

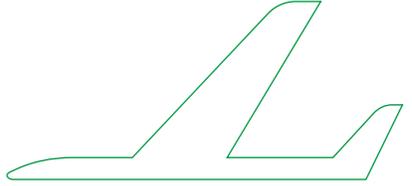
專注航太·品質·創造未來  
Aiming At Aerospace Solutions

🏠 No.7, Jingke N. Rd.Nantun Dist.,Taichung  
City 40852Taiwan (R.O.C.)  
☎ +886-4-2358-9313  
🌐 www.apecnc.com  
✉ sales@apecnc.com



MEMBER OF  
**TIGROUP**  
2025/09

**HS1400** *AERO Series*  
5-axis Horizontal Machining Center



## AIMING AT AEROSPACE SOLUTIONS



### **ASIA PACIFIC ELITE CORP. (APEC)** IS A SUBSIDIARY OF **TTGroup**, THE **BIGGEST MACHINE TOOLS GROUP** IN TAIWAN

APEC aims at "Aerospace manufacturing process" and defines ourselves as a resources integrator, solutions provider and customers' best strategic partner of OEM, Tier1 to Tier3.

APEC has the world's most complete medium and large aerospace structure and engine parts processing solutions.

Besides, we also have 20 years of professional practical experience in die & mold and precision machining.

Our clients are all over the world, like Canada, the USA, Germany, Japan, Mainland China and Taiwan, etc. Furthermore, we offer comprehensive customer services including factory planning, intelligent manufacturing, technical training, process upgrades and Turnkey solutions.

# CORE VALUES



AIMING AT  
AEROSPACE  
SOLUTIONS



## TIMS

Production management  
Intelligent monitoring  
RFID tool management  
Workpiece management  
Order management



## TLM

Machine status  
Utilization analysis  
Alarm history  
Operation history  
Program upload/download



## AGA key components

- Spindle
- Milling Head
- Trunnion Table



Aerospace Gebert APEC is a premium brand for aerospace manufacturing components. Developed by APEC and Dr. Gebert's team from Germany, AGA offers high-power, high-speed spindles, milling heads, and trunnion tables, all engineered for APEC machines. This ensures after-sales service with maximum efficiency and precision.

# CUSTOMER SUPPORT





- **Special for aerospace superalloy processing**

Equipped with a high-power, high-torque spindle, it can greatly increase the removal rate of processing and shorten the processing time.

- **High rigidity T-shaped structure design**

Inverted dual V-shaped rib structure applied in basement design to achieve best force flow path. The whole travel of X-axis is supported, and this is to avoid gravitational dropping and deformed into guarantee workpiece and surface machining accuracy.

- **X/Y/Z-axis driven by high-speed ball screw**

X/Y/Z-axis are driven by double ball screws which could ensure concentricity of the moving part center and the weight center so that the vibration could be eliminated.

- **Suitable workpieces**

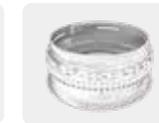
**Engine Structural Parts**



Blisks



Impellers



Casing

**Super Alloy Structural Parts**



Stringer



Large Five-axis Complex Structural Parts



**Machine configuration for aerospace machining**

**Fully enclosed splash guard**

Lower noise and prevent spreading of chips and coolant liquid.

**High torque clamping system**

B-axis clamping torque: 6,000 N m, the powerful torque clamping system provides extremely high processing rigidity.

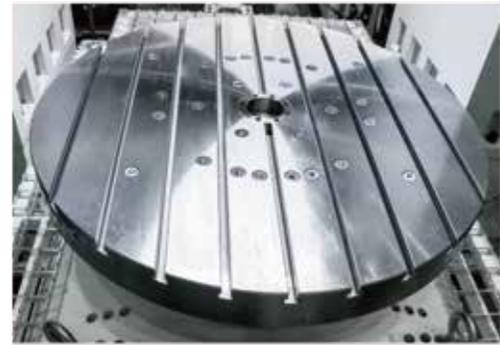
**AGA special spindle for super alloy processing**

High-torque spindle, the highest specification can reach 500 Nm (opt), especially suitable for cutting super alloy.

(The picture is only for reference, please make the object as the standard.)

**45° degree saddle design**

The saddle is designed with a 45-degree angle and matched with a fork-type head, the machine can achieve more angles of cutting range.

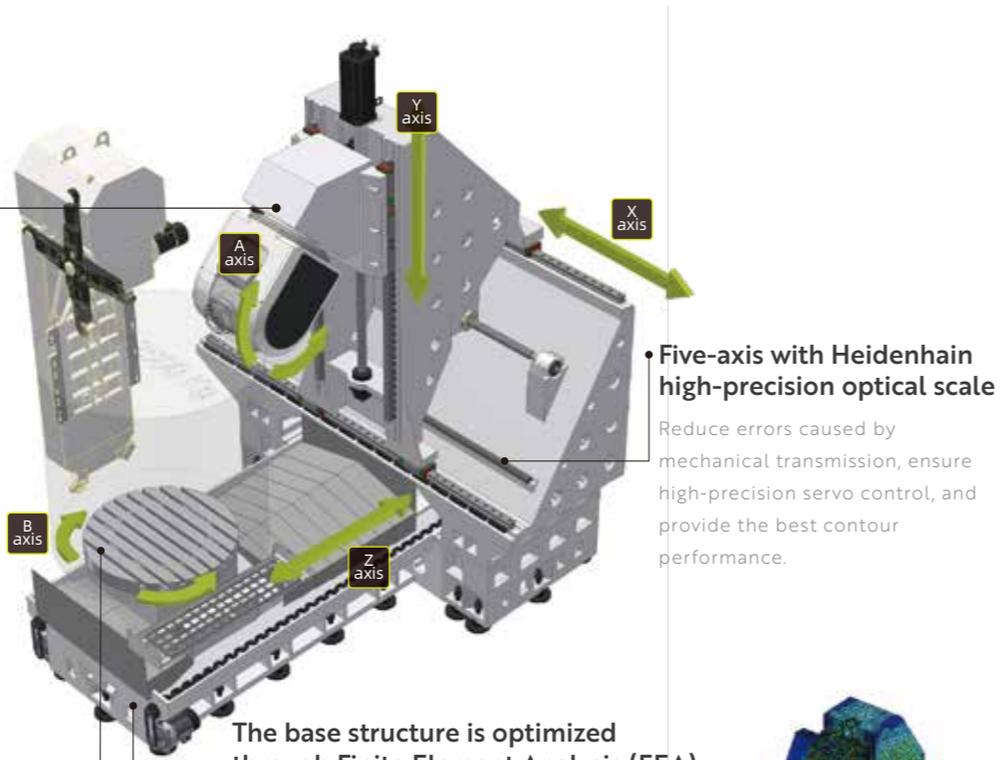


**The Direct Drive Motor directly drives the rotary table to provide high-precision machining**

The B-axis are driven by direct drive motor. The power can be completely transmitted and provides high-precision machining capabilities.

**Milling and turning compound machining (optional)-HS-1400T**

The optional high-speed rotary table can be reconfigured into a lathe module to perform turning operations.



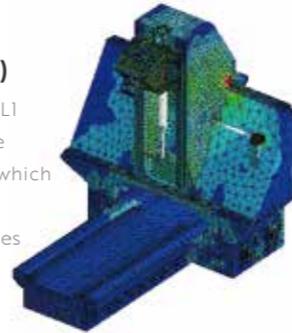
**The base structure is optimized through Finite Element Analysis (FEA)**

The X-axis adopts high and low rail design. The L1 size is larger than other industry and driving the center of gravity is closer to the tool tip point, which improves rigidity and stability. It is suitable for processing difficult-to-cut materials and achieves perfect cutting dynamic characteristics.



**The shortest force flow bed design**

The ribbed structure of the bottom bed is V-shaped ribs to make the structure strong and ensure processing stability. The shortest configuration of the force flow between the guide rail and the anchor bolts meets the demand for high rigidity.



Fork type milling head(Dyna)



Fork type milling head(Aero)-(Std.)



Fork type milling head(Titan)

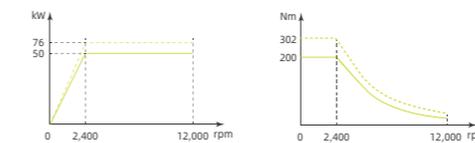


45°Universal milling head(Uver)

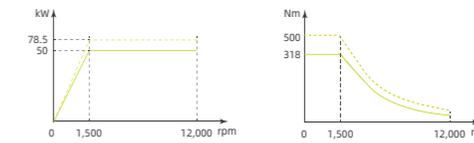
| Milling Head           | Dyna          | Aero          | Titan         | Uver          |
|------------------------|---------------|---------------|---------------|---------------|
| Max. speed (rpm)       | 60            | 60            | 60            | 60            |
| A-axis torque (S1/S6)  | 1,192 / 1,980 | 1,192 / 1,980 | 1,344 / 2,420 | 1,610 / 2,940 |
| A-axis clamping torque | 4,000         | 4,000         | 6,000         | 6,000         |

| Spindle       |                  | 12,000rpm(Std.) | 12,000rpm        | 15,000rpm     | 24,000rpm        |               |                    |
|---------------|------------------|-----------------|------------------|---------------|------------------|---------------|--------------------|
| Spindle taper | HSK-100A         | Spindle taper   | HSK-100A         | Spindle taper | HSK-100A         | Spindle taper | HSK-63A            |
| Lubrication   | Oil air          | Lubrication     | Oil air          | Lubrication   | Oil air          | Lubrication   | Oil air            |
| Power(kW)     | S1 50<br>S6 76   | Power(kW)       | S1 50<br>S6 78.5 | Power(kW)     | S1 45<br>S6 54   | Power(kW)     | S1 60<br>S6 75     |
| Torque(Nm)    | S1 200<br>S6 302 | Torque(Nm)      | S1 318<br>S6 500 | Torque(Nm)    | S1 119<br>S6 143 | Torque(Nm)    | S1 48.2<br>S6 60.5 |

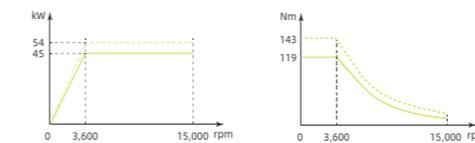
**HSK100A / 12,000rpm**



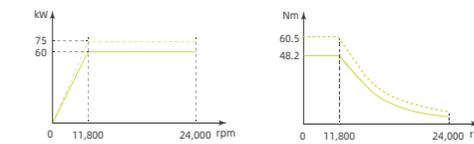
**HSK100A / 12,000rpm**



**HSK100A / 15,000rpm**



**HSK63A / 24,000rpm**



| Specification                           | Unit  | HS-1400   | HS-1400T  |
|---|-------|---|---|
| Travel                                  |       |   |   |
| X-axis                                  | mm    | 1,800   |   |
| Y-axis                                  | mm    | 1,250 / 1,550(opt.)   |   |
| Z-axis                                  | mm    | 1,320   |   |
| Distance from spindle end to table      | mm    | -165 ~ 1,085 (Vertical Std.)<br>185 ~ 1,435 (Horizontal Std.) | -5 ~ 1,245 (Vertical Std.)<br>-65 ~ 1,185 (Horizontal Std.) |
| Rotary table –Without APC               |       |   |   |
| Table size ( Diameter )                 | mm    | Ø1,000(*)   | Ø1,250  |
| Max. processing diameter                | mm    | Ø1,800  |   |
| Max. table load                         | kg    | 2,000   | 3,200   |
| B-axis max. rotation angle              | deg   | continuous  |   |
| B-axis max. rotation speed              | rpm   | 70  | 700   |
| B-axis torque (Rated/ Max.)             | Nm    | 2,134 / 3,777   | 3,200 / 5,280   |
| B-axis clamping torque                  | Nm    | 10,000  | 15,000  |
| Feedrate                                |       |   |   |
| X.Y.Z axis rapid feedrate               | m/min | 50  |   |
| Accuracy                                |       |   |   |
| Positioning (VDI344I)                   | mm    | X / Y / Z = 0.010   |   |
| Repeatability (VDI344I)                 | mm    | X / Y / Z = 0.008   |   |
| Spindle(Standard)                       |       |   |   |
| Spindle taper                           |       | HSK-100A  | HSK-100T  |
| Spindle speed                           | rpm   | 12,000  |   |
| Spindle power(S1/Max.)                  | kW    | 50 / 76   |   |
| Spindle torque(S1/Max.)                 | Nm    | 200 / 302   |   |
| Clamping torque                         | Nm    | -   | 1,000   |
| Milling Head(Std.)                      |       | Aero  | Uver  |
| A-axis torque (S1/S6)                   | Nm    | 1,192 / 1,980   | 1,610 / 2,940   |
| A-axis clamping torque                  | Nm    | 4,000   | 6,000   |
| Swivel angle                            | deg   | -100° ~ +70°  | +185° ~ -185°   |
| Automatic tool changer                  |       |   |   |
| Tool shank                              | pcs   | 40  |   |
| Max. tool length                        | mm    | 450   |   |
| Max tool diameter with adjacent tool    | mm    | Ø125  |   |
| Max tool diameter without adjacent tool | mm    | Ø250  |   |

(\*)Optional: Ø1,250/1,400/1,600 mm.

● Standard accessories ○ Optional accessories

| Item                         | Specification   |   |
|------------------------------|---|---|
| Controller                   | HEIDENHAIN TNC640 MPG HR520   | ● |
| Spindle (HSI400)             | AGA HSK100A 12,000rpm, 200/302 Nm   | ● |
|                              | AGA HSK100A 12,000rpm, 318/500 Nm   | ○ |
|                              | AGA HSK100A 24,000 rpm 60/75kw  | ○ |
|                              | AGA HSK100A 15,000 rpm 45/54kw  | ○ |
| Spindle (HSI400T)            | AGA HSK100T 12,000 rpm 200/302 Nm   | ● |
| Drive System                 | XYZ axis with high speed ball screw driving / AB axis with direct drive motor               | ● |
| Automatic tool changer       | 40T   | ● |
|                              | 60T   | ○ |
| Cutting coolant              | Coolant around spindle  | ● |
|                              | Coolant through spindle 20bar   | ○ |
|                              | Coolant through spindle 70bar   | ○ |
| System coolant               | Chiller for spindle / Air conditioner for electrical cabinet                                | ● |
| Chip removal system          | Complex chip conveyer / Enlarged coolant tank   | ● |
| Workpiece measurement system | BLUM workpiece measurement system(TC60-RC66)  | ○ |
|                              | Renishaw workpiece measurement system(RMP600)   | ○ |
| Tool measurement system      | BLUM tool measurement system(NT-A4)   | ○ |
|                              | Renishaw tool measurement system(NC4-F230)  | ○ |
| Others                       | Security door interlocks / Air dryer / Isolation transformer / Fully enclosure splash guard | ● |
|                              | 5 axis with Heidenhain optical scale  | ● |
|                              | Oil mist collecting system /Automatic pallet change system (APC)                            | ○ |
|                              | Oil separator / Coolant temperature control system  | ○ |

- Please contact with our sales if you have special requirement.
- All specifications and design are subject to change without notice.

**TAPPEC**  
ASIA PACIFIC ELITE CORP