



The Ultimate Machining Power of All Aspects



GOODWAY MACHINE CORP.

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JOURNAL 6

The Ultimate Machining Power



GOODWAY MACHINE CORP.



GOODWAY was established for 40 years

The Ultimate Machining Power

Dedicate on RD investment and quality product

GOODWAY concentrates on revolution of
technology of machine tools

Insist on providing the turning centers

Let's grow together into the futures



HIGHLIGHTS



G.LINC 350 Intelligent control system
New Edition !!



GTH series
Specializes for automobile industry



Super large vertical turning centers
New Arrival !!



Brand new exterior design

CONTENTS

05 - 06	Operation Centers	35 - 36	GTZ / GTS series
07 - 16	Core Technology	37 - 35	GTH series
17 - 18	Key of Manufacture	39 - 40	HA series
19 - 20	Production Capacity	41 - 42	GS-8000 / GS-6000 series
21 - 22	Industry Development	43 - 44	GS-4000 series
23 - 24	SUPER GV series	45 - 46	GS-3000 / GS-2000 series
25 - 26	GV-1 series	47 - 48	GA series
27 - 28	GV-1000 series	49 - 50	GLS series
29 - 30	GV-780 / GV-500 series	51 - 52	GCL-2 / TS-100 / TLV
31 - 32	SD / SW series		GA-3300/W24 / GS-200
33 - 34	GMS series	53 - 54	The Product Line-up



Today, we establish a milestone, which wrote "Excel in innovation" at the entrance of our factory. The purpose is to remind everyone about continuously innovating from day to day, and constantly pursuing perfection on quality in order to reach our goal of 100% customer satisfaction. GOODWAY is grateful to you for all that expectations on GOODWAY. May it be the wisdom to encourage ourselves.



/ photo : President Edward (second from the right) group photo taken with core members at Wujiang Open House. /
 / article : excerpt from the speech at Open House /

HONORARY PRESIDENT OF PRECISION MACHINERY DEVELOPMENT
 ASSOCIATION OF TAIWAN (CMD)
 HONORARY PRESIDENT OF MANUFACTURERS ASSOCIATION OF
 TAICHUNG INDUSTRIAL PARK (TMBA)
 The FOUNDED PRESIDENT OF TAIWAN MACHINE TOOL AND ACCESSORY
 BUILDER'S ASSOCIATION (TCIPA)

GOODWAY MACHINE CORP.
 EDWARD TE-HWA YANG, PRESIDENT

Edward TH Yang

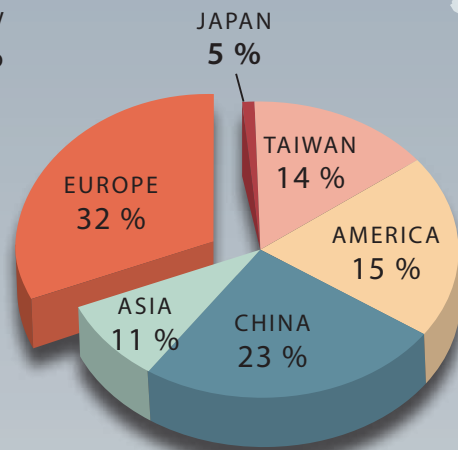
Operation Centers

Continuing Global Presence Efforts Providing the Best Localized Service

To manage the long-term development plan and growing business needs, GOODWAY recently and continuously expands branches and newly built factories, including YAMA SEIKI USA office reconstruction, Wujiang factory opening in Suzhou and headquarters reconstruction for large scale machines assembly. GOODWAY looks forward to achieve a comprehensive global presence and build brand new modernized factories to provide the best localized service to every customers.



GOODWAY Machine Corp. was established in 1975. GOODWAY has been specialized in researching and developing turning centers in 40 years. In 2009, GOODWAY listed its share at Taiwan Stock Exchange. Regardless of the index of operating performance or equity, GOODWAY is one of the top in machine tools category, which represents the outstanding position of GOODWAY.



Market Distribution



HEADQUARTERS 18,600 m²

Processing and assembly of key components
TAICHUNG · TAIWAN



CTSP BRANCH 26,600 m²

Manufacturing of turning centers
TAICHUNG · TAIWAN



GOODWAY MACHINE (WUJIANG) CORP. 66,800 m²
Manufacturing of turning centers / SUZHOU · CHINA



SOUTH CHINA SALES OFFICE 500 m²
Sales and service / DONGGUAN · CHINA



YAMA SEIKI USA, INC. 20,000 m²
Sales and service / LOS ANGELES · USA.



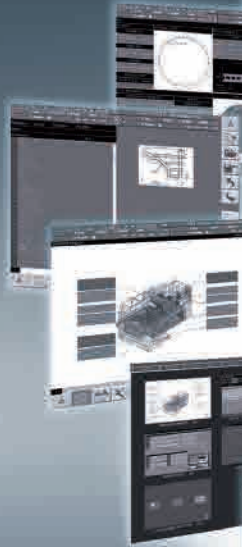
CHIAYI BRANCH 100,000 m²
Under Construction / CHIAYI · TAIWAN

Core Technology» NC Intelligence

GLINC 350

We make machine smarter!

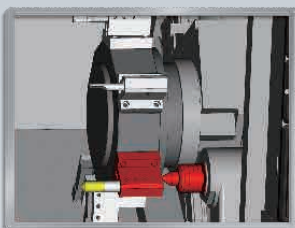
Turning Center
Intelligent System



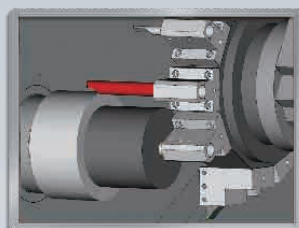
3D On-Line Instant Interference Inspection



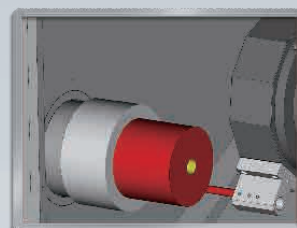
- Detecting interference while cutting allows machine stops in time.
- 1 : 1 reality machining display.
- No matter manual or automatic mode, machine is synchronic with inspection to make sure the operation safety.
- Transforming of work-piece and reality display are synchronic to ensure the interference inspections are the same.



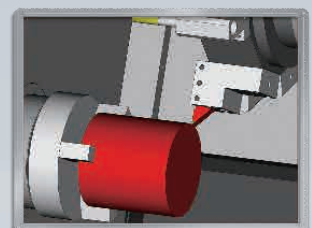
The feeding will stop when interference happens between the turret and tailstock



Inspecting interference between the tool and chuck



Inspecting interference during turret indexing



Inspecting interference between the tool and material during spindle stop



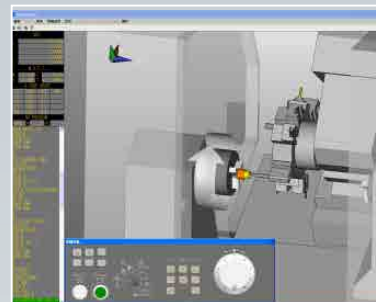
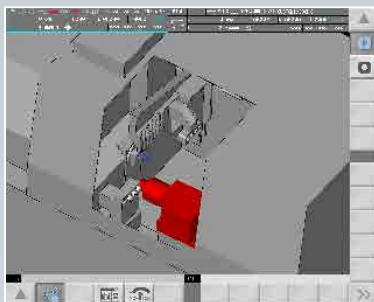
19" color LED display

Features

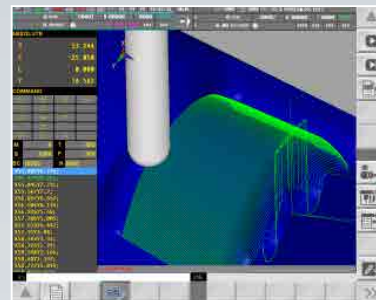
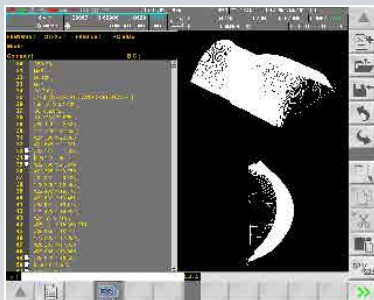
- ▶ High Reliable Continuously Operation
- ▶ Shorten Troubleshooting Time
- ▶ Availability Rate Analysis
- ▶ High Security And Short Setting Time
- ▶ Advanced Hardware
- ▶ Outstanding Operability
- ▶ Streamlined Programming

3D Off-Line (Predict) Cut, Interference Display

1 : 1 Machining simulation
(pre-cut + interference inspection)

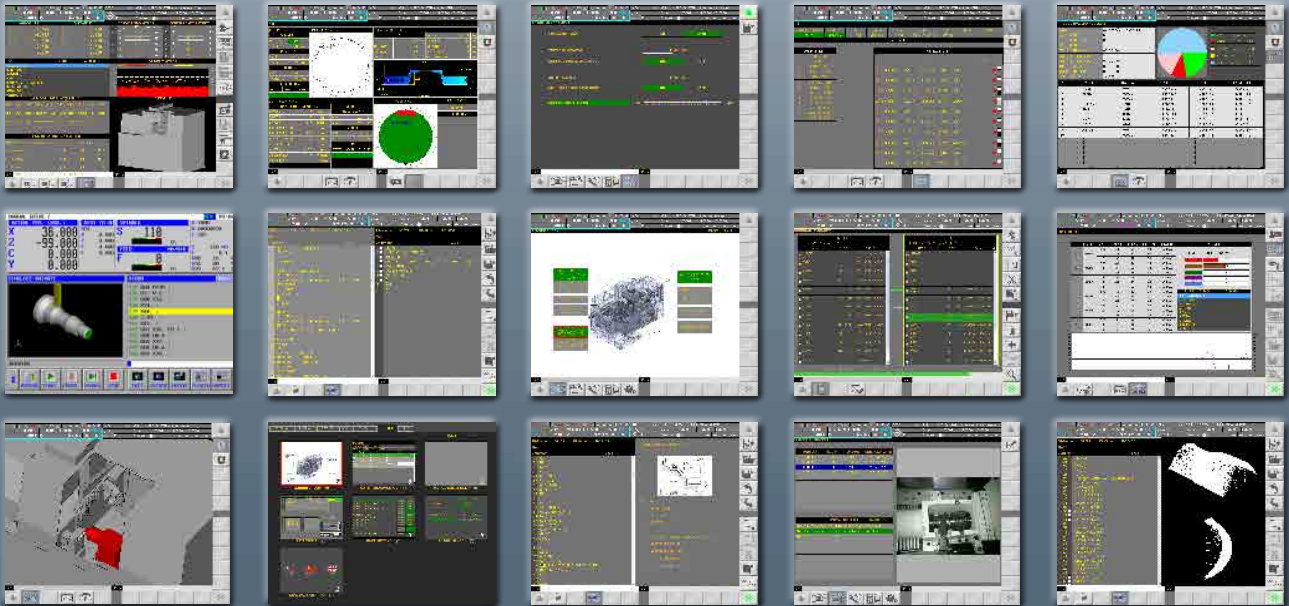


Tool path simulation



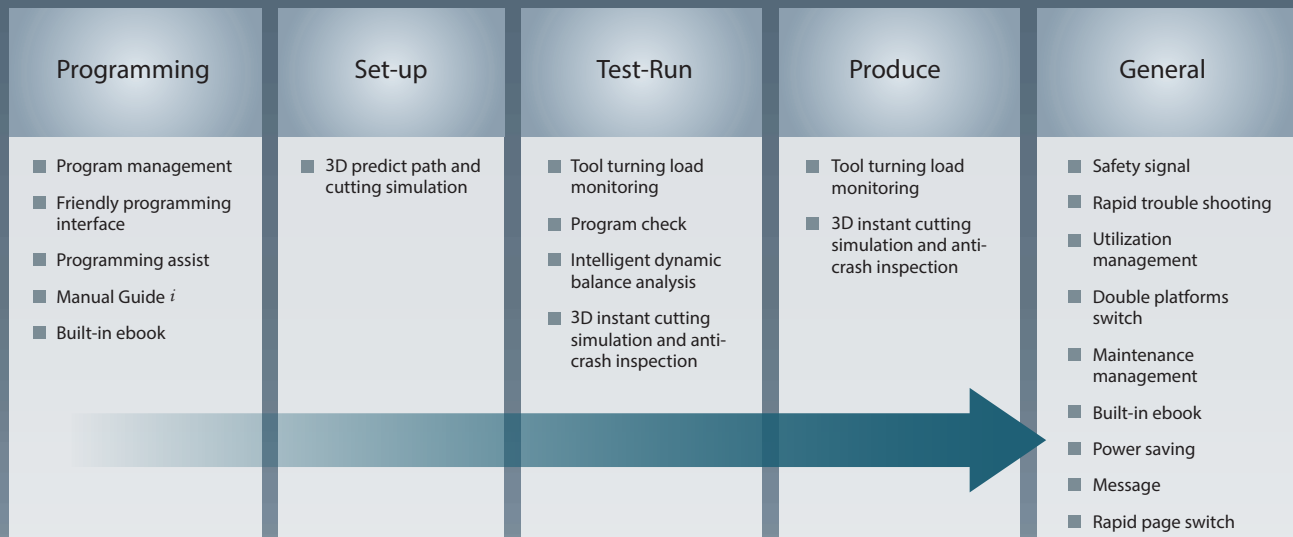
Core Technology >>

Integrated System Capability



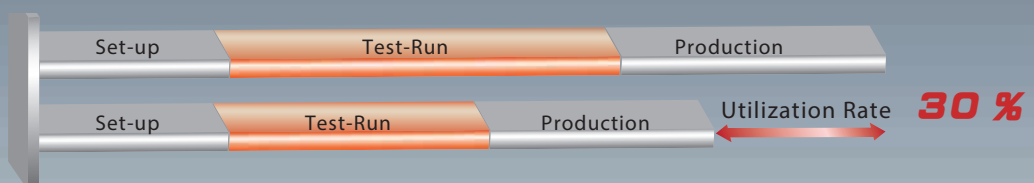
- Program management
- 3D predict path and cutting simulation
- Safety signal viewer
- Friendly programming interface
- Rapid trouble shooting
- Tool turning load monitoring
- Programming assist
- Utilization management
- Double platforms switch
- Program check
- Maintenance management
- Built-in ebook
- Power saving
- Message (opt. hardware)
- Manual Guide *i*
- Rapid page switch
- 3D instant cutting simulation and anti-crash inspection (31i only)
- Intelligent dynamic balance analysis (opt. hardware)

The optimal user experience and production efficiency



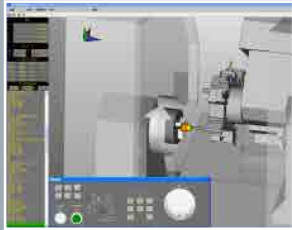
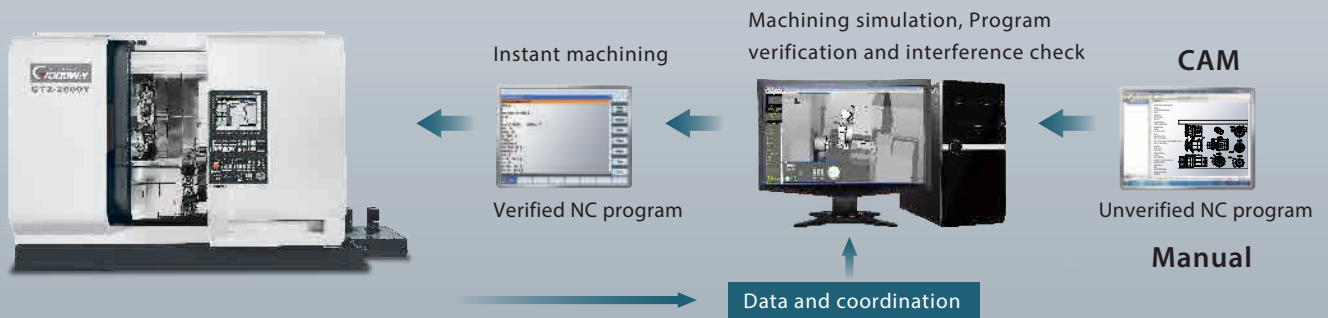
General Production Process

Using 3D Simulation Inspection



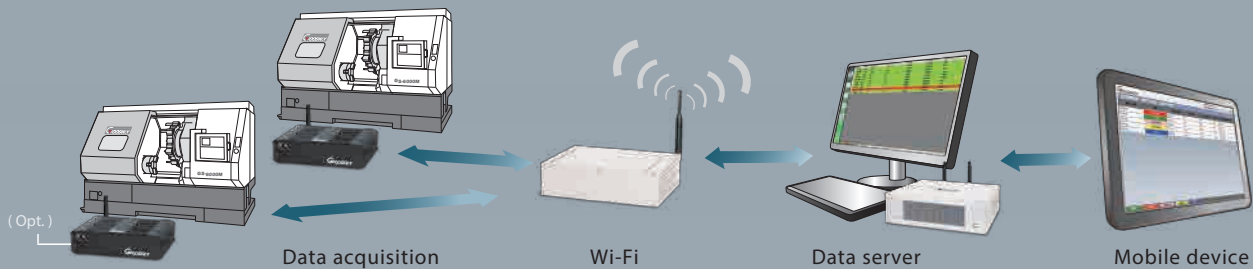
The 3D simulation inspection can greatly reduce test-run time and improve overall utilization rate

SVI Suite Turning Simulation



- Machine 3D display and operating simulation are synchronized with the actual machine
- Provides functions including fast program inspection, machining simulation and machine interference inspection
- Shortens test-run time and increases production efficiency
- User friendly interface
- Reduces operator's burden
- Reduces machine malfunction opportunity and maintenance cost
- Optimizes machining area
- Economical simulation solution
- Expandable modules
- Material cutting simulation

G.Net II Remote Monitoring



Real-time Monitoring Center

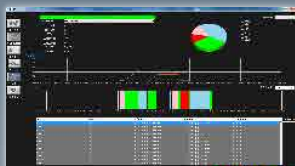
The system integrates information from all machines including operating status, machine ID, work-piece count, operator ID, and accumulated cycle time. The machines are marked with different colors for easy identification.

Data Statistics and Analysis

The data and mileage captured by the system are automatically saved into the database. It can provide easy access for the operator to browse any machine information.

Program Transmission

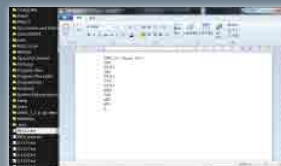
The machining program can be transmitted between the control and machine. It can also be transmitted between the servo and machine by using the control interface.



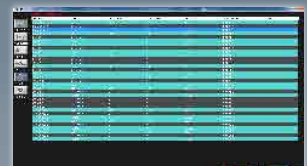
Detailed availability information



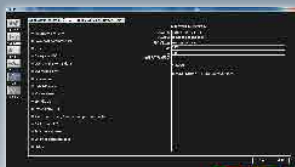
Custom machine placement



On-line programmer



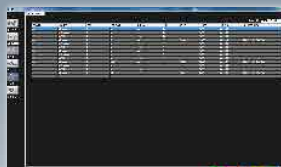
Machines states



Alert message



Duty routine management



Machining management

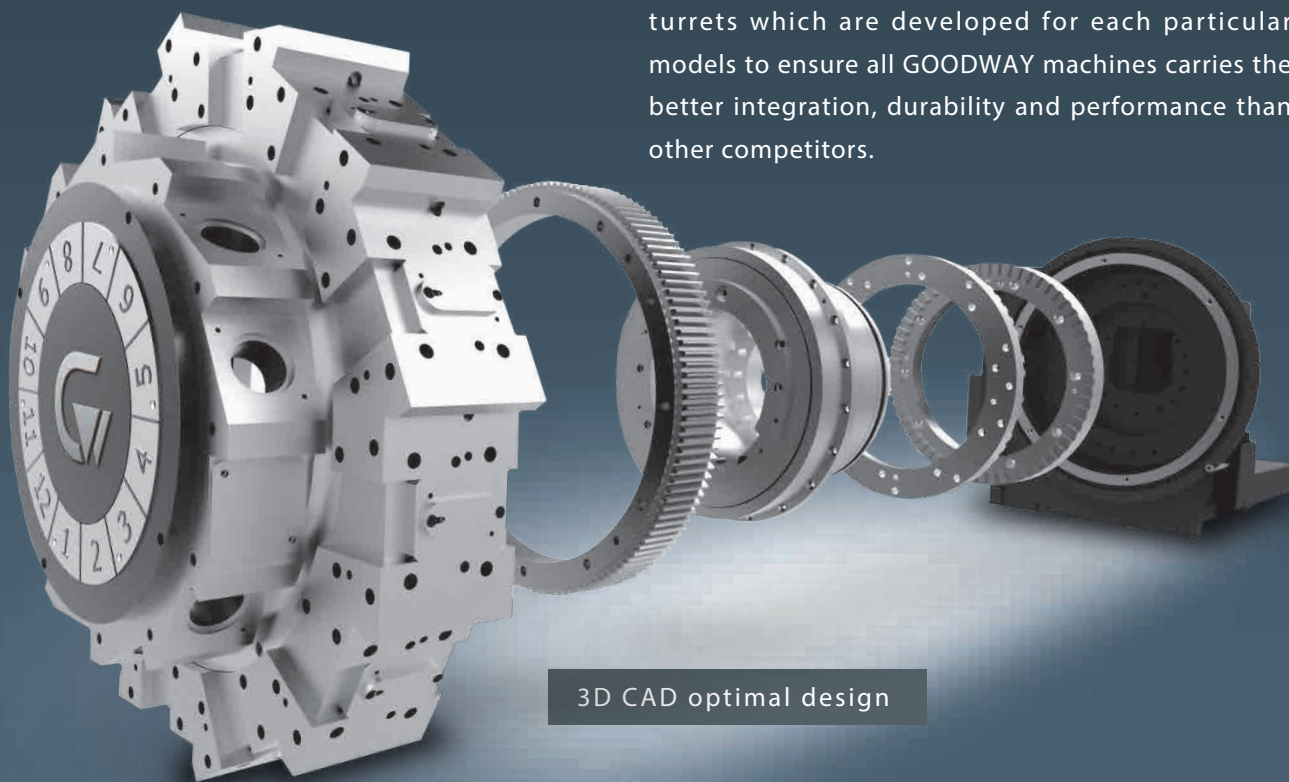


Remote server interface

Core Technology »

Live Tooling Turret

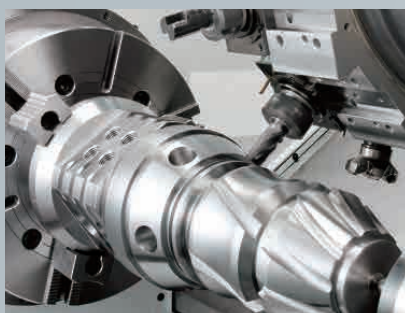
Over 15 years sales of self-developed live tooling turrets which are developed for each particular models to ensure all GOODWAY machines carries the better integration, durability and performance than other competitors.



3D CAD optimal design

Multi-Tasking Turning Capabilities

Most complete self-developed multi-tasking provides "All in one" set-up, which can achieve front / back, turning, milling, drilling, tapping, and on-line work-piece dynamic balancing.



Live Tooling Turret with C-axis

By combining disk brake system with live tooling turret and C-axis, drilling, milling and tapping applications including cylinder and contour turning can be done easily.



Sub-spindle

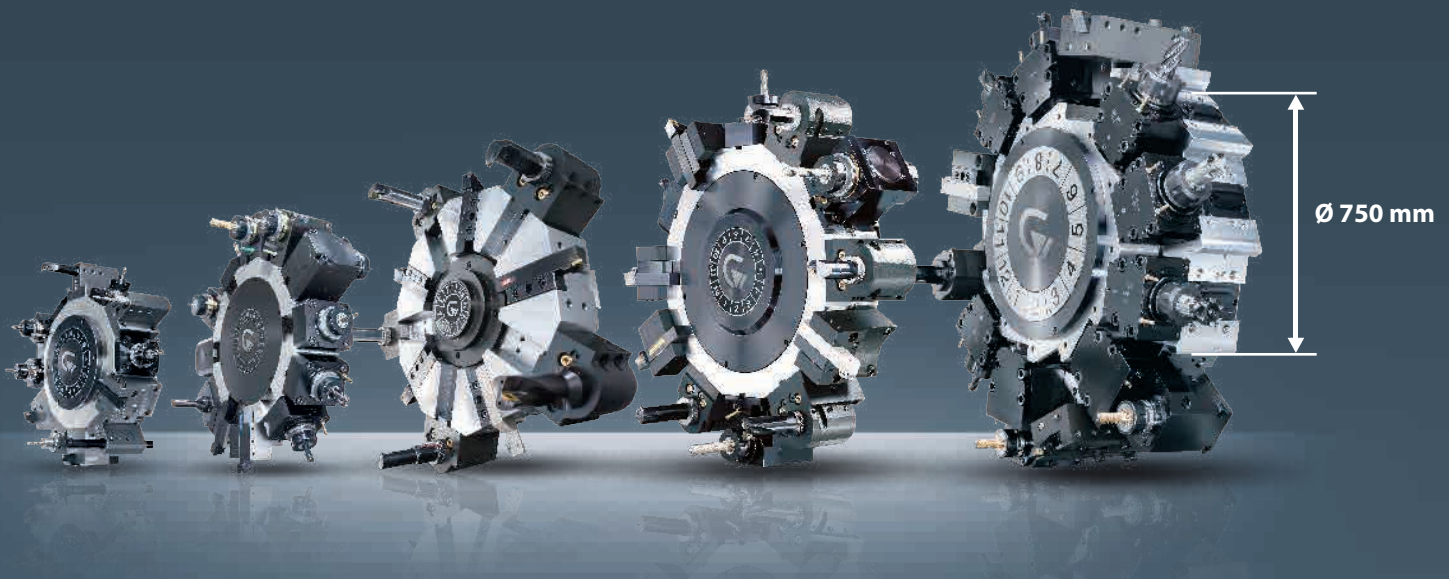
The sub-spindle can simultaneously accept a work-piece from the main spindle to work on the back of the work-piece (2nd operation). It not only saves transporting and setting time but also reduces accuracy error.



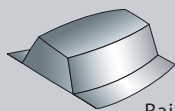
Y-axis

With the Y-axis , complex turning applications including high precision grooving and radial offset drilling can be done easily with high accuracy and efficiency.

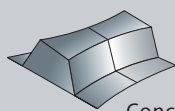
Multi-function



Curvic Coupling Surface



Raised
Teeth



Concave
Teeth

Curvic coupling contains self-centering, automatic clean and large surface of teeth, which has better performance than traditional curvic couplings.



Curvic coupling and gears are purchased by Japan famous company



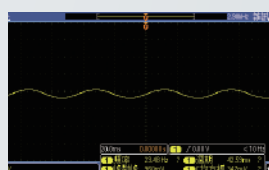
Work-piece dynamic balancing analysis

Applied on "unbalancing detecting of unsymmetrical work-piece" and "dynamic balancing analysis after machining" Removing uneven parts by live tooling turret helps complete dynamic balancing of work-piece.

Vibration ↓88%



Before WBA



After WBA

Tool spindle / Turret



Turret / Gang tooling



Twin spindles, twin turrets



Core Technology »

Large Scale

Applied advanced Finite Element Analysis (FEA) and 3D CAD optimal design ensures the best rigidity and strength of large casting parts with enforced ribs. And, large GOODWAY machines have excellent performance under heavy cutting, precisely cutting and other machining conditions.

GS-8000 series

Large horizontal turning centers

- ▶ Chuch size : 32"
- ▶ Hole through spindle : $\varnothing 320$ mm
- ▶ Max. turning Length : 3,200 mm
- ▶ Y-axis : 320 mm = ± 160 mm

**The World
Largest**

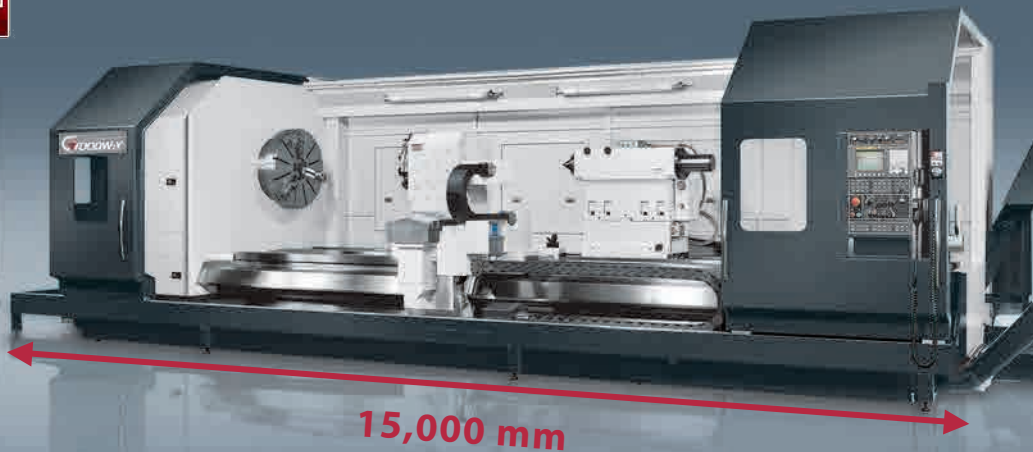


Only for the largest models of series

HA series

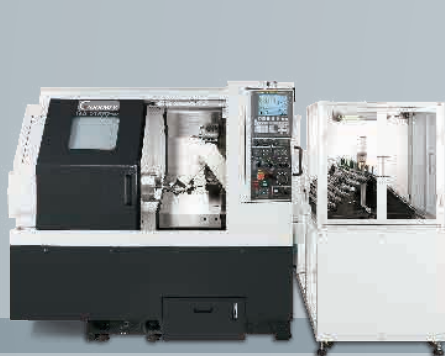
Mega flat-bed horizontal turning centers

- ▶ Chuch size : 32"
- ▶ Hole through spindle : $\varnothing 320$ mm
- ▶ Max. turning Length : 10,000 mm



Automation

Based on the integration of mechanic, automations can be designed according to work-piece to provide high efficiency and low manpower needed of modern factory.



■ Single machine / Robotic arm and stocker



■ Single machine / gantry type robotic arm and stocker

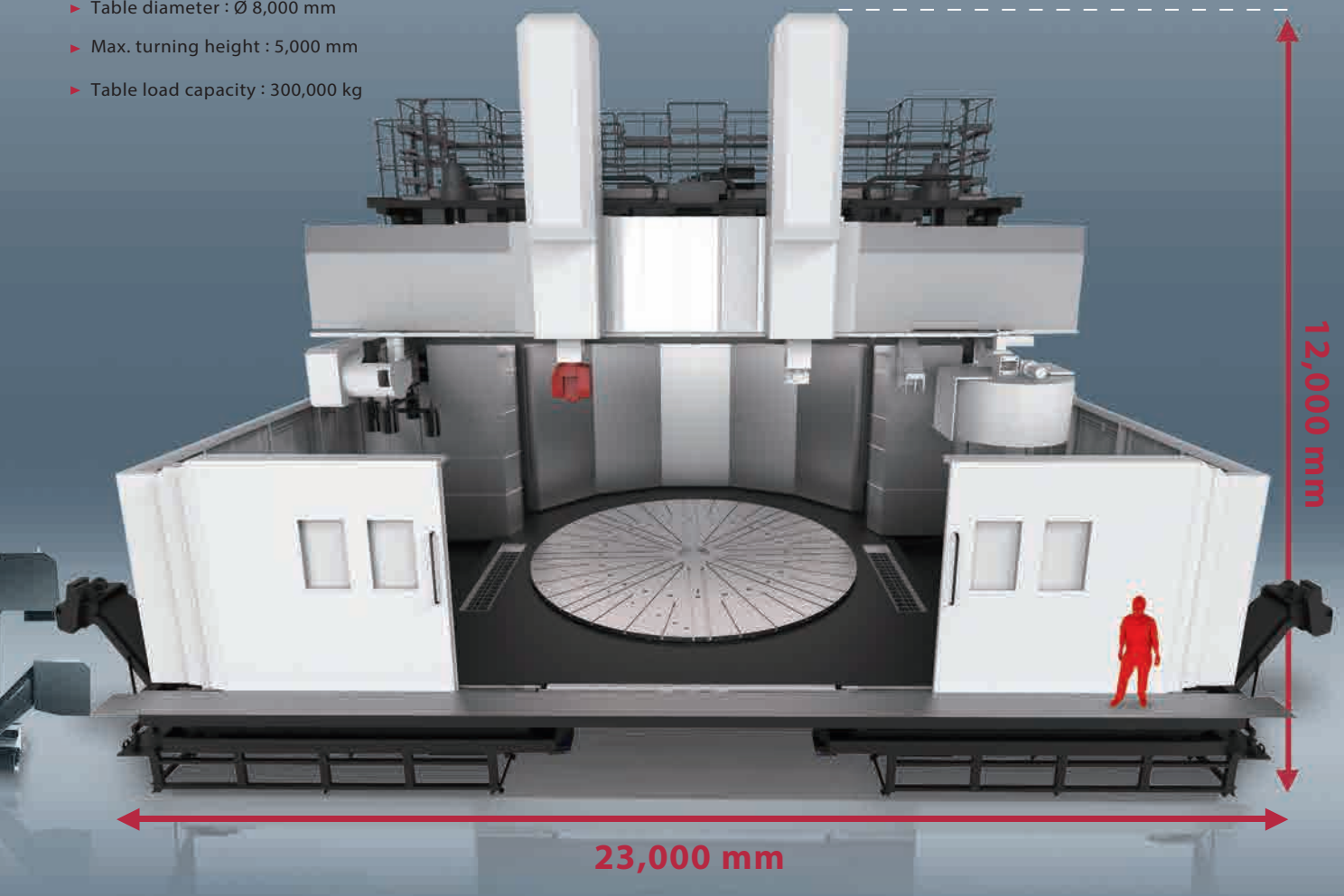


■ Twin spindles, twin turrets / auto. loading&unloading system and flipping device

SUPER GV series

Super large vertical turning centers

- ▶ Table diameter : Ø 8,000 mm
- ▶ Max. turning height : 5,000 mm
- ▶ Table load capacity : 300,000 kg



■ Twin spindles, twin turrets / loading & unloading system

■ Multiple machines / gantry type robotic arm and stocker

Core Technology »

Custom Equipments Developed Capacity

GOODWAY research and engineer team can develop various custom machining equipments based on clients special needs to increase mass production and lower manpower, which makes GOODWAY machines popular in world famous automobile market

Case of Japan automobile production line

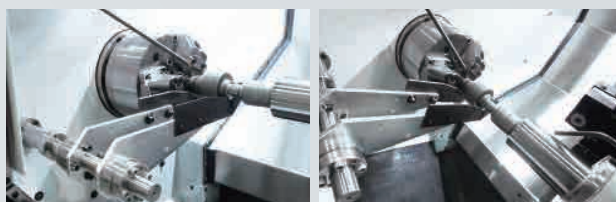




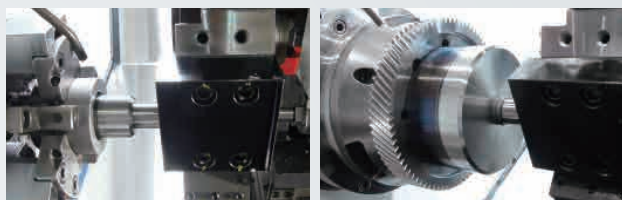
Specialized Chuck



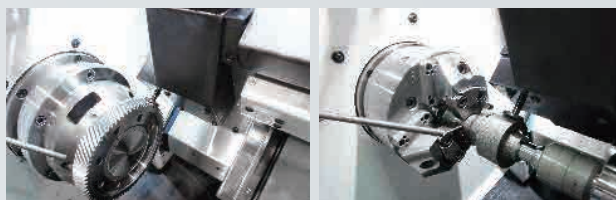
Work-Piece Lean Platform



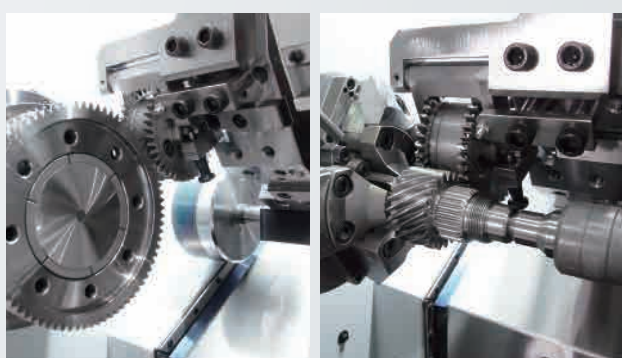
Automatic Butted Device



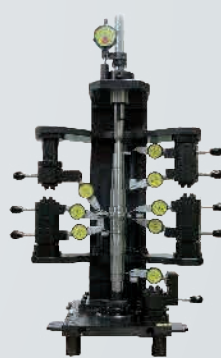
Work-Piece Determining Device



Trimming Device



Integrated Capability



Production Rate

↑ 50%

Loading & unloading time

General
10 second

With equipments
4 ~5 second

Key of Manufacture

Along with the leading in house production ratio, including R&D, machining, assembling and quality control are processed by GOODWAY to reach the quality restrictions and achieve the ultimate machining performance with long-lasting service life.

R&D Center



■ CTSP Branch R&D center



■ Intelligent Control System Lab

Assembly of Core Components

All core components are precisely assembled in a constant temperature controlled room, which possesses higher assembly quality and technology integration of machines than general competitors in the market.



■ Key components are imported from world famous companies



■ GN level precisely measuring clearance of spindle bearing



■ Inner of spindle precisely measuring



■ Spindle dynamic balancing analysis

Casting Machining

Core components are precisely machined by several world class equipments in a constantly temperature controlled A/C system to achieve the strict accuracy requirements.



■ U.K. TAYLOR HOBSON roundness machine

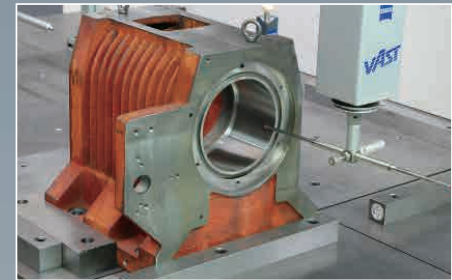
■ Japan YASDA high precision horizontal machining center



■ Japan MITSUI SEIKI horizontal machining center



■ Japan TOSHIBA bridge type 5-face machining center



■ German ZEISS 3D coordinate measuring machine

Quality Control

Utilizing advanced inspection equipments to implement the accuracy check to ensure the final performance and quality of machine.



■ Flatness check for linear guide ways



■ Ball bar test



■ Laser detection

Production Capacity

Featured with the modern facilities with air conditioning and the well-trained technicians, all GOODWAY machines are assembled according the Standard Operation Procedure (SOP) to ensure the consistently high quality and high performance of **GOODWAY** brand image.



■ SWISS Type turning center production line

■ Multi-axis turning center production line



■ Vertical turning center production line



■ Horizontal turning center production line

Social Responsibilities

Besides concentrating on new products development and quality achievement, GOODWAY also concerned about development of whole industry, including talents through cooperation with technical college/university development to build technique and craftsmanship base in schools; Uniting industry resources, and collaboratively researching development create win-win situation. Meantime, GOODWAY is sparing no effort to complete corporate responsibility and contribute to society.



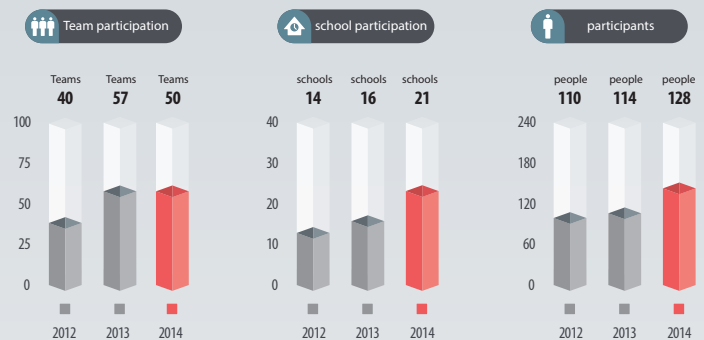
College internship project

Collaborating with college and university about school-to-work program. GOODWAY annually allocates amount of students to have internships. After those students graduate, they have priority to be hired.



Precision CNC machine tool essay contest

To ramp up interest in machine tool industry, GOODWAY established "Precision CNC machine tool essay contest prize" with National Chung-Hsing University in 2012. The competition has been held annually. Participants, prizes, and the scale of competition are growing year after year. Also, it has become one of the great events for mechanics fields in universities every September when competition is been held.



Machine Tool Technology Research Department

In December 2014, president Mr. Edward Yang donated \$7 Million dollar by his own for National Chung-Hsing University to build Machine tool Technology Research Department. Edward appreciates the school he attended, he expects that all students can get assisted and taught in modern environment with advanced equipments. Edward wishes students can keep on top of development in industry and contribute their expertise to the fields.



Aerospace equipments development league

GOODWAY united with 12 major machine tool corporations, and Industrial Technology Research Institute to co-develop technology. It's the pioneering work for Taiwan machine tools industry to integrate corporate, academy, institute and certification, and eventually becomes an ultimate R&D league. The league arranges to develop various types of 5-axis machine tools to meet the future growing demands.

**COMPOSITE
INTELLIGENCE
LARGE SCALE
AUTOMATION**

30 Types of Series with **500** Types of Models
GOODWAY Turning Centers
Bring YOU Extraordinary Achievements



Brand New Exterior Design
COMING SOON!

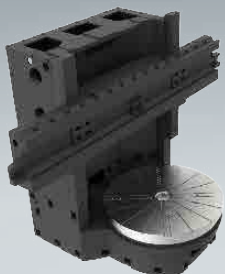
SUPER GV^{series}

Vertical Turning Centers

Max. Work-Piece Weight
Reach up to 300,000 kg

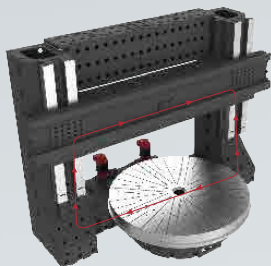
- Max. turning diameter can reach up to Ø 9,000 mm ; max. turning height 5,000 mm^{*1}
- The bed, column and bridge casting components are integrated with Meehanite casting which ensures heavy duty cutting applications.
- Big size of Ram design for tooling spindle with the optional dual Ram structure which provide diverse machining modes.
- Adequate cross roller bearings or hydrostatic bearings for work-piece spindle supplied by different models. Max. work-piece weight can reach up to 300,000 kg^{*1}
- 16 T / 24 T umbrella type magazine is designed by servo tool change which provides bi-directional tool selection, low noise and accurate positioning advantages.
- Optional live tooling spindle provides multiple turning, includes turning, milling and grinding ability.

^{*1} : GV-8000 series



One-piece Column structure (GV-2000 ~ GV-2500)

The one-piece column & bridge is firmly mounted on top of the bed, which ensures machine overall rigidity and minimizes spindle overhang to provide optimal machining accuracy.



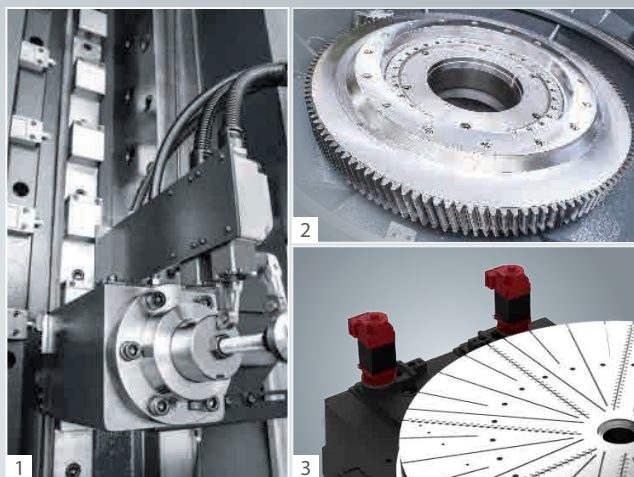
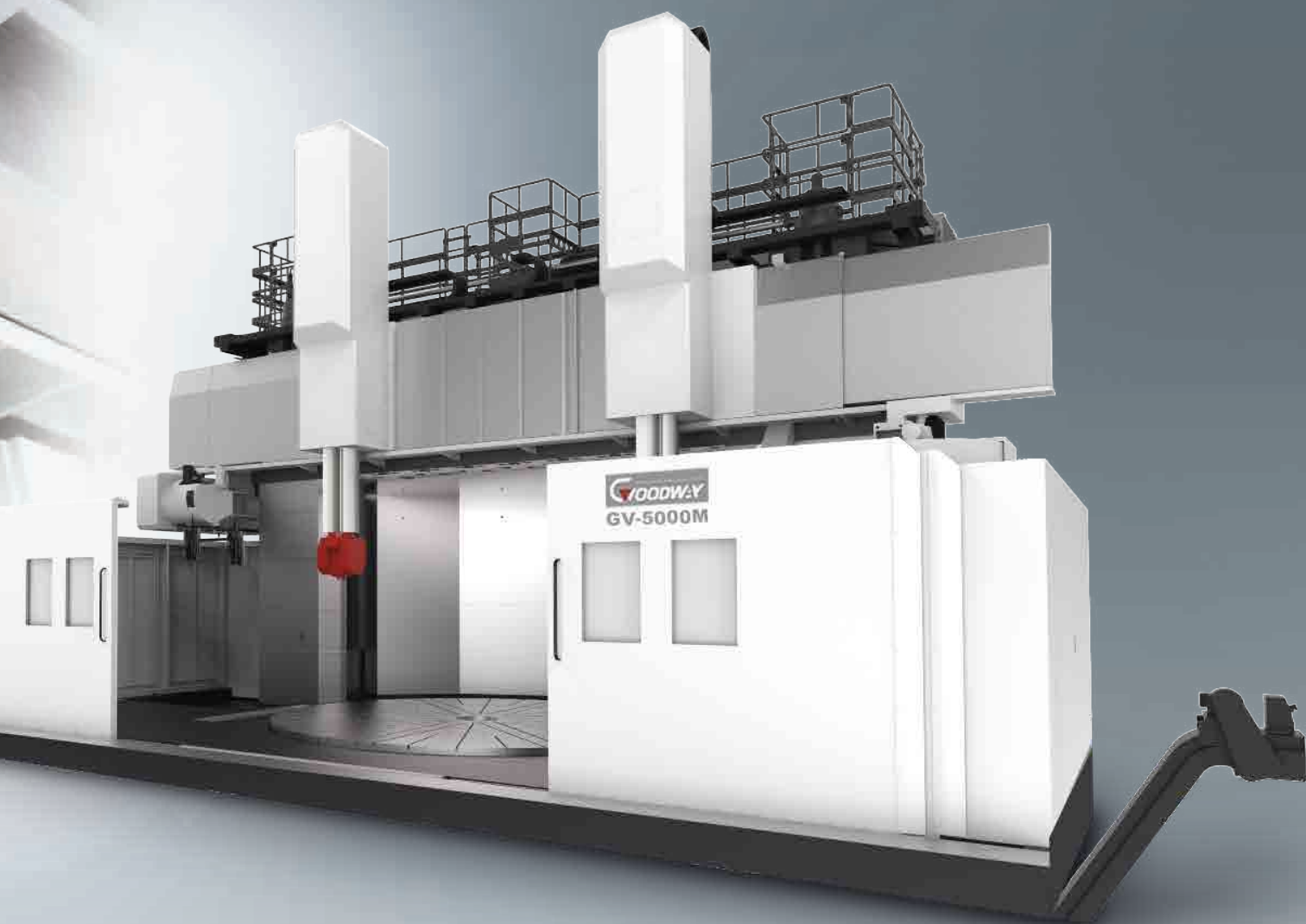
Bridge Type Structure (GV-3000 ~ GV-8000)

The super rigid construction of the base, columns and cross beam can easily fulfill heavy load and cutting requirements.



		GV-2000	GV-2500	GV-3000	GV-3500
Table diameter	mm	Ø 2,000	Ø 2,500	Ø 3,000	Ø 3,500
Max. turning diameter	mm	Ø 2,300	Ø 2,800	Ø 3,500	Ø 4,000
Max. work-piece weight	kg	10,000	15,000	20,000 / 45,000	
Work-piece spindle output (cont./30min)	kW	60 / 75		(40 / 66) x 2 , Opt. (60 / 84) x 2	
Live tooling spindle output ^{*1} (cont./30min)	kW	11 / 15		15 / 20.5 , Opt. 17 / 22.5	
X-axis travel	mm	2,830	3,080	3,950	4,450
Z-axis travel	mm	1,200		1,500 / 1,800	
W-axis travel	mm	1,200 / 1,600		1,200 / 2,000 / 2,800	

^{*1} Optional



- 1 W-axis driven by a set of symmetric ball screws with servo motors. After precise positioning, two sets of live locking bolts will be locked by a hydraulic clamping force to support the cross beam and ensure the overall rigidity.
- 2 Work-piece spindle adopts hydrostatic bearings design which can easily drive the rotary table without high torque output while maintaining great dynamic accuracy. (GV-5000 ~ 8000)
- 3 The Cs-axis is driven by double spindle motors which eliminates gear backlash and provide twice torque output. The repeatability can reach up to $\pm 5''$ (GV-3000 ~ 8000)

		GV-4000	GV-4500	GV-5000	GV-6000	GV-7000	GV-8000
Table diameter	mm	Ø 4,000	Ø 4,500	Ø 5,000	Ø 6,000	Ø 7,000	Ø 8,000
Max. turning diameter	mm	Ø 4,500	Ø 5,200	Ø 6,000	Ø 7,000	Ø 8,500	Ø 9,000
Max. work-piece weight	kg	30,000 / 60,000		100,000	150,000	250,000	300,000
Work-piece spindle output (cont./30min)	kW	(40 / 66) x 2 , Opt. (60 / 84) x 2		(60 / 84) x 2 , Opt. (100 / 140) x 2			
Live tooling spindle output ^{*1} (cont./30min)	kW	17 / 22.5 , Opt. 22 / 30					
X-axis travel	mm	4,950	5,450	5,565	6,715	8,765	9,015
Z-axis travel	mm	1,500 / 1,800		1,600 / 2,000		1,600 / 2,000 / 2,500	
W-axis travel	mm	1,200 / 2,000 / 2,800		1,600 / 2,400 / 3,200		1,600 / 2,400 / 3,200 / 4000	

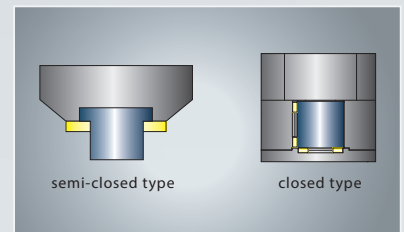
Specifications are subject to change without notice.

GV-1 series

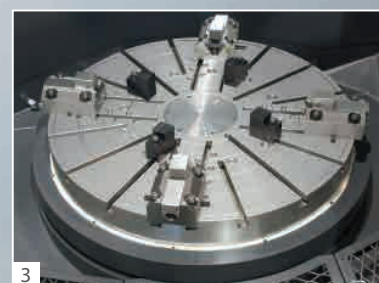
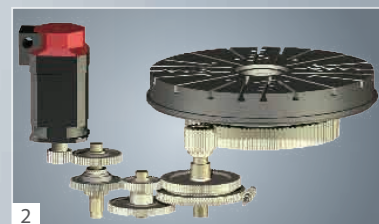
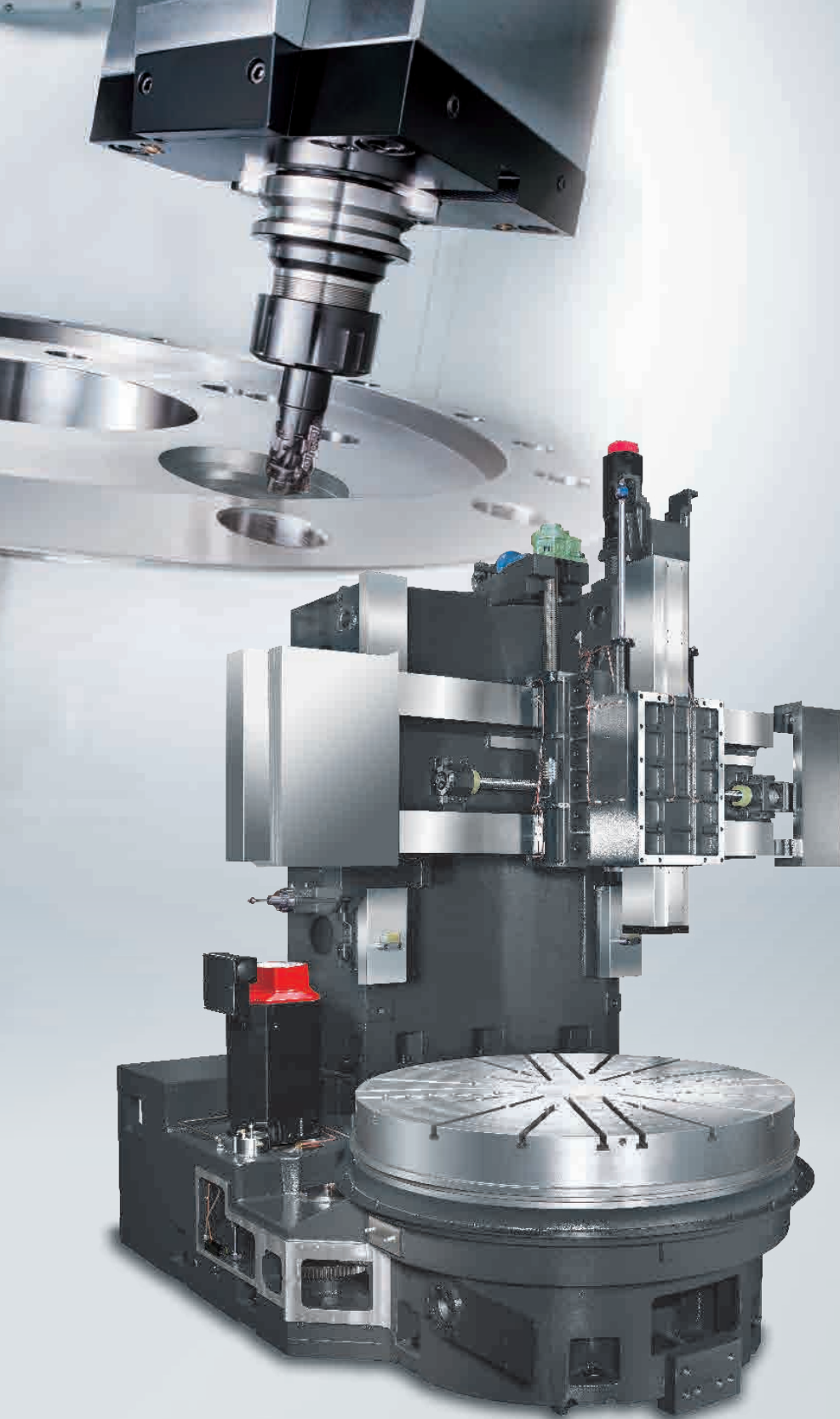
Vertical Turning Centers

Turning, Milling and Grinding All in One

- The bed, column and bridge casting components are integrated with Meehanite casting which ensures heavy-duty cutting capacity.
- 2-speed gear box with reducer device of live tooling spindle provides max. torque output 492 N-m, and max. spindle speed 2,400 rpm. (Opt.)
- The work-piece spindle uses the high rigidity, high precision crossed roller bearings can sustain high radial, axial and torque load.
- 16T / 24T umbrella type magazine is designed with cam movement mechanism which provides bi-directional tool selection, low noise and accurate position advantages.
- Plenty room for operation is more convenient for operator to work. And the work-piece can hang and fix on the table directly by overhead crane.
- Super large 900L coolant tank capacity allows smooth coolant circulation and easy maintenance.



The square ram on the tooling spindle with a closed-type design featuring 4 sets of powerful wedges provide greater structural rigidity and machining accuracy than semi-closed square ram structure.



- 1 W-axis driven by a set of symmetric ball screws with servo motors. After precise positioning, two sets of live locking bolts will be locked by a hydraulic clamping force to support the cross beam and ensure the overall rigidity.
- 2 Work-piece spindle adopts 45 kW high power spindle and driven 2-step gear box, which provide max. torque 24,100 N-m (GV-1600)
- 3 Standard 4-jaws individual manual chuck provides easy set-up and great heavy-duty cutting capability.

		GV-1200	GV-1600
Table diameter	mm	Ø 1,250	Ø 1,600
Max. swing diameter	mm	Ø 1,600	Ø 2,000
Max. turning diameter	mm	Ø 1,350	Ø 1,800
Max. turning height	mm	1,300	
Table load capacity	kg	5,000	8,000
Work-piece spindle output (cont./30min)	kW	37 / 45	
Live tooling spindle output (cont./30min)	kW	11 / 15	
X / Z axes travel	mm	935 / 900	1,160 / 900
W-axis travel	mm	800	

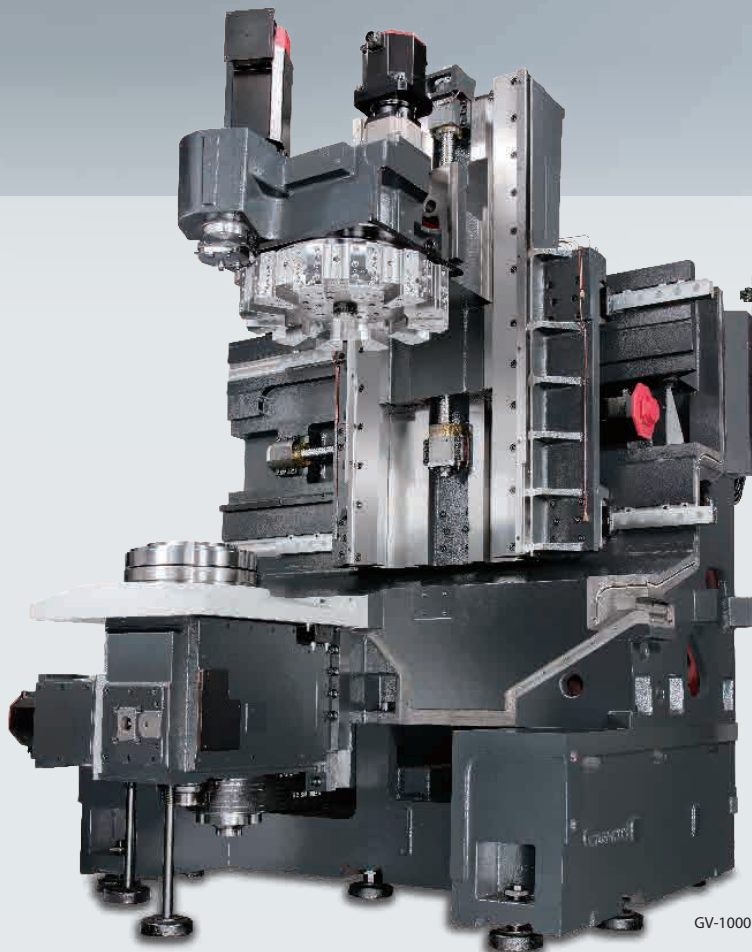
Specifications are subject to change without notice.

GV-1000 series

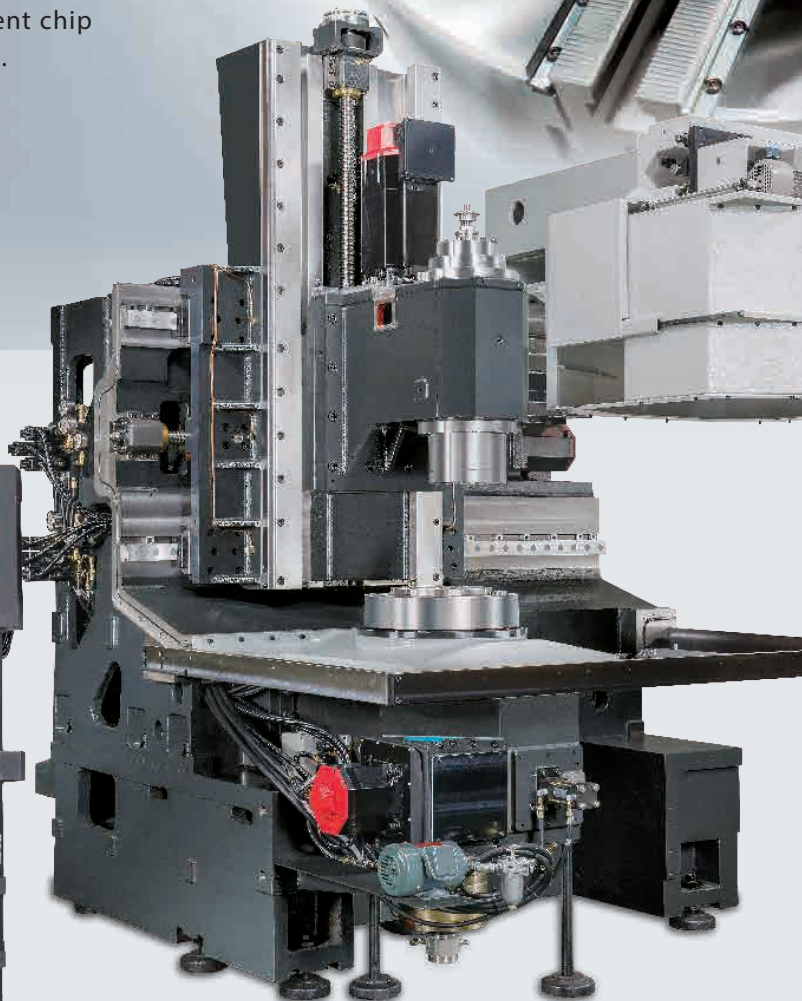
Vertical Turning Centers

High Rigid Construction The Ultimate Turning Power

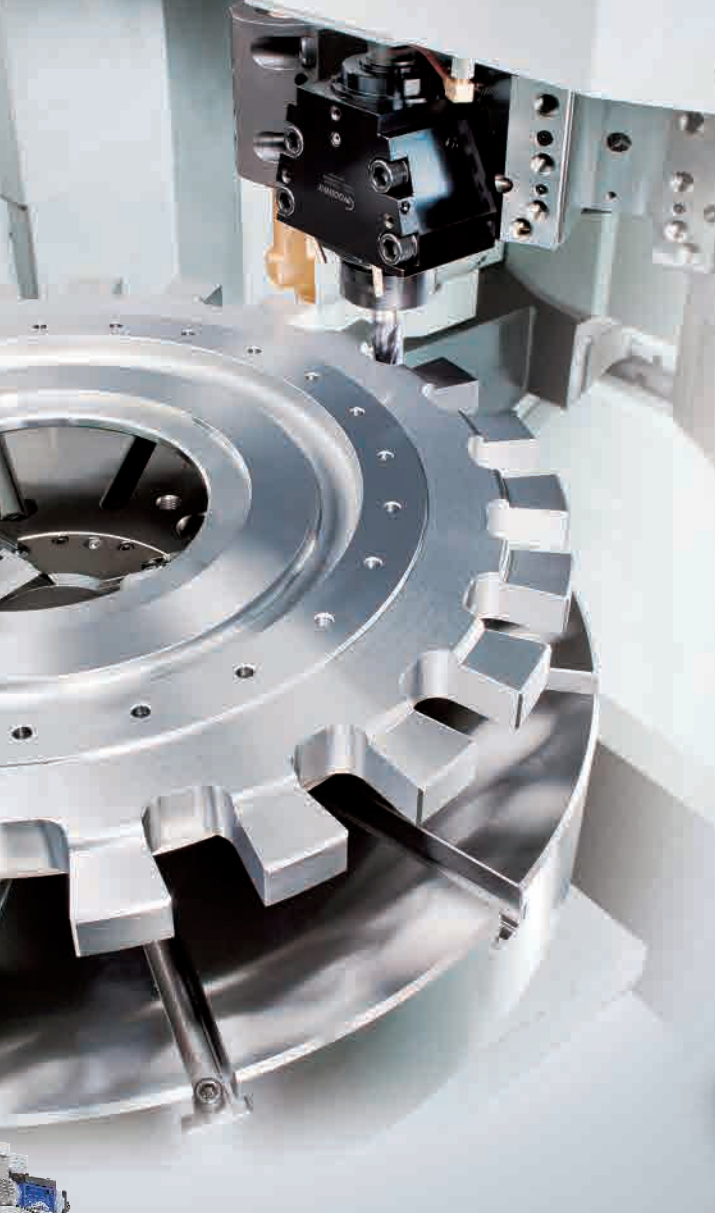
- Meehanite grade casting of base and column with good thermal equilibrium to extent long-lasting service life.
- \varnothing 320 mm curvic coupling precise positioning with \varnothing 600 mm large turret disc to ensure the rigidity of turret under any turning conditions.
- X / Z axes are driven by intelligent servo motors. The rapid feed rate are 24 / 20 m/min, and cutting feed rate can reach 18 m/min.
- According to ergonomics design, the spindle nose to floor is designed 1,080 mm and the spindle center line to the operator door is 671 mm.
- The rear end type chip conveyor provides excellent chip removal efficiency to improve usage of floor space.



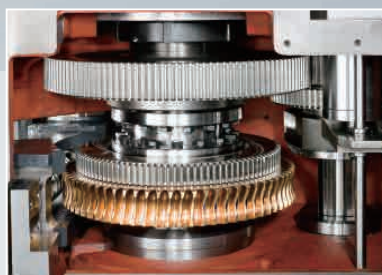
GV-1000M (Turret type)



GV-1000M / ATC (Tooling spindle type)



X-axis uses the high rigidity, roller type linear ways which have both advantages of the rigidity of box way and rapid movement of linear guide way.



The 2-step gear box produces 30 kW of output with over 3,138 N-m of torque.



Optional ER 50 12-station live tooling turret only spins when working, which can save energy and prevent damaged of mechanical device.

		GV-1000 (Turret type)
Max. swing diameter	mm	Ø 1,020
Max. turning diameter	mm	Ø 1,000
Max. turning height	mm	760
Chuck size		Ø 15" ~ 24" (Opt. : Bearing diameter Ø 160 mm) Ø 18" ~ 32" (Opt. : Bearing diameter Ø 200 mm)
Spindle nose		A2-11 (Opt. A2-15)
Spindle motor output (cont./30min)	kW	22 / 30
X / Z axes travel	mm	525 / 765
X / Z axes rapid feed rate	m/min	24 / 20

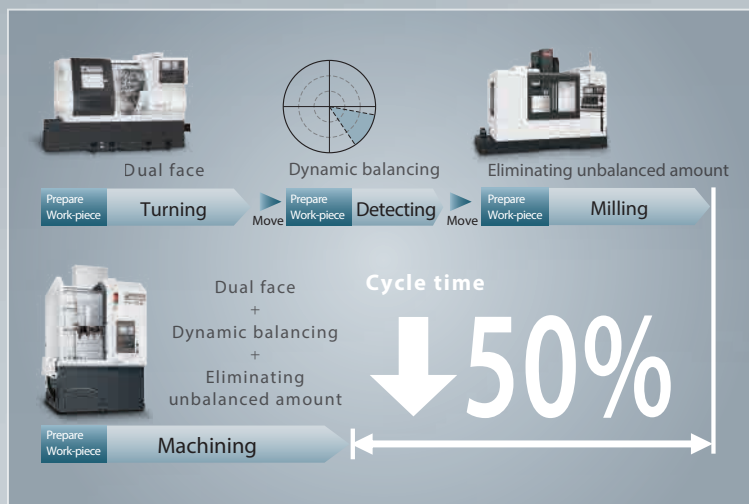
Specifications are subject to change without notice.

GV-780^{series}

Vertical Turning Centers

Multi-Tasking All in One Work-Piece Balancing Analyser (WBA)

- Spindle power can reach up to 22 kW, or high torque ZF Gear type spindle torque output reaches 2,817 N-m (Opt.)
- 8 / 12 station servo turret ; optional 12-station live tooling turret is available with C-axis control capabilities to become multi-tasks machine.
- One-piece bed and column casting with precision hand scrapped provides structural rigidity and load distribution.
- X / Z axes use roller type linear guide ways which provides high rigidity and fast movement.
- The rear-exit chip conveyor provides excellent chip removal efficiency and improves floor space usage.
- The cutting time is 50% shorter when using the GOODWAY dual-face turning holders. (Opt.)



- The optional WBA allows work-piece can be evaluated online, then eliminate the unbalanced amount with C-axis, which save lots of operation time and prevent accuracy error from the process.



		GV-780
Max. swing diameter	mm	Ø 850
Max. turning diameter	mm	Ø 820
Max. turning height	mm	660
Chuck size		Ø 15" / 18" (Opt.)
Spindle nose		A2-11
Spindle motor output (cont./30min)	kW	18.5 / 22
X / Z axes travel	mm	500 / 670
X / Z axes rapid feed rate	m/min	20

Specifications are subject to change without notice.

GV-500 series

Vertical Turning Centers

Various Automations High Productivity Goal

- Super compact machine size 3.3 m² with tough cutting ability.
- 3,000 rpm high performance spindle system, or ZF gear type spindle is also available to provide max. torque of 1,821 N-m.
- 8 / 12 station servo turret ; optional 12-station live tooling turret with C-axis is available.
- One-piece base & column structure combines with high precision hand scraped to maximum the structure strength.
- X / Z axes use high rigidity roller linear guide ways which provides high accuracy, fast movement and low abrasion advantages.
- ▶ GV-500X adopts twin spindles & turrets design featuring load & unloading system and work-piece flipping device, which task can all be completed at once to reduce setting error and increase production efficiency.



		GV-500
Max. swing diameter	mm	Ø 650
Max. turning diameter	mm	Ø 620
Max. turning height	mm	520
Chuck size		Ø 12" / 15" (Opt.)
Spindle nose		A2-8
Spindle motor output (cont./30min)	kW	15 / 18.5
X / Z axes travel	mm	350 / 550
X / Z axes rapid feed rate	m/min	20

Specifications are subject to change without notice.

SW^{series}

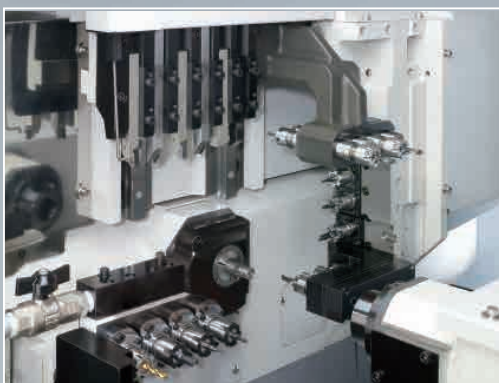
SWISS Turning Centers

Various Tooling Systems Unbeatable Machining Ability

- Max. machining diameter is from Ø20 ~ Ø42 mm. Sub-spindle carries the same processing capability as main spindle.*¹
- Module bush design can be exchanged to be bush type, bushless type or replaceable bush type.*²
- Spindle uses rotary hydraulic cylinder which can firmly clamp the work-piece and provide fast response.
- Complete tooling systems. Front-end, side and rear-end cutting and milling can be completed in one process.*¹
- Sub-spindle can be equipped with independent U-Drill device, which provides sufficient deep hole drilling capability without taking any station of tool system.

*1 Sub spindle is optional accessories

*2 There are some differences depending on the model.



SW series tooling system



				SW-20	SW-32	SW-42
Working range	Max. machining diameter	mm		Ø 20	Ø 32	Ø 42
	Max. chuck movement	Bush	mm	207	315	110 (Bushless)
		Bushless	mm	120	315	
	Backwork processing length	mm		80	130	110
Max. speed	Spindle	rpm		10,000	7,000	6,000
	Sub-spindle	rpm		8,000	7,000	6,000
Number of tools	O.D. tools			6	6	5
	I.D. tools			4	4	5
	Side live tool			5 ~ 10	5 ~ 10	4 ~ 6
	Back working tool			4	4	4
Dimensions	O.D. tools	mm		□ 12	□ 16	□ 20
	I.D. tools	mm		Ø 10	Ø 13	Ø 13

Specifications are subject to change without notice.

SD series

SWISS Turning Centers

Fast Processing For Micro Work-pieces

- Max. machining diameter is $\varnothing 16 \sim \varnothing 20$ mm, max. chuck movement is 175 mm.
- Designed with pneumatic system which is environment friendly, safety, and easy maintenance.
- Adopted bush type to ensure the machining accuracy of long work-piece.
- Equipped with sub-spindle and automatic loading&unloading systems. From loading to unloading can process continually to save manpower cost. (Opt.)



SD series tooling system



				SD-16	SD-20
Working range	Max. machining diameter	mm		$\varnothing 16$	$\varnothing 20$
	Max. chuck movement	Bush mm		175	175
	Backwork processing length	mm		80	80
Max. speed	Spindle	rpm		10,000	10,000
	Sub-spindle	rpm		8,000	10,000
Number of tools	O.D. tools			6 / 5 (Opt.)	6
	I.D. tools			4	4
	Side live tool			2 / 3 (Opt.)	4
	Back working tool			4	4
Dimensions	O.D. tools	mm		$\square 12$	$\square 12$
	I.D. tools	mm		$\varnothing 10$	$\varnothing 10$

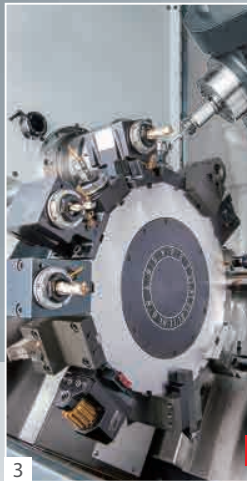
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GMS^{series}

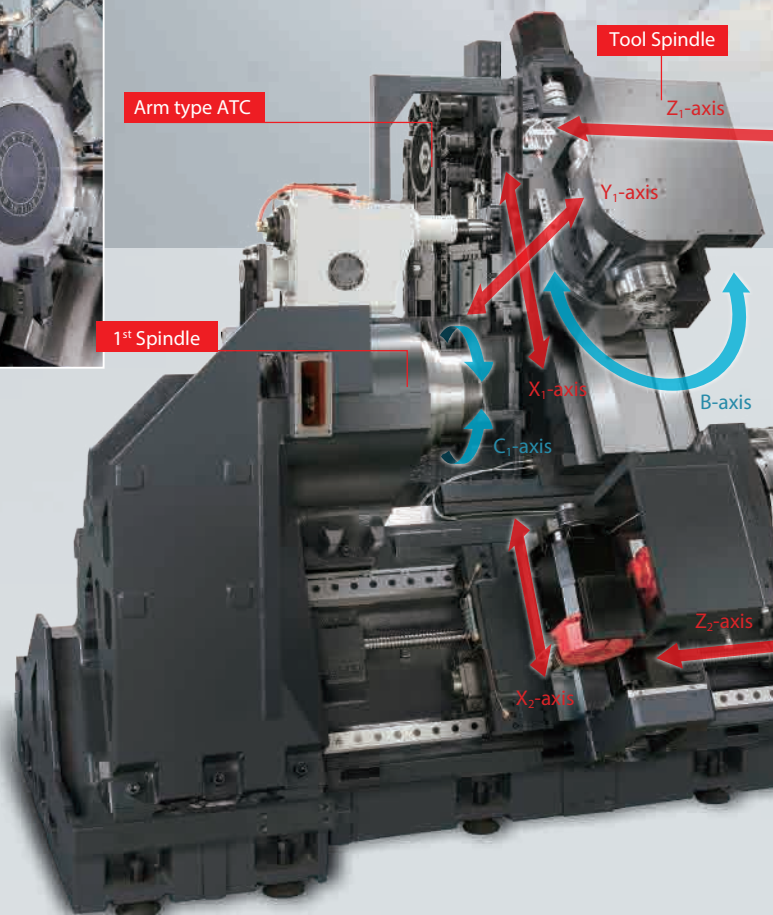
5-Axis Turning Centers

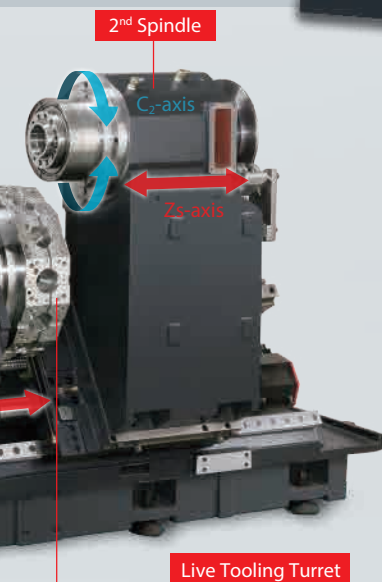
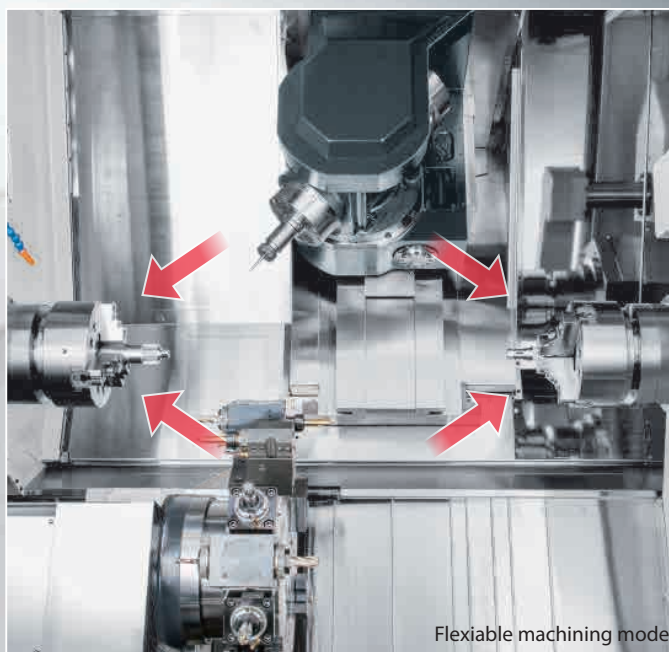
5-Axis Simultaneous Machining Almighty Turning Centers

- 9-axis control with 5-axis simultaneous turning, any difficult cutting tasks can be overcome easily.
- Tooling spindle and turret support 1st spindle and 2nd spindle, which provides high efficiency processing modes.
- 1st spindle and 2nd spindle are designed by the same specification and driven by built-in spindle motor to ensure the accuracy of long processing time and increase the using time of spindle.
- Z1-axis and Z2-axis adopt box way and linear guide way respectively to satisfy the different processing features.
- Y-axis saddle and bed are 90° orthogonal design which makes the center of gravity keep on the bed to ensure the cutting rigidity.
- With the optional GOODWAY 3D simulation program can avoid the crash accidents caused by program mistake.



- 1 Tool spindle uses triple plate curvic coupling with worm gear drive structure. Swiveling range: $\pm 120^\circ$ Indexing resolution: 0.001°
- 2 Arm type ATC uses servo index mechanism, and the index time only needs 1.5 second. (T-T)
- 3 Live tooling turret can be installed ER40 live tools, and the index time just needs 0.3 second.





		GMS-2000ST	GMS-2600ST
Max. swing diameter	mm	Ø 900	
Max. turning diameter	mm	Tool spindle : Ø 550 Turret : Ø 340	
Max. turning length	mm	Tool spindle : 1,100 (8"), 1,094 (10") Turret : 960 (8"), 960 (10")	
Chuck size		Ø 8"	Ø 10"
Bar capacity	mm	Ø 51	Ø 65
Hole through spindle	mm	Ø 61	Ø 76
Spindle motor output (cont. / 30 min)	kW	22 / 25	
Tool spindle taper		KM 63 / HSK-T63	
Shank of Tool		<input type="checkbox"/> 25 / Ø 40 mm / ER 32	
Magazine capacity / Turret station		24 (40 Opt.) / 15	

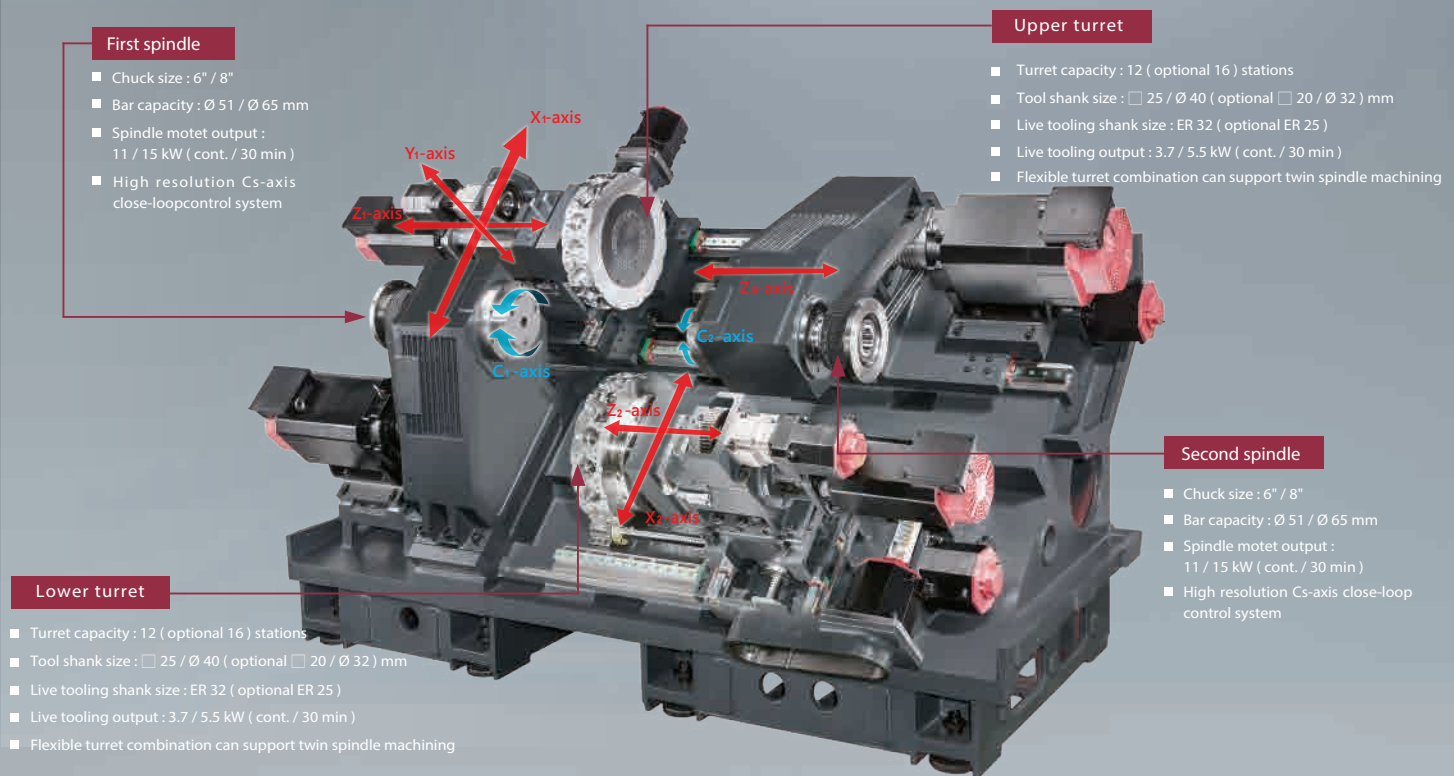
Specifications are subject to change without notice.

GTZ series

Multi-Tasking Turning Centers

Flexible Processing Productivity Gain 150% More

- Upper and lower turret can be arranged flexibly. Thus, process 1 and process 2 can process at the same time to increase the production capability.
- Upper and lower turret can process the long bar simultaneously to decrease the cycle time and increase roundness of work-piece.
- The low center of gravity 45° slant bed design provide a super rigid foundation for the headstock and turret.
- With the optional 16-station live tooling turret, maximum tool station capacity is up to 32 tools, which can easily satisfy various machining requirements.



		GTZ-2000	GTZ-2600
Max. swing diameter	mm	Ø 270	
Max. turning diameter	mm	Ø 250	
Max. turning length	mm	604 (615) *1	592 (603) *1
Chuck size		6"	8"
Spindle motor output (Cont. / 30 min)	kW	11 / 15	
Turret / Live tooling turret station	rpm	12 + 12 (Opt. 16 + 16)	
X1 / X2 / Z1 / Z2 axes travel	mm	195 / 210 / 620 / 620	
Y-axis travel	mm	100 = ±50	
X / Z axes rapid feed rate	m/min	24	

*1 16 turret station

Specifications are subject to change without notice.

GTS series

Multi-Tasking Turning Centers

One Setup Processing Automatically Mass Produce

- 4-axis simultaneous turing, or optional twin Y axes maximize ability up to 8-axis control.
- The efficiency of twin spindles and twin turrests machine equals 2 turning centers.
- Featuring automatic loading & unloading system greatly reduce the manpower and the movement error of work-piece.
- The low center of gravity 45° slant bed design provide high rigidity foundation for the headstock and turret.

First turret

	GTS-150	GTS-200/260
Station	12	
Tool shank size	<input type="checkbox"/> 20 / Ø 25 mm <input type="checkbox"/> 25 / Ø 32 mm	
Live tooling shank size	ER 20	ER 25
Live tooling output (cont. / 30 min)	2.2 / 3.7 kW	

Second turret

	GTS-150	GTS-200/260
Station	12	
Tool shank size	<input type="checkbox"/> 20 / Ø 25 mm <input type="checkbox"/> 25 / Ø 32 mm	
Live tooling shank size	ER 20	ER 25
Live tooling output (cont. / 30 min)	2.2 / 3.7 kW	

First spindle

	GTS-150	GTS-200/260
Chuck size	6"	8" / 10"
Bar capacity	Ø 42 mm	Ø 51 / Ø 65 mm
Spindle motor (cont. / 30 min)	5.5 / 7.5 kW	11 / 15 kW
High resolution Cs-axis closed loop system		

Second spindle

	GTS-150	GTS-200/260
Chuck size	6"	8" / 10"
Bar capacity	Ø 42 mm	Ø 51 / Ø 65 mm
Spindle motor (cont. / 30 min)	5.5 / 7.5 kW	11 / 15 kW
High resolution Cs-axis closed loop system		



		GTS-150	GTS-200 / 260
Max. turning diameter	mm	Ø 180	Ø 280
Max. turning length	mm	180 ~ ∞	200 ~ ∞
Chuck size		Ø 6"	Ø 8" / 10"
Bar capacity	mm	Ø 42	Ø 51 / 65
Spindle nose		A2-5	A2-6 / A2-8
Spindle motor output (Cont. / 30 min)	kW	5.5 / 7.5	11 / 15
X1 / X2 axes travel	mm	155	190
Z1 / Z2 axes travel	mm	180 / 500	270 / 740
Y-axis travel	mm	±30	± 60
Guide way		Linear	Box

Specifications are subject to change without notice.

GTH_{series}

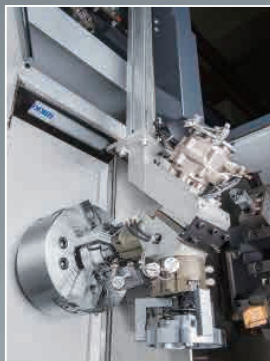
Parallel Twin Spindle, Turrets Turning Centers

First Choice of Automotive Industry New Arrival !!

- Parallel twin spindles and twin turrets structure can effectively reduce turret interference to fulfill all kinds of plate-shape work-piece machining needs.
- Loading & unloading can be modularized to achieve the optimal production efficiency.
- The maximum clamping load capacity of robot arm for gantry type loading/unloading system is 3.0 Kg./jaw. and the rapid feed rate of X-axis are 2,500 mm/sec. With the optional Goodway made work-piece detecting system can achieve unmanned manufacturing facility.
- Spindle can be equipped with detector of pneumatic work-piece positioning to ensure the positioning accuracy and safety while loading & unloading.



Engaging work-piece



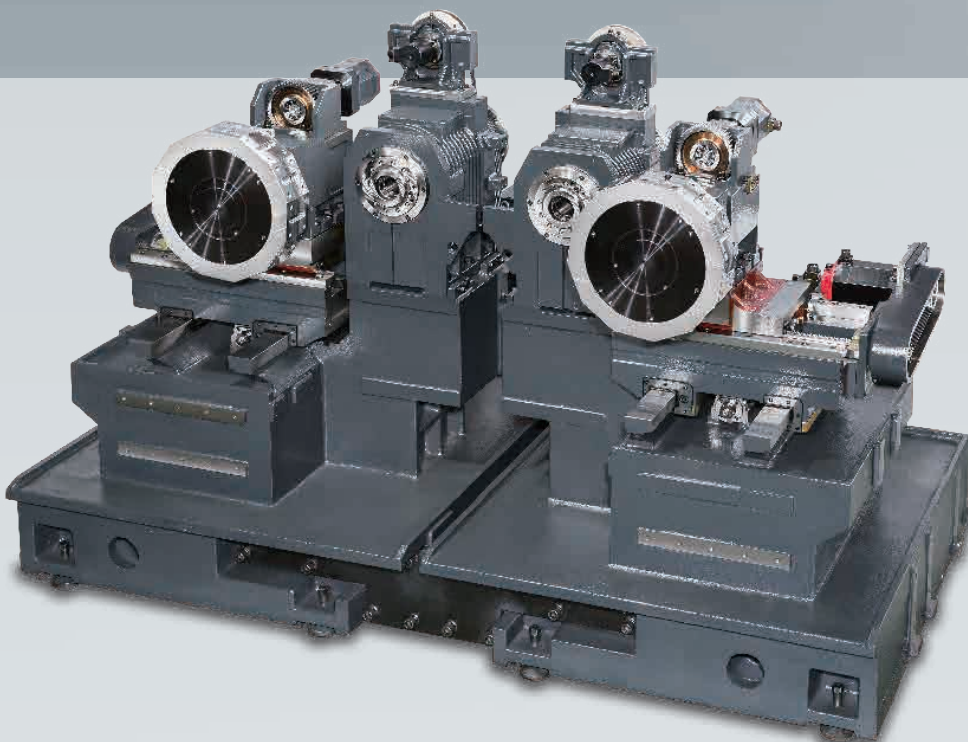
Unloading / loading



Flipping work-piece



Work-piece detection / unloading

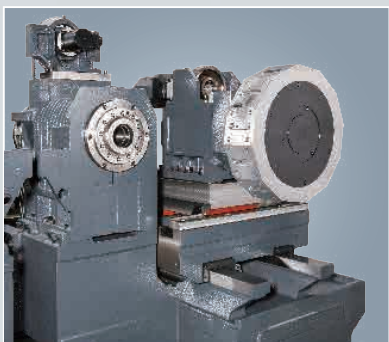


High rigidity structure

- ▶ Parallel twin spindles, twin turrets structure adopts modular isolating bed design which can efficiently decrease cutting resonance of two spindle systems to ensure machining accuracy.
- ▶ X / Z axes adopt high rigidity box ways design which is through heat treatment and precise finishing processes provides the demands of heavy cutting and interrupted turning.



Full travel support on X-axis saddle ensures the minimum overhang of turret to increase cutting rigidity



		GTH-2600
Max. turning diameter	mm	Ø 300
Max. turning length	mm	205
Chuck size		10"
Spindle motor output (Cont. / 30 min)	kW	11 / 15
Spindle speed	rpm	4,000
Turret / Live tooling turret station		12
X / Z axes travel	mm	195 / 220
X / Z axes rapid feed rate	m/min	24

Specifications are subject to change without notice.

HA_{series}

Flat-bed Turning Centers

Energy Industry Solution Large Diameter, Long Work-Piece

Ø 1,700 mm

Max. turning diameter

10,000 mm

Max. turning length

15,000 kg

Table load capacity

- One-piece 4 box ways Meehanite casting base provides enough structure rigidity for heavy cutting.
- 45 kW high power spindle motor driven with 3-step gear box provides max. torque up to 8,320 N-m (HA-2000)
- Standard turret and live tooling turret provide 8 or 12 stations, which fulfills various machining needs.
- Heavy load steady rest fulfills various machining needs, and there is no interference between saddle and steady rest while machining to reduce the burden of disassemble steady rest.
(work-piece outer diameter < Ø 600 mm)
- Chips removal system adopts twin chips conveyors design to ensure the best removal efficiency.



1



2



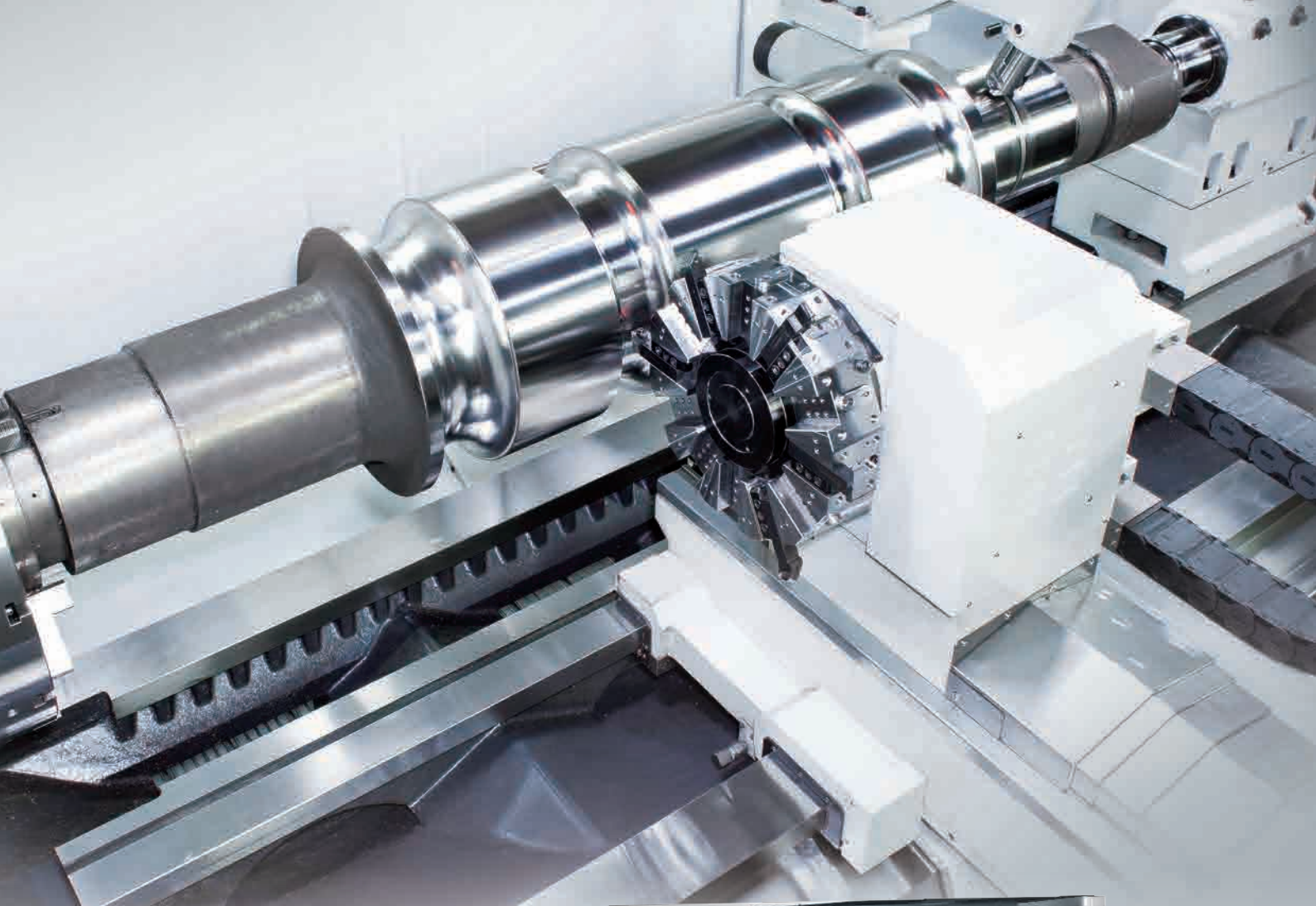
3

- 1 Separated rails of saddle and tailstock design on X-axis allows tailstock no need to cross saddle to support work-piece, which ensure the rigidity of tailstock.
- 2 Ø 200 mm^{*1} high rigidity tailstock with rotary quill featuring MT#6 steady thimble and ample hydraulic thrust to provide firmly support for work-piece.
- 3 Square turret can fulfill extremely heavy turning or deep drilling machining needs. (Opt.)

^{*1} Ø 250 mm Opt.

		HA-1400	HA-1600	HA-2000
Max. swing diameter	mm	Ø 1,400	Ø 1,600	Ø 2,000
Max. turning diameter	mm	Ø 1,100	Ø 1,300	Ø 1,700
Max. turning length	mm	2,000 / 3,000 / 4,000 / 5,000 / 6,000 / 7,000 / 8,000 / 9,000 / 10,000		
Max. work-piece weight	kg	10,000 ~ 15,000 kg (Need to be supported by steady rest)		
Flat bed width	mm	1,350		
Spindle motor output (cont. / 30 min)	kW	37 / 45		
Turret / Live tooling turret station		8 / 12		
X-axis travel	mm	595	695	895
Z-axis travel	mm	2,150 / 3,150 / 4,150 / 5,150 / 6,150 / 7,150 / 8,150 / 9,150 / 10,150		
Tailstock base travel	mm	2,150 / 3,150 / 4,150 / 5,150 / 6,150 / 7,150 / 8,150 / 9,150 / 10,150		

Specifications are subject to change without notice.



Heavy Load Steady Rest



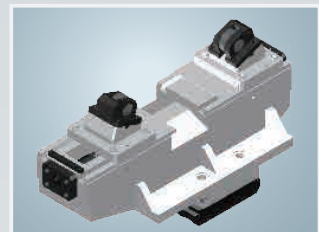
(Hydraulic) \varnothing 125 ~ 460 mm*1



(Manual) \varnothing 300 ~ 600 mm*1



(Manual) \varnothing 500 ~ 800 mm



(Manual) \varnothing 800 ~ 1,000 mm

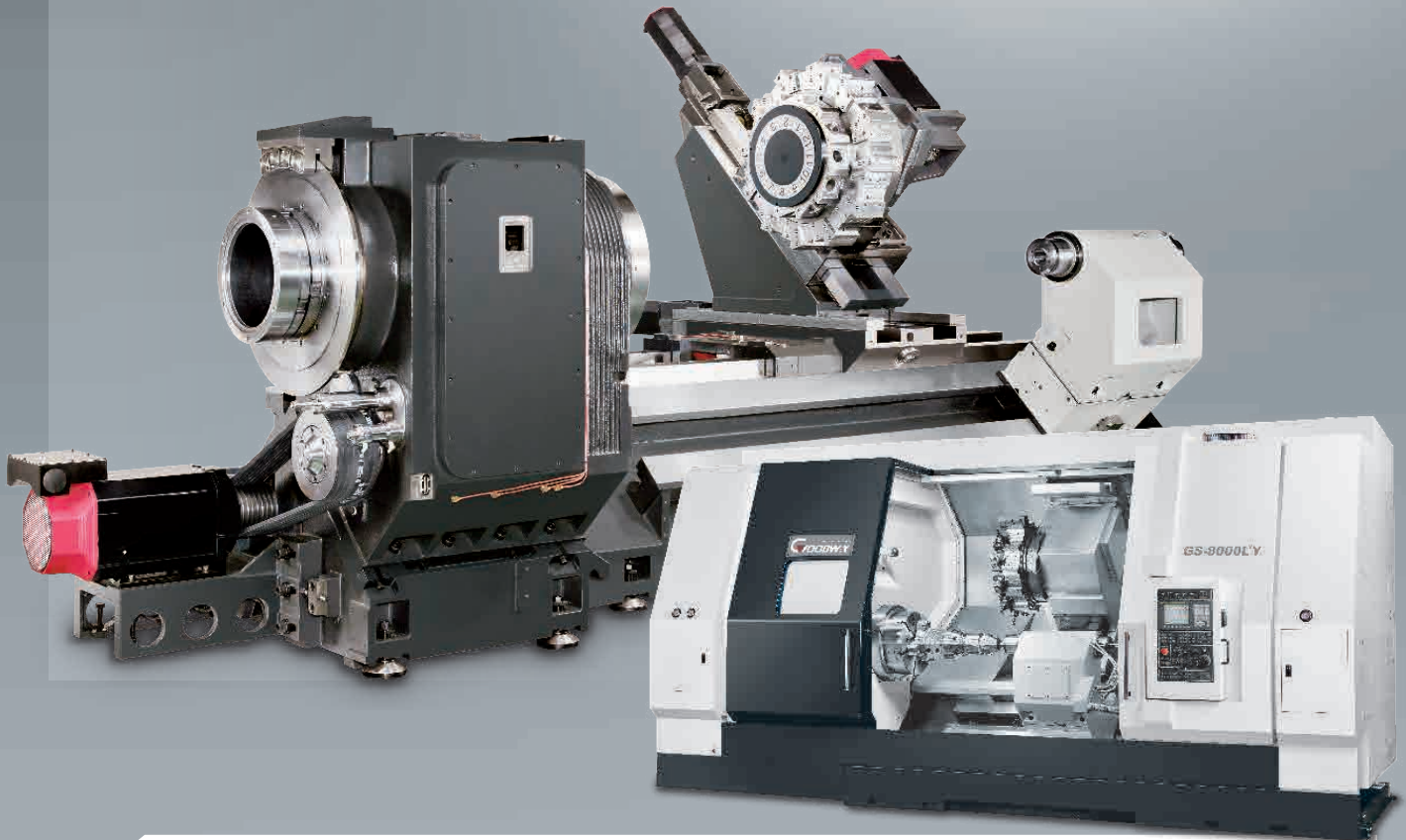
*1 Steady rest is no need to disassemble while machining.

GS-8000^{series}

Horizontal Turning Centers

Hole Through Spindle Ø 320 mm The Largest Y-Axis Travel 320 mm

- 45 kW high power spindle motor driven with 3-step gear box provides max. torque up to 7,330 N-m
- Large size one-piece box ways and base structure achieve the best strength and precision with wide span design.
- Large diameter C3 class ball screw ensure the optimal durability and axial accuracy.
- Ø 750 mm turret diameter with Ø 450 mm curvic coupling provide the toughest rigidity of turret.
- Ø 160 mm high rigidity tailstock with rotary quill with ample hydraulic thrust provides firmly support for work-piece.
- 320 mm, the largest Y-axis travel can easily overcome any difficult machining tasks.



		GS-8000	GS-8600	GS-8800
Max. swing diameter	mm	Ø 1,030		
Max. turning diameter	mm	Ø 970		
Max. turning length	mm	1,200 / 2,200 / 3,200		
Chuck size		18" (Opt 24")		
Hole through spindle	mm	Ø 205	Ø 260	Ø 320
Spindle nose		A2-15	A2-15	A2-20
Spindle motor output (Cont. / 15 min)	kW	30 / 45		

Specifications are subject to change without notice.

GS-6000 series

Horizontal Turning Centers

Remarkable And the Toughest Heavy Cutting

- 37 kW high power spindle motor driven with 3-step gear box provides max. torque up to 4,912 N-m^{*1}
- 45° slant bed design provides the solid foundation for spindle head, turret and tailstock.
- Large diameter C3 class ball screw ensure the optimal durability and axial accuracy.

^{*1} German ZF gear box Opt.

- Ø 750 mm turret diameter with Ø 450 mm curvic coupling provide the toughest rigidity of turret.
- Ø 110 mm high rigidity tailstock with rotary quill with ample hydraulic thrust provides firmly support for work-piece.



		GS-6000	GS-6600		GS-6800
Max. swing diameter	mm	Ø 980			
Max. turning diameter	mm	Ø 880			
Max. turning length	mm	950 / 1,980 / 3,300			
Chuck size		15" (18" Opt.)	20" *1	22" *2	24" *2
Hole through spindle	mm	Ø 130	Ø 205		Ø 260
Spindle nose		A2-11	A2-15		A2-15
Spindle motor output (Cont. / 30 min)	kW	30 / 37			

^{*1} Hydraulic chuck opt.

^{*2} Pneumatic chuck opt.

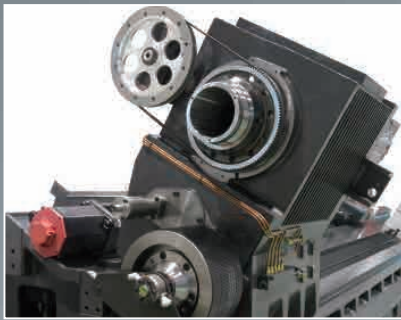
Specifications are subject to change without notice.

GS-4000_{series}

Horizontal Turning Centers

Meet the Need of Market Series

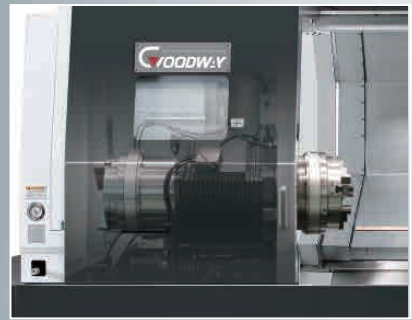
- Complete series models with 4 types of base length and 2 types of hole through spindle provides total 8 combinations.
- 30° slant bed design provides the solid foundation for spindle head, turret and tailstock.
- Large size box ways and one-piece bed structure achieve the best strength and precision with wide span design.
- Ball screw of Z-axis travel 2 m longer equips high class ball screw support mechanism to ensure the optimal axial accuracy.
- Programmable tailstock design allows positioning of tailstock and stretching of quill are programmable.
- Live tooling turret and sub-spindle are available. Front and back machining can be done in one set-up. (Opt.)



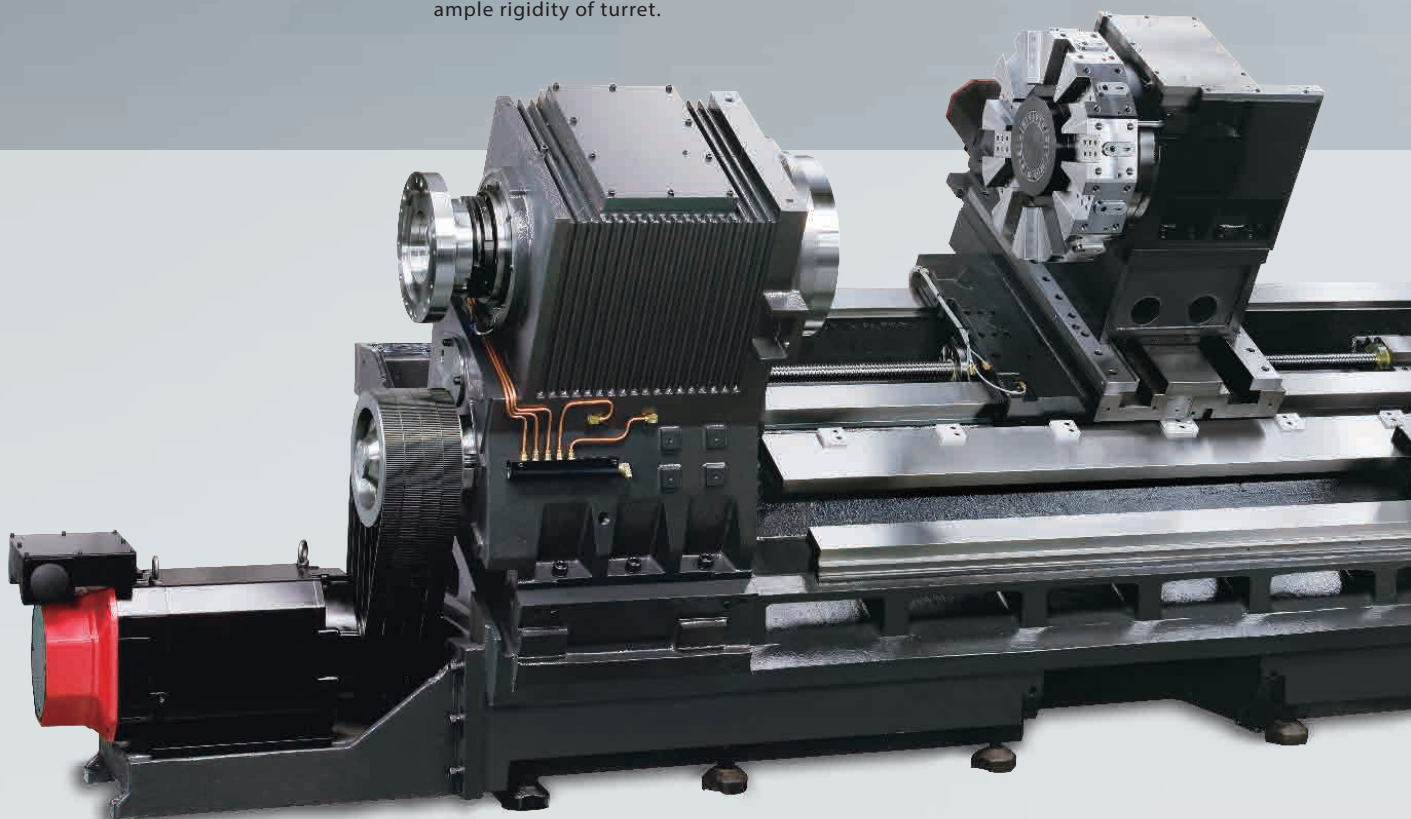
▶ 2-step gear box adopts advanced mechanic design, which is driven by high power spindle motor.

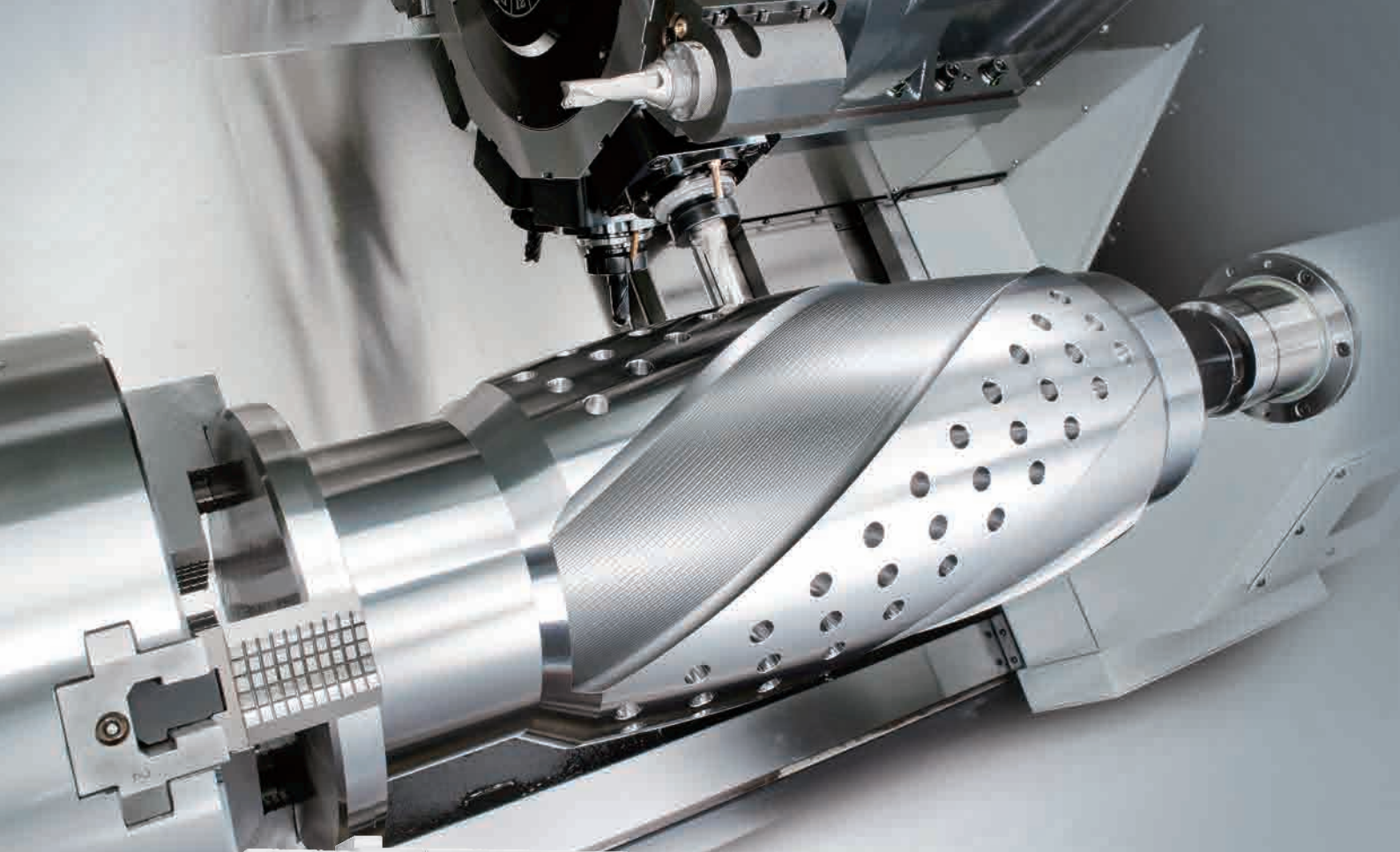


▶ Large diameter curvic couplings with precisely positioning turret provides 6,400 kg clamping force to ensure ample rigidity of turret.



▶ Long bar turning for screw thread provides the best machining solution with twin chucks.





		GS-4000	GS-4300
Max. swing diameter	mm	Ø 770	
Max. turning diameter	mm	Ø 620	
Max. turning length	mm	819 / 1,569 / 2,369 / 3,169	
Chuck size		15" (18" Opt.)	24"
Hole through spindle	mm	Ø 130	Ø 190
Spindle nose		A2-11	A2-15
Spindle motor output (Cont. / 30 min)	kW	30 / 37	
X / Y axes travel	mm	350 (Model with Y-axis : 300) / ± 60	
Z-axis travel	mm	850 / 1,600 / 2,400 / 3,200	

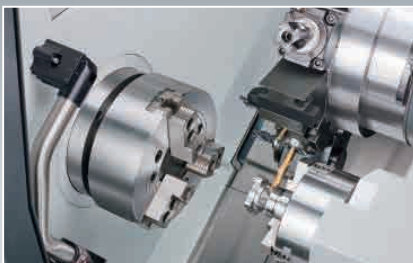
Specifications are subject to change without notice.

GS-2000 GS-3000 series

Horizontal Turning Centers

High Accuracy, Composite Next Generation Machine

- High strength and class core components features diverse functions to provide the toughest turning centers.
- Low gravity 30° box ways slant bed design, which the rail span is raised 23% more than last generation, width of rails are increasing 14%.
- Modular spindle design provides belt drive, built-in or ZF gear box to fulfill various machining needs.
- X / Z axes are driven AC servo direct driven motor to provide great thrust and rapid feed rate is up to 30 m/min.
- 12-station high speed servo indexing turret with adjacent tool changing only 0.3 sec, and opposite tool changing 0.8 sec.
- High rigidity programmable tailstock and high precision servo tailstock provides the best support rigidity for work-piece.

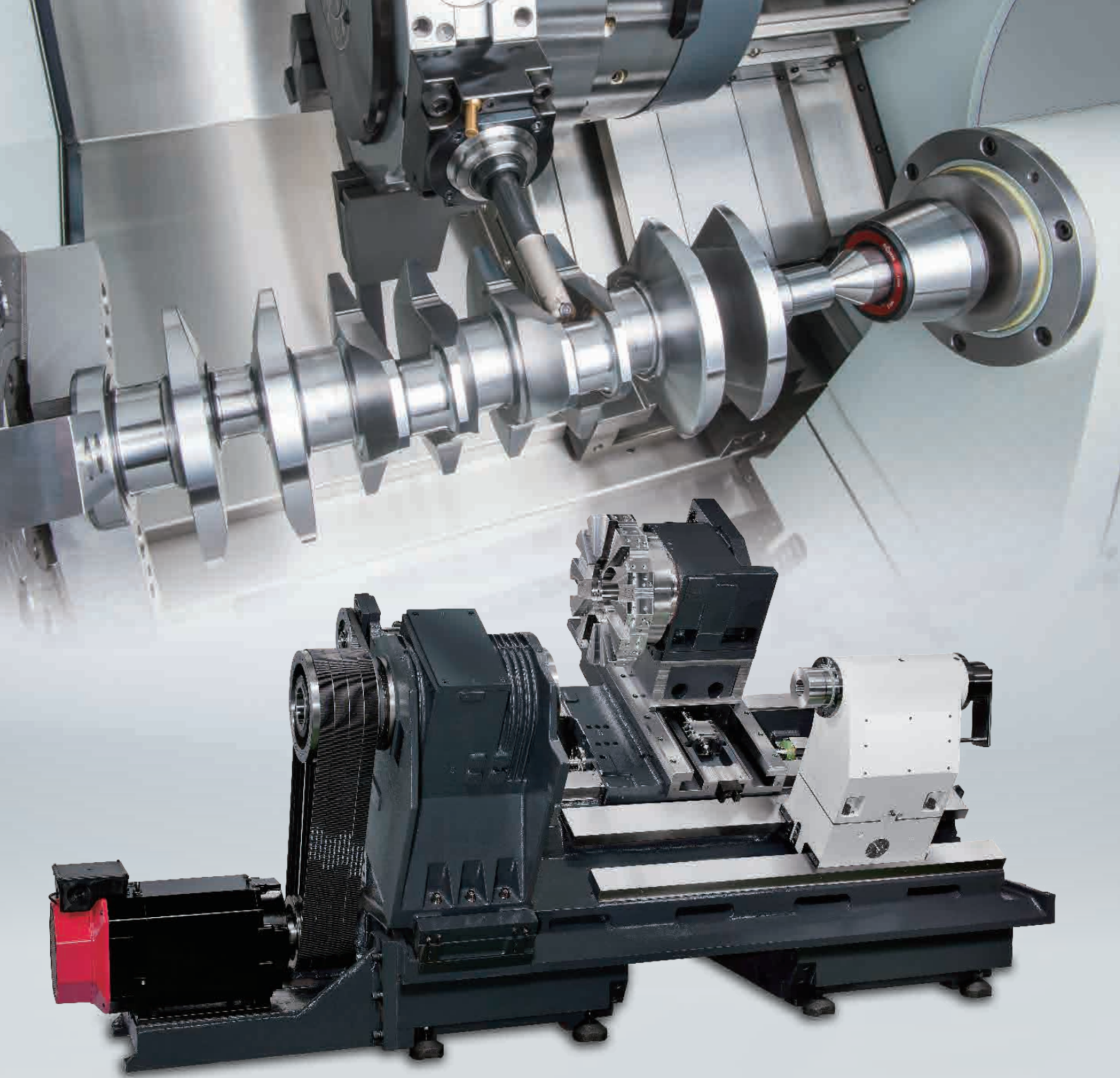


- ▶ Live tooling turret and sub-spindle are available. Front and back machining can be done in one set-up.

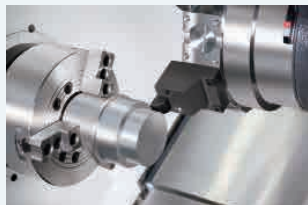


		GS-2000	GS-2600	GS-2800	GS-3300	GS-3600
Max. swing diameter	mm	Ø 630				
Max. turning diameter	mm	Ø 570				
Max. turning length	mm	780 / 1,530				746 / 1,496
Chuck size		Ø 8"	Ø 10"	Ø 10"	Ø 12"	Ø 15"
Hole through spindle	mm	Ø 51	Ø 65	Ø 75	Ø 90	Ø105
Spindle nose		A2-6	A2-8			A2-11
Spindle motor output (Cont. / 30 min)	kW	15 / 18.5		15/18.5 (18.5 / 22 Opt.)	18.5 / 22	
X / Y axes travel	mm	300 / ±50				
Z-axis travel	mm	780 / 1,530				
X / Z axes rapid feed rate	m/min	30 / 30				

Specifications are subject to change without notice.



— Heavy Cutting —



7

Depth of Cut (mm)

0.4

Feed Rate (mm/rev)

417

Speed (rpm)

— U Drilling —



50

Tool Diameter (mm)

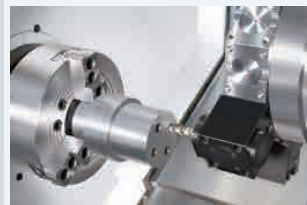
0.15

Feed Rate (mm/rev)

764

Speed (rpm)

— Tapping —



M24 x P2.5

Tool Size (mm)

240

Tool Speed (r/min)

530

Speed (rpm)

— Milling —



15

Depth of Cut (mm)

260

Feed Rate (mm/rev)

20

Tool Diameter (mm)

640

Speed (rpm)

Model : GS-3600M
Material : S45C

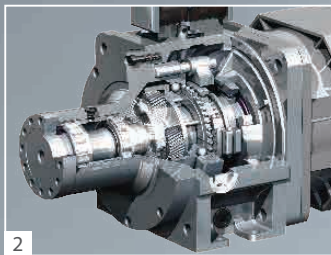
GA series

Horizontal Turning Centers

Complete Specifications The Highest CP Value

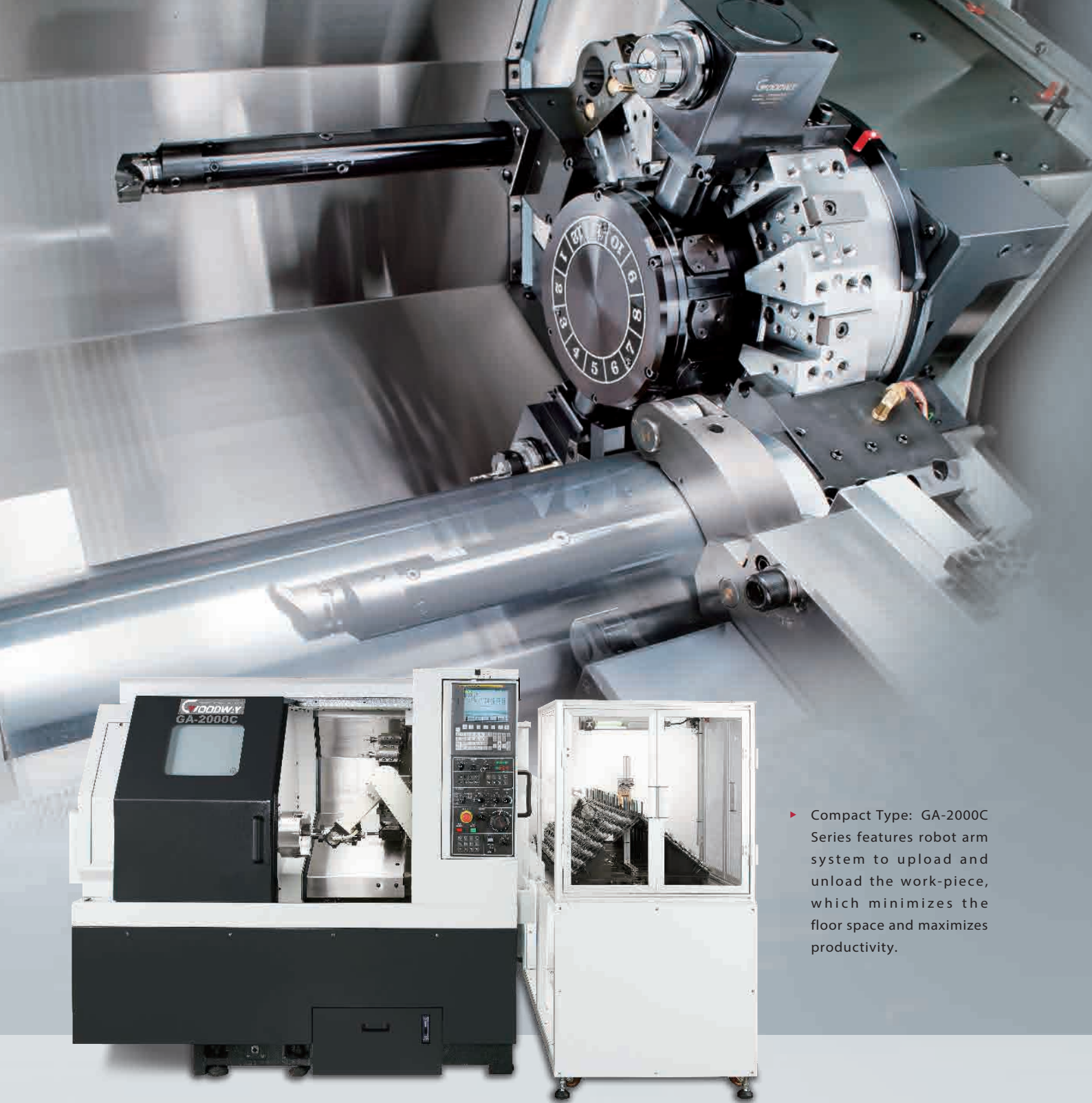
- Torque of spindle delivers 2.5 ~ 4 times than general models, which provide excellent heavy turning ability while low speed.
- Spindle adopts P4 grade roller type bearing with the best two-point span support designed to meet the needs of long-term precision machining.
- One-piece high rigidity box ways with base and saddle ensures heavy cutting durability.
- Z-axis adopts high performance servo motor with rapid acceleration / deceleration movement and powerful thrust.
- Programmable tailstock design. Tailstock positioning and quill are programmable control.*1

*1 GA-2000C is not available.



- 1 12-Station high speed servo indexing turret achieves 0.2 sec indexing time for adjacent station and 0.5 sec for stations at the opposite end on the disk.
- 2 Adopted German ZF enclosed bath oil 2-speed gear type spindle provides tremendous torque output to fulfill heavy cutting needs.
- 3 Adopt Cf-axis with disk break system can provide the strongest rigidity C-axis function.





- Compact Type: GA-2000C Series features robot arm system to upload and unload the work-piece, which minimizes the floor space and maximizes productivity.

		GA-2000	GA-2600	GA-2800	GA-3000	GA-3300	GA-3600
Max. swing diameter	mm	Ø 580			Ø 600		
Max. turning diameter	mm	Ø 350			Ø 500		
Max. turning length	mm	309 / 624 / 1,204	291 / 606 / 1,186	260 / 575 / 1,155	629 / 929 / 1,229	624 / 924 / 1,224	596 / 896 / 1,196
Chuck size		Ø 8"	Ø 10"	Ø 10"	Ø 10" (12")	Ø 12" (15")	Ø 15"
Bar capacity	mm	Ø 51	Ø 65	Ø 75	Ø 75	Ø 90	Ø 105
Spindle nose		A2-6	A2-8				A2-11
Spindle motor output	kW	11 / 15 (cont. / 30 min)			18.5 / 22 (cont. / 30 min)		
X-axis travel	mm	205			260		
Z-axis travel	mm	350 / 650 / 1230			630 / 930 / 1230		
X / Z axes rapid feed rate	m/min	20 / 24 m/min					

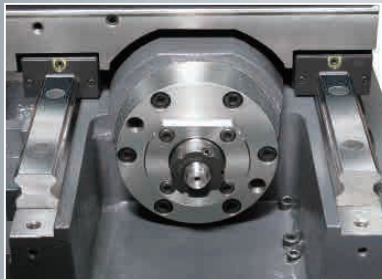
Specifications are subject to change without notice.

GLS series

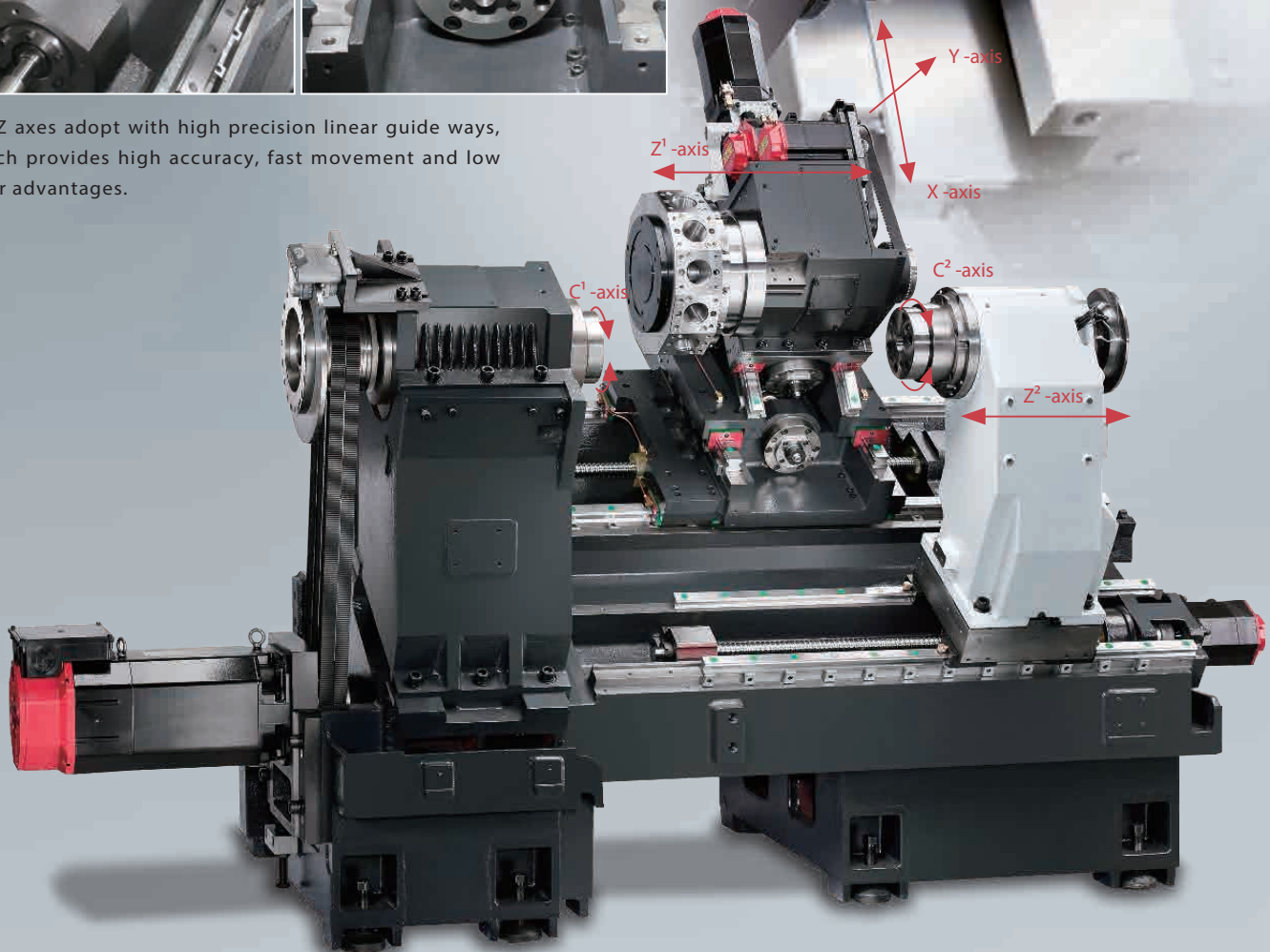
Horizontal Turning Centers

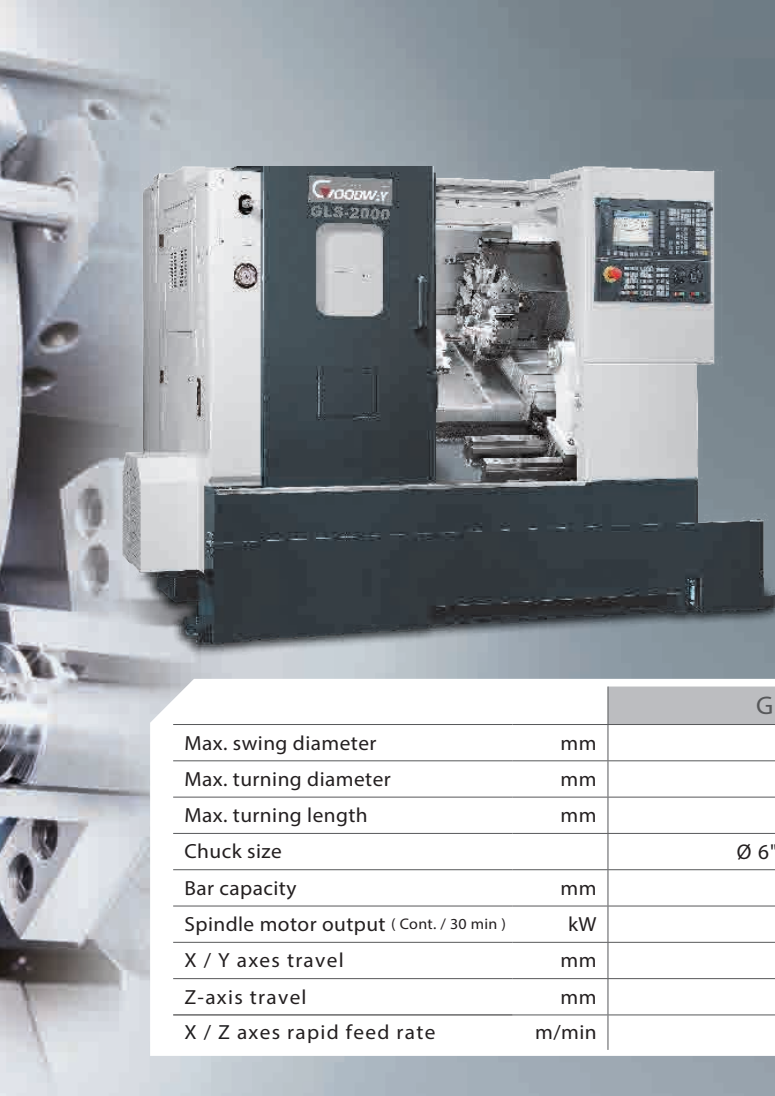
Compact Machine Size Multi-Tasking Turning Capabilities

- Compact machine size. Provides full multi-tasking turning capabilities by live turret, sub-spindle, and Y axis.
- 30° slant bed Meehanite casting structure provides extremely solid base.
- One-piece high rigidity headstock with heat sink can reduce the body heat displacement and improve precision.
- X / Z axes are driven by high performance AC servo motor. Rapid feed rate reaches up to 30 m/min.
- Standard 12-station servo indexing turret achieves 0.2 sec indexing time for adjacent stations, and 0.5 sec for stations at the opposite end of disk.



- ▶ X / Z axes adopt with high precision linear guide ways, which provides high accuracy, fast movement and low wear advantages.





GLS-1500 series

Variety of Tooling Systems

24-station servo indexing turret, gang tooling and live tooling turret are available for option to fulfill various turning needs.



		GLS-1500	GLS-2000
Max. swing diameter	mm	Ø 560	
Max. turning diameter	mm	Ø 390	
Max. turning length	mm	330 / 630	
Chuck size		Ø 6" (Big bore)	Ø 8" (Big bore)
Bar capacity	mm	Ø 51	Ø 65
Spindle motor output (Cont. / 30 min)	kW	11 / 15	
X / Y axes travel	mm	230 / ±35	
Z-axis travel	mm	330 / 630	
X / Z axes rapid feed rate	m/min	30 / 30	

Specifications are subject to change without notice.



GLS-150 series

5,000 Units
Sales Achievement

3.3 m²
Floor Space

		GLS-150	GLS-200	GLS-260
Max. swing diameter	mm	Ø 500		
Max. turning diameter	mm	Ø 360		
Max. turning length	mm	500		
Chuck size		Ø 6" (Big bore)	Ø 8" (Big bore)	Ø 10"
Bar capacity	mm	Ø 51	Ø 65	Ø 65
Spindle motor output (Cont. / 30 min)	kW	11 / 15		
X / Y axes travel	mm	210 (Model with Y-axis : 195) / ± 30		
Z-axis travel	mm	520		
X / Z axes rapid feed rate	m/min	30 / 30		

Specifications are subject to change without notice.

High Performance Turning Centers

GS-200 series

- 30° Box ways slant bed design
- Spindle is driven by 15 kW high power motor
- 12-station servo indexing turret
- Programmable tailstock, rotary quill
- Live tooling turret, C-axis, sub-spindle and Y-axis



	GS-200	GS-260	GS-280
Max. swing diameter	Ø 670 mm		
Max. turning diameter	Ø 420 mm		
Max. turning length	591 / 1191 mm	560 / 1,160 mm	534 / 1,134 mm
Chuck size	Ø 8"	Ø 10"	Ø 10"
Bar capacity	Ø 51	Ø 65	Ø 75
Spindle nose	A2-6	A2-8	
Spindle motor output (Cont. / 30 min)	11 / 15 kW		
X / Y axes travel	300 / ±50 mm		
Z-axis travel	600 / 1,200 mm		
X / Z / Y axes rapid feed rate	20 / 24 / 10 m/min.		

High Performance Lathe

GCL-2 series

10,000 Units
Sales Achievement

- High CP value with great durability
- Low gravity bed featuring 30° saddle design on X-axis
- Spindle is driven by 15 kW high power motor
- 8 / 12 station servo indexing turret
- Manual tailstock, programmable quill



	GCL-2
Max. swing diameter	Ø 400 mm
Max. turning diameter	Ø 230 mm
Max. turning length	300 / 600 mm
Chuck size	Ø 8"
Spindle nose	A2-6
Spindle motor output (Cont. / 30 min)	11 / 15 kW
X-axis travel	125 mm
Z-axis travel	320 / 620 mm
X / Z axes rapid feed rate	20 m/min.

High Performance Wheel Turning Centers

GA-W series

	GA-3600 / W24
Max. swing diameter	Ø 930 mm
Chuck size	15"
Spindle nose	A2-11
Spindle speed	2,500 rpm
Spindle motor output (Cont. / 30 min)	30 / 45 kW
Turret capacity	10
X / Y axes travel	400 / 900 mm



Gang Type Turning Centers

TS-150 series

	TS-150
Max. swing diameter	Ø 330 mm
Max. turning length	290 mm
Bar capacity	Ø 45 mm
Chuck size	6" or 42 collet
Spindle motor output (Cont. / 15 min)	5.5 / 7.5 kW
X / Z axes travel	305 / 320 mm
X / Z axes rapid feed rate	24 m/min.



High Speed Tapping Centers

TLV series

	TLV-500	TLV-700
X-axis travel	500 mm	700 mm
Y / Z axes travel	400 / 300 mm	
Dist. from spindle nose to table top	180 ~ 480 mm	
Table size (X x Y)	600 x 400 mm	800 x 400 mm
Table load capacity	250 kg	
Spindle taper	BT30	
Spindle motor output (cont. / peak)	3.7 / 5.5 kW (SIEMENS)	
Spindle speed	10,000 / 12,000 rpm	
Machine weight	2,500 kg	



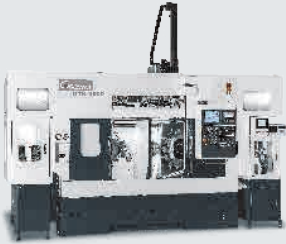
Specifications are subject to change without notice.

Multi-Axis Turning Centers

GTH Series

Parallel Twin Spindle
Turning Centers

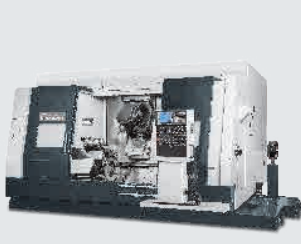
Chuck Size | 10"



GMS Series

Tool Spindle Type
5-axis Turning Centers

Chuck Size | 8" / 10"



GTW Series

Turret / Gang Tooling
Turning Centers

Chuck Size | 8" / 10"



GTZ Series

Twin spindles & Turrets
Turning Centers

Chuck Size | 6" / 8"



GTS Series

Twin spindles & Turrets
Turning Centers

Chuck Size | 6" / 8" / 10"



Vertical Turning Centers

SUPER GV Series

Super Size
Vertical Turning Centers

Table diameter | Ø 2,000 ~ 8,000 mm



GV-1 Series

Heavy-Duty
Vertical Turning Centers

Table diameter | Ø 1,250 / 1600 mm



GV-1000 Series

High Rigidity
Vertical Turning Centers

Chuck Size | 15" ~ 24"
18" ~ 32"



GV-780 Series

High Speed
Vertical Turning Centers

Chuck Size | 15" ~ 24"



GV-500 Series

High Speed
Vertical Turning Centers

Chuck Size | 12" ~ 15"



SWISS Turning Centers

SW-42 Series

Multi-tasking
SWISS Turning Centers

Max. machining dia. | Ø 42 mm



SW-32 Series

Multi-tasking
SWISS Turning Centers

Max. machining dia. | Ø 32 mm



SW-20 Series

Multi-tasking
SWISS Turning Centers

Max. machining dia. | Ø 20 mm



SD-20 Series

Compact
SWISS Turning Center

Max. machining dia. | Ø 20 mm



SD-16 Series

Compact
SWISS Turning Centers

Max. machining dia. | Ø 16 mm



Horizontal Turning Centers

HA Series

Flat-bed
Turning Centers

Chuck Size | 24" ~ 63"

GS-8000 Series

Heavy-Duty Super Size
Turning Centers

Chuck Size | 20" ~ 32"

GS-6000 Series

Heavy-Duty
Turning Centers

Chuck Size | 15" / 20" / 24"

GS-4000 Series

Maximum Performance
Turning Centers

Chuck Size | 15" / 20"

GS-3000 Series

Maximum Performance
Turning Centers

Chuck Size | 10" / 12" / 15"



Large Scale Machines

Composite Capability

Horizontal Turning Centers

GS-2000 Series

Maximum Performance
Turning Centers

Chuck Size | 8" / 10"

GS-200 Series

Maximum Performance
Turning Centers

Chuck Size | 8" / 10"

GA-3000 Series

High Performance
Turning Centers

Chuck Size | 10" / 12" / 15"

GA-2000 Series

High Performance
Turning Centers

Chuck Size | 8" / 10"

GCL-2 Series

High C/P Value
Lathe

Chuck Size | 8"



Composite Capability

High CP Value

Horizontal Turning Centers

GLS Series

High Speed
Turning Centers

Chuck Size | 6" / 8" / 10"

TS-150 Series

Gang Type
Turning Centers

Chuck Size | 6"

Vertical Machining Centers

MLV Series

High Rigidity
Vertical Machining Centers

Travel | X : 610 ~ 1,020 mm
Y : 610 mm
Z : 610 mm

Tapping Center

TLV Series

High Speed
Tapping Centers

Travel | X : 500 / 700 mm
Y : 400 mm
Z : 300 mm

Wheel Turning Center

GA-W Series

High Performance
Wheel Turning Centers

chuck size | 12" / 15"



High Speed