PRIMINER

# C500-5X · C800-5X

## 5-axis Machining Center

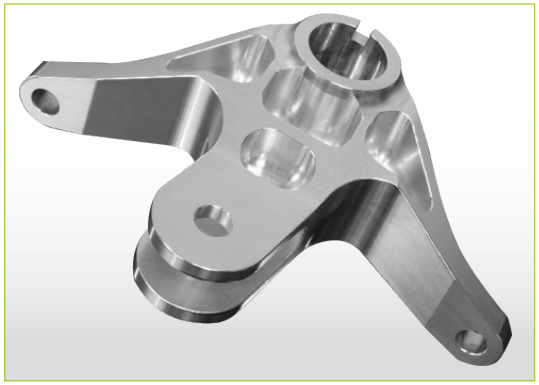
### High rigidity & High efficiency



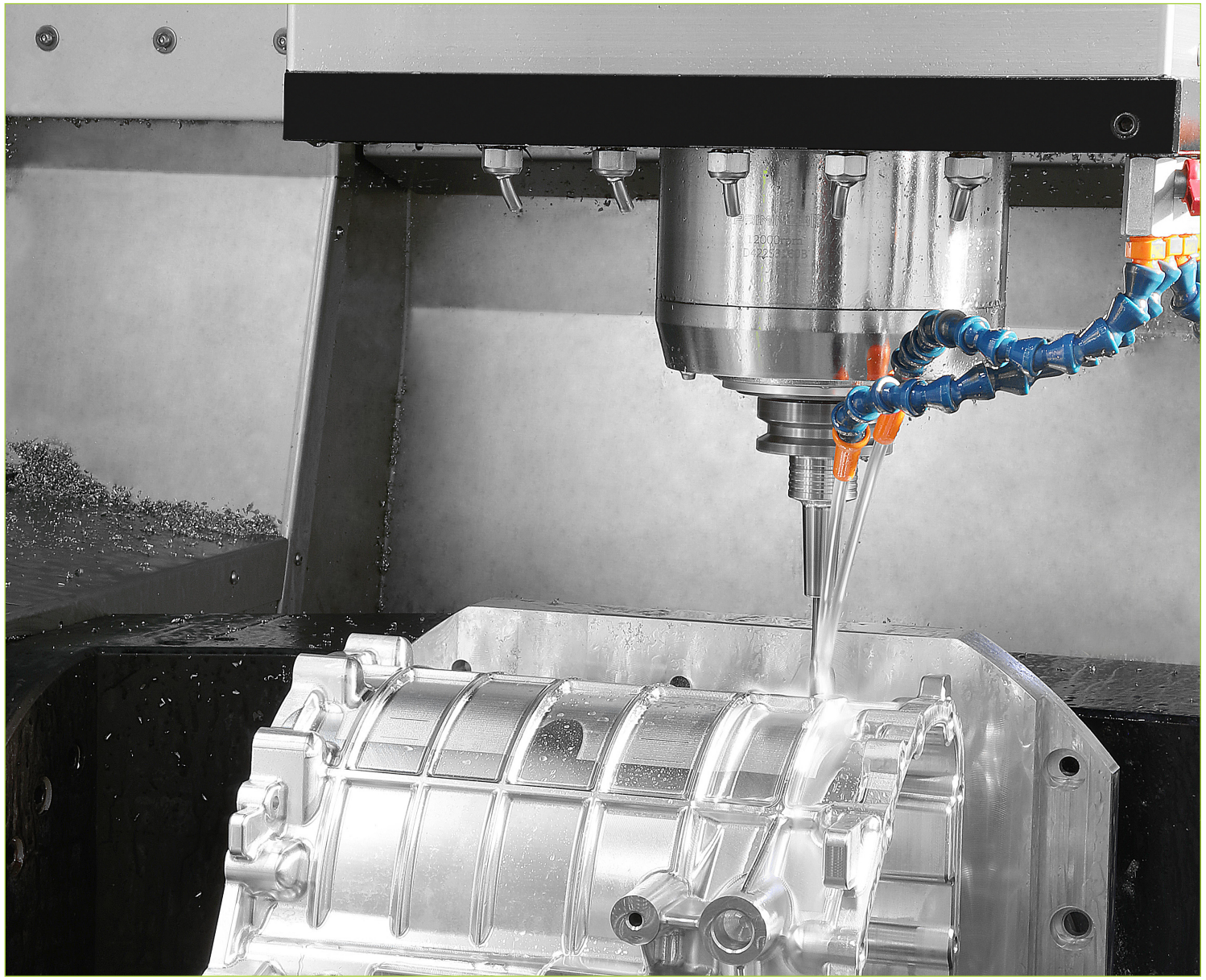



# APPLICATIONS





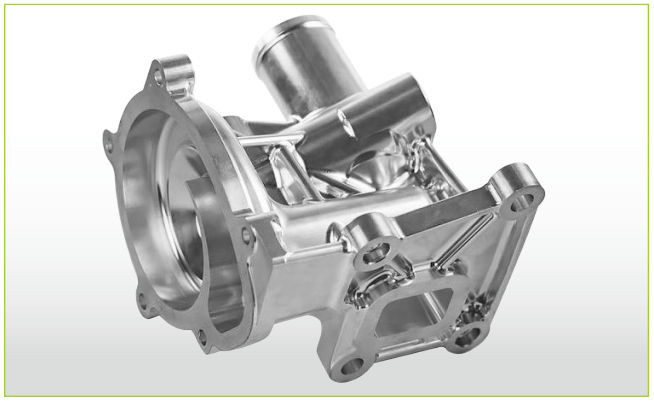


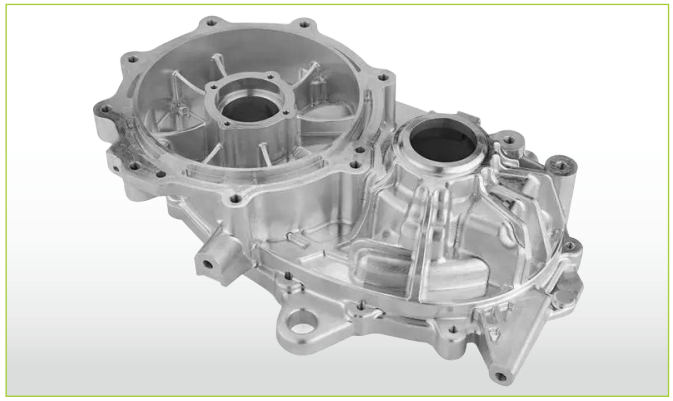


- Die casting
- Medical
- Structural components
- Mould parts
- Tooling
- Aerospace





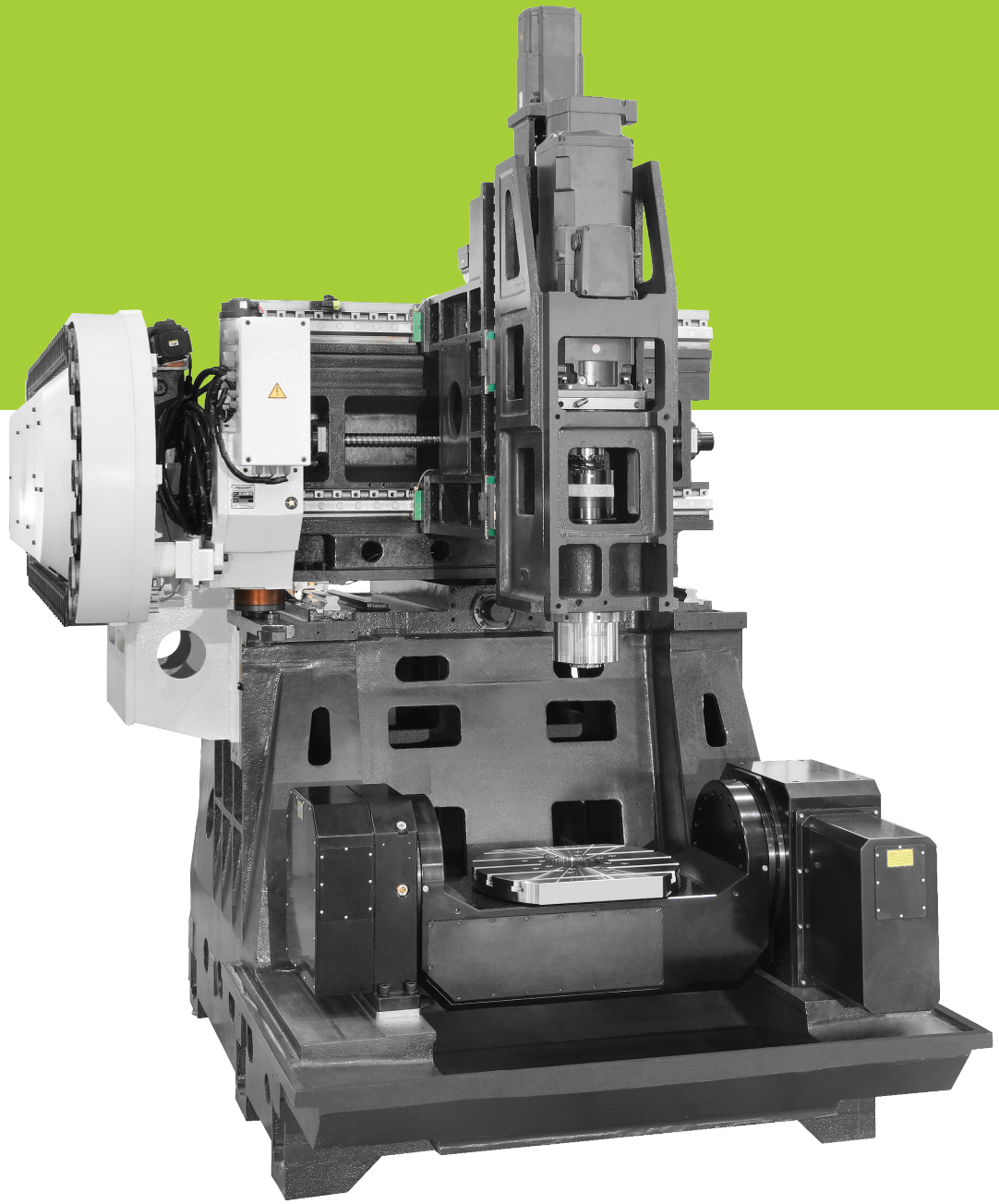






# C500-5X

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

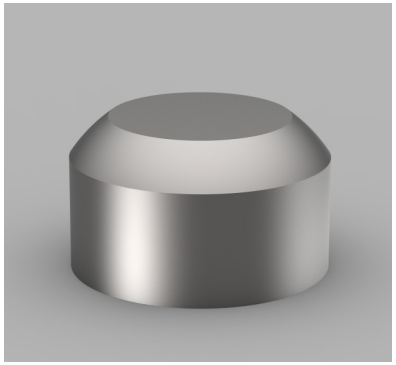


- X/Y/Z axes movement are separated from the machining area
- Dual-support rotary table, high rigidity, high performance and efficiency
- A/C axis with roller gear cam drive
- X/Y/Z axis optional with direct measuring system
- A/C axis stardard with rotary encoder

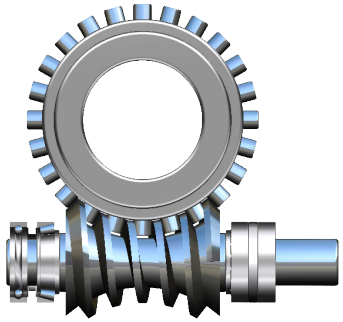
# A/C Axis with roller gear cam drive

- Roller gear cam drive rotary table
- A/C axis rotation speed 50/60 rpm (C500),
- A axis trave+30°~ -120, C axis trave 360°

## Machining dimensions



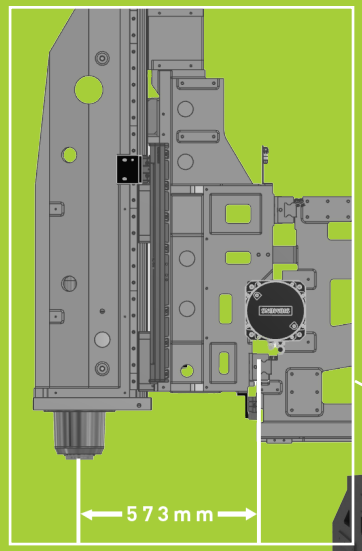
| Specifications | C500 |
|---|---|
| Max. workpiece diameter | 700 mm |
| Max. workpiece height | 500 mm |
| Max. workpiece weight | 300 kg |

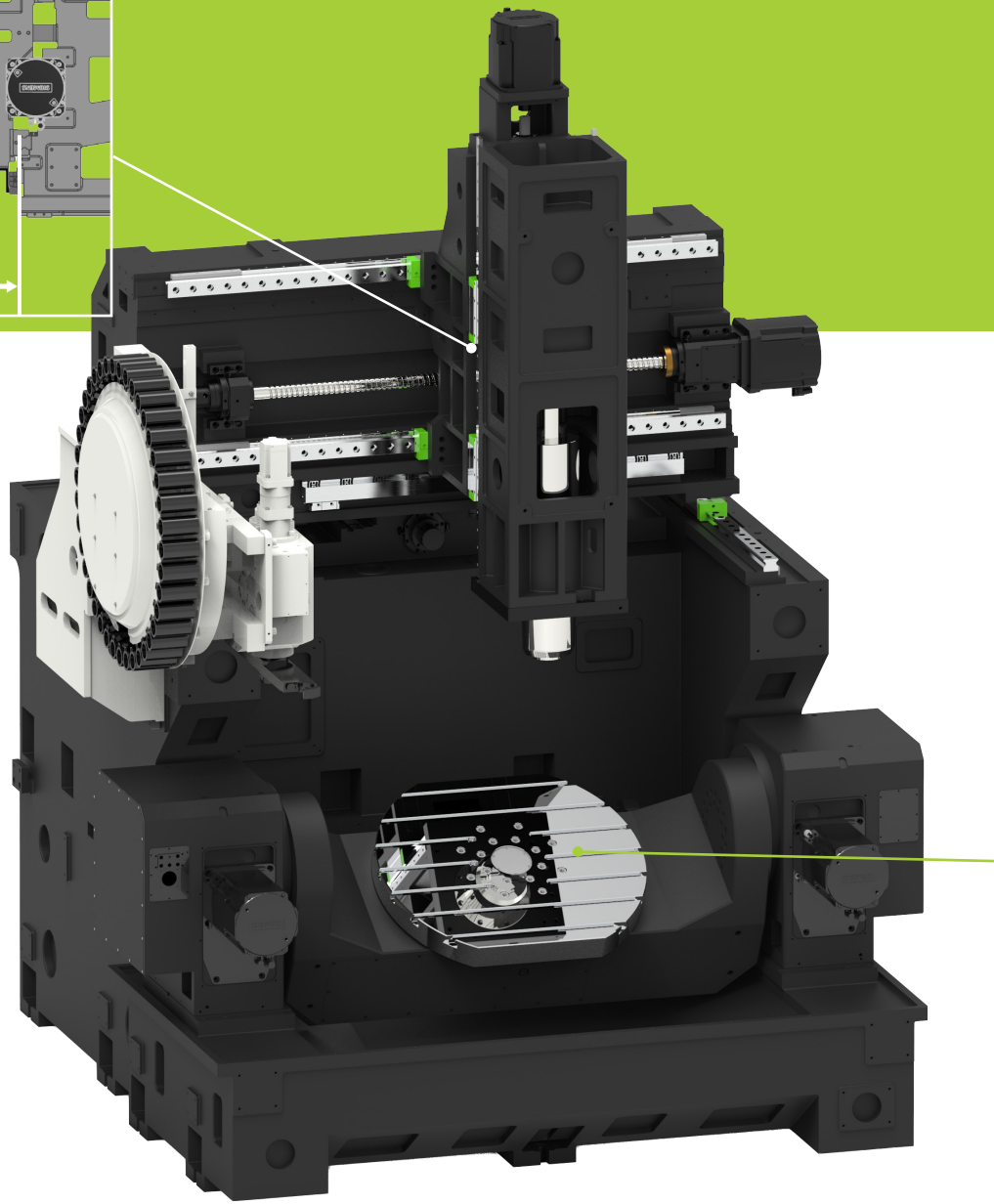




# C800-5X

## Overhead Gantry with Moving-Beam Structure Design

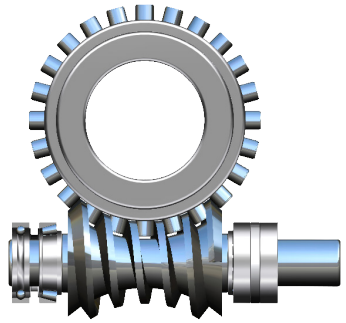


- Overhead Gantry with Moving-Beam Structure Design allows operators to approach the processing area more easily
- X/Y/Z axes movement are separated from the machining area
- Dual-support rotary table, high rigidity, high performance and efficiency
- A/C axes with roller gear cam drive, high rigidity and heavy-load cutting capability
- Compared with the C500, the X-axis guideway-to-spindle center distance is minimized to 573 mm, while the saddle overhang is reduced by 34%

# Standard A/C Axis with roller Gear cam drive

- Roller gear cam drive rotary table
- A/C axis rotation speed 20/30rpm
- A axis trave ±120°
- C axis trave 360°

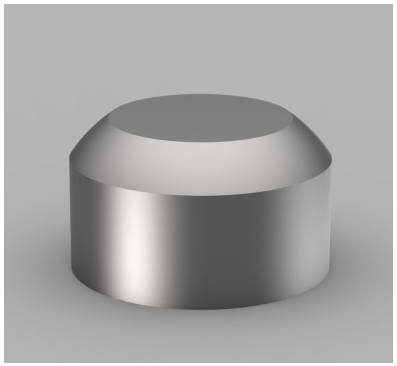


# Optional DD 5-axis rotary table

- A-axis with dual DD motor drive
- A/C axes with German-made clamping units
- A/C axes with Heidenhain rotary encoders for full closed-loop feedback
- A/C axis rotation speed 100/100rpm
- A axis trave +30°~ -110°
- C axis trave 360°



## Workpiece dimensions



| Specifications | C800 |
|---|---|
| Max. workpiece diameter | 900 mm |
| Max. workpiece height | 500 mm |
| Max. workpiece weight | 800 kg |

# C800-5X

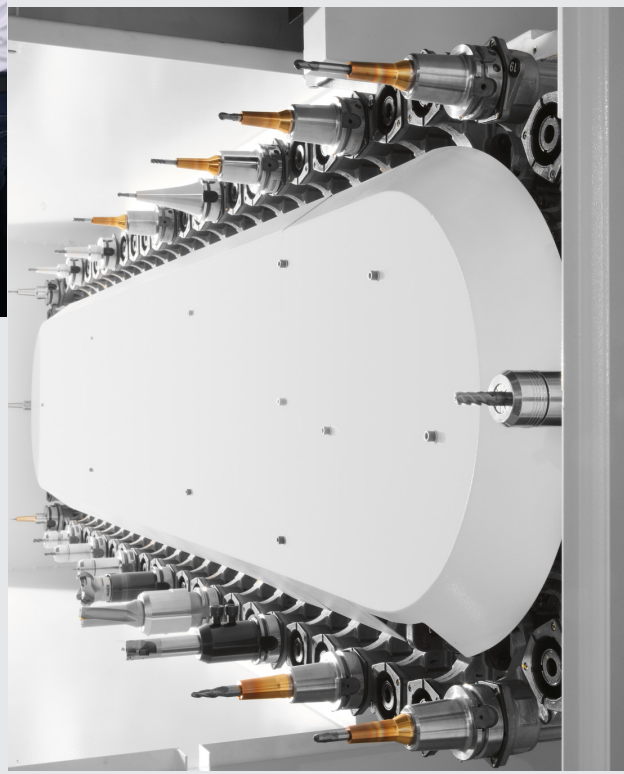
Modular coolant unit, with integrated filtration and chip removal devices

**NEW**
Compact Design



# CHAIN TYPE TOOL CHANGER





- User-Friendly interface make the loading and unloading of the tools easier
- High production efficiency

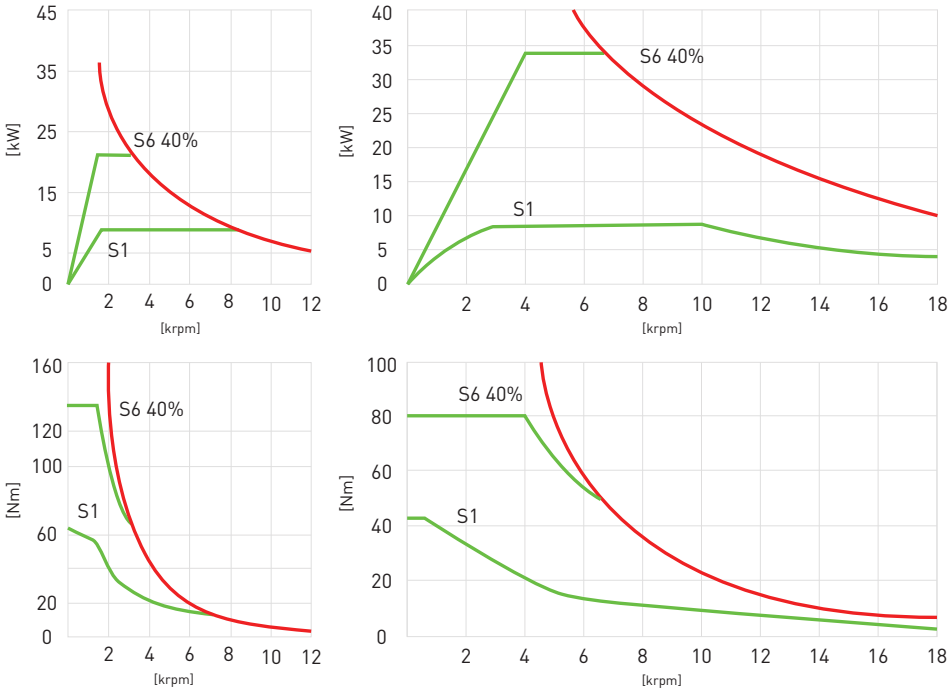
## Technical Specification:

- HSK A63
- 60 pockets
- Max.tool length 300 mm
- Max.tool diameter Φ 80 / Φ 125 mm(C500-5X)
  Φ 78 / Φ 160 mm(C800-5X)
- Max.tool weight 8 kg

# HIGH-PERFORMANCE SPINDLE

## Power and torque diagram

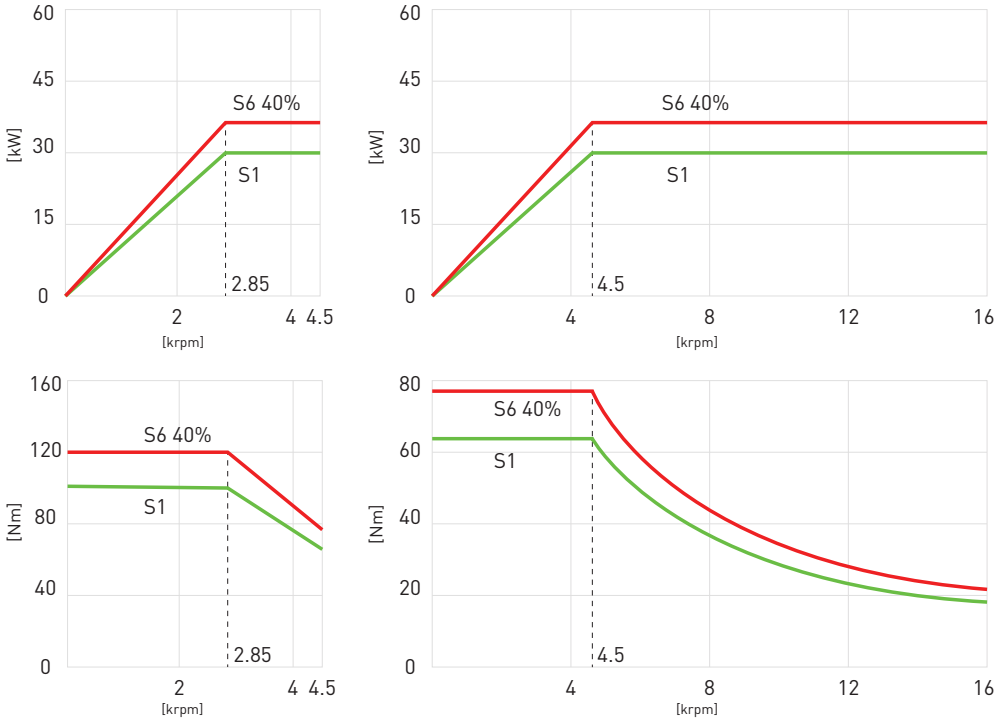
### HSK A63 · 15000 rpm (C500)




Y connection 12,000rpm
8.5/21.2 kW 63/135 Nm

△ connection 15,000rpm
8.5/33.5 kW 42/80 Nm

### HSK A63 · 16000 rpm (C800)

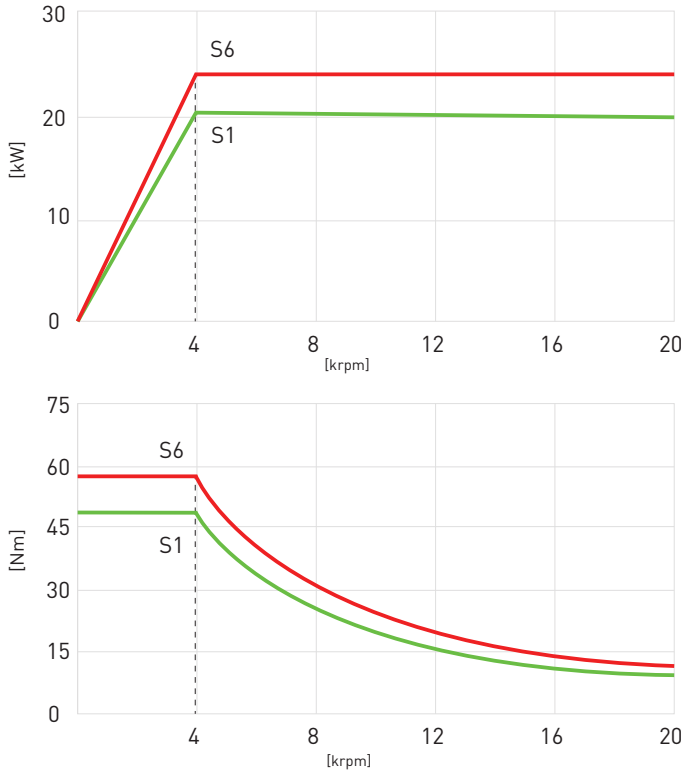



Y connection 4,500rpm
30/36 kW 100/120 Nm

△ connection 16,000rpm
30/36 kW 63.6/76.3 Nm

# Power and torque diagram

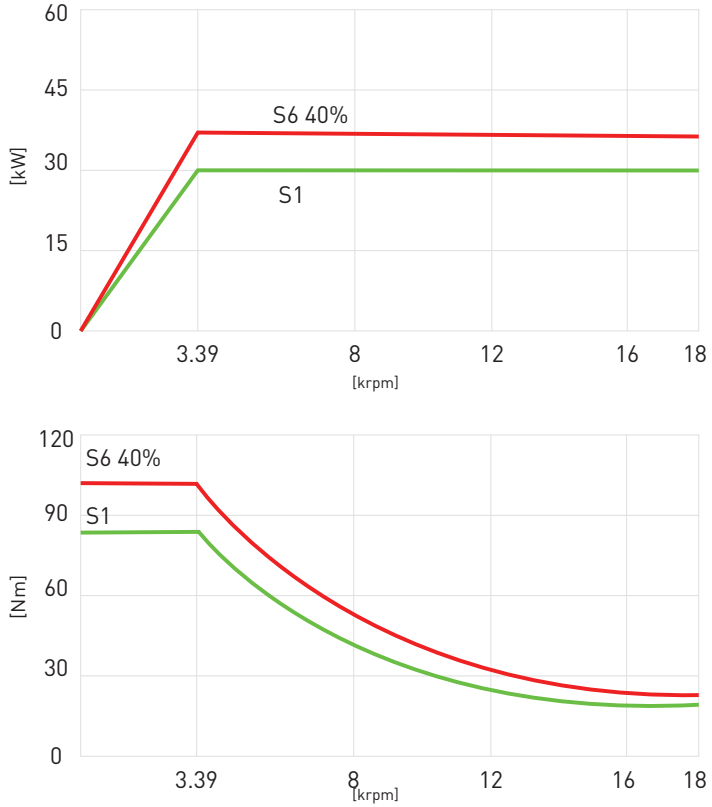
**HSK A63 · 18000 rpm (C500)**




HSK A63 20,000rpm

20/24 kW 48/58 Nm

**HSK A63 · 20000 rpm (C500)**




HSK A63 18,000rpm

30/36 kW 85/102 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 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

# Technical Specifications

| Specifications | C500-5X | C800-5X | |
|---|---|---|---|
| **Table** | **Roller gear cam drive rotary table** | | **DD 5-axis rotary table** |
| Max. workpiece diameter | Φ700 mm | Φ900 mm | |
| Table size | Φ500×400 mm | Φ800×700 mm | Φ630×560 mm |
| T-slot (width×pitch×quantity) | 14 mm×80 mm×5 | 14 mm×100 mm×5 | |
| Max. load | 300 kg | 800 kg | |
| **Travel** | | | |
| X/Y/Z Travel | 700 / 550 / 500 mm | 900 / 850 / 600 mm | |
| A/C Travel | +30°~-120°/360° | ±120°/360° | +30°~-110°/360° |
| Spindle nose to table | 120-620 mm | 170-770 mm | |
| **Spindle** | | | |
| Spindle taper | HSK A63, 15000 rpm | HSK A63, 16000 rpm | |
| Spindle motor power | 8.5/33.5 kW, 63/135 Nm | 30/36 kW, 100/120 Nm | |

| Specifications | C500-5X | C800-5X | |
|---|---|---|---|
| **Feed** | | | |
| Rapid feed X/Y/Z | 48 m/min | 60 / 60 / 40 m/min | |
| Rotation speed A/C | 50 / 60 rpm | 20 / 30 rpm | 100 / 100 rp |
| Cutting speed | 1-12000 mm/min | | |
| **Tool changer** | | | |
| Number of tools | 60 pcs | | |
| Max. tool length | 300mm | | |
| Max. tool diameter | Φ80 / Φ125 mm | Φ78 / Φ160 mm | |
| Max. tool weight | 8 kg | | |
| **Dimensions & Weight** | | | |
| Dimensions | 3490×4210×3250 mm | 3476×5923×3570 mm | |
| Weight | 9500 kg | 14500 kg | |

# Configuration

| | C500-5X | C800-5X |
|---|---|---|
| Full enclosed splash guard | ● | ● |
| Roller gear cam driverotary table | ● | ● |
| DD 5-axis rotary table | × | ○ |
| Direct drive spindle HSK A63<br>15000rpm, 8.5/33.5 kW, 63/135 Nm | ● | × |
| Built-in spindle HSK A63<br>16000 rpm, 30/36 kW, 100/120 Nm | × | ● |
| Built in spindle HSK A63<br>18000 rpm, 30/36 kW, 85/102 Nm | ○ | × |
| Built in spindle HSK A63<br>20000 rpm, 20/24 kW, 48/58 Nm | ○ | × |
| 60 pockets chain type tool changer | ● | ● |
| Spindle oil cooler | ● | × |
| ±0.1 degree high precision spindle water cooler | ○ | ● |
| Sealed linear scales on X/Y/Z axes | ○ | ○ |
| Rotary encoder on A/C axes | ● | ● |
| Laser tool setter | ○ | ○ |
| Workpiece probe | ○ | ○ |
| Oil mist collector | ○ | ○ |
| Oil skimmer | ○ | ○ |
| CTS Coolant Through Spindle + ATS | ○ | ○ |

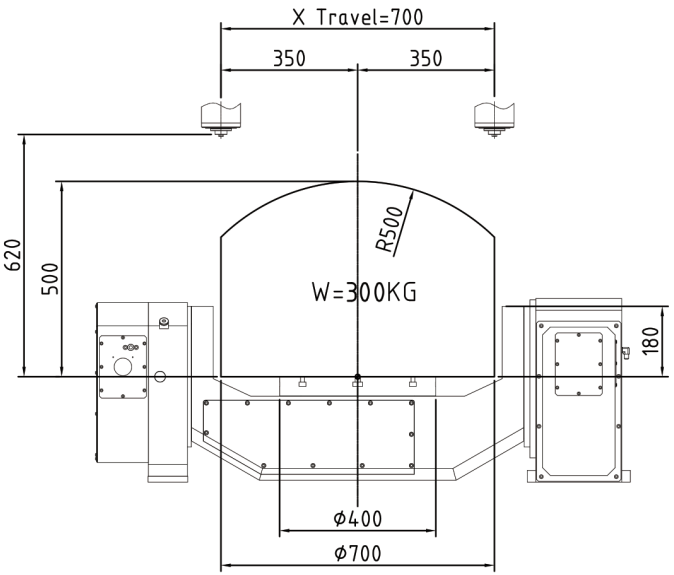
| | C500-5X | C800-5X |
|---|---|---|
| Extra 200GB SSD program memory | ○ | ○ |
| Automatic correction system for rotation center error | ○ | ○ |
| Dynamic Collision Monitoring (DCM) | ○ | ○ |
| Air-conditioned electrical cabinet | ● | ● |
| Rigid tapping | ● | ● |
| Ethernet, CF card and USB interface | ● | ● |
| Chain type chip conveyor | ● | × |
| Drum-type chip conveyor | × | ● |
| Automatic lubrication system | ● | ● |
| Air blast during cutting | ● | ● |
| LED working lamp | ● | ● |
| Tool box | ● | ● |
| End of program light | ● | ● |
| Electrical handwheel (MGP) | ● | ● |
| Leveling bolts and blocks | ● | ● |
| Coolant gun | ● | ● |
| Air gun | ● | ● |
| User manua | ● | ● |

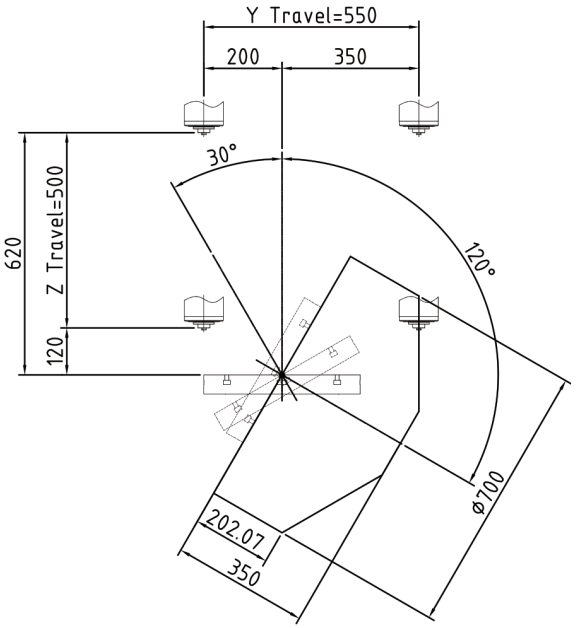
● Standard ○ Optional × Not Available

# C500-5X

## CUTTING AREA

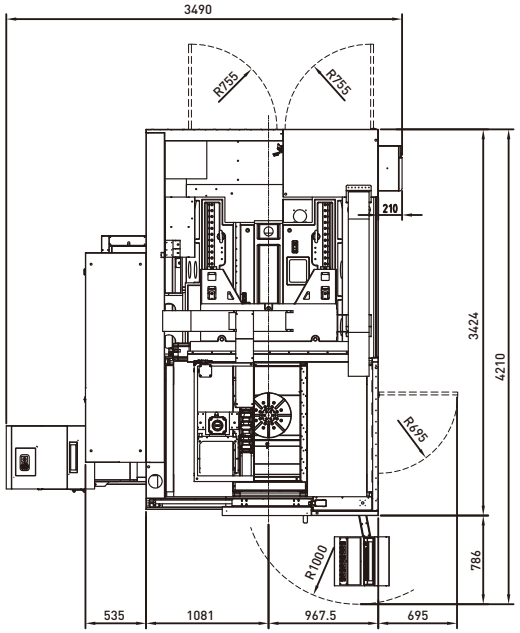
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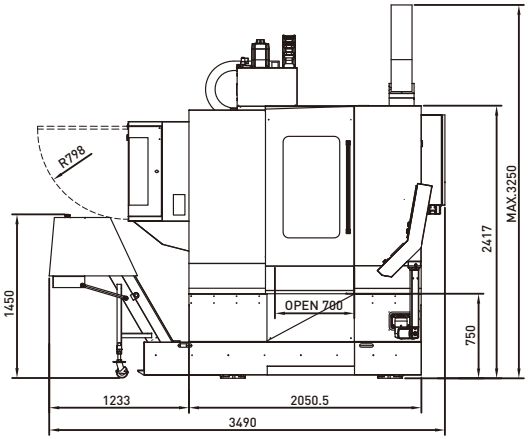


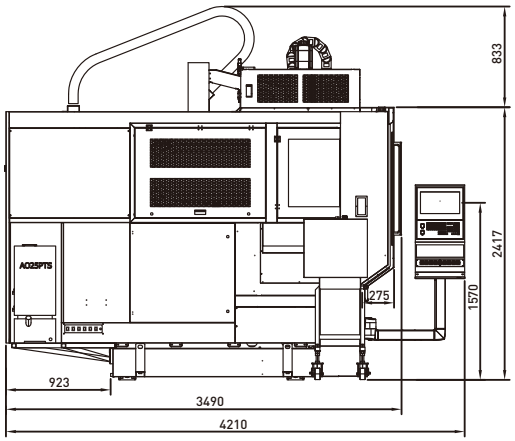




## DIMENSIONS

UNIT:mm



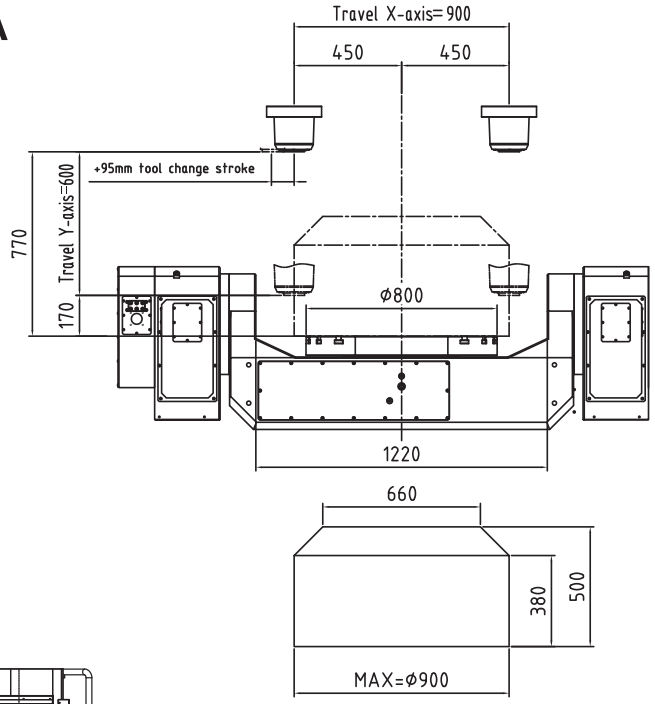



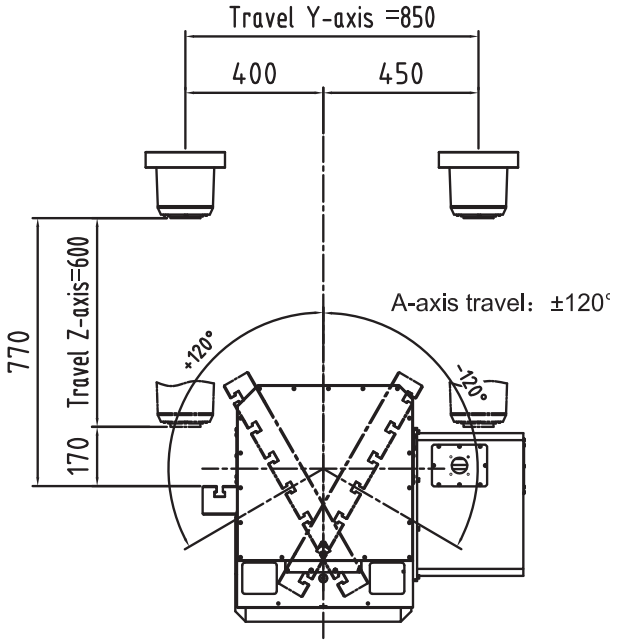



# C800-5X

## CUTTING AREA

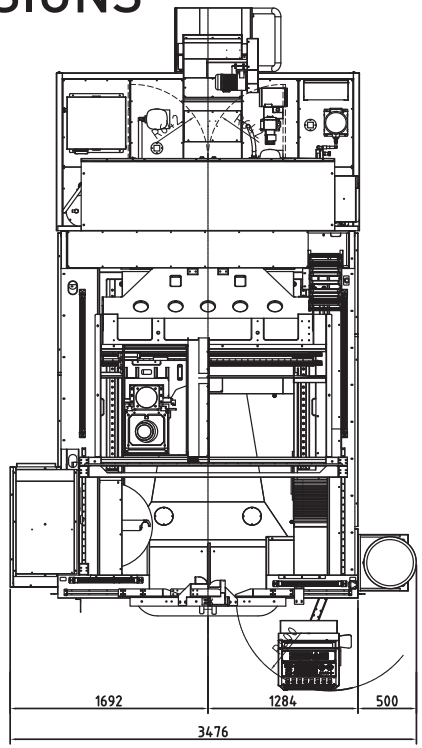
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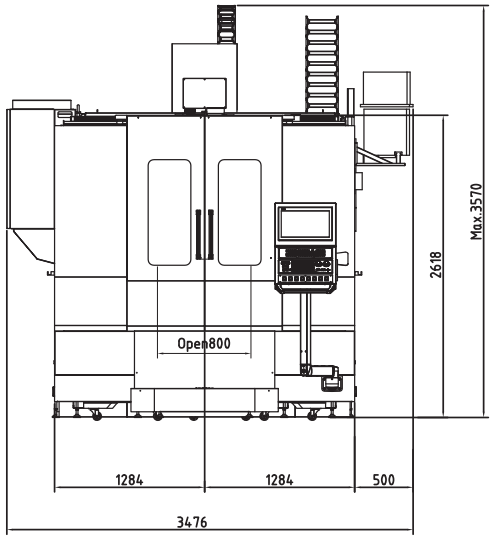


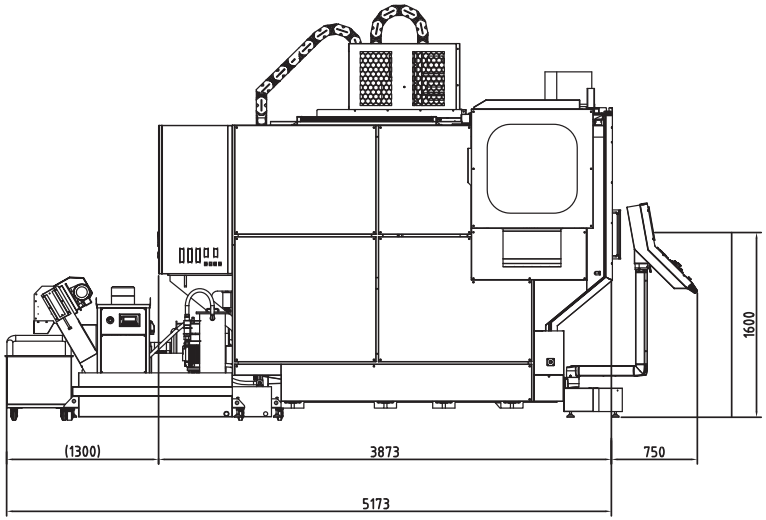




## DIMENSIONS

UNIT:mm



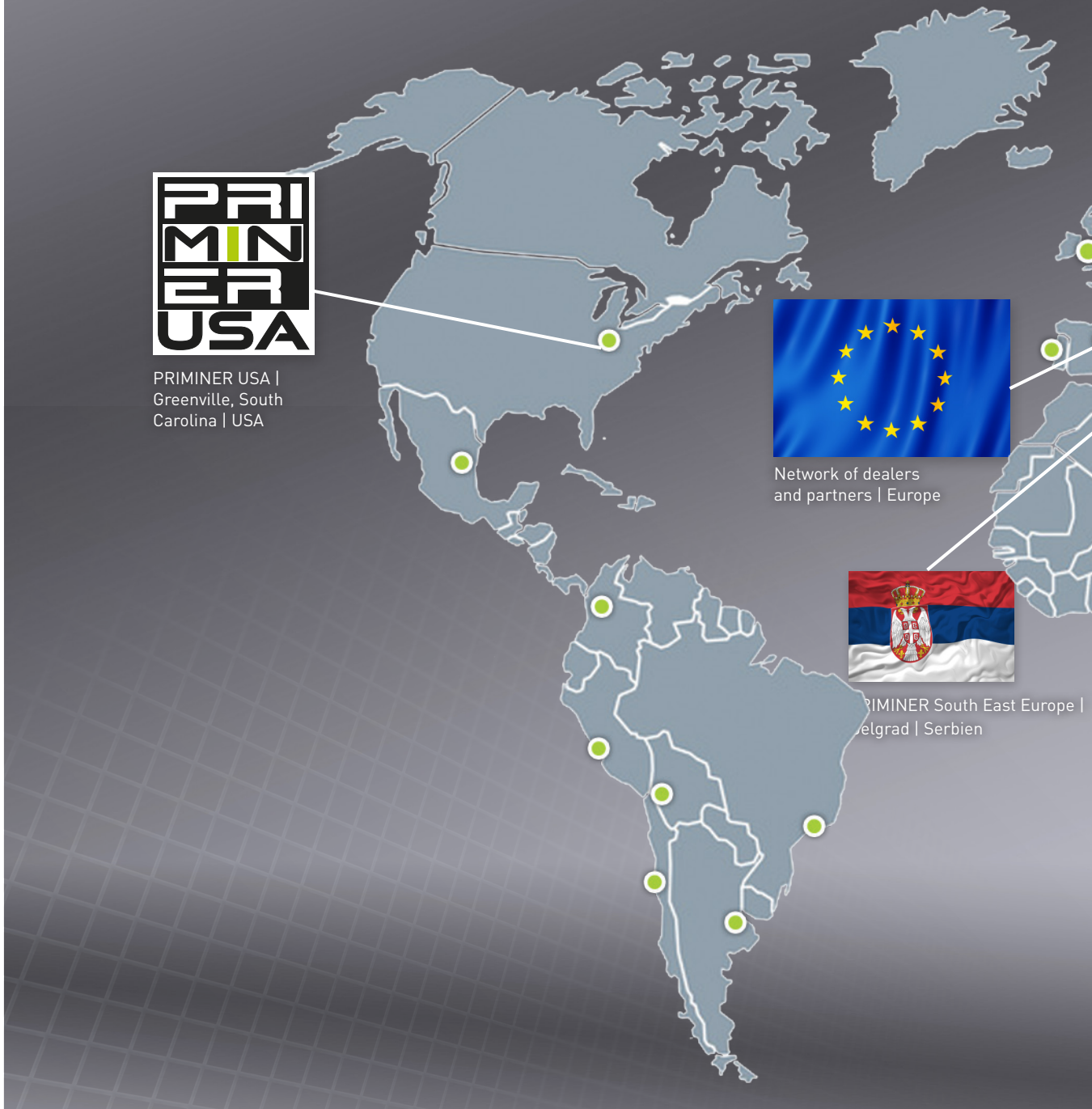



*What began as a shared vision has grown into a globally operating group for high-level CNC technology. Jack and Benjamin founders, partners, doers – embody what PRIMINER stands for: technical excellence, entrepreneurial clarity, and genuine trust.*

*PRIMINER combines the best of both worlds: efficient series production and engineering expertise from Asia – paired with German quality assurance, service commitment, and market insight. Our philosophy is clear: true CNC expertise emerges only when technology, teamwork, and customer focus come together in perfect harmony.*

# PRIMINER GLOBAL





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PRIMINER Machine Tools | Dongguan | China





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The above specifications are subject to change without prior notice.