

SC-100

NAKAMURA-TOME
PRECISION INDUSTRY CO.,LTD.

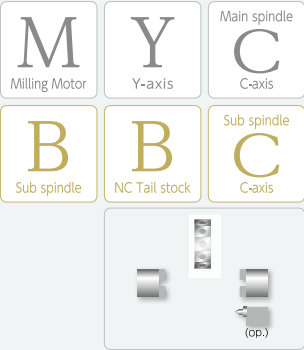
Simple but beyond
expectations

Innovation
Technology
~ Creation of new values ~

SC-100

A high-performance compact 6-Inch Turning Center with one turret, to complete the SC-Series product line. Our benchmarks are "High Rigidity", "High Precision" and "User-Friendliness". Through its well-designed mechanical structure and flexible packages, a wide range of parts can be machined, fulfilling various market needs.

- Milling and Y-axis are standard
- Y-axis travel is 80mm (±40mm)
- 7.1/2.2kW Milling motor / Spindle Max. speed 6,000min⁻¹
- 7.5/5.5kW Sub-spindle (option)
- Parts Catcher A with integrated parts conveyor for sub-spindle specifications.
- High rigidity design
- Z-axis travel 400mm
- Floor space 2,268mm × 1,700mm (Standard Specifications)
- 100% recovery of lubrication oil (for Standard Specs. ; theoretical value)
- Environment-Friendly Inverter-type hydraulic unit



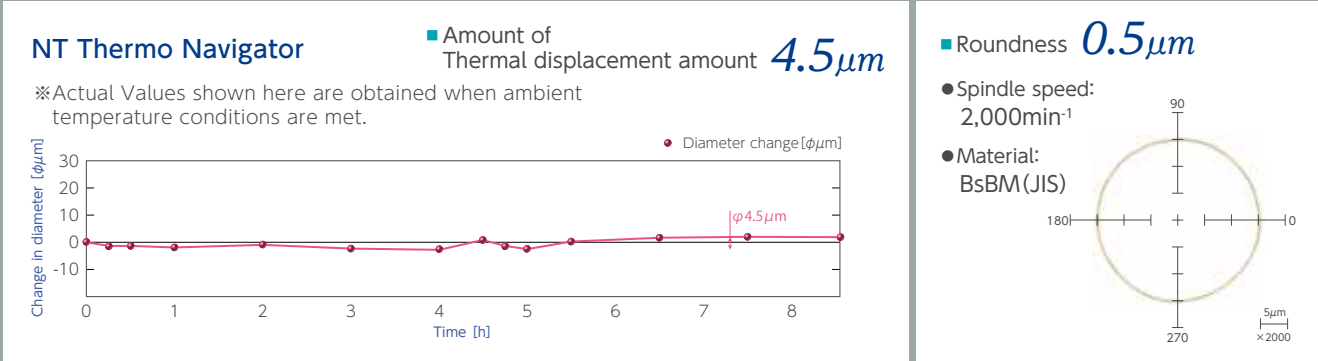
※ 1 SC-100(Mata-Bei Specifications)



※ 2 SC-100(Standard Specifications)

Compact machine
with high machining
capabilities

SC-100 is a first-class machine, featuring high-performance machining in a small foot-print, which is one of the merits of Nakamura-Tome machines.
In addition to Milling and Y-axis, which are standard equipment, several packages are available to respond to the needs of various industries.
The robust bed casting design, which is the base of the machine, contributes to improved stiffness.
By introducing "NT Thermo Navigator", thermal growth is drastically reduced, ensuring thermal-stability and high-accuracy machining.
Nakamura-Tome design does not focus only on machining capabilities, but also on high rigidity and high accuracy.



Data indicated in this catalogue are actual test results.
Depending on changes in cutting conditions and/ or user environment, obtained results may be different.



Turning



Main Spindle

- Spindle motor **11/7.5kW**
- Cutting cross-section **2.8mm²/rev**
- Depth of cut **4mm** (MAX.)
- Feed **0.7mm/rev**
- O.D. Groove capability
Groove width **6mm**

Sub-Spindle(op.)

- Spindle motor **7.5/5.5kW**
- Cutting cross-section **1.98mm²/rev**
- Depth of cut **3mm** (MAX.)
- Feed **0.66mm/rev**
- O.D. groove end milling capability
Groove width **6mm**

Milling



Milling

- Spindle motor **7.1/2.2kW**
- Speed **6,000min⁻¹**
- Y-axis travel **±40mm**
- Feed **0.7mm/rev**
- Material removal rate **16.8cc/min**
- Tool diameter **φ12mm**
(High speed end mill with 2 blades)
- Depth of cut **8mm**
- Feed **175mm/min**

※Depending on changes in cutting conditions and/ or user environment, obtained results may be different.

High Performance
and Reliability

■ Bar Capacity $\phi 51\text{mm}$

Main Spindle **11/7.5kW**
5,000min⁻¹

■ Bar Capacity $\phi 42\text{mm}$

Sub Spindle
(op.) **7.5/5.5kW**
6,000min⁻¹



Milling and Y-Axis are standard
equipment

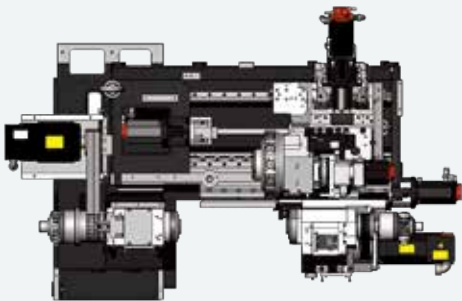
■ Y-axis Travel 80mm($\pm 40\text{mm}$)



Milling Motor **7.1/2.2kW**
6,000min⁻¹

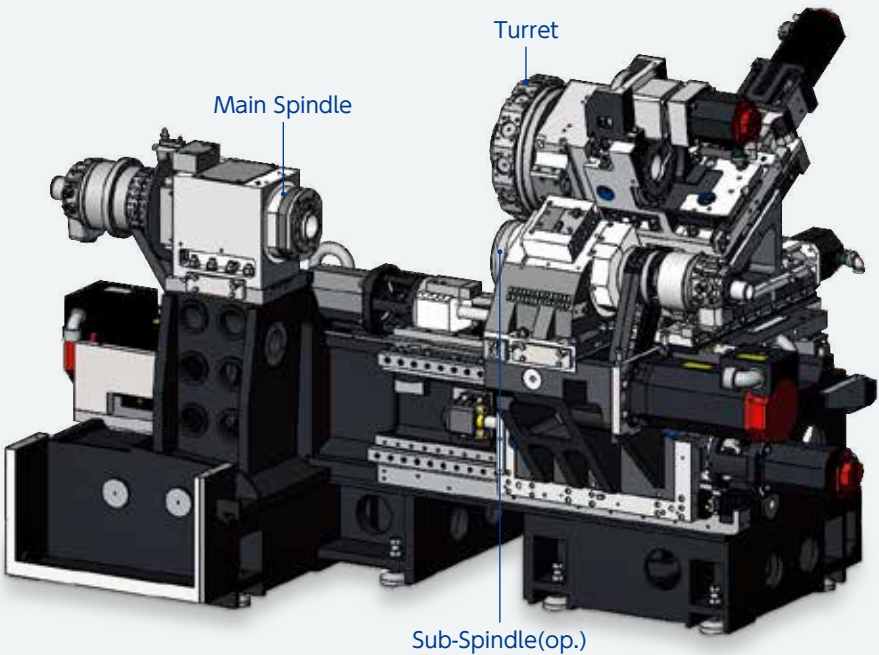
New Machine Bed
Design

Chip disposal is improved.
Better accessibility
during set-up.



Compound Y-Axis Structure

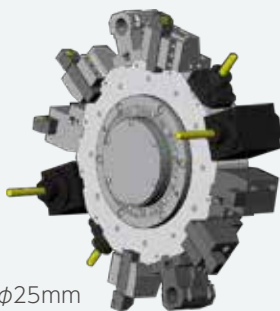
Compound Y-Axis and low center of gravity,
make the machine more robust.



24stations

12/24-Station Turret

- ▶ Number of tool stations : 12
- ▶ Max Number of tools : 24
- ▶ Number of indexing positions : 24
- ▶ Number of driven-tool stations : 12
- ▶ Driven-tool speed : 6,000min⁻¹
- ▶ Tool size (square shank/ round shank) : □20/ $\phi 25\text{mm}$
- ▶ Milling tool size : $\phi 1 \sim 14\text{mm}$



Floor space
(Machine only)

*not including Motor area.

Standard specifications

L2,268mm × W1,700mm × H1,780mm



Eco Friendly

Inverter type hydraulic unit
with reduced power con-
sumption. Furthermore,
Lubricant oil recovery rate is
improved.



Inverter type hydraulic unit

Power consumption
reduction **21%^{※1}**

※1) This value may change depending
on actual machining conditions.

Lubrication oil
collection rate **100%^{※2}**

※2) Collection rate is 75% in case of
sub-spindle specifications

■ Capacity

Max.turning diameter	230mm	
Standard turning diameter	180mm	
Max.turning length	Standard / Sub-Spindle	400mm
	Tailstock	300mm
Distance between spindle face	Max.600mm / min.200mm	
Distance between spindle face and quill edge	430mm	
Bar capacity(L/R)	φ51mm / φ42mm	
Chuck size (L/R)	6" / 5"(6")	

■ Axis Travel/ Rapid Feed

Slide travel X	150mm
Slide travel Z	400mm
Slide travel Y	±40mm
Slide travel B2(op.)	400mm
Rapid feed X	20m/min
Rapid feed Z	36m/min
Rapid feed Y	6m/min
Rapid feed B2(op.)	20m/min

■ Main Spindle

	φ51mm
Spindle speed	5,000min ⁻¹
Spindle speed range	Stepless
Spindle nose	A2-5
Hole through spindle	63mm
I.D. of front bearing	90mm
Hole through draw tube	52mm

■ Sub Spindle(op.)

	φ42mm
Spindle speed	6,000min ⁻¹
Spindle speed range	Stepless
Spindle nose	A2-5
Hole through spindle	56mm
I. D.of front bearing	80mm
Hole through draw tube	43mm

■ C axis

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

■ Turret

Type of turret head	Dodecagonal drum turret
Number of tool stations	12 (max.24)
Number of indexing positions	24
Tool size (square shank)	□20mm (12st) / □16mm (24st)
Tool size (round shank)	φ25mm

■ Driven Tools

Driven system	Individual rotation
Speed	6,000min ⁻¹
Speed range	Stepless
Number of driven-tool stations	12
Holder type and Tool size	Straight holder φ1mm ~ φ14mm
	Cross Holder φ1mm ~ φ14mm

■ Drive motor power

L - spindle	11/7.5kW
R - spindle	7.5/5.5kW
Milling Spindle	7.1/2.2kW

■ General

Height	1,780mm	
Floor space (L × W)	Standard	2,523.6mm × 1,825mm
	Sub-spindle	2,933.6mm × 1,825mm
	Tailstock	2,523.6mm × 1,825mm
Machine weight (incl. control)	Standard	4,500kg
	Sub-spindle / Tailstock	5,000kg

■ Power supply

Power supply	17.4kVA(20.2kVA) (Standard)
	22.0kVA(24.8kVA) (Sub spindle)

● 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.

● 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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