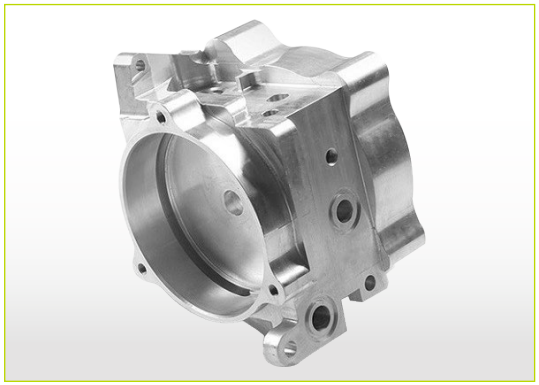
KAAST

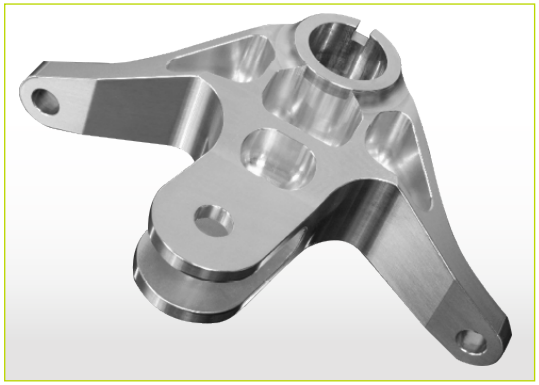
C500

5 Axis Machining Center

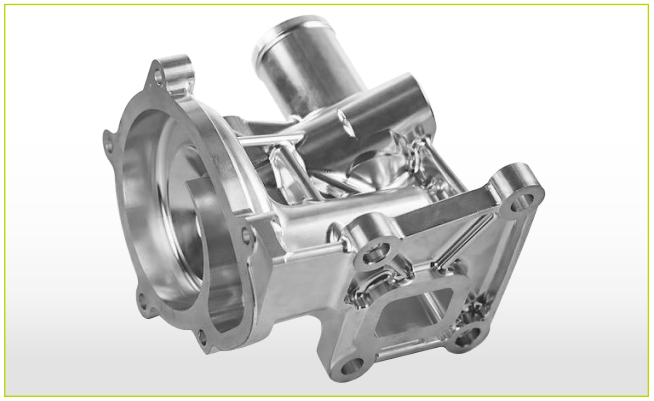
High rigidity,High efficiency

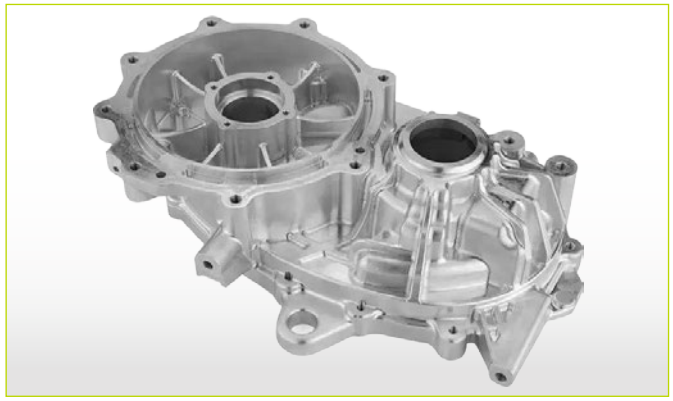
APPLICATIONS





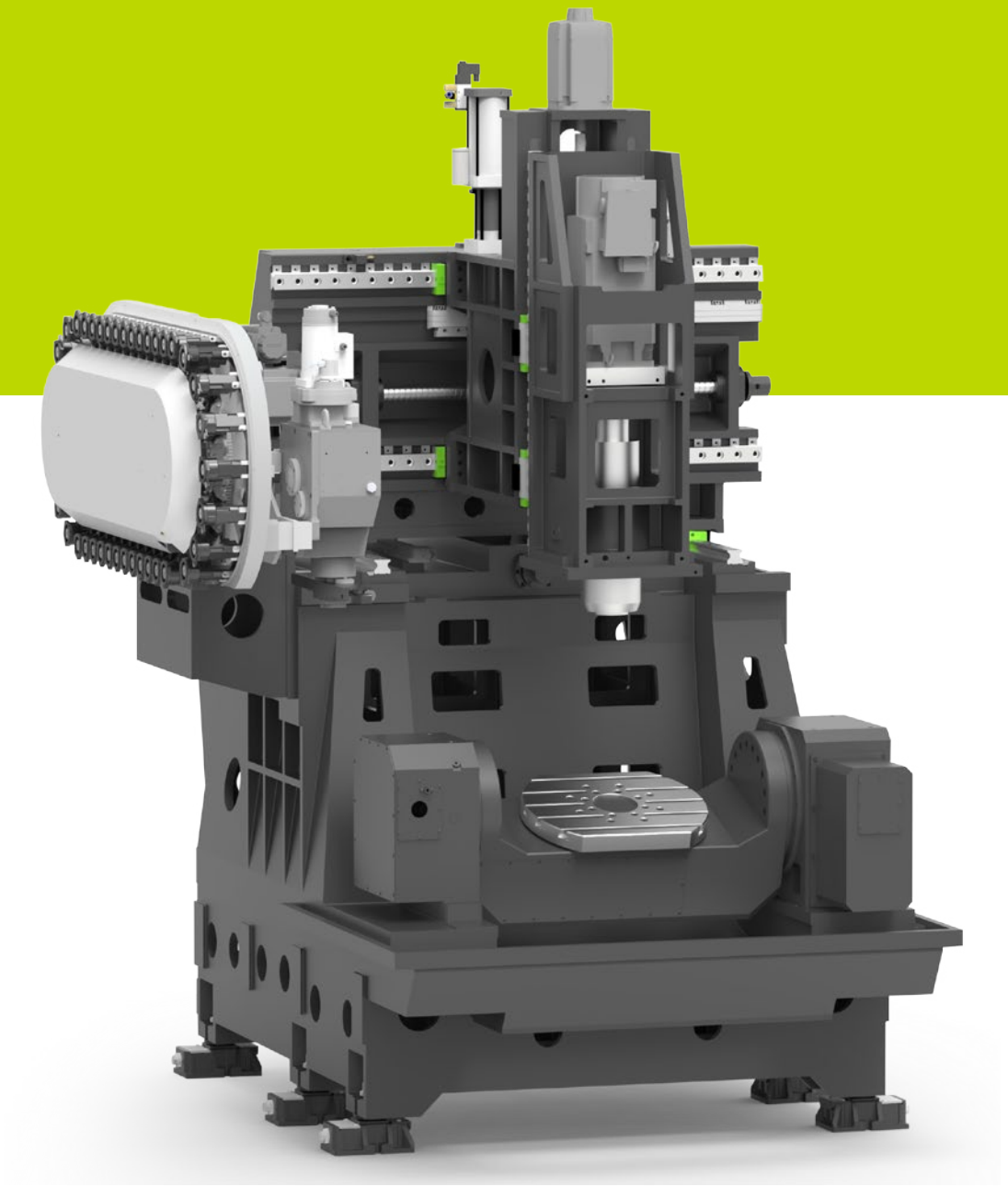
- Die casting
- Medical
- Structural components
- Mould parts
- Tooling
- Aerospace





C500

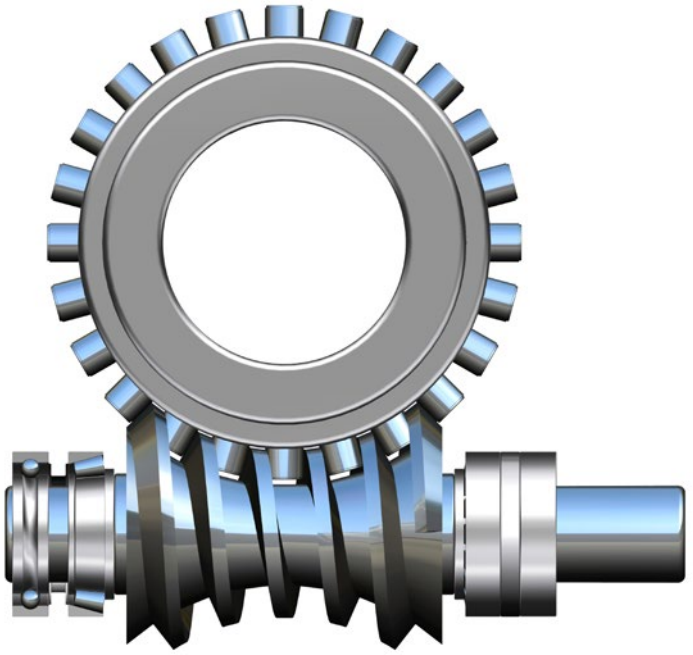
Cost-effective entry into the 5 -sided and 5 axis simultaneous machining



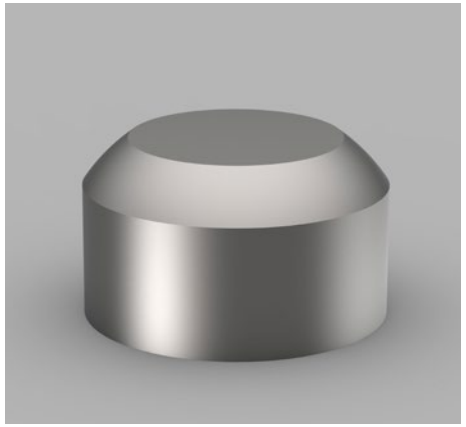
- X/Y/Z axis movement are separated from the machining area
- Dual-support rotary table, high rigidity, high performance and efficiency
- A/C axis with roller gear cam drive
- X/Y/Z aixs optional with direct measuring system
- A/C axis optional with rotary encoder

A/C axis with roller gear cam drive

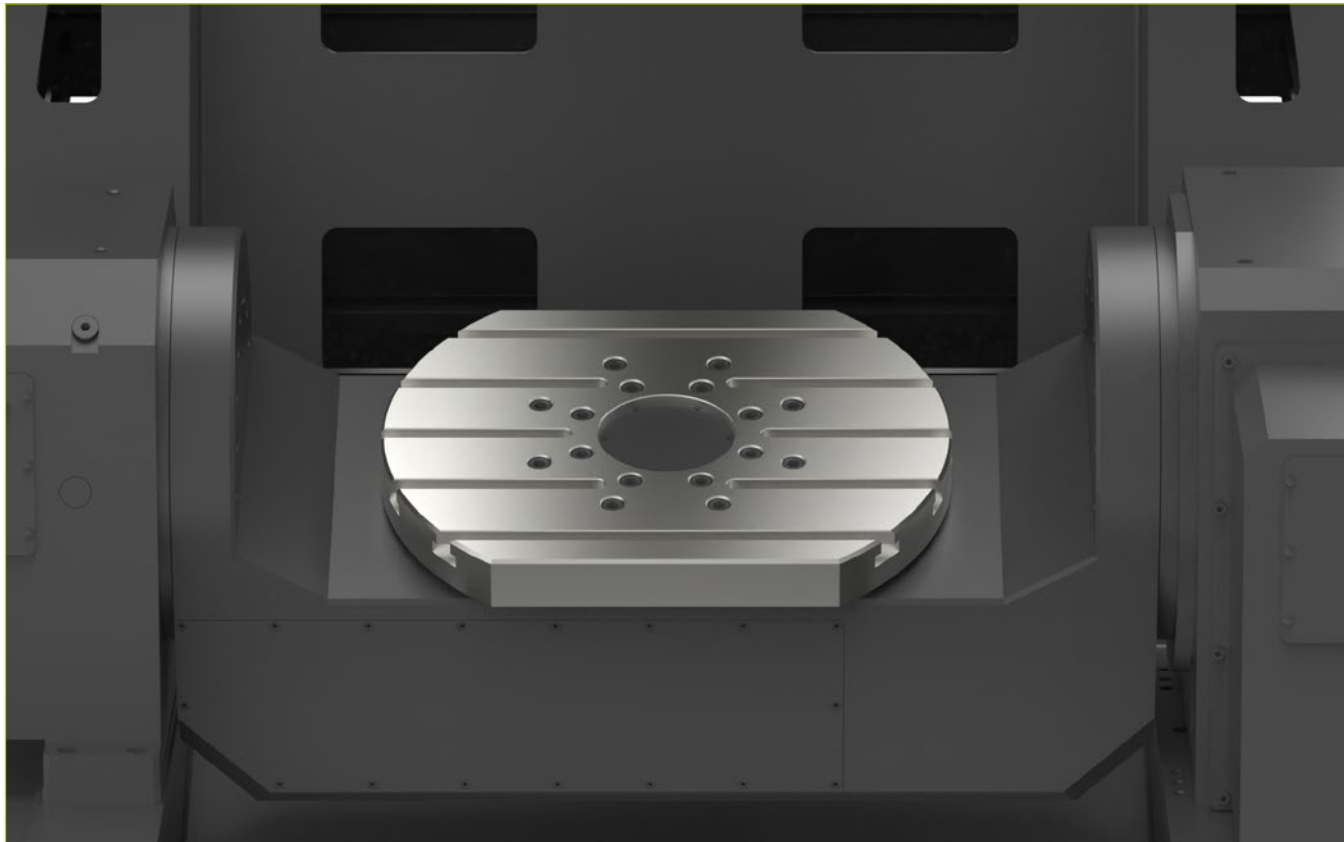
- Roller gear cam drive rotary table
- A/C axis rotation speed 50/60 rpm
- A axis travel +30°~ -120°
- C axis travel 360°



Machining dimensions



- Max. workpiece diameter 700 mm
- Max. workpiece height 500 mm
- Max. workpiece weight 255 kg



Large Capacity Tool Changer

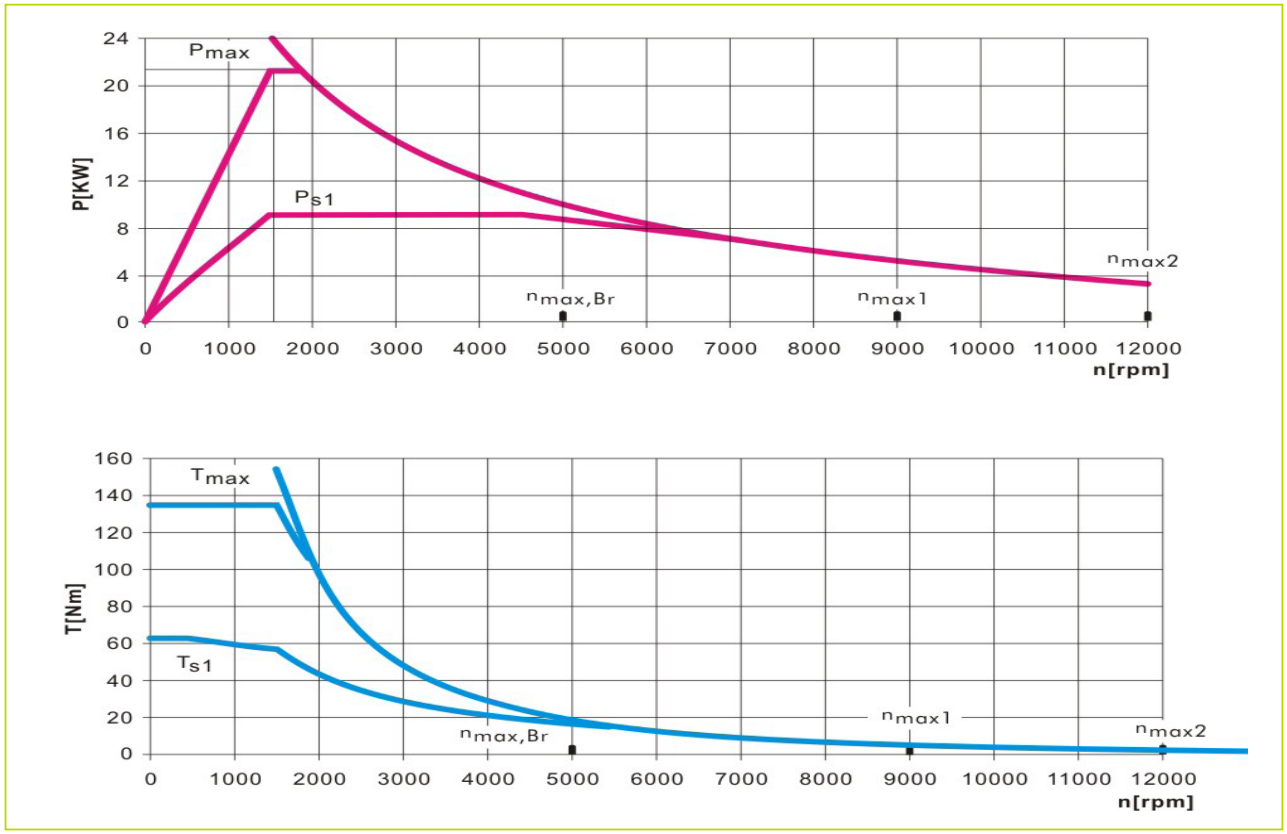
- Tools can be loaded and unloaded while machininig
- User-Friendly interface make the loading and unloading of the tools easier
- High production efficiency

Technical Specification:

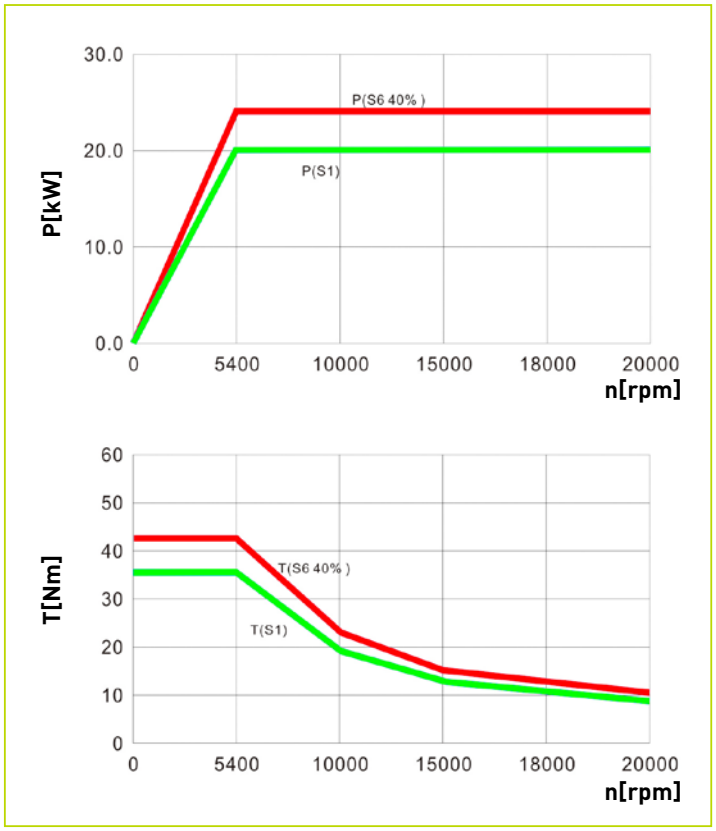
- 40 pockets (Opt.60 pockets)
- Max.tool length 300 mm
- Max.tool diameter Φ 80/Φ 125mm
- Max.tool weight 8 kg

High-performance Spindle

Power and torque diagram



BBT40 · 12000 rpm 9/22 kW (S1/S6) 63/135 Nm (S1/S6)



HSK A63 · 20000 rpm 20/24 kW 35/42 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
- ✔ Programing 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 Machining and measuring 3-D contours
- ✔ The TNC 640 makes setup easy

SIEMENS SINUMERIK 828D

The perfect solution for all performance classes

New Panel Processing Unit

- ✔ Higher processor performance
- ✔ Digital Input with higher voltage stability
- ✔ 1GB Ethernet interface X130
- ✔ Pull-relief for the DRIVE-CLiQ and PN cables
- ✔ More robust touch-operation 15,6'' PPU290.4

Features for milling Cogging torque compensation and 2nd channel for milling

- ✔ System integrated function
  - Drive-based function SINAMICS
- ✔ Automatic measure of the cogging torque
- ✔ Pre-control of periodic repetitive torque ripple
- ✔ Function available for rotative- , linear- and torque motors
- ✔ 2nd Channel Milling
  - For both machining and handling & robot purpose

Nodding Compensation ECO/Advanced and Advanced Position Control ECO

- ✔ Intelligent control based compensation
  - New developed compensation algorithm
- ✔ System integrated function
  - As a CNC and HMI feature
- ✔ Scalable function in 3 steps
  - ECO
  - Advanced
  - Compile Cycle
- ✔ Commissioning support with HMI masks
  - Additional input mask from SINUMERIK Operate

Higher speed, more accurate for the entry level

Tool Ident Connection

Jerk Adapation

Top Speed plus

Intelligent Load Control (ILC)

Intelligent Dynamic Control (IDC)

Standard configuration

- Roller gear cam drive rotary table
- Full enclosed splash guard
- Direct drive spindle 12000rpm,BBT40
- 40 pockets chain type tool changer
- Chain type chip conveyor
- Spindle oil cooler
- Air-conditioned electrical cabinet
- Rigid tapping
- Ethernet, CF card and USB interface
- Automatic lubrication system
- Coolant system
- Air blast during cutting
- LED working lamp
- End of program light
- Electrical handwheel (MGP)
- Tool box
- Leveling bolts and blocks
- Coolant gun
- Air gun
- User manual

Optional configuration

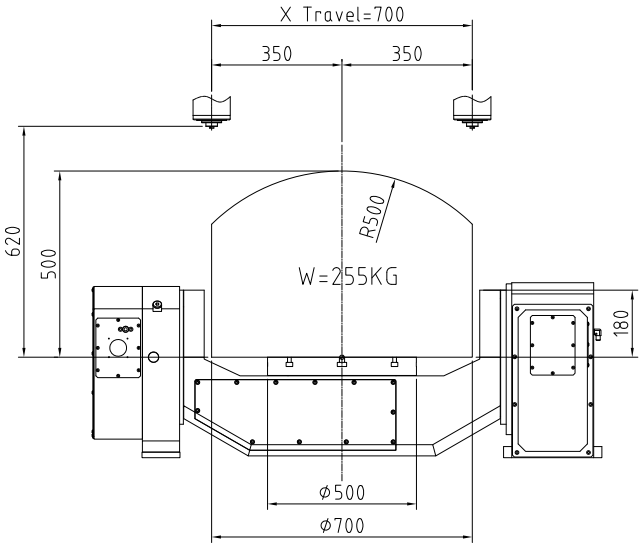
- Direct drive spindle 15000rpm , BBT40
- Direct drive spindle 15000rpm, HSK A63
- Bult-in spindle 20000rpm HSK A63
- 60 pockets chain type tool changer
- CTS Coolant Through Spindle + ATS
- Linear scales on X/Y/Z axis
- Rotary encoder on A/C axis
- Workpiece probe
- Tool probe
- Dynamic Collision Monitoring (DCM)
- Oil mist collector
- Oil skimmer
- Extra 200GB SSD program memory

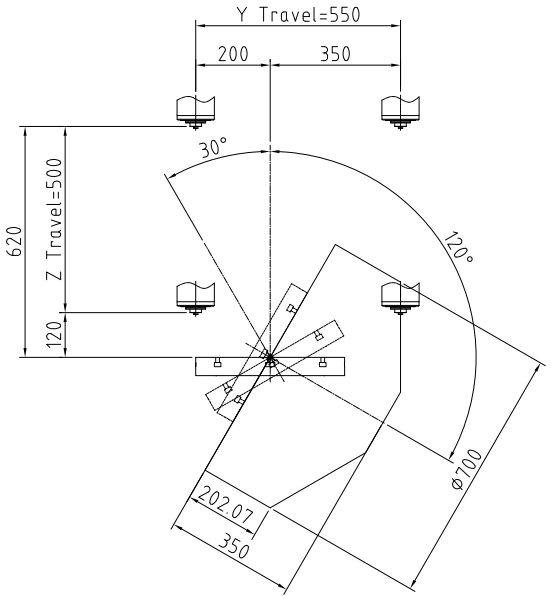
Technical Specifications

Table	
Max. workpiece diameter	Φ700 mm
Table size	Φ500×400 mm
T-slot (width x number x distance)	14 mm×80 mm×5
Max. load	255 kg
Travel	
X/Y/Z Travel	700 / 550 / 500 mm
A/C Travel	+30°~-120°/360°
Spindle nose to table	120-620 mm
Spindle	
Spindle taper	BBT40, 12000 rpm
Spindle motor power	9/22 kW, 63/135 Nm
Feed	
Rapid feed X/Y/Z	48 m/min
Rotation speed A/C	50 / 60 rpm
Cutting speed	1-12000 mm/min

Tool changer	
Number of tools	40 pcs
Max. tool length	300 mm
Max. tool diameter	Φ 80 / Φ 125 mm
Max. tool weight	8 kg
Accuracy(VDI 3441 Full travel)	
Positioning accuracy X/Y/Z axis	0.008 mm
Repeatability accuracy X/Y/Z axis	0.006 mm
Positioning accuracy X/Y/Z axis (With linear scales)	0.006 mm
Repeatability accuracy X/Y/Z axis (With linear scales)	0.004 mm
Dimensions & Weight	
Dimensions	3976×4965×3250 mm
Weigth	7000 kg

Cutting Area





Dimensions