

NT *Series*

HIGH PERFORMANCE MILL/TURN CENTER



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HIGH PERFORMANCE MILL / TURN CENTER

2000Y · 2000SY · 2500Y · 2500SY



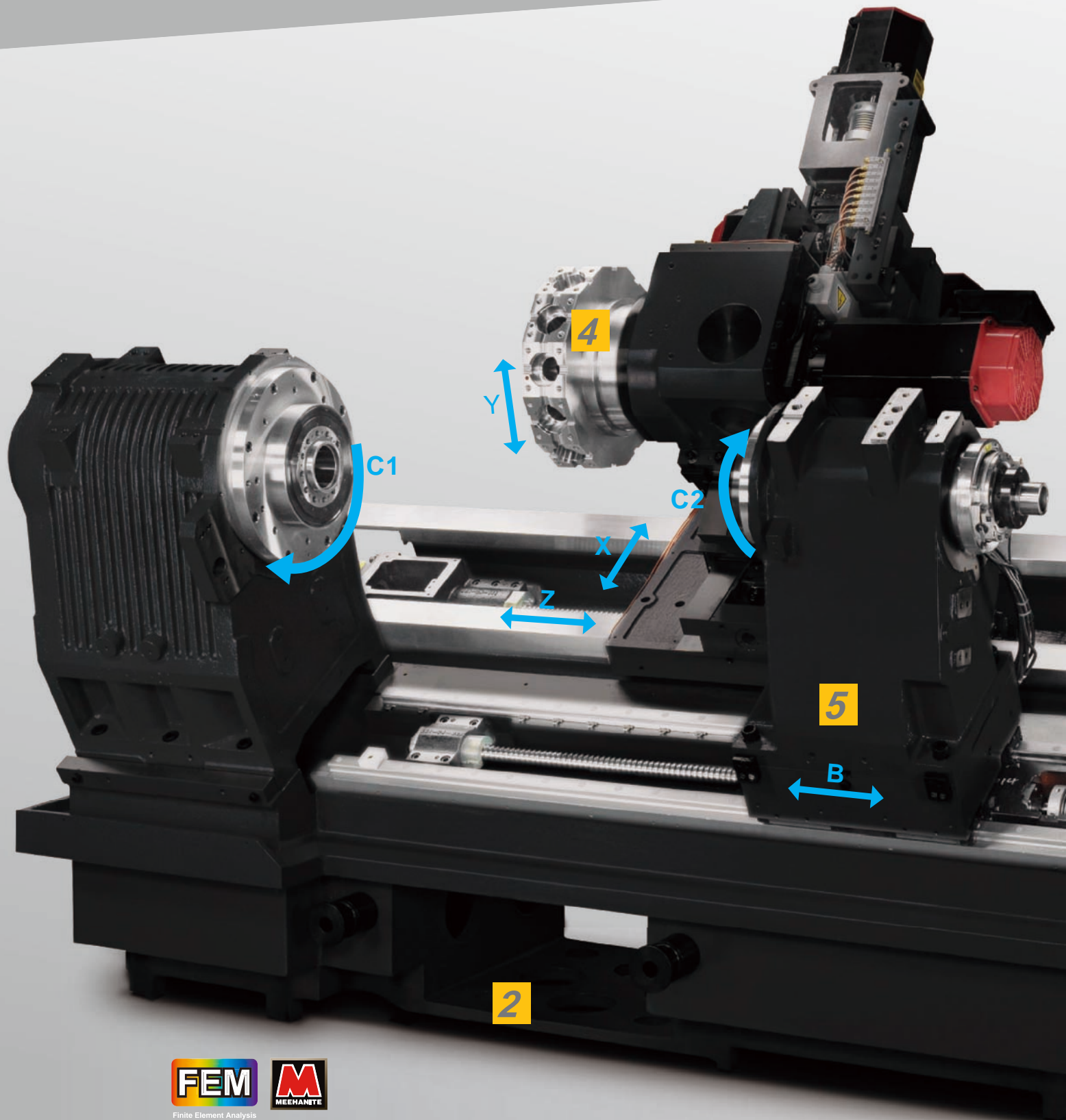
The appearance of the machines will be diverse due to different model and selectivity of controllers.



With flexible Y-axis capability, much more challenging mill/turn jobs can be integrated and achieved within a perfect time. The feature of automation is widely suited for diverse industries, such as automotive, die mold and general job shop.



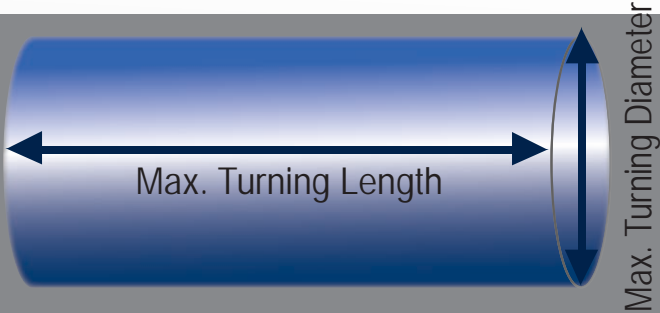
IDEAL STRUCTURAL RIGIDITY AND DESIGN





- 1** 30° One-piece Slanted Bed Design:
Extends the space for chips removal.
- 2** Highly Rigid Bridge Type Base:
Effectively absorbs vibration and reduces structural deformation.
- 3** Enlarged Box Guideway Width:
The oversized guideways are treated through induction hardening process and precision ground to achieve optimal rigidity, accuracy, and longevity.
- 4** Fast & Reliable Motorized Turret:
Servo-driven design achieves fast tool changing time and reliable indexing.
- 5** Sub Spindle & Programmable Tailstock
 - NT series offers a flexible choice. The NT-2000/2500SY is optimized with sub spindle and the NT-2000/2500Y is with programmable tailstock.
 - Programmable tailstock is driven by servo motor for high precision movement and easy setup, saving 20% operating time compared with the conventional design.
 - The feedrate and thrust force of the tailstock can be adjusted according to the size of workpiece.

HIGH PERFORMANCE AXIAL MOVEMENT



	NT-2000Y	NT-2000SY	NT-2500Y	NT-2500SY
Max. Turning Diameter	ø350mm 13.78"			
Max. Turning Length	519mm 20.43"		686mm 27.00"	

Flexible Y-axis Capability

- Y plus C-axis integrates mill/turn process and fulfills numerous complex requirements which can do more than general lathes.
- Y-axis travel: 100 (±50)mm. (3.9"±2")
- Y-axis feedrate: 10m/min. (394 ipm)
- Direct drive motors on X/Y/Z/B-axis reduce backlash and vibration problems and achieve accurate positioning.

Continuous C-X Milling Capabilities (NT-2000 series)

Item	Measured Value (μm)		
	Straightness	Symmetry	Parallelism
	2.0	4.0	1.0
	6.1		6.0
	3.7	2.6	5.4

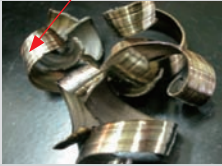


Max. Drilling Capacity: **ø59_{mm}**

Model	NT Series
Drill Diameter	ø59 mm
Material (JIS)	S45C
Cutting Speed	120 m/min.
Cutting Feed	0.15 mm/rev

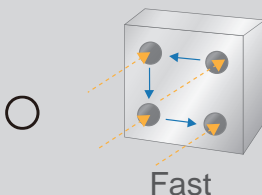
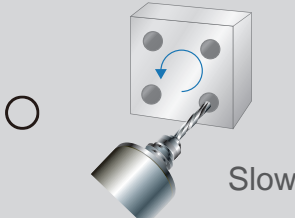
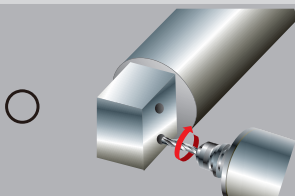
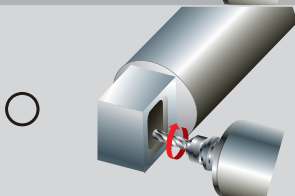
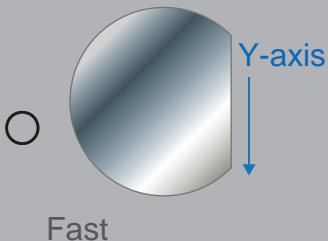
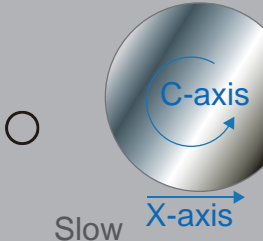

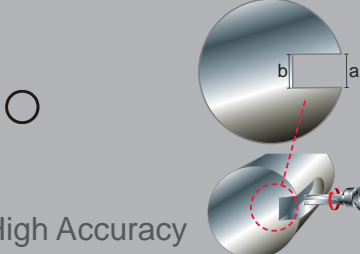
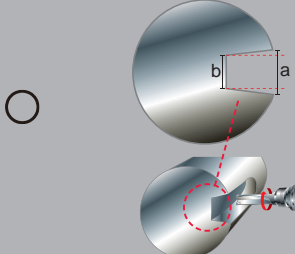
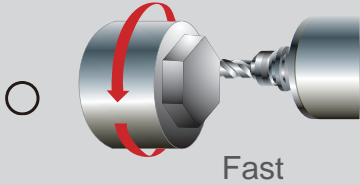

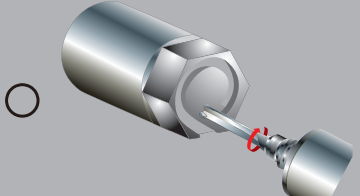
Rough Cutting Depth **10_{mm}**

Model	NT Series
Material (JIS)	S45C
Cutting Speed	150 m/min.
Cutting Feed	0.3 mm/rev
Cutting Depth	10 mm



Above cutting test results are for reference only. Test results may differ depending on distinct test conditions and measuring procedure.

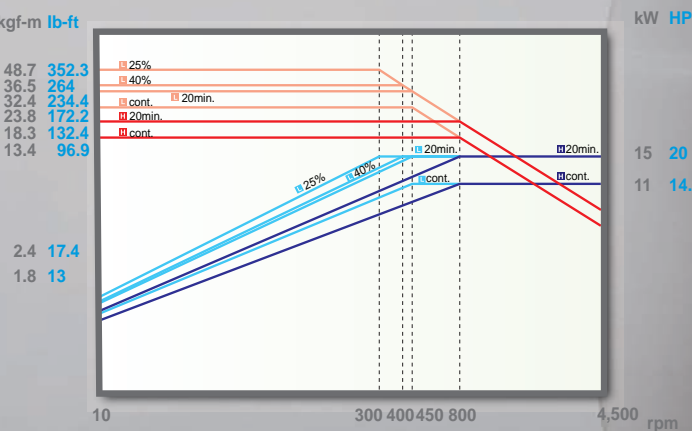
Flawless Combination of Y & C-axis

	Y & C-axis	C-axis
End Face Drilling	 <p>Fast</p>	 <p>Slow</p>
Off-center Drilling		X
Off-center Side Grooving		X
Large Face Milling	 <p>Fast</p>	 <p>Slow</p>
Contouring	 <p>Finish Surface Without Pin Points</p>	<p>X</p> <p>Rough Surface</p>
Keyway Machining	 <p>High Accuracy</p>	
X & C-axis Polar Interpolation	 <p>Fast</p>	 <p>Slow</p>
X & Y-axis Circular Interpolation		X

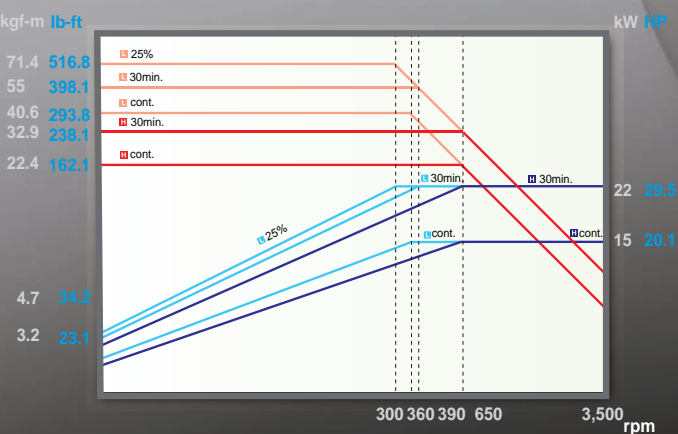
YCM IN-HOUSE BUILT-IN MOTORIZED MAIN AND SUB SPINDLE

Spindle Motor Torque Chart

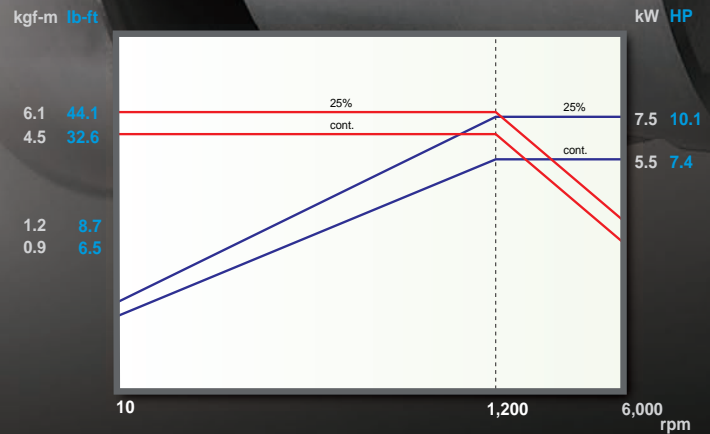
NT-2000Y/SY
MAIN SPINDLE SPEED 4,500rpm



NT-2500Y/SY
MAIN SPINDLE SPEED 3,500rpm



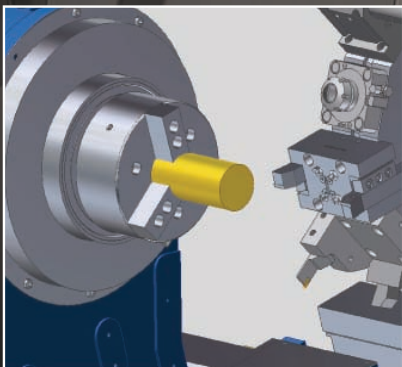
SUB SPINDLE SPEED 6,000rpm



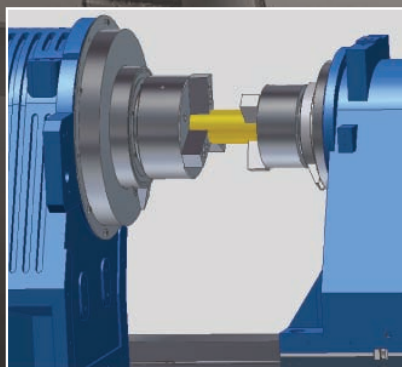
POWER L Low Speed H High Speed **TORQUE** L Low Speed H High Speed

- The built-in spindle design alleviates tension, slip and vibration generated by traditional belt-driven spindle design. With large diameter bearing, it greatly improves rigidity.
- The built-in spindle is circulated cooled and controls temperature growth with oil cooling system, so as to reduce thermal deformation and improve spindle speed.
- The spindle utilizes large diameter bearing that improves rigidity. Combining bearing characteristics and radial, axial and synthetic loads that ensures the spindle perform high precision turning and heavy duty cutting at low speed.
- C-axis index: 0.001° .

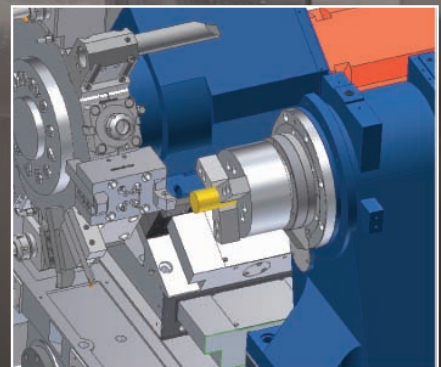
- Continuous machining capability.



Main Spindle



Hand Over



Sub Spindle

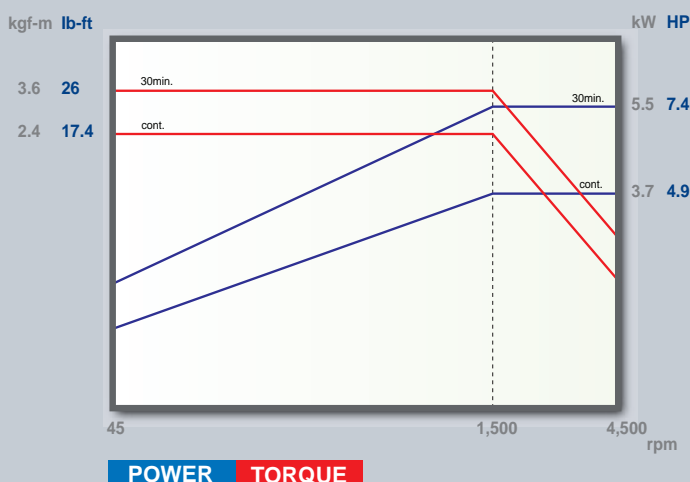
FAST & RELIABLE MOTORIZED TURRET

12

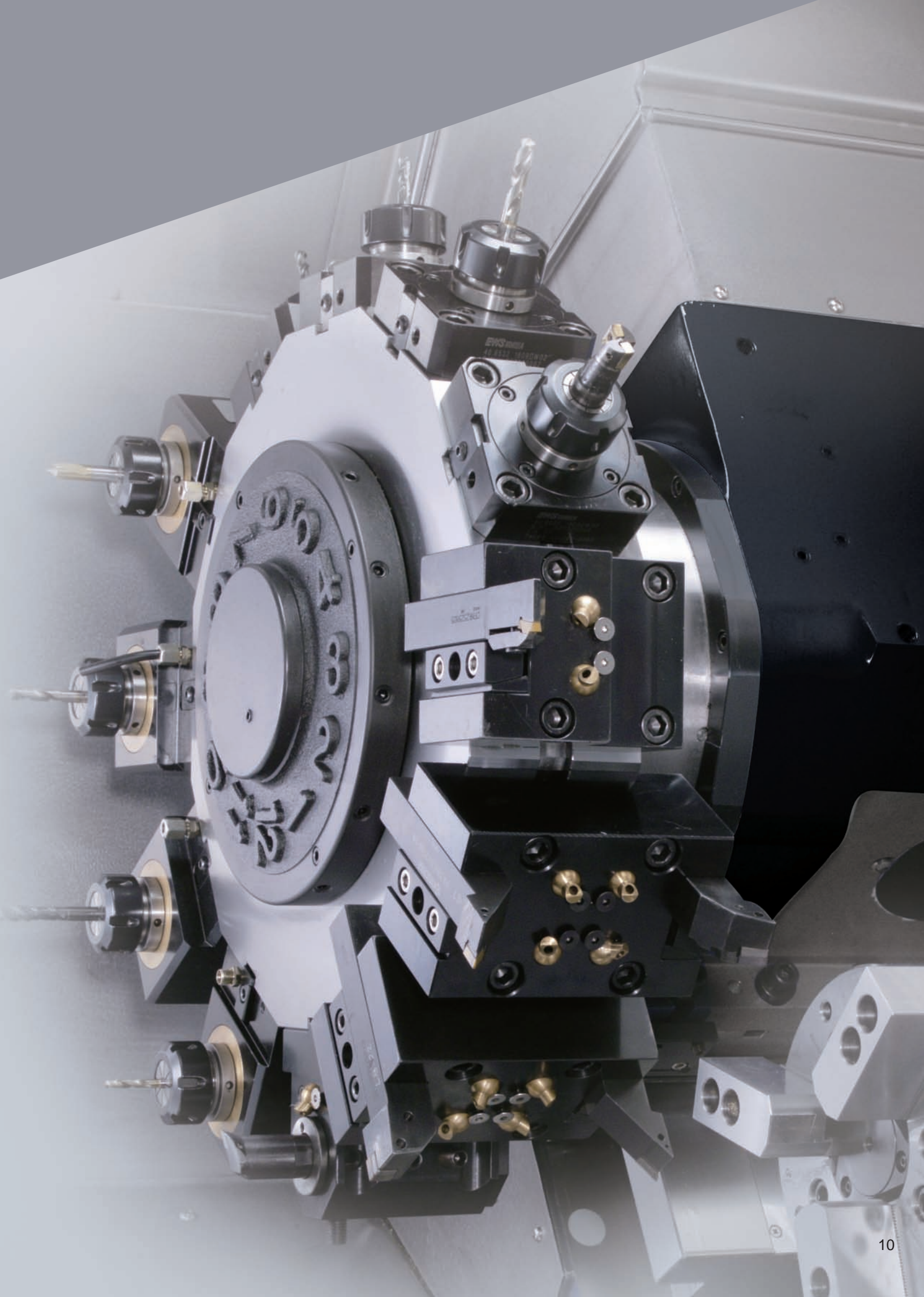
tools capacity

- 12 tools capacity. All stations are available for live tools.
- The radial power turret combines turning and milling capacities that reduces turret interference.
- The turrets are servo motor driven with hydraulic clamping design for saving tool change time.
- With highly accurate big diameter coupling, the higher positioning accuracy and repeatability accuracy they will be.

LIVE TOOL SPINDLE SPEED 4,500rpm



- Max. live tool power: 5.5kW **7.38HP**.
- Index time: 0.18 sec.
- BMT65 tooling system provides the best clamping force and high accuracy.



USER-FRIENDLY & EASY MAINTENANCE



1 Visual Management

- Oil pressure gauge is set in the front for easy daily check-up.

2 Easy Maintenance

- The maintenance window on front machine side for easy maintenance.



The appearance of the machines will be diverse due to different model and selectivity of controllers.

3 Safety Designs

- C2 safety window.
- Clear and eco-friendly lighting.
- Safety door is as standard.

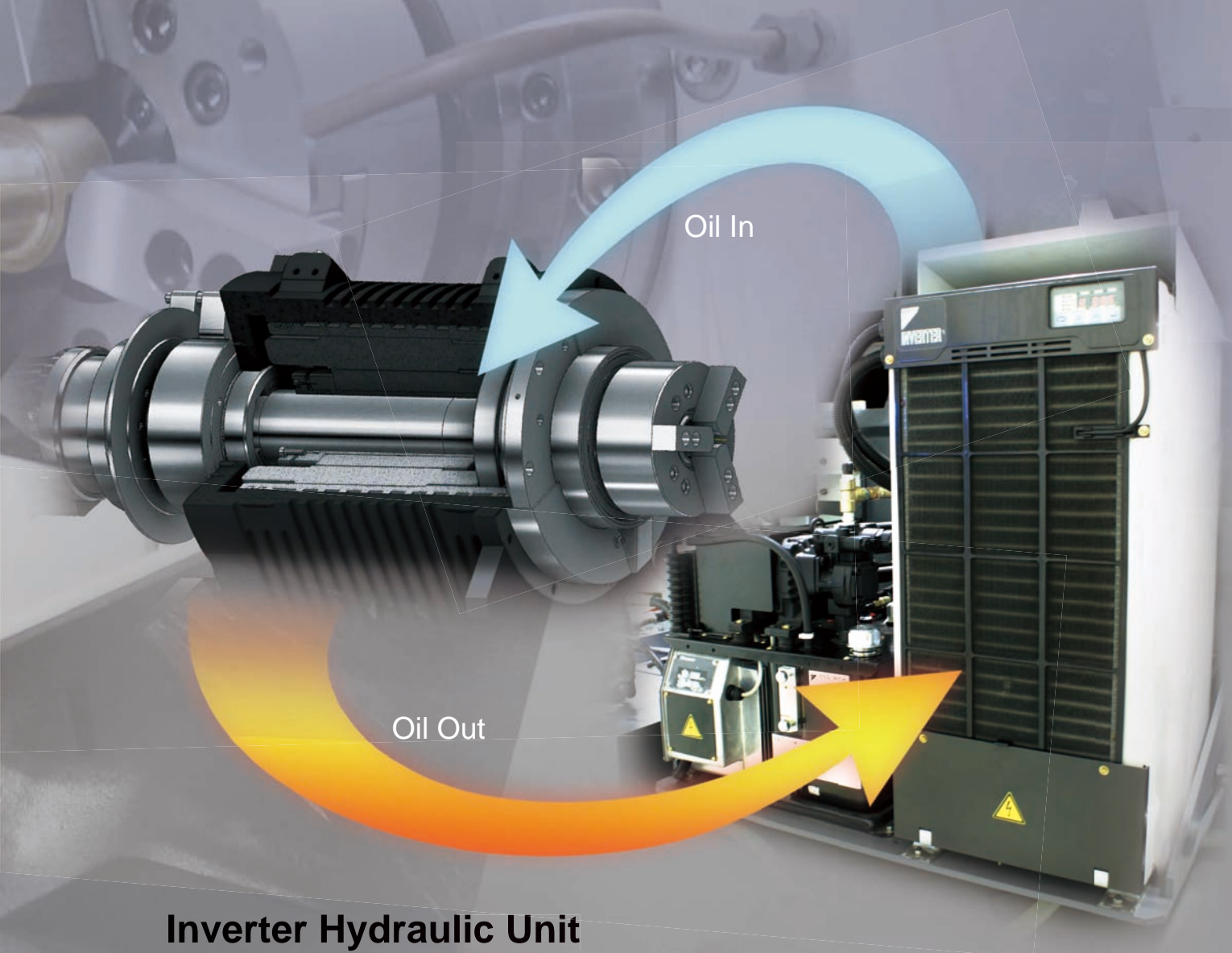
5 Convenient Swivel Control Panel

- Easy-to-understand interface.
- Maneuverability and high visibility.

4 Versatile Coolant Tank

- A special design of coolant tank effectively prevents chips from flowing back into machine.
- The independent coolant tank design isolates the base from heat exposure.

GREEN CONCEPTS



Inverter Hydraulic Unit

- Reduces 20% electricity consumption compared with conventional design.
- Extends hydraulic oil life.
- Compact footprint.

Specialized Spindle Cooling System

- Circulated oil jacket cooling system with advanced oil cooler ensures effective temperature control and reduces thermal deformation.
- Exhaust fans equipped on machine cover accelerate heat removal.

MAXIMUM SPEED
主軸最高轉速
4500RPM

MAXIMUM SPEED
主軸最高轉速
6000RPM

此為自動機，因此，在操作時，請依照下列
表之程序進行“操作”，以延長主軸軸承壽命。

主軸運轉時間

項目	主軸轉速	時間	注意事項
1. 主軸運轉	1. 20%	10	主軸運轉時間
2. 主軸停止	2. 20%	10	主軸停止時間
3. 主軸停止	3. 20%	10	主軸停止時間
4. 主軸停止	4. 20%	10	主軸停止時間
5. 主軸停止	5. 20%	10	主軸停止時間
6. 主軸停止	6. 20%	10	主軸停止時間
7. 主軸停止	7. 20%	10	主軸停止時間
8. 主軸停止	8. 20%	10	主軸停止時間
9. 主軸停止	9. 20%	10	主軸停止時間
10. 主軸停止	10. 20%	10	主軸停止時間

1. 主軸運轉時間：主軸運轉時間是指主軸從停止到運轉的時間。
2. 主軸停止時間：主軸停止時間是指主軸從運轉到停止的時間。
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警告

無防護罩中請勿進行操作。
工件飛出會導致嚴重傷害。

警告

門在關閉時手請勿靠近。
關閉門時請將手遠離機械。
關閉門時請將手遠離機械。

警告：主軸運轉時，主軸運轉時間是指主軸從停止到運轉的時間。
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ACCESSORIES



Chip Conveyor



Parts Conveyor (opt.)



Part Catcher System (opt.)



Main Spindle Tool Length Measurement System (opt.)



Sub Spindle Tool Length Measurement System (opt.)



Bar Feeder (opt.)

SPECIFICATIONS

		NT-2000Y		NT-2000SY		NT-2500Y		NT-2500SY	
MACHINING CAPACITY									
Swing Over Bed		ø1,000mm ø39.37" (ø700mm ø27.56" interference with cover)							
Swing Over Carriage		ø870mm ø34.25" (ø700mm ø27.56" interference with cover)							
Standard Turning diameter		ø265mm ø10.43"							
Max. Turning Diameter		ø350mm ø13.78"							
Max. Turning Length		519mm 20.43"				686mm 27"			
MAIN SPINDLE									
Height From The Ground to Spindle		1,160mm 45.67"							
Chuck Size		8"				10"			
Spindle Nose		A2-6				A2-8			
Spindle Front Bearing Inner Diameter		ø120mm ø4.72"				ø140mm ø5.51"			
Hole Through Spindle		ø77mm ø3.03"				ø91mm ø3.58"			
Hole Through Draw Bar		ø52mm (ø66mm) ø2.05" (ø2.60")				ø75mm (ø80mm) ø2.95" (ø3.15")			
Spindle Speed		4,500rpm				3,500rpm			
Max. Spindle Torque		48.7kgf-m 352.24 lbf-ft				71.4kgf-m 516.43 lbf-ft			
C1-axis Spindle Speed		50rpm							
C1-axis Index Accuracy		0.001°							
SUB SPINDLE									
Chuck Size		—		6"		—		6"	
Spindle Nose		—		A2-5		—		A2-5	
Spindle Front Bearing Inner Diameter		—		ø85mm ø3.35"		—		ø85mm ø3.35"	
Hole Through Spindle		—		ø43mm ø1.69"		—		ø43mm ø1.69"	
Hole Through Draw Bar		—		ø33mm ø1.30"		—		ø33mm ø1.30"	
Spindle Speed		—		6,000rpm		—		6,000rpm	
Max. Spindle Torque		—		6.1kgf-m 44.12 lbf-ft		—		6.1kgf-m 44.12 lbf-ft	
C2-axis Spindle Speed		100rpm							
C2-axis Index Accuracy		—		0.001°		—		0.001°	
MOTOR									
Main Spindle Power		11 / 15kW 14.8 / 20HP				15 / 22kW 20 / 29.5HP			
Sub Spindle Power		—		5.5 / 7.5kW 7.4 / 10.1HP		—		5.5 / 7.5kW 7.4 / 10.1HP	
Axis Power (X/Z/Y/B)		4 / 4 / 3 / 3 kW 5.4 / 5.4 / 4 / 4 HP							
Turret Power		1.2kW 1.6HP							
Live Tool Power		5.5kW 7.4HP							
FEEDRATE									
Rapid Feedrate (X/Z/Y)		20 / 24 / 10 m/min. 787 / 945 / 394 ipm							
Rapid Feedrate (B)		7 m/min. 275.6 ipm		20 m/min. 787.4 ipm		7 m/min. 275.6 ipm		20 m/min. 787.4 ipm	
Cutting Feedrate		1~10000 mm/min 0.4~394 ipm							
MAIN TRAVEL									
X-axis Travel		260mm 10.24"							
Z-axis Travel		580mm 22.83"				780mm 30.71"			
Y-axis Travel		100mm (±50mm) 3.94" (±1.97")							
B-axis Travel		—		600mm 23.62"		-		780mm 30.71"	
TURRET									
Turret Type		Live Tooling Servo Turret Hydraulic Clamping							
Turret Capacity		12T							
Tool Standard		BMT65							
Shank Height for Square Tool		□25 (□1")							
Shank Diameter for Boring Bar		ø40mm ø1½"		ø40 (ø1½")/ø32 (ø1¼") (double boring holder)		ø40 (ø1½")		ø40 (ø1½")/ø32 (ø1¼") (double boring holder)	
Swing Over Turret		ø720mm ø28.35"							
VDI Live Tool Speed		4,500rpm							
Torque of Milling Tool Motor		3.6kgf-m 26.04 lbf-ft							
TAILSTOCK									
Tailstock Quill Diameter		ø90 ø3.54"		—		ø90 ø3.54"		—	
Tailstock	Fixed Center (std.)	MT-4		—		MT-4		—	
Quill Taper	Live Center (opt.)	MT-3		—		MT-3		—	
Tail Stock Stroke		600mm (23.62")		—		780mm (30.71")		—	
GENERAL									
Power Consumption (Transformer)		44kVA (65kVA)		54kVA (65kVA)		51kVA (65kVA)		60kVA (65kVA)	
Machine Weight		6,400 kg 14,109 lb		6,500 kg 14,330 lb		7,350 kg 16,204 lb		7,450 kg 16,424 lb	
Floor Space		3,411 x 2,140 x 2,260mm 134.29" x 84.25" x 88.98"				3,776 x 2,140 x 2,260mm 132.91" x 84.25" x 88.98"			

Note: The manufacturer reserves the right to modify the design, specifications, mechanisms, etc. to improve the performance of the machine without notice. All the specifications shown above are just for reference.

ACCESSORIES

● Standard ○ Option — N/A ★ Parts catcher for sub spindle will come along with workpiece ejection.

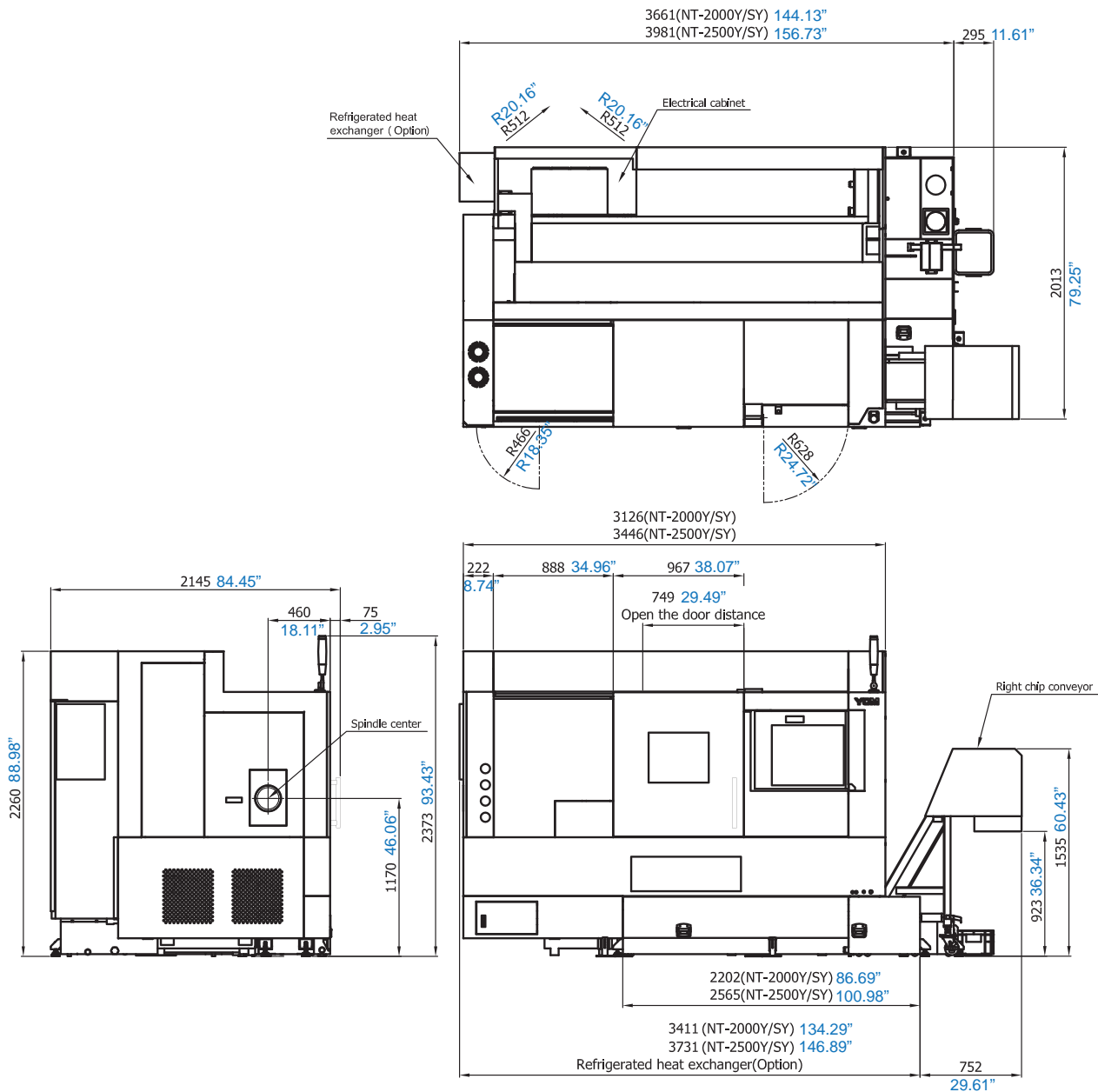
		NT-2000Y	NT-2000SY	NT-2500Y	NT-2500SY
Tool Kit		●	●	●	●
Work Lamp		●	●	●	●
Pilot Lamp		●	●	●	●
Safety Door		●	●	●	●
Hydraulic System		●	●	●	●
Oil Cooling System		●	●	●	●
BMT Tool Holder		●	●	●	●
Hydraulic Hollow Chuck		●	●	●	●
Hard and Soft Jaws 1 Set		●	●	●	●
Additional Hard and Soft Jaws		○	○	○	○
Soft Jaw Former	Main Spindle	○	○	○	○
	Sub Spindle	—	○	—	○
Central Lubrication System		●	●	●	●
Pedal	Main Spindle	●	●	●	●
	Sub Spindle	—	●	—	●
Mechanical Electrical & Operating Manuals		●	●	●	●
Programmable Tailstock		●	—	●	—
Full Chip Enclosure		●	●	●	●
Leveling Blocks and Bolts		●	●	●	●
Air Gun		●	●	●	●
Cutting Air Blast	Main Spindle	●	●	●	●
	Sub Spindle	—	●	—	●
Coolant Equipment System	MTH2-50/5	●	●	●	●
	MTH2-60/6	○	○	○	○
	MTR3-17/17	○	○	○	○
Tailstock Quill Taper	Fixed Type	●	—	●	—
	Live Type	○	—	○	—
Axis Safety Clutch	X/Z-axis	●	●	●	●
	Y/B-axis	○	○	○	○
Chip Conveyor	Right Side	●	●	●	●
	Rear Side	○	○	○	○
Electrical Cabinet	Heat Exchanger	●	●	●	●
	Refrigerated	○	○	○	○
Collet Chuck		○	○	○	○
Pedal for Tailstock		○	—	○	—
Foundation Bolt		○	○	○	○
Automatic Door		○	○	○	○
Milling Tool Attachments		○	○	○	○
Coolant Gun		○	○	○	○
Oil Skimmer		○	○	○	○
Paper Filter		○	○	○	○
Oil-mist Collector		○	○	○	○
Workpiece Length Setter		○	○	○	○
Auto Tool Length Measurement System	Main Spindle	○	○	○	○
	Sub Spindle	—	○	—	○
Bar Feeder		○	○	○	○
Parts Catcher	Main Spindle	○	○	○	○
	Sub Spindle	—	○★	—	○★
Parts Conveyor		○	○	○	○
CNC Control		TXP-200FB	●	●	●

Note: The manufacturer reserves the right to modify the design, specifications, mechanisms, etc. to improve the performance of the machine without notice. All the specifications shown above are just for reference.

DIMENSIONS

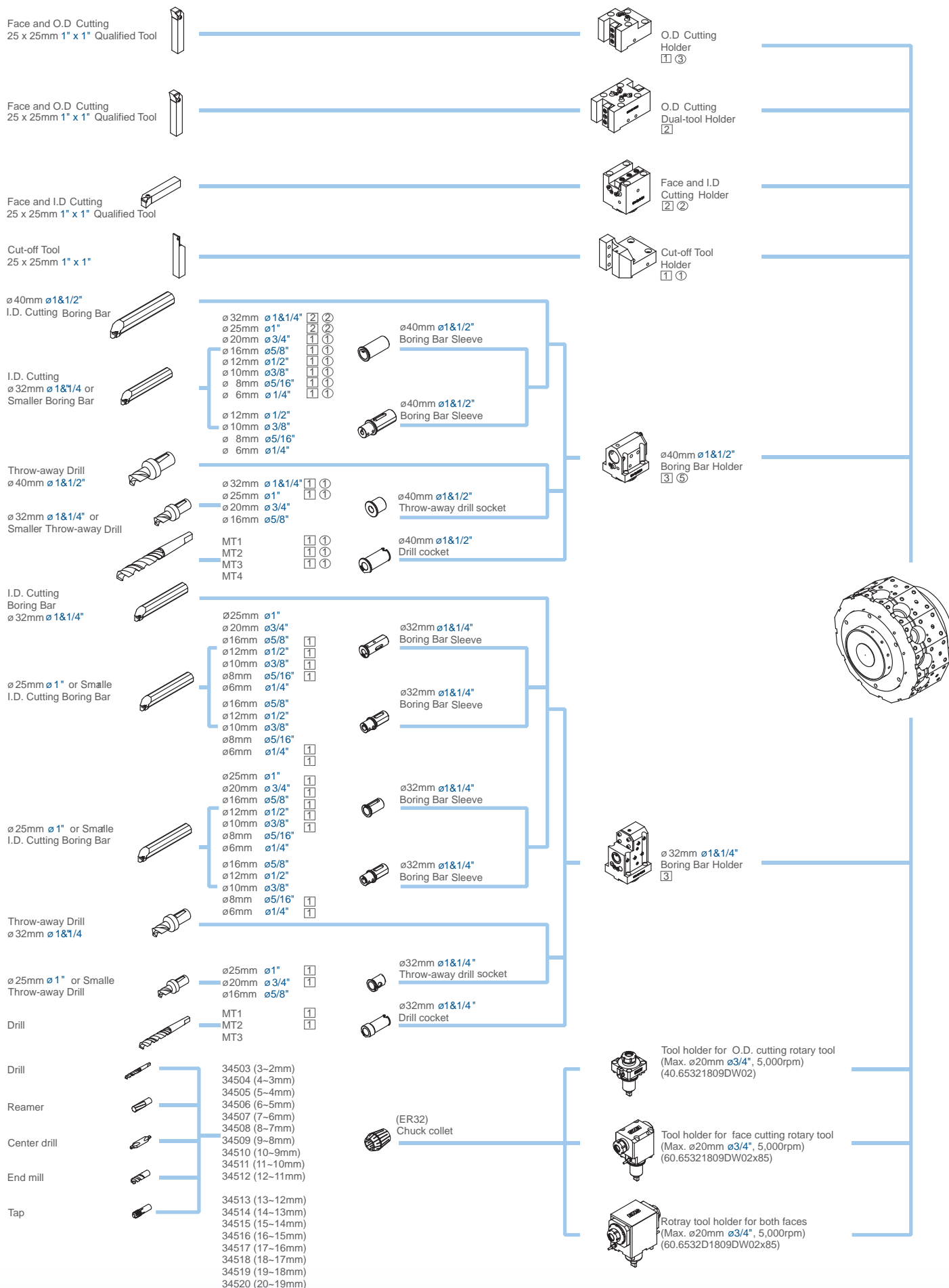
Unit: mm inch

NT-2000 / 2500 series



TOOLING CHART

□ NT-2000SY、NT-2500SY Std. Accessories Qty.
○ NT-2000Y、NT-2500Y Std. Accessories Qty.





Agent



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