

NTJ-100

NAKAMURA-TOME
PRECISION INDUSTRY CO.,LTD.

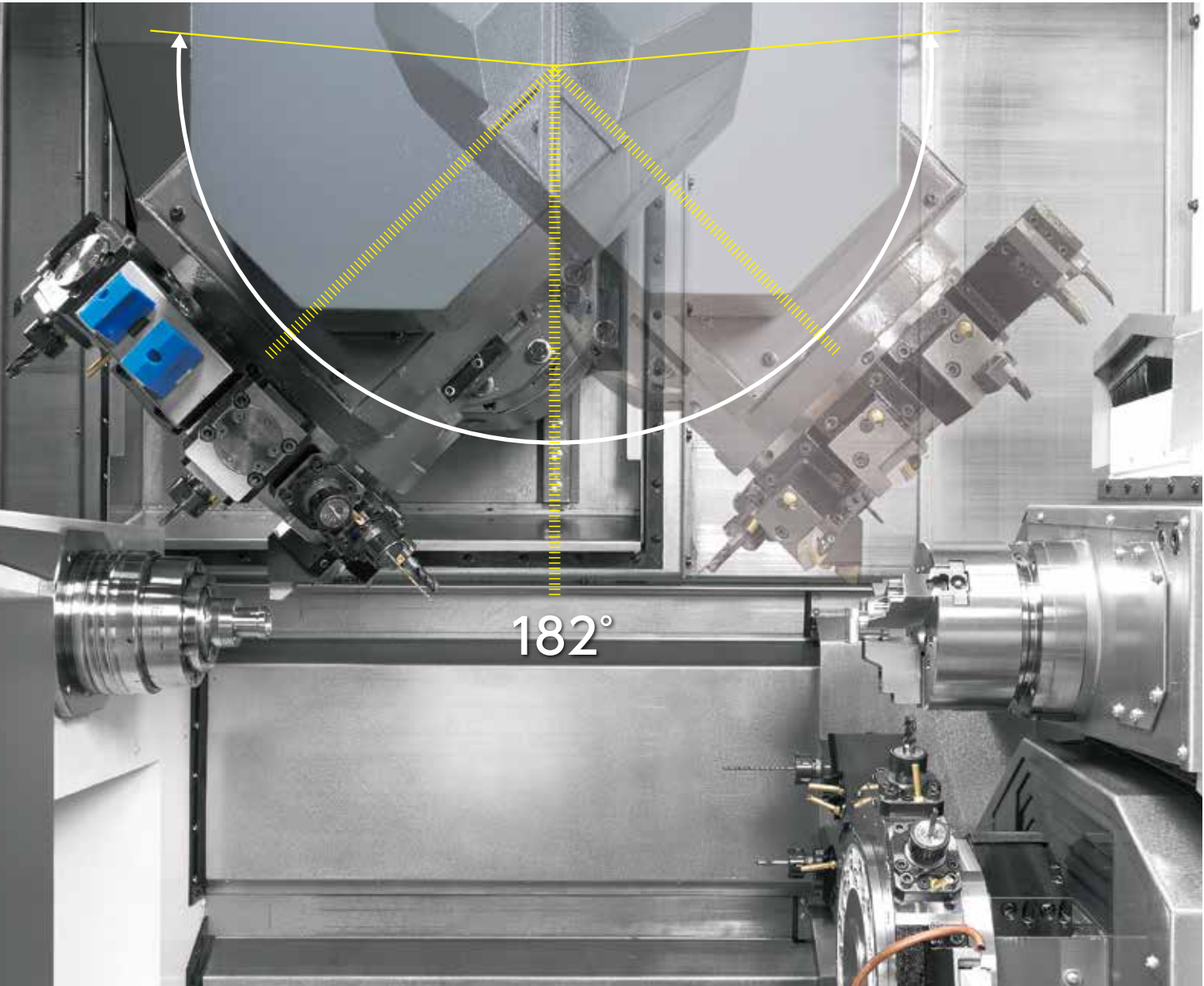
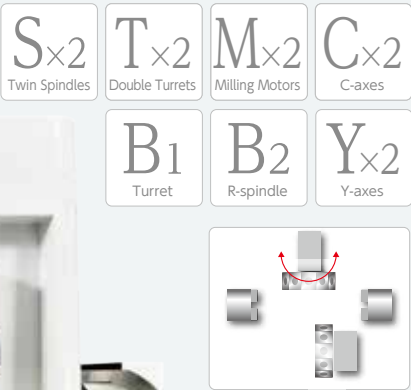
Flexible Machining at Any Angle

Innovative
Technology

~ Creating new values ~

NTJ-100

- Upper turret B-axis swiveling range 182°
Angular drilling, end milling, and arbitrary contour-milling can be performed with standard driven-tool holders.
- Y-axis slide travel $\pm 40\text{mm}$ (Upp) / $\pm 32.5\text{mm}$ (Low)
- Milling motor 7.1/2.2kW
Milling spindle speed $6,000\text{min}^{-1}$
- Reduce setup time with permanent tooling
- Cycle times are faster thanks to simultaneous machining with the L/R spindles and upper/lower turrets.
- NT SmartX as standard equipment with a large variety of software.



B-axis swiveling range 182°

NTJ-100 has two-opposed spindles, milling, and a Y-axis on both turrets, ensuring that flexible machining is performed simultaneously on either spindle with the upper and lower turrets. In addition, the upper turret is equipped with a swiveling B-axis, enabling the machining of angled holes, inclined surfaces, and arbitrary surfaces with standard tools. The number of tools can be minimized for efficient machining. This is a multitasking machine superior to that of a machining center in productivity thanks to short tool change time and unique turret design. A full range of software is also available, such as programming support, tool management, and setup support.

Productivity superior to that of a machining center!

L-spindle

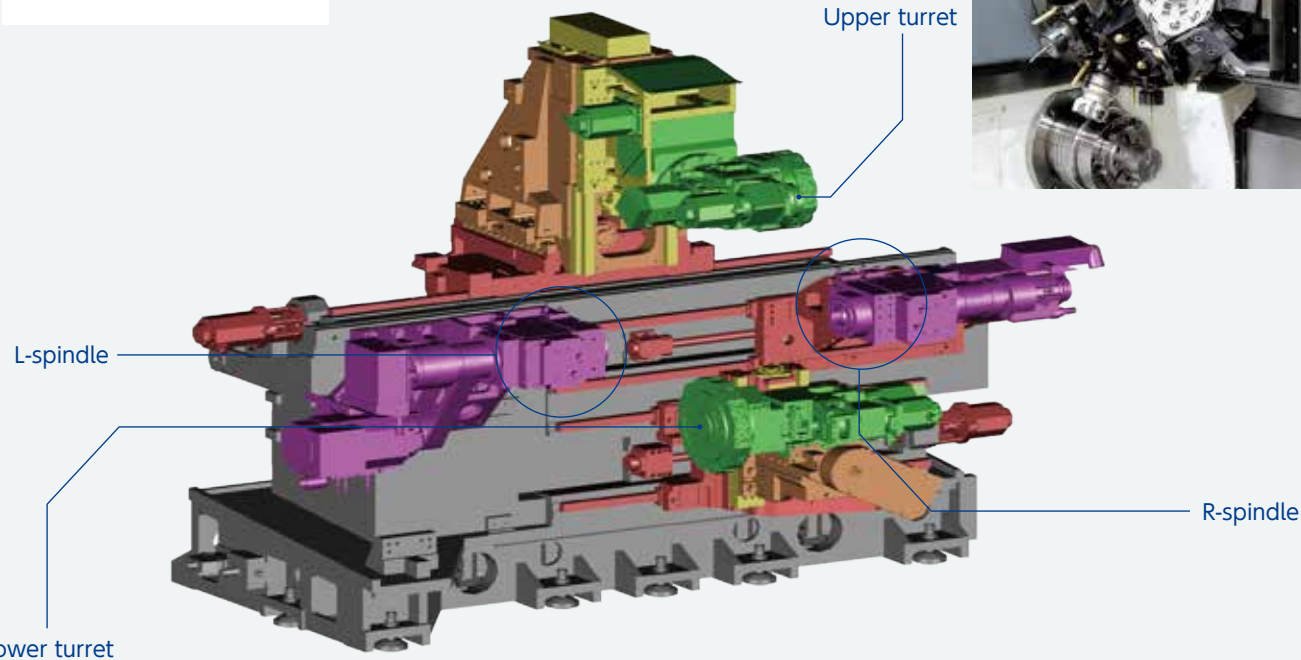
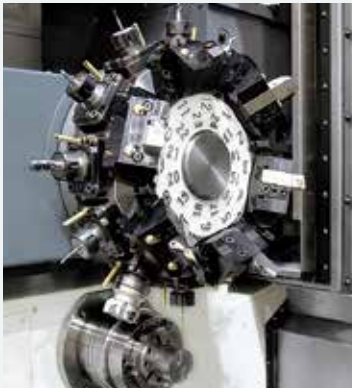
Standard	
Bar capacity	$\phi 51mm$
Spindle motor	11/7.5kW 5,000min ⁻¹
Option	
Bar capacity	$\phi 65mm$
Spindle motor	11/7.5kW 4,500min ⁻¹

Upper turret

Standard	
Type of turret head	Dodecagonal
Number of milling stations / Number of indexing positions	12/24
Y-axis slide travel	$\pm 40mm$
Milling motor	7.1/2.2kW 6,000min ⁻¹

Extra tools(op.)

Up to six turning tools can be mounted on the turret face. Maximizes the advantages of the turret with a swiveling B-axis and reduces lead time.



Milling and Y-axis are standard on the Upper and Lower turrets.



Lower turret

Standard	
Type of turret head	Dodecagonal
Number of milling stations / Number of indexing positions	12/24
Y-axis slide travel	$\pm 32.5mm$
Milling motor	7.1/2.2kW 6,000min ⁻¹

R-spindle

Standard	
Bar capacity	$\phi 51mm$
Spindle motor	11/7.5kW 5,000min ⁻¹
Option	
Bar capacity	$\phi 65mm$
Spindle motor	11/7.5kW 4,500min ⁻¹

Swiveling B-axis to expand the range of machining!

Turret with a swiveling angle of 182 ° enables the machining of slanted holes, inclined surfaces, and arbitrary surfaces with standard tools. The number of tools can be minimized for efficient machining.



Turning with Extra tools



Angular drilling and milling+
Support by lower turret



Simultaneous upper and lower milling



NT SmartX
19 inch touch screen

With a movable operation panel, the angle can now be adjusted by the operator.

Belt conveyor & Chute(op.)

Only for Parts catcher type G or Turret Servo Gripper type.

Tool setter(op.)

Can be configured for a detachable, or for an automatic swing-down type tool setter.



Machine dimensions * Including Chip tank

Standard
W3,799mm × D2,110mm × H2,565mm

■Capacity	φ51	φ65(op.)
Max. turning diameter	175mm	
Standard turning diameter	170mm	
Distance between spindles	max. 910mm / min. 200mm	
Max. turning length	678mm	
Bar capacity	φ51mm	φ65mm
Chuck size	6"	

■Axis travel / Rapid feed

X1/X2 axis slide travel	330mm / 127.5mm	
Z1/Z2 axis slide travel	1,040mm / 678mm	
B2 axis slide travel	680mm	
Y1/Y2 axis slide travel	±40mm / ±32.5mm	
X1/X2 rapid feed rate	20m/min	
Z1/Z2 rapid feed rate	40m/min	
B2 rapid feed rate	40m/min	
Y1/Y2 rapid feed rate	6m/min	

■L/R spindle

Spindle speed	5,000min ⁻¹	4,500min ⁻¹
Spindle speed range	Stepless	Stepless
Spindle nose	A2-5	A2-6
Hole through spindle	63mm	80mm
I. D. of front bearing	90mm	110mm
Hole through draw tube	52mm	66mm

■C-axis

Least input increment	0.001°
Least command increment	0.001°
Rapid speed	600min ⁻¹
Cutting feed rate	1 - 4,800° / min
C-axis clamp	Disk clamp
C-axis connecting time	1.5sec.

■B1-axis (Swiveling axis for upper turret)

Swiveling range	182° (±91°)
Swiveling mechanism	Servo motor + Roller cam
B1-axis clamp	Curvic coupling(5°) / Disk clamp(0.001°)

●Safety quality specifications

Various interlocks, such safety fences, auto extinguisher devices, and other safety related equipment may be required. These have to be selected during the configuration of the machine.

① Safety devices include electromagnetic door lock, chuck interlock, hydraulic pressure switch, air pressure switch, short circuit breaker and quill interlock. (Door interlock and chuck interlock are standard equipment.)

② In case of automation, various safety fences may be required, such as work stocker safety fences, robot safety fences, ...etc.

During the configuration of machine specifications, please discuss these requirements with the Nakamura-Tome machine sales representative.

■Upper turret

Type of turret head / Number of indexing positions	Dodecagonal drum turret / 24	
Number of tool stations	Standard	Turning/Milling tool : 24/0 - 0/12
	Extra tools specifications(op.)	Turning/Milling tool : 24/0 - 6/12
Tool size (square shank)	□20mm	
Tool size (round shank)	φ25mm	

■Lower turret

Type of turret head / Number of indexing positions	Dodecagonal drum turret / 24	
Number of tool stations	Turning/Milling tool : 24/0 - 0/12	
Tool size (square shank)	□20mm / □16mm(24st)	
Tool size (round shank)	φ25mm	

■Milling

Rotary system	Individual rotation	
Milling spindle speed	6,000min ⁻¹	
Spindle speed range	Stepless	
Number of milling stations	12	
Holder type and Tool size	Straight holder	φ1~φ14mm
	Cross holder	φ1~φ14mm

■Drive motor

L-spindle	11/7.5kW
R-spindle	11/7.5kW
Milling	7.1/2.2kW

■General

Height	2,565mm
Floor space (W×D)	3,799mm × 2,110mm
Machine weight (incl. control)	10,000kg

■Power supply

Power supply	38.2kVA
Air supply	200NL/min, 0.5~0.7MPa

●Precautions on the use of cutting fluids and lubricating oils

◦ Some types of cutting fluids (coolant) are harmful to machine components, causing damages such as peeling of paint, cracking of resin, expanding of rubber, corrosion and rust build up on aluminum and copper.

To avoid causing damage to the machine, never use synthetic coolants, or any coolants containing chlorine. In addition, never use coolants and lubricating oils which contain organic solvents such as butane, pentane, hexane and octane.

◦ Machine warranty terms are void for any claims or damage arising from the use of inappropriate cutting fluids or lubricating oils.



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* This catalog was published in February 2024. Specifications, illustrations and data given herein are subject to change without notice.

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