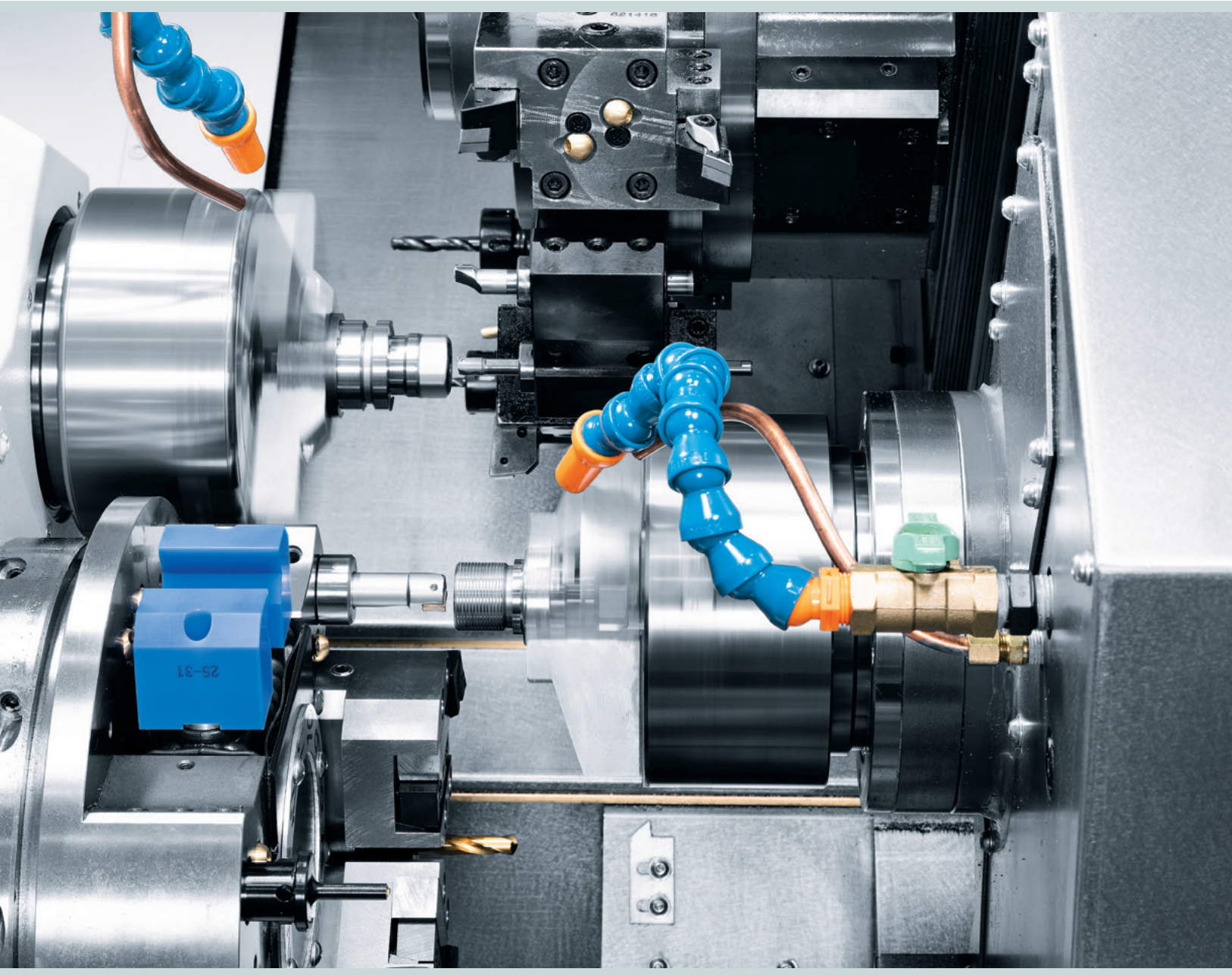
# GENERAL CATALOG



NAKAMURA-TOME
PRECISION INDUSTRY CO.,LTD.

# SC-100X² Lower turret + two-axes on R-spindle

## Make it Fast !!

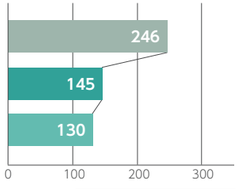
High speed one hit machining.
High efficiency manufacturing.


### High Productivity

■ High value parts manufacturing with extra new features

Parts Sample

Machining Time [sec.]



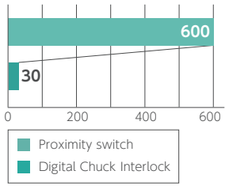

| | |
|---|---|
| Material | SCM415 |
| Material Size | ϕ50mm × L80mm |
| Machining Time | 145 sec. |

### Fast & Easy Setup

■ Digital Chuck Interlock(Standard)

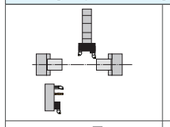
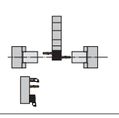
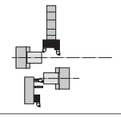
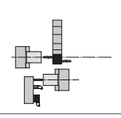
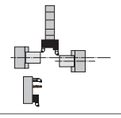
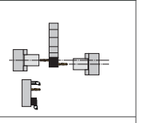
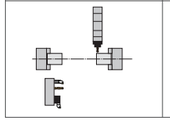
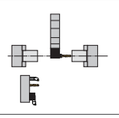
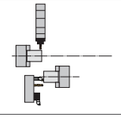
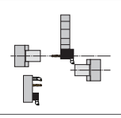
Set the Chuck Open and Close detection position easily. The chuck open / close position is set on the control screen. Setup time and machining cycle time are reduced.

Setup Time [sec.]




### Machining capability

With the addition of new features such as the R-spindle and lower turret, the machine can perform various operations.

| one-tool in cut | | two-tools in cut | | | |
|---|---|---|---|---|---|
| Right spindle cutting with Upper Turret | | Simultanious cutting | | Superimposed cutting | |
|  |  |  |  |  |  |
|  |  |  |  |  | |



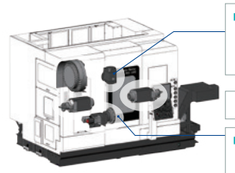


# MX-100 / NTRX-300

## MX-100

Compact Multitasking Machine with ATC


### High Performance



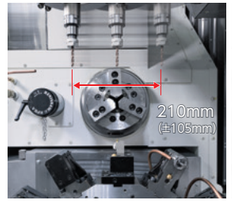
■ Tool Spindles
*20,000min⁻¹(op.)*
*(12,000 min⁻¹ std.)*
+
Turning Capabilities
■ Lower Turret Milling Tools
*8,000min⁻¹(op.)*
*(6,000 min⁻¹ std.)*

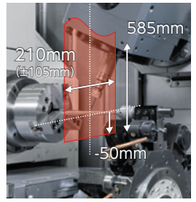
### Number of Tools

■ ATC Number of Tools
*36(op.48,72)*
+
■ Lower Turret Tools
*Max.24*
=
Max.*96Tools*

### Ensuring a large work envelope in a compact machine

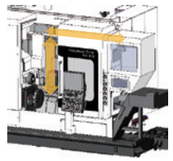
■ Tool Spindle Y axis stroke *210mm(+/-105mm)*




### Loading and Unloading

■ Flexibility
*Compact Loader(op.)*
*3kg/hand*



## NTRX-300

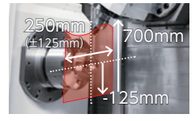
Multitasking Machine with high rigidity and ATC


### Tool Spindle rotation / Number of Tools

■ Tool Spindle
*12,000min⁻¹(op.)*
*(8,000 min⁻¹ std.)*
■ Number of Tools
*40(op.60,80,120)*

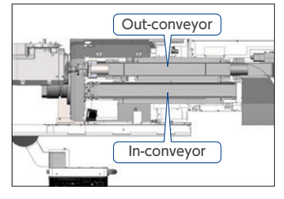
### Ensuring a large work envelope in a compact machine

■ Tool Spindle Y axis stroke
*250mm(+/-125mm)*




### High Performance Automation System(op.)

The automation (loading and unloading) is done using grippers stored in the ATC magazine. The gripper will pick up the part from the in conveyor and unload the part on the out conveyor. Both conveyors are located on the right side at the top of the spindle.




| Workpiece size | |
|---|---|
| Diameter | ϕ50-90mm |
| Length | 80-150mm |
| Weight | 3kg |

| Conveyor Capacity | | |
|---|---|---|
| Length of Conveyor | NTRX-300 | 1,335mm |
| | NTRX-300L | 1,625mm |
| Maximum Weight | | |
| In-conveyor | | 39kg |
| Out-conveyor | | 12kg |

Special jaws are necessary when the work piece is not round

# GR-203 High-Speed ／ GR-210 High-Speed

## Versatile Automation

### High-Speed Gantry Loader with High-Productivity

- Built-in Gantry loader
- Shaft loader/Unloader
- Robot
- Stocker

GR-203 3/5kg×2

Loading / Unloading
4.6 sec / 4.7 sec

### GR-203 High-Speed

| | 3kg type (Standard) | 5kg type |
|---|---|---|
| Rapid traverse feed rate | 250m/min | 165m/min |
| Rapid feed rate of Arm(up/down) | 200m/min | 125m/min |
| Rapid feed rate of Arm(back/forth) | 60m/min | 40m/min |
| Hand rotation speed | 1.0s/90° | 1.9s/90° |
| Workpiece diameter | ϕ20～130mm | |
| Workpiece length | 20～110mm | 20～110mm |
| Workpiece mass | 3.0kg×2 | 5.0kg×2 |

NTY³-150 + GR-203 High-Speed

■ Digital Chuck Interlock included as standard equipment!

No need for manual adjustment of proximity switches.
Boost productivity by speeding up chuck Open / Close time!

•Bar stopper •Work pusher •Bar Pulling •Work-Rest
•Tailstock •Parts catcher type A / G •Gantry Loader

- Eliminate the need for mechanical adjustment work. Facilitate adjustment work by numerical input down to 0.1 mm.
- Achieve reduction in man-hours by making save and call settings possible!
- Screen displayed from NT Setup display
- Speed up every process time associated with chuck open / close operation such as bar stopper and workpiece-pulling

### GR-210 High-Speed

GR-210 10kg×2

Loading / Unloading
7.9 sec / 7.9 sec

| | 10kg type (Standard) | 20kg type |
|---|---|---|
| Rapid traverse feed rate | 200m/min | 90m/min |
| Rapid feed rate of Arm(up/down) | 120m/min | 80m/min |
| Rapid feed rate of Arm(back/forth) | 50m/min | 30m/min |
| Hand rotation speed | 0.75s/180° | 2.2s/180° |
| Workpiece diameter | ϕ20～220mm | |
| Workpiece length | 20～100mm | 20～160mm |
| Workpiece mass | 10.0kg×2 | 20.0kg×1 |

JX-250 + GR-210 High-Speed

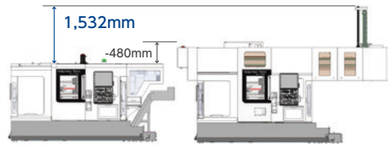




# WY-150＋Compact Loader ／ Flex Arm

## WY-150 +Compact Loader

### Same height as standard Machine

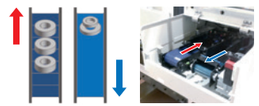



### More Automation

■ WY-150 + Compact Loader
+ Hako-bei

### Loading and Unloading

■ Loading from left conveyor.
■ Unloading from right conveyor.

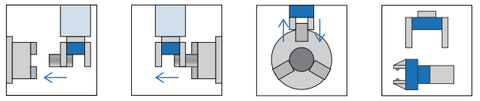


| Specification | Z traverse | | Arm Advance/Retract | | Hand UP/DOWN | | Hand Swing | | Part Size | | | Transport Device |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Stroke | Rapid | Full Stroke | Full stroke time | Stroke | Speed | Stroke | Speed | Dia. | Length | Weight | Load/Unload |
| unit | mm | m/sec. | deg. | Sec. | mm | Sec. | deg. | sec. | mm | mm | kg | - |
| Hand 1 (Material) | 2,105 | 2 | 50 | 1.7 | 150 | 1.8 | 90 | 1.7 | ϕ32～ϕ100 | 20～100 | 3.0 | Conveyor |
| Hand 2 (Finished Part) | | | | | | | | | | | | |

## Flex Arm

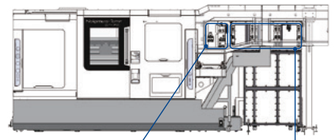
The first step for full automation

### Many types of automation in one machine



Loading materials
Unloading finished parts
Changing the chuck jaws
Changing ROBOT hands

### Robot Hand and Chuck Jaws storage



**Robot hand storage**
Robot hand for load/unload
Robot hand for Chuck jaws replacement

**Chuck jaws storage**
Jaws for 3 different type of parts can be stored.

## Nakamura-Tome IoT software

※Please refer to the NT Smart Sign exclusive catalog for details.

### ■Monitoring

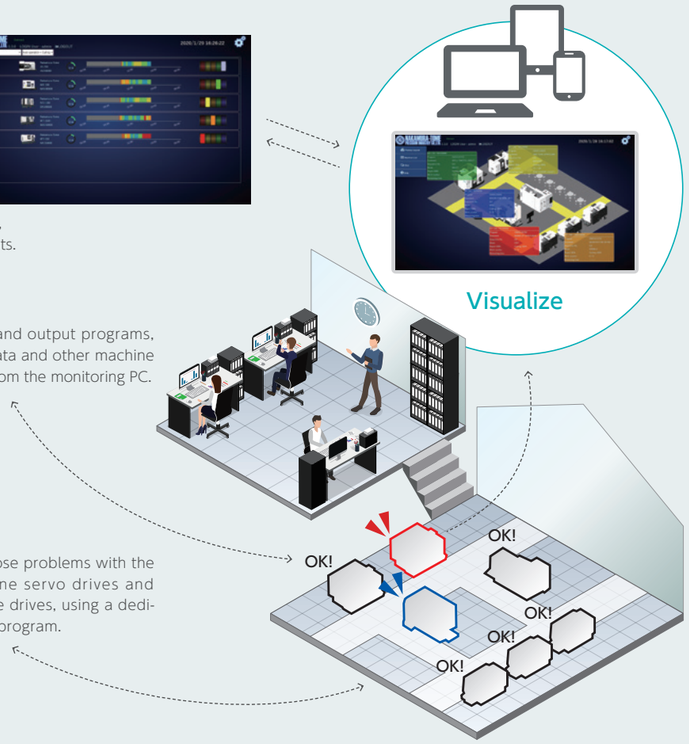
Real Time Monitoring of machine running conditions,
in addition to visualizing alarm history and past events.

### ■Data Input / Output

Input and output programs, tool data and other machine data from the monitoring PC.

### ■Diagnosis

Diagnose problems with the machine servo drives and spindle drives, using a dedicated program.




## NT Thermo Navigator AI

Thermal Growth
Compensation using AI.

① Time
② Measured Dimensions
③ Retrieval of Wear Offset Data

Acquired Data analyzed with NT Thermo Navigator AI

Feedback

Construct correction model by learning by AI

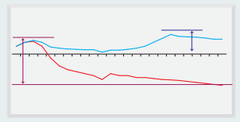
Standard for NT Smart X

### Powered by AI

Time and measured dimension data are input into a dedicated AI Learning software, to build an optimized thermal growth compensation model.

### High Precision Thermal Growth Compensation

The compensation value is calculated from acquired data.
The more data is input, the more accurate is the compensation value.



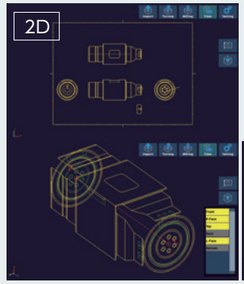
—— Pre-correction thermal displacement data
—— Thermal displacement data after correction





## 3D Smart Pro

### Make the program using 2D/3D CAD data




3D view of the loaded 2D drawing.


NC programs can be created based on 2D or 3D CAD data*1.
The NC program can be created from the CAD data of the part to be machined.
By using the dimensions from the CAD model, there is no need for coordinate calculations, thus reducing human error.
Easy, quick, and error-free NC program can be created with this software.

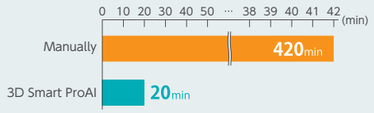
Turning mode※2　Milling mode※2

NC program creation

*1 3D model : STEP file / 2D model : DXF file supported
*2 The display refer to our example data and will change accordingly to the loaded CAD data.

## 3D Smart Pro AI

From the 3D CAD drawing, AI automatically analyzes "model geometry", "machining path", "machining tools", "machining conditions", and "machining process sequence", to create NC programs for all processes from raw material to finished product.




It drastically reduces man-hours required for creating NC programs and improves set-up and production efficiency.

### 3 useful features available with 3D Smart Pro AI

**1. Transfer setting**

Once the transfer position is set, the machining area and transfer program are created.

**2. Optimization of machining processes**

In addition to defining the required machining process. AI proposes a suitable machining process sequence.

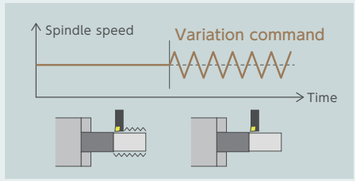
**3. Tolerance setting**

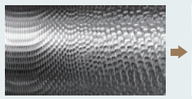
Once tolerance value is input, target value for machining can be set.

## Chatter Cancelling function

### Chatter control by spindle speed variation

Chatter-free machining by changing the acceleration and deceleration of the spindle. The program consists in one M-code command, where the spindle speed fluctuation value (amplitude, frequency, and waveform) can be set.
Another benefit is the chip wear reduction.



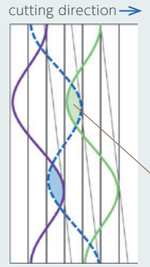



Chatter Cancelling OFF

Chatter Cancelling ON

*This function does not guarantee the suppression of chattering vibration. In some cases depending on the chatter factors and value settings, the chatter may not be suppressed.

## Oscillating cutting (op.)




By oscillating the tool for a certain period, the chips are cut into small pieces. This can resolve workpiece damage issues caused by chips curled around the part.

---- Trajectory before one rotation
—— Current trajectory

Material：Aluminum
Cutting speed：200mm/min
Cutting feed：0.1mm/rev
Cutting depth：1.0mm

Super Multitasking machine with ATC

MX-100

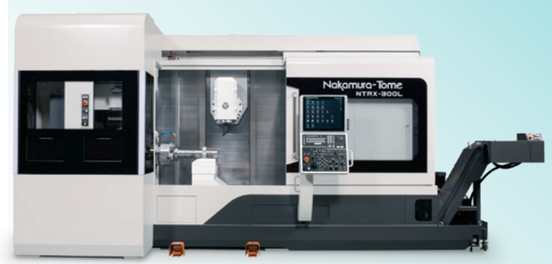
High-Performance Multitasking machine with ATC

JX-250

Super Multitasking Machine with ATC

Super NTX

CNC Multitasking Machine with ATC



NTRX-300/300L

| | | unit | MX-100 | | JX-250 | | | Super NTX (W) / NTX (S) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | ϕ51mm | ϕ65mm (op.) | ϕ65mm | ϕ71mm (op.) | ϕ80mm (op.) | ϕ65mm | ϕ71mm (op.) | ϕ90mm (op.) |
| ■Capacity | | | | | | | | | | |
| Max. turning diameter / Max. turning length | | mm | 305 / 834 | | 320 / 1,650 | | | 390 / 1,100 | | |
| Distance between spindles [max. / min.] | | mm | 1,000 / 230 | | 1,850 / 300 | | | 1,400 / 250 (A Type)<br>1,550 / 400 (B Type) | | |
| Distance between centers [max. / min.] *1 | | mm | - | | - | | | - | | |
| Bar capacity | L | mm | ϕ51 | ϕ65(op.) | ϕ65 | ϕ71 (op.) | ϕ80mm(op.) | ϕ65 | ϕ71(op.) | ϕ90(op.) |
| | R | mm | | - | | - | - | | | |
| Chuck size | | mm | 165(6"), 210(8") | | 210(8") | | 254(10") | 210 (8" ), (op. 254(10")) | | |
| ■Axis travel | | | | | | | | | | |
| Slide travel (Y) | | mm | ±105 | | ±125 | | | ±80 | | |
| Slide travel (B2) | | mm | 770 | | 1,550 | | | 1,150 | | |
| ■Spindle L, R | | | | | | | | | | |
| Spindle speed | L | min-1 | 6,000 | 4,500 | 4,500 | | 3,500 | 4,500 | 3,500 | 2,500 |
| | R | | | - | | | - | | | |
| Main Spindle motor | L | kW | 11/7.5 | 15/11 | 15/11 (op. 18.5/15) | | 18.5/15 | 22/18.5 | | 30/22 |
| | R | | 11/7.5 | - | 15/11 | | - | | | |
| ■Tailstock (option) | | | | | | | | | | |
| Driving Methods | | - | - | | - | | | - | | |
| Tailstock spindle taper size | | - | - | | - | | | - | | |
| Tailstock force | | kN | - | | - | | | - | | |
| ■Tool spindle | | | | | | | | | | |
| Tool spindle speed | | min-1 | 12,000 (op. 20,000) | | 12,000 (op. 18,000) | | | 8,000 (op. 12,000) | | |
| Tool spindle motor power | | kW | 11/7.5 | | 22/15 | | | 18.5/11 | | |
| B-axis positioning range | | - | 190° ( ±95° ) | | 240° ( ±120° ) | | | 230° ( ±115° ) | | |
| Tool shank type | | - | CAPTO C4 (op. HSK-T40) | | CAPTO C6 (op. HSK-A63) | | | CAPTO C6, KM63, (op. HSK-A63) | | |
| ■ATC | | | | | | | | | | |
| ATC Number of tools | | - | 36, (op. 48,72) | | 80, (op. 40, 120) | | | 24 (op. 40, 80, 120) | | |
| Long-tool ATC storage capacity / length (op.) | | - / mm | - | | - | | | - | | |
| ■Lower turret | | | | | | | | | | |
| Number of turrets | | - | 1 | | 1 (op. 2) | | | 2 (W) / 1 (S) | | |
| Type of turret / Number of indexing pos. | | - | Dodecagonal / 24 | | Dodecagonal / 24 | | | Dodecagonal / 24 | | |
| Milling spindle power / Max. Speed | | kW / min-1 | 7.2/2.2 / 6,000 | 7.2/2.2(op. 6/1.5) / 6,000(op. 8,000) | 5.5/3.7 / 6000 | | | 5.5/3.7 / 3,600 | | |
| ■General | | | | | | | | | | |
| Floor space | Height | mm | 2,662 | | 2,943 | | | 3,171 | | |
| | Width | | 4,350 | | 5,550 | | | 5,855 | | |
| | Length | | 2,795 | | 3,257.7 | | | 3,656 | | |
| Machine weight | | kg | 14,000 | | 23,000 (ATC80 without L-lower turret) | | | 22,000 | | |

| | | unit | NTRX-300 | | | | | NTRX-300L | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ϕ65mm | ϕ71mm(op.) | ϕ80mm(op.)A | ϕ80mm(op.)B | ϕ90mm(op.) | ϕ65mm | ϕ71mm(op.) | ϕ80mm(op.)A | ϕ80mm(op.)B | ϕ90mm(op.) |
| ■Capacity | | | | | | | | | | | | |
| Max. turning diameter / Max. turning length | | mm | 640 / 1,100 | | | | | 640 / 1,600 | | | | |
| Distance between spindles [max. / min.] | | mm | 1,350 / 250 | | | | | 1,850 / 300 *2 | | | | |
| Distance between centers [max. / min.] *1 | | mm | 1,225 / 125 | | | | | 1,725 / 175 *3 | | | | |
| Bar capacity | L | mm | ϕ65 | ϕ71 (op.) | ϕ80 (op.) *1 | ϕ80 (op.) | ϕ90(op.) | ϕ65 | ϕ71 (op.) | ϕ80 (op.) *1 | ϕ80 (op.) | ϕ90(op.) |
| | R | mm | | | | | ϕ80(op.) | | | | | ϕ80(op.) |
| Chuck size | | mm | 210 (8"), 254 (10") | | | | | 210 (8"), 254 (10") | | | | |
| ■Axis travel | | | | | | | | | | | | |
| Slide travel (Y) | | mm | ±125 | | | | | ±125 | | | | |
| Slide travel (B2) | | mm | 1,100 | | | | | 1,550 (1,015 / Steady Rest Spec.) | | | | |
| ■Spindle L, R | | | | | | | | | | | | |
| Spindle speed | L | min-1 | 4,500 | 3,500 | 3,500 | 2,500 | 2,500 | 4,500 | 3,500 | 3,500 | 2,500 | 2,500 |
| | R | | | | | | - | | | | | - |
| Main Spindle motor | L | kW | 15/11 (op. 22/18.5) | | 22/18.5 | | | 15/11 (op. 22/18.5) | | 22/18.5 | | |
| | R | | | | 22/18.5 | | - | | | 22/18.5 | | |
| ■Tailstock (option) | | | | | | | | | | | | |
| Driving Methods | | - | NC control servo driven | | | | | NC control servo driven | | | | |
| Tailstock spindle taper size | | - | MT-5 (built in center) | | | | | MT-5 (built in center) | | | | |
| Tailstock force | | kN | 2.5~6.5 | | | | | 2.5~6.5 | | | | |
| ■Tool spindle | | | | | | | | | | | | |
| Tool spindle speed | | min-1 | 8,000 (op. 12,000) | | | | | 8,000 (op. 12,000) | | | | |
| Tool spindle motor power | | kW | 22/15 | | | | | 22/15 | | | | |
| B-axis positioning range | | - | 225° ( -120° , +105° ) | | | | | 240° ( ±120° ) | | | | |
| Tool shank type | | - | CAPTO C6 (op. HSK-A63) | | | | | CAPTO C6 (op. HSK-A63) | | | | |
| ■ATC | | | | | | | | | | | | |
| ATC Number of tools | | - | 40 (op. 60, 80, 120) | | | | | 40 (op. 60, 80, 120) | | | | |
| Long-tool ATC storage capacity / length (op.) | | - / mm | - | | | | | 3 / ϕ65 × L450 | | | | |
| ■Lower turret | | | | | | | | | | | | |
| Number of turrets | | - | - | | | | | - | | | | |
| Type of turret / Number of indexing pos. | | - | - | | | | | - | | | | |
| Milling spindle power / Max. Speed | | kW / min-1 | - | | | | | - | | | | |
| ■General | | | | | | | | | | | | |
| Floor space | Height | mm | 2,615 | | | | | 2,615 | | | | |
| | Width | | 4,529 | | | | | 5,440 | | | | |
| | Length | | 2,670 | | | | | 2,670 | | | | |
| Machine weight | | kg | 17,000 | | | | | 19,000 | | | | |

*1) Direct mount draw tube. (no draw tube adaptor). *2) R-side spindle + Steady rest specification : Max.1,850mm/835mm *3) Tailstock + Steady rest specification : Max.1,725mm/710mm
*4) Tailstock Specifications


3 Turrets

3 Y-axes

## NTY³-100

| | | unit | NTY³-100 | | | NTY³-150 | | NTY³-250 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ϕ42mm | ϕ51mm (op.) | ϕ65mm (op.) | ϕ51mm | ϕ65mm (op.) (op. only for L) | ϕ51mm | ϕ65mm (R op.) | ϕ71mm (op.) | ϕ80mm (op.) (op. only for L) |
| ■Capacity | | | | | | | | | | | |
| Max. turning diameter | 12st | mm | 175 | 200 | | 225 | | 225 | | | 180 |
| | 15st | | | 190 | | - | | - | | | |
| Max. turning length | | mm | 588 | 570 | | 685 | | Upper : 310.5, Lower : 905.5 | | | |
| Distance between spindles [max. / min.] | | mm | 820 / 200 | | | 970 / 200 | | 1,200 / 255 | | | |
| Bar capacity | L | mm | ϕ42 | ϕ51(op.) | ϕ65(op.) | ϕ51 | ϕ65(op.) | - | ϕ65 | ϕ71(op.) | ϕ80(op.) |
| | R | | | | | | - | ϕ51 | ϕ65(op.) | | - |
| Chuck size | L / R | mm | 165 (6") / 165 (6") | | | 165 (6") / 165 (6") | | 210 (8") / 165 (6") | | | |
| ■Axis travel | | | | | | | | | | | |
| Slide travel (Y1 / Y2 / Y3) | 12st | mm | ±42 / ±42 / ±32.5 | | | ±45 / ±45 / ±35 | | -61, +51 / -61, +51 / -51, +61 | | | |
| | 15st | | ±31 | | | - | | - | | | |
| Slide travel (B) | | mm | 620 | | | 770 | | 945 | | | |
| ■Spindle L, R | | | | | | | | | | | |
| Spindle speed | L | min⁻¹ | 6,000 | 5,000 | 4,500 | 5,000 | 4,500 | - | 5,000 (op. 4,000) | | 3,500 |
| | R | | | | | | - | 5,000 | | | - |
| Spindle motor output | L | kW | 11/7.5 | 11/7.5 (op. 15/11) | | 15/11 | | 18.5/11 (op. 26/22) | | | |
| | R | | | | | 11/7.5 (op. 15/11) | - | 18.5 / 11 | | | |
| ■Turrets | | | | | | | | | | | |
| Number of turrets (Upper / Lower) | | - | 2 / 1 | | | 2 / 1 | | 2 / 1 | | | |
| Driven-tool spindle speed | | min⁻¹ | 6000 (op. 8000 Only for 12 stations Turret) | | | 6,000 (op. 8,000) | | 6,000 | | | |
| Milling motor | | kW | 7.1/2.2 (op. 5.5/2.2) | | | 5.5/3.7 | | 5.5/3.7 | | | |
| Type of turret head / Number of indexing pos. | 12st | - | Dodecagonal drum turret / 24 | | | Dodecagonal drum turret / 24 | | Dodecagonal drum turret / 24 | | | |
| | 15st | - | 15 stations turret / 15 | | | - | | - | | | |
| Drive type / Number of driven-tool stations | 12st | - | Individual rotation / 12 | | | Individual rotation / 12 | | Individual rotation / 12 | | | |
| | 15st | - | Individual rotation / 15 | | | - | | - | | | |
| ■General | | | | | | | | | | | |
| Floor space | Height | mm | 1,930 | | | 2,200 | | 2,395 | | | |
| | Width | | 3,428 | | | 3,814 | | 4,900 | | | |
| | Length | | 2,257 | | | 2,257 | | 2,580 | | | |
| Machine Weight (incl.control) | | kg | 9,500 | | | 10,500 | | 14,425 | | | |

* [NTY³-100] Either 12st or 15st turret is available and both specifications are the same.


Number of milling tools
Max.45 pcs for 15st turret!
Compact 3-Turret machine.

## NTY³-100


High-Performance
Multitasking machine
Upper Z-axes with Cross-over Travel

## NTY³-150


Simultaneous long-tool machining
on L and R Spindles.
Large work envelope with 1200 mm
distance between the spindle noses

## NTY³-250


2 Turrets

2 Y-axes

## WY-250

| | | | WY-100II | | | WY-150 | | WY-250 | | | | WY-250L | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | unit | ϕ42mm | ϕ51mm (op.) | ϕ65mm (op.) | ϕ51mm | ϕ65mm (op.) | ϕ51mm | ϕ65mm (R op.) | ϕ71mm (op.) | ϕ80mm (op.) | ϕ51mm | ϕ65mm (R op.) | ϕ71mm (op.) | ϕ80mm (op.) |
| ■Capacity | | | | | | | | | | | | | | | |
| Max. turning diameter | 12st | mm | 175 | 200 | | 225 | | 225 | | | | 225 | | | 180 |
| | 15st | | 190 | | | - | | - | | | | - | | | |
| Max. turning length | | mm | 588 | 570 | | 565 | | 580 | | | | 910 | | | |
| Distance between spindles [max. / min.] | | mm | 820 / 200 | | | 850 / 200 | | 870 / 255 | | | | 1,200 / 255 | | | |
| Bar capacity | L | mm | ϕ42 | ϕ51(op.) | ϕ65(op.) | ϕ51 | ϕ65(op.) | - | ϕ65 | ϕ71(op.) | ϕ80(op.) | - | ϕ65 | ϕ71(op.) | ϕ80(op.) |
| | R | | | | | | - | ϕ51 | ϕ65(op.) | - | - | ϕ51 | ϕ65(op.) | - | - |
| Chuck size | | mm | 165 (6") | | | 165 (6") | | L : 210 (8") R : 165 (6") | | | | L : 210 (8") R : 165 (6") | | | |
| ■Axis travel | | | | | | | | | | | | | | | |
| Slide travel (Y1 / Y2) | 12 | mm | ±42 / ±32.5 | | | ±45 / ±35 | | ±50 / -50, +20 | | | | ±50 / -50, +20 | | | |
| | 15 | | ±31 | | | - | | - | | | | - | | | |
| Slide travel (B) | | mm | 620 | | | 650 | | 620 | | | | 945 | | | |
| ■Spindle L, R | | | | | | | | | | | | | | | |
| Spindle speed | L | min⁻¹ | 6,000 | 5,000 | 4,500 | 5,000 | 4,500 | - | 4,500 | 4,000 | 3,500 | - | 4,500 | 4,000 | 3.500 |
| | R | | | | | | - | 5,000 | 4,500 | - | | 5,000 | 4,500 | - | |
| Spindle motor output | L | kW | 11/7.5 | 11/7.5 (op. 15/11) | | 15/11 | | - | 18.5/11 (op. 26/22) | | | | 18.5/11 (op. 26/22) | | |
| | R | | | | | 11/7.5 | | 15/11 (op. 18.5/15) | | - | | 15/11 (op. 18.5/15) | | | - |
| ■Turrets | | | | | | | | | | | | | | | |
| Number of turrets (Upper / Lower) | | - | 1 / 1 | | | 1 / 1 | | 1 / 1 | | | | 1 / 1 | | | |
| Driven-tool spindle speed | | min⁻¹ | 6,000 (op. 8,000 Only for 12st turret) | | | 6,000 (op. 8,000) | | 6,000 | | | | 6,000 | | | |
| Milling motor | | kW | 7.1/2.2 (op. 5.5/2.2) | | | 5.5/3.7 | | 5.5/3.7 | | | | 5.5/3.7 (op. 7.5/3.7) | | | |
| Type of turret / Number of indexing pos. | 12st | - | Dodecagonal drum turret / 24 | | | Dodecagonal drum turret / 24 | | Dodecagonal drum turret / 24 | | | | Dodecagonal drum turret / 24 | | | |
| | 15st | | 15 stations turret / 15 | | | - | | - | | | | - | | | |
| Drive type / Number of driven-tool stations | 12st | - | Individual rotation / 12 | | | Individual rotation / 12 | | Individual rotation / 12 | | | | Individual rotation / 12 | | | |
| | 15st | | Individual rotation / 15 | | | - | | - | | | | - | | | |
| ■General | | | | | | | | | | | | | | | |
| Floor space | Height | mm | 1,930 | | | 2,200 | | 2,395 | | | | 2,395 | | | |
| | Width | | 3,427 | | | 3,814 | | 4,436 | | | | 4,620 | | | |
| | Length | | 2,257 | | | 2,257 | | 2,674 | | | | 2,593 | | | |
| Machine Weight (incl.control) | | kg | 9,000 | | | 10,000 | | 12,000 | | | | 13,000 | | | |

* [WY-100II] Either 12st or 15st turret is available and both specifications are same.


Now Available with 15st. Turret!
Max. 30 Milling Tools

## WY-100II


Better Milling Capabilities
State-of-the-art
Multitasking Machine

## WY-150


High output and high torque motor
Strong Cutting power

## WY-250/250L

2 Turrets

1 Y-axis


## WT-150II

| | | unit | WT-100 | WT-150II | | WT-250II | | WT-300 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | ϕ42mm | ϕ51mm | ϕ65mm (op.) | ϕ51mm | ϕ65mm (R op.) | ϕ65mm | ϕ71mm (op.) | ϕ80mm (op.) | ϕ102mm (op.) |
| ■Capacity | | | | | | | | | | | |
| Max. turning diameter (Upper / Lower) | | mm | 190 | 190 | | 250 | | 270 | | 199 / 270 | 199 / 270 (L: ϕ102 / R: ϕ65)<br>199 / 229 (L: ϕ102 / R: ϕ102) |
| Max. turning length | | mm | 503 | 515 | | 555 | | 780 | | | |
| Distance between spindles [max. / min.] | | mm | 735 / 210 | 800 / 200 | | 885 / 265 (L : ϕ65 / R : ϕ51)<br>870 / 250 (L : ϕ65 / R : ϕ65) | | 1,100 / 250 | | | |
| Bar capacity | L | mm | ϕ42 | ϕ51 | ϕ65 (op.) | - | ϕ65 | ϕ65 | ϕ71 (op.) | ϕ80 (op.) | ϕ102 (op.) |
| | R | mm | | | - | ϕ51 | ϕ65 (op.) | | - | - | |
| Chuck size | | mm | 165 (6") | 165 (6"), 210 (8") | | 165 (6"), 210 (8") | | 210 (8") | | 305 (12") | |
| ■Axis travel | | | | | | | | | | | |
| Slide travel (Y) upper turret | | mm | ±31 (op.) | ±35 (op.) | | ±41 (op.) | | ±60 (op.) | | ±40 (op.) | |
| Slide travel (B2) | | mm | 525 | 600 | | 620 | | 850 | | | |
| ■Spindle L, R | | | | | | | | | | | |
| Spindle speed | L | min-1 | 6,000 | 5,000 | 4,500 | - | 4,500 | 4,500 | 4,000 | 3,500 | 2,500 |
| | R | | | | - | 5,000 | 4,500 | | - | - | |
| Spindle motor | L | kW | 11/7.5 | 15/11 | | 18.5/15 (op. 35/26/22, 15/11 Wide range) | | 15 / 11 Wide range (op. 18.5/15 Wide range, 22/18.5 Wide range) | | | |
| | R | kW | | 11/7.5 | - | 11/7.5 (op. 15/11, 18.5/15) | | 15/11 Wide range (op. 18.5/15 Wide range) | | | |
| ■Turrets | | | | | | | | | | | |
| Number of turrets (Upper / Lower) | | - | 1 / 1 | 1 / 1 | | 1 / 1 | | 1 / 1 | | | |
| Driven-tool speed | | min-1 | 6,000 | 6,000 (op.) | | 6,000 (op.) | 3,600 (op.)* | 3,600 (op.) | | | |
| Milling motor | | kW | 7.1/2.2 | 5.5/3.7 (op.), (op. Super Mill 7.5/3.7) | | 5.5/3.7 (op.) | | 5.5/3.7 (op.) | | | |
| Type of turret / Number of indexing pos. | | - | Dodecagonal / 24 | Dodecagonal / 24 | | Dodecagonal / 24 | | Dodecagonal / 24 | | | |
| Drive type / Number of driven-tool stations | | - | Individual rotation / 12 | Individual rotation / 12 | | Individual rotation / 12 | | Individual rotation / 12 | | | |
| ■General | | | | | | | | | | | |
| Floor space | Height | mm | 1,940 | 1,858.5 | | 2,225 | | 2,276 | | | |
| | Width | | 2,630 | 3,675 | | 4,059 | | 4,230 | 4,275 | | 4,345 |
| | Length | | 1,923 | 2,258.2 | | 2,314 | | 2,487 | | | |
| Machine Weight (incl.control) | | kg | 5,700 | 9,000 | | 8,700 | | 14,000 | | | |

* For R-spindle bar capacity dia. 65mm, max. milling tool speed is 3,600min-1.


Compact Multitasking machine
featuring state-of-the-art capabilities

## WT-100


High speed, high rigidity
compact Multitasking Machine

## WT-150II


Multi-purpose high rigidity machine
for various types of parts, from small
to large batches

## WT-250II


High rigidity Multitasking Machine
with box-type slides
on all axes

## WT-300

# NTJ series / TW series

## B-axis Turret Type Multitasking Machine / NTJ Series
## 2 Spindies Type Multitasking Machine / TW Series

NTJ series

B-axis Turret

NTJ-100

| | | unit | NTJ-100 | | Super NTJ | |
|---|---|---|---|---|---|---|
| | | | ϕ51mm | ϕ65mm (op.) | ϕ65mm | ϕ51mm (op.) |
| ■Capacity | | | | | | |
| Max. turning diameter | | mm | 175 | | 190 | |
| Max. turning length | | mm | 678 | | 620 | |
| Distance between spindles [max. / min.] | | mm | 910 / 200 | | 970 / 210 | |
| Bar capacity | L | mm | ϕ51 | ϕ65 (op.) | ϕ65 | ϕ51 (op.) |
| | R | mm | | | - | ϕ51 |
| Chuck size | | mm | 165 (6") | | 165(6") | |
| ■Axis travel | | | | | | |
| Slide travel (Y1 / Y2) | | mm | ±40 / ±32.5 | | ±45 / - | |
| Slide travel (B2) | | mm | 680 | | 760 | |
| ■Spindle L, R | | | | | | |
| spindle speed L / R | L | mm | 5,000 | 4,500 | 4,500 | 5,000 |
| | R | mm | | | - | |
| spindle motor L / R | | kW | 11/7.5 | | 15/11 / 11/7.5 | |
| ■Turrets | | | | | | |
| Number of turrets (Upper / Lower) | | - | 1 / 1 | | 1 / 1 | |
| Driven-tool speed | | min-1 | 6,000 | | 6,000 | |
| Milling motor | | kW | 7.1/2.2 | | 5.5/3.7 | |
| Type of turret / Number of indexing pos. | | - | Dodecagonal / 24 | | Dodecagonal / 24 | |
| Drive type / Number of driven-tool stations | | - | Individual rotation / 12 | | Individual rotation / 12 | |
| B1-axis | | - | ±91° / Upper turret | | ±91° / Upper turret | |
| ■General | | | | | | |
| Floor space | Height | mm | 2,565 | | 2,170 | |
| | Width | | 3,799 | | 3,660 | |
| | Length | | 2,110 | | 2,320 | |
| Machine Weight (incl.control) | | kg | 10,000 | | 12,500 | |

B-axis Swiveling range : 182 deg.
Productivity superior to that
of a machining center!


NTJ-100

TW series

2 spindles



NEW TW-30

| | | unit | TW-8 | | NEW TW-30 |
|---|---|---|---|---|---|
| | | | ϕ34mm | ϕ42mm (op.) | ϕ71mm |
| ■Capacity | | | | | |
| Max. turning diameter | | mm | 190 | | 335 (op. large swing spec. 400) |
| Max. turning length | | mm | 115 | 110 | 300 |
| Distance between spindles [max. / min.] | | mm | 735 / 210 | 743 / 218 | 1,300 / 320 |
| Bar capacity L/R | | mm | ϕ34 | ϕ42 (op.) | ϕ71 |
| Chuck size L/R | | mm | 165 (6"), 135 (5") | | 254 (10") |
| ■Axis travel | | | | | |
| Slide travel (Y1 / Y2) | | mm | - | | - |
| Slide travel (RZ) | | mm | 525 | | 980 |
| ■Spindle L, R | | | | | |
| Spindle speed | | min-1 | 6,000 | | 3,500 |
| L Spindle motor | | kW | 7.5 | | 22/18.5 |
| R Spindle motor | | kW | 7.5 | | 22/18.5 |
| ■Turrets L, R | | | | | |
| Number of turrets | | - | 2 | | 2 |
| Type of turret / Number of indexing pos. | | - | Dodecagonal / 12 | | Dodecagonal / 12 |
| ■Milling (op.) | | | | | |
| Driven-tool speed | | min-1 | 4,000(op.) | | 6,000 |
| Milling motor | | kW | 2.5(op.) | | 7.5/3.7 |
| ■General | | | | | |
| Floor space | Height | mm | 1,600 | | 2,250 |
| | Width | | 2,760 | | 4,370 |
| | Length | | 1,600 | | 2,125 |
| Machine Weight (incl.control) | | kg | 4,840 | | 14,500 |


Minimum floor space, low cost,
compact two-spindle machine

TW-8


Best suited for all sorts of
Heavy Duty Machining.
A super machine, which takes pride
for its rigidity and bar capacity.

NEW TW-30

# SC series

## SC-100X²

## SC-100


## AS-200/200L

## SC-300Ⅱ

## SC-300ⅡL


## SC-450 / 450L / 450LL

| | | SC-100X² | SC-100 | SC-200 | SC-200L | AS-200 | | AS-200L | |
|---|---|---|---|---|---|---|---|---|---|
| | unit | ϕ51mm | ϕ51mm | ϕ65mm | ϕ65mm | 12/24-station turret | 15-station turret | 12/24-station turret | 15-station turret |
| ■Capacity | | | | | | | | | |
| Max. turning diameter | mm | 195 | 230 | 432 (410 / with Y-axis) | 410 | 290 | 280 | 290 | 280 |
| Max. turning length | mm | 400 | 400 (standard, R sp.), 300 (tailstock) | 370 | 570 | 300 | | 570 | |
| Distance between centers | mm | - | 430 | 509 | 757.8 | 427 | | 760 | |
| Bar capacity | mm | ϕ51 | ϕ51 | ϕ65 | ϕ65 | ϕ65 (op. ϕ71) | | ϕ65 (op. ϕ71) | |
| Chuck size | mm | 165 (6") | 165 (6") | 210 (8") | 210 (8") | 210 (8") | | 210 (8") | |
| ■Slide travel | | | | | | | | | |
| Slide travel (Y) | mm | ±40 | ±40 | ±41(op.) | ±41(op.) | ±41 | | ±41 | |
| ■Spindle | | | | | | | | | |
| Spindle speed | min⁻¹ | 6,000 | 5,000 | 4,500 | 4,500 | 4,500 (op. 3,000, 4,500(for torque-up motor)) | | 4,500 (op. 3,000, 4,500(for torque-up motor)) | |
| Spindle motor | kW | 11/7.5 | 11/7.5 | 11/7.5 | 11/7.5 (op. 15/11, 18.5/15) | 15/11 | | 15/11 | |
| ■Turrets | | | | | | | | | |
| Number of turrets | - | 2 | 1 | 1 | 1 | 1 | | 1 | |
| Type of turret heads / Number of indexing pos. | - | Upper : Dodecagonal / 24 Lower : Flexible special design turret / 9 | Dodecagonal / 24 | Dodecagonal / 12 (op. 24) | Dodecagonal / 24 | Dodecagonal / 24 | 15 stations turret / 15 | Dodecagonal / 24 | 15 stations turret / 15 |
| ■Milling (op.) | | standard(Upper) | standard | | | standard | | standard | |
| Driven-tool spindlespeed | min⁻¹ | 6,000 | 6,000 | 6,000 | 6,000 | 6,000 | | 6,000 | |
| Driven-tool motor | kW | 7.1/2.2 | 7.1/2.2 | 5.5/3.7 | 5.5/3.7 | 5.5/3.7 | | 5.5/3.7 | |
| Drive-type / Number of driven-tool stations | - | Individual rotation / 12 | Individual rotation / 12 | Individual rotation / 12 | Individual rotation / 12 | Individual rotation / 12 | Individual rotation / 15 | Individual rotation / 12 | Individual rotation / 15 |
| ■Tailstock (op.) | | | | | | | | | |
| Driving System | - | - | NC control servo-driven type | Manual / Automatic with hyd. cylinder | Manual / Automatic with hyd. cylinder | Manual | | Manual | |
| Stroke | mm | - | 400 | 255 / 200 | 435 / - | 200 | | 435 | |
| Rapid Speed | m/min | - | 20 | - | - | - | | - | |
| Range of thrust force | kN | - | 1.0~4.0 | - | - | - | | - | |
| Quill taper | - | - | MT-3 (Rotating center) | Manual:MT-4(Rotating center) Automatic:MT-3(Built-in center) | MT-3 (Built-in center) | MT-4(Rotating center) | | MT-4(Rotating center) | |
| Quill diameter / Quill stroke | mm | - | - | ϕ80 / 80 | ϕ80 / 80 | ϕ70 / 80 | | ϕ80 / 80 | |
| ■Sub spindle (op.) | | standard | | | | | | | |
| Chuck size / Bar capacity | mm | 5"(6") / ϕ42 | 5"(6") / ϕ42 | 165 (6") / ϕ34 | 165 (6") / ϕ42 | - | | 165 (6") / 42 | |
| Spindle speed / spindle motor | min⁻¹ / kW | 6,000 / 7.5/5.5 | 6,000 / 7.5/5.5 | 5,000 / 5.5/3.7 | 6,000 *1 / 7.5/5.5, 11/7.5 | - | | 6000 / 7.5/5.5 | |
| Distance between spindles [max. / min.] | mm | 600 / 200 | 600 / 200 | 615 / 220 | 800 / 220 | - | | 800 / 220 | |
| Slide travel (B) (op.) | mm | - | 400 | 395 | 580 | - | | 580 | |
| ■General | | | | | | | | | |
| Floor space Height | mm | 1,799 | 1,780 | 1,730 | 1,965 | 1,852 | | 1,935 | |
| Floor space Width | mm | 3,072 | 2,524 | 2,430 | 2,771 | 1,655 | | 2,716 | |
| Floor space Length | mm | 1,974 | 1,825 | 1,745 | 1,884 | 1,665 | | 1,805 | |
| Machine Weight (incl.control) | kg | 6,500 | 4,500 | 3,000 | 5,000 | 4,500 | | 5,500 | |

| SC-300Ⅱ | | SC-300ⅡL | | SC-450 | | SC-450L | | SC-450LL*3 | |
|---|---|---|---|---|---|---|---|---|---|
| ϕ71mm | ϕ89mm (op.) | ϕ71mm | ϕ89mm (op.) | ϕ81mm A Type | ϕ81mm B Type | ϕ81mm | ϕ89mm (op.) | ϕ81mm | ϕ89mm (op.) |
| | | | | | | | | | |
| 360 | | 360 | | 465 | | 480 | | 480 | |
| 600 (Tailstock), 635 (R Spindle) | | 1,100 (Tailstock), 1,135 (R Spindle) | | 785 | 715 | 1,520 | | 2,520 | |
| 713.5 | | 1213.5 | | 1,050 | | 1,752 | | 2,752 | |
| ϕ71 | ϕ89(op.) | ϕ71 | ϕ89(op.) | ϕ81 | | ϕ81 | ϕ89 (op.) | ϕ81 | ϕ89 (op.) |
| 250 (10"), 305 (12") | | 250 (10"), 305 (12") | | 305 (12") | 380 (15") | 305 (12") | | 305 (12") | 380 (15") |
| | | | | | | | | | |
| ±60 | | ±60 | | ±70 (op.) | | ±75 (op.) | | ±75 (op.) | |
| | | | | | | | | | |
| 3,500 | | 3,500 | | 2,500 | | 2,500 | | 2,500 | |
| 22/18.5 | | 22/18.5 | | 30/22 | | 30/22 | | 30/22 | |
| | | | | | | | | | |
| 1 | | 1 | | 1 | | 1 | | 1 | |
| Dodecagonal / 24 | 16 stations turret / 16 | Dodecagonal / 24 | 16 stations turret / 16 | Dodecagonal / 12 | | Dodecagonal / 12 | | Dodecagonal / 12 | |
| standard | | standard | | | | | | | |
| 6,000 | | 6,000 | | 3,600 | | 3,600 | | 3,600 | |
| 7.5/3.7 | | 7.5/3.7 | | 5.5/3.7 | | 5.5/3.7 | | 5.5/3.7 | |
| Individual rotation / 12 | Individual rotation / 16 | Individual rotation / 12 | Individual rotation / 16 | Individual rotation / 12 | | Individual rotation / 12 | | Individual rotation / 12 | |
| | | | | | | | | | |
| NC control servo-driven type | | Z-axis slide (knock type) *2 / NC control servo-driven type | | Z-axis slide (Lever type) / Automatic with hyd. cylinder | | NC control servo-driven type | | NC control servo-driven type | |
| 500 | | 900 / 1,000 | | 760 / - | | 1,490 | | 2,220 (op. 2,052) | |
| 8 | | - / 8 | | - | | 15 | | 8 | |
| 2.5~6.5 | | 1.3~7.85 / 2.5~6.5 | | - | | 2.5~6.5 (op. 2.5~11) | | 2.5~11 (op. 3.5~20) | |
| MT-5 (Rotating center), MT-4 (Built-in center) | | MT-5 (Rotating center), MT-4 (Built-in center) | | MT-4 (Built-in center) | | MT-5 (Rotating center / Built-in center) | | MT-5 (Built-in center) | |
| - | | ϕ90 / 100 / - | | ϕ120 / 100 | | - | | - | |
| | | | | | | | | | |
| 165 (6") 210 (8") / ϕ51 | | 165 (6") 210 (8") / ϕ51 | | - | | 250 (10") / ϕ71 | | - | |
| 5000 / 15/11 | | 5000 / 15/11 | | - | | 3,500 /15/11 | | - | |
| 910 / 310 | | 1,310/310 | | - | | 1,694 / 485.5 | | - | |
| 600 | | 1,000 | | - | | 1,208.5 | | - | |
| | | | | | | | | | |
| 2,300 | | 2,300 | | 2,100 | | 2,185 | | 2,213 | |
| 3,995 | | 4,902 | | 3,865 | | 5,050 | | 6,530 | |
| 2,130 | | 2,130 | | 1,985 | | 2,165 | | 2,165 | |
| 9,000 | | 11,000 | | 7,500 | | 9,000 | | 14,500 | |

*1) For R-side parts ejector specification, max. spindle speed is 5,000min⁻¹

*2) Optional. Please talk to your sales representative.

*3) C-axis Contouring machining is not available.

# Multitasking Machine Line-up

Nakamura-Tome

Innovation Technology
Creating Value

## ATC series


MX-100


JX-250


NTRX-300


NTRX-300L


Super NTX(W) (S)

## B-axis Turret series


NTJ-100


Super NTJ

## NTY 3-Turret series


NTY³-100


NTY³-150


NTY³-250

## WY 2-Turret series


WY-100Ⅱ


WY-150


WY-250


WY-250L

## TW 2-Turret series


TW-8


NEW TW-30

## WT 2-Turret series


WT-100


WT-150Ⅱ


WT-250Ⅱ


WT-300

## AS 1-Turret series


AS-200


AS-200L

## SC 1-Turret series


SC-100X²


SC-100


SC-200


SC-200L


SC-250


SC-300Ⅱ


SC-300ⅡL


SC-450


SC-450L


SC-450LL

Shaft Loader
**Zen-Bei**

Shaft Unloader
**Hai-Bei**

GR-203 High-Speed
**Mon-Bei**

Compact Loader

Multi-layer stocker
**Hako-Bei**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