

PRIMINER



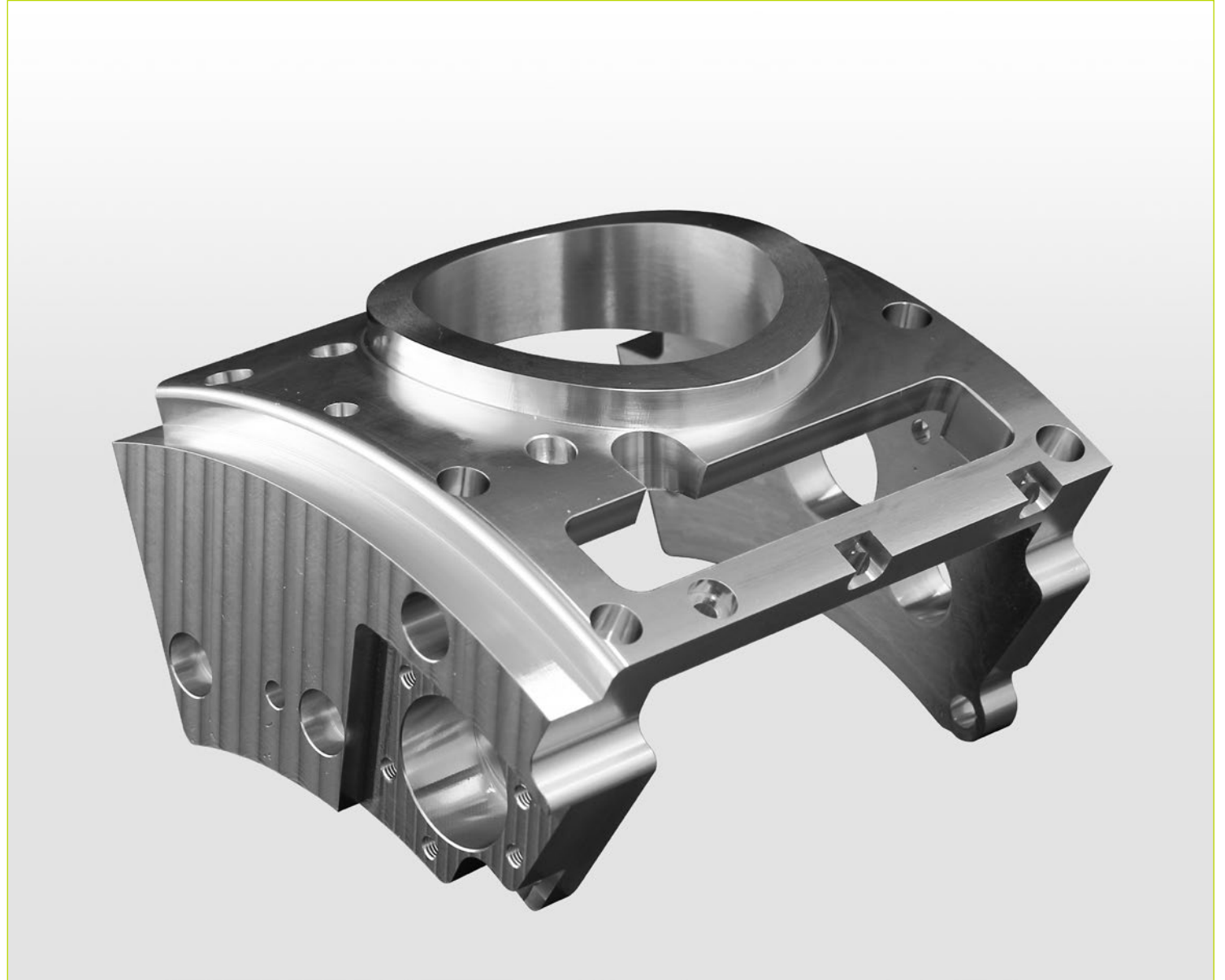
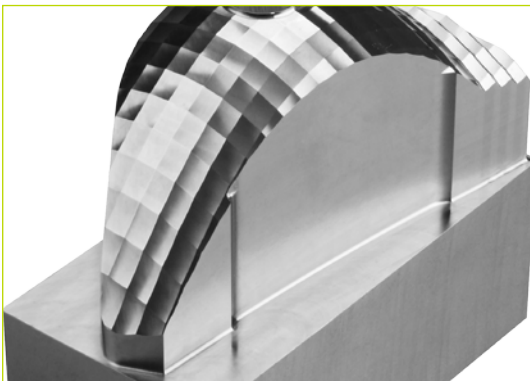
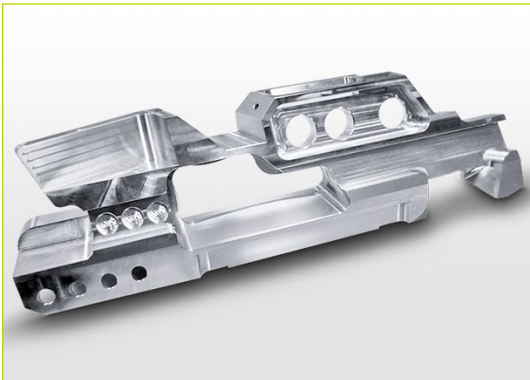
U500-5X

5 Axis Gantry Type Machining Center

High precision, High speed



APPLICATIONS



- Mold
- Medical



- Die casting
- Tooling



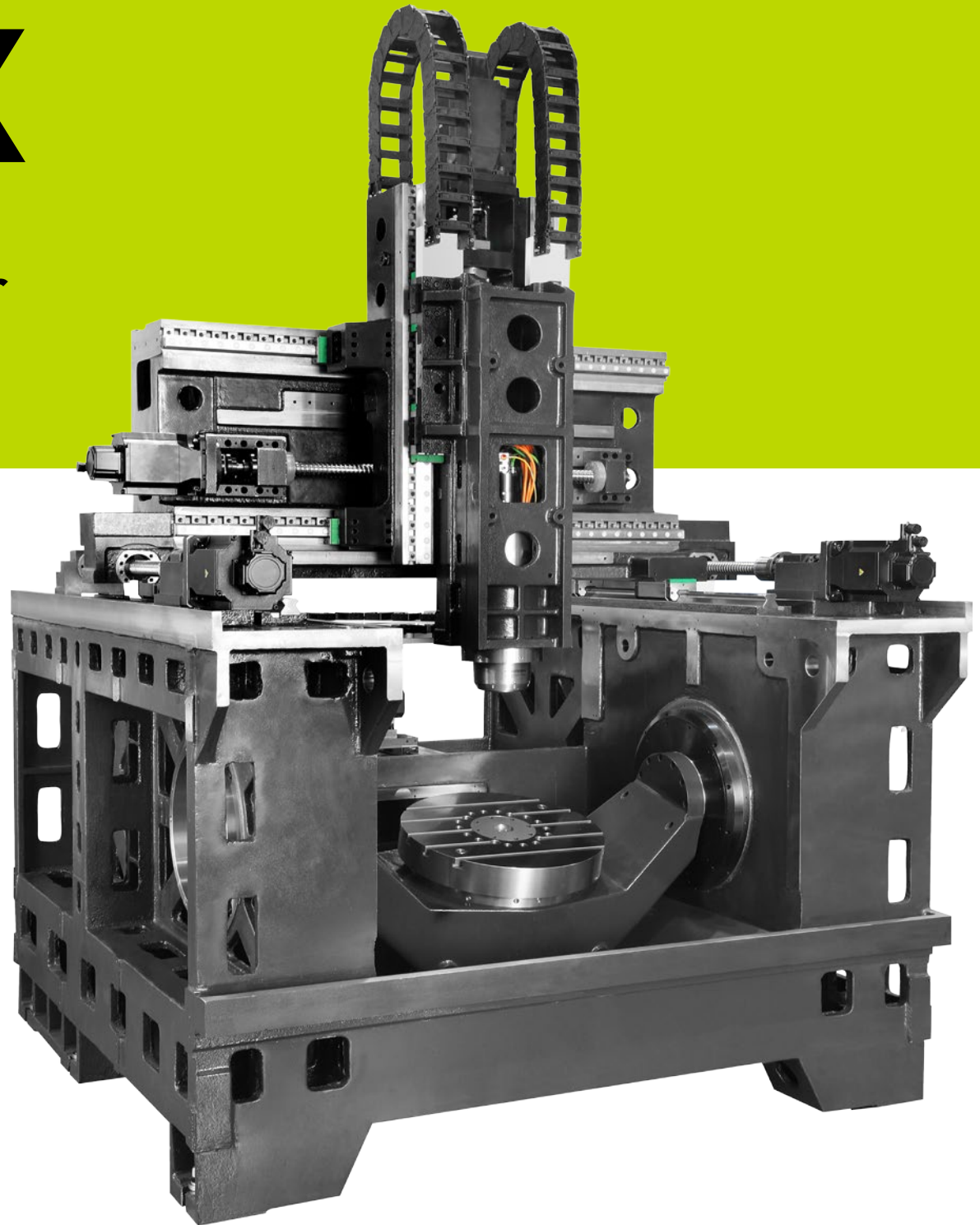
- Machine construction
- Aerospace



U500-5X

Highest precision with
optimized gantry design for
ultimate 5 axis machining

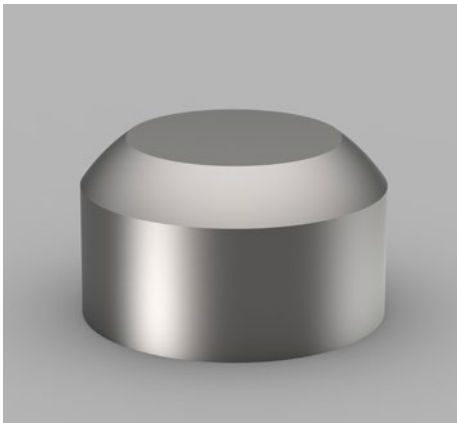
- Gantry design
- XYZ axis movement are separated from the machining area
- Dual drive system on Y axis to ensure the best dynamic
- A/C axis with direct drive by high performance torque motor
- XYZ axis standard with Heidenhain Direct measuring system
- A/C axis standard with Heidenhain rotary encoder
- Compact design with Minimum floor plan area



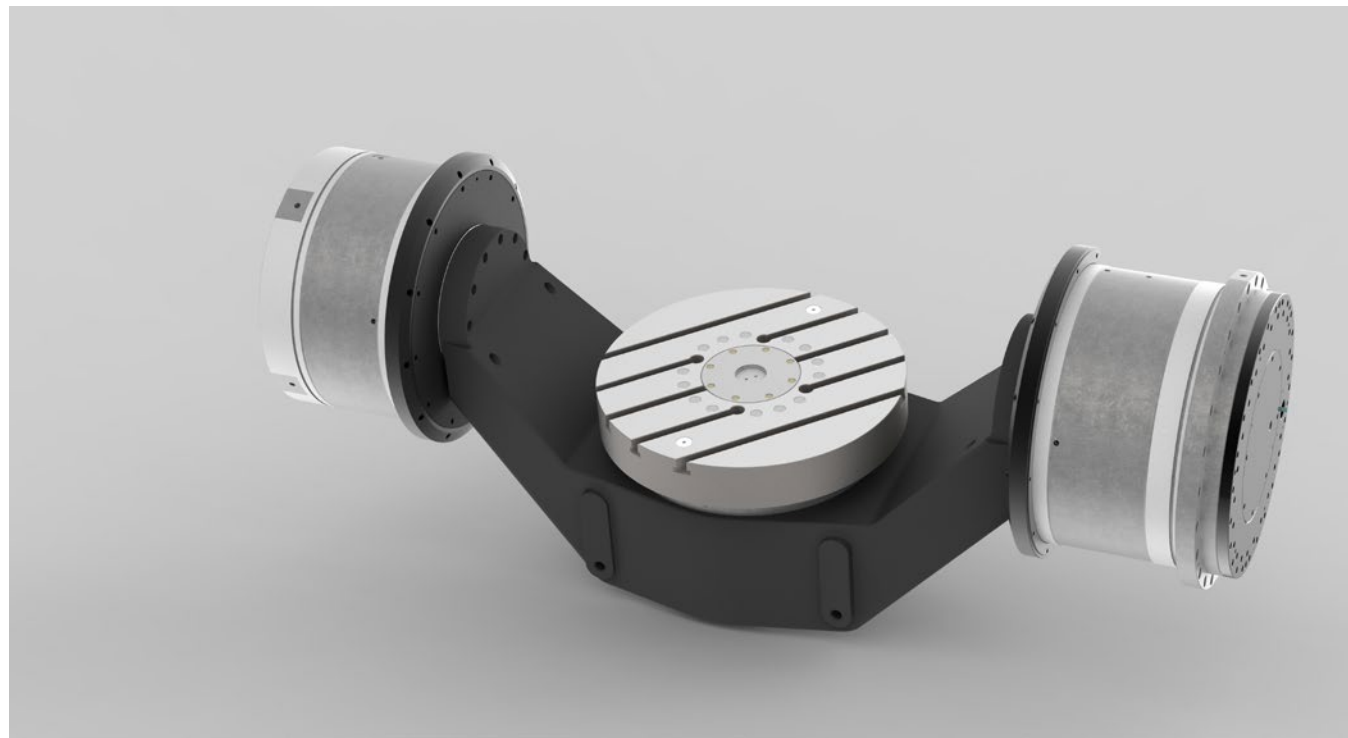
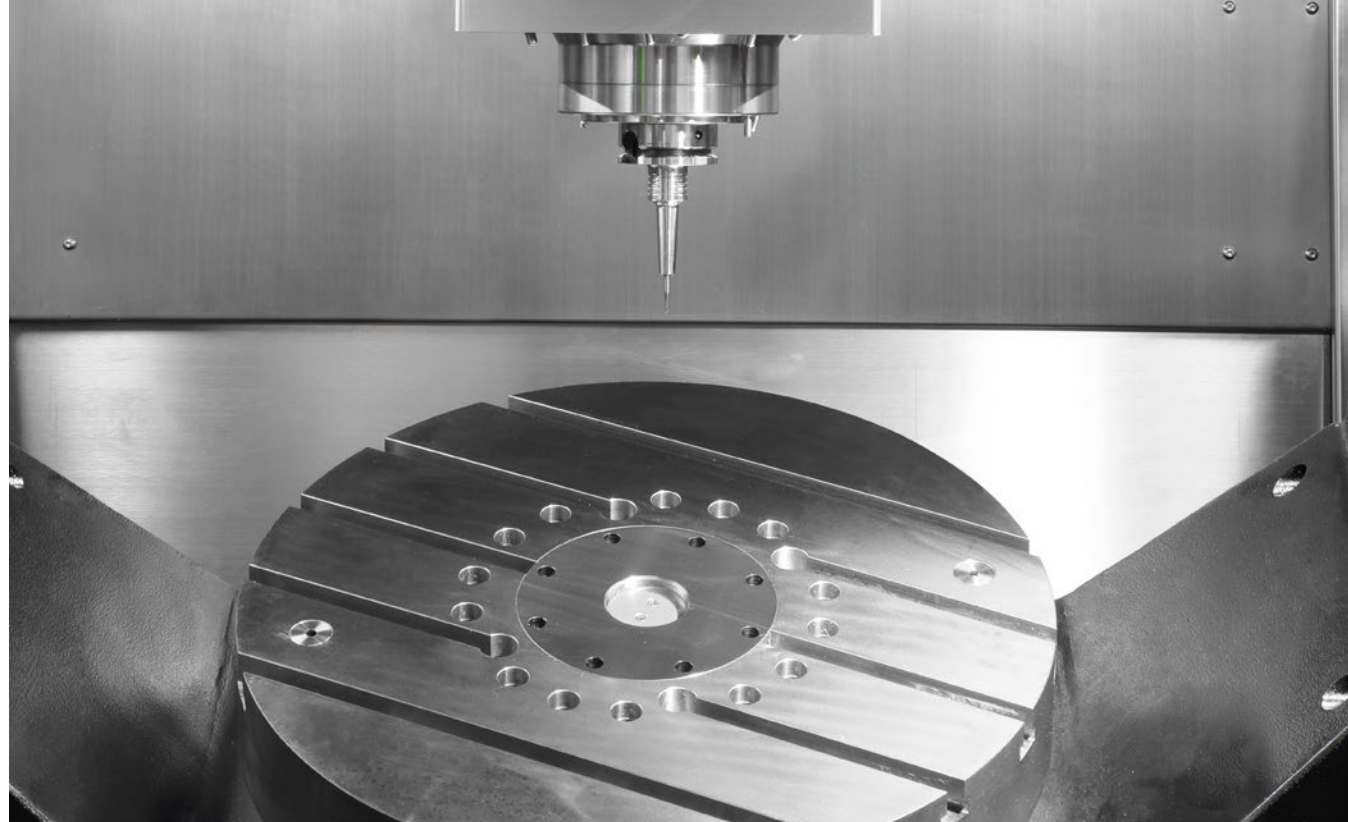
DIRECT DRIVE TORQUE MOTOR ON A/C AXIS

- Direct drive servo motor in A/C axes
- A axis rotation speed 100 rpm
- C axis rotation speed 170 rpm
- A axis travel $+30^{\circ} \sim -110^{\circ}$
- C axis travel $\pm 360^{\circ}$

Machining dimensions

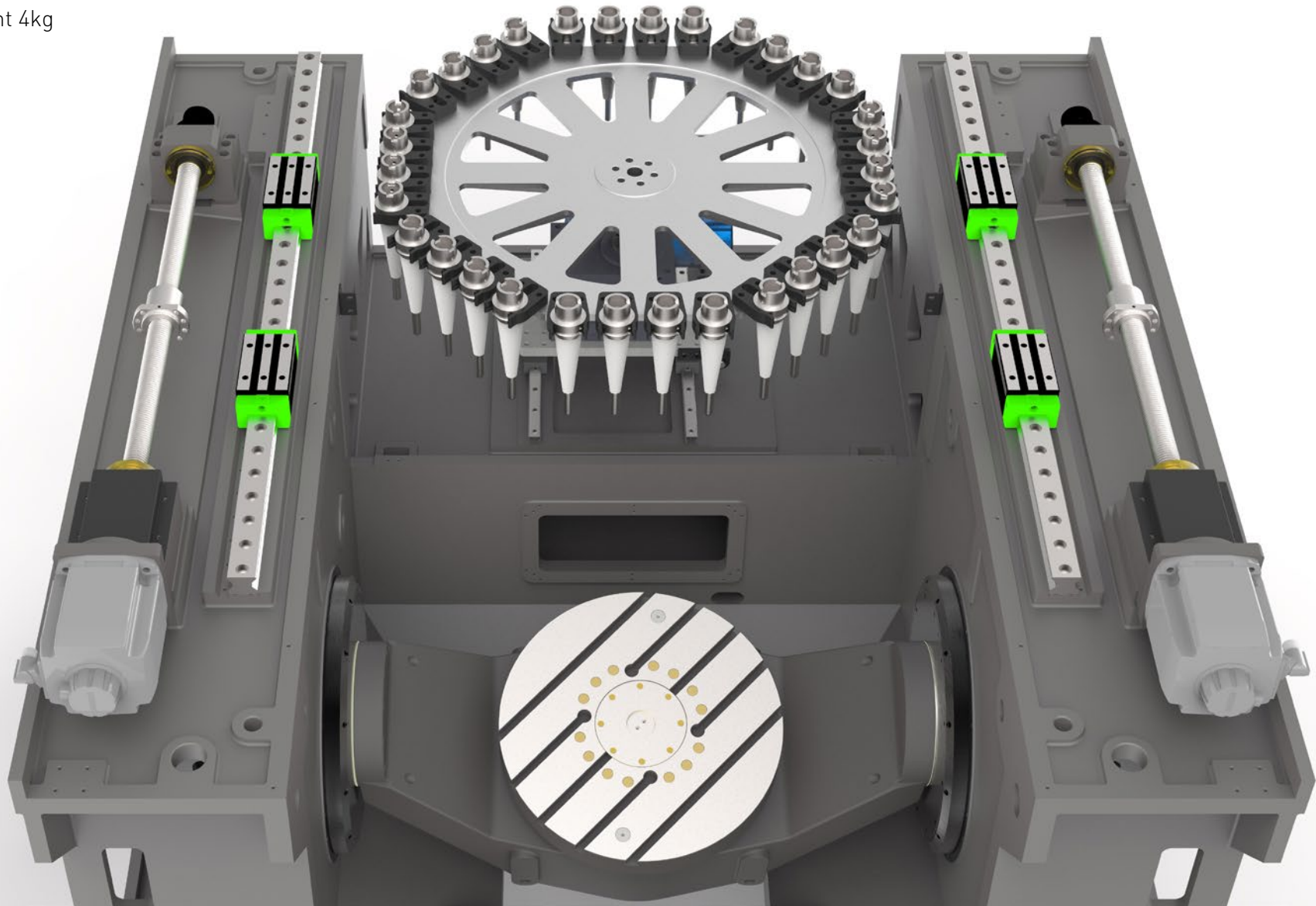


- Max. diameter 700 mm
- Max.height 400 mm
- Max.weight 500 kg

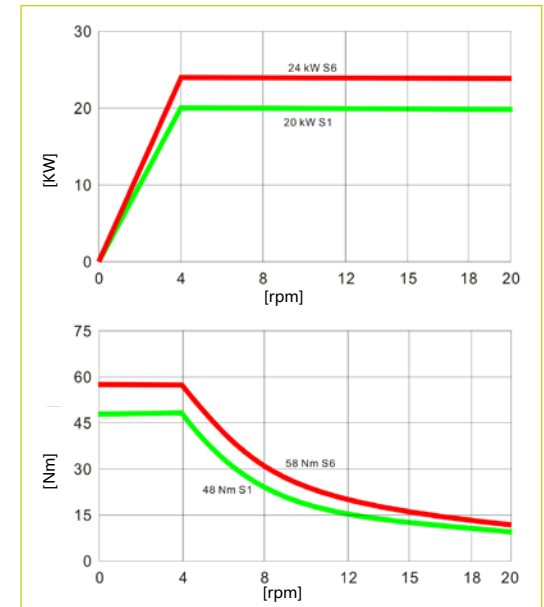


STANDARD WITH 32 POCKETS TOOL CHANGER

- Max.tool length 250 mm
- Max.tool diameter 63 mm
- Max.tool weight 4kg



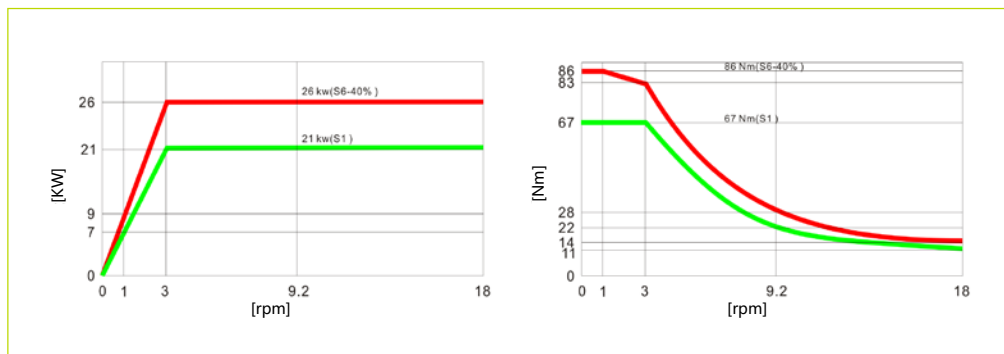
HIGH-PERFORMANCE SPINDLE



HSK A63 · 20000 rpm

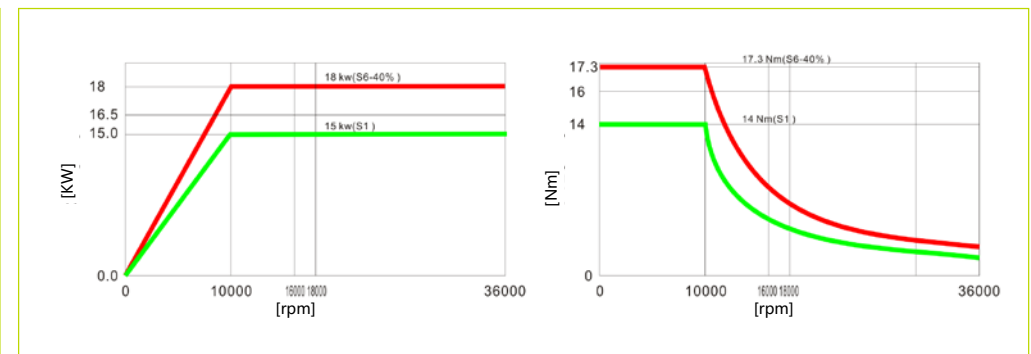
20/24 kW 48/58 Nm

Torque Diagram



HSK A63 · 18000 rpm

21/26 kW 67/86 Nm



HSK E50 · 36000 rpm

15/18 kW 14/17.3 Nm



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
- ✓ The TNC 640 makes setup easy

SIEMENS SINUMERIK ONE

Platforms and digitalization drive innovations

- ✓ Reduction of time to market
- ✓ Further individualization in mechanical engineering
- ✓ High quality and best possible availability
- ✓ Defined precision and increased productivity
- ✓ Safety of man and machine and security of individual property in the digital age
- ✓ High-performance processor and communication technologies
- ✓ Scalable intelligent control and drive technology
- ✓ Best safety and security standards
- ✓ Innovative digital engineering

An integrated solution along the entire value chain raises new potentials for machine builders and users

- ✓ The digital native CNC
- ✓ Development from VIRTUAL to REAL
- ✓ Scalable in VIRTUAL and REAL
- ✓ Intelligent and highly productive
- ✓ Digital Transformation of machine tools
- ✓ Maximize productivity
- ✓ Innovate faster
- ✓ Excite digitalization
- ✓ Discover a new way of thinking

Platforms and digitalization drive innovations

- ✓ Top Speed plus
- ✓ Intelligent Load Control
- ✓ Intelligent Dynamic Control
- ✓ Interpolation turning
- ✓ Configured stop
- ✓ Angle head adapter
- ✓ Identify tool demand



Standard configuration:

- Full enclosed splash guard
- Built-in spindle HSK A63 20000 rpm
- 32 pockets tool changer
- Chain type chip conveyor
- Air-conditioned electrical cabinet
- High precision spindle water cooler
- Linear scales on X/Y/Z axis
- Rotary encoder on AC axis
- Rigid tapping
- Ethernet ,CF card and USB interface
- Centralized automatic grease lubrication system
- Coolant system
- Air blast during cutting
- LED working lamp
- End of program light
- Electronic handwheel(MPG)
- Tool box
- Leveling bolts and blocks
- Coolant gun
- Air gun
- User Manual

Optional configuration:

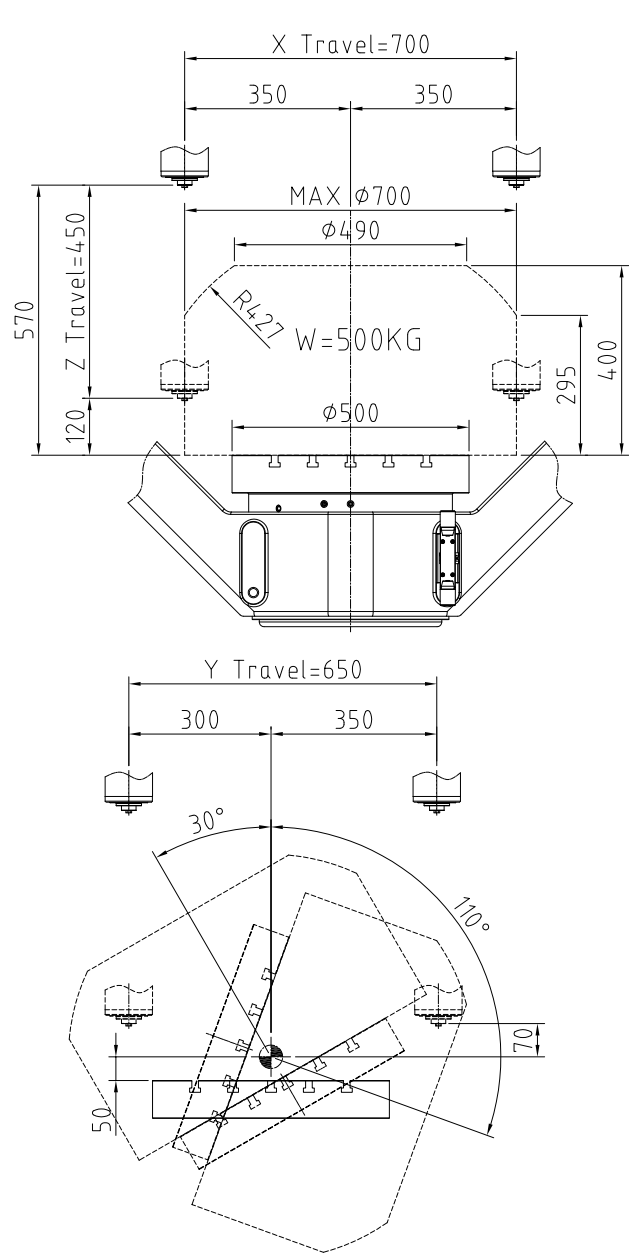
- Built-in spindle HSK A63 18000 rpm
- Built-in spindle HSK E50 36000 rpm
- CTS Coolant through spindle + ATS
- Oil cooling through ballscrew
- Workpiece probe
- Tool probe
- Dynamic Collision
- Monitoring(DCM)
- Kinematics
- Oil mist collector
- Minimum Quantity Lubrication system

Technical Specifications

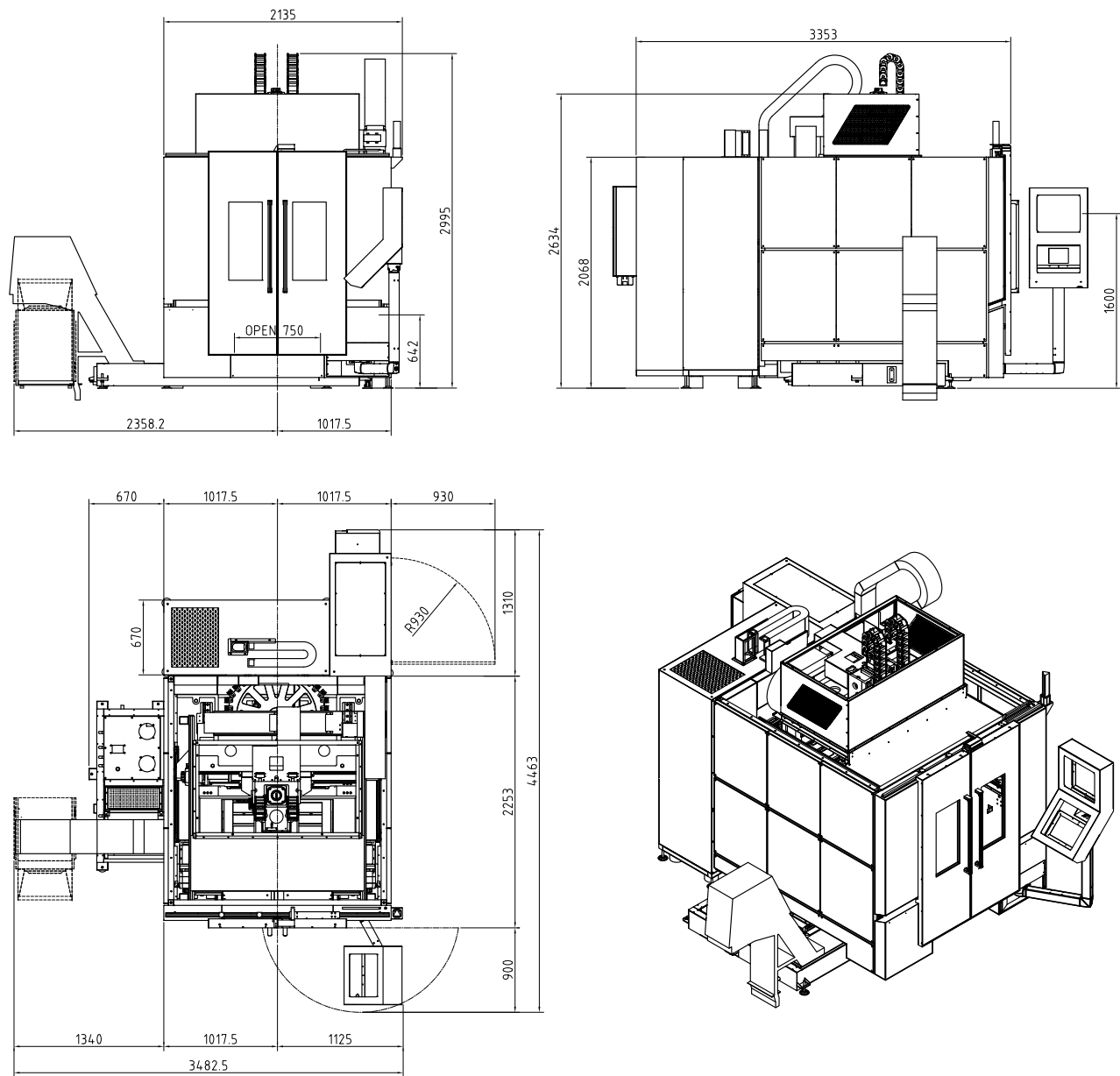
Table	U500-5X		
Max. workpiece diameter	Φ700 mm		
Table size	Φ500 mm		
T-slot (width x number x distance)	14 x 5 x 80 mm		
Max. load	500 kg		
Travel			
X/Y/Z Travel	700 / 650 / 450 mm		
A/C Travel	+30° ~ -110° / 360° deg		
Spindle			
Spindle taper	HSK A63	HSK A63	HSK E50
Spindle motor power	21 / 26 kW	20 / 24 kW	15 / 18 kW
Spindle motor torque	67 / 86 Nm	48 / 58 Nm	14 / 17.3 Nm
Spindle speed	18000 rpm	20000 rpm	36000 rpm
Spindle nose to table	135-585 mm	110-560 mm	110-560 mm

Feed	
Rapid feed X/Y/Z	36 m/min
Rotation speed A/C	100 / 170 rpm
Cutting speed	1-12000 mm/min
Tool changer	
Number of tools	32 pcs
Max. tool length	250 mm
Max. tool diameter	Φ63 mm
Max. tool weight	4 kg
Accuracy(VDI 3441 Full travel)	
Positioning accuracy	0.006 mm (X/Y/Z) 5/3 arc-sec(A/C)
Repeatability accuracy	0.003 mm (X/Y/Z) 2.5/2 arc-sec(A/C)
Dimensions & Weight	
Dimensions	3560×3380×2995 mm
Weight	10000 kg

CUTTING AREA AND INTERFERENCE AREA



DIMENSIONS







PRIMINER Global TEAM

PRIMINER Solutions



hyperMILL
SolidCAM
The Leaders in Integrated CAM



DIJET **NS TOOL**
GÜHRING



PL LEHMANN



SCHUNK



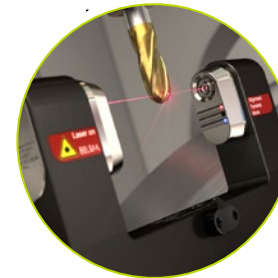
MST



Blaser.
SWISSLUBE



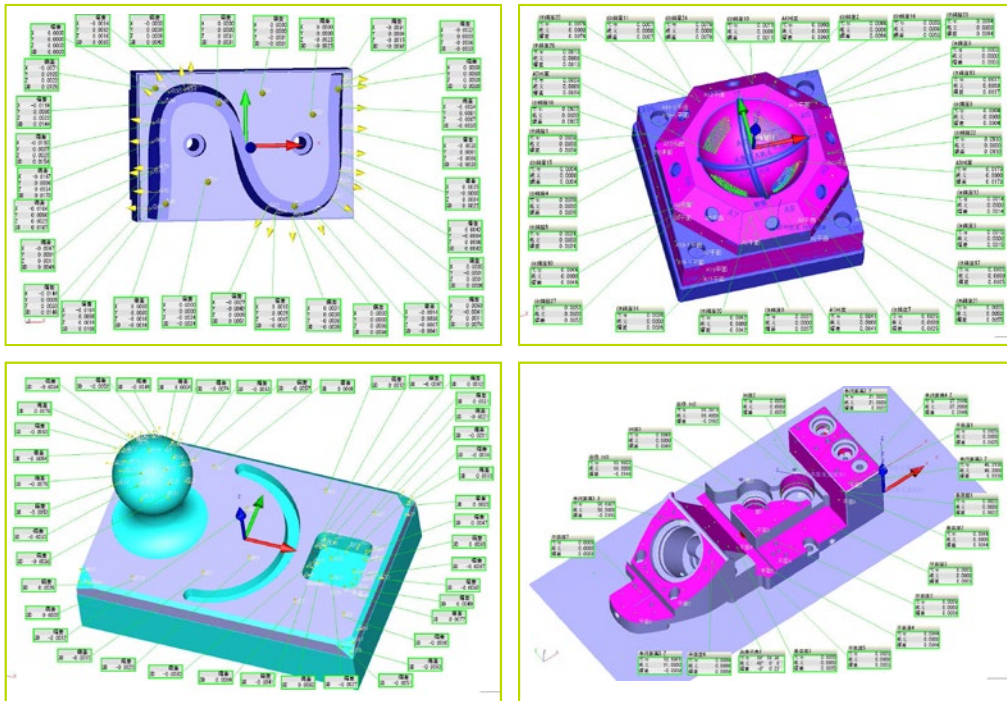
REGO-FIX

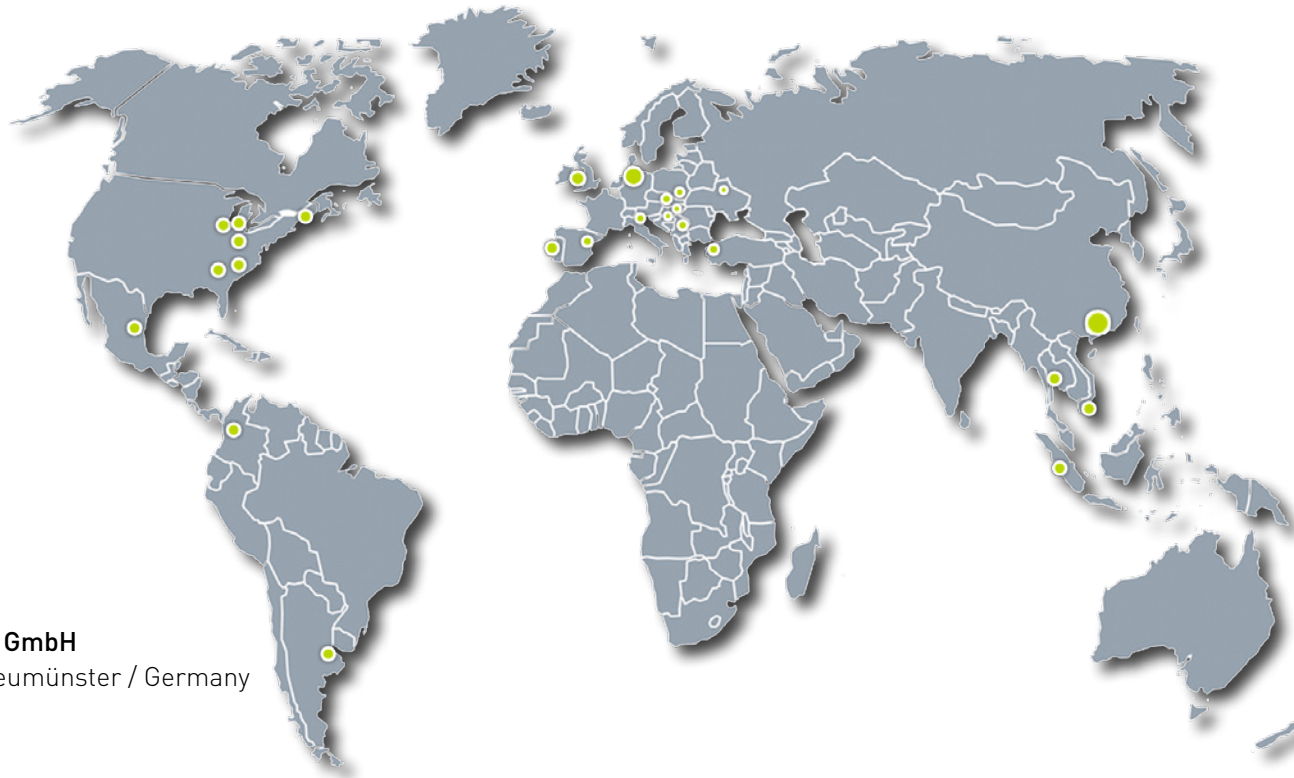


BLUM
focus on productivity



Workpiece measuring by CMM





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