SERIES

CNC 1 SPINDLE 1 TURRET PRECISION LATHE

TAKAMAZ

Making Workpieces that Fit into the Palm of a Hand

There are needs to advance automation while further increasing part productivity with more stable quality. Since minor stops and trouble are unacceptable, functions that give automatic notifications regarding preventative maintenance are needed, thereby reducing impediments to operation. There are also needs to utilize existing floor space more effectively. To do this, equipment that saves more space is required. The answer to such needs is our XT Series.

With a total of over 30,000 units sold, their stable quality and scalable customizability have been well received, and they continue to evolve. If you haven't yet decided whether or not to introduce the XT series to your factory, ask an aquaintance in the industry about their impression on using TAKAMAZ products.

XT series

CNC 1 SPINDLE 1 TURRET PRECISION LATHE

1-spindle 1-turret

■Improved user-friendliness, down to the smallest detail
■Improved resilience with reduced thermal displacement
■New loader model <F Loader> installed
■Operating system incorporated (F loader specifications)

XTS-6

NEW

Chuck size | Number of turret stations | Spindle indexing (electrical/mechanical) | CE type | Environmentally friendly design

XTS-6 with compact F loader installed

XT-6

Chuck size | Number of turret stations | Spindle indexing (electrical/mechanical) | Tailstock | CE type | Environmentally friendly design

XT-6

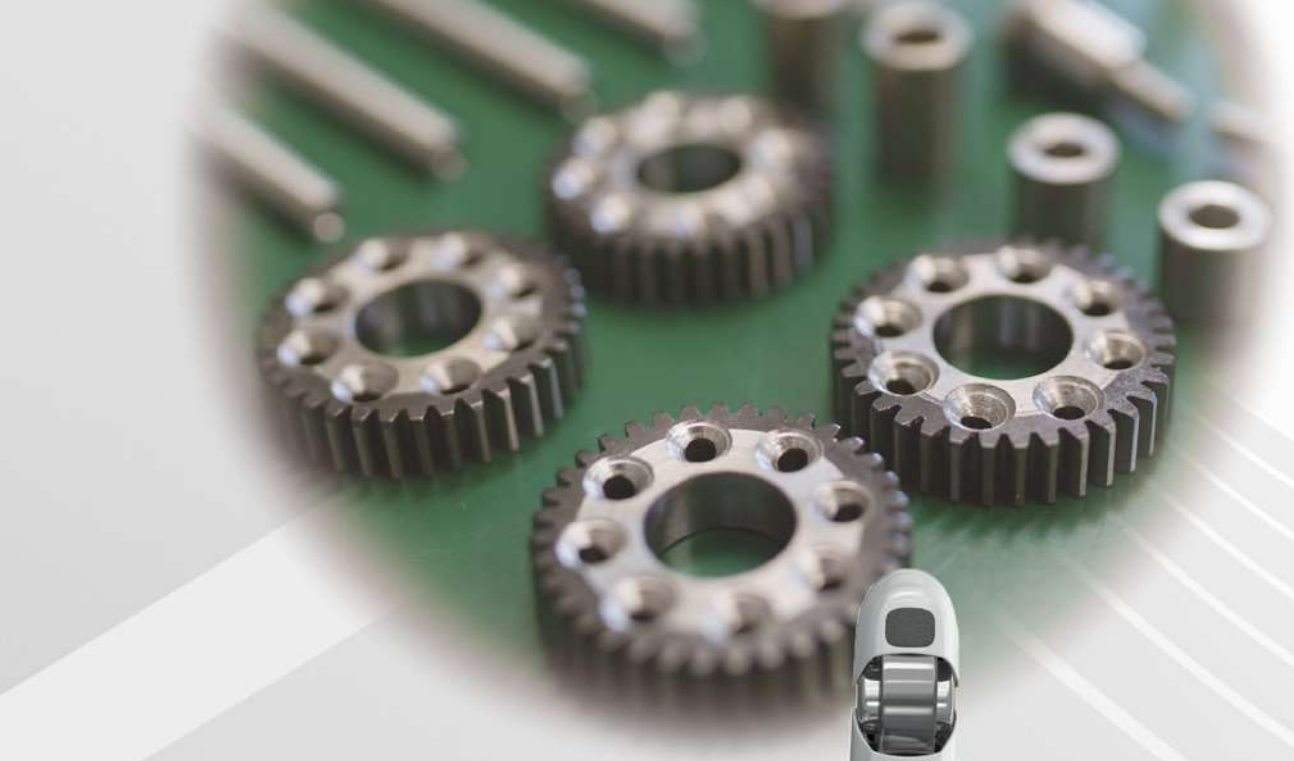
XT-6 with compact F loader installed

XT-8

Chuck size | Number of turret stations | Spindle indexing (electrical/mechanical) | Tailstock | CE type | Environmentally friendly design

XT-8

XT-8 with gantry F loader installed



Completed in One Chucking

Complete parts on one machine with mill/turn cutting in addition to turning. This is the basic concept of process integration. With our record of stable high-quality machining, it is a field where TAKAMAZ excels. These machines are suited to process integration needs including boring, tapping and milling, along with machining inclined faces using Y-axis control and drilling slanted holes.

We can also provide maintenance software that allows even inexperienced operators to complete setup without any mistakes using interactive programming.

XT series

1-spindle 1-turret

CNC 1 SPINDLE 1 TURRET PRECISION LATHE

- Features high-level power tool capabilities (BMT turret) (XT-8M/8MY)
- Full range of units to support shaft work
- New loader model <F Loader> installed
- Operating system incorporated (F loader specifications)

XT-6M

Chuck size | Number of turret stations | Power tool | Spindle Cs-axis indexing | Tailstock | CE type | Environmentally friendly design

XT-6M

XT-6M with compact F loader installed

XT-8M

Chuck size | Number of turret stations | Power tool | Spindle C-axis indexing | Tailstock | CE type | Environmentally friendly design

XT-8M

XT-8M with gantry F loader installed

XT-8MY

Chuck size | Number of turret stations | Power tool | Y-axis control | Spindle Cs-axis indexing | Tailstock | CE type | Environmentally friendly design

XT-8MY

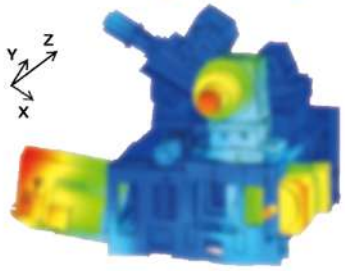
XT-8MY with gantry F loader installed

Dynamic Performance

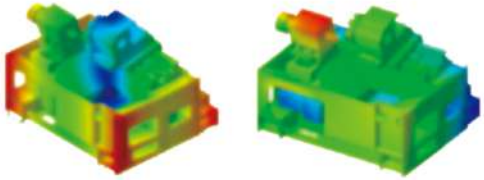
Bed Construction Resistant to Thermal Displacement

●The rigid bed construction developed using FEM analysis ensures that dimensions can be managed reliably in environments with large temperature changes.

Designed for thermal rigidity using FEM analysis



Optimized internal construction of the bed
Amount of thermal displacement in X-axis direction
: 40% lower than existing machines (XT-8/8M)



Bed with 100 kg more mass
Ideal rib construction achieved (XT-6/6M)

●A new specification capable of delivering high torque when machining in the medium- and low-speed ranges is added. (Spindle bearing I.D. ϕ120 mm) Equipped with a large-diameter chuck targets the cutting of large-diameter workpieces, this model offers heavy-duty cutting capabilities when machining at medium and low spindle speeds. (XT-8/8M)

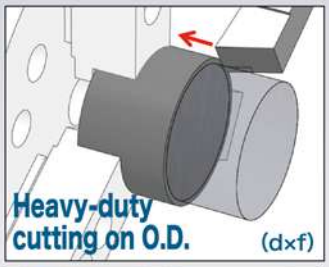
Equipped with a Built-in Spindle Motor (option), Halving Spindle Acceleration/ Deceleration Time (XT-6/6M)

Specifications
- Motor specifications: 11/7.5 kW (FANUC)
- Chuck size: 5"
- Max. rotating speed:8,000min^{-1}

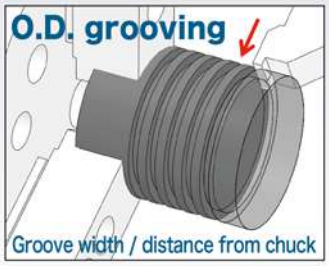
Spindle acceleration/deceleration time
Built-in spindle (8,000min^{-1}) 4,500min^{-1} : 0.72s
Standard specification (4,500min^{-1}) 4,500min^{-1} : 1.53s

XT-6

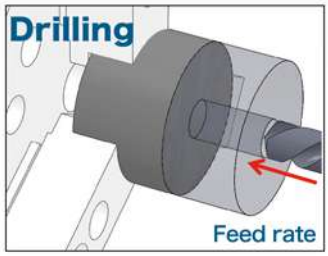
Depth of cut: 4 mm
Feed rate: 0.4 mm/rev
Cutting cross sectional area: 1.6mm^2
(for short-term rating)



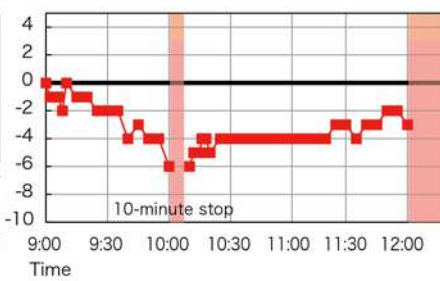
Depth of cut: 4mm
Feed rate: 0.1mm/rev
Groove width: 5mm
Distance from chuck nose: 100mm



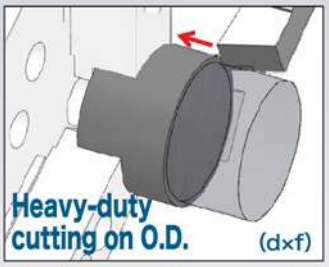
Drill diameter: 25mm
Feed rate: 0.3mm/rev



Change in diameter for workpieces requiring continuous machining (XT-6)

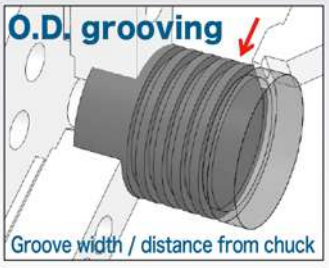


* In the environment inside our plant

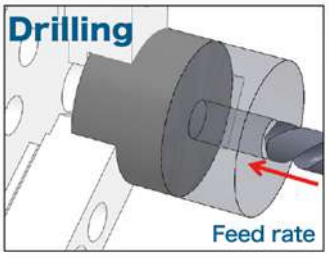


XT-8MY

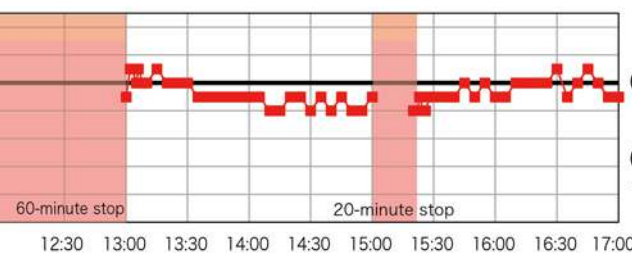
Depth of cut: 5mm
Feed rate: 0.4mm/rev
Cutting cross sectional area: 2.0mm²
(for short-term rating)



Depth of cut: 7mm
Feed rate: 0.1mm/rev
Groove width: 5mm
Distance from chuck nose: 94mm



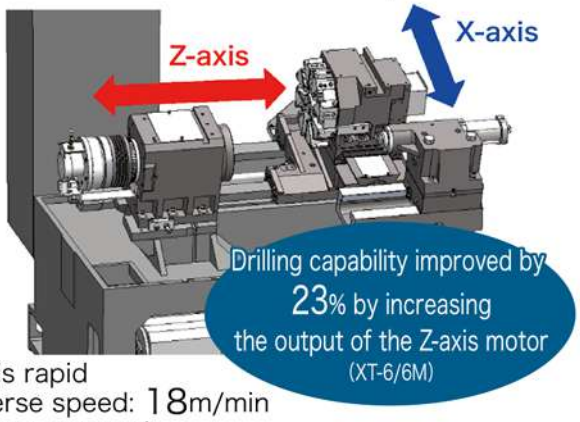
Drill diameter: 25mm
Feed rate: 0.28mm/rev



Change over time
7μm
Change during 1-hour break
2μm

High Speed

Increased rapid traverse speed (XT-6/6M)



X-axis rapid traverse speed: 18m/min
(XL-100 12m/min)
Full stroke back and forth travel time: 26% faster
(compared to XL-100) (-0.13s)
Z-axis rapid traverse speed: 24m/min
(XL-100 18m/min)
Full stroke back and forth travel time: 23% faster
(compared to XL-100) (-0.15s)

Spindle acceleration/ deceleration time (XTS-6)

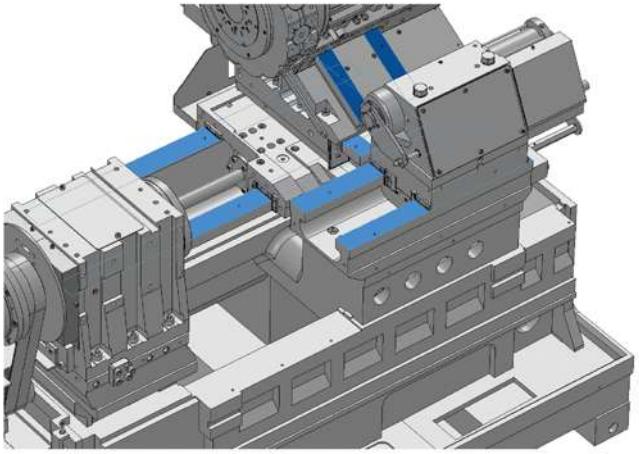
(To 4,500 min-1)
Spindle acceleration time: Shortened by 35% (comparison with existing model)※1
Spindle deceleration time: Shortened by 25% (comparison with existing model)※1
(compared to XC-100)

※1 Comparison at the maximum spindle speed of the existing model, 4,500 min-1

Improved Durability

X, Z, Y and Tailstock Axes All Use Square Box-way Slides (XT-8MY)

●The square box-way slide construction reputed for its rigidity is adopted on all axes, so high accuracy can be maintained even over long periods of use. And equipping offset management systems including a thermal displacement compensation system (Thermony) and spindle base cooling has enabled even more stable control of dimensions.



Basic Performance

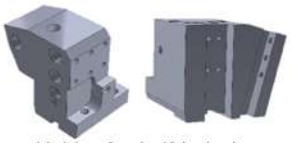
Mill/Turn Cutting

Improvements in productivity are achieved with power tool drive motor outputs of AC 5.5/3.7/2.2 kW and a milling unit with a maximum tool size of ϕ20 mm. (XT-8M/8MY)

Adoption of BMT Turret

The bolt mounting system (BMT55) is used for the turret, allowing quicker setups. The turret half-indexing mechanism allows up to 24 tools to be mounted, making it possible to shorten setup times. (XT-8M/8MY) (A maximum of 12 power tools can be mounted.)

BMT55
Maximum tool size: ϕ20 mm



Holder for half-indexing

- Ability to accommodate diverse tooling layouts with full lineup of attachments
- Improved repeat accuracy in holder mounting
- Half-indexing support for mounting tools at up to 24 stations

Operability

In addition to the conventional FANUC operating functions, functions optimal for machine automation are equipped. Support functions are added to allow manual cutting for tool alignment to be performed safely and easily. In addition, the traceability function helps with preventive maintenance by automatically saving operating statuses.

Operation System Integrating PC Functions and IT Technology

(Supports F Loader Specifications)

TAKAMAZ OS Home screen

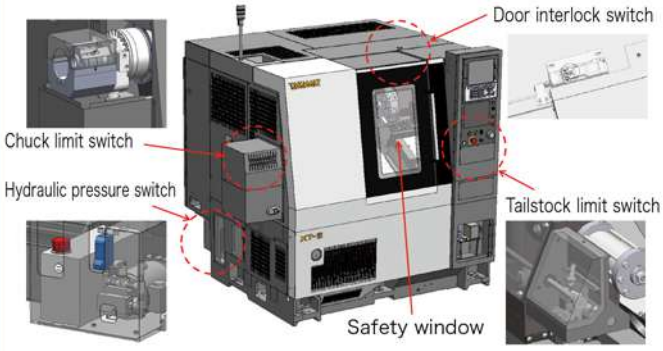
- PC with a 10.4-inch panel suited to TAKAMAZ products adopted
- Convenient functions featured in consideration of automation and ease of setup
- Improved working efficiency utilizing IT and IoT technology

Home screen for advance notification of the causes of production stoppages

Traceability information on each workpiece stored in the unit

Safety Performance

By equipping the door interlock function, the machining chamber is completely isolated and therefore safety is enhanced.



This machine conforms to safety standards (JIS B 6031:2014).

Maintenance and Setup Changes

An adjustable-stroke hollow chucking cylinder is equipped as standard. Multiple types of chucks can be mounted without changing the cylinder. And because the cylinder is hollow, it can also accommodate bar stock.

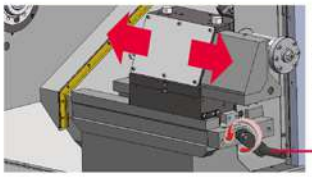
A chuck clamping confirmation device is equipped as standard to prevent accuracy errors and the workpiece from flying out due to misclamping, so machining can be carried out safely.

Faults of the hydraulic unit equipped with a chuck pressure switch as standard are detected, eliminating danger.

Reduced Operator Workload when Cleaning the Machine (Bed with Tailstock Spec.) (XT-8/8M)

There is a flat part. ➡ Chips accumulate easily.
Eliminate flat sections and provide a slope.
➡ **Chips do not accumulate easily on the bed.**

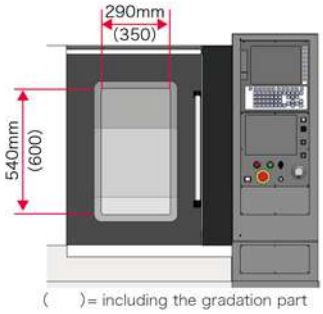
Tailstock slide simple movement unit (XT-8/8M/8MY)



Turn the handle to move the tailstock slide.
➡ **Saves labor in setup work**

Tailstock handle

Improved Visibility in the Machine (XT-8/8M/8MY)



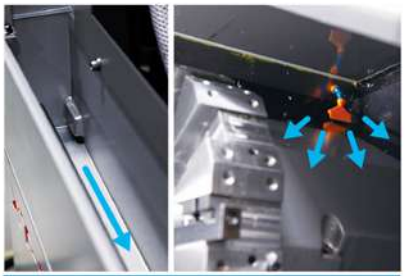
( )= including the gradation part

Safety window equipped as standard (resistant to scratches by chips)
Expanded door window area ➡ **Improved visibility**

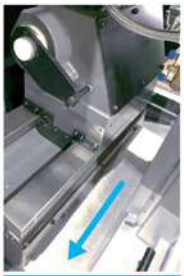
Coolant Circuit Extended

- Installed on the door lower cover (XTS-6, XT-8/8M)
- Installed on the top part of the turret housing (XT-8/8M)
- Installed on the sheet metal skirt inside the machine (XT-8MY)
- Prevents accumulation of chips and shortens machine cleaning time (lightening the operator's workload)

A chip flushing circuit is provided as standard.



XT-8/8M



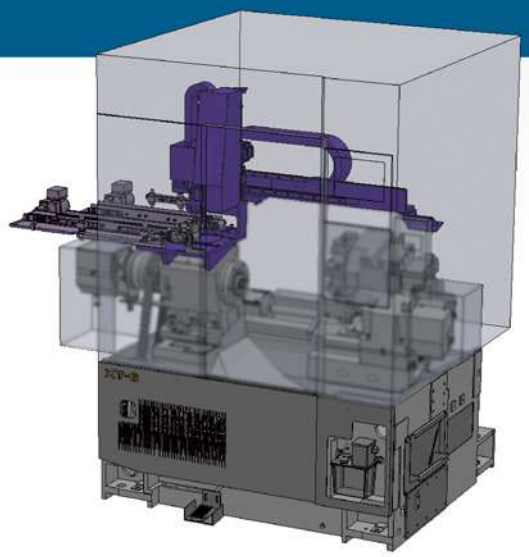
XT-8MY

Green Technology equipped as Standard

Reduced Energy Consumption to Achieve Carbon Neutrality (XTs-6)

- 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.
- The spindle acceleration/deceleration time can be adjusted as required to switch between operation that prioritizes machining time and operation that prioritizes energy savings.
  ※ 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.
- With F loaders, the regenerative energy generated during deceleration is returned to the power supply and can be used by other units and machines to achieve power savings. (Σi loaders employ a resistance regeneration system.)
- The F loader speed optimization function aims to save energy and prolong service life. The loader itself learns and automatically adjusts its speed outside the machine to meet the requirements without affecting the cycle time. The loader speed optimization function can be switched ON and OFF.

Operation Rate of 100%



Compact loader

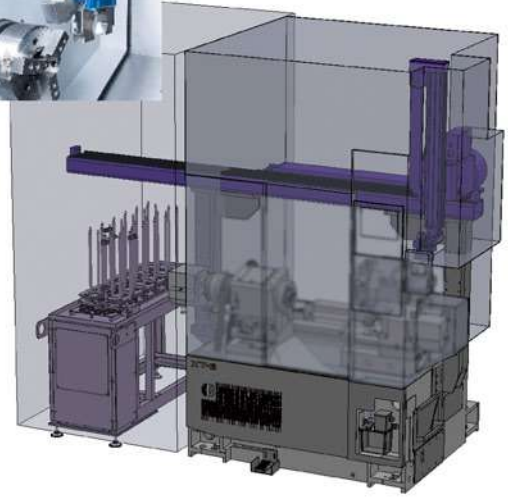
This is a compact loader that is installed by making use of the space above the machine. It achieves high-speed loading by maintaining a path with the shortest distance between the loader finger and the machine chuck.

Item			ΣiC60	FC60※	ΣiC80
Compatible models		Unit	XTS-6・XT-6/6M	XTS-6・XT-6/6M	XT-8/8M
Transferable workpiece dimensions (reference values)	Diameter	mm	ϕ60	ϕ60	ϕ80
	Length	mm	50	50	70
	Mass (one side)	kg	1.0	1.0	1.5

※With the F loader specification, the NC unit is installed with a touch-panel screen and Windows PC.

Gantry loader

The loader type that is handy for automating production lines is the gantry loader. It also has a wide range of hand shapes and can be operated in tandem with peripheral devices.



Swivel hand

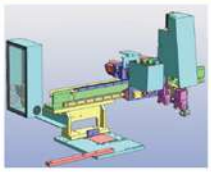
Derricking hand

Hand for shaft work

Item			ΣiGH80	ΣiGH80 (High-speed type)	FGH	
Compatible models		Unit	XT-6/6M	XT-6/6M	XTS-6 XT-6/6M	XT-8/8M XT-8MY
Transferable workpiece dimensions (reference values)	Diameter	mm	ϕ80	ϕ80	ϕ80	ϕ150
	Length	mm	60	60	60	50
	Mass (one side)	kg	1.5	1.5	1.5	1.5

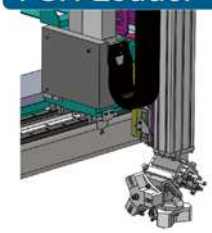
※The figures differ for each loader hand. The table shows values for swivel hands for reference.

FC60 Loader



▶Rapid traverse speed
Travel axis: 120m/min
(Existing models 84m/min)
Vertical axis: 120m/min
(Existing models 74m/min)

FGH Loader

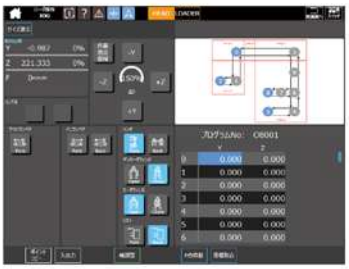


▶Rapid traverse speed
Travel axis: 160m/min
(Existing models 155m/min)
Vertical axis: 160m/min
(Existing models 125m/min)

Touch Panel
Installed with Windows. Equipped with automatic teaching function, etc.

For better usability, FANUC operations are used both for control of the machine itself and of the automation units. We also offer reliable and trustworthy automation systems, with features like the handle retrace function to improve the efficiency of setup work.

Control System with Very Convenient Setup Operations



F Loader operation screen

■FANUC touch panel and servo system used
Using one controller manufacturer improves maintainability.

■Easy-to-understand loader setup, even for novices
The handle retrace function enables confirmation of operations with a high level of safety.

■NC programs adopted for loader operation
Standard G codes/M codes and macros are used.

Supply Devices

Supply devices temporarily stock the workpiece material and completed products. They realize labor savings by working in tandem with the loader. Various types are available to suit the workpiece shape and installation footprint. In addition, there are also tray changers that can exchange entire trays, and conveyors that operate in tandem with the previous and next processes.

■Transfer conveyor
■Various stockers
■Tray changer
■Positioning device
■Transfer shuttle
■Parts feeder
■Turnover unit

Tray changer

Rotary stocker

■IN/OUT conveyor

Measuring and Cleaning

■Various measuring devices ■Cleaning unit ■Deburrer

TAKAMAZ provides systems that automate the whole sequence of workpiece transfer → measurement and inspection → corrective machining → sorting good products. Among such automation equipment, our automated measuring devices have seen increasing demand year after year, and they allow users to maximize productivity and achieve the required machining capabilities. The device itself is placed next to the lathe, and non-contact laser system and touch probe types are available for selection according to the cost and required accuracy. The accumulated measurement data can also be utilized as necessary.

■Suppresses causes of non-uniformity
■Enables machining of 100% good products
■Allows automatic measurement + corrective machining within lines
■Allows high-efficiency, high-accuracy machining
■Assures traceability of machining data

Customization

Search
Let's look together for the answers you seek.

Only one
Easier to use

Just for you

Manufacturing continually evolves with no limits.
In each field, products are created utilizing unique technologies.
TAKAMAZ offers customization to meet all needs.
We will provide a product tailored to
your needs from an infinite number of pieces.

Request
Tell us your requirements.

New vision
Making products with a shared future vision!

Collet Chucks

TAKAMAZ also manufactures collet chucks. We do this in a plant specialized for that purpose, using machining methods honed over many years, and undertaking everything from machining to heat treatment and grinding. TAKAMAZ collet chucks boasting robust spring characteristics, wear resistance and high accuracy are able to grip all kinds of workpieces. TAKAMAZ also manufactures special orders according to your requirements.

Bar Feeder

This equipment is for automatically supplying long pieces of bar stock. By automatically feeding bar stock into the machine in tandem with the NC lathe, a large volume of products can be output in unmanned operation over a long time with no need to stop machining, making it possible to greatly improve production efficiency in the plant.

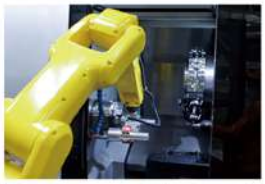
Example of use: XT-8 + bar feeder
(ALPS TOOL)

Unloader

Unloads fully machined workpieces safely outside the machine.

Bucket type for feeder devices

Robots



Example of use : ServoROT-00

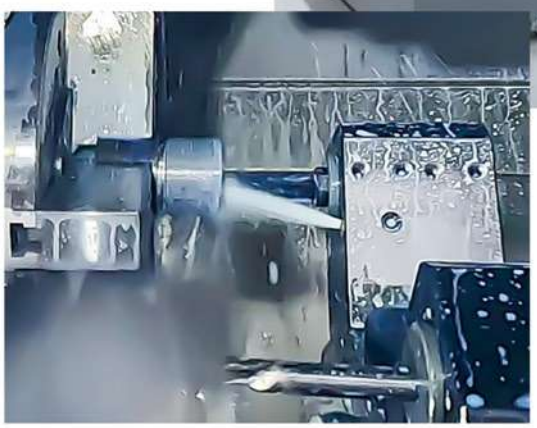
Along with growing needs for production automation, the variety of labor-saving systems is also growing. The articulated robot in the photograph is characterized by a high range of freedom, allowing unique production lines to be built. TAKAMAZ has a department that specializes in FA systems, where full-time system integrators propose labor-saving solutions, both new and remodelled.

Tailstock

- The unit equipped to improve the coaxiality, roundness and deflection of shaft workpieces is the tailstock.
- Square slideways are adopted on all axes to achieve a highly rigid structure.
- Supports machining of long shafts of up to 370 mm in length.(XT-8)

High-Pressure Coolant

Pressurized coolant is discharged from high-pressure nozzles to forcibly expel chips in order to prevent damage to tools.
It can also be expected to extend tool life.



Steady Rest

When machining shaft work, sometimes a self-centering steady rest is necessary. Coolant can be discharged from its nose to reduce the incidence of rollers or workpieces becoming defective due to trapped chips, etc.

Mist Collector

This device collects oil mist generated by machining. It is an environmental equipment that collects oil particles from the oil mist exhausted during machining and expels clean air.
The oil particles contained in oil mist is hamful to the human body, but adverse effects on operator health can be prevented by taking out the oil particles, and this also prevents effects on other production equipment.

Example Installation

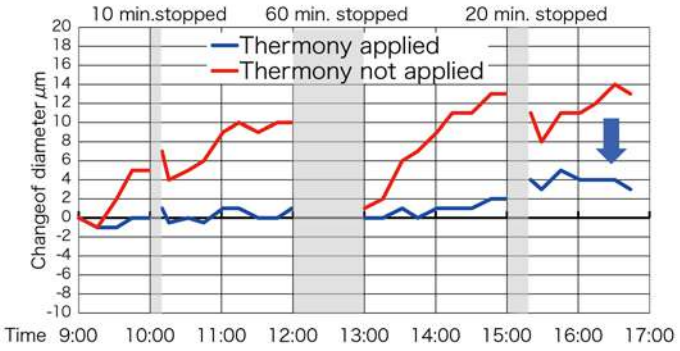
Example of use : XY-120 PLUS + Mist collector(Showa Denki Co., Ltd.)

In addition, a full range of options are available. For details, ask our sales personnel.

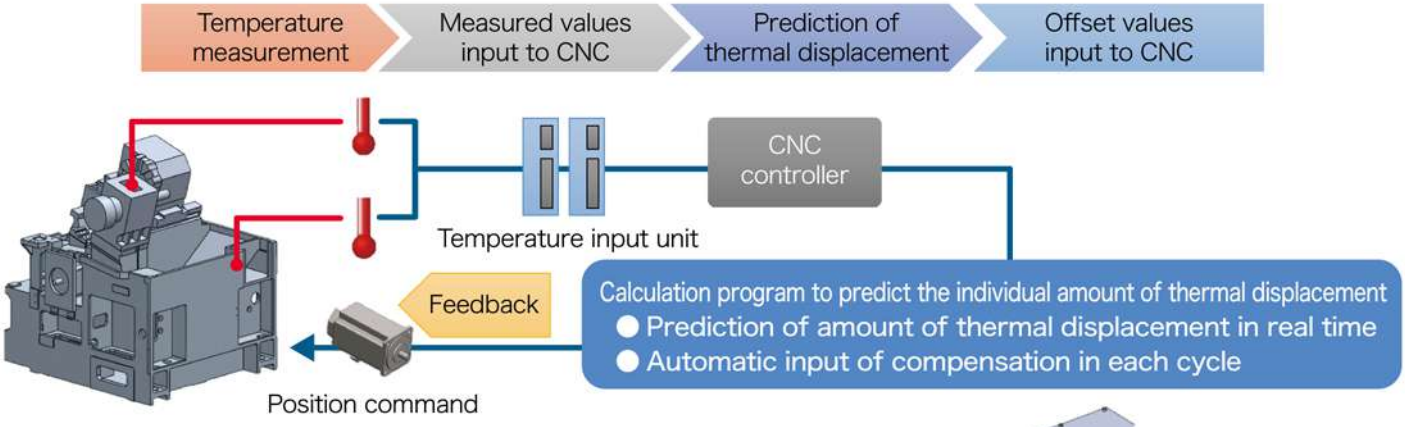
Thermony Thermony®

The machined dimension values change as the machine temperature changes due to the user'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 various sections of the machine and provides compensation values to the CNC controller in order to minimize affects on the machining dimension values. When Thermony is not applied, the amount of change in the machined diameter over 8 hours is 15 μm, but when it is applied the amount of change is suppressed to 6 μm, exhibiting an improvement of 60%.

Evaluated machine: X Series 6-inch machine (machine for in-house evaluations)
Ambient temperature: Temperature rise of 5°C over 3 hours starting at 9:00
: Rapid change in temperature by 3°C over a short time



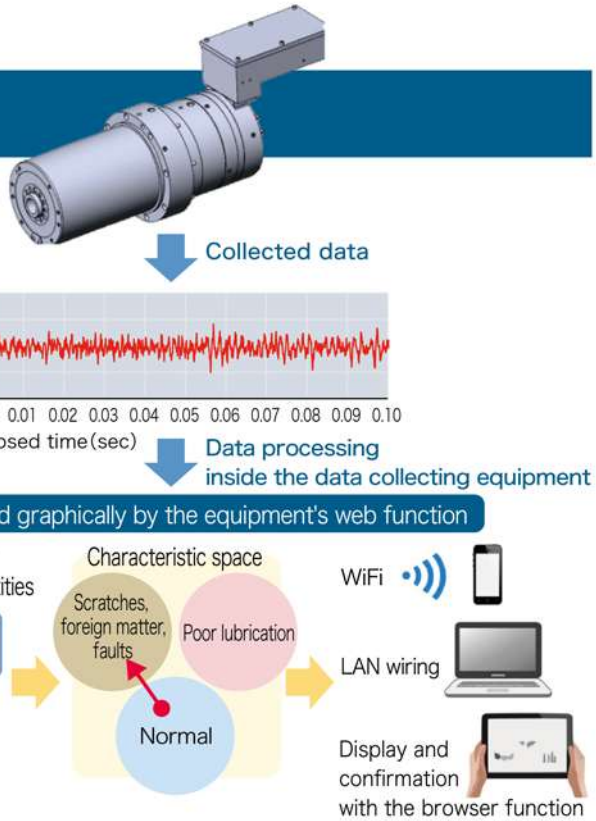
Thermony not applied - Amount of change = 15 μm
Thermony applied - Amount of change = 6 μm (improved by 60%)



Spimony Spimony®

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.

Data on the acceleration signals generated when faults occur on spindles are processed in data collecting equipment to calculate such characteristic quantities. The characteristic space based on these characteristic quantities allows us to understand the status of spindles and can help with preventive maintenance by giving warning signs about damage.

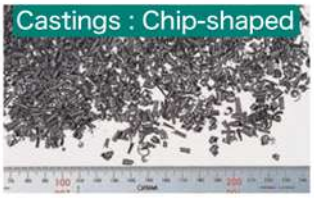


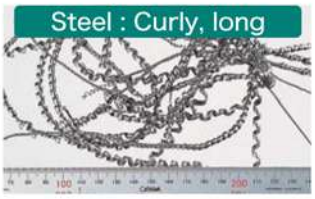
How to Select a Chip Conveyor

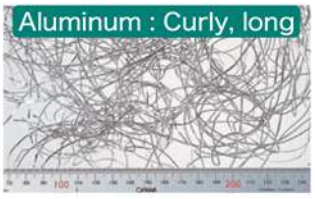
A variety of chip shapes are generated depending on the cutting conditions and workpiece material. If they are left they accumulate inside the machine, they can obstruct machining or get inside the machine, and in the worst case this can lead to the machine being stopped by a fault. A chip conveyor can prevent and eliminate such problems. We offer a lineup of chip conveyor models matched to a variety of machines. Please select the equipment that suits your application.

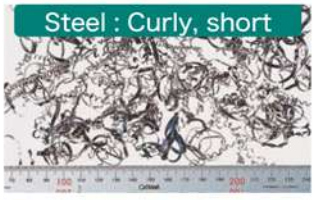
Spiral Type

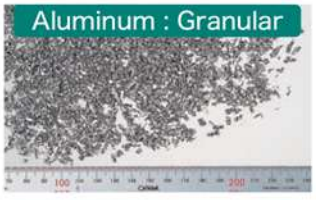
Floor Type

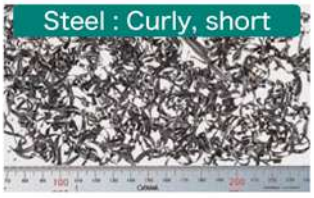


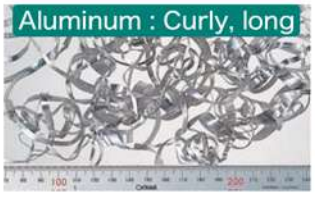












Equipment Compatibility Table

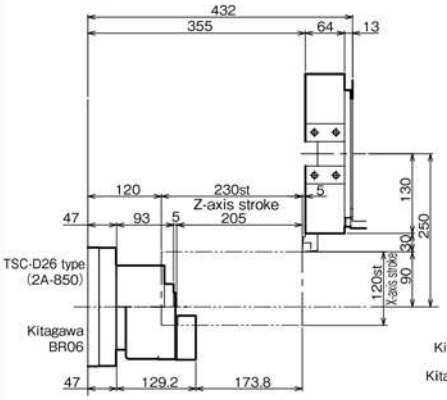
✓: Can be used
—: Cannot be used

	Magnetic						Non-magnetic						
	Steel				Castings		Aluminum				Brass		
	Curly, long	Curly, short	Chip-shaped	Needle-shaped Granular	Chip-shaped	Needle-shaped Granular	Curly, long	Curly, short	Chip-shaped	Needle-shaped Granular	Curly, short	Chip-shaped	Needle-shaped Granular
Spiral	✓	✓	—	—	—	—	—	—	—	—	—	—	—
Floor	✓	✓	✓	—	—	—	—	—	—	—	—	—	—
Scraper	—	✓	✓	✓	✓	✓	—	✓	✓	✓	✓	✓	✓
Magnet scraper	—	✓	✓	✓	✓	✓	—	—	—	—	—	—	—
Drum filter scraper	—	—	—	—	—	—	—	✓	✓	✓	✓	✓	✓
2-stage (drum + floor)	—	—	—	—	—	—	✓	✓	✓	✓	✓	✓	✓
Magnet roller	—	✓	✓	✓	✓	✓	—	—	—	—	—	—	—

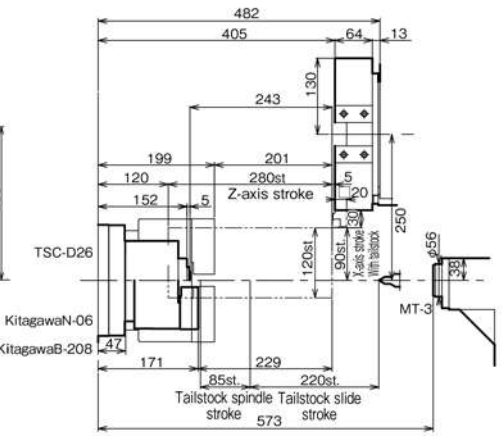
XTS-6/XT-6

Stroke-Related Drawing

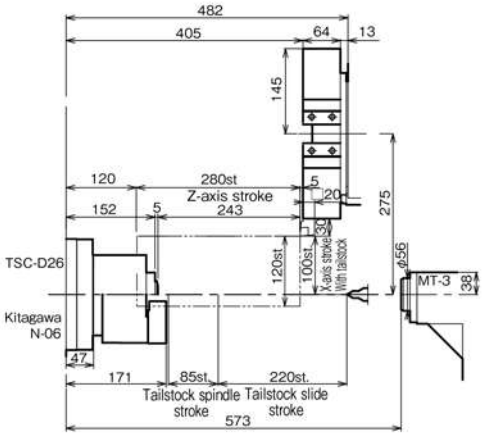
XTS-6
■8-station turret



XT-6
■8-station turret

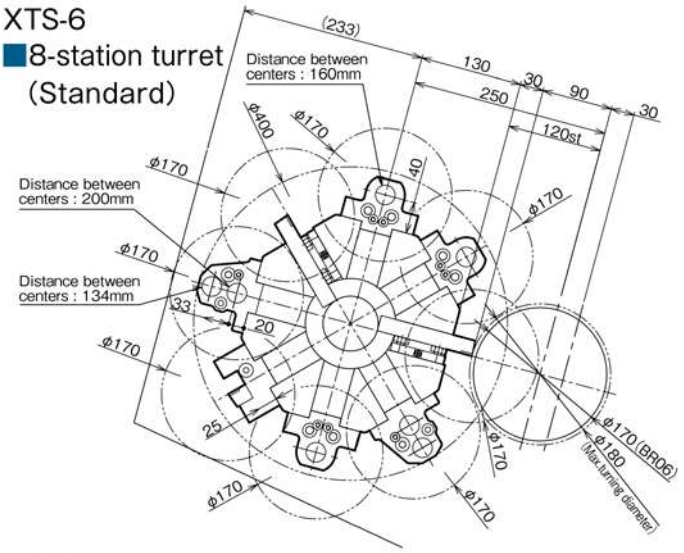


XT-6
■12-station turret

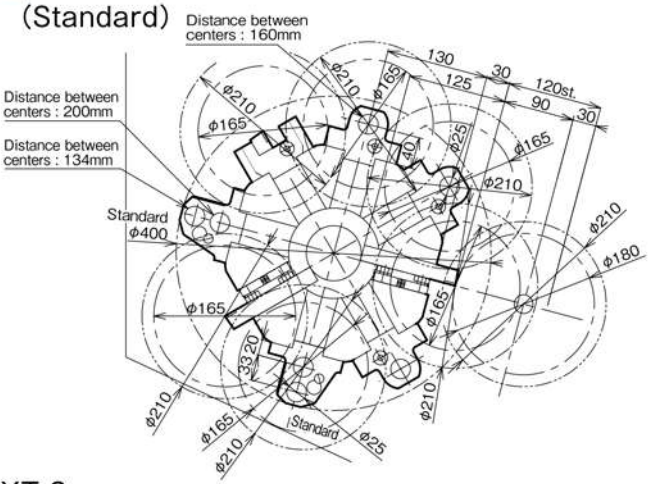


Turret Interference

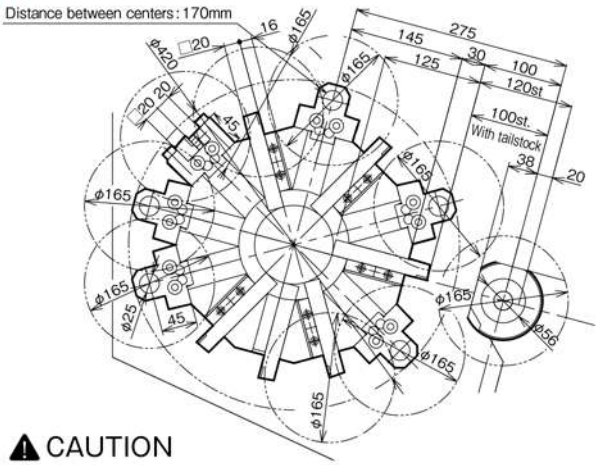
XTS-6
■8-station turret
(Standard)



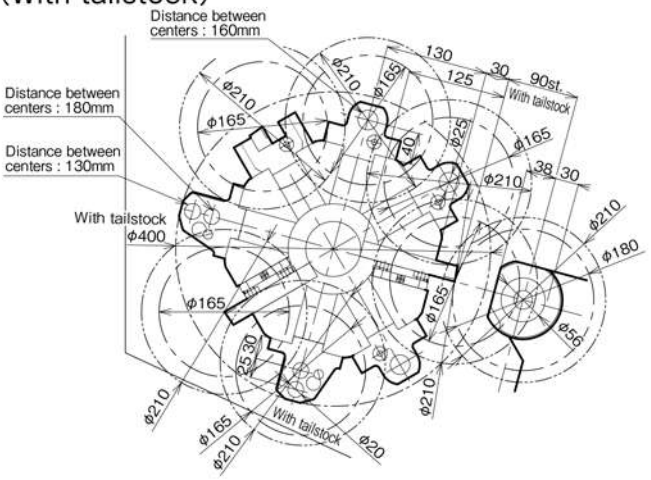
XT-6
■8-station turret
(Standard)



XT-6
■12-station turret



XT-6
(With tailstock)



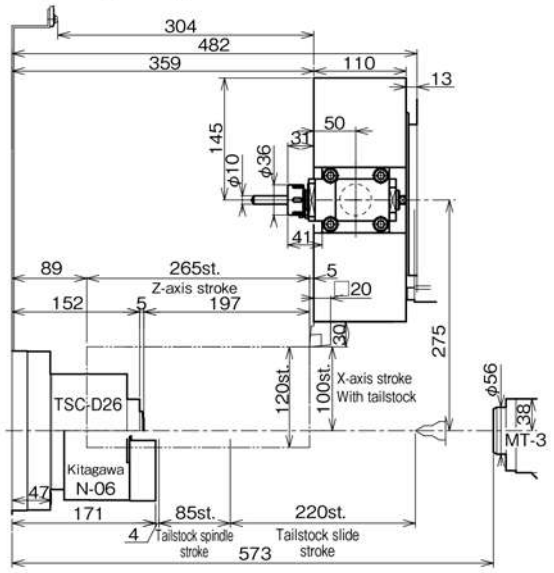
⚠ CAUTION
The figure above shows the tooling when an OD(reverse)cutting tool (20 sq.)is mounted.
When an OD(normal)cutting tool is mounted, the tool size is limited to 16 sq.

Unit (mm)

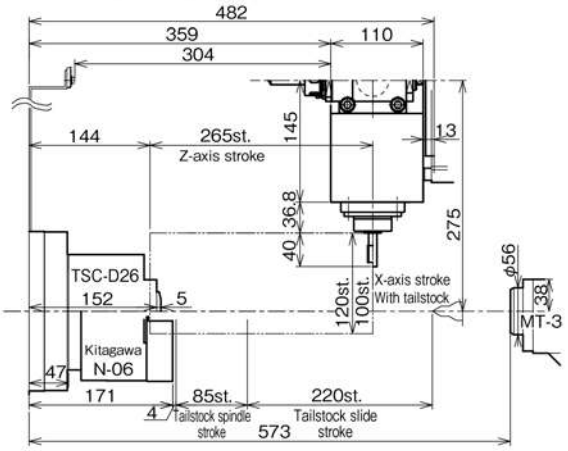
XT-6M

Stroke-Related Drawing

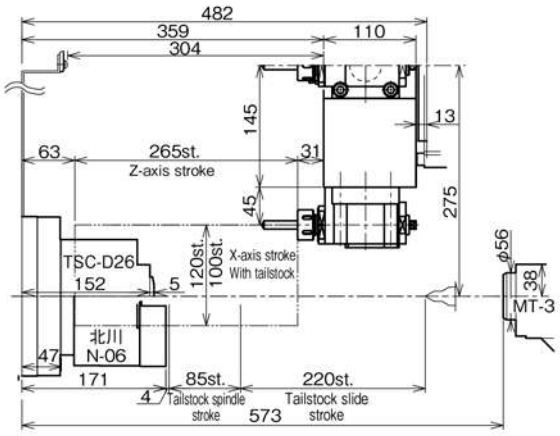
■O.D. turning range



■Side milling range

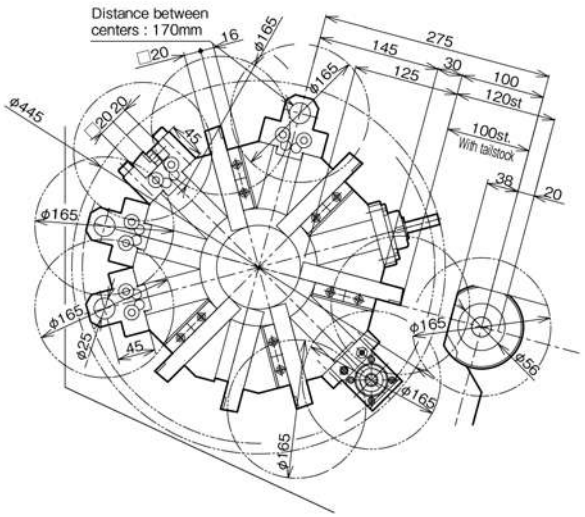


■Face milling range



Turret Interference

■Power Tool type
12-station turret



⚠ CAUTION

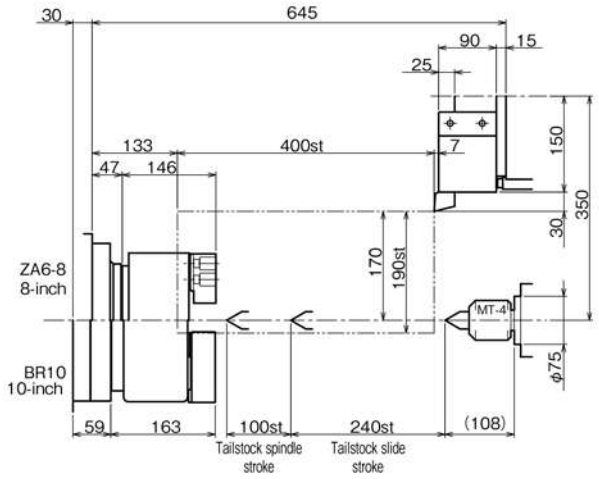
The figure above shows the tooling when an OD (reverse) cutting tool (20 sq.) is mounted.
When an OD (normal) cutting tool is mounted, the tool size is limited to 16 sq.

Unit (mm)

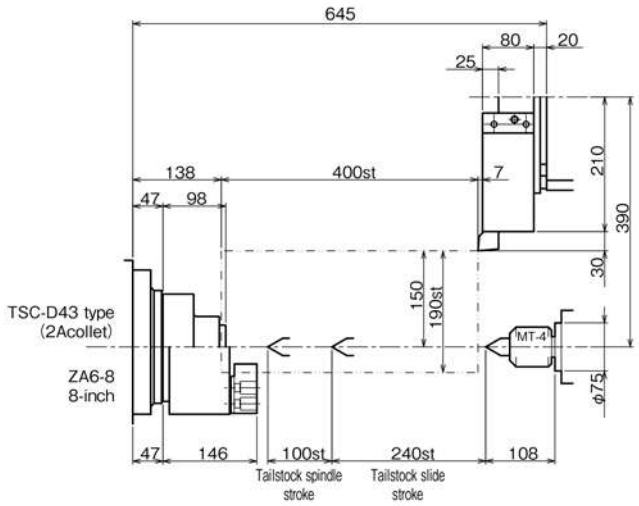
XT-8

Stroke-Related Drawing

8-station turret

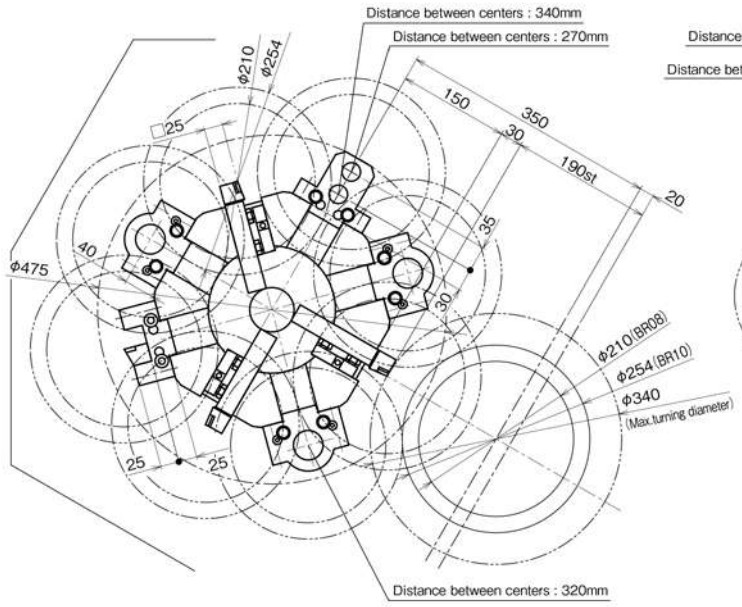


12-station turret (Option)

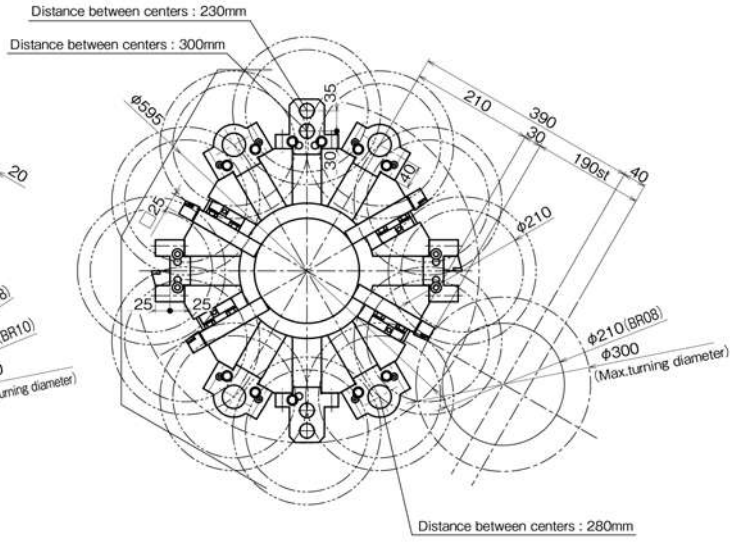


Turret Interference

8-station turret



12-station turret (Option)

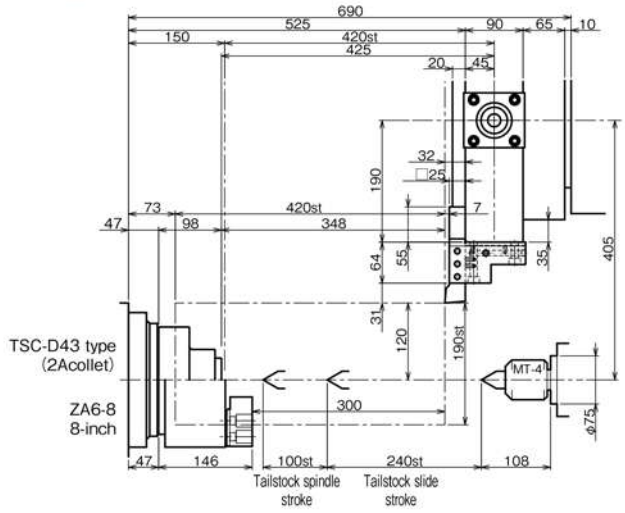


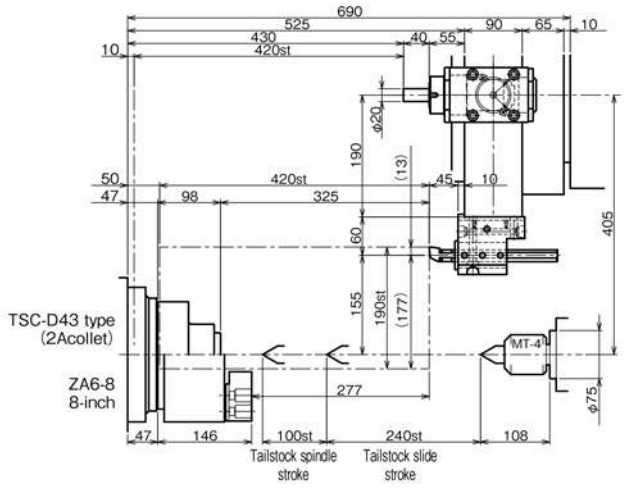
Unit (mm)

XT-8M

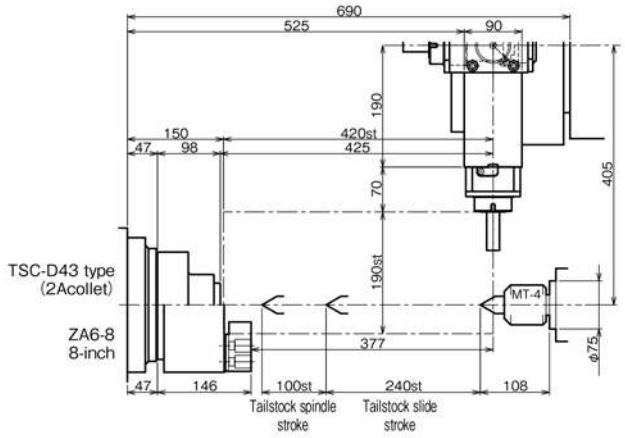
Stroke-Related Drawing

■O.D. turning range

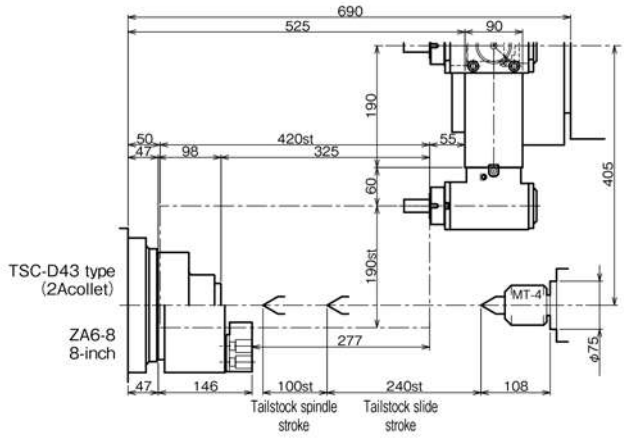




■Side milling range

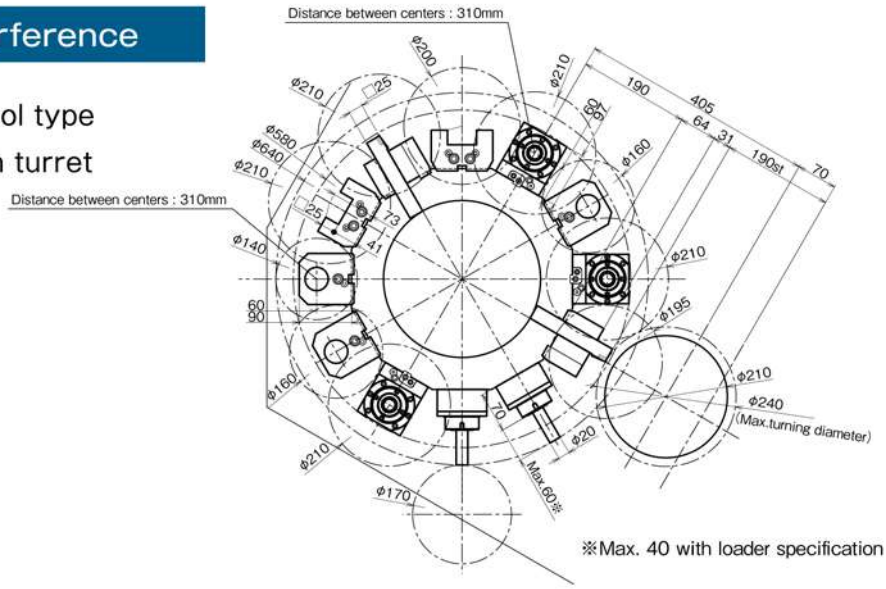


■Face milling range



Turret Interference

■Power Tool type
12-station turret



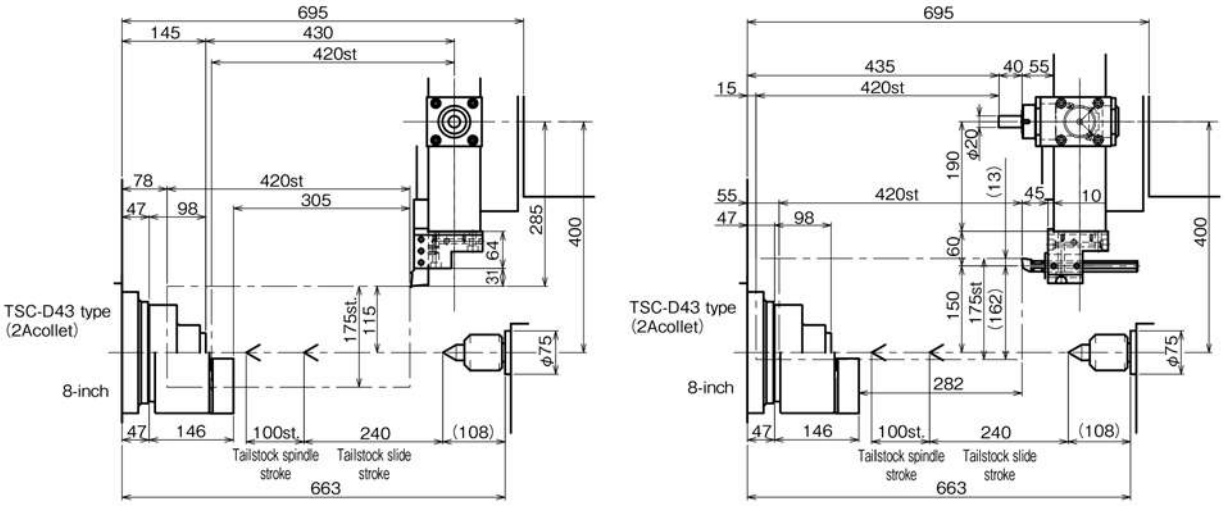
※Max. 40 with loader specification

Unit (mm)

XT-8MY

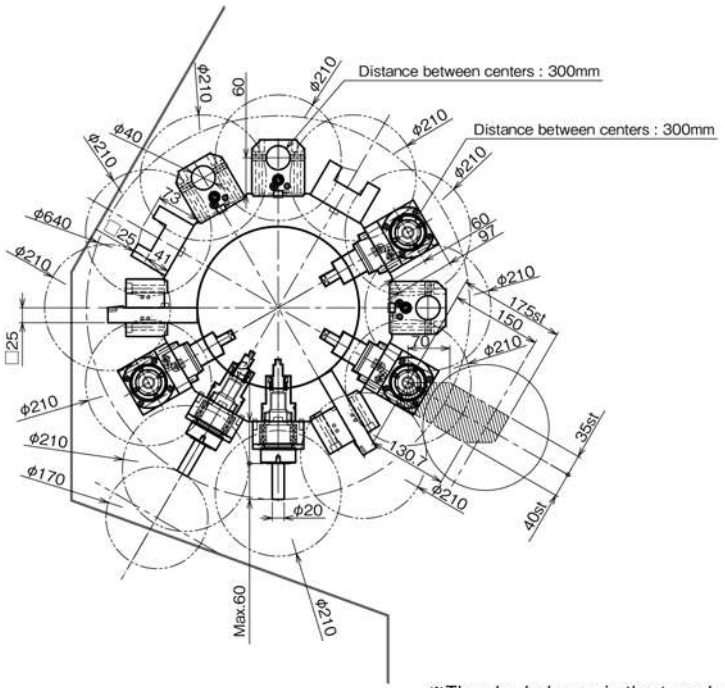
Stroke-Related Drawing

■O.D. turning range



Turret Interference

■Power Tool type
12-station turret



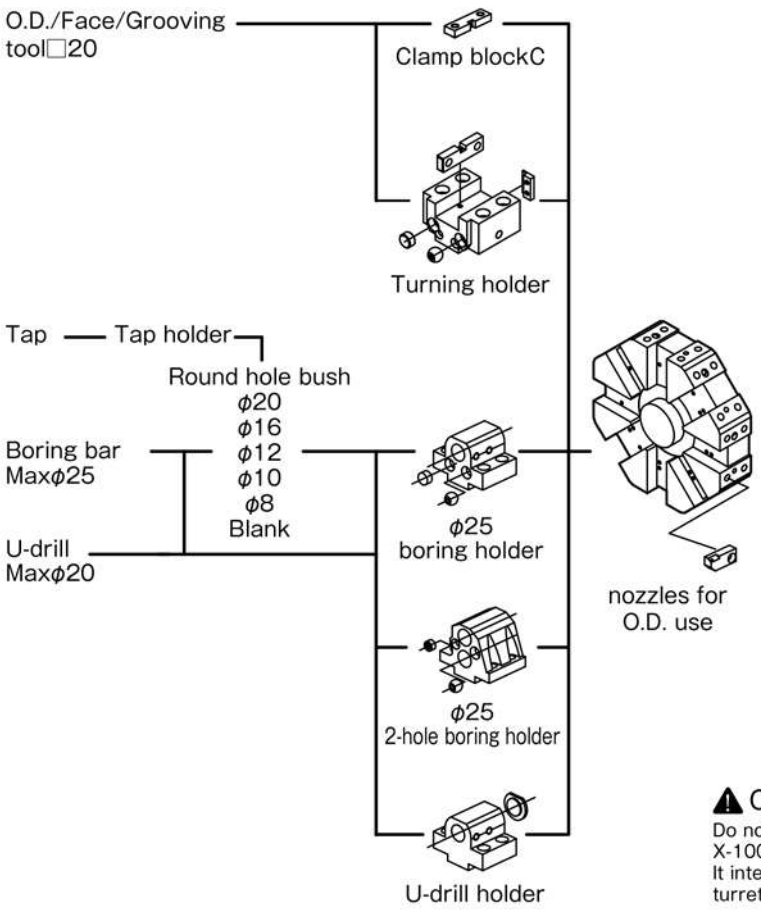
※The shaded area is the travel range of the X and Y axes.

Unit (mm)

XTS-6

Tooling system

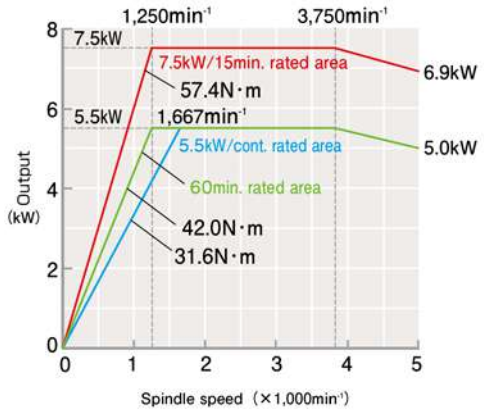
[8-station turret]



⚠ CAUTION
Do not use an ID holder provided for X-100 (X-10i or X-10).
It interferes with the cover when the turret turns.

Spindle power characteristic curve

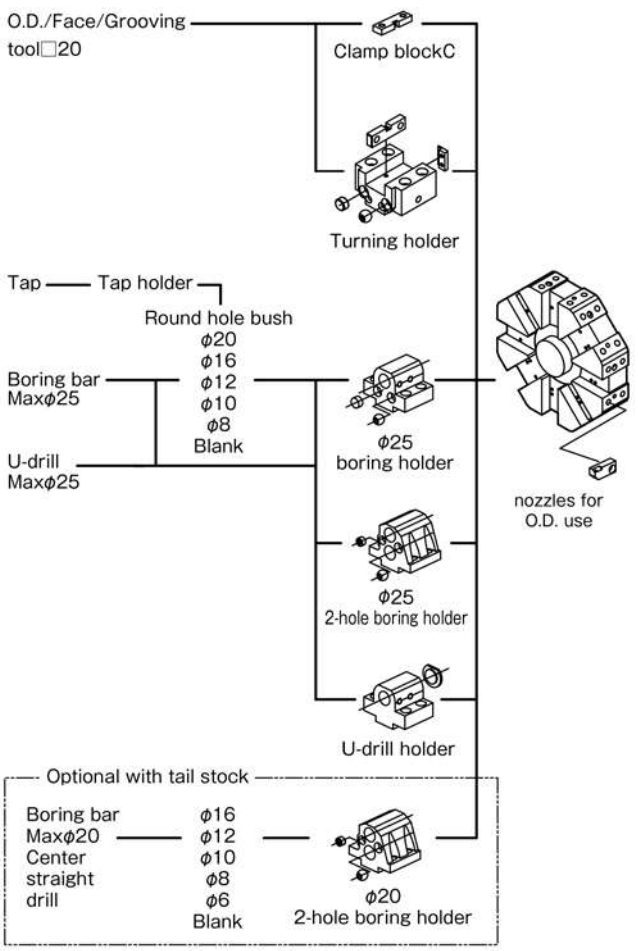
■ Max.5,000min^{-1}
(AC 7.5/5.5kW) φ75



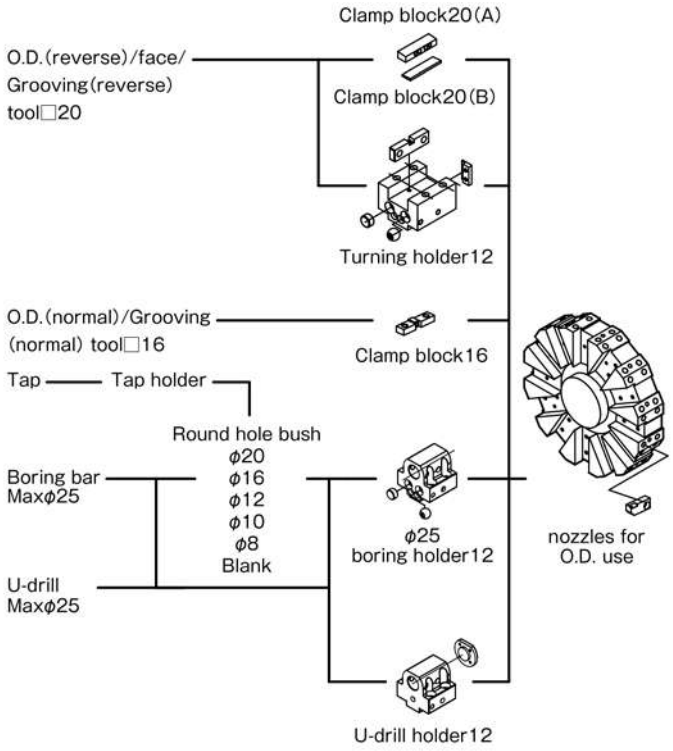
XT-6

Tooling system

[8-station turret]



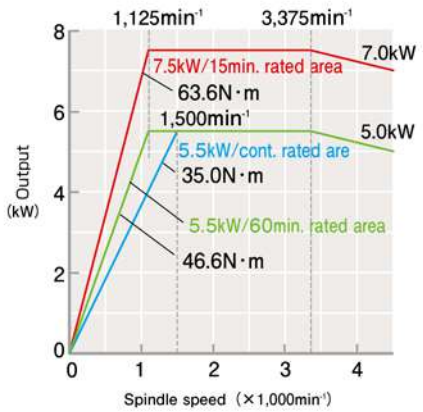
[12-station turret (Option)]



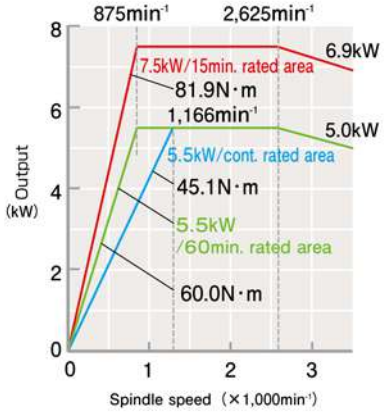
⚠ CAUTION
Do not use an ID holder provided for X-100 (X-10i or X-10).
It interferes with the cover when the turret turns.

Spindle power characteristic curve

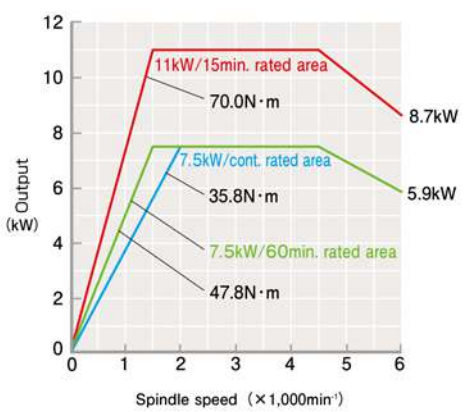
■ Max.4,500min^{-1} (AC 7.5/5.5kW) ϕ75



■ Max.3,500min^{-1} (AC 7.5/5.5kW) ϕ85

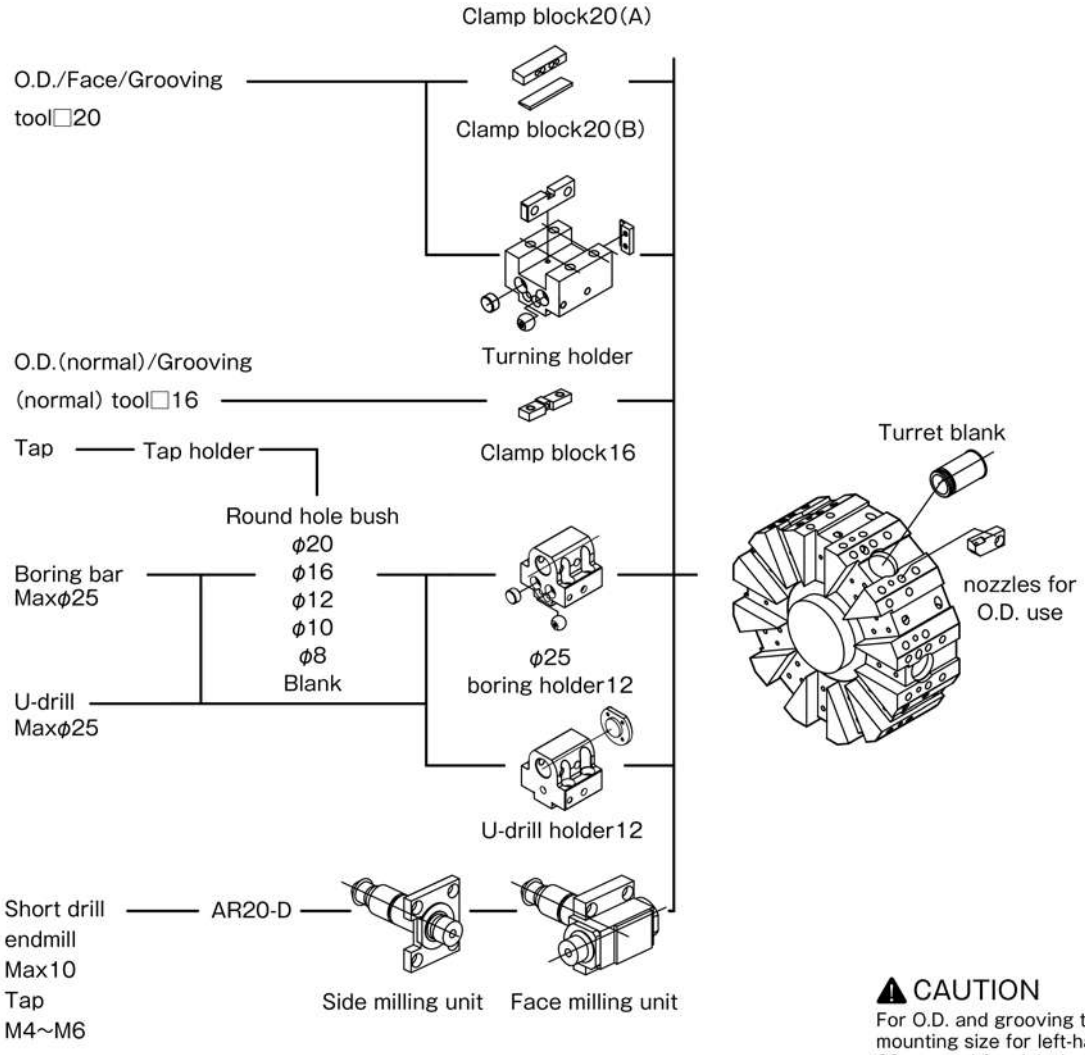


■ Max.6,000min^{-1} (AC 11/7.5kW) ϕ75



XT-6M

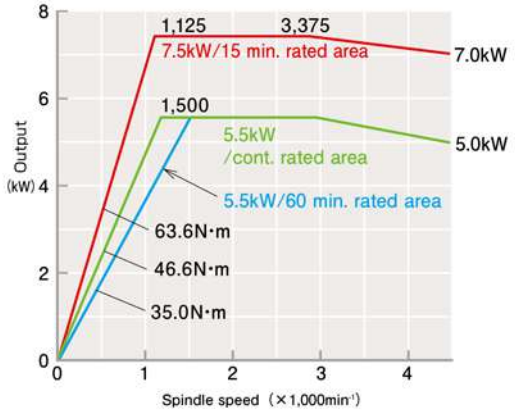
Tooling system



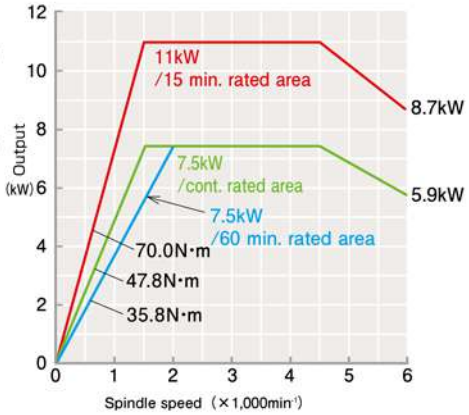
⚠ CAUTION
For O.D. and grooving tools, the mounting size for left-hand tools is 20 sq., and for right-hand tools it is 16 sq.

Spindle power characteristic curve

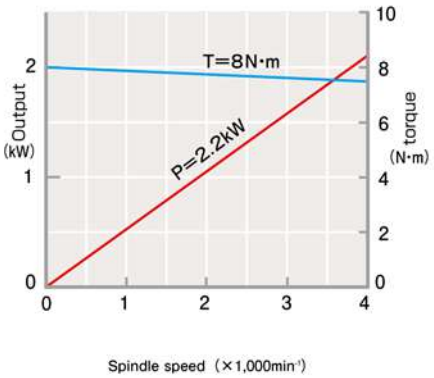
■ Max.4,500min^{-1} (7.5/5.5kW) ϕ75



■ Max.6,000min^{-1} (11/7.5kW) ϕ75



Power tool power characteristic curve

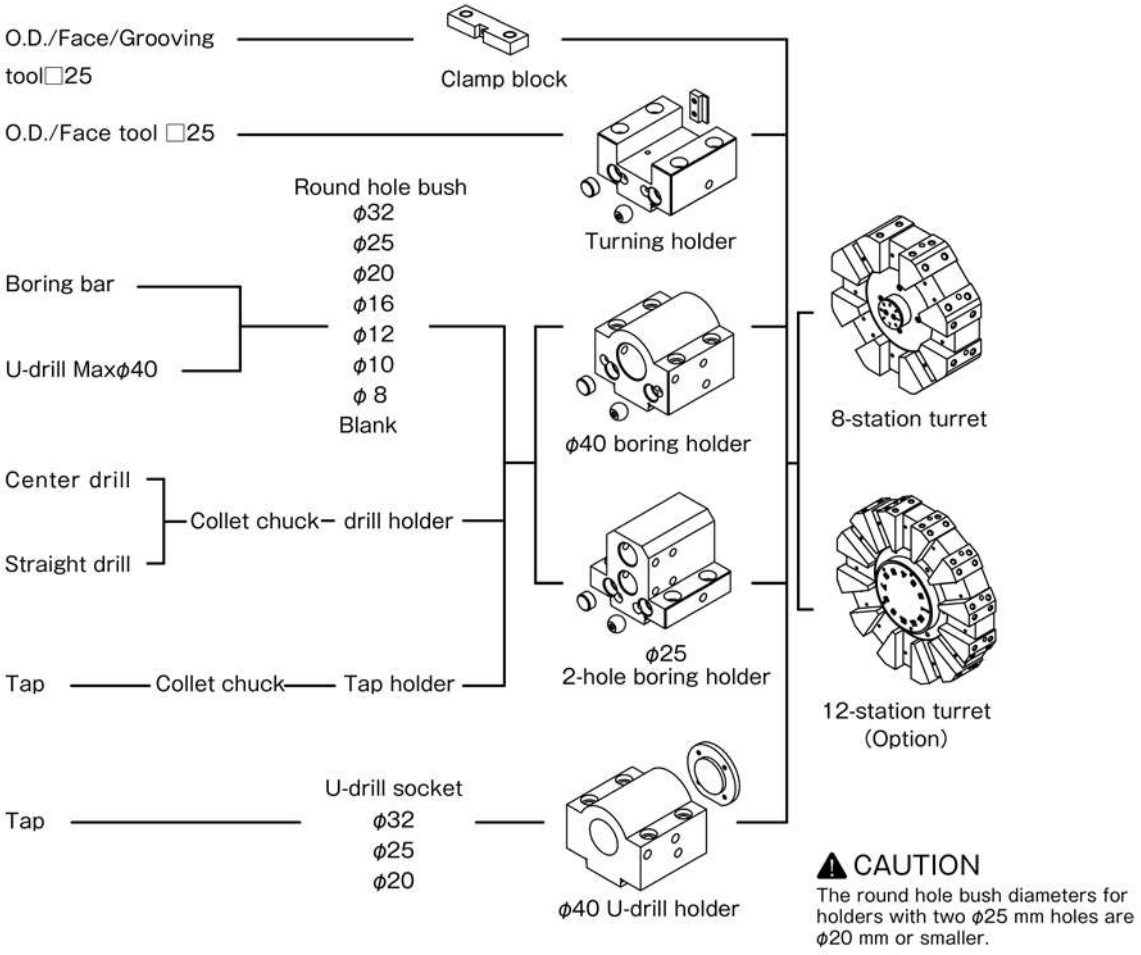


XT-8

Tooling system

[8-station turret]

[12-station turret (Option)]

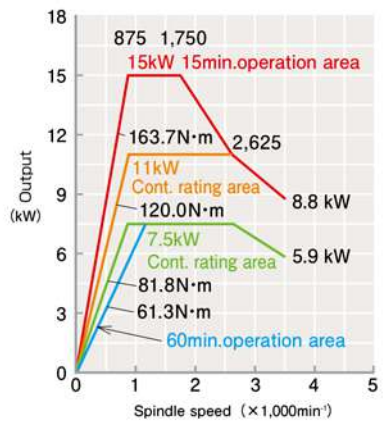


⚠ CAUTION

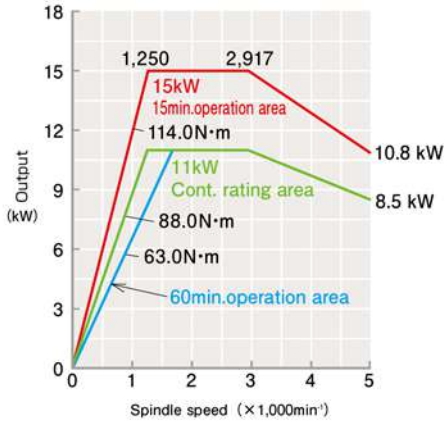
The round hole bush diameters for holders with two ϕ25 mm holes are ϕ20 mm or smaller.

Spindle power characteristic curve

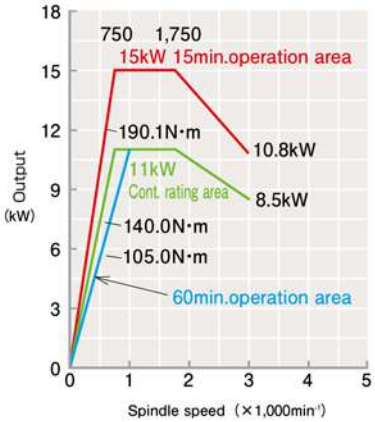
■ Max.3,500min^{-1} (AC 11/7.5kW) ϕ100



■ Max.5,000min^{-1} (AC 15/11kW) ϕ100



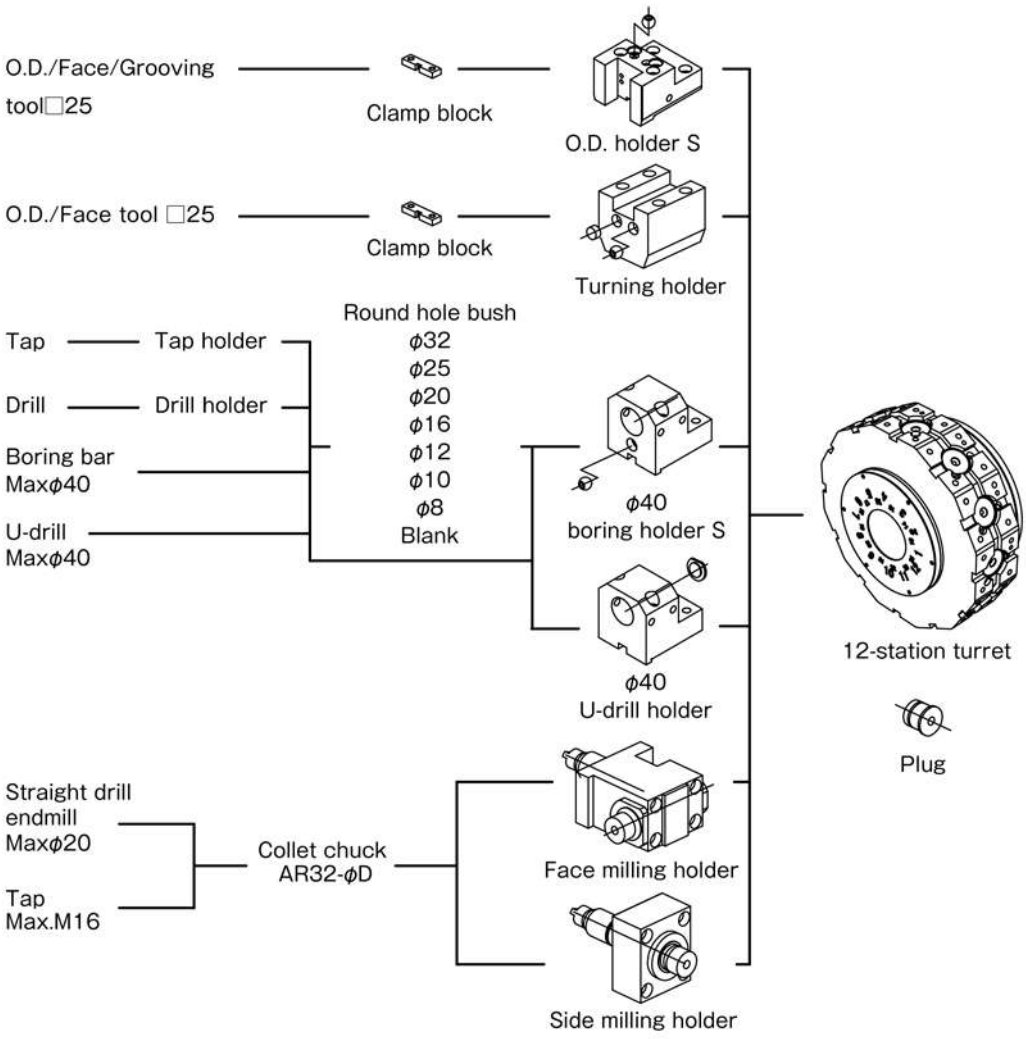
■ Max.3,000min^{-1} (15/11kW) ϕ120



XT-8M

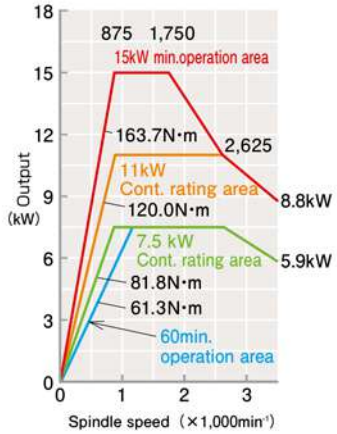
Tooling system

[12-station turret]

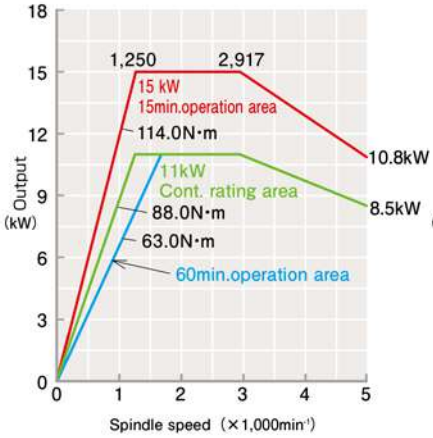


Spindle power characteristic curve

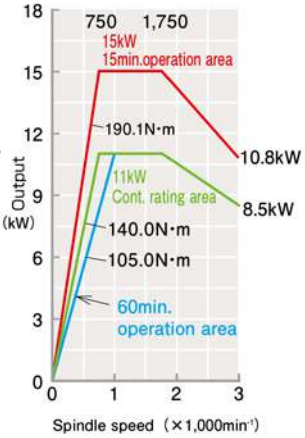
■ Max.3,500min⁻¹ (AC 11/7.5kW) ϕ100



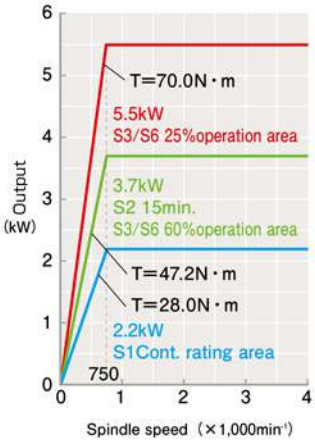
■ Max.5,000min⁻¹ (AC 15/11kW) ϕ100



■ Max.3,000min⁻¹ (15/11kW) ϕ120



■ Max.4,000min⁻¹ (AC 5.5/3.7/2.2kW)

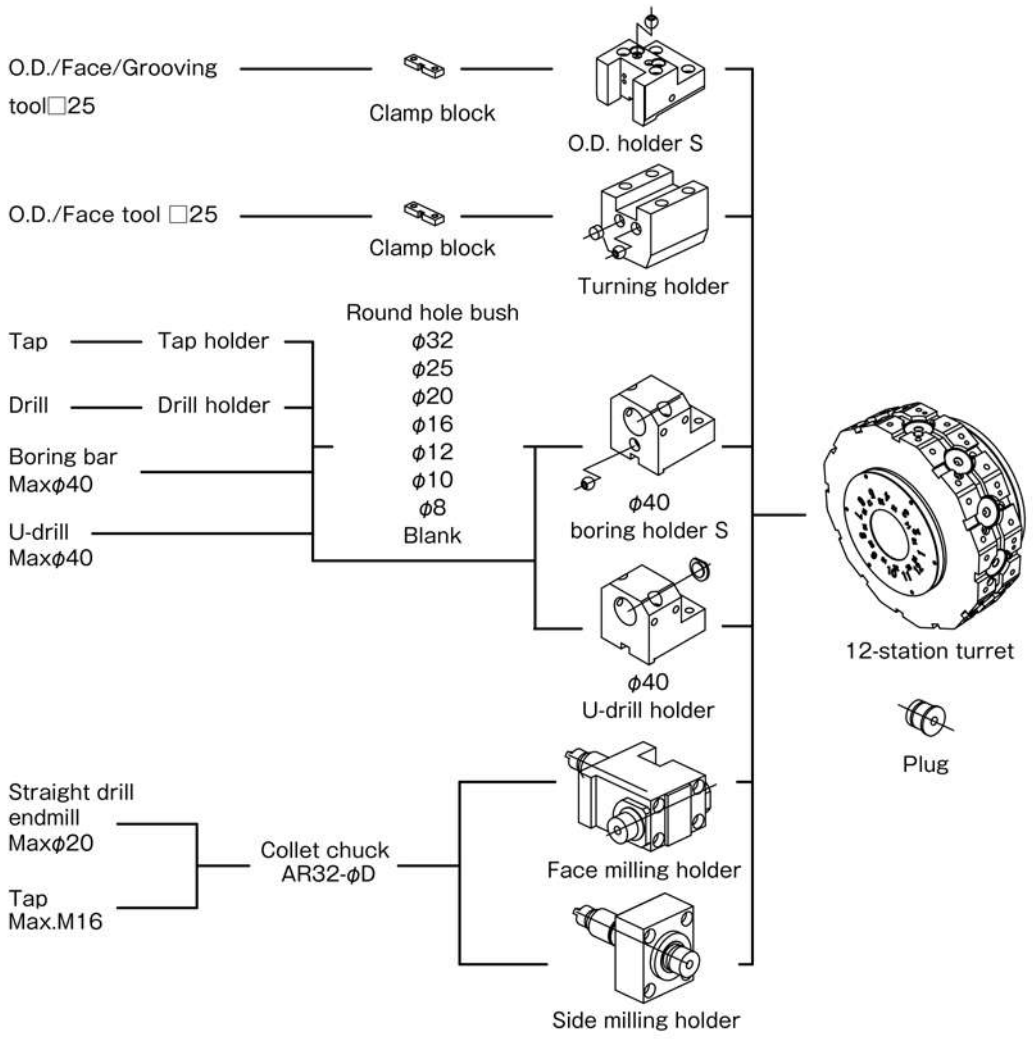


Power tool power characteristic curve

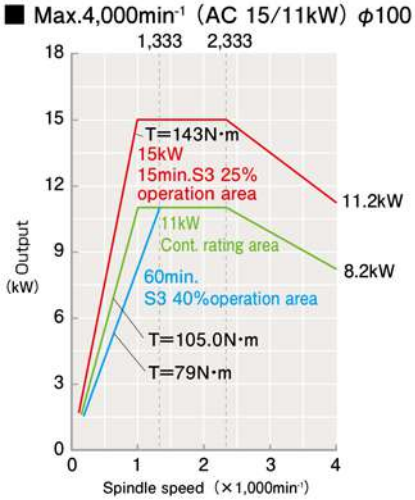
XT-8MY

Tooling system

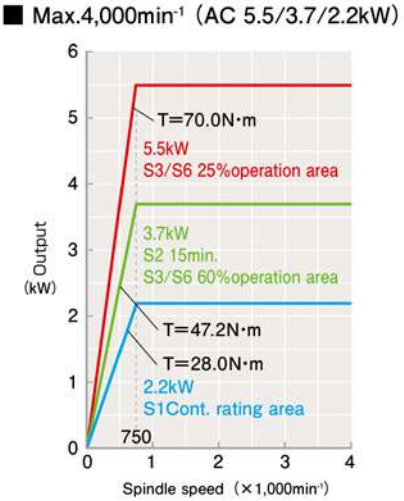
[12-station turret]



Spindle power characteristic curve

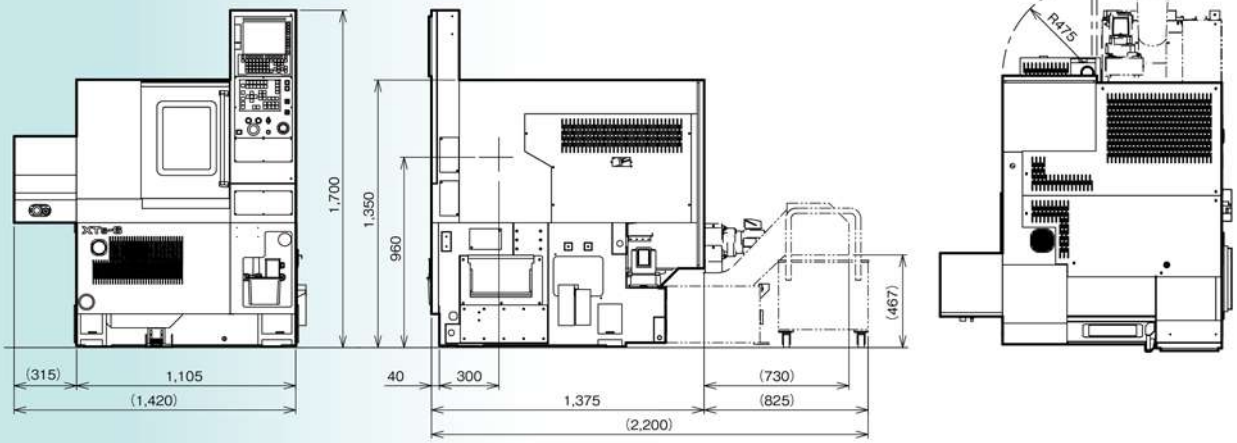


Power tool power characteristic curve

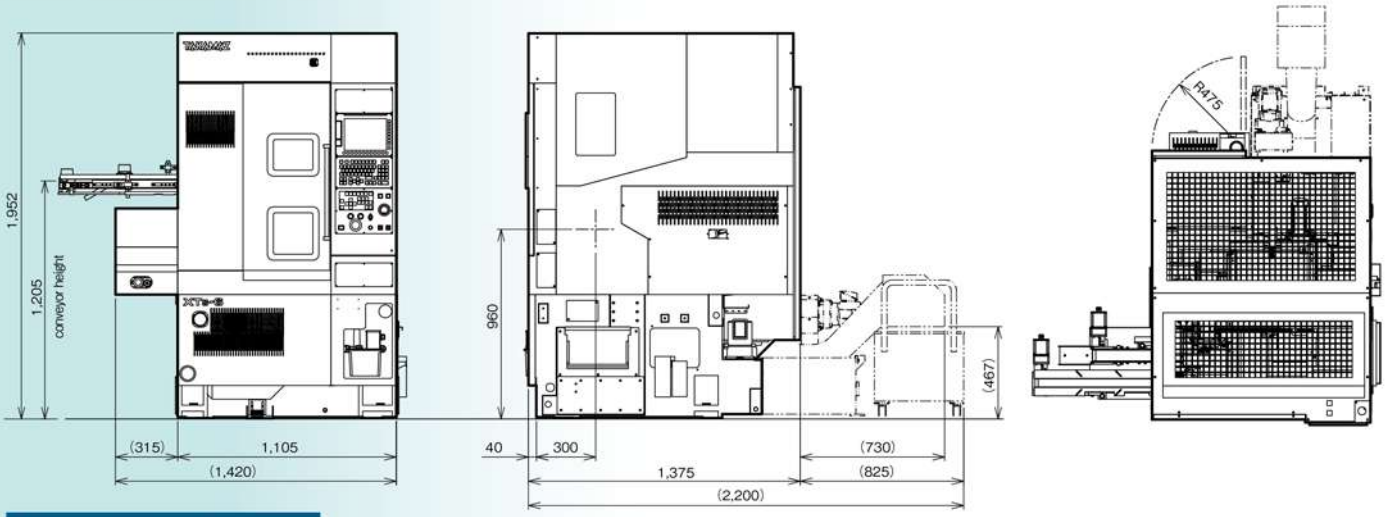


XTS-6

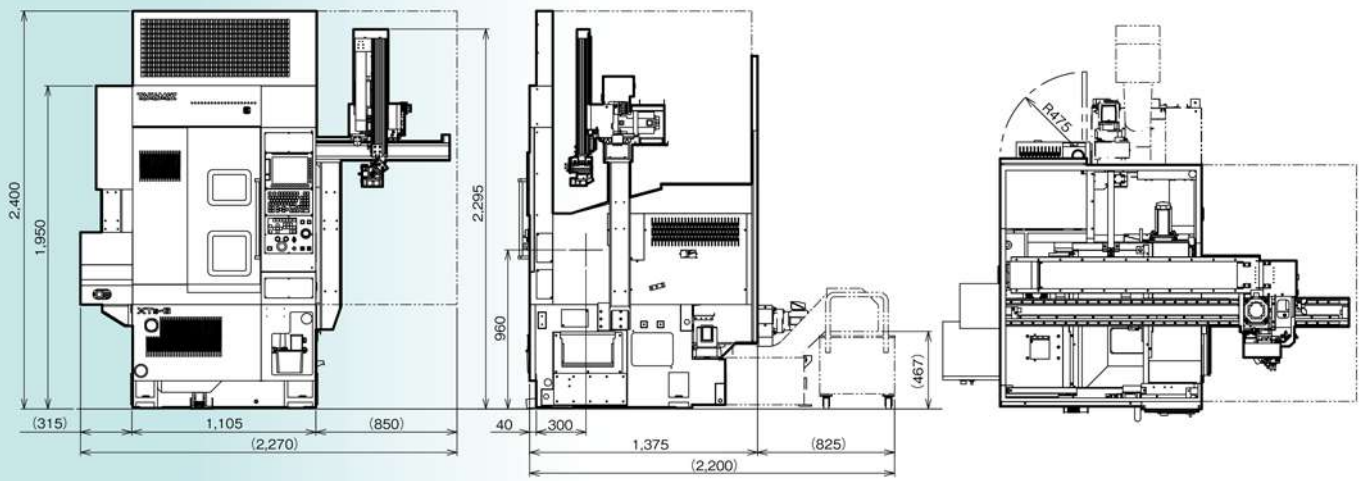
Standard type



Compact Loader type



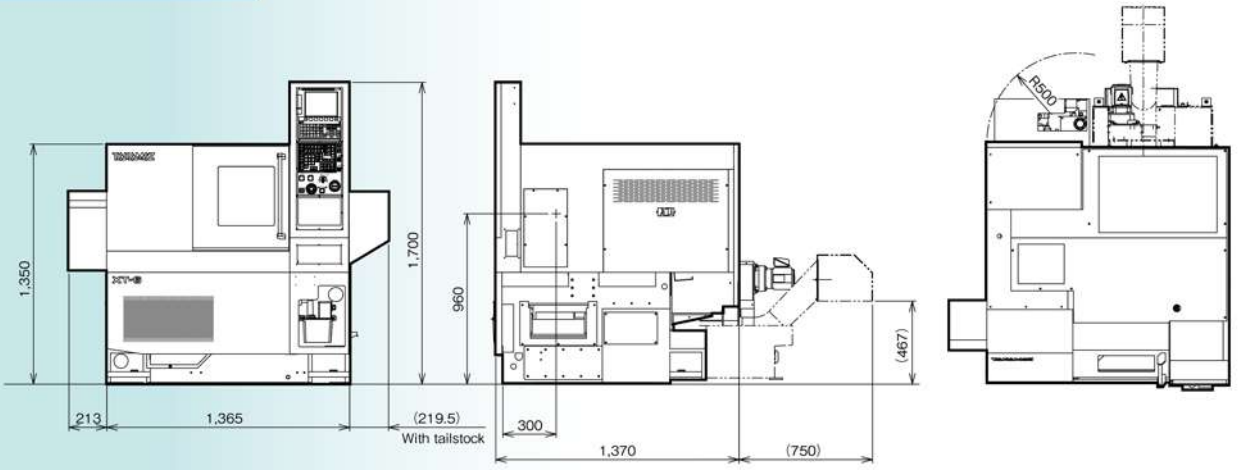
Gantry Loader type



Unit (mm)

XT-6/6M

Standard type



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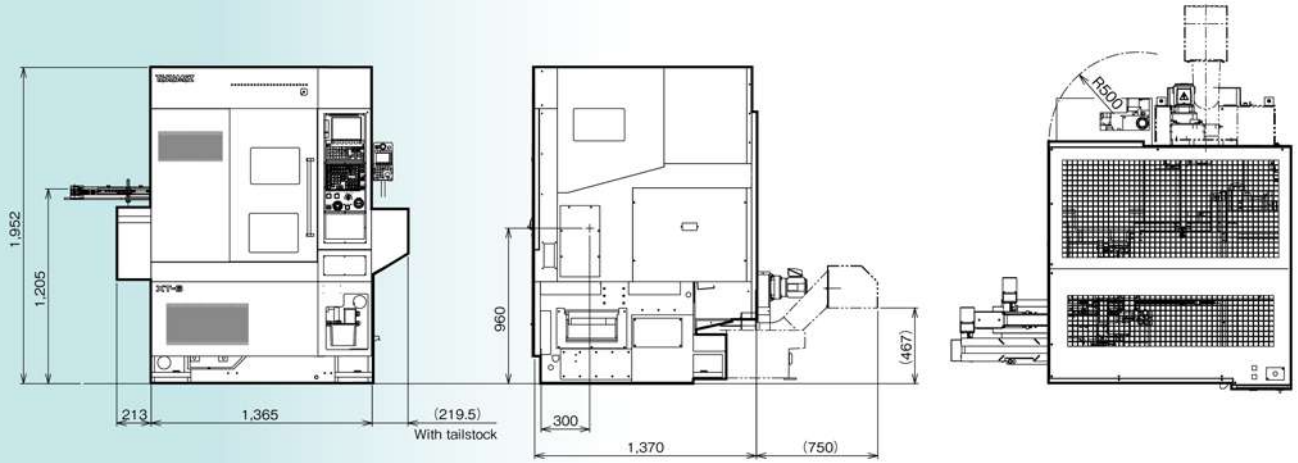
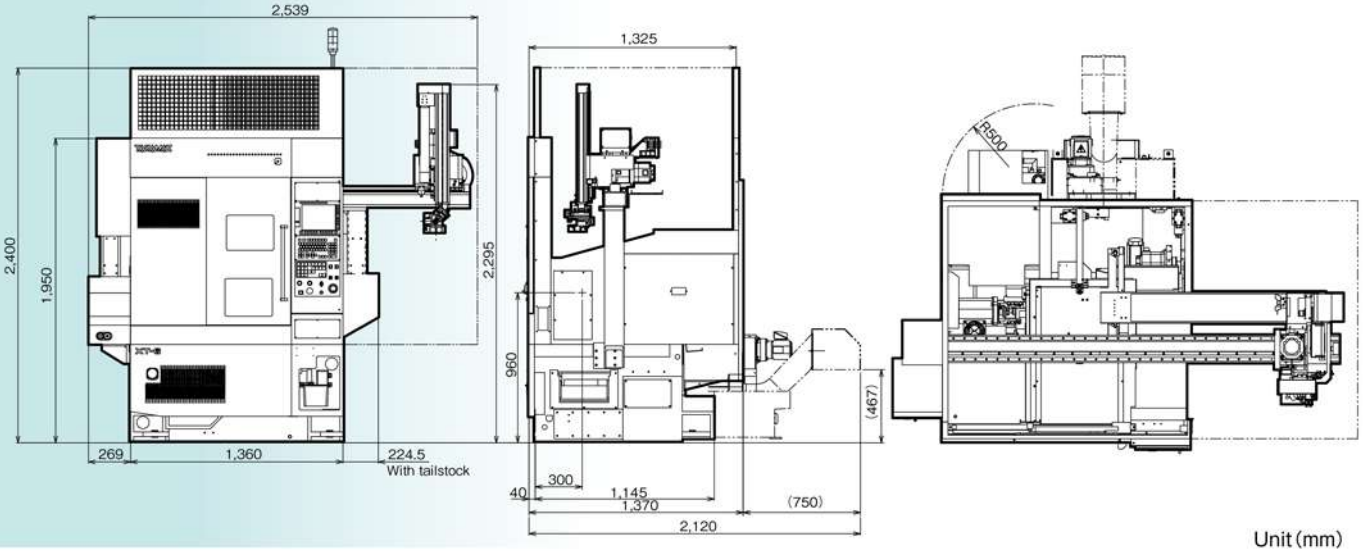


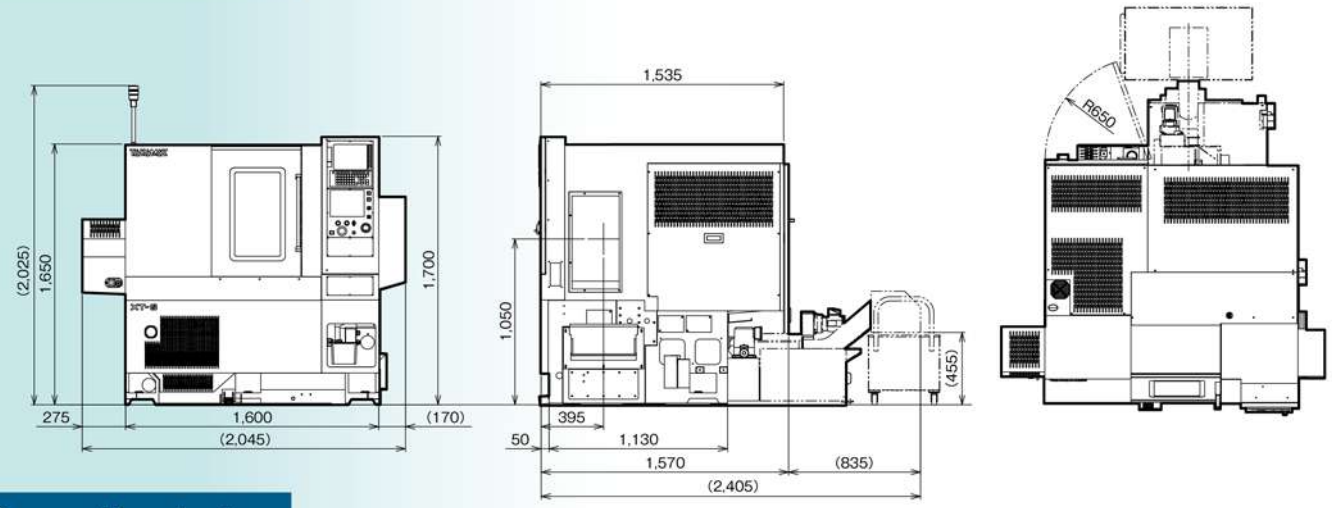
Gantry Loader type



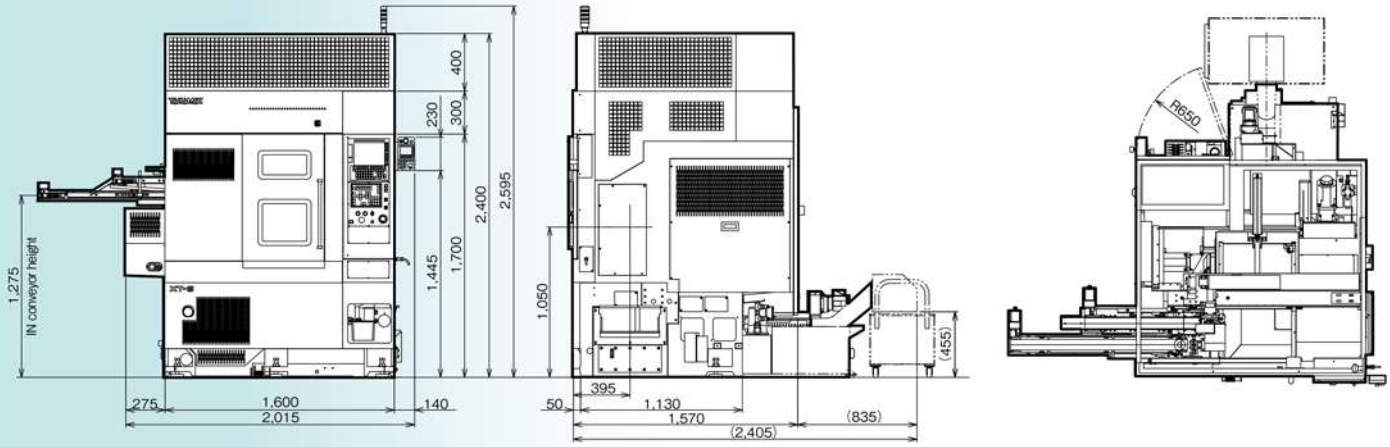
Unit (mm)

XT-8

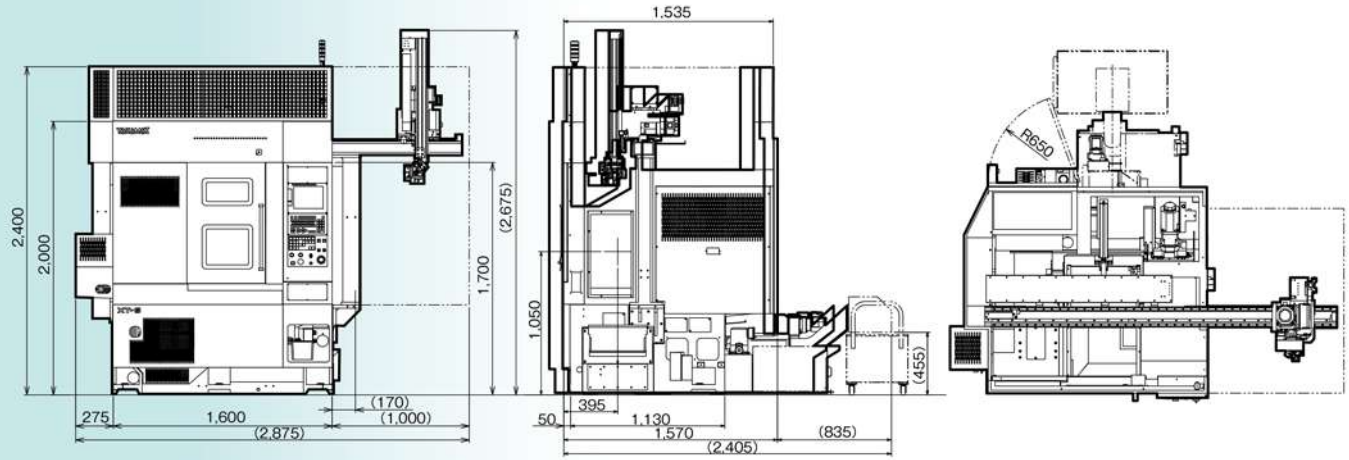
Standard type



Compact Loader type



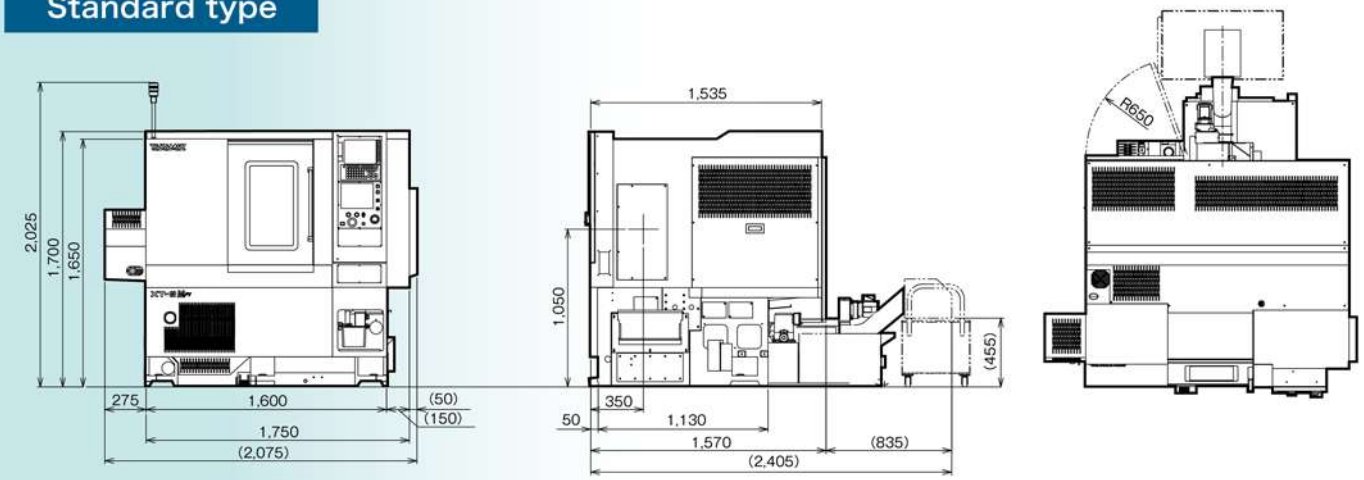
Gantry Loader type



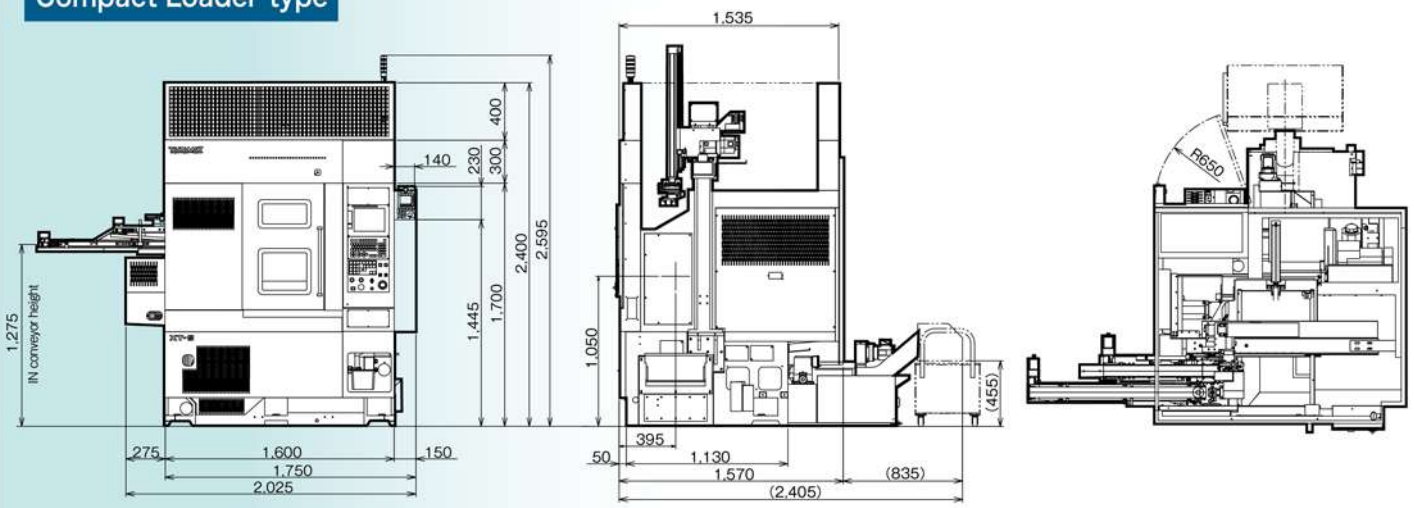
Unit (mm)

XT-8M

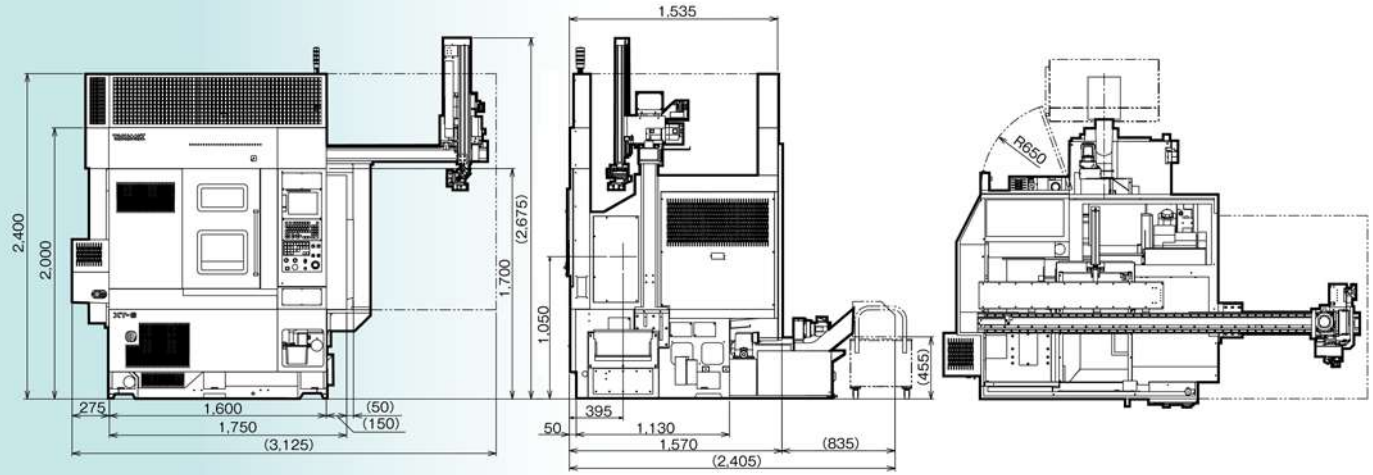
Standard type



Compact Loader type



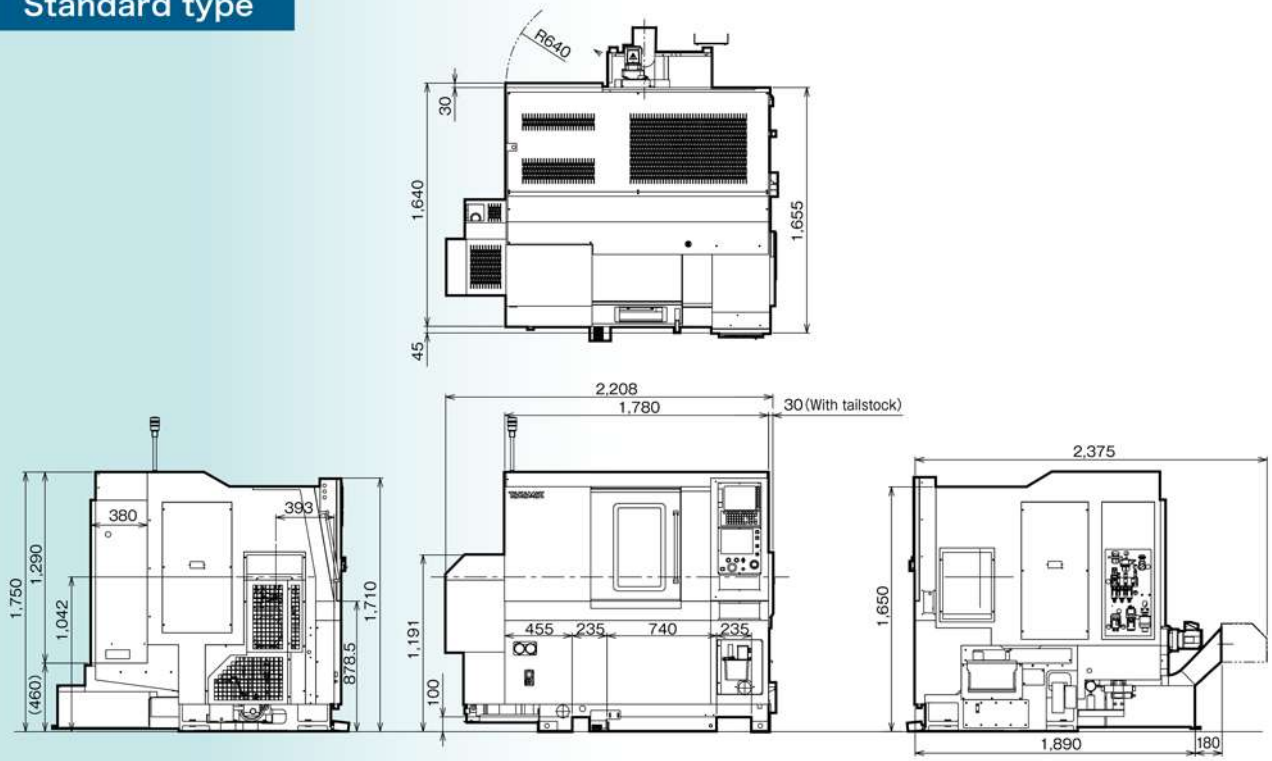
Gantry Loader type



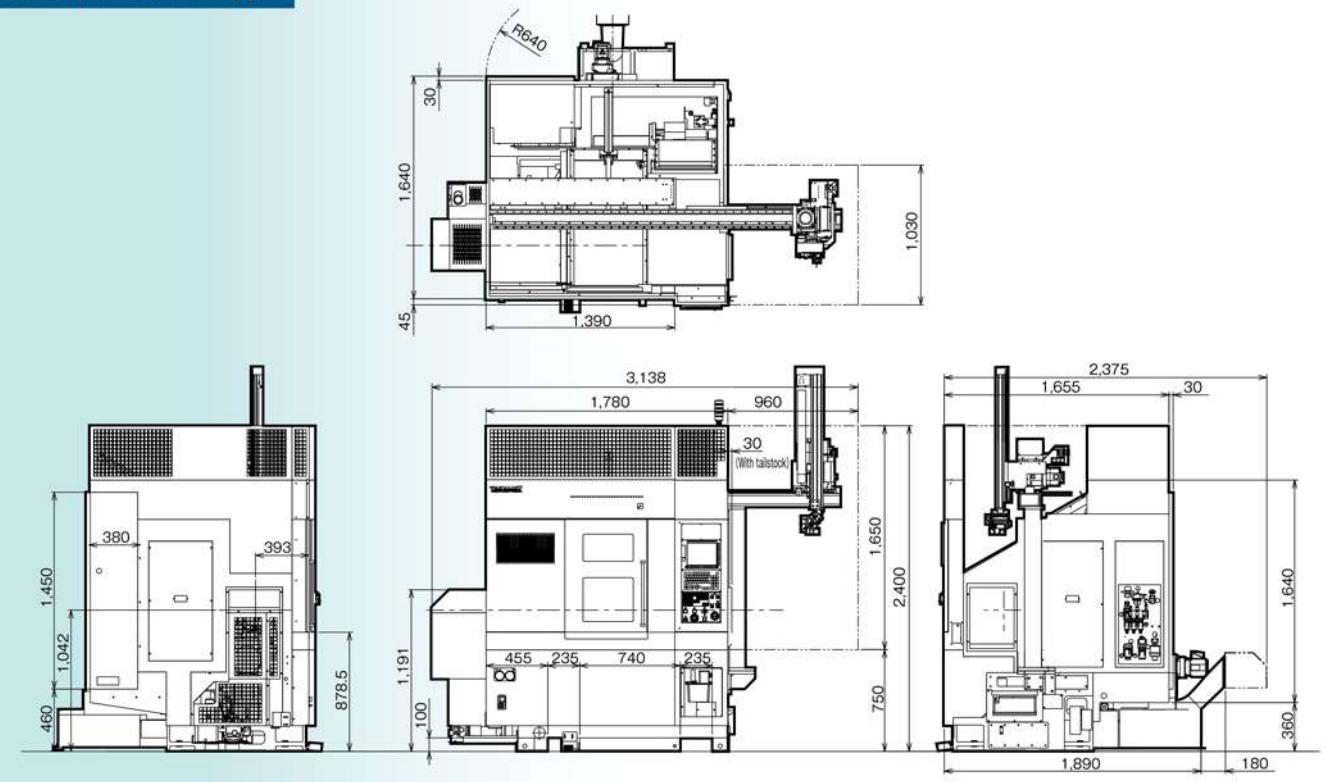
Unit (mm)

XT-8MY

Standard type



Gantry Loader type



Unit (mm)

SPECIFICATION

Machine Specifications

Item		Unit	XTS-6	XT-6		XT-6M	XT-8		XT-8M	XT-8MY
				6-inch type	(8-inch type)	6-inch type	8-station type	(12-station type)		
Capacity	Max. turning diameter	mm	ϕ180	ϕ180 (With 12-station ϕ200)		ϕ200	ϕ340	ϕ300	ϕ240	ϕ220
	Max. turning length	mm	200	240		195	370		348	353 (420)
	Max. bar diameter	mm	ϕ26	ϕ26(ϕ35)	(ϕ42)	ϕ26 (ϕ35)	Solid (ϕ42,ϕ51,ϕ65)			Solid (ϕ42,ϕ51)
	Chuck size	inch	6		8	6	8 (10)		8	
Spindle	Spindle nose	JIS	A2-5				A2-6 (A2-8)			A2-6
	Spindle bearing I.D.	mm	ϕ75		ϕ85	ϕ75	ϕ100 (ϕ120)			ϕ100
	Through-hole on spindle	mm	ϕ46		ϕ52	ϕ46	ϕ61 (ϕ80)			ϕ61
	Spindle speed	min⁻¹	5,000	4,500(6,000)	3,500	4,500 (6,000)	3,500 (5,000)(3,000)			4,000
Tool post	Type		8-station	8-station(12-station)	8-station	12-station	8-station turret	12-station turret	12-station turret 24st.	
	Tool shank	mm	□20	8-station:□20 (12-station:□20/□16)	□20	12-station:□20/□16	□25			
	Boring holder I.D.	mm	ϕ25				ϕ40			
	Max. stroke	mm	X:120 Z:230	X:120 (tailstock:90<8-station>, 100<12-station>) Z:280		X:120(tailstock100) Z:265	X:190 Z:400		X:190 Z:420	X:175 Z:420 Y:+35,−40
	Rapid traverse rate	m/min	X:18 Z:24							X:18 Z:24 Y:10
Power tools	Tool storage capacity	pcs.	−			6	−		12	
	Rotation speed	min⁻¹	−			4,000	−		4,000	
	Capacity Drill	mm	−			ϕ10	−		ϕ20	
	Capacity Endmill	mm	−			ϕ10	−		ϕ20	
	Capacity Tap	mm	−			M6	−		M16	
Cs-axis	Rapid traverse rate	deg./min	−			18,000	−		18,000	36,000
Motors	Spindle motor	kW	AC7.5/5.5	AC7.5/5.5 (AC11/7.5)		AC7.5/5.5	AC11/7.5 (AC15/11)			AC15/11
	Feed motor	kW	X:AC 0.75 Z:AC1.8				X:AC1.2 Z:AC1.8			X:AC1.2 Z:AC1.8 Y:AC 0.75
	Coolant motor	kW	AC 0.25							
	Hydraulic motor	kW	AC 0.75				AC 0.75 (tailstock:AC1.5)			
	Power tools motor	kW	−			AC 2.2	−		AC 5.5/3.7/2.2	
Tailstock	Front taper		−	MT-3			MT-4			
	Quill O.D.	mm	−	ϕ56			ϕ75			
	Quill stroke	mm	−	85			−			
	Tailstock stroke	mm	−	220			240			
	Max. thrust	kN	−	3.5			5.3			
Size	L×W×H	mm	1,105×1,380×1,700(2,080※2)	1,360×1,370×1,700(2,080※2)			1,600×1,535×1,700(2,400※1)		1,750×1,535×1,700(2,400※1)	1,780×1,685×1,750(2,400※1)
	Machine weight	kg	1,900(2,100※2)	2,300(2,500※2)		2,500(2,700※2)	3,200 (3,700※1)		3,400 (3,900※1)	4,000 (4,400※1)
	Total electric capacity	KVA	12~15 (depends on the specifications)	12~19 (depends on the specifications)			16~27 (18~26※1) (depends on the specifications)			25 (27※1)

※ With FGH Loader specifications ※ 2 FC60 specification

( ) : Option

Standard Accessories

Item	XTS-6	XT-6	XT-6M	XT-8	XT-8M	XT-8MY
□Boring holder	2 sets					
□O.D.holder	−					2 sets
□Clamp block	8 sets	8 sets (12 sets)			−	8 sets (12 sets)
□Coolant block (nozzles for O.D. use)	1 set				−	
□Collet flange	1 set			−		
□Stroke adjust cylinder	1 set					
□Hydraulic chucks	(Option)			1 set (8-inch)		
□Hydraulic unit	1 set					
□Chuck clamp detector	1 set					
□Spindle indexing device	−		1 set (Cs-axis)	−	1 set (C-axis)	1 set (Cs-axis)
□Power tools drive unit	−		1 set	−	1 set	
□Thread cutting unit (Including constant surface speed control)	1 set					
□Coolant unit	1 set (130 lit.)	1 set (140 lit.)		1 set (145 lit.)		1 set (140 lit.)
□Work light	1 set					
□Service tool kit	1 set					
□TAKAMAZ Instruction manual	1 set					

Optional Accessories

Item	XTS-6	XT-6	XT-6M	XT-8	XT-8M	XT-8MY
□Tool holders	○					
□Collet chucks	○					
□Hydraulic chucks	○					
□Vibration-suppressing alloy clamp holder	○				−	
□Built-In Spindle motors	−	○			−	
□Thermony® (Thermal displacement system)	○					
□Hydraulic chucking cylinder	○					
□TAKAMAZ loader system	○					
□Bar feeder system	−	○				
□Unloader	○					
□Work set detector	○					
□Power tools	−		○※1	−	Face/Side milling	
□Chip conveyor (Floor type/Spiral type)	Rear	Rear/Right				
□Front air blower	○					
□Rear air blower	○					
□Rear coolant unit	○					
□Signal light(1-tier/2-tier/3-tier)	○					
□Automatic fire extinguisher	○					
□Automatic power shut-off device	○					
□Automatic door system(Auto door/Shutter)	○					
□Special color	○					
□Others	○※2					

※1 This is a special accessory with power tool specifications only. ※2 For more information on attachments,consult our sales representative.

Controller Specifications	TAKAMAZ & FANUC 0i-TF Plus FLoader : Type0 Standard.ΣiLoader : Type1					
Item	XTs-6	XT-6	XT-6M	XT-8	XT-8M	XT-8MY
Controlled axes	2 axes(X,Z)		3 axes(X,Z,C)	2 axes(X,Z)	3 axes(X,Z,C)	4 axes(X,Z,C,Y)
Simultaneously controllable axes	Simultaneous 2 axes		Simultaneous 3 axes	Simultaneous 2 axes	Simultaneous 3 axes	Simultaneous 4 axes
Least input increment	0.001mm(X in diameter)					
Least command increment	X : 0.0005mm Z : 0.001mm				X : 0.0005mm Z : 0.001mm C : 0.001deg.	X : 0.0005mm Z, Y : 0.001mm C : 0.001deg.
Auxiliary function	M-code 3 digit					
Spindle function	S-code 4 digit					
Tool function	T-code 4 digi					
Tape code	EIA(RS232C)／ISO(840)automatic recognition					
Cutting feedrate	1～7,000mm/min					1～7,000mm/min (Y-axis Max.5,000mm/min)
Command system	Incremental／Absolute					
Linear interpolation	G01					
Circular interpolation	G02, G03					
Cutting feedrate override	0～150%					
Rapid traverse override	F0,100%					
Program file name	32 characters					
Backlash compensation	0～9,999μm					
Program memory capacity	2Mbyte (5,120m)					
Tool offsets	64 sets					
Registered programs	1,000 pcs.					
Tool geometry／Wear offset	Standard					
Canned cycle	G90, G92, G94					
Radius designation on arc	Standard					
Tool offset measurement input	Standard					
Background editing	Standard					
Direct drawing dimension programming	Standard					
Custom macro	Standard					
Additional custom macro common variables	#100～#199, #500～#999					
Pattern data input	Standard					
Nose R compensation	G40,G41,G42					
Inch／Metric conversion	G20／G21					
Programmable data input	G10					
Run hour／Parts count display	Standard					
Extended part program editing	Standard					
Multiple repetitive cycle	G70～G76					
Multiple repetitive cycle II	Pocket-shaped					
Y-axis offsets	—					Standard
Canned drilling cycle	Standard					
Constant surface speed control	G96,G97					
Continuous thread cutting	G32					
Variable lead thread cutting	G34					
Thread cutting retract	Standard					
Clock function	Standard					
Help function	Standard					
Alarm history display	50 pcs.					
Self-diagnosis function	Standard					
Sub-program call	Up to 10 loops					
Decimal point input	Standard					
2nd reference point return	G30					
Work coordinate system setting	G50,G54～G59					
Rigid tapping	—		For Power Tools only	—	For Power Tools only	
Polar coordinate interpolation	—		Standard	—	Standard	
Cylindrical interpolation	—		Standard	—	Standard	
Stored stroke check 1	Standard					
Stored stroke check 2,3	Standard					
Input／Output interface	USB Memory,Memory card※1,Easernet※1					
Alarm message	Standard (Smart Alarm Diagnostic)					
Graphic display	Standard					
Conversational programming with graphic function	Standard					
Abnormal load detection	Standard					
Manual handle trace	Standard					
Automatic data backup	Max. 3					
Automatic screen deletion function	Standard(Except F loader specifications)					
TAKAMAZ management support function	Work/Tool counter,Tool load monitor,Others					
TAKAMAZ maintenance functions	Standard					
TAKAMAZ OS	Machine stoppage warning,Traceability,Others※2					
FANUC set of manuals	DVD-ROM					

※1 In the case of F loader specification, this is in the electric cabinet. ※2 F Loader specifications only

Optional Specifications						
Item	XTs-6	XT-6	XT-6M	XT-8	XT-8M	XT-8MY
Input／Output interface	RS232C					
Tool life management	○					
Multiple M codes in one block	Max. 3					
Spindle orientation	1set／6sets					
Dynamic graphic display	Compatible with standard／Σi Loader specification only					
Helical interpolation	—		○	—	○	
FANUC Instruction manual	Bound					

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