

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

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MEMBER OF
TTC GROUP
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Brand story

APEC takes “Aiming at aerospace solutions” as the core spirit of the brand and provides great application support and customized solutions to high-end aerospace users. In summary, APEC is the system provider who provides factory planning, and Turnkey solutions. With customer driven innovation, APEC is the best strategic partners of our customers.

Factory planning

Capabilities of planning the most suitable automatic/semi-automatic production cell and production line for the factory.

Process level up

Process improvement & optimization services could be provided to increase production efficiency.

High-end facility

Complete machining solutions for various aerospace structures and engine parts.

Aiming At Aerospace Solutions

Training program

- 5-axis operation
- Machine maintenance
- Tool & jig planning
- 5-axis programming upgrade

Talent supply

Industry-academia collaboration

Smart manufacturing

TLM system could be applied to monitor machine status and operation history. Production traceability and improvement could be made. TIMS could fulfill smart manufacturing purpose and the function includes tool management, order management and quality control.

Turnkey solution

With the optimal combination of perfectly adapted technology modules including process analysis, machine recommendation, clamping devices, tools and software, the optimized Turnkey solution could be provided.

AGA key components

- Spindle
- Milling Head
- Trunnion Table

Aerospace Gebert APEC is a brand which provide key components of aerospace processing. It is developed by APEC and Dr.Gebert's team from Germany.AGA provides the brilliant components such as high power high speed Spindle, Milling Head and Trunnion Table which are especially designed for APEC machines. The after-sales services could then be offered more efficient and accurate.



TIMS

- Production management
- Intelligent monitoring
- RFID tool management
- Workpiece management
- Order management



TLM

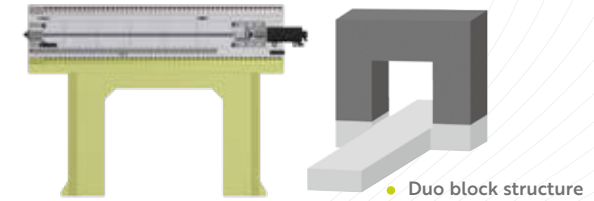
- Machine status
- Utilization analysis
- Alarm history
- Operation history
- Program upload/download



MT15 AERO Series

5-Axis High Speed Double Column Machining Center

- **Duo block structure design**
Machine rigidity and working stability could be enhanced via duo block structure design.



- **Larger machining area**
Despite the smallest footprint in its class, this compact model features a wide machining area and complete functions.

- **Suitable workpieces**

Wing structure



Wing rib(S/M)

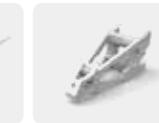
Fuselage structure



Spar



Cross beam



Pylon



Machine configuration for aerospace machining

Cross beam flushing system

High pressure pump with groups of powerful nozzles can quickly remove the chips.

Complex chip removal system

Complex chip removal system with a large-capacity water tank, could make coolant and chip removal stable and efficient.

Fully enclosed splash guard

Lower noise and prevent spreading of chips and coolant liquid.

Special spindle for aluminium alloy processing

High speed and power spindle with the best material removal rate.

Unequal thickness of Ram

Ram equipped with quadrilateral structure performs the best balancing design and better geometry.

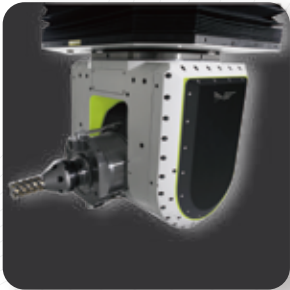
High dynamics

3-axis with high acceleration and deceleration, especially suitable for multiple bulkheads of aluminium alloy material processing.

24,000rpm				15,000rpm			
Spindle taper	HSK-63A			Spindle taper	HSK-100A		
Lubrication	Oil air			Lubrication	Oil air		
Power(kW)	S1	35	60	Power(kW)	S1	45	
	S6	42	75		S6	54	
Torque(Nm)	S1	55.7	48.2	Torque(Nm)	S1	119	
	S6	67.2	60.5		S6	143	

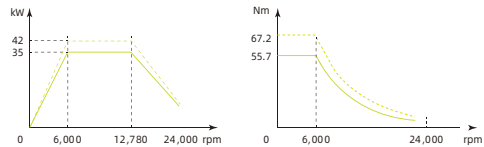


Mono Support Milling Head
(MT15 Std.)

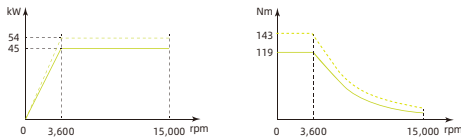


Fork Type Milling Head
(Suitable for Aluminum)

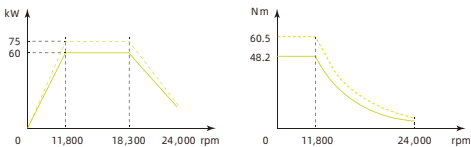
24,000rpm, HSK63A



15,000rpm, HSK100A



24,000rpm, HSK63A



Spindle Taper	HSK63A/HSK100A	HSK63A/HSK100A
Swivel/Rotation Torque	A=529/869Nm C=783/1,300Nm	B=1,192/1,980Nm C=1,050/1,740Nm
Swivel/Rotation Speed	A=C=30(cont)rpm A=C=60(max)rpm	B=C=30(cont)rpm B=C=60(max)rpm
Swivel/Rotation Angle	A=±125° C=±360°	HSK63A:B=±120° C=±360° HSK100A:B=±115° C=±360°
Clamping Torque	A=4,000Nm C=4,000Nm	B=4,000Nm C=4,000Nm

Specification	Unit	MT15	
Travel		MT1520	MT1530
X-axis	mm	2,000	3,000
Y-axis	mm	2,000	
Z-axis	mm	850(1,000 opt)	
Distance from spindle end to table	mm	-100-750	
Table			
T-slot size	mm	20x125	
Length	mm	2,100	3,100
Width	mm	1,200	
Max. table load	tons.	3	5
Feedrate			
Rapid traverse	m/min	X/Y/Z=30	
X.Y.Z axis acceleration	m/sec ²	5	
Accuracy			
Positioning	mm	1000mm-3000mm	VDI344:0.004-0.008 ISO230-2:0.003-0.005
Repeatability	mm	1000mm-3000mm	VDI344:0.003-0.005 ISO230-2:0.002-0.003
DBB circularity	mm	XY/XZ/YZ 0.02	
Spindle(Standard)			
Spindle taper		HSK63A	
Spindle speed	rpm	24,000	
Spindle power(S1/S6)	kW	35/42	
Spindle torque(S1/S6)	Nm	56/67	
Automatic tool changer			
Tool shank	pcs	32T	
Max. tool length	mm	300	
Max. tool diameter with adjacent tool	mm	Ø75	
Max. tool diameter without adjacent tool	mm	Ø130	
Max. tool weight	kg	8	
Others			
Machine weight	tons.	20	24

☒ Standard accessories ☐ Optional accessories

Item	Specification	
Controller	HEIDENHAIN TNC640 MPG HR510	<input checked="" type="radio"/>
	HEIDENHAIN TNC640 MPG HR520	<input type="radio"/>
	HEIDENHAIN TNC640 MPG HR550	<input type="radio"/>
	SIEMENS 840D MT series	<input type="radio"/>
	SIEMENS SINUMERIK 840D HT2	<input type="radio"/>
	SIEMENS SINUMERIK 840D HT2	<input type="radio"/>
Spindle	AGA HSK63A 24,000rpm 35/42 kw	<input checked="" type="radio"/>
	AGA HSK100A 15,000rpm 45/54 kw	<input type="radio"/>
	AGA HSK63A 24,000rpm 60/75 kw	<input type="radio"/>
Drive System	XYZ with high speed ball screw driving	<input checked="" type="radio"/>
Automatic tool changer	32T	<input checked="" type="radio"/>
	40T	<input type="radio"/>
	60T	<input type="radio"/>
Cutting coolant	Coolant around spindle	<input checked="" type="radio"/>
	Coolant through spindle 20bar	<input checked="" type="radio"/>
	Coolant through spindle 70bar	<input type="radio"/>
System coolant	Chiller for spindle	<input checked="" type="radio"/>
	Air conditioner for electrical cabinet	<input checked="" type="radio"/>
Chip removal system	Complex chip conveyer	<input checked="" type="radio"/>
	Enlarged coolant tank	<input checked="" type="radio"/>
Workpiece measurement system	BLUM workpiece measurement system(TC60-RC66)	<input type="radio"/>
	Renishaw workpiece measurement system(RMP600)	<input type="radio"/>
Tool measurement system	BLUM tool measurement system(NT-A4)	<input type="radio"/>
	Renishaw tool measurement system(NC4-F230)	<input type="radio"/>

Item	Specification	
Smart factory	TIMSystem	<input type="radio"/>
	TLMsystem	<input type="radio"/>
	Security door interlocks	<input checked="" type="radio"/>
	Air dryer	<input checked="" type="radio"/>
Others	Isolation transformer	<input checked="" type="radio"/>
	Spindle oil/air lubrication system	<input checked="" type="radio"/>
	Oil mist collecting system	<input checked="" type="radio"/>
	5 axis with Heidenhain optical scale	<input checked="" type="radio"/>
	Waterproof working lamps	<input checked="" type="radio"/>
	Fully enclosure Splash Guard	<input checked="" type="radio"/>
	Automatic Kinematics measuring and calibration system	<input type="radio"/>
	Stabilizer	<input type="radio"/>

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

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MT15 *AERO Series*
Aluminium