

SC-450L

NAKAMURA-TOME
PRECISION INDUSTRY CO.,LTD.

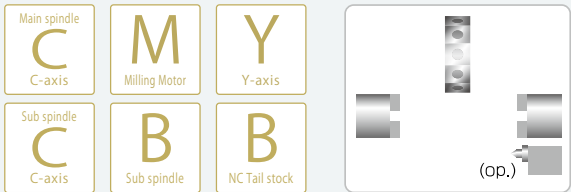
φ810mm
Max. Swing Diameter

Innovative
Technology

~Creating new values~

SC-450L

12,15-inch class single-turret machine with a high rigidity box-way slide.
Long bed specification with a maximum machining length of 1,520 mm, ideal for heavy-duty machining of large workpieces.



Traditionally hand-scraped and fitted slides

Spindle and slide units are mounted on the machine bed by highly-qualified technicians, and each machine does not leave the production line before undergoing the most stringent quality control checks. This machine does not only feature high capabilities, but also high performance and reliability, delivered from a machine tool manufacturer who has fostered high accuracy and precision manufacturing technology over many years.

All Axes with Box-way Slides Enable Highly Rigid and Stable Machining.

Equipped with Box-way slides on all axes which are traditionally hand scraped by highly skilled technicians, according to our stringent quality control standards.

Main spindle

Standard	
Bar capacity	φ81mm
Spindle speed	2,500min ⁻¹
Spindle motor	30/22kW
Option	
Bar capacity	φ89mm
Spindle speed	2,500min ⁻¹
Spindle motor	30/22kW

Turret

Turret

Standard	
Type of turret head	Dodecagonal
Number of indexing positions	12
Option	
Milling spindle speed	3,600min ⁻¹
Milling motor	5.5/3.7kW
Y-axis slide travel	±75mm

Main spindle

Sub spindle (MATA-BEI / op.)

Option	
Bar capacity	φ71mm
Spindle speed	3,500min ⁻¹
Spindle motor	15/11kW

Tailstock(op.)

Option	
Driving system	NC control servo-driven type
Travel	1,490mm
Quill taper	MT-5 (Rotating center / Built-in center)
Range of thrust force	2.5 - 6.5kN / 2.5 - 11kN (op.)

The programmable NC Tailstock is servo-driven. Position and thrust can be easily set on the NT NURSE screen for a maximum of 12 registrable settings.

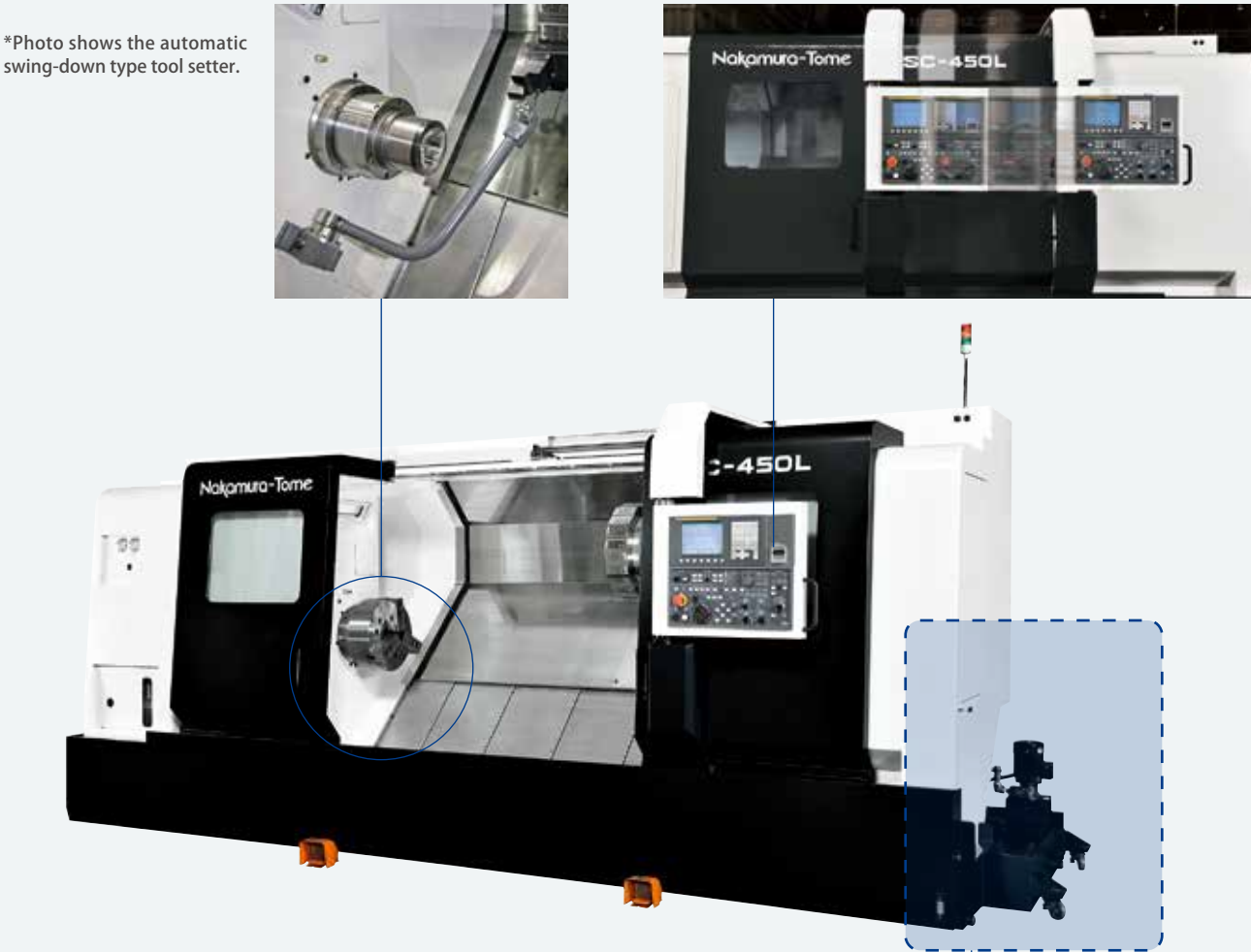
Tool setter(op.)

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

*Photo shows the automatic swing-down type tool setter.

Sliding Operation Control Box

The control box can swing at 100 degrees and move 1m sideways for easy operation.



Heavy cutting
Cutting sectional area : Max. 9mm²

- Cutting speed : 120m/min
- Cutting depth : 10mm
- Feed : 0.9mm/rev
- Material : S45C (JIS)



Parts catcher type A(op.)

Discharging of remnants and finished parts can be automated.

- Method : Swing-in Bucket
- Part size : φ80×150mm
- Weight : 3.0kg
- Cycle time : 5s
- Ejecting method : Chute



Side discharge chip conveyor(op.)



■ Capacity		φ81	φ89(op.)	φ71(op.)
Max. turning diameter		480mm		
Distance between spindles (op.)		1,694mm		
Distance between centers (op.)		1,752mm		
Max. turning length		1,520mm		
Bar capacity	L	φ81mm	φ89mm	-
	R(op.)	-	-	φ71mm
Chuck size	L	12"	15"	-
	R(op.)	-	-	10"

■ Axis travel

X-axis slide travel	322.5mm
Z-axis slide travel	1,610mm
Y-axis slide travel (op.)	±75mm
B2-axis slide travel (op.)	1,208.5mm

■ Rapid feed

X-axis rapid feed rate	18m/min
Z-axis rapid feed rate	24m/min
Y-axis rapid feed rate (op.)	9m/min
B-axis rapid feed rate (op.)	15m/min

■ Main spindle

Spindle speed	2,500min ⁻¹	2,500min ⁻¹	-
Spindle speed range	Stepless	Stepless	-
Spindle nose	A2-8	A2-8	-
Hole through spindle	100mm	100mm	-
I.D. of front bearing	140mm	140mm	-
Hole through draw tube	82mm	90mm	-

■ Sub spindle (MATA-BEI / op.)

Spindle speed	-	-	3,500min ⁻¹
Spindle speed range	-	-	Stepless
Spindle nose	-	-	A1-8
Hole through spindle	-	-	85mm
I.D. of front bearing	-	-	120mm
Hole through draw tube	-	-	72mm

■ C-axis (op.)

Least input increment	0.001°
Least command increment	0.001°
Rapid speed	200min ⁻¹
Cutting feed rate	1-4,800° /min
C-axis clamp	Disk clamp
C-axis connecting time	1.5s

■ Turret	φ81	φ89(op.)	φ71(op.)
Type of turret head	Dodecagonal		
Number of Indexing positions	12		
Tool size (square shank)	□25mm		
Tool size (round shank)	φ50mm		

■ Milling (op.)

Rotary system	Individual rotation
Milling spindle speed	3,600min ⁻¹
Spindle speed range	Stepless
Number of milling stations	12
Tool size	Straight holder φ1mm-φ20mm
	Cross holder φ1mm-φ20mm

■ Tailstock (op.)

Driving system	NC control servo-driven type
Travel	1,490mm
Quill taper	MT-5 (Rotating center / Built-in center)
Range of thrust force	2.5 - 6.5kN / 2.5 - 11kN (op.)

■ Drive motor

Main spindle motor	30/22kW	30/22kW	-
Sub spindle motor (op.)	-	-	15/11kW
Milling motor (op.)	5.5/3.7kW		

■ General

Height	2,184.9mm / 2,531.3mm (op. Y-axis)
Floor space (L x W)	5,050mm × 2,164.8mm
Machine weight (incl. control)	9,000kg / 10,000kg (op. Y-axis)

■ Power requirements

Power supply	39.1kVA (Standard)
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● Safety quality specifications

Various interlocks, such as 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 the 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, expansion 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.



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