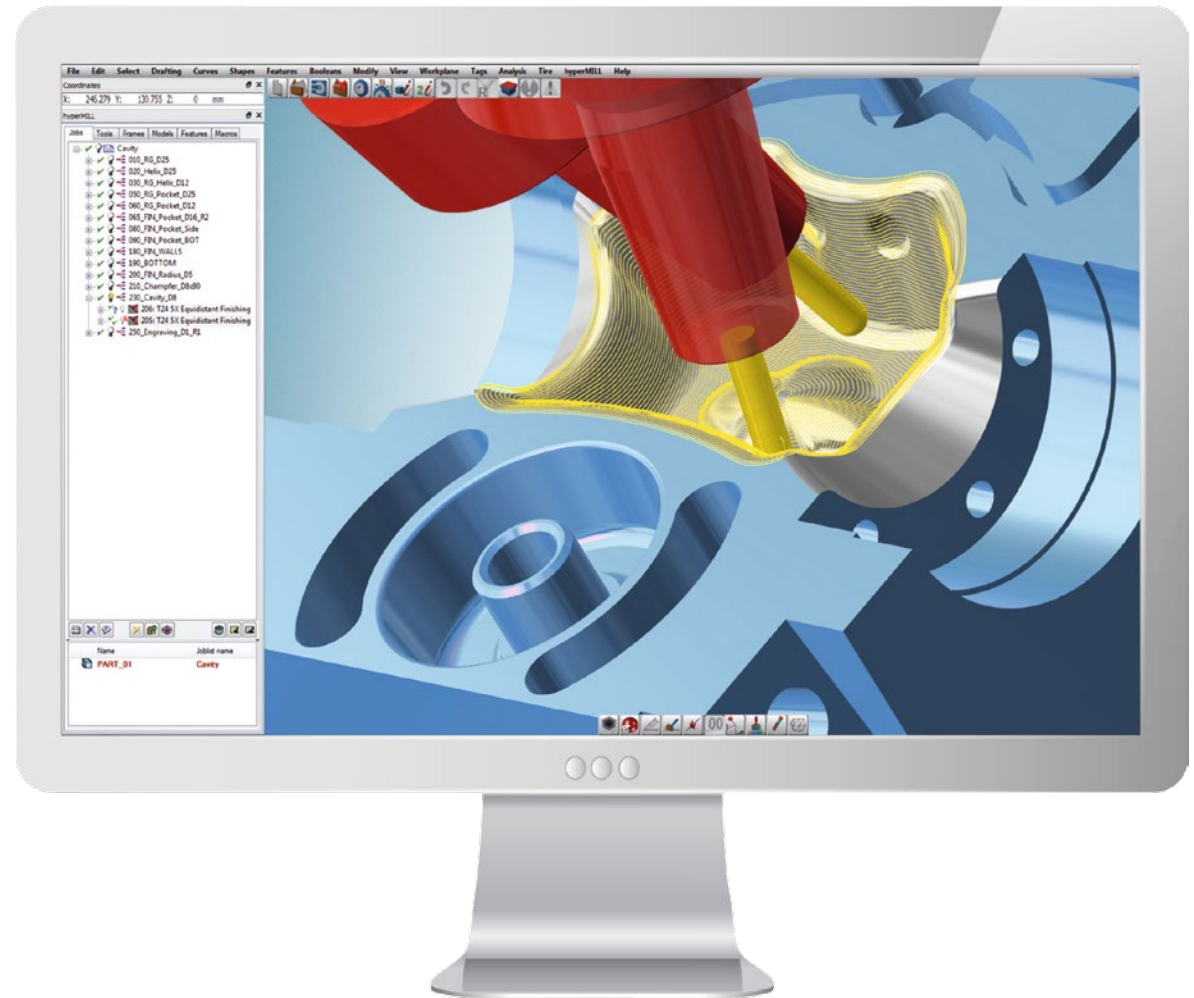
### Open to outside information

- ✓ Processing CAD files with the TNC 640
- ✓ The TNC 640 programming station
- ✓ Uniformly digital job management with Connected Machining and measuring 3-D contours
- ✓ The TNC 640 makes setup easy

**hyperMILL® is the high-performance, complete CAM solution from OPEN MIND. 2.5D, 3D, 5-axis milling and mill/turn tasks can be programmed perfectly and precisely with hyperMILL®.**

## Benefits

- ✓ CAM strategies that are easy to operate
- ✓ Comprehensive range of machining operations for simple to complex components
- ✓ The world's leading 5-axis technology
- ✓ One postprocessor for all milling and turning operations
- ✓ Extensive automation
- ✓ Integration in leading CAD systems
- ✓ Reliable processes thanks to true-to-detail simulation and comprehensive collision control
- ✓ State-of-the-art CAD/CAM technologies for optimal programming and manufacturing
- ✓ Continuous and efficient processes, reduced processing times and extremely high level of reliability
- ✓ Gets the most out of machine tools.



# TECHNICAL SPECIFICATIONS

Technical Specifications		GT428-5X		
<b>Table</b>				
Table size	4000×2400 mm			
T-slot (width x number x distance)	28×11×200 mm			
Max. load	12000 kg			
<b>Travel</b>				
X/Y/Z Travel	4200/3300/1200 mm			
Distance between columns	2800 mm			
<b>A/C Head</b>		<b>Model L</b>	<b>Model XL</b>	<b>Model S</b>
A/C Travel	±115° / 360°	±110° / ±250°	±108° / ±270°	
A/C Clamping torque	10500/5400 Nm	8000/8000 Nm	1800/2000 Nm	
Spindle taper	HSK A100	HSK A100	HSK A100	
Spindle motor power	50/61 kW	40/47 kW	40/50 kW	
Spindle motor torque	160/193 Nm	248/293 Nm	103/129 Nm	
Spindle speed	15000 rpm	12000 rpm	15000 rpm	
Spindle nose to table	80-1280 mm	-40-1160 mm	85-1285 mm	
90°spindle center line to table	363-1563 mm	310-1510 mm	452.5-1652.5 mm	
<b>Feed</b>				
Rapid feed X/Y/Z	20 m/min			
Cutting feed X/Y/Z	1-12000 mm/min			
Max. speed A/C Axis	50 rpm			
<b>Tool changer</b>				
Number of tools	60 pcs			
Max. tool length	400 mm			
Max. tool diameter	Φ125 / Φ250 mm			
Max. tool weight	16 kg			
<b>Accuracy(VDI 3441 Full travel)</b>				
Positioning accuracy	0.020/0.015/0.010 mm(X/Y/Z); 6/8 arc-sec(A/C)			
Repeatability accuracy	0.015/0.010/0.006 mm(X/Y/Z); 3/4 arc-sec(A/C)			
<b>Dimensions &amp; Weight</b>				
Dimensions	10250×6320×6250 mm			
Weight	52000 kg			

# STANDARD /OPTIONAL CONFIGURATION

● Standard ○ Optional

Configurations	Standard	Optional
Direct drive AC head	●	
Full enclosed splash guard	●	
Chip conveyor (two screw type and one chain type)	●	
Linear scales on X/Y/Z axis, rotary encoder on A/C axis	●	
60 pockets chain type tool changer	●	
High precision spindle water cooler	●	
Model L AC head,built-in spindle HSK A100 15000 rpm__50/61kW_160/193Nm	●	
Model XL AC head,built-in spindle HSK A100 12000 rpm__40/47kW_248/293Nm		○
Model S AC head,built-in spindle HSK A100 15000 rpm__40/50kW_103/129Nm		○
CTS Coolant through spindle + ATS		○
Tool probe		○
Workpiece probe		○
Oil skimmer		○
Kinematics		○
Dynamic Collision Monitoring (DCM)		○
Extra 200GB SSD program memory		○
Rigid tapping	●	
Air-conditioned electrical cabinet	●	
Ethernet, CF card and USB interface	●	
Automatic lubrication system	●	
Coolant system	●	
LED working lamp	●	
End of program light	●	
Electronic handwheel (MPG)	●	
Tool box	●	
Leveling bolts and blocks	●	
Coolant gun	●	
Air gun	●	
User Manual	●	

# OPTIONS



Tool and workpiece probe



CTS coolant through spindle



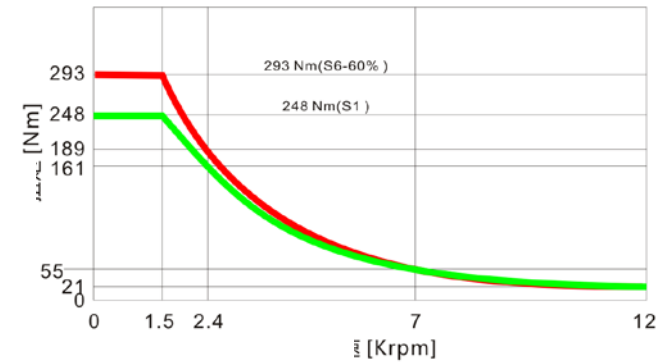
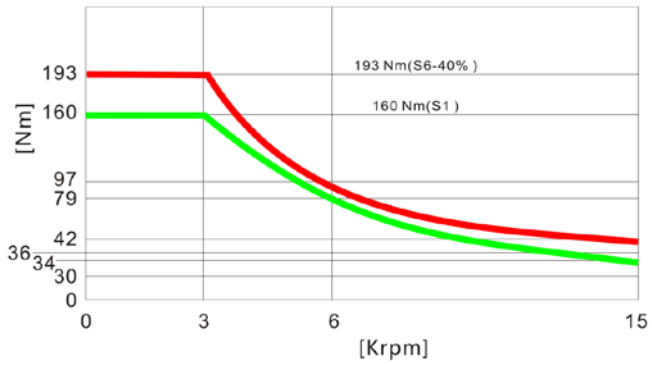
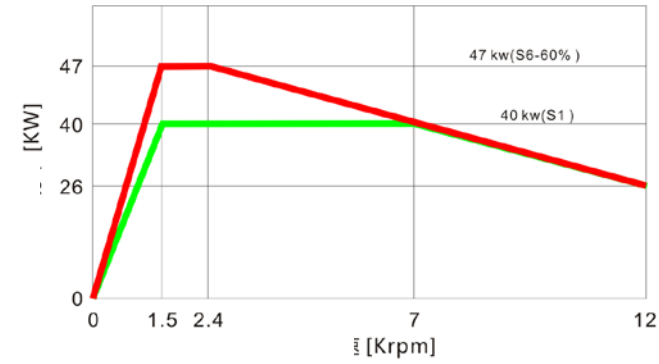
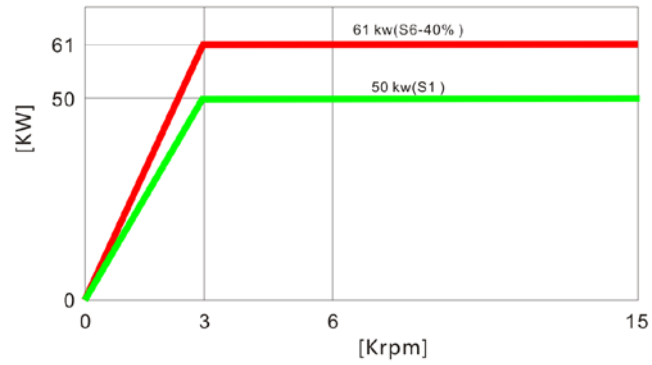
Oil skimmer



Visiport

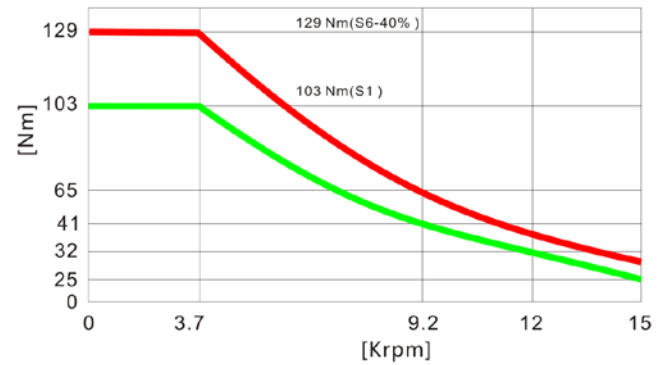
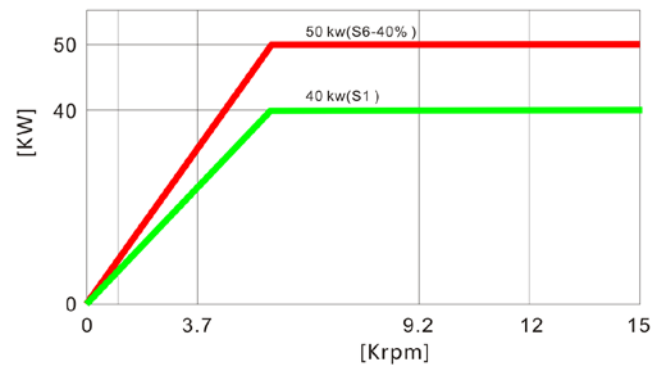


# TORQUE DIAGRAM



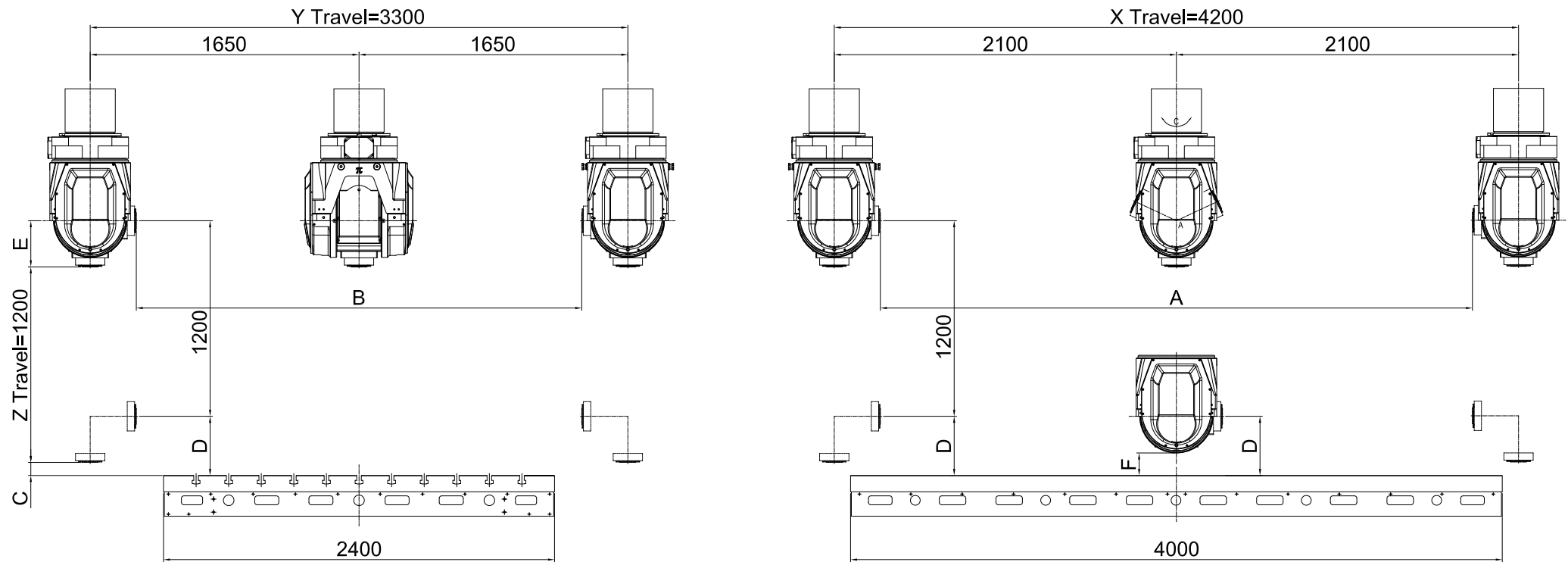
**Model L-15000rpm-HSK A100**

**Model XL-12000rpm-HSK A100**



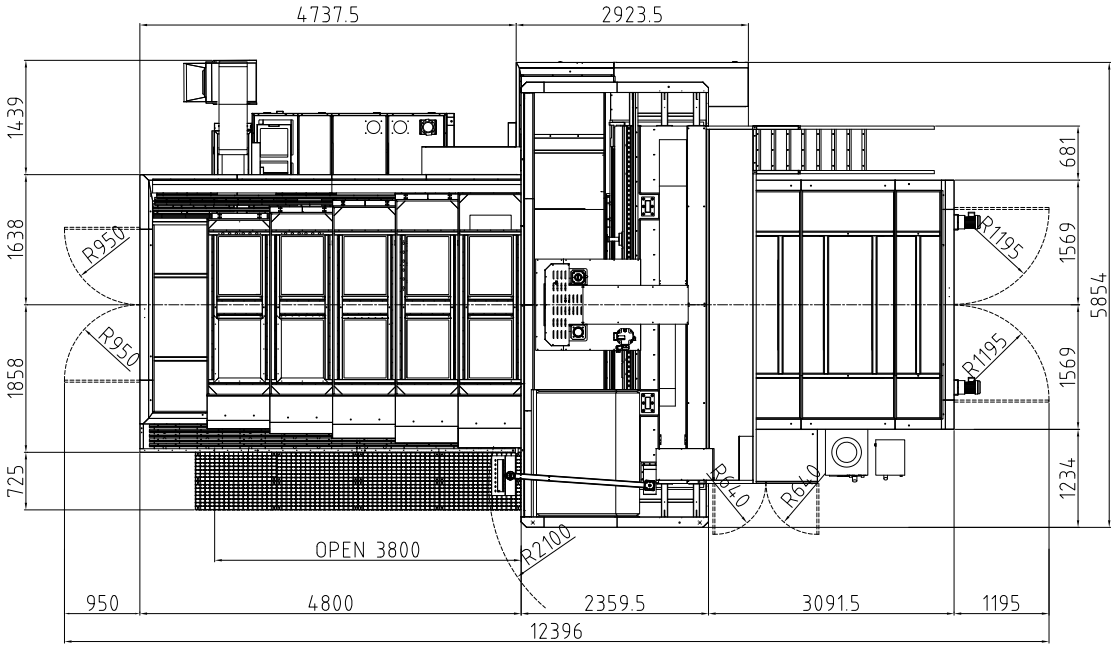
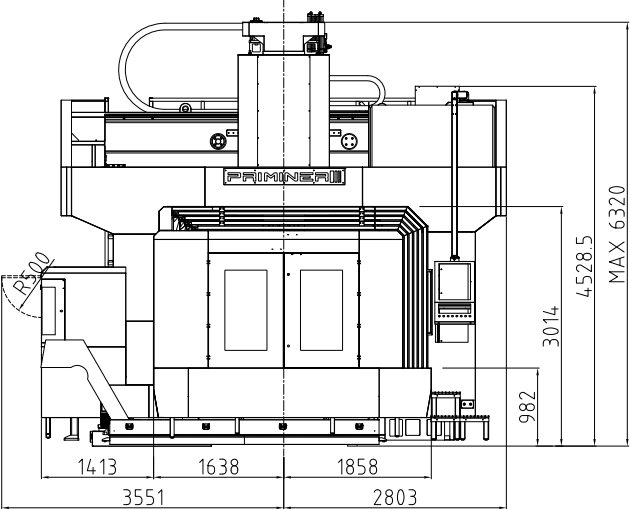
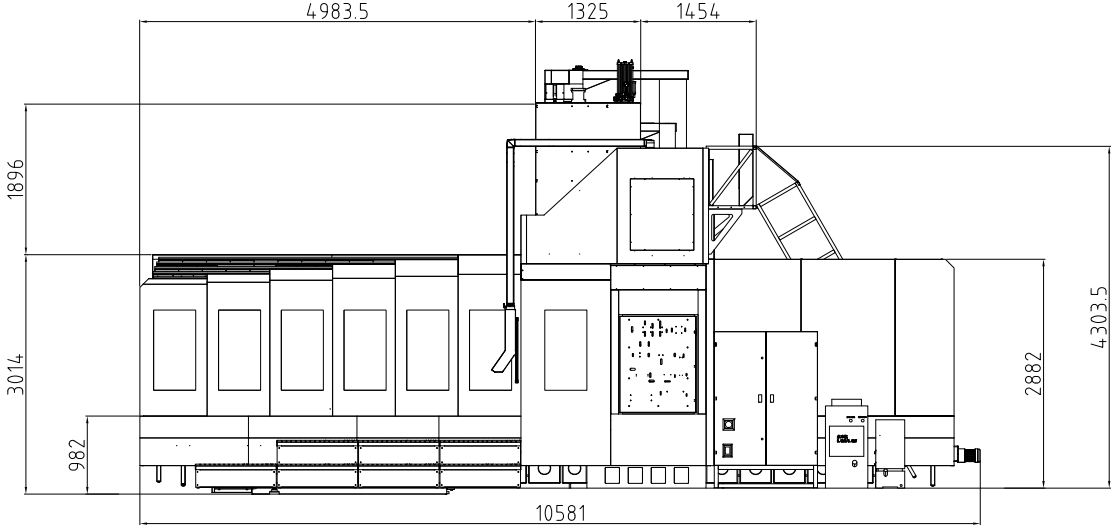
**Model S-15000rpm-HSK A100**

# CUTTING AREA



A/C head	A	B	C	D	E	F
Model L	3634mm	2734mm	80mm	363mm	283mm	138mm
Model XL	3500mm	2600mm	-40mm	310mm	350mm	70mm
Model S	3465mm	2565mm	85mm	452.5mm	367.5mm	282.5mm

# DIMENSIONS

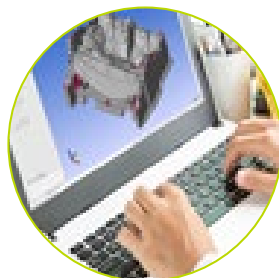






# IMINER Global TEAM

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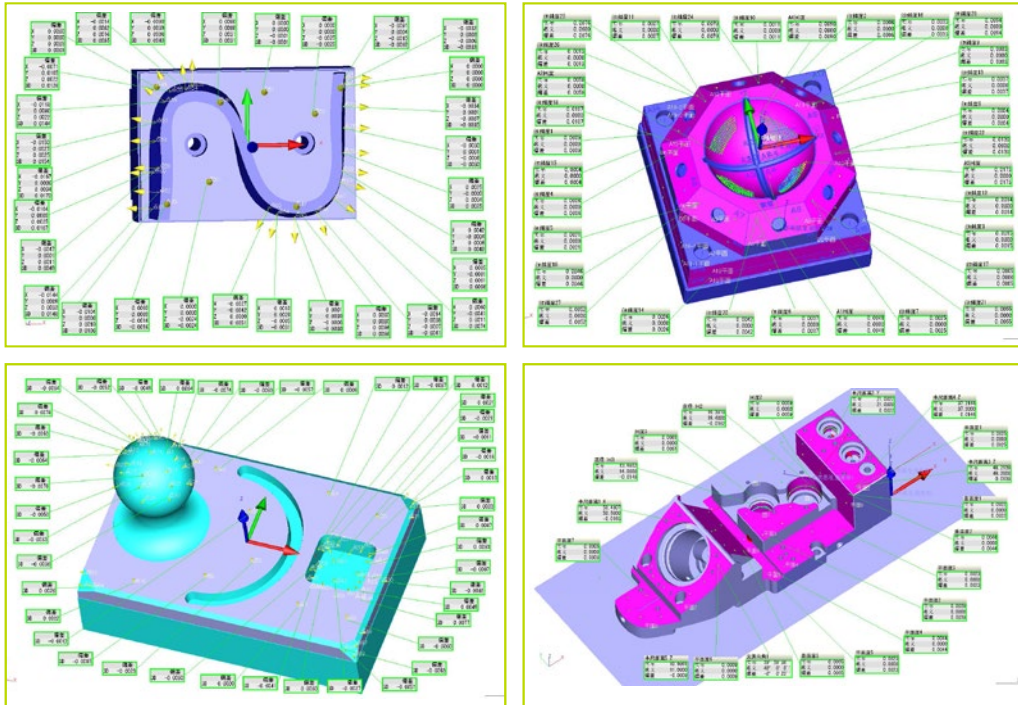
REGO-FIX▲



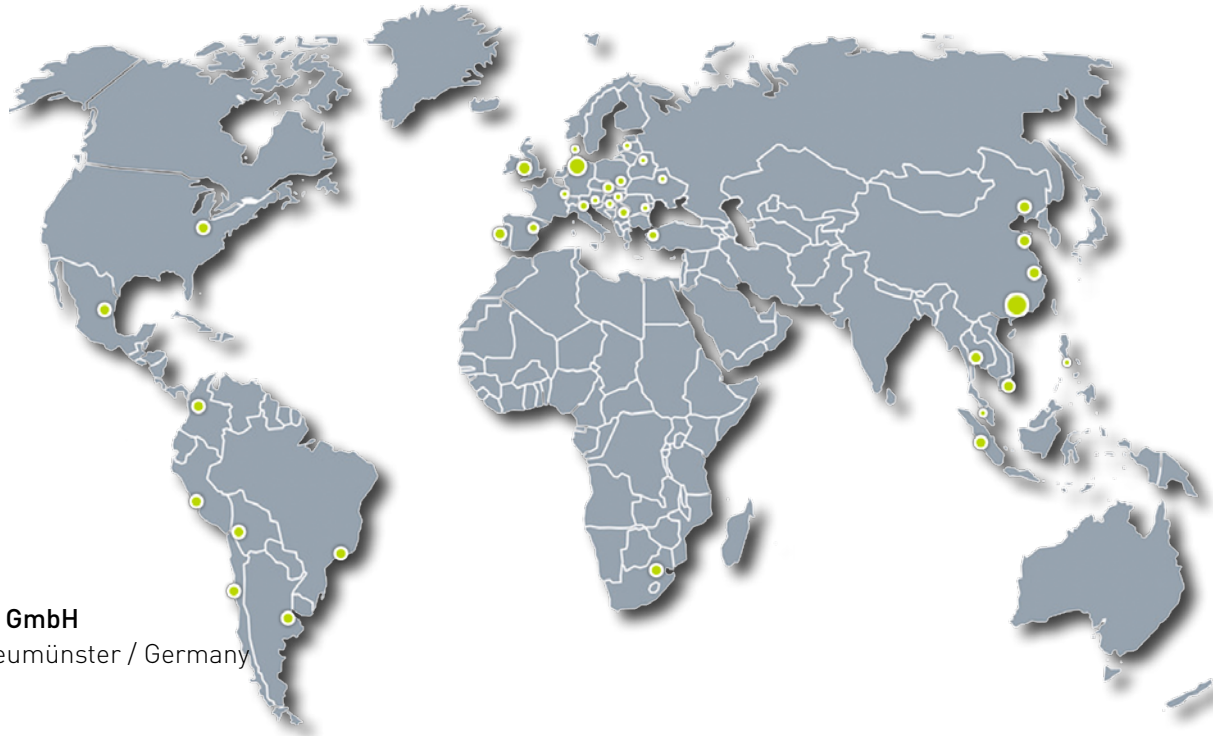
BLUM  
focus on productivity



Workpiece measuring by CMM



# PRIMINER



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