

TAKAMAZ  
GENERAL CATALOG

ENGLISH

# De Sign

EASY WAYS  
TO REDUCE WASTE

NO! CO<sub>2</sub>

NO MORE  
OVERTIME



TAKAMAZ

# Aiming for Carbon-neutral Production

The new TAKAMAZ plant (Asahi plant) is contributing to global environmental conservation by introducing energy-saving equipment including air conditioning systems that utilize solar power generation\* and well water. ※Scheduled to be installed sequentially from 2023

## Environmental Technology Supporting Customers' Push Toward Carbon Neutrality

- **Increased energy conservation**  
(adoption of regenerative energy, high-efficiency motors)
- **More compact, increased space savings**  
Successful integration of loading units, oil mist collectors, chip conveyors, coolant temperature regulators, etc.
- **Defectives reduced by stable precision machining**
- **Cycle times shortened by speed increases**
- **Improved operability and maintainability**
- **Reduced number of structural components**



## Lineup Realizing Process Integration and Productivity Improvements

Turning + grinding



**SKV-8**

Skiving machining

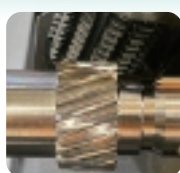
Compound machining



**XYseries**

Compound machining

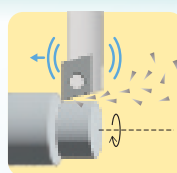
Turning + hobbing



**XT-8MY**

Compound machining

Ultrasonic vibration cutting



Chip breaking machining method

Operating system

**T-Support System®**

**TAKAMAZ OS**

**F Loader System**

**Thermony® Spimony®**

EASY WAYS  
TO REDUCE WASTE

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OVERTIME



# TAKAMAZ LINE UP

## *X series* ..... PAGE 03

**1 spindle 1 turret**

Our total production count is a proof of reliability. This is a TAKAMAZ standard that has evolved for single lathes.

## *XW series* ..... PAGE 05

**2 spindle 2 slide**

Simultaneous machining of both or the same sides of the parts for total complete process machining. The functions of two units within the space of a single unit.

## *XY series* ..... PAGE 07

**Multi-turning**

With 2 spindle and 2 turret, there are lots of possible cutting methods. Complex parts can be processed at shorter amount of time.

## *GANG TYPE series* ..... PAGE 07

**1 spindle 1 slide**

Gang type precision lathe that has honed the essentials.

## *GSL series* ..... PAGE 08

**1 spindle 1 turret**

A simple machine best in its class among manual operated machines, focusing the cost performance.

## *SKIVING MACHINE* ..... PAGE 08

**1 spindle 1 turret**

Introducing a Special Machine Specifically Designed for Skiving.

## *OPTION SYSTEM* ..... PAGE 09

## *LOADER SYSTEM* ..... PAGE 10

## *AUTOMATION SYSTEM* ..... PAGE 11

## *ADVANCED TECHNOLOGY* ..... PAGE 12

## *OPERATING SYSTEM* ..... PAGE 13

# A New System at a New Plant

We will make products tailored to individual customers' needs based on a lineup that, in addition to productivity, considers everything from production efficiency and production space to the environment, durability and future-proofing.



“Starting Point of TAKAMAZ”  
Integration of the Power of Technology.

**X**  
series



**1-spindle 1-turret**

Our total production count is  
proof of reliability.  
This is a TAKAMAZ standard that has  
evolved for single lathes.



## Standard of Single Lathes

Ideal for small part processing

**XTS-6**



**6 inch Chuck**



Received the silver award in the product  
category at the Ishikawa Ecodesign Awards 2024



**XT-6 XT-6M**



**6(8) inch Chuck**



**XT-8 XT-8M**



**8(10) inch Chuck**



Equipped with power tools  
and a Y axis

**XT-8MY**



**8 inch Chuck**



### Xseries Machine Specifications

| Item                  | Unit              | XTS-6                      | XT-6<br>Standard            | XT-6M<br>Power tool type | XT-8<br>Standard                                                                                                         | XT-8M<br>Power tool type | XT-8MY                     | XTL-8<br>8-station Specifications(Standard)   12-station Specifications(Optional) |
|-----------------------|-------------------|----------------------------|-----------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------|-----------------------------------------------------------------------------------|
| Chuck size            | inch              | Collet,6                   | Collet,6(8)                 |                          | Collet,8(10)                                                                                                             |                          | Collet,8                   | Collet,8(10)                                                                      |
| Spindle bearing I.D.  | mm                | φ75                        | φ75(φ85)                    |                          | φ100(φ120)                                                                                                               |                          | φ100                       | φ100(φ120)                                                                        |
| Spindle speed         | min <sup>-1</sup> | Max.5,000                  | Max.4,500(6,000) (3,500)    |                          | Max.3,500(5,000) (3,000)                                                                                                 |                          | Max.4,000                  | Max.4,000(5,000) (3,000)                                                          |
| Tool post type        |                   | 8-station turret           | 8-station(12-station)turret | 12-station turret        | 8-station(12-station)turret                                                                                              | 12-station turret        | 12-station turret          | 8-station turret   12-station turret                                              |
| Max. stroke           | mm                | X:120 Z:230                | X:120 Z:280                 |                          | X:190 Z:400                                                                                                              |                          | X:175 Z:420 Y:+35,-40      | X:190 Z:600                                                                       |
| Rapid traverse        | m/min             | X:18 Z:24                  | X:18 Z:24                   |                          | X:18 Z:24                                                                                                                |                          | X:18 Z:24 Y:10             | X:18 Z:24                                                                         |
| Spindle motor         | kW                | AC7.5/5.5                  | AC7.5/5.5(AC11/7.5)         |                          | AC11/7.5:φ100 3,500min <sup>-1</sup><br>(AC15/11:φ100 5,000min <sup>-1</sup> )<br>(AC15/11:φ120 3,000min <sup>-1</sup> ) |                          | AC15/11                    | AC15/11                                                                           |
| Power tool capability | Milling           | mm                         | —                           |                          | —                                                                                                                        |                          | φ16                        | —                                                                                 |
|                       | Tap               | mm                         | —                           |                          | —                                                                                                                        |                          | M16                        | —                                                                                 |
| Dimensions (L×W)      | mm                | 1,105 × 1,380              | 1,360 × 1,370               |                          | 1,600 × 1,535                                                                                                            | 1,750 × 1,535            | 1,780 × 1,685              | 1,840 × 1,930                                                                     |
| Controller            |                   | TAKAMAZ & FANUC Oi-TF Plus | TAKAMAZ & FANUC Oi-TF       |                          | TAKAMAZ & FANUC Oi-TF Plus                                                                                               |                          | TAKAMAZ & FANUC Oi-TF Plus | TAKAMAZ & FANUC Oi-TF Plus                                                        |

Can handle long shaft work  
up to 598 mm

## XTL-8

 8(10) inch Chuck



NEW



Equipped with power tools and a Y axis

## XTL-8MY

 8 inch Chuck



NEW



Equipped with power tools,  
a Y axis and a sub-spindle

## XTL-8MYS

 8 inch Chuck



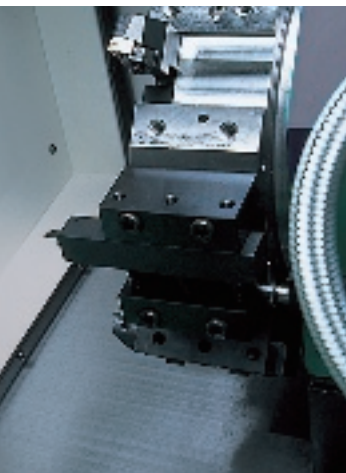
NEW



Capable of compound machining

## XTT-500 XTT-500M

 8(10) inch Chuck



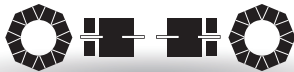
| XTL-8MY  | XTL-8MYS  |           | XTT-500<br>Standard   | XTT-500M<br>Power tool type |
|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------|-----------------------|-----------------------------|
| Collet,8                                                                                    | Collet,8                                                                                     | Collet,6  | Collet,8(10)          | Collet,8                    |
| φ100                                                                                        | φ100                                                                                         | φ75       | φ100(φ120)            | φ100                        |
| Max.4,000                                                                                   | Max.4,000                                                                                    |           | Max.4,000(3,500)      | Max.4,000                   |
| 12-station turret                                                                           | 12-station turret                                                                            |           | 8-station turret × 2  |                             |
| X:175 Z:550 Y:+35, -40                                                                      | X:175 Z:550 Y:+35, -40 A:400                                                                 |           | X:105 Z:450           |                             |
| X:18 Z:24 Y:10                                                                              | X:18 Z:24 Y:10 A:30                                                                          |           | X:18 Z:24             |                             |
| AC15/11                                                                                     | AC15/11                                                                                      | AC7.5/5.5 | AC15/11 (18.5/15)     | AC15/11                     |
| φ20                                                                                         | φ20                                                                                          |           | —                     | φ10                         |
| M16                                                                                         | M16                                                                                          |           | —                     | M4 ~ M8                     |
| 1,840 × 1,930                                                                               | 2,764 (1,840*) × 1,965                                                                       |           | 1,695 × 1,830         |                             |
| TAKAMAZ & FANUC Oi-TF Plus                                                                  | TAKAMAZ & FANUC Oi-TF Plus                                                                   |           | TAKAMAZ & FANUC Oi-TF |                             |

※ Bed width ( ) : Options.



From High Volume Machining to Heavy Cutting.  
Revolutionary Machine with 2-Spindle and 2-Slide

# XW series



## 2-spindle 2-slide

Simultaneous machining of both or the same sides of the parts for total complete process machining.  
The functions of two units within the space of a single unit.



Ideal for Small Part Processing

## XWG-3

3 inch / 4 inch Chuck



Received a Japan Institute of Design Award  
at the 54th Machinery Industrial  
Design Awards (IDEA)  
(Nikkan Kogyo Shimbun)



Integrating Various Process

## XW-60 XW-60M

6 inch Chuck



Fastest Loading Cycle in its Class

## XW-130M

8 inch Chuck



### XWseries Machine Specifications

| Item                  | Unit              | XWG-3                       | XW-60<br>Standard     | XW-60M<br>Power tool type |
|-----------------------|-------------------|-----------------------------|-----------------------|---------------------------|
| Chuck size            | inch              | Collet, 3, 4                | Collet, 6(5) × 2      |                           |
| Spindle bearing I.D.  | mm                | φ60                         | φ75 (φ65)             |                           |
| Spindle speed         | min <sup>-1</sup> | Max. 8,000 (6,000※1)        | Max. 4,500 (6,000)    |                           |
| Tool post type        |                   | Gang type (Max. 4 pcs.)     | 8-station turret × 2  | 10-station turret × 2     |
| Max. stroke           | mm                | X: 160 Z: 230               | X: 125 Z: 140         |                           |
| Rapid traverse        | m/min             | X: 16 Z: 20                 | X: 21 Z: 18           |                           |
| Spindle motor         | kW                | AC 5.5/3.7                  | AC 7.5/5.5 × 2        |                           |
| Power tool capability | Milling           | —                           | —                     | φ13                       |
|                       | Tap               | —                           | —                     | M4~M10                    |
| Dimensions (L × W)    | mm                | 1,340 × 2,130               | 1,595 (1,950) × 2,005 | 1,695 (1,950) × 2,005     |
| Controller            |                   | TAKAMAZ & MITSUBISHI M830VW |                       | TAKAMAZ & FANUC Oi-TF     |



Supporting center can be mounted

## XWT-8

 8inch Chuck



Received a JSPE (Japan Society for Precision Engineering) Monozukuri Award

NEW

Large Flange-Like Workpiece

## XW-200

 10inch Chuck



Large Flange-Like Workpiece

## XWT-10

 10inch Chuck



| XW-130M<br>Power tool type      | XWT-8  | XW-200                  | XWT-10                  |
|---------------------------------|-------------------------------------------------------------------------------------------|-------------------------|-------------------------|
| Collet, 8 × 2                   | Collet, 8                                                                                 | Collet, 10 × 2          | Collet, 10 × 2          |
| φ100                            | φ100                                                                                      | φ120                    | φ120                    |
| Max. 4,000                      | Max. 4,000                                                                                | Max. 2,800              | Max. 2,800 (4,000)      |
| 10-station turret × 2           | 8-station turret                                                                          | 8-station turret × 2    | 10-station turret × 2   |
| X:170 Z:220                     | X:150 Z:180                                                                               | X:170 Z:220             | X:170 Z:270             |
| X:24 Z:24                       | X:24 Z:24                                                                                 | X:24 Z:24               | X:24 Z:24               |
| AC11/7.5 × 2                    | AC 11/7.5                                                                                 | AC18.5/15 × 2           | AC18.5/15 × 2           |
| φ16                             | —                                                                                         | —                       | —                       |
| M4~M10                          | —                                                                                         | —                       | —                       |
| 1,990 (2,350※2) × 2,330         | 1,890 (Overall width : 2,250) × 2,187                                                     | 1,990 (2,350※2) × 2,330 | 2,030 (2,350※2) × 2,370 |
| TAKAMAZ & FANUC Oi-TD (Oi-TF※3) | FANUC Oi-TF Plus                                                                          | TAKAMAZ & FANUC Oi-TF   | TAKAMAZ & FANUC Oi-TF   |

※1. Hydraulic specification ※2. Machine width with loader spec. ※3. Optional with power tools. ( ) : Options.



TAKAMAZ Compact Machines  
Suitable for Compound Machining

XY  
series



Multi-Turning

Gang Type Precision Lathe  
That Has Honed the Essentials.

GANG TYPE  
series



1-spindle 1-slide



XG-4



XV-3

XYseries Machine Specifications

| Item                 | Unit              | XYT-51                                    |             |                                              |             |
|----------------------|-------------------|-------------------------------------------|-------------|----------------------------------------------|-------------|
|                      |                   | φ51 THRU,BMT45 specification              |             | φ65 THRU,BMT55 specification(OP)             |             |
|                      |                   | Main-spindle                              | Sub-spindle | Main-spindle                                 | Sub-spindle |
| Chuck size           | inch              | Collet,6                                  |             | Collet,8                                     |             |
| Spindle bearing I.D. | mm                | φ100                                      | φ85         | φ120                                         | φ100        |
| Spindle speed        | min <sup>-1</sup> | Max.5,000                                 |             | Max.4,000                                    |             |
| Tool post type       |                   | 12-station turret,24ST,BMT45              |             | 12-station turret,24ST,BMT55                 |             |
| Max. stroke          | mm                | X1:162.5 Z1:500 Y:±35 X2:170 Z2:500 A:550 |             | X1:162.5 Z1:500 Y:±40-35 X2:170 Z2:500 A:550 |             |
| Rapid traverse       | m/min             | X:18 Z:30 Y:12 A:30                       |             | X:18 Z:30 Y:12 A:30                          |             |
| Spindle motor        | kW                | AC18.5/15/11                              | AC9/7.5/5.5 | AC18.5/15/11                                 | AC9/7.5/5.5 |
| Power tool           | Milling           | φ13                                       |             | φ20                                          |             |
| capability           | Tap               | M12                                       |             | M16                                          |             |
| Dimensions (L×W)     | mm                | 2,988 × 2,163                             |             | 3,000 × 2,163                                |             |
| Controller           |                   | TAKAMAZ & FANUC 32i-B                     |             |                                              |             |

( ) :Options.

With 2 spindle and 2 turret, there are lots of possible cutting methods.  
Complex parts can be processed at shorter amount of time.



Sub-Spindle + Power Tools

XYT-51



6inch Chuck



High-Accuracy Turning with Built-In Motors

XG-4



4inch Chuck



Fastest Loading Cycle in its Class

J-WAVE PLUS



4inch Chuck



Integration of Diverse Processes

XV-3



3inch / 4inch Chuck



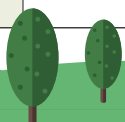
Won the Judges' Special Award at the 52nd Machinery Industrial Design Awards (IDEA)

GANG TYPE series Machine Specifications

| Item                 | Unit              | XG-4                         | J-WAVE PLUS | XV-3                          |
|----------------------|-------------------|------------------------------|-------------|-------------------------------|
| Chuck size           | inch              | Collet, 4                    |             | Collet, 3, 4                  |
| Spindle bearing I.D. | mm                | φ65                          |             | φ60                           |
| Spindle speed        | min <sup>-1</sup> | Max. 8,000                   | Max. 4,500  | Max. 10,000                   |
| Tool post type       |                   | Gang type                    |             | Gang type                     |
| Max. stroke          | mm                | X:200 Z:250                  |             | X:160 Z:200 Y:265             |
| Rapid traverse       | m/min             | X:18 Z:18                    |             | X:12 Z:24 Y:24                |
| Spindle motor        | kW                | AC7.5/5.5/3.7                |             | AC5.5/3.7                     |
| Dimensions (L×W)     | mm                | 1,506 × 1,250 (780 × 1,735*) |             | 1,600 (2,075) × 2,130 × 2,230 |
| Controller           |                   | TAKAMAZ & MITSUBISHI M80     |             | TAKAMAZ & MITSUBISHI M80      |

\*When the loader is mounted.

( ) :Options.



A Simple Machine Best in Its Class  
among Manual Operated Machines,  
Focusing the Cost Performance.

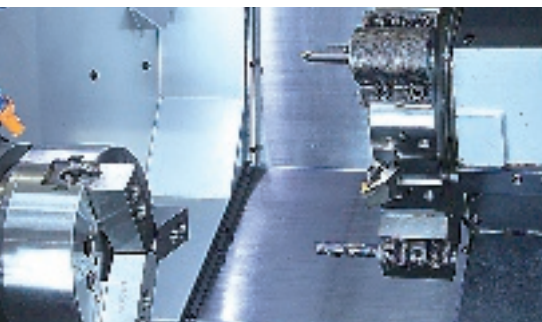
Global Strategy Lathe

# GSL

series



1-spindle 1-turret



# SKIVING MACHINE



1-spindle 1-turret

## Excellent Cost Performance



### GSL-15 PLUS

8 inch Chuck



## A Machine Specialized for Skiving Turning + Grinding on This One Machine



### SKV-8

8 inch Chuck



Limited exclusively to domestic sales in Japan

GSLseries Machine Specifications

| Item                 | Unit              | GSL-15 PLUS                            |
|----------------------|-------------------|----------------------------------------|
| Chuck size           | inch              | Collet,8                               |
| Spindle bearing I.D. | mm                | φ100                                   |
| Spindle speed        | min <sup>-1</sup> | Max.3,500                              |
| Tool post type       |                   | 8-station turret                       |
| Max. stroke          | mm                | X:175 Z:330                            |
| Rapid traverse       | m/min             | X:18 Z:24                              |
| Spindle motor        | kW                | AC7.5/5.5                              |
| Dimensions (L×W)     | mm                | 1,875 (With tailstock : 1,990) × 1,680 |
| Controller           |                   | TAKAMAZ & FANUC 0i-TF                  |

SKV-8 Machine Specifications

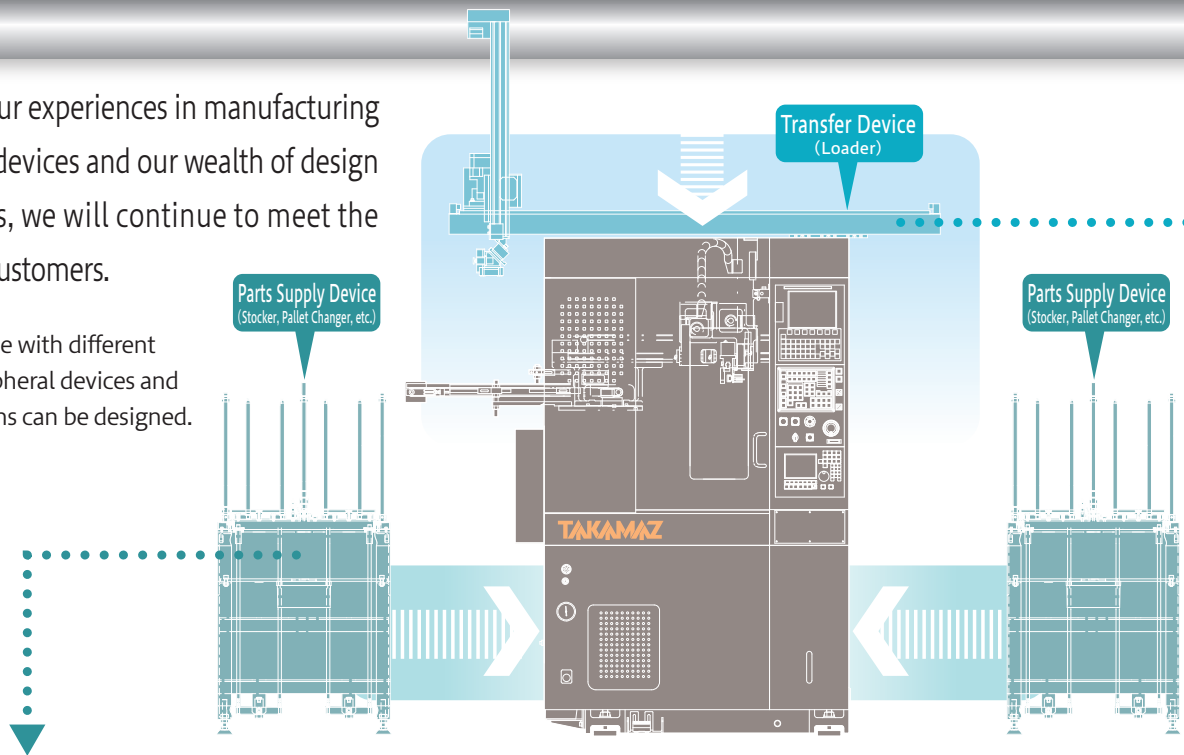
| Item                 | Unit              | SKV-8                 |
|----------------------|-------------------|-----------------------|
| Chuck size           | inch              | Collet,8              |
| Spindle bearing I.D. | mm                | φ100                  |
| Spindle speed        | min <sup>-1</sup> | Max.5,000             |
| Tool post type       |                   | 12-station turret     |
| Max. stroke          | mm                | X:150 Z:400 Y:±35     |
| Rapid traverse       | m/min             | X:18 Z:24 Y:12        |
| Spindle motor        | kW                | AC 15/11              |
| Dimensions (L×W)     | mm                | 2,270 × 1,690         |
| Controller           |                   | TAKAMAZ & FANUC 0i-TF |

Customizable for  
unique specifications

# OPTION SYSTEM

By applying our experiences in manufacturing of peripheral devices and our wealth of design achievements, we will continue to meet the needs of our customers.

A production line with different varieties of peripheral devices and loading variations can be designed.



## Automation Peripheral Devices



- **Station Stocker**  
Flexible Multi-layer stocker to accommodate different part diameter sizes.



- **Flat Stocker**



- **Stocker for Shaft Type Parts**



- **Parts Feeder**  
Workpieces can be stored together with the tray.



- **Tray Changer**  
Workpieces can be stored in individual trays.

## Quality/Environment Control Unit



- **Cleaning Unit**  
Without operator intervention, cleaning is performed automatically.



- **Measuring Devices**  
Feeds dimensional errors back to the machine to maintain high-quality dimensional accuracy.



- **Oil Mist Collector**  
Oil mist collection facilitates a clean production environment.



- **Automatic Fire Extinguisher**  
If fire breaks out in the machine during automatic operations, fire extinguishing agent is automatically discharged.

## Cutting Efficiency/Chip Disposal



- **Alloyed Clamp Holder for Vibration Suppression**  
Inhibiting the progression of wear boundary is expected to extend cutting tool life in high speed machining.



- **Chip Conveyor (Spiral Type)**  
Mounted on the rear side. Chip disposal is done semi-automatically in minimal space.



- **(Floor Type)**  
Mounted on the rear side. Chips are reliably discharged outside the machine.



- **High-Pressure Coolant**  
Constantly cooled coolant is discharged at high pressure so that the tool life is significantly prolonged.



- **Semi-Dry Machining**  
Ultrathin, highly-lubricating organic coolant is applied to the correct point on the cutting edge, realizing semi-dry machining.

# LOADER SYSTEM

Encouraged from sales of more than 65 years, with "Integral loader" design philosophy in mind, TAKAMAZ will lead the consistent support service follow up and support system built on trust, leading to increased productivity.

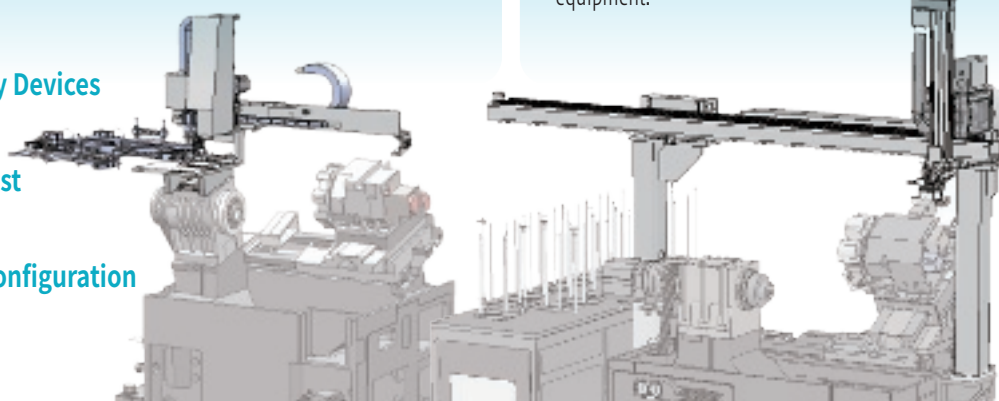
## Compact Loader

- Hi Speed Loader mounted on the machine to save space.
- A dedicated servo controller allows speedy setup.

## Gantry Loader

- Gantry-type servo loader with high rigidity.
- The traverse distance can be extended, ensuring extremely flexible line configuration and systemization of peripheral equipment.

Space Saving Accessory Devices  
Improving Durability  
Pursuing of the Low Cost  
Short Loading Time  
Flexible System Line Configuration  
Improving Operability



### For Small and Short Workpiece



Parallel Hand

### For Flange Workpiece



L Hand

### For Front and Back Cutting Workpiece



Σi GTH Hand

### For Shaft Workpiece



Pendulum Hand

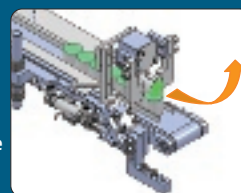
### Workpiece Delivery from Transport Unit Using a Conveyor

#### Vertically-Oriented Workpiece (For Machining the Bottom Face)



Processing Region

E Turn Device

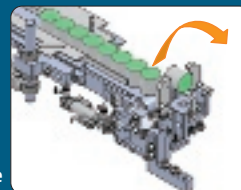


#### Standing Workpiece (For Cutting the Top Surface)



Processing Region

Y Turn Device

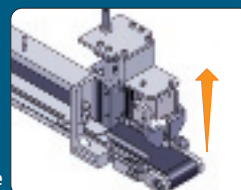


#### Horizontally Placed Small Diameter Workpiece



Processing Region

Pickup Device



## TAKAMAZ Collet Chuck



The collet chuck developed and marketed under the TAKAMAZ brand is manufactured in the factory where an integrated system is used to streamline every part of the production, from machining to heat treatment. Collet run-off accuracy conforms to TAKAMAZ standard, which is even higher than Japanese Industrial Standards (JIS), allowing us to provide our customers with exceptionally dependable products.



## ServoROT® series

### A Highly-Productive Robot System That Solves Your Problems!

This is a workpiece loading/unloading automation system that delivers the “simple operability” and “reduced setup time” required to deal with the issues posed by multiproduct, variable quantity production and the shortage of labor.

With the robot and material supply section developed as packages, the TAKAMAZ **ServoROT® series** doesn't just improve productivity but also greatly helps to reduce the burden on the operator.



### ServoROT-X1

NEW

Use of the FANUC CRX series collaborative robot, which does not require a safety fence, allows configuration of a safe and reliable supply system. In addition, the collet chuck can be changed.

\*Max. weight capacity: 20 kg

\*12-inch operation panel adopted



### ServoROT-01

A multi-layer tray is integrated as a supply device, allowing prolonged unmanned operation.



### ServoROT-00

A flat-type workpiece stocker is used to address flexible needs. The robot base is angled so as not to obstruct the space required for setup at the lathe.

#### ■ Reduces Personnel Costs

This system loads/unloads workpieces with a robot that is integrated with a tray changer. It realizes unmanned operation day and night, and improves production efficiency by maintaining machining quality, ensuring stable loading, and allowing multi-machine control.

#### ■ Wide Range of Variations

Based on this robot + tray changer system, we can meet various needs including washing units and gauging systems.

#### ■ Simple Setup

With the integrated robot + tray changer construction, setup can be completed just by teaching on site.

#### ■ Retrofitting Even to Previous Models

The system can be retrofitted to an existing machine provided there is a space of 1.8 x 0.9 meters in front of it. Consultations are welcome.

## T-ECO Support

### Environmental Considerations as Standard Specifications

#### Spindle Acceleration/Deceleration Time Fully Adjustable

The spindle acceleration/deceleration time can be adjusted as required to switch between operation that prioritizes cutting time and operation that prioritizes energy savings.



**Acceleration/Deceleration Time Adjustable as Required**  
Example with spindle acceleration/deceleration set at 80%:

Power consumption **-1%**

Cycle time **+1%**

\* According to actual values measured by TAKAMAZ

\* In lines comprising multiple machines in sequence, when there are waiting times for material loading due to differences in process cycle times, operation that prioritizes energy savings can be used effectively to achieve power savings without increasing the line cycle time.

#### 20% Reduction in Power Consumption while Machine is Stopped

An "idle stop function" that automatically stops power supply to the hydraulic pump when the machine is stopped is now incorporated. This provides a power conservation effect when the machine is stopped, such as during machine setup work.



When hydraulic pump is OFF

Power consumption

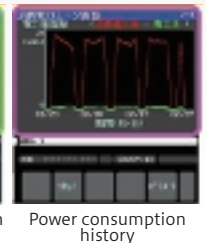
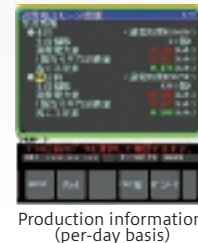
**-20%**

\* According to actual values measured by TAKAMAZ

#### Power Consumption Monitor

Energy usage can be managed at all times, including the power on time, production quantity, energy consumption, average power consumption per workpiece, and energy saving effect.

This helps to reduce the environmental load and manage running costs.



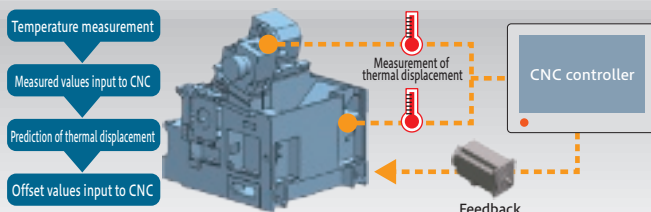
## T-Support System<sup>®</sup>

### Constantly Monitors Machines and Automatically Corrects to the Appropriate Status!

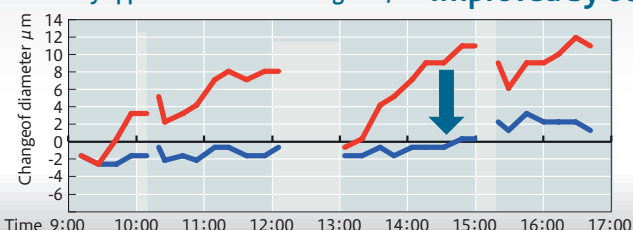
#### Thermomy<sup>®</sup> Patented

##### Thermal Displacement Compensation System

The machined dimension values change as the machine temperature changes due to the customer's conditions of use (machining conditions) and the environmental conditions (factory temperature, etc.). This system predicts the amount of thermal displacement based on the temperature changes at each part of the machine and provides compensation values to the CNC controller. In order to minimize these changes in the machining dimension values.



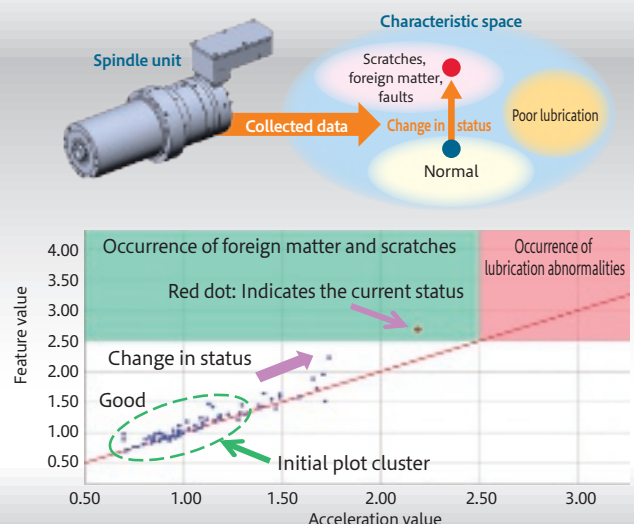
Thermomy applied - Amount of change =  $6\mu\text{m}$  Improved by 60%



#### Spimomy<sup>®</sup> Patented

##### Spindle Condition Monitoring System

The application of machine fault diagnosis methods is difficult in many cases where existing threshold values are provided, because the threshold values differ for each machine. We have addressed this issue by providing a new method of diagnosis with a spindle status monitoring system based on the "characteristic space common among machines", which is determined using characteristic quantities.



## T-Program Guide

### Programming Assistance Tool

The first requirement when mass producing parts using machine tools is setup. A lot of preparation is required, from understanding the shape of the material and creating a cutting program, to selecting and mounting the cutting tool and chuck. Unlike skilled workers, it takes time for inexperienced operators to master the know-how required for creating programs for cutting to the required accuracy in a short period of time, making full use of G-codes and so on. They will also be apprehensive about their ability to accomplish the cutting using the completed program without any interference. To address this, we are introducing an assistance function that enables even operators with little experience to create programs without errors, called the T-PROGRAM GUIDE.



XTS-6

■ Programs can be created simply by entering the necessary information in order on the screen.

#### ① Workpiece settings

Enter the stipulated information, such as the material and dimensions.



#### ② Tool condition settings

The cutting conditions are automatically selected according to the selected tool and workpiece material.



#### ③ Cutting cycle settings

Cutting cycles appropriate for the tool to be used are displayed, allowing selection without faltering.



#### ④ Simulation (MGi)

The created program can be checked through a simulated animation.



■ Functions allowing tool management and facilitating process editing are provided.

#### ● Tool management

- Input of condition settings for each program is simplified by pre-registration of tool information (material, shape, T codes, etc.).
- Cutting conditions according to tool material and workpiece material are put in a database.



#### ● Process editing

- Cycles and conditions can be checked for each process, thereby simplifying editing operations.
- Adding/deleting/replacing processes, and changing/editing cutting cycles can be done easily using soft keys.



\*T-PROGRAM GUIDE is based on the FANUC manual guide.

Compatible models XTL-8,XTS-6,XT-6M,XT-8,XT-8M,XT-8MY

## F Loader System

### Featuring Functions Unique to TAKAMAZ!

- Realizes High Productivity through Increased Loader Speed and Shorter Machine Stoppage Times

**Productivity improvement**

- Traverse axis: **MAX.160m/min**
- Vertical axis: **MAX.160m/min**



- Shorter Setup Times by Functions Unique to TAKAMAZ

**Ease-of-setup improvement**

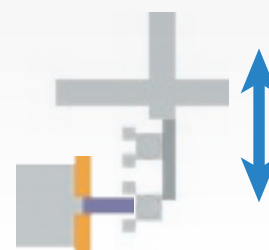
- Loader system operation can be checked safely using handle operation.
- Two types of teaching methods are available to suit various situations.

#### Loader Size Display Function



When setting up after changing the workpiece, teaching can be completed by simply setting the workpiece size.

#### Y-Axis Automatic Adjustment Function



When teaching the loader, the Y-axis position can be automatically adjusted just by repeatedly opening and closing the fingers.

- Loader Speed Optimization Function for Energy Savings and Longer Service Life

**Energy saving functions**

- By automatically optimizing the speed of the loader, loader energy savings and a longer loader service life are achieved.

- In Addition to a Touch Panel Giving Exceptional Loader Operability, a Servo System Made by FANUC Is Adopted.

## TAKAMAZ OS

### TAKAMAZ Technology Aids Productivity

- Functions for Better Working Efficiency in Addition to Conventional NC Screens
- Work Simplified by Automation of Operations and Network Function

#### Better Working Efficiency

Operator working efficiency improved, reducing production stoppage time



##### Keeping Track of Production Progress

Production count and tool usage count can be determined at a glance.

##### Display of Start Conditions

Operations to prepare for starting can be performed quickly.

##### Machine Stoppage Warning

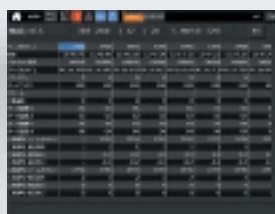
Advance warning of the next machine stoppage is displayed based on the workpiece count, etc.

##### Camera Image Display (Option)

Makes it possible to check areas that are difficult to see, like the rear section of the machine.

#### Quality Control

Storing of traceability information per workpiece to assist quality control



The status of the machine during machining and can be checked and the information can be used for quality control and preventive maintenance.

##### Examples of Traceability Data

Times, motor temperatures, cycle times, program numbers, tool wear offsets, etc.

#### IT & IoT

Programs can easily be input and output between machines via the network.



##### Simple On-Screen Input/Output

No need to move between machines

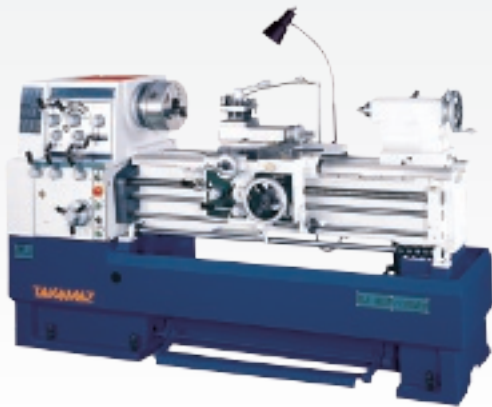
No need for USB flash drives

No need for an external computer



## F.T. Japan Inc.

F.T. Japan imports machines manufactured by FEELER, ECOCA, and LEADWELL from our affiliate FFG Group (Taiwan), the world's third-largest general machine tool manufacturer, and sells them.



### ■ General-Purpose Lathe SJ460 × 1000G

This is a general-purpose lathe manufactured by ECOCA. It has excellent cost performance and is available in a wide range of sizes. The apron handle position can be selected from either the left or right sides. Slides are hardened/polished. Equipped with an auto-feed stopper ring, machining that meets your needs can be accomplished.

Equipment sold by the TAKAMAZ Group will be fully supported by the TAKAMAZ service network.

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