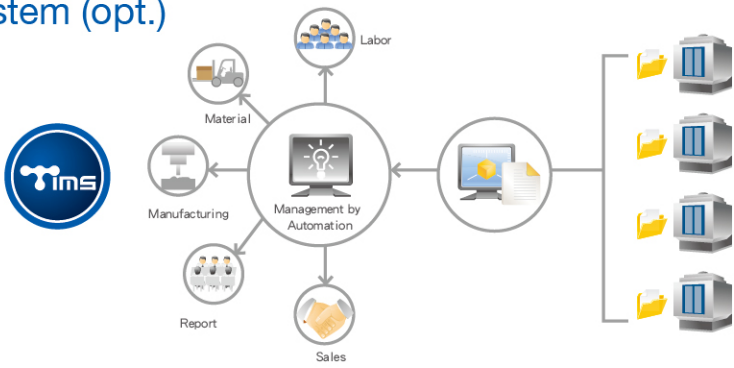


Intelligent system and friendly human-machine interface

Customized friendly human-machine interface for increasing the operation efficiency Tongtai Integrated Monitoring System (opt.)

TIMS has four main functions, which provide a full information base and benefits managers for factory management.

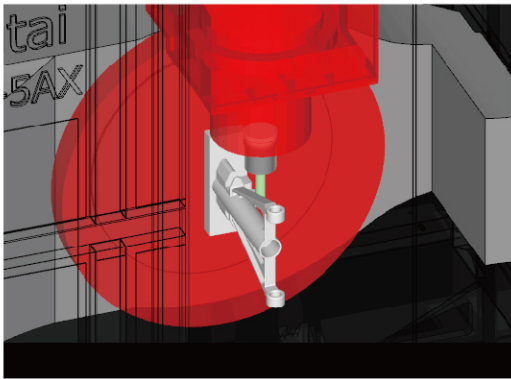
- A. Machine situation monitoring
- B. Production lines management
- C. Operation history record
- D. Alarm history record



3D Interference Protection (opt.)



- Assist operators to set up tools, workpieces, and fixtures via the simple procedures.
- Through 3D simulation, interference in each section can be checked (ex. spindle, tools, workpiece, jig & fixture etc.)
- In both manual and automatic modes, the system will stop the machine before clash happens.
- Online cutting simulation function is available.
- The maximum reading-ahead time is 600 msec, it avoids the clash.



Tool Monitoring (opt.)



Integrate adaptive cutting, tool life monitoring, tool management for providing an intelligent tool management interface.

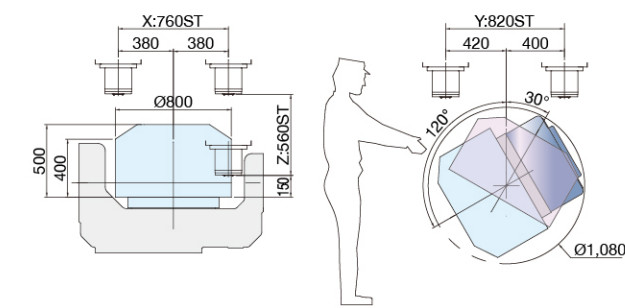


- A. Tool life monitor
- B. Tool management
- C. Adaptive cutting

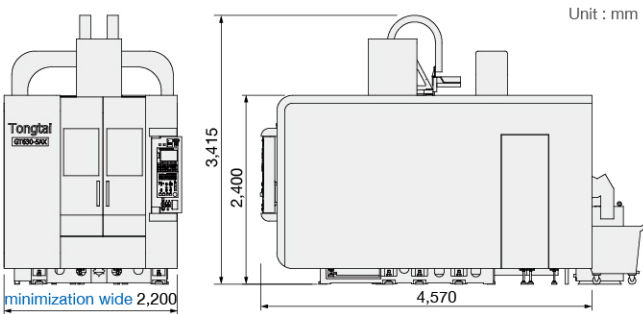


TOOL MONITOR									
NO.	TOOL	T	TOOL-ID	C	NO.	REWORKS	MERCH	REWORKS	REAR(D)
1	1	1	7001	1	1	11.000	1.000	101.000	0.000
2	2	2	7002	3	2	22.000	3.000	33.000	0.000
3	3	3	7003	1	3	44.000	3.000	55.000	0.000
4	4	4	7004	1	4	55.000	2.000	33.000	0.000
5	5	5	7005	1	5	77.000	23.000	5.000	0.000

Working area



Machine dimensions



Specification

Item	Specification	Unit	GT630
Table	Table size	mm	Ø630
	Max. loading capacity	kg	600
	Table height from floor	mm	880
	Max. workpiece dimension (diameter×height)	mm	Ø800×500 (Shape limited)
	A/C axis min. indexing increment	deg	0.001°
Spindle	Spindle taper		7/24 Taper No. 40
	Spindle speed	rpm	Built-in type 15,000 (Opt. 20,000)
Stroke	X/Y/Z axis stroke	mm	760/820/560
	Spindle nose to table	mm	150-710
	A axis stroke	deg	+30° ~ -120°
	C axis stroke	deg	±360°
Feed	X/Y/Z axis rapid traverse	m/min	48/48/48
	A/C axis rapid traverse	rpm	30/50
	Cutting feedrate	mm/min	1-10,000
ATC	Tool shank		BBT-40 (Opt. HSK-A63)
	Tool capacity	pc	32 (Opt. 48/64)
	Max. tool diameter	mm	Ø75
	Max. tool diameter (w/o adjacent tool)	mm	Ø120
	Max. tool length	mm	300
Motor	Max. tool weight	kg	7
	Spindle motor	kW	40 (Opt. 40/30)
	X/Y/Z axis servo motor	kW	6.5/8.6/8.6
	Coolant motor	kW	0.37×2
Machine size	Wide x Depth x Height	mm	2,200×4,570×3,415
	Weight	kg	12,000
Controller			Heidenhain



Tongtai Machine & Tool Co., Ltd.

Headquarters

No.3, Luke 3rd Rd., Luzhu Dist., Kaohsiung City 82151, Taiwan

TEL : 886-7-9761588

FAX : 886-7-9761589, 886-7-9761590

Website : www.tongtai.com.tw

Taoyuan Office	TEL : 886-3-4551399	FAX : 886-3-4559730
Taichung Office	TEL : 886-4-23589600	FAX : 886-4-23589993
Japan Branch	TEL : 81-4-71438355	FAX : 81-4-71438360
Europe Branch	TEL : 31-161-454639	FAX : 31-161-454768
Malaysia Branch	TEL : 603-78597113	FAX : 603-78597115
Vietnam Office	TEL : 84-4-62766090	
Thailand Office	TEL : 66-2-7443440	FAX : 66-2-3986518
Indonesia Office	TEL : 62-21-45850875	FAX : 62-21-45850876

Affiliates

Honor Seiki Co., Ltd.

TEL: 886-7-9759888

FAX: 886-7-9759999

Website : www.honorseiki.com.tw

Asia Pacific Elite Corp.

TEL: 886-4-23589313

FAX: 886-4-23589913

Website : www.apecnc.com

China Operation Center

Shuzhou Tong-yu Machine & Tool Co., Ltd.

No.555 Huahong Road, Economic Development Zone,

Songling Town, Wujiang City, Jiangsu Province, China

TEL : 86-512-63430168

FAX : 86-512-63431622

E-mail : sales@tong-yu.com.cn

Wuhan Branch	TEL : 86-27-59409109	FAX : 86-27-59409110
Chongqing Branch	TEL : 86-23-67865925	FAX : 86-23-67867717
Guandong Branch	TEL : 86-755-27222119	FAX : 86-755-27222115
Tianjin Branch	TEL : 86-22-24417640	FAX : 86-22-24416738
Shanghai Office	TEL : 86-21-24208138	FAX : 86-21-34073262
Shenyang Office	TEL : 86-24-24142968	FAX : 86-24-24115782

Quick-Tech Machinery Co., Ltd

TEL: 886-6-3841155

FAX: 886-6-3841177

Website : www.quicktech.com.tw

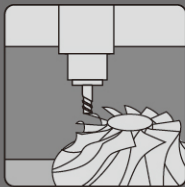


www.tongtai.com.tw



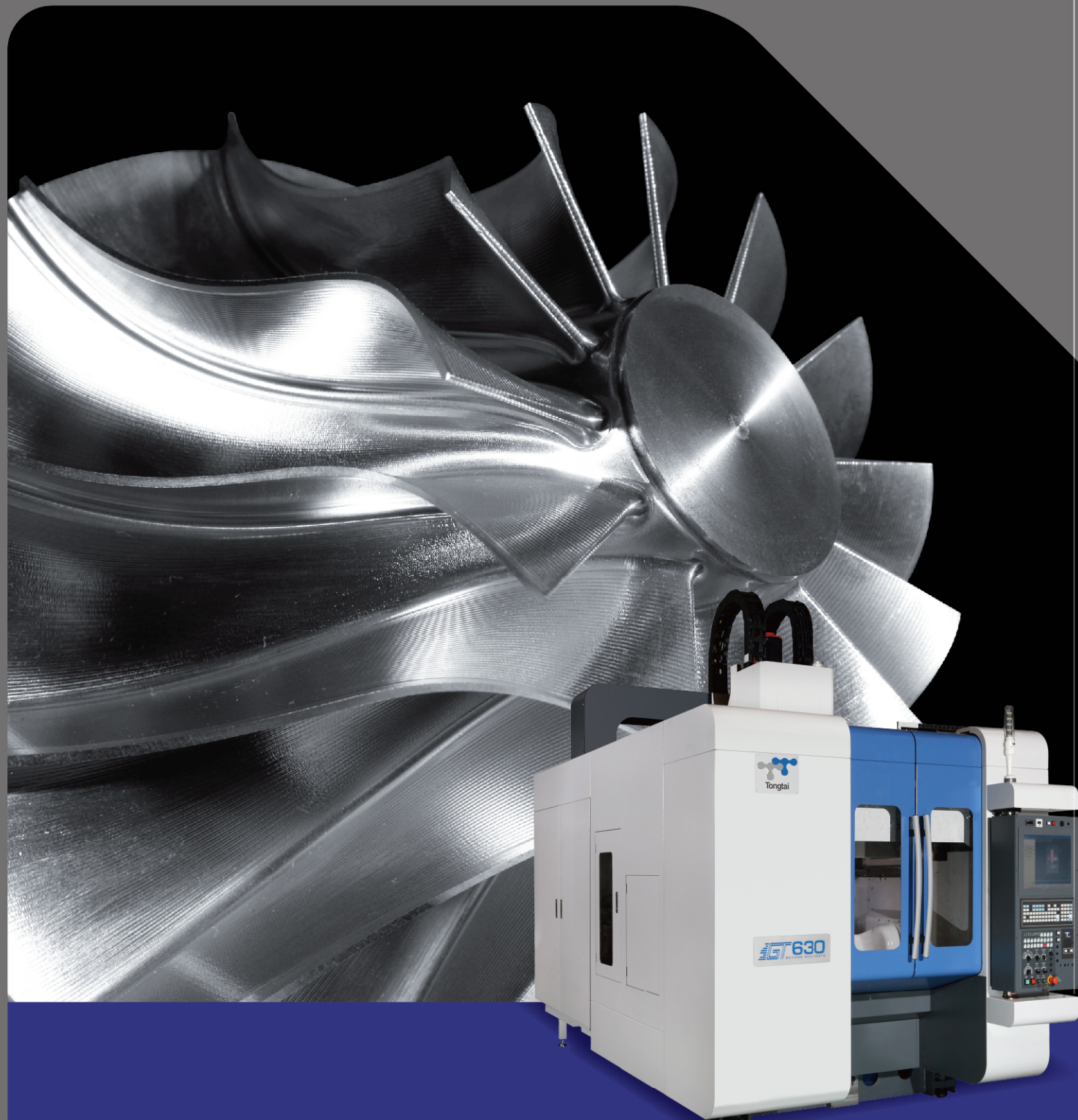
Tongtai

Trust & Technology



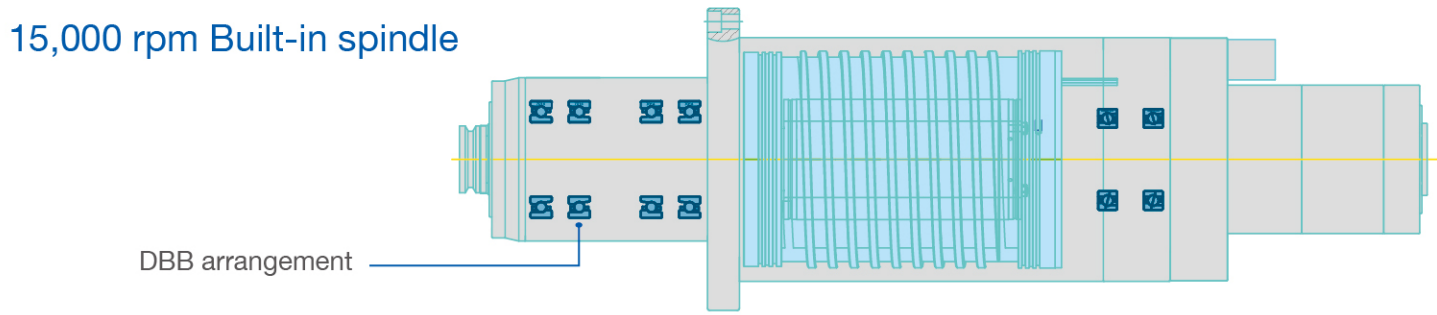
GT-630

Five-Axis Vertical Machining Center



Spindle

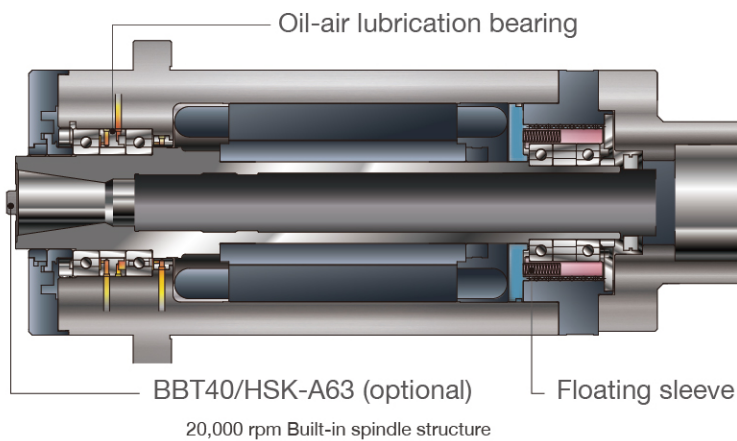
15,000 rpm Built-in spindle



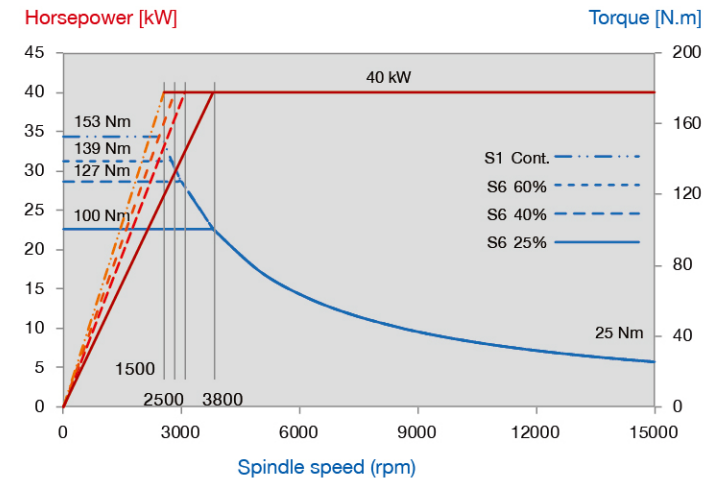
- The spindle is equipped with oil-air lubricated bearings and oil-cooling cartridge, it constrains the thermal generation and reduces the thermal expansion in spindle.
- Temperature control system will alarm and stop manufacturing while the spindle is overheated in order to prevent bearings from damage.
- 4 bearings are arranged in DBB type on front side to provide high rigidity while heavy duty cutting.
- BBT dual-contact tool holder is equipped to enhance the stability and machining quality.

20,000 rpm Built-in spindle

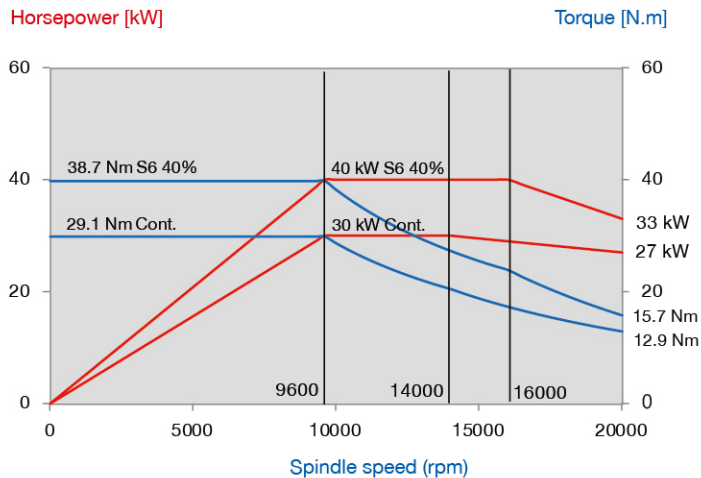
- The spindle is equipped with oil-air lubricated bearings and oil-cooling cartridge, it constrains the thermal generation and reduces the thermal expansion in spindle.
- Temperature control system will alarm and stop manufacturing while the spindle temperature is too high, in order to prevent thermal damage of bearing.
- Floating sleeve on rear-end bearing is used to avoid the preload variation of bearing induced by thermal expansion and ensure bearing's lifetime.
- BBT dual-contact tool holder is equipped to enhance the stability and machining quality.



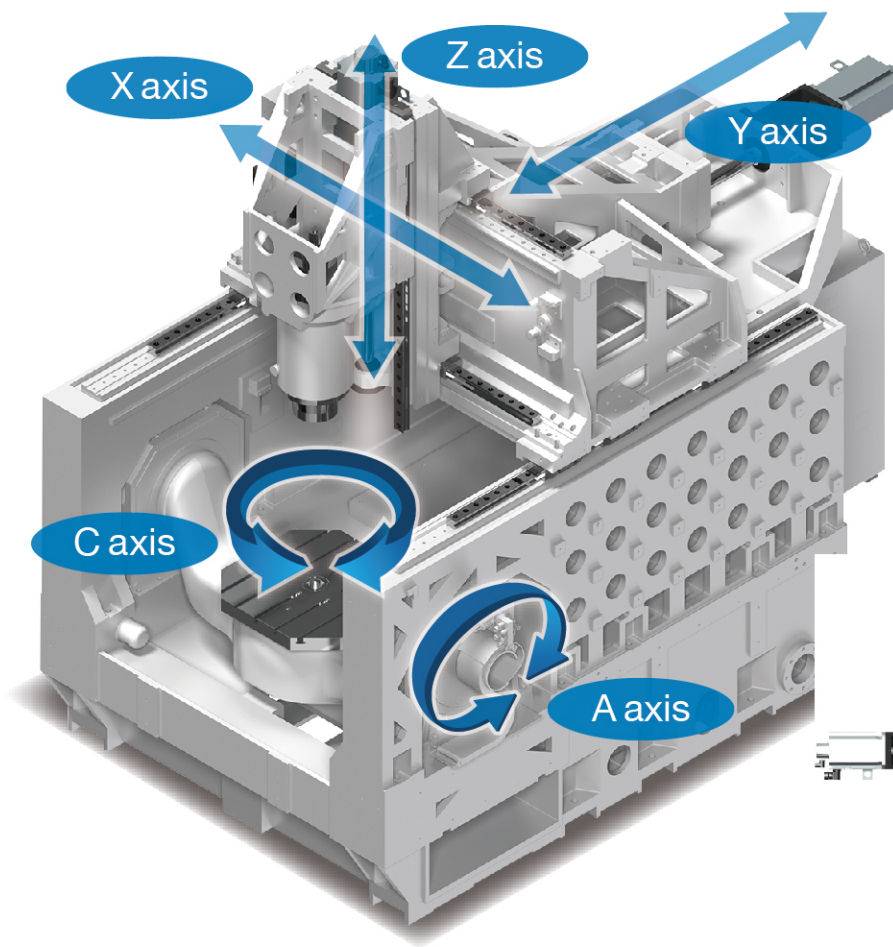
15,000 rpm Built-in spindle (std.)



20,000 rpm Built-in spindle (opt.)



Structure



Stroke

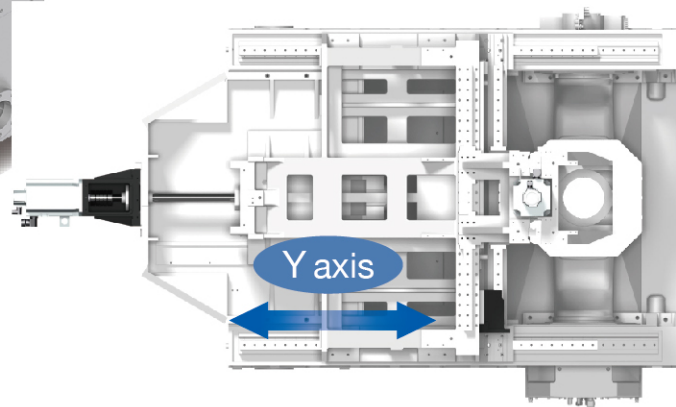
X/Y/Z axis 760/820/560 mm
A/C axis 150(+30°~-120°)/±360° mm

Rapid traverse

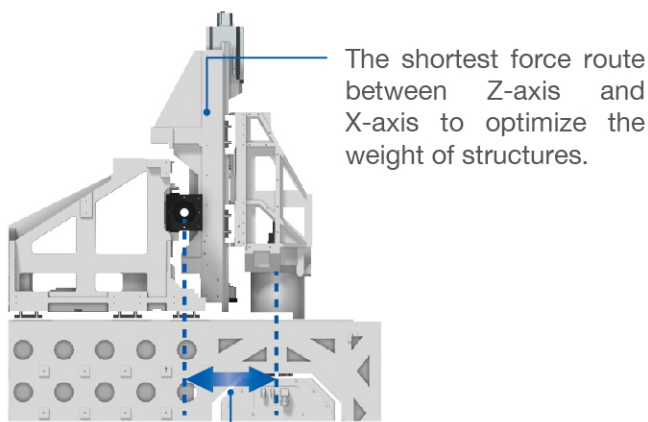
X/Y/Z axis 48/48/48 m/min
A/C axis 30/50 rpm

Gravity center driven and weight optimized of moving component

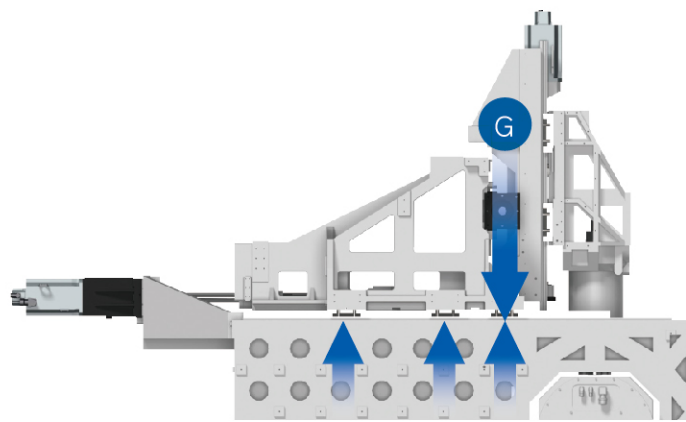
New slide structure patent M436522



Y axis is driven by single ballscrew at the center of gravity to ensure the parallelism of slide moving.



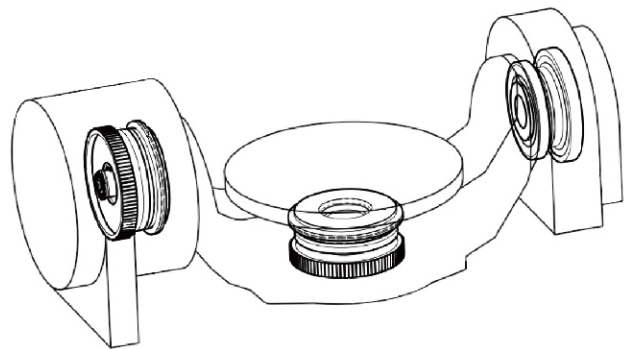
Less overhung spindle provides excellent rigidity in heavy duty machining.



The gravity center of Y-axis moving components falls within the supporting range of sliding block, it decreases the decline of spindle and improves dynamic stability.

Direct-drive type tilting/rotating table

Direct-drive motor is used as the driver of A/C-axis tilting and rotating. It's one of the best solutions for high speed machining. The advantages of DD motor are less volume, less error, higher resolution, higher torque, and higher speed.
The A/C axis have 2,125/615 Nm continuous torque output and 3,920/1,150 Nm peak torque.



Spindle thermal deformation compensation (opt.)

- Built-in type temperature sensor detects the temperature of spindle bearing for protecting the bearing from overheating.
- According to the closest temperature of bearings, the thermal deformation compensation can be achieved correctly.
- Through thermal compensation, precision of each axis can be maintained below 20 μm.

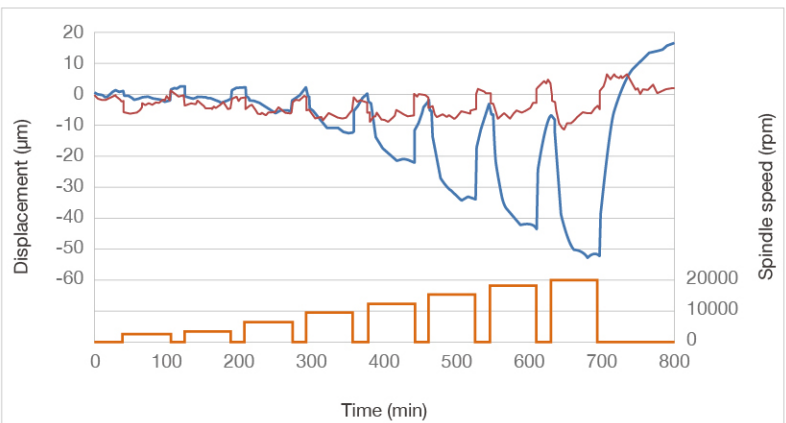


Diagram of thermal displacement on Z-axis

Rotating center detection for five-axis machining center (opt.)

1. Calibration of rotating centers
2. Tool length measurement
3. Tool breakage detection
4. Manual workpiece position measurement
5. Automatic workpiece position measurement

