GMS SERIES

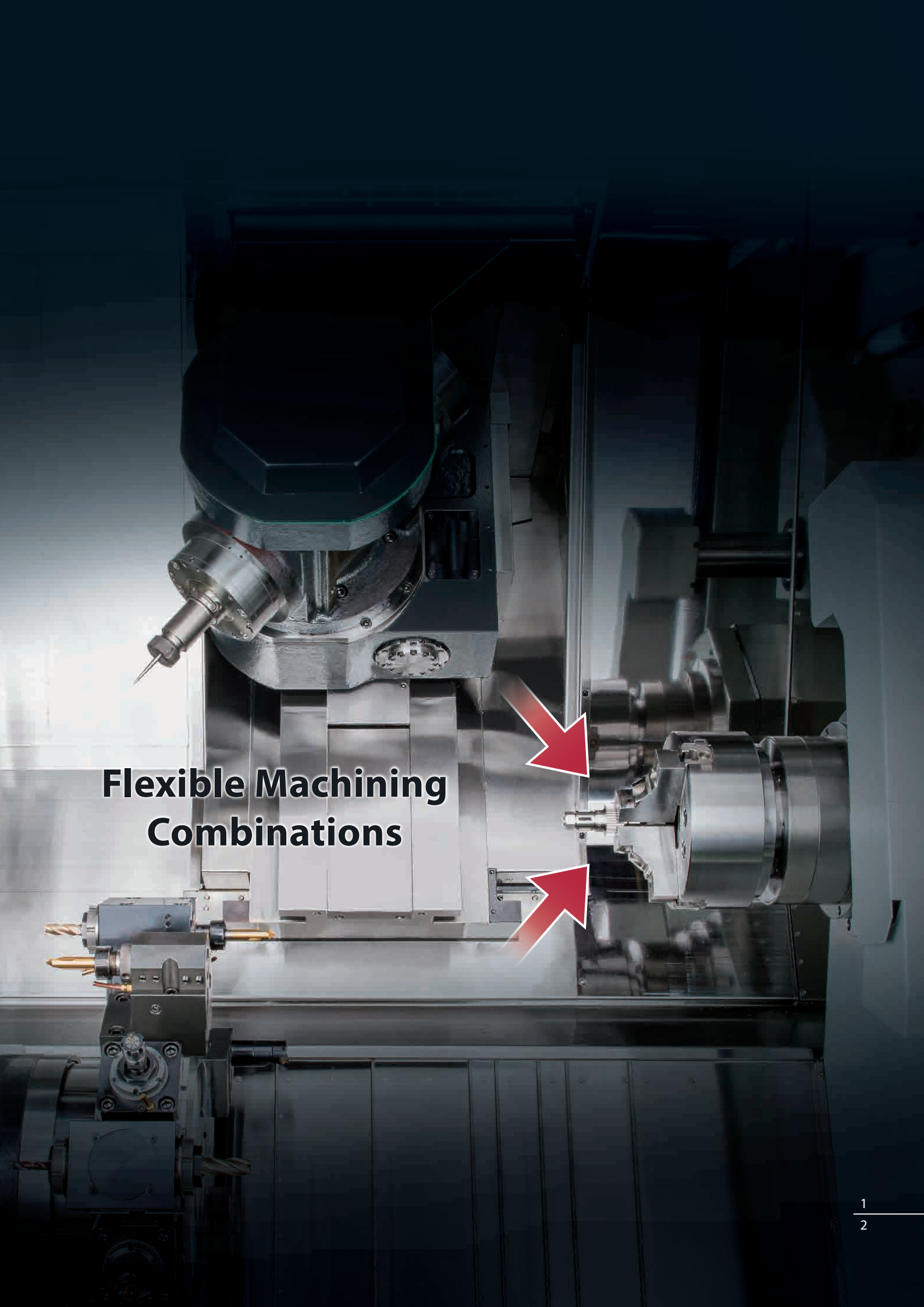
TOOL SPINDLE TYPE 5-AXIS TURNING CENTERS

THE ULTIMATE MACHINING POWER

WOODWAY®

BRAND NEW MULTI-TASKING MACHINING TECHNOLOGY

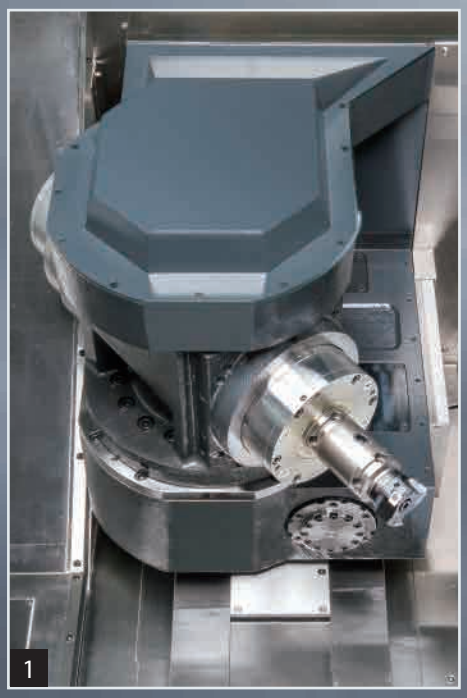
The tooling spindle and turret can support twin spindle machining. Special tooling system design to provide flexible and efficient machining ability.


Flexible Machining
Combinations

TOOL SPINDLE TYPE 5-AXIS TURNING CENTERS

With 40 years of knowledge and experience in the machine tools field, GOODWAY is proud to present the new GMS series 5-axis turning center. This hybrid has the combination of GOODWAY's exquisite techniques (X, Y, Z, C axes and live tooling turret) and the features of a machining center, such as the high-speed spindle, ATC system, and B-axis. Complex free shape machining 5 degree segmentation, tapping, milling, drilling, incline machining, contour machining, and turning can be done easily, hence, done in one is made possible.

- The GMS series combine strong features of turning centers and machining centers into one single machine, saving floor space and equipment purchase cost while increasing machining accuracy.
- 9 axes control with 5 axes simultaneous turning, any difficult cutting tasks can be overcomed easily.
- Tooling spindle and turret support 1st spindle and 2nd spindle, which provides high efficiency.

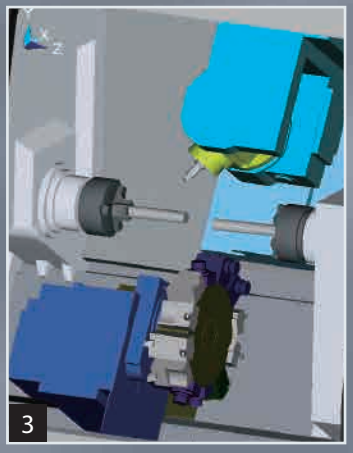

1

1 TOOLING SPINDLE

Tooling spindle uses triple plate curvic coupling with worm gear drive structure.

- Swiveling range : ±120°
- Indexing resolution : 5° (Coupling)
  0.001° (Unclamp)


2


3

(GMS-2600ST model shown.)

2 BUILT-IN LIVE TOOLING TURRET

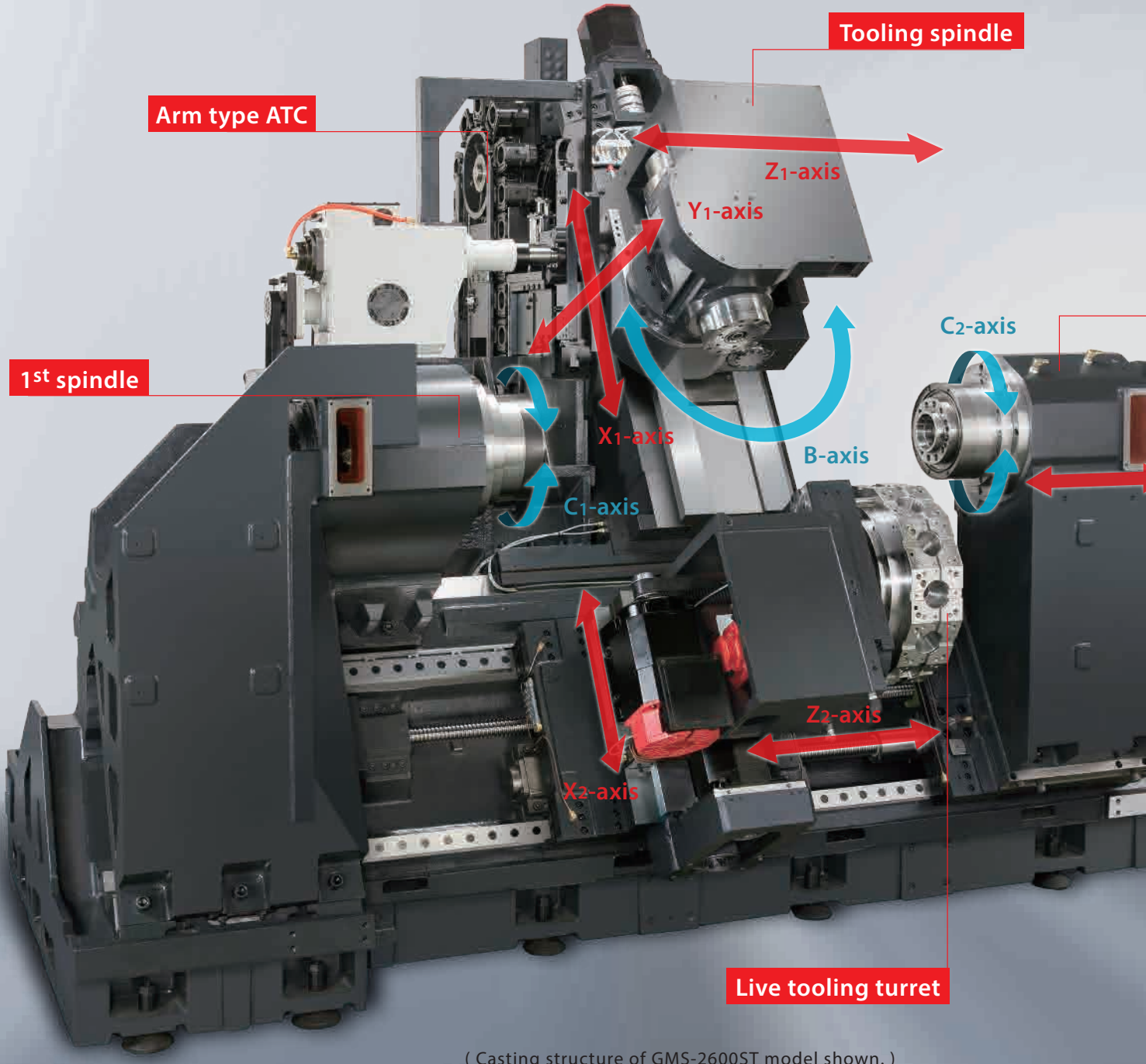
Ø 250 mm curvic coupling equipped with spindle motor driven turret provides the best cutting ability.

- Tool shank size : □ 25 mm / Ø 40 mm
- Live tooling shank size : ER32
- Stations : 15

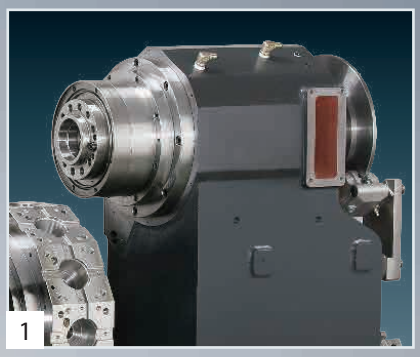
3 3D SIMULATION

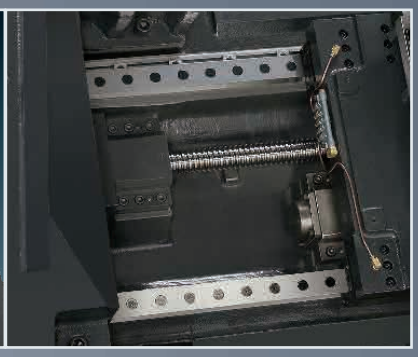
The 3D simulation program provides real time environment simulation which maintains operation safety while saving run-in testing costs.

ADVANCED STRUCTURE DESIGN



(Casting structure of GMS-2600ST model shown.)





1 **HIGH PRECISION BUILT-IN SPINDLE**

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.

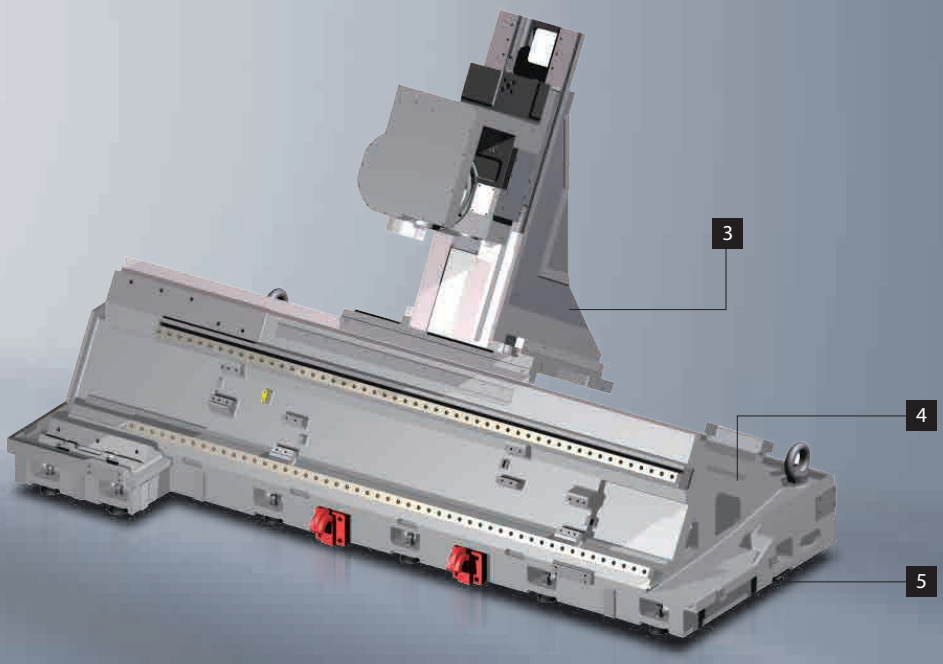
2 **ADVANCED SLIDE WAY DESIGN**

The X / Y / Z_1 axes are adopted with high-rigidity, extra-wide box way design to provide solid foundation for heavy-duty cutting.

The Z_2 / Zs axes are adopted with high-speed, high-precision roller linear guideways design to increase work-piece overall accuracy and maintain excellent cutting rigidity.

2nd spindle

Zs-axis



3 Y-axis saddle and bed are 90° orthogonal design which makes the center of gravity keep on the bed to ensure the cutting rigidity.

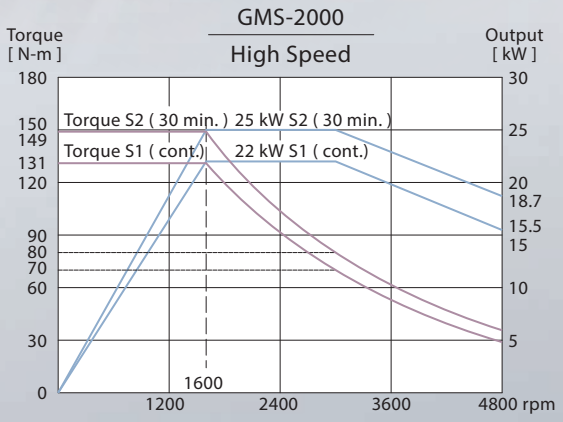
4 The bed height is lower than 30° or 45° slant beds which reduces the center of gravity of the machine.

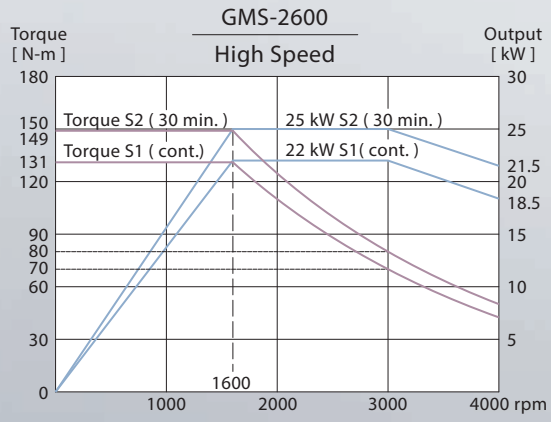
5 The machining area is designed with a 60° slant bed for easy chip disposal and heat elimination.

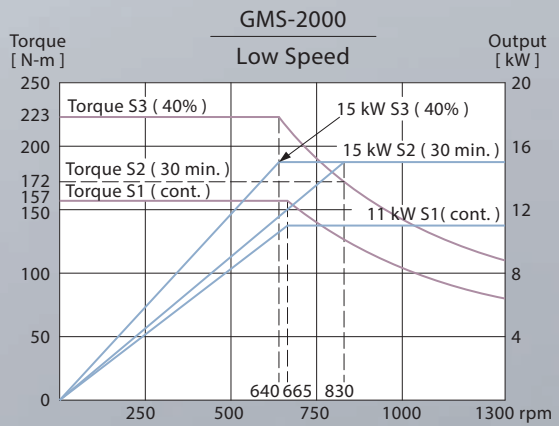
ULTIMATE TURNING POWER

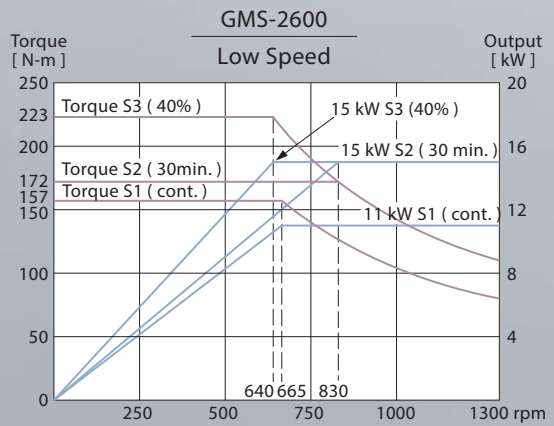
The 1st and 2nd spindle module are equipped with cylindrical roller bearings which are better than angular contact bearings. The spindle is installed with a built-in spindle motor which eliminates power loss and belt slipping problems. The C-axis with high resolution magnetic encoder provides high precision contour machining capability.

1st & 2nd Spindle Output

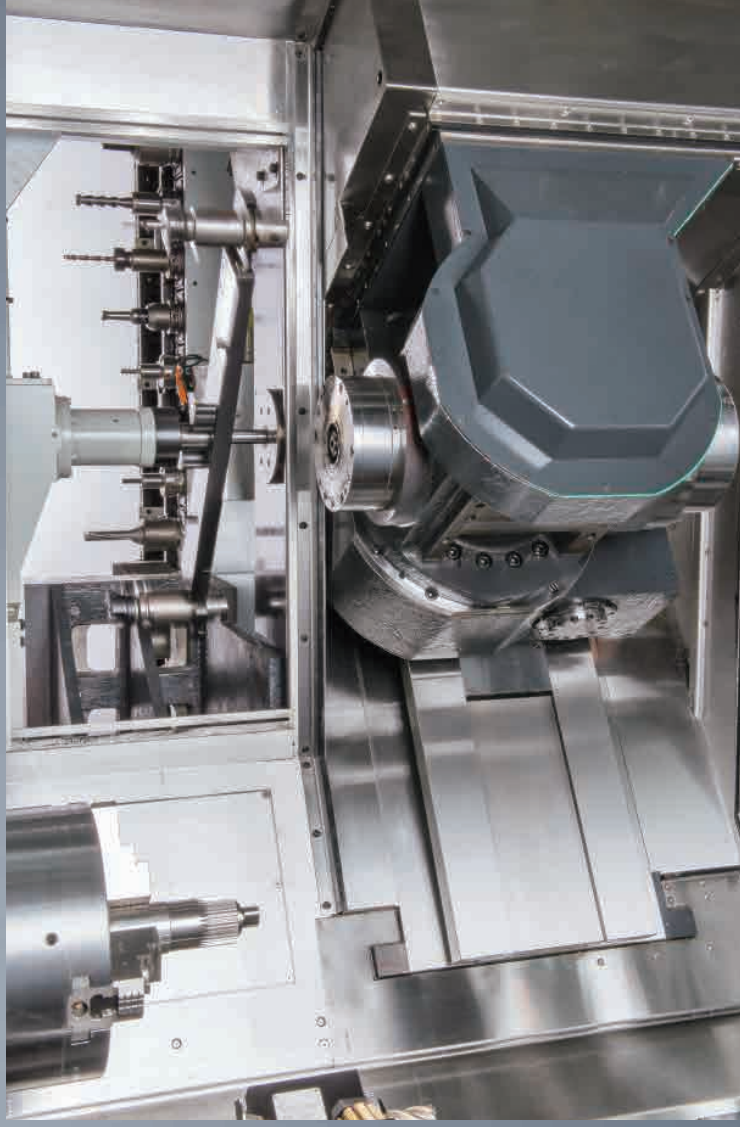




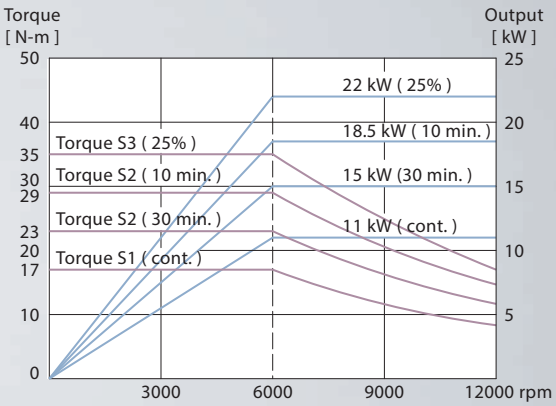




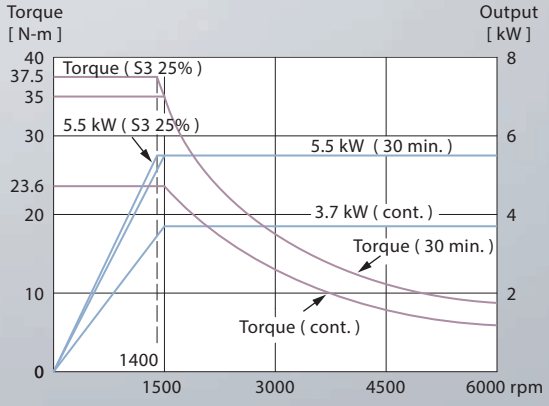
TOOLING SPINDLE & ATCs



Tooling Spindle Output



Live Tooling drive motor output



- Tooling spindle provides 2 types of spindle taper, KM-63 and HSK-A63, which max. speed is 10,000 rpm, min. index 0.001° to fulfill precise and complex contour machining needs.
- All series are standard with high efficiency 24T (40T Opt.) arm type ATC system which can easily fulfill various types of processing needs.
  T-T：1.5 sec.

NC INTELLIGENCE

G.LINC 350

Advanced hardware combined with intelligent software, makes your machine smarter

- Advanced Hardware
- Outstanding Operability
- Streamlined Programming
- High Security and Shortened Machining Setting
- Reliable Continuous Operation
- Shortened Troubleshooting Time
- Improved Utilization Rate

Comprehensive Functions

Programming → Setting → Test-Run → Actual Production → Daily Used

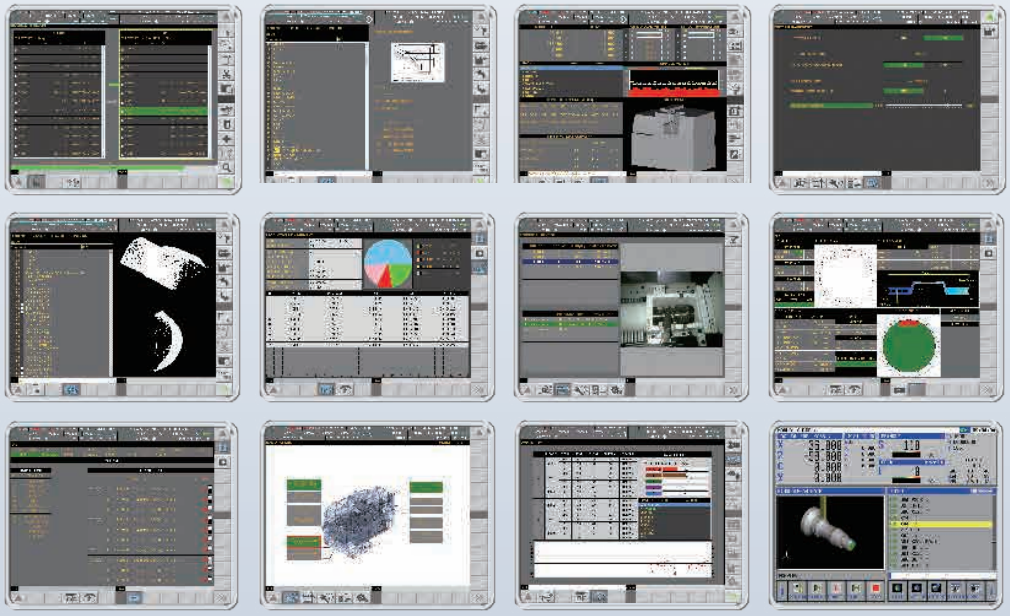
- Program management
- Friendly programing environment
- Programming auxiliary
- Manual Guide *i*
- Embedded E-manual

- 3D advance tool path and cutting simulation

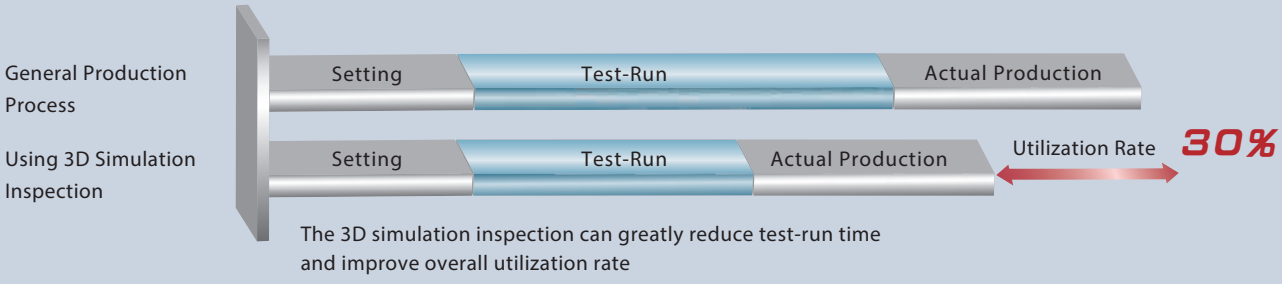
- Tool load monitor
- Program check
- Smart balance detection
- 3D Real-time cutting simulation and interference check

- Tool load monitor
- 3D Real-time cutting simulation and interference check

- Safety signal viewer
- Fast alarm check productivity
- Productivity management
- Twin operation system switch
- Maintenance management



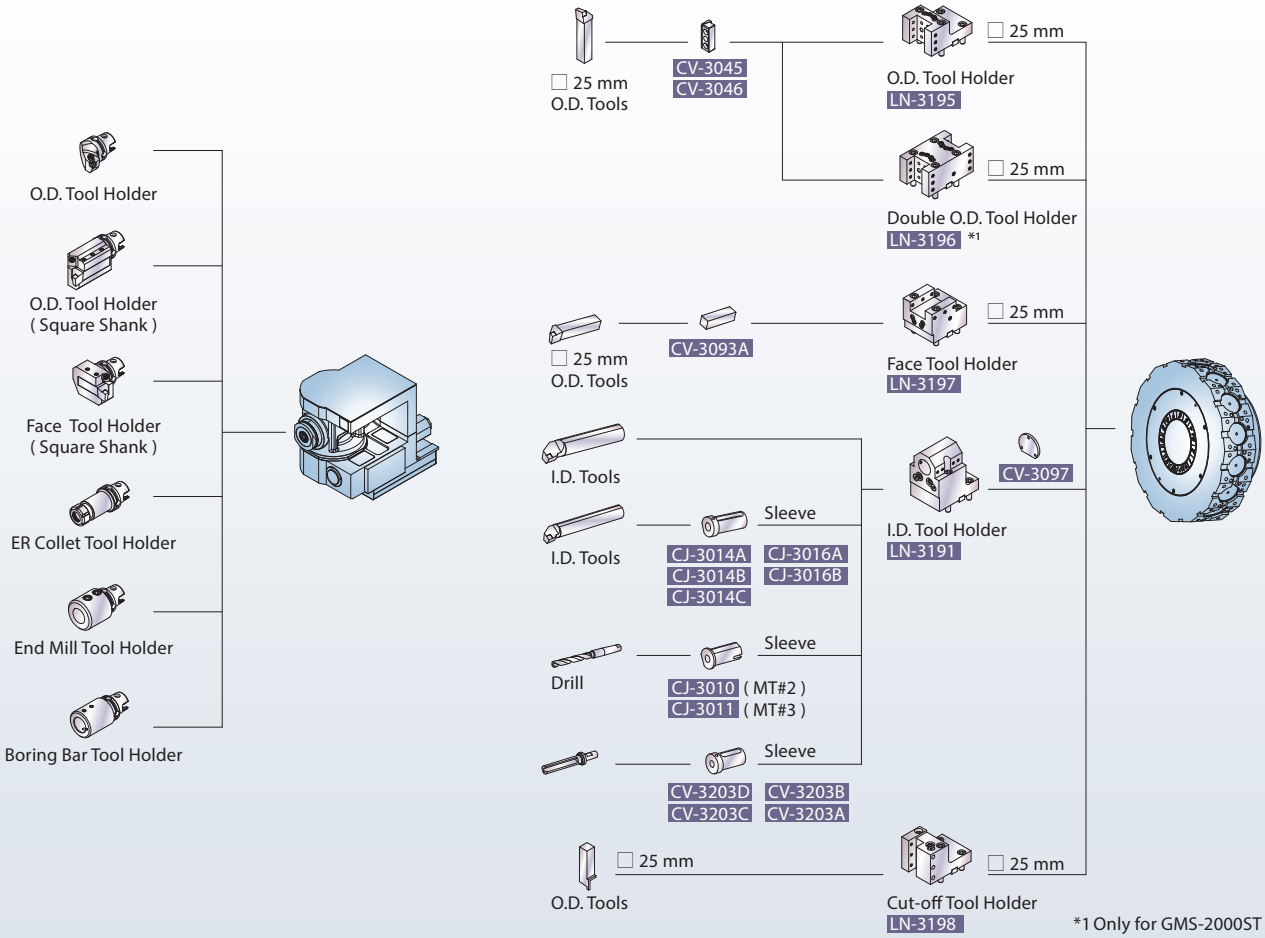
Significant Production Efficiency



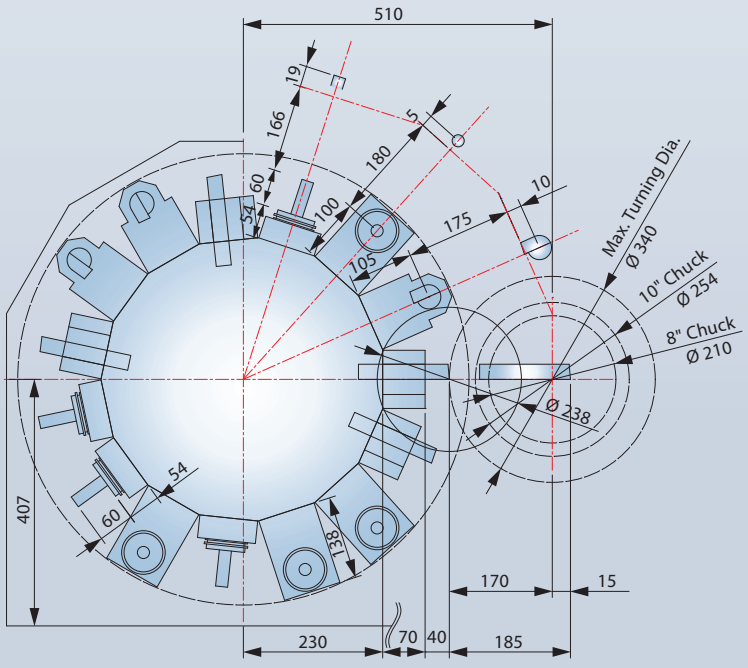
The 3D simulation inspection can greatly reduce test-run time and improve overall utilization rate

DIMENSIONS

Tooling System



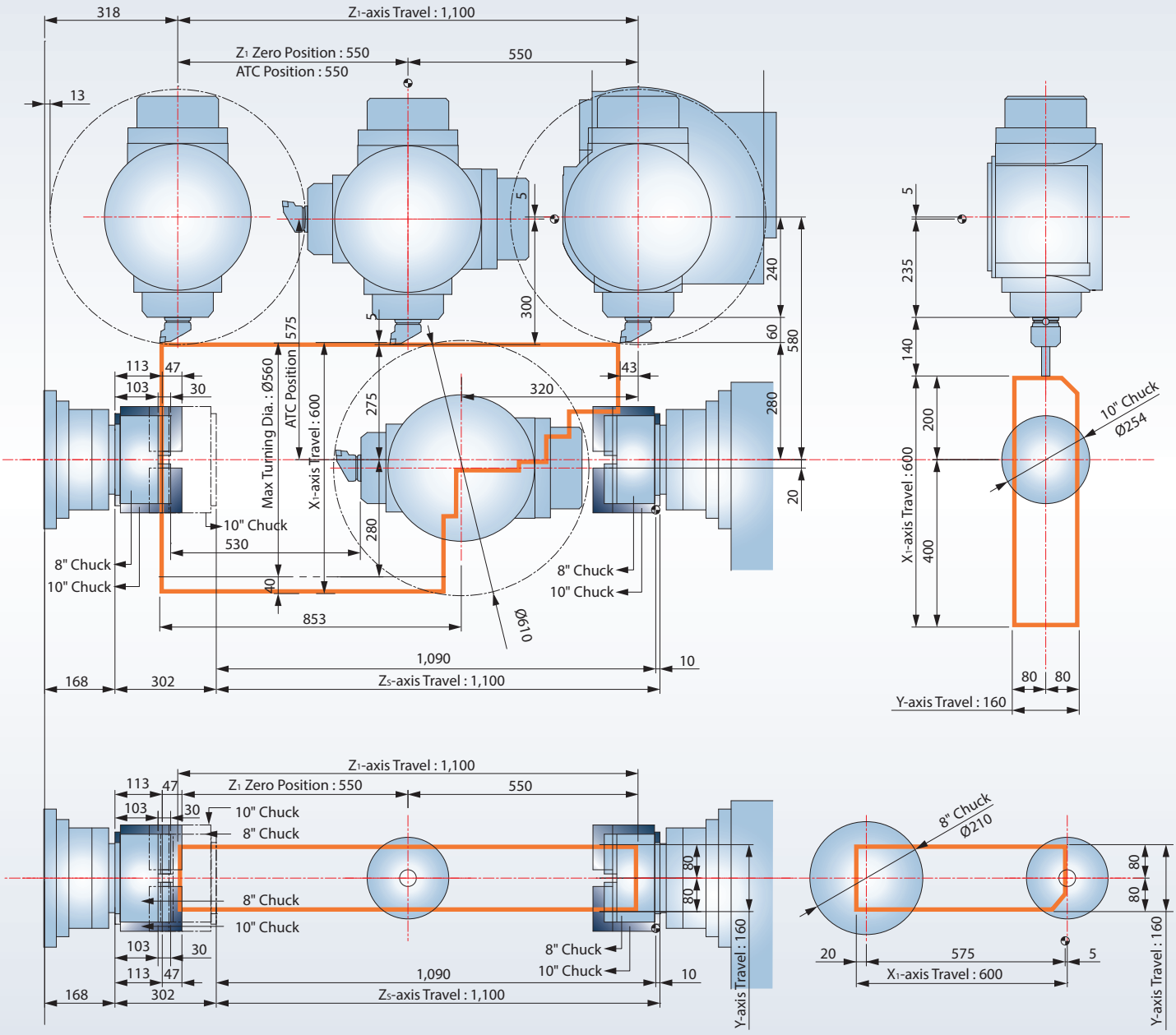
Interference Diagram



Unit : mm

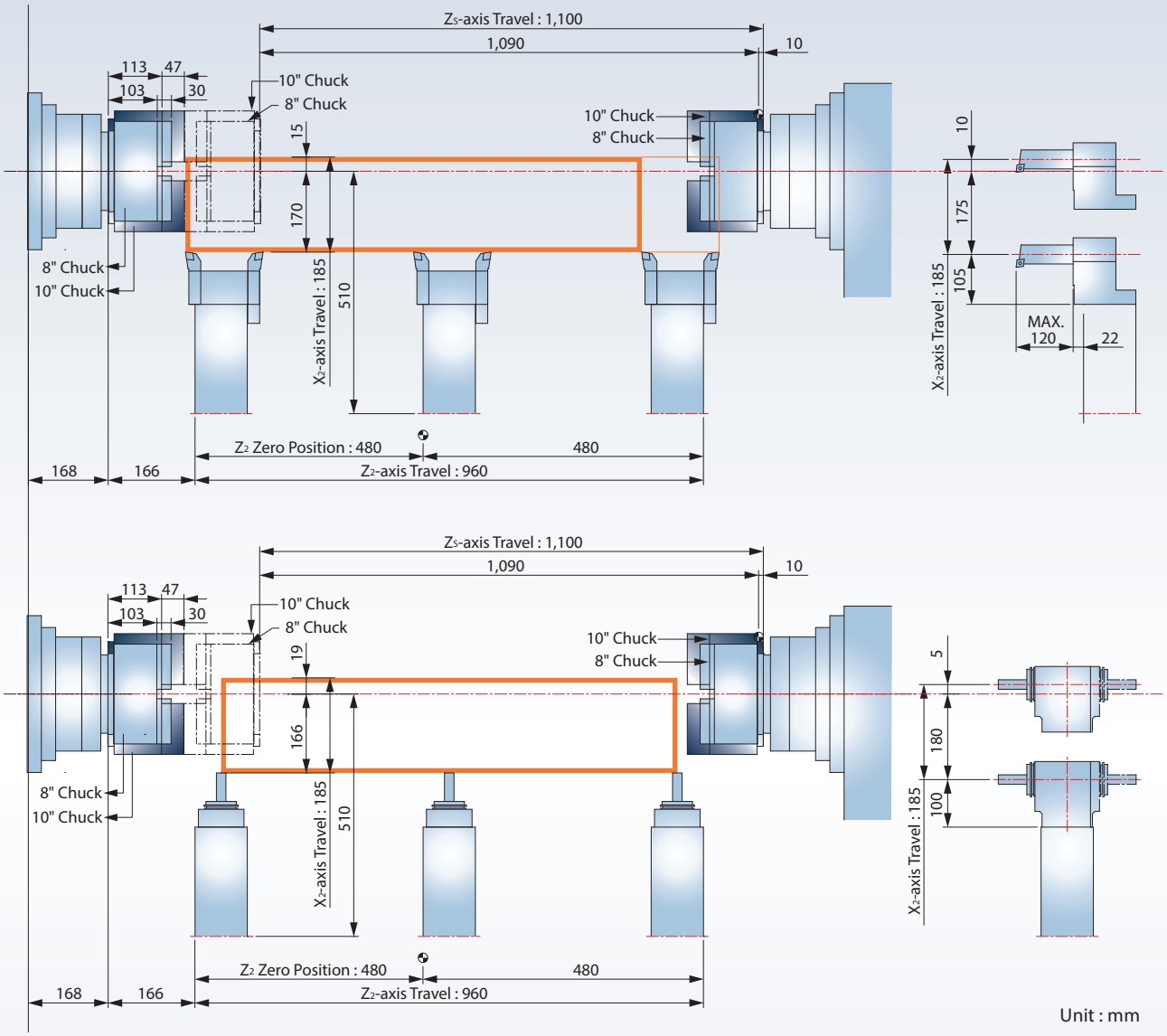
DIMENSIONS

Work Range



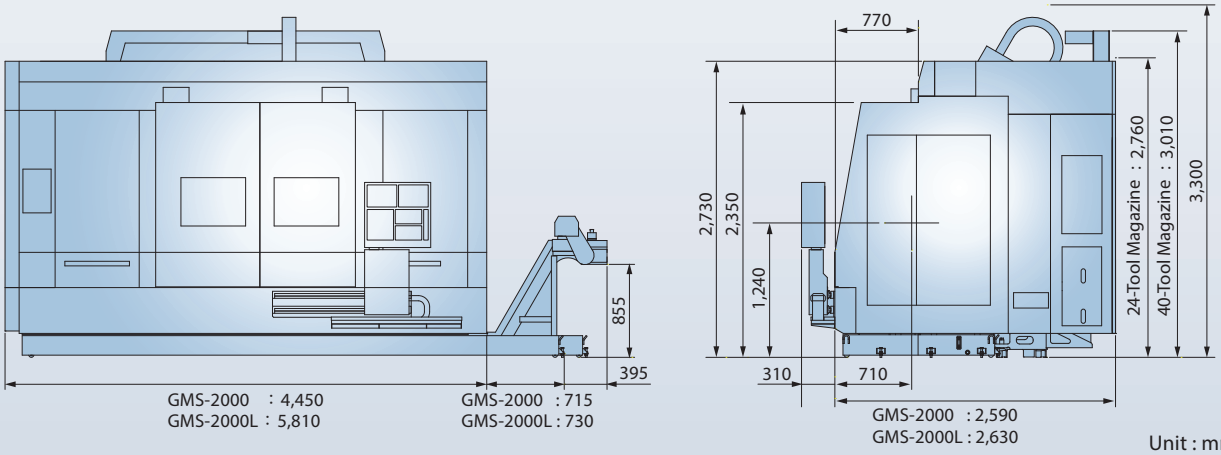
Unit : mm

Work Range



Unit : mm

Machine Layout



Unit : mm

MACHINE SPECIFICATIONS

CAPACITY	GMS-2000ST	GMS-2600ST
Max. swing diameter	Ø 900 mm	
Swing over saddle	Ø 700 mm	
Distance between spindle nose	1,402 / 1,902*1 mm	
Max. turning diameter	Tooling spindle : Ø 560 mm Turret : Ø 340 mm	
Max. turning length	1,100 / 1,600*1 mm	1,094 / 1,594*1 mm
SPINDLE		
Bar capacity	Ø 51 mm	Ø 65 mm
Hole through spindle	Ø 61 mm	Ø 76 mm
Spindle bearing diameter (Front / Rear)	Ø 100 / 80 mm	Ø 120 / 100 mm
Chuck size	8"	10"
Spindle nose	A2-6	
Spindle motor type	Bi I 170S / 6000	
Spindle motor output (cont. / 30 min.)	H : 22 / 25 kW , L : 11 / 15 kW	
Gear ratio	1 : 1	
Spindle speed range	4,800 rpm	4,000 rpm
Max. spindle torque (cont. / 30 min.)	H : 131 / 149 N-m , L : 157 / 223 N-m	
X / Y / Z AXES		
X_1 / X_2 axes travel	600 / 185 mm	
Z_1 / Z_2 axes travel	1,100 / 960 mm (1,600 / – mm)*1	
Zs-axis / Tailstock travel	1,100 / 1,090 mm (1,300 / 1,290 mm)*1*2	
Y-axis travel	± 80 mm	
X_1 / Z_1 / Z_2 / Zs axes rapids	24 m/min.	
Y-axis rapids	16 m/min.	
Slide way type	Box way (Linear way : Z_2 / Zs axes)	
X_1 / Z_1 / Y axes servo motor	AC 7 kW	
X_2 / Z_2 / Zs axes servo motor	AC 3 / 4 / 4 kW	
X_1 / X_2 / Y axes ball screw Ø / pitch	Ø 36 mm / Pitch 8	
Z_1 / Z_2 / Zs axes ball screw Ø / pitch	Ø 45 mm / Pitch 8	
X_1 / Z_1 axes thrust	2,401 kgf	
Y-axis thrust	3,602 kgf	
X_2 / Z_2 / Zs axes thrust	1,708 / 1,761 / 1,761 kgf	

TOOLING SPINDLE		GMS-2000ST	GMS-2600ST
B-axis travel		± 120 º	
B-axis rapids		30 rpm	
B-axis servo motor		AC 2.7 kW	
Min. indexing of B-axis		0.001º	
Max. spindle speed		10,000 rpm (Opt. 12,000 rpm)	
Spindle taper		KM63 / HSK-T63	
Spindle motor output (cont. / 30 min. / 10 min. / 25 %)		11 / 15 / 18.5 / 22 kW	
Magazine capacity		24 T (Opt. 40 T)	
Max. tool diameter / adj. empty		Ø 100 / Ø 150 mm	
Max. tool length / weight		300 mm / 7 Kg	
TURRET*3			
Stations		15	
O.D. / I.D. tool shank size		□ 25 mm / Ø 40 mm	
Index speed (adj.)		0.3 sec.	
Live tooling stations		15	
Live tooing shank size		ER 32	
Max. tooling speed		6,000 rpm	
TAILSTOCK			
Quill diameter		Ø 110 mm	
Quill type		MT#4 (Dead center) ; MT#5 (Live center)	
GENERAL			
Hydraulic / Lubrication capacity		50 / 6 L	
Coolant tank capacity		500 L	
CNC Controller	4+1 axes	FANUC 31i-B	
	5-axis	FANUC 31i-B5	
Machine weight		13,000 / 15,000*1 Kg	
Dimensions (L × W × H)		4,450 x 2,900 × 3,300 / 5,810 x 2,940 x 3,300*1 mm	

Specications are subject to change without notice.

*1 "L" model.
*2 Steady rest required.
*3 Not available for "L" model.

THE ULTIMATE MACHINING POWER

GOODWAY®

GOODWAYCNC.com

GOODWAY MACHINE CORP.

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