

NT-Flex

NAKAMURA-TOME
PRECISION INDUSTRY CO.,LTD.

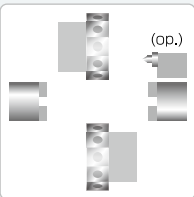
Compact Meets
Flexibility

Innovative
Technology

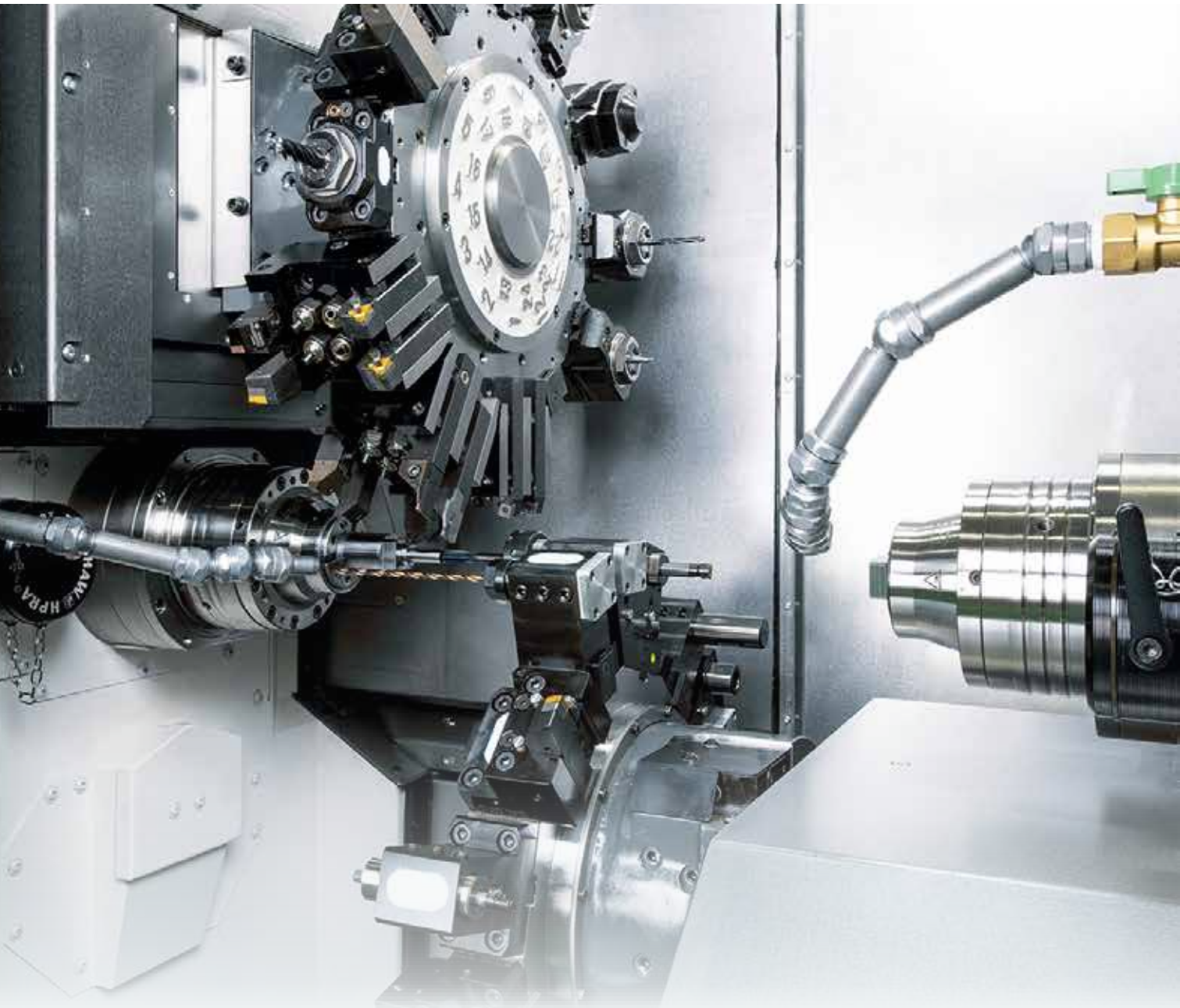
~Creating new values~

NT-Flex

Packed with exceptional value in a single CNC lathe. The 2-spindle, 2-turret precision CNC multitasking lathe "NT-Flex" makes its debut. This compact machine, equipped with flexible machining capabilities and a wide range of software, will turn your demands into reality.



S _{×2} Twin Spindle	M _{×2} Milling Motor	Y Y-axis	B ₂ R-spindle
C _{×2} C-axes	T _{×2} Double Turrets	X ₃ R-spindle	Y ₂ Y-axis
			B ₂ NC Tail stock

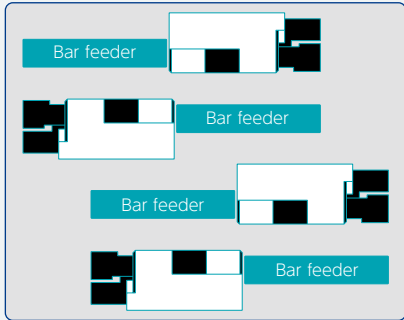


Compact

Surprisingly compact with a depth of just 1.38m!
It allows you to position the machine neatly in
limited space without wasting any area.



Factory



Flexible

The NT-Flex is versatile and works with a wide range of materials. It processes everything from bar stock and cut materials to black iron, castings, and forgings.



It is compact yet accommodates 24-station turrets in both the upper and lower areas. By utilizing quadruple tool holders, you can set up a maximum of 96 tools, ensuring the completion of all processes, including turning, milling, and gear machining.

We offer a variety of automation systems, providing optimal automation solutions tailored to meet users' production demands.



Bar feeder

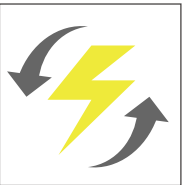


Parts catcher type G

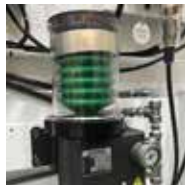


Chip conveyor
The discharge position can be selected from the following three options.
•Side
•Right side & Rear

Bar remnant parts catcher



Use of regenerative energy



Grease lubrication for all liner axes
* Oil mist is used for milling



Inverter-Driven Hydraulic Power Unit

Cycle Times are Faster Thanks to Simultaneous Machining with the L/R Spindles and Upper/Lower Turrets.

L-spindle

Standard	
Bar capacity	φ 32mm
Spindle speed	8,000min ⁻¹
Spindle motor	7.5/5.5kW

Option	
Bar capacity	φ 38mm
Spindle speed	8,000min ⁻¹
Spindle motor	7.5/5.5kW

Upper turret

Upper turret

Y-axis slide travel ±25mm
Number of milling stations / Number of indexing positions 12 / 24

Standard		Option	
Milling speed	8,000min ⁻¹	Milling speed	10,000min ⁻¹
Milling motor	7.5/2.8kW	Milling motor	7.5/2.2kW

L-spindle

R-spindle

Lower turret

Number of milling stations / Number of indexing positions 12 / 24	
Standard	
Milling speed	8,000min ⁻¹
Milling motor	7.5/2.8kW

Option	
Milling speed	10,000min ⁻¹
Milling motor	7.5/2.2kW

R-spindle

Standard	
Bar capacity	φ 32mm
Spindle speed	8,000min ⁻¹
Spindle motor	7.5/5.5kW

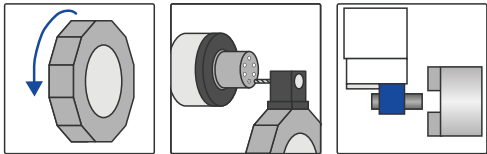
Option	
Bar capacity	φ 38mm
Spindle speed	8,000min ⁻¹
Spindle motor	7.5/5.5kW

Lower turret



ChronoCut

A unique function by Nakamura-Tome designed to reduce idle time. This new software minimizes idle time during manufacturing without compromising accuracy, even without any changes to the cutting conditions.



NT-Flex+



What?

“NT-Flex+” introduces an enhanced configuration of the NT-Flex, featuring an X-axis on the R-spindle and dual Y-axes on the upper and lower turrets, providing greater flexibility for complex machining operations.

Three Tools in One Cut



Superimposed machining enables simultaneous machining with three tools.

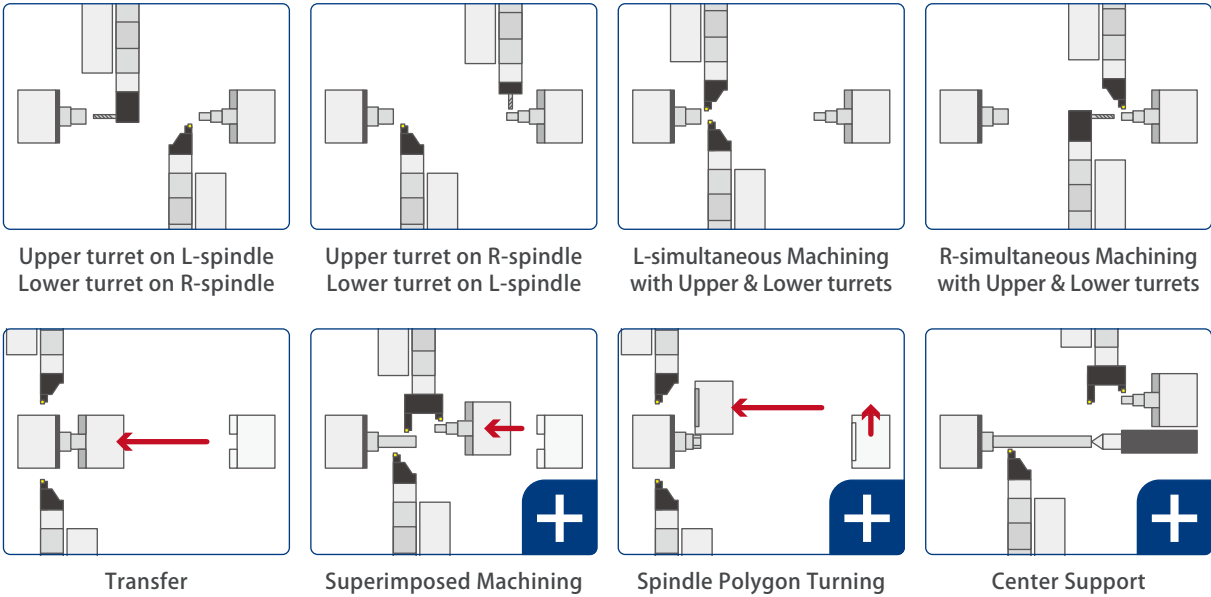
Spacious Machining Area with No Interference



With the X-axis on the R-spindle, the machine’s internal space can be used more efficiently without interference, allowing for a wider range of machining operations.

Machining capability

With the addition of new features such as the X-axis travel on the R-spindle, the machine can perform various operations.



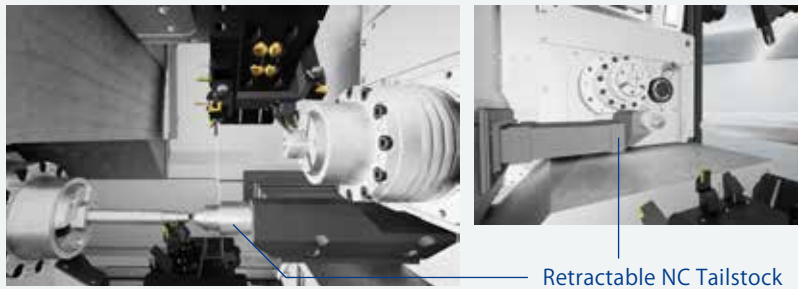
Spindle Polygon Turning (op. for +specification)

Faster than machining with milling and Y-axis!



Retractable NC Tailstock (op. for +specification)

The NC tailstock is normally retracted behind the R-spindle, but can be freely used when needed by moving the R-spindle in the +X direction. This enables simultaneous machining on the upper and lower turrets while supporting the workpiece on the L-spindle.



10,000 min⁻¹ High Speed Milling (op.)

Reduce cycle time by high speed milling with 10,000 min⁻¹.



Machining Examples

Type of industry	Aerospace
Part name	Housing
Material	X10CrNiS 18-9 ϕ32mm bar
Machining Time	3 min 20 sec.



Type of industry	Machine Part
Part name	Motor Shaft
Material	X10CrNiS 18-9 ϕ32mm bar
Machining Time	7 min 30 sec.



Type of industry	Semiconductor
Part name	Case
Material	X5CrNi 18-10 ϕ32mm bar
Machining Time	3 min 46 sec.



■ Capacity	φ32	φ38(op.)
Max. turning diameter	φ150mm	
Distance between spindles	max. 655mm / min. 200mm	
Max. turning length	405mm	
Bar capacity	φ32mm	φ38mm
Chuck size	5"	

■ Axis travel

X1-axis slide travel	110.5mm / 150.5mm (op. + spec.)
X2-axis slide travel	110.5mm
X3-axis slide travel	110mm (op. + spec.)
Z1-axis slide travel	455mm
Z2-axis slide travel	455mm
Y1-axis slide travel	±25mm
Y2-axis slide travel	±25mm (op. + spec.)
B2-axis slide travel	455mm

■ Rapid feed

X-axis rapid feed rate	24m/min
Z-axis rapid feed rate	32m/min
Y1-axis rapid feed rate	20m/min
Y2-axis rapid feed rate	6m/min (op. + spec.)
B2-axis rapid feed rate	32m/min

■ L/R spindle

Spindle speed	8,000min ⁻¹	
Spindle speed range	Stepless	
Spindle nose	A2-5	
Hole through spindle	47mm	
I.D. of front bearing	70mm	
Hole through draw tube	33mm	39mm

■ 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	1.5s

■ Upper/Lower turret	φ32	φ38(op.)
Type of turret head	Dodecagonal drum turret	
Number of indexing positions	24	
Tool size (square shank)	□20mm / □16mm(24st)	
Tool size (round shank)	φ20mm / φ25	

■ Milling

Rotary system	Individual rotation
Milling spindle speed	8,000min ⁻¹ / 10,000min ⁻¹ (op.)
Spindle speed range	Stepless
Number of milling stations	12 × 2
Holder type and Tool size	Straight holder φ1mm - φ13mm
	Cross holder φ1mm - φ13mm

■ Drive motor

L-spindle	7.5/5.5kW	
R-spindle	7.5/5.5kW	
Milling	8,000min ⁻¹	7.5/2.8kW (16.5N·m)
	10,000min ⁻¹ (op.)	7.5/2.2kW (17.5N·m)

■ General

Height	1,965mm
Floor space (W × D)	3,500mm × 1,380mm
Machine weight (incl. control)	6,500kg / 7,000kg (op. + spec.)

■ Power supply

Power supply	31.3kVA
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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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