English

XTL

SERIES

CNC PRECISION LATHE

TAKAMAZ

Leave Shaftwork to TAKAMAZ

As the electrification of automobiles proceeds, demand for shaftwork components is increasing. The motor shafts fitted in electric vehicles are required to be light and also have excellent rotational balance, and for this reason they are sometimes made of special high-durability materials. The XTL Series supports compound machining from deep hole boring to hard turning to side face milling and eccentric machining, targeting shaftwork with a high level of difficulty such as these motor shafts. TAKAMAZ also offers turnkey solutions for entire specialized production lines, which our competitors cannot provide. And we install functions that lead to energy savings in various areas, which helps toward carbon neutrality.

CNC PRECISION LATHE *XTL* SERIES

Where to Choose

| Standard type | | Gantry Loader Specifications |

Basic model with tailstock as standard

XTL-8

Chuck size | Chuck size | Number of turret stations | Number of turret stations | Tailstock | CE type | Environmentally friendly design

Eccentric machining also possible with Y-axis control

XTL-8MY

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

Sub-spindle equipped to complete products with front/back machining on a single machine

XTL-8MYS

Chuck size | Number of turret stations | Power tools | Sub-spindle | Y-axis control | Cs-axis indexing on both spindles | CE type | Environmentally friendly design

Contents

Balance between Toughness and Durability Essential

■ Focused on Shaft Work

The machine has a maximum turning length of 600 mm (XTL-8). A highly rigid square box-way slide construction for all axes is combined with a large-diameter ϕ100-mm spindle to achieve stable machining accuracy and high cutting performance. The machine construction allows machining over the full Z-axis stroke even with special high chuck specifications.

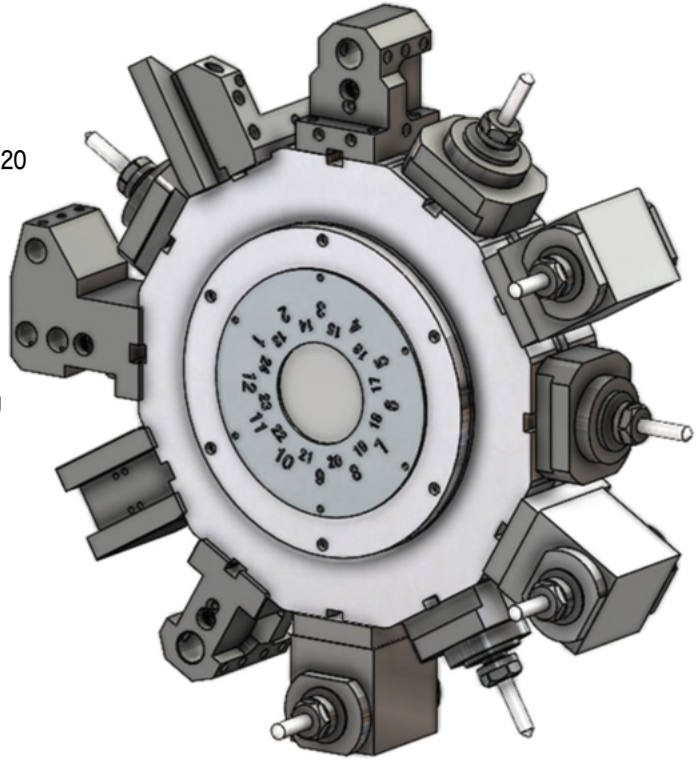
MOVIE

■ Adoption of BMT Turret (XTL-8MY、XTL-8MYS)

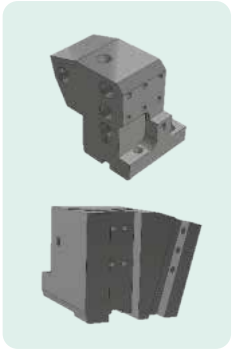
The bolt mounting system (BMT55) is used for the turret head, improving the repeat positioning accuracy when mounting holders. The turret's half-indexing mechanism allows up to 24 tools to be mounted. A full lineup of attachments enables diverse tool layouts.

BMT55

Maximum tool size: ϕ20



Holder for half-indexing



Greatly Improved Production Efficiency

■ Increased Spindle Torque

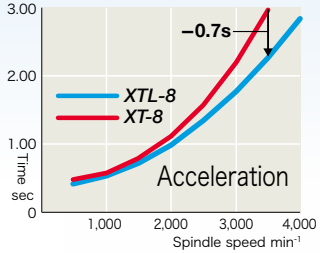
An AC15/11 kW motor, which is one rank higher than before, is equipped as standard to improve machining performance across the range.

(Compared to: XT-8)

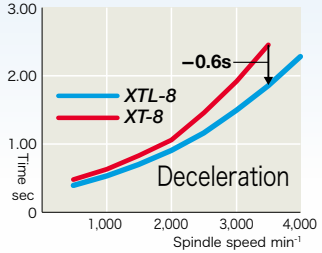
Spindle acceleration/deceleration time shortened * At 3,500min⁻¹ (XTL-8)

【Non cutting time】Can be substantially reduced

Acceleration
2.2s (3.0s) **−27%**



Deceleration
1.8s (2.4s) **−25%**



■ Tailstock (XTL-8、XTL-8MY)

The tailstock unit improves the coaxiality, roundness and deflection of shaft workpieces. Square slideways are adopted to achieve a highly rigid structure.

■ Completion of Products Requiring Back Face Machining as a Second Process on a Single Machine (XTL-8MYS)

Providing a sub-spindle as standard makes it possible to complete products requiring back face machining as a second process on a single machine. Completely synchronized rotation of the two spindles also enables consistent high accuracy in shaft work machining.

Sub-spindle motor
AC7.5/5.5 kW motor installed

■6-inch chuck
■Bearing inner diameter Φ75mm
■Max. bar diameter Φ35mm (Opt.)
■E axis (Cs) equipped as standard

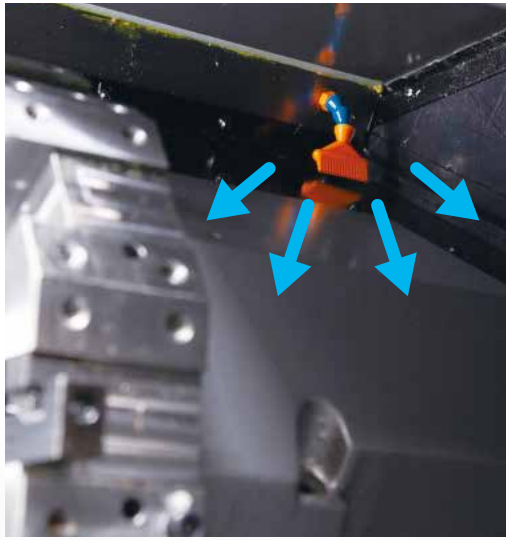
User Friendly Design Down to the Smallest Detail

Designed with Attention to Detail

The coolant circuit is extended to prevent accumulation of chips and shorten the time spent cleaning the machine. In addition, the bed is constructed with flat sections eliminated and slopes provided to make it hard for chips to build up.

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.

Installed on the door lower cover



Installed on the top part of the turret housing

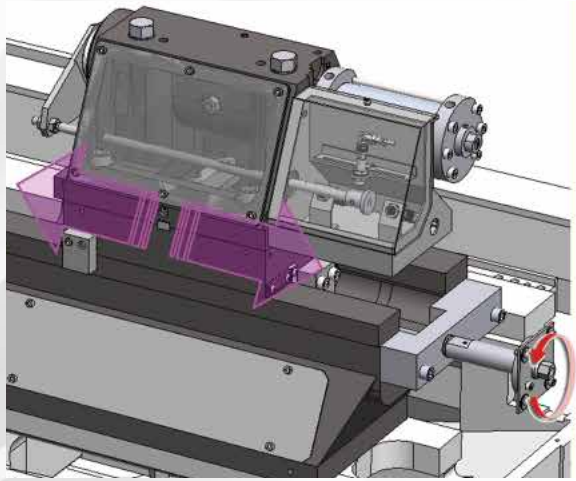
Better Operability and Maintainability

The machine construction emphasizes accessibility, with a maintenance door provided behind the operation panel to facilitate maintenance of the turret and tailstock.

Tailstock slide simple movement unit

(XTL-8,XTL-8MY)

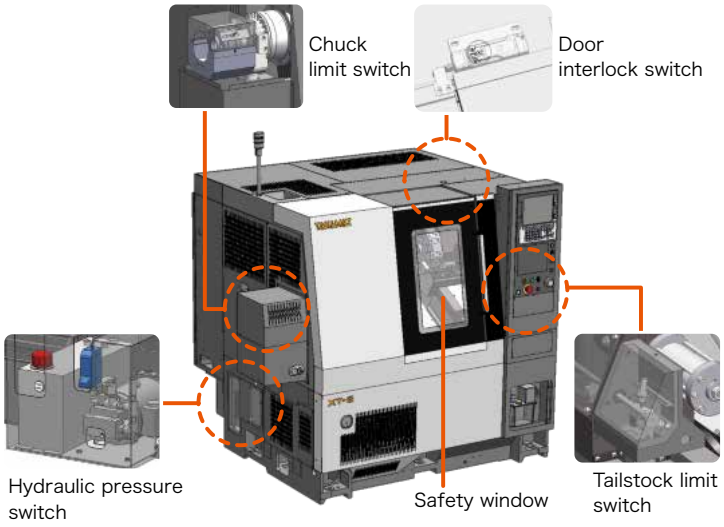
The tailstock slide can be moved to the required position by turning a handle in the socket at the rear of the tailstock, which lightens the workload in setup operations.



Safety Support

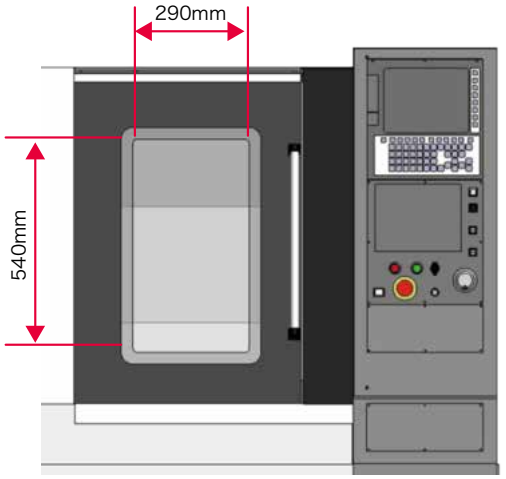
A door interlock function is provided to completely isolate the machining chamber, ensuring operator safety.

※This machine conforms to safety standards (JIS B 6031:2014), and the displayed machine parts are equipped as standard.



Visibility in the Machine

A safety window that is resistant to scratching by chips and offers a high level of visibility is adopted as standard.



Capacity

Note that accuracy is not guaranteed.
Depending on cutting conditions.

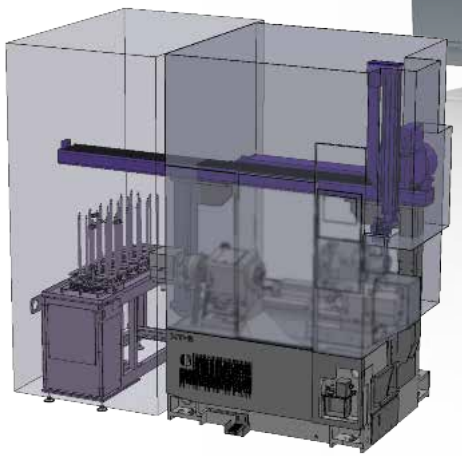
		XTL-8	XTL-8MY	XTL-8MYS	
				Main-spindle	Sub-spindle
O.D. heavy cutting (at continuous rating)	Cutting Cross Sectional Area(mm^2)	1.89	1.87	1.85	0.85
O.D. grooving	Groove width(mm)	5	5	5	5
	Distance from chuck jaw end(mm)	100	140	100	82
Drilling (at continuous rating)	Drill diameter(mm)	ϕ32	ϕ32	ϕ32	ϕ23
	Feedrate(mm/rev)	f 0.14	f 0.16	f 0.13	f 0.20

※Workpiece:S45C

Effects of Process Integration

■ Versatile 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.



Pendulum hand(5kg)

Hand for back face(1.5kg)

			FGH Loader			
			XTL-8	XTL-8MY	XTL-8MYS	XTL-8MYS
Item		Unit	Pendulum hand			Hand for back face(OP)
Speed	Traverse axis	m/min	160			160
	Vertical axis					
Transferable workpiece dimensions (reference values)	Diameter	mm	ϕ75			ϕ150
	Length	mm	450		250	70
	Mass (one side)	kg	5.0			1.5

■ Control System with Very Convenient Setup Operations

For better operability, control of the machine itself and the loader can be centralized using FANUC operations. And, in addition to the conventional operating functions, the optimal functions for machine automation are equipped. Examples include a support function that allows the manual cutting involved in tool offsetting to be done safely and easily, and a handle retrace function that improves the efficiency of setup work. The traceability function helps with preventive maintenance by automatically saving operating statuses.

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.

■ Operation System Integrating PC Functions and IT Technology

TAKAMAZ OS Home screen

Home screen for advance notification of the causes of production stoppages

Traceability information on each workpiece stored in the unit

Building Labor-saving Systems

「Highly-productive Robot System」 ServoROT® series

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.

Supply → Machining → Washing → Drying → Measurement → Unloading

MOVIE

Measuring and Cleaning

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

Just for you Providing Unique Products

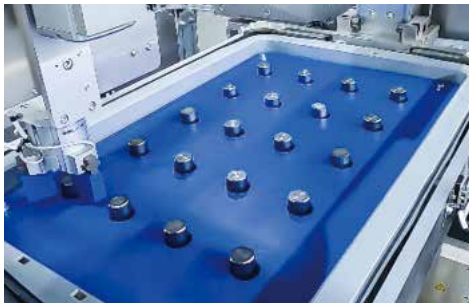
■ Supply Devices

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

IN/OUT conveyor

Rotary stocker



Tray changer

■ Bar Feeder (XTL-8MYS)

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

■ Parts catcher

(XTL-8MYS)

Unloads fully machined workpieces safely outside the machine.

Tailored to Your Needs

■ 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 of use:
XY-120 PLUS + Mist collector

■ Collet Chucks

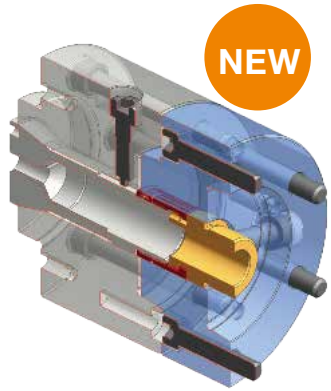
TAKAMAZ also manufactures collet chucks. We do this in a plant specialized for that purpose, using machining methods honed over many years, and undertaking everything from machining to heat treatment and grinding. TAKAMAZ collet chucks boasting robust spring characteristics, wear resistance and high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

MOVIE

■ Easy-lock Unit(Collet)

This unit shortens work time by changing your screw-in collets to the quick-change specification. Fitting an intermediate flange, and combination joints on the sleeve side and collet side, completes the change to a simple one-touch change specification. Customers can continue to use the collets and flanges that they already have. Setting joints on multiple collets in advance makes collet changes more efficient and renders troublesome stroke adjustments unnecessary.

MOVIE

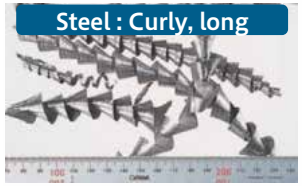


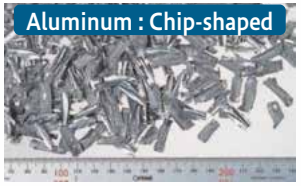
In addition, a full range of options are available. For details, ask our sales personnel.

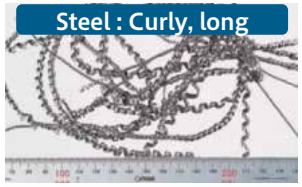
Chip Processing can be Matched to the Application

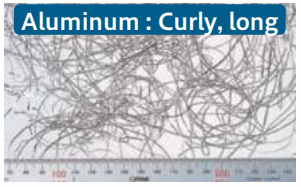
Chip Conveyor

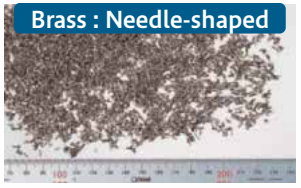
A variety of chip shapes are generated depending on the cutting conditions and workpiece material. If they are left they accumulate inside the machine, they can obstruct machining or get inside the machine, and in the worst case this can lead to the machine being stopped by a fault. A chip conveyor can 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.

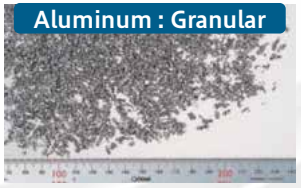


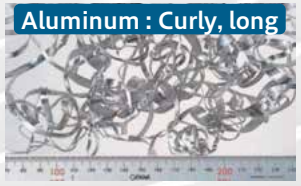












Spiral Type

Floor Type

Equipment Compatibility Table

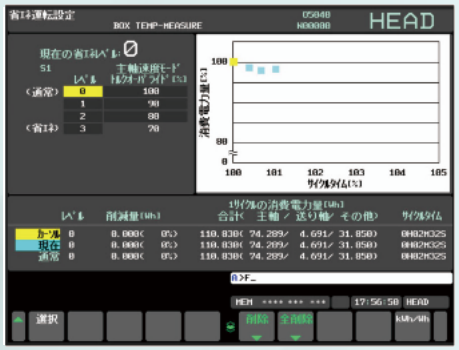
○ : Can be used
× : Cannot be used

Type	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	×	○	○	○	○	○	×	×	×	×	×	×	×

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 −2%

* According to actual values measured by TAKAMAZ
「Actual figure for XTL-8MY」

Cycle time +1%

* According to actual values measured by TAKAMAZ
「Actual figure for XTL-8,XTL-8MY」

* 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

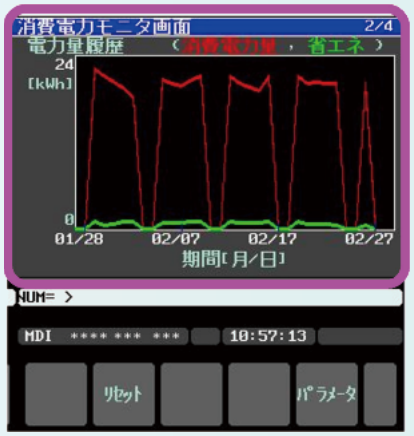
Power consumption −25%

* According to actual values measured by TAKAMAZ
「Actual figure for XTL-8」

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.

Production information (per-day basis)



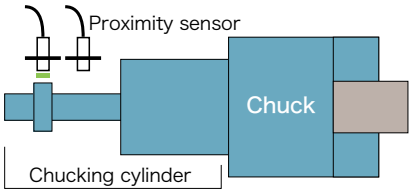
Power consumption history

■ Chuck Stroke Check Function

Just set the clamping and unclamping positions, with no need to change the position of the proximity sensor as previously.

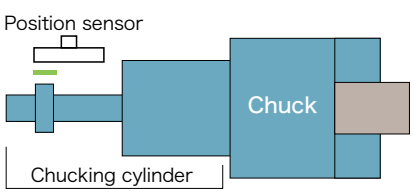
■No need to change the sensor position using tools
■Register clamp and unclamp positions on the dedicated screen (stroke numbers: max. 32 pairs)
■Registered stroke numbers can be called by selection on the screen or by calling them in a program.

【Previously: Chuck clamp detector】



- 2 Proximity sensor used
- Sensor adjustment using tools
- Needed to remove the machine cover and change the sensor position at setup changes

【Chuck stroke check function】



- 1 position sensor used
- No tools required for sensor adjustment
- Sensor detection position can be set on a dedicated screen without removing the machine cover

T-Support System®

Original Systems Designed to

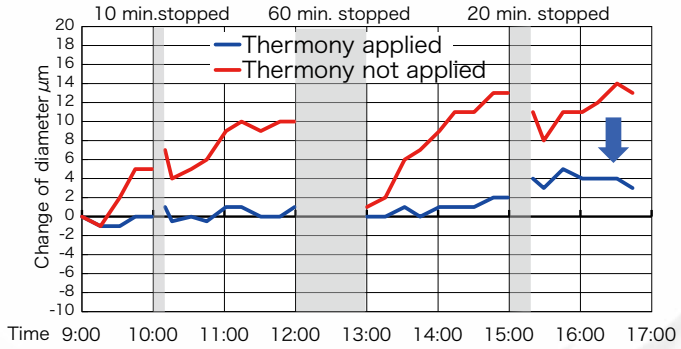
Thermony®

Thermony

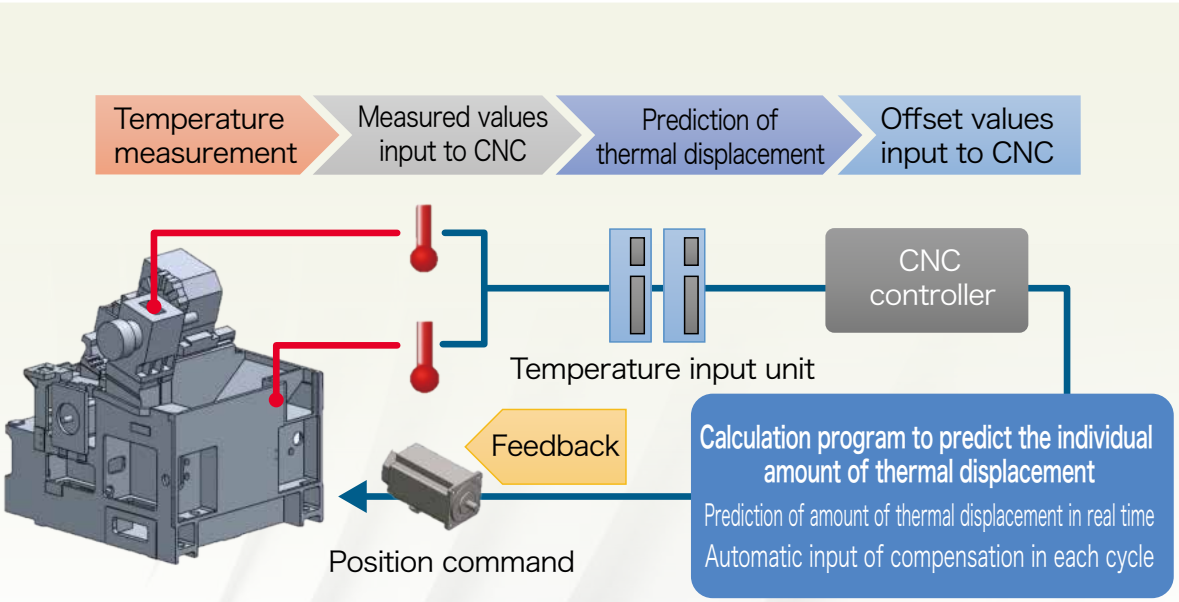
The machined dimension values change as the machine temperature changes due to the user's conditions of use(machining conditions) and the environmental conditions(factory temperature, etc.).

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%.

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%)



Improve Productivity

T-Program Guide

Issues Affecting the Machine Tool Industry

Increased costs — Production costs increasing due to rising raw material, energy and personnel costs

Insufficient manpower — Difficult to maintain quality and pass on skills due to shortage of skilled technicians

Insufficient successors — Young people are not coming into the machine tool field, and the skills and knowledge are not being passed on.

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 accomplisah the cutting using the completed program without any interference. To help under these conditions we have an assistance function that enables even operators with little experience to create programs without errors, called the T-PROGRAM GUIDE.

Advantages of Providing T-PROGRAM GUIDE

Ability to assess the process and check conditions at a glance

Tool numbers, cutting speeds, etc., for each process displayed in a list

Easy to reflect machining results (shape correction)

Recalculation of coordinates unnecessary, with quick and simple correction through screen operations alone

数値変更による修正

形状変更による修正

Easy to reflect machining results (cutting condition correction)

Quick editing in the process list, with no need to search for the targeted block

Ability to check using simulations

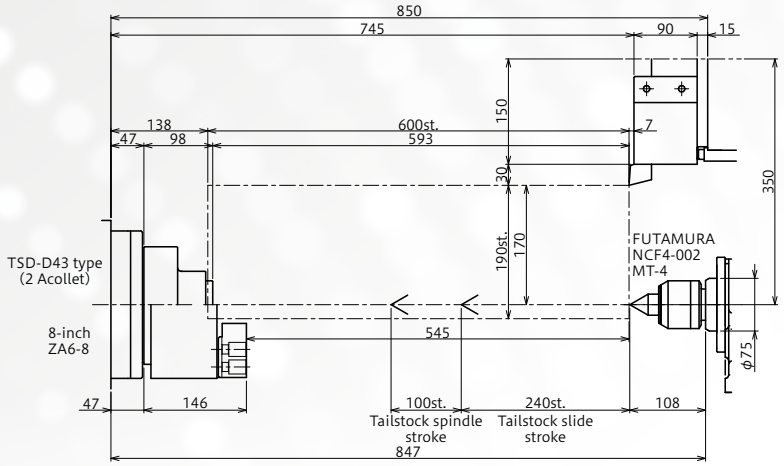
Check interference and the cut profile simply with animations and tool path displays.

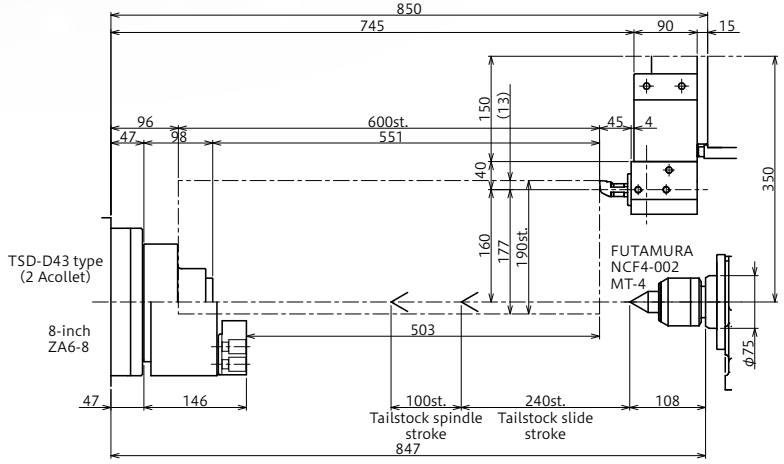
Stroke-Related Drawing

XTL-8

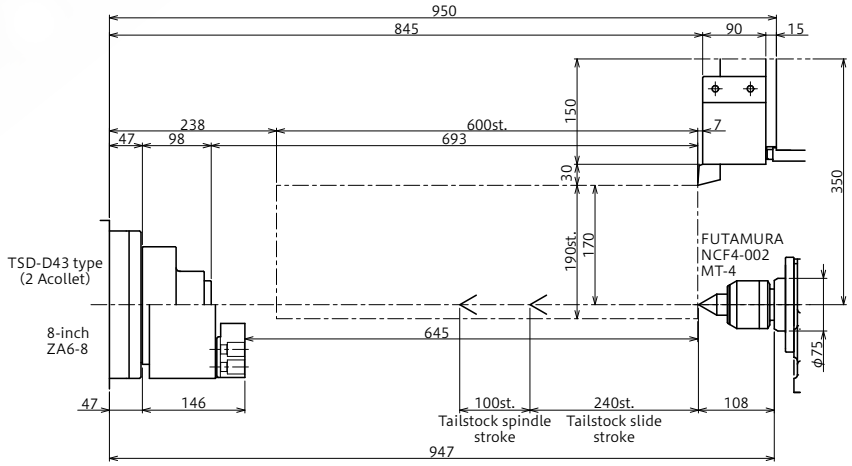
Standard ϕ100 spindle/standard 8-station turret

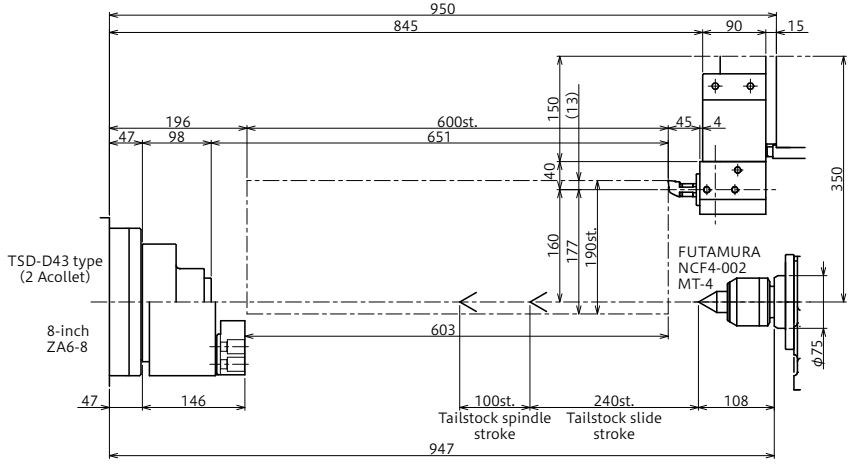
Front shift specification





Rear shift (Option)



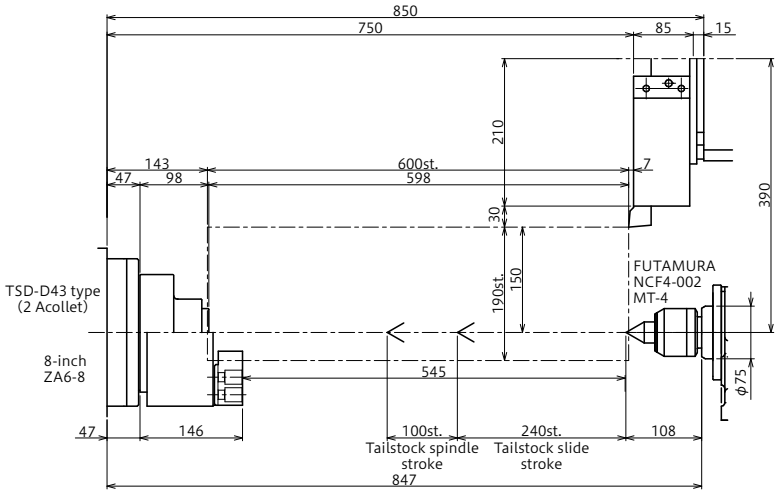


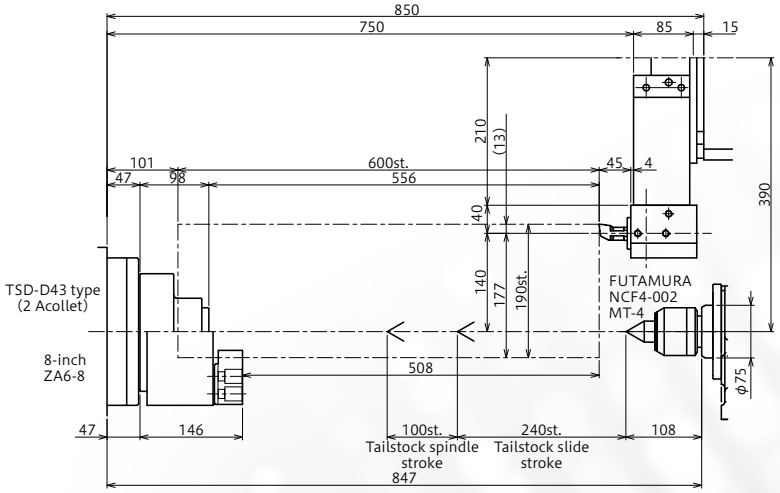
Unit (mm)

XTL-8

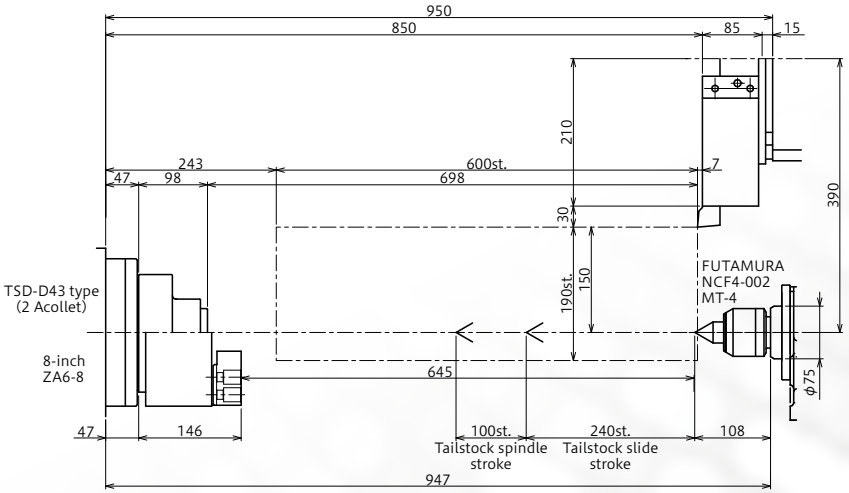
Standard ϕ100 spindle・OP12-station turret

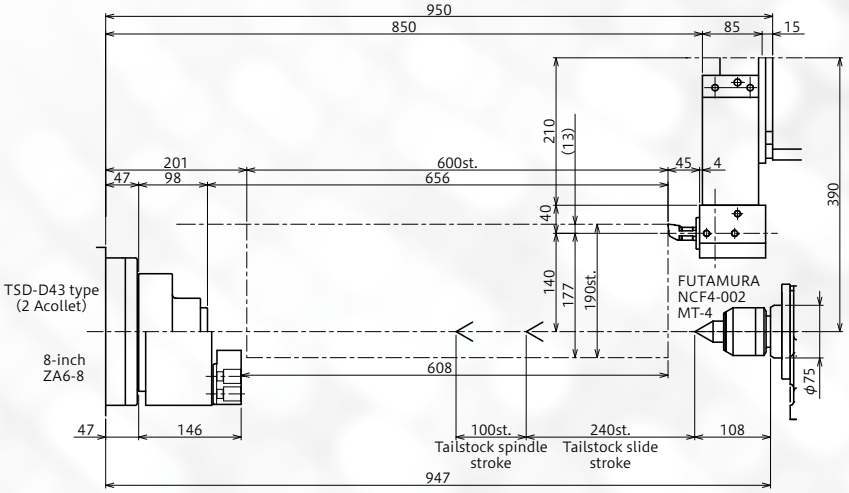
Front shift specification





Rear shift (Option)





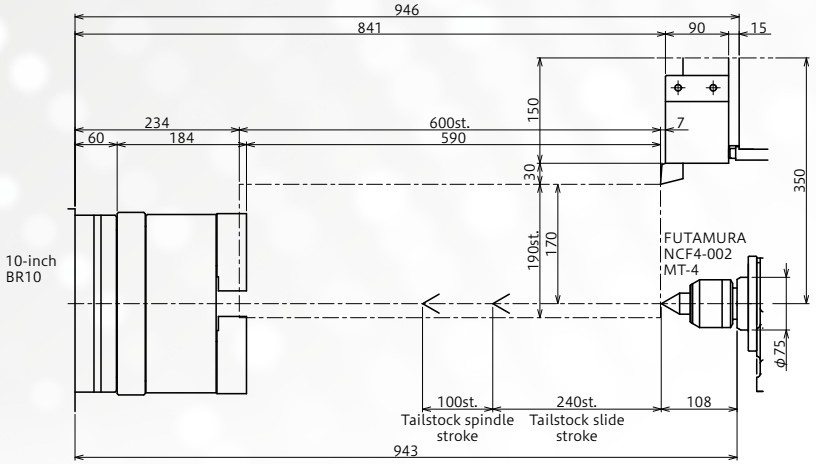
Unit (mm)

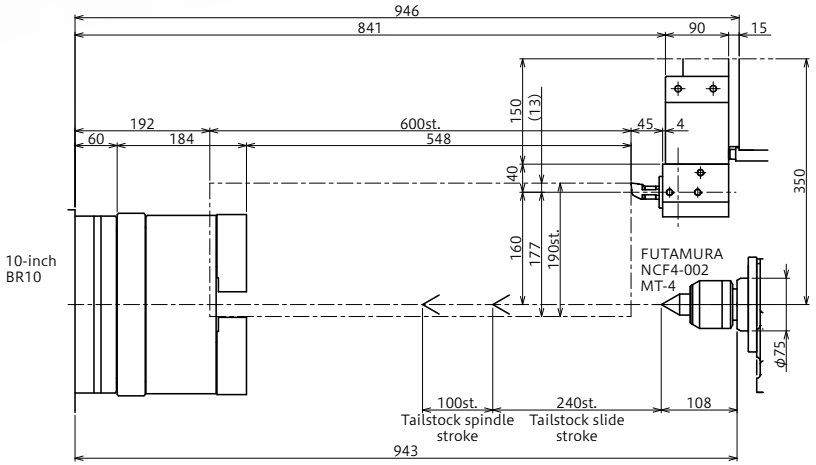
Stroke-Related Drawing

XTL-8

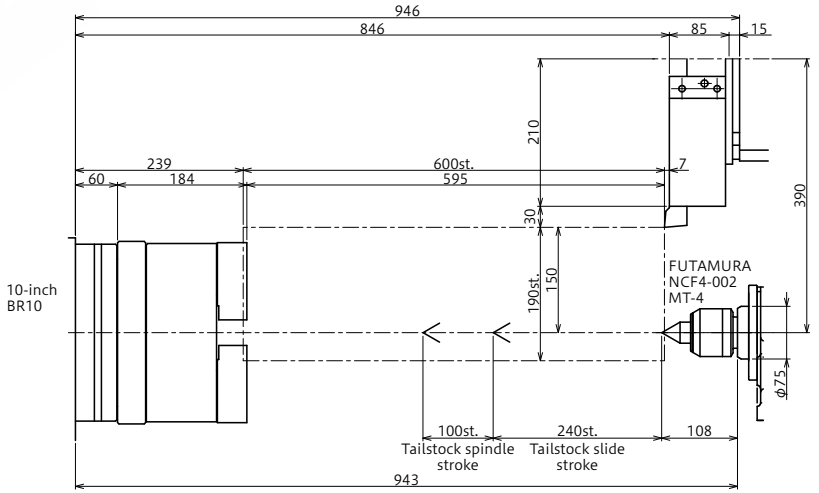
OPϕ120 Spindle・Standard 8-station turret／OP12-station turret

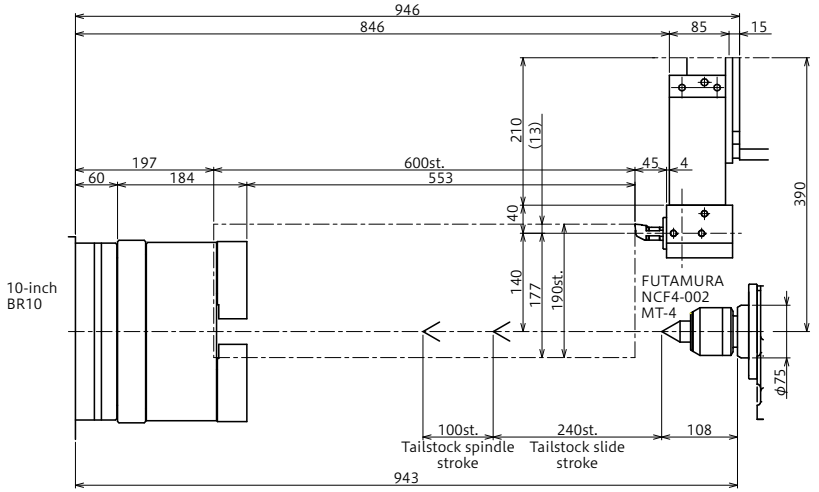
8-station turret





12-station turret (Option)



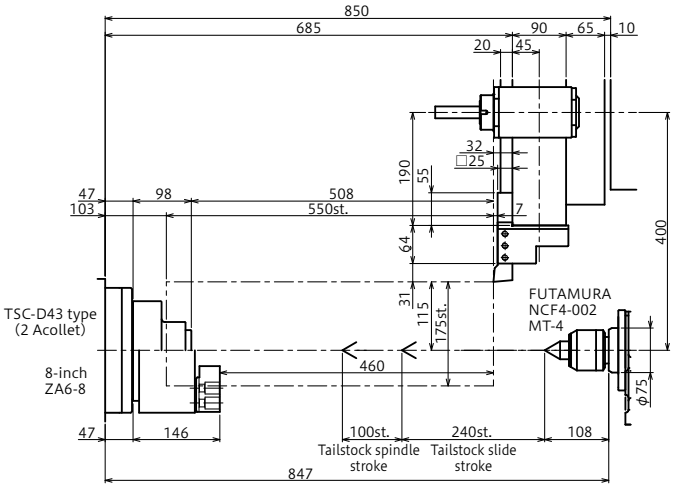


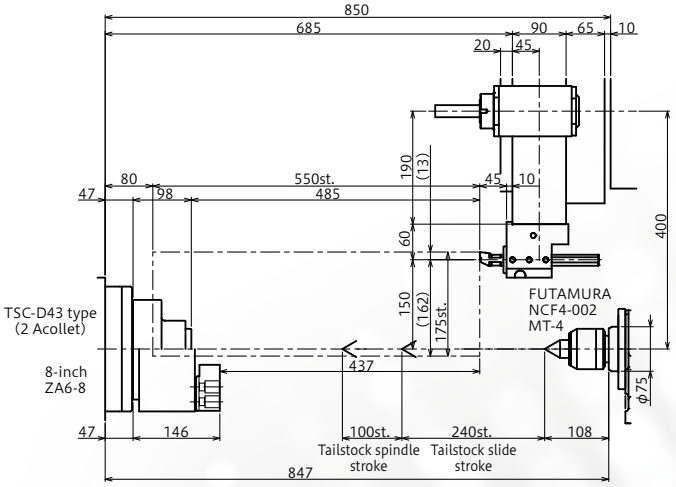
Unit (mm)

XTL-8MY

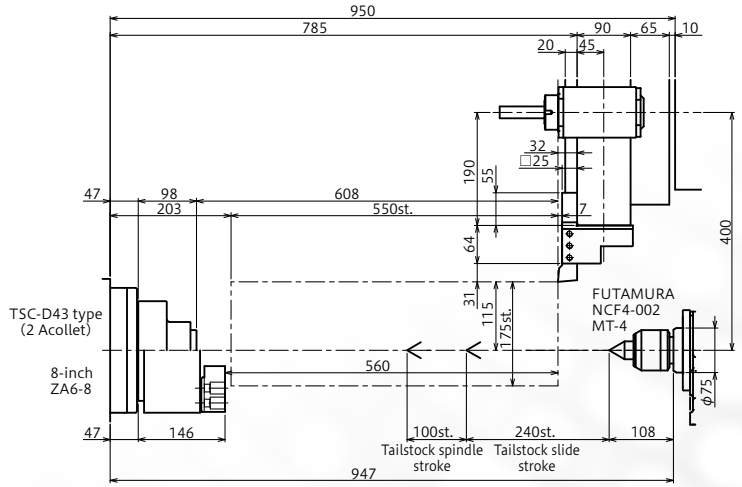
Standard ϕ100 Spindle・12-station turret(BMT55)

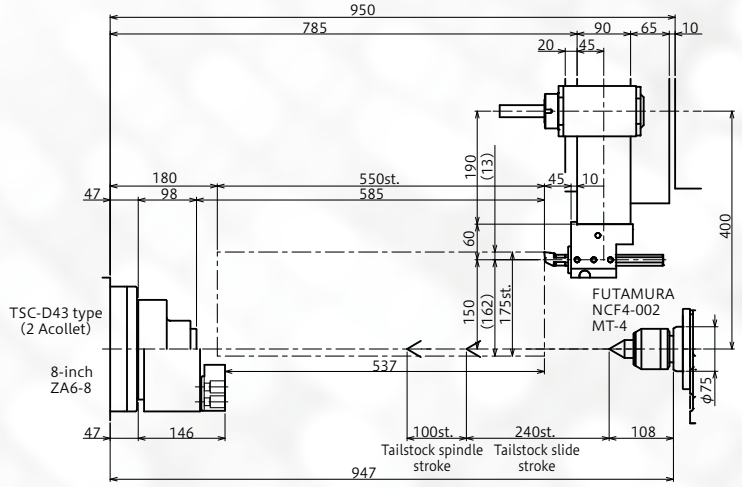
Front shift





Rear shift (Option)





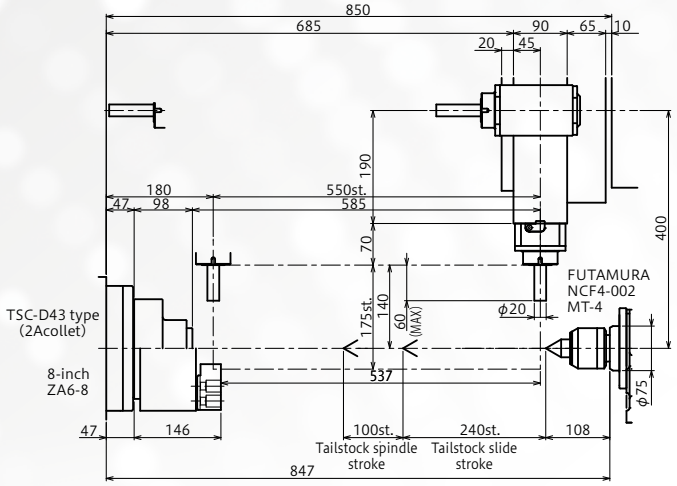
Unit (mm)

Stroke-Related Drawing

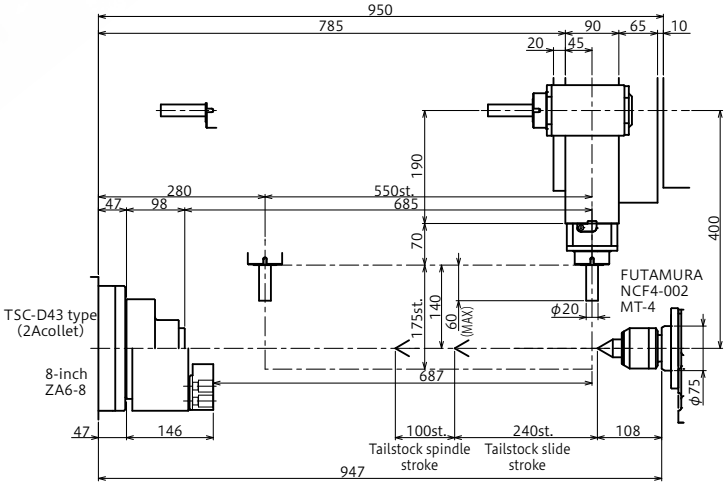
XTL-8MY

Milling range・12-station turret(BMT55)

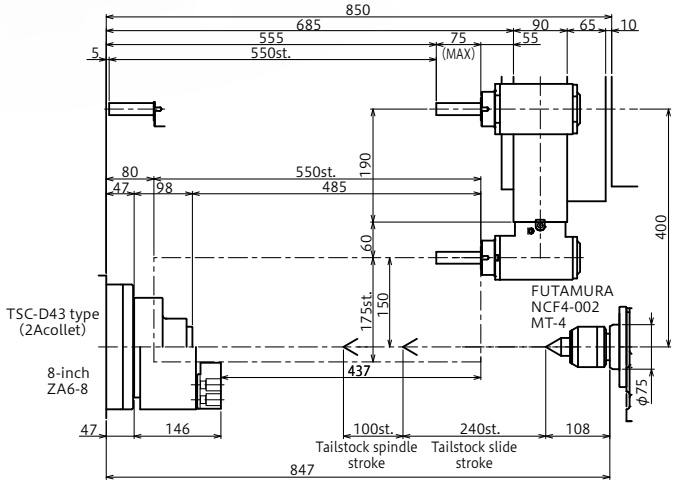
Side milling・Front shift



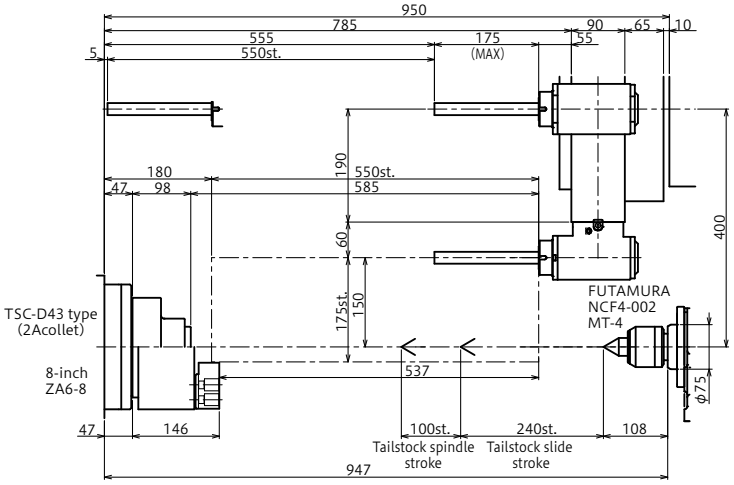
Side milling・Rear shift (Option)



Face milling・Front shift



Face milling・Rear shift (Option)



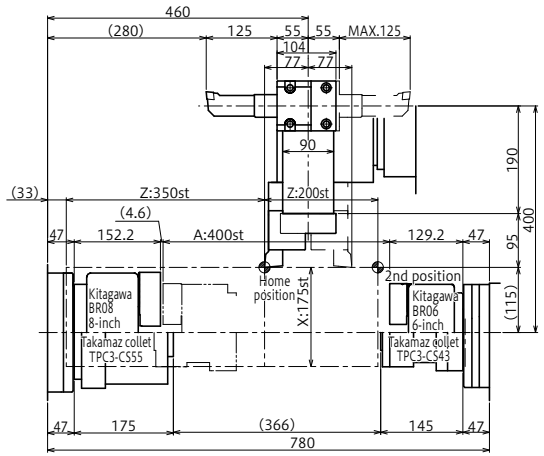
Unit (mm)

XTL-8MYS

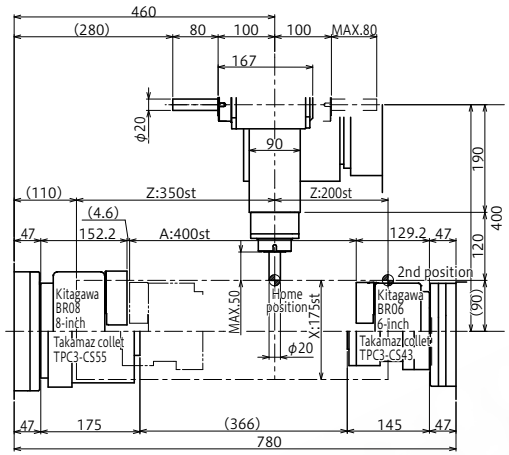
12-station turret(BMT55)

Front shift

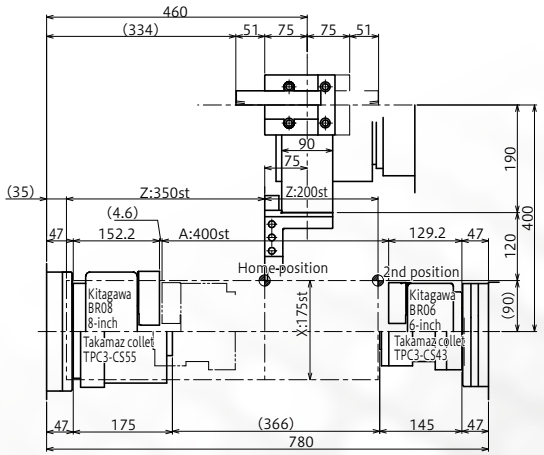
O.D. holder



Side milling

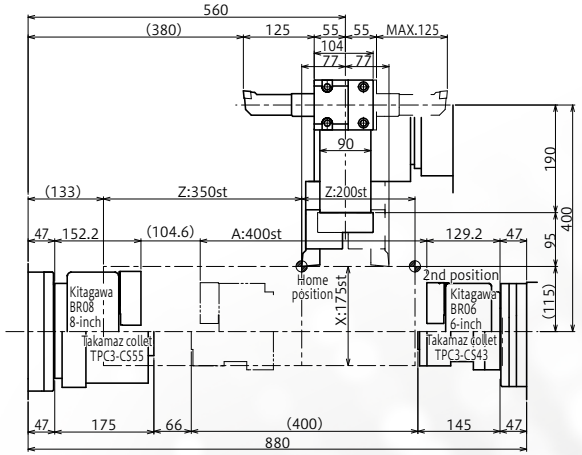


Cut-off holder

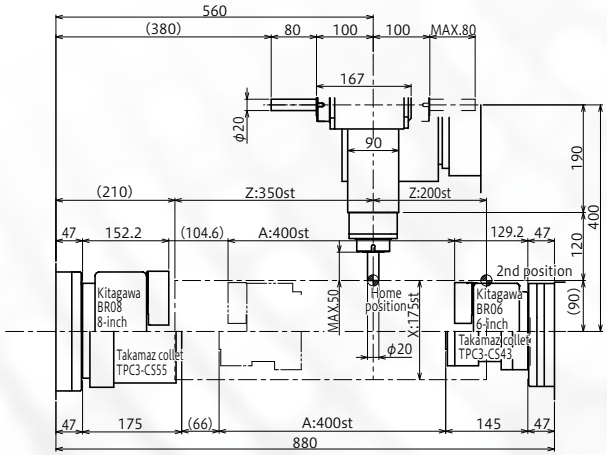


Rear shift (Option)

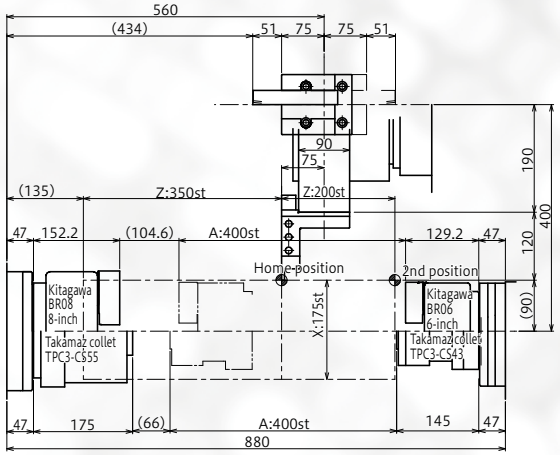
O.D. holder



Side milling



Cut-off holder

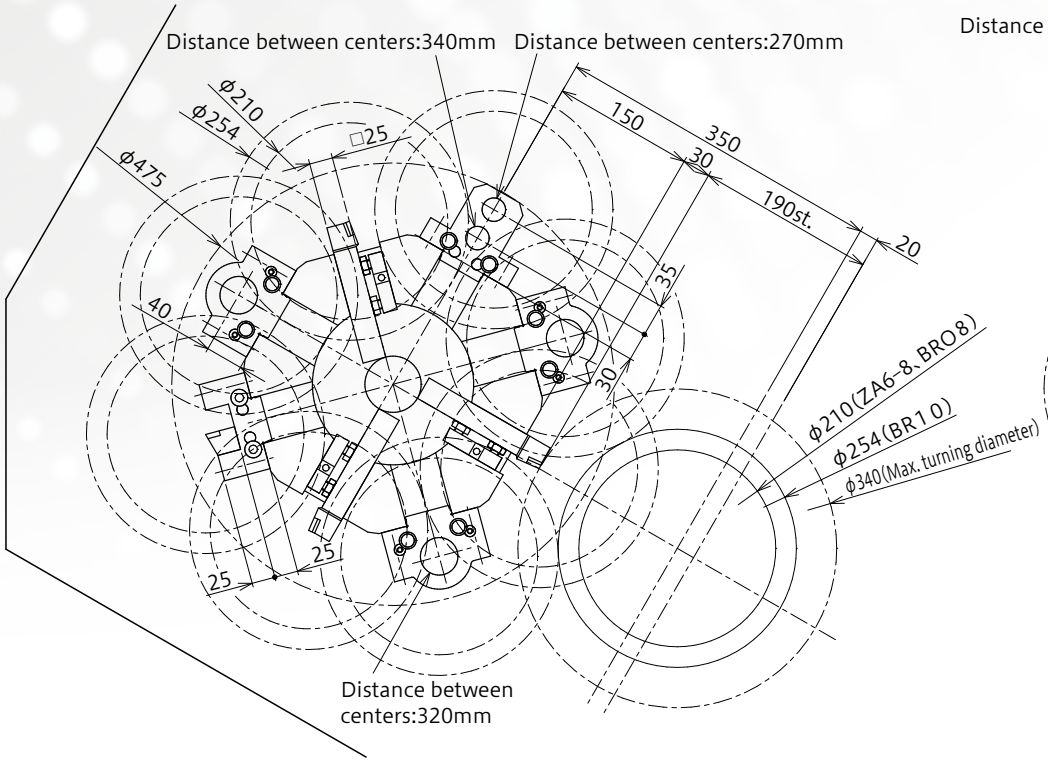


Unit (mm)

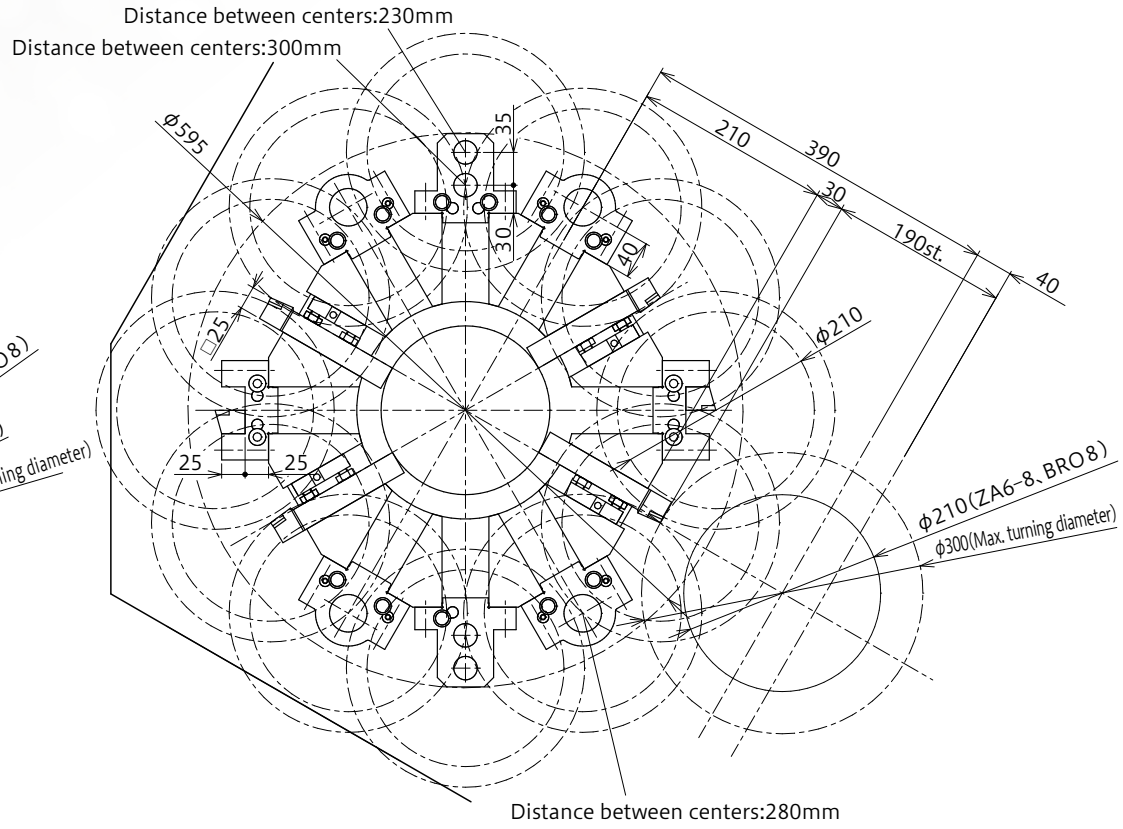
Turret interference

XTL-8

8-station turret



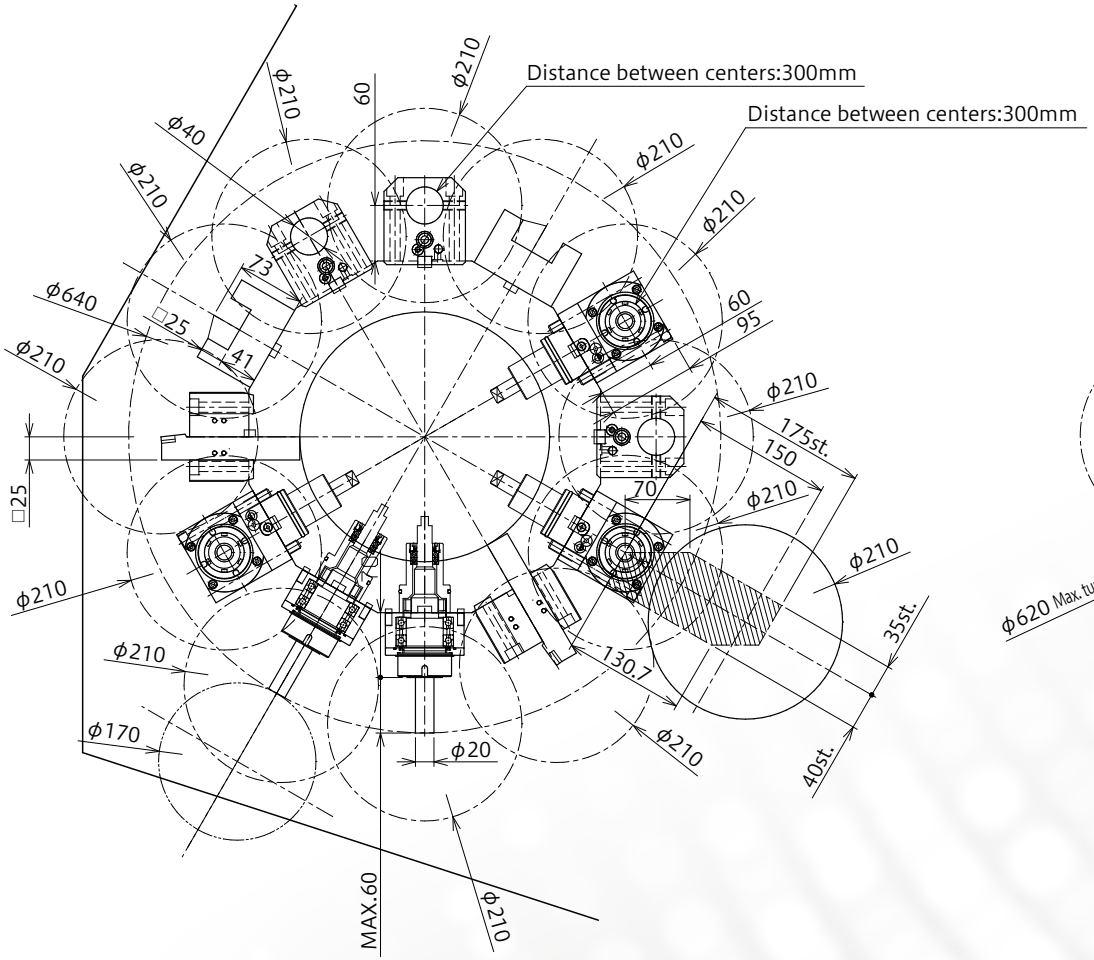
12-station turret (Option)



Unit (mm)

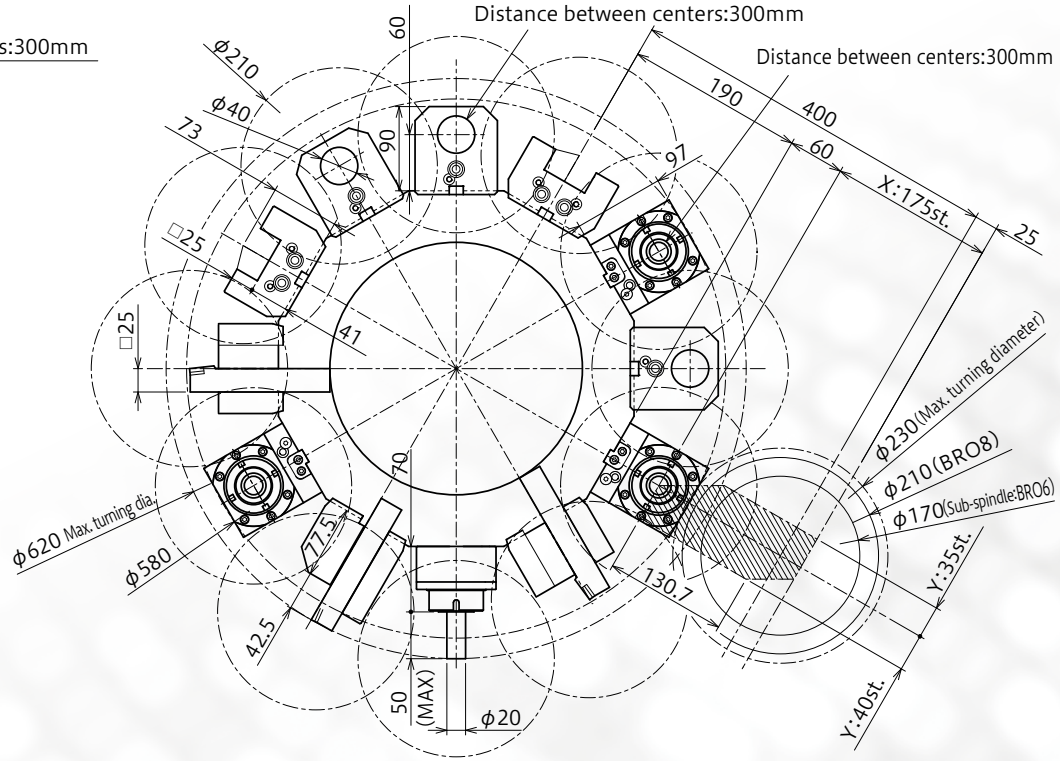
XTL-8MY

12-station turret



XTL-8MYS

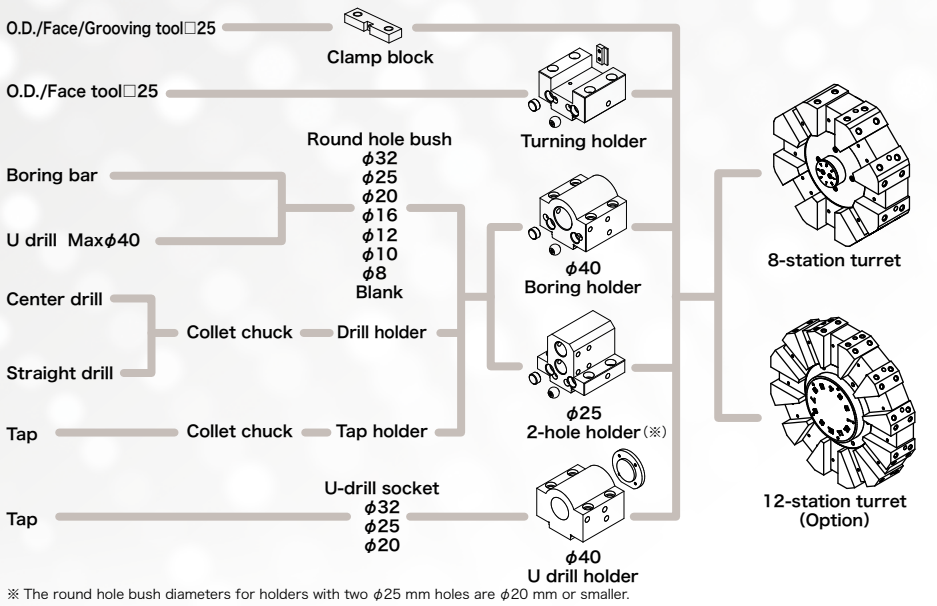
12-station turret



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

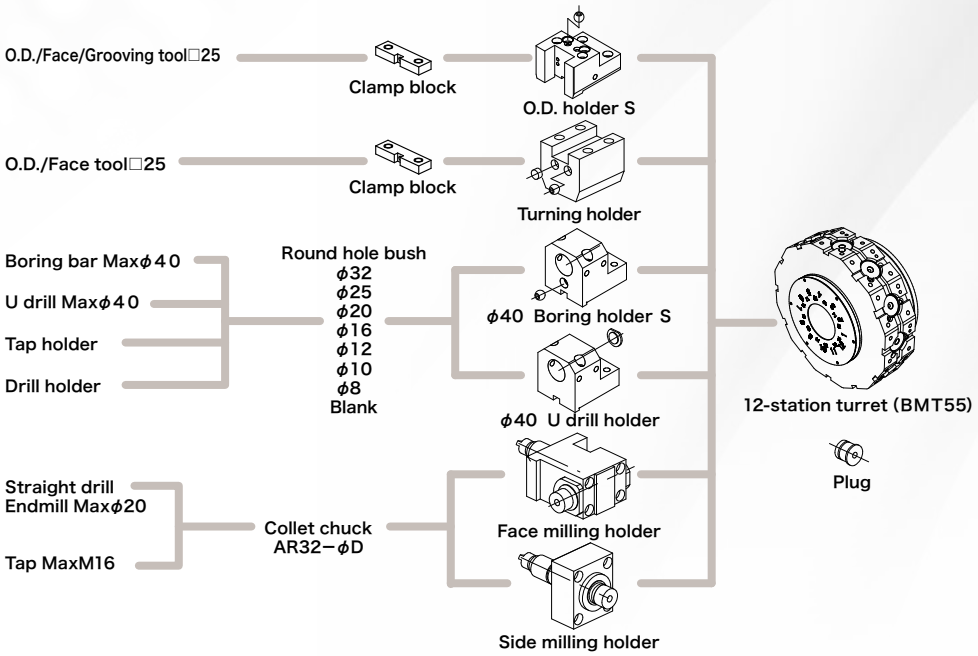
Unit (mm)

Tooling System XTL-8 8-station turret 12-station turret(Option)

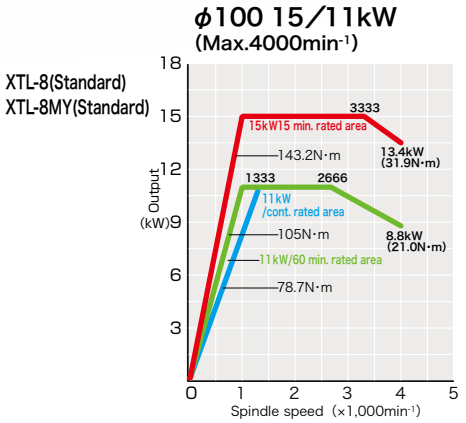


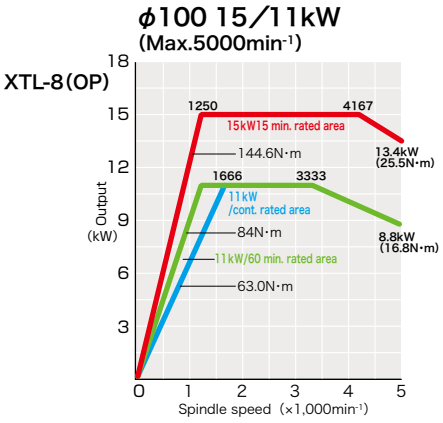
※ The round hole bush diameters for holders with two ϕ25 mm holes are ϕ20 mm or smaller.

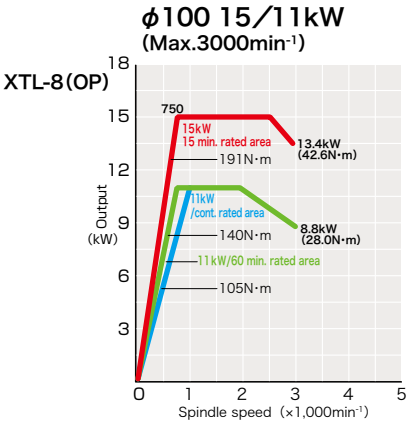
Tooling System XTL-8MY 12-station turret



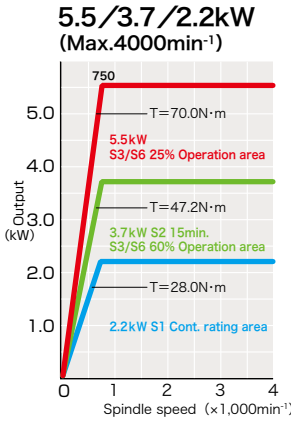
Main-spindle power characteristic curve





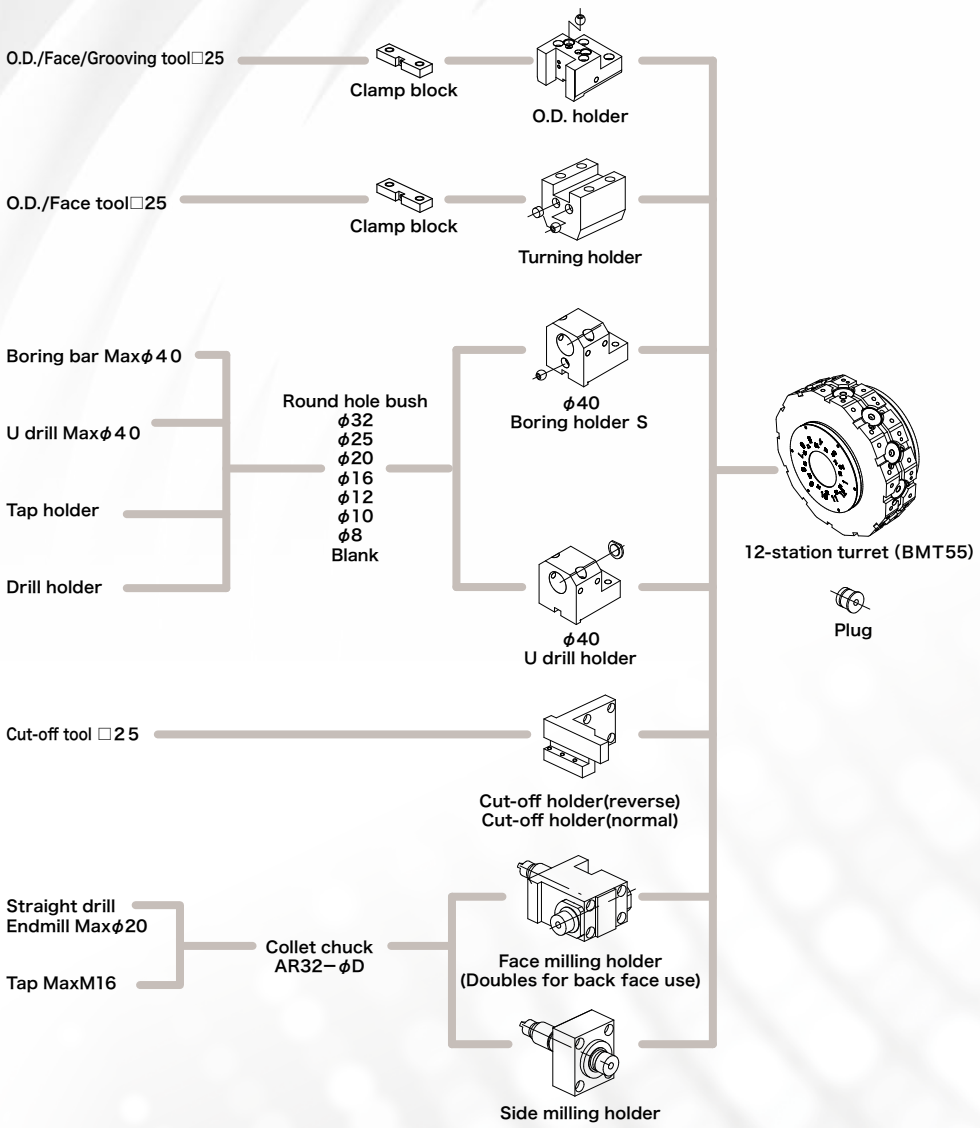


Power tool power characteristic curve (XTL-8MY)



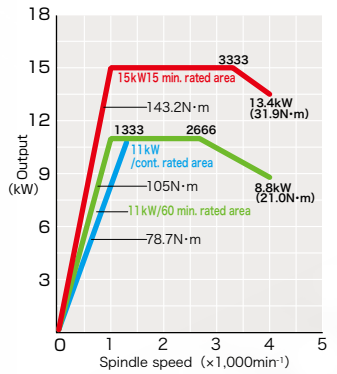
Tooling System

XTL-8MYS 12-station turret



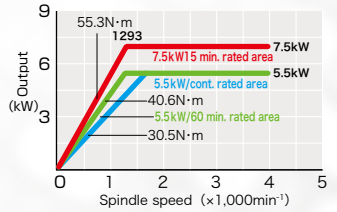
Main-spindle power characteristic curve

∅100 15/11kW
(Max.4000min⁻¹)



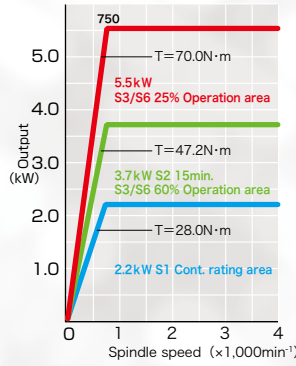
Sub-spindle power characteristic curve

∅75 7.5/5.5kW
(Max.4000min⁻¹)



Power tool power characteristic curve

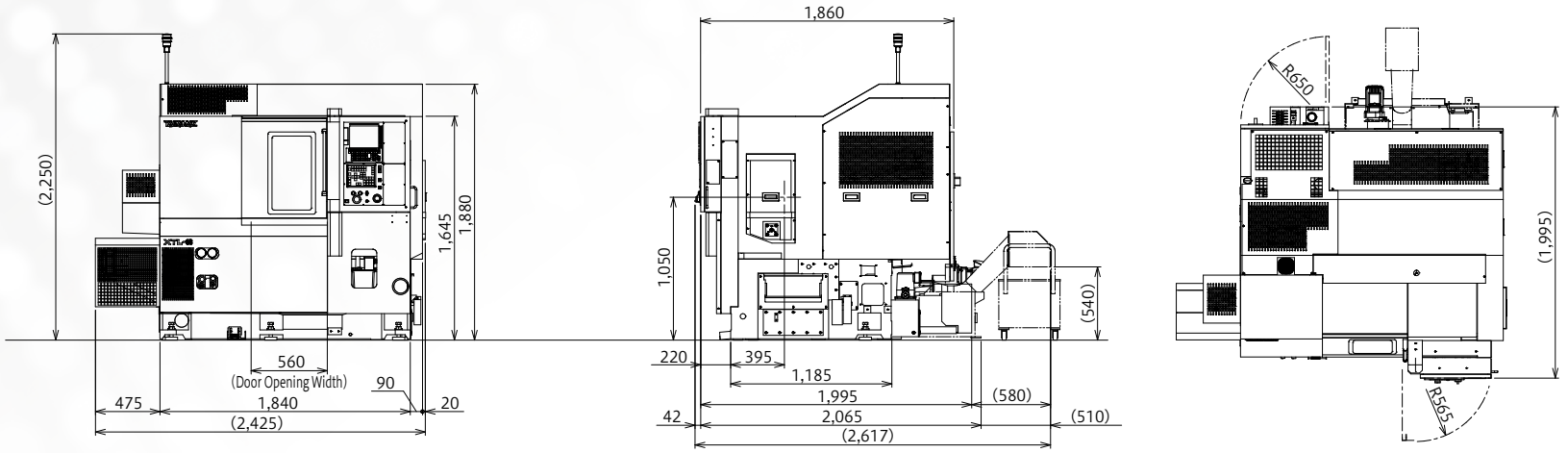
5.5/3.7/2.2kW
(Max.4000min⁻¹)



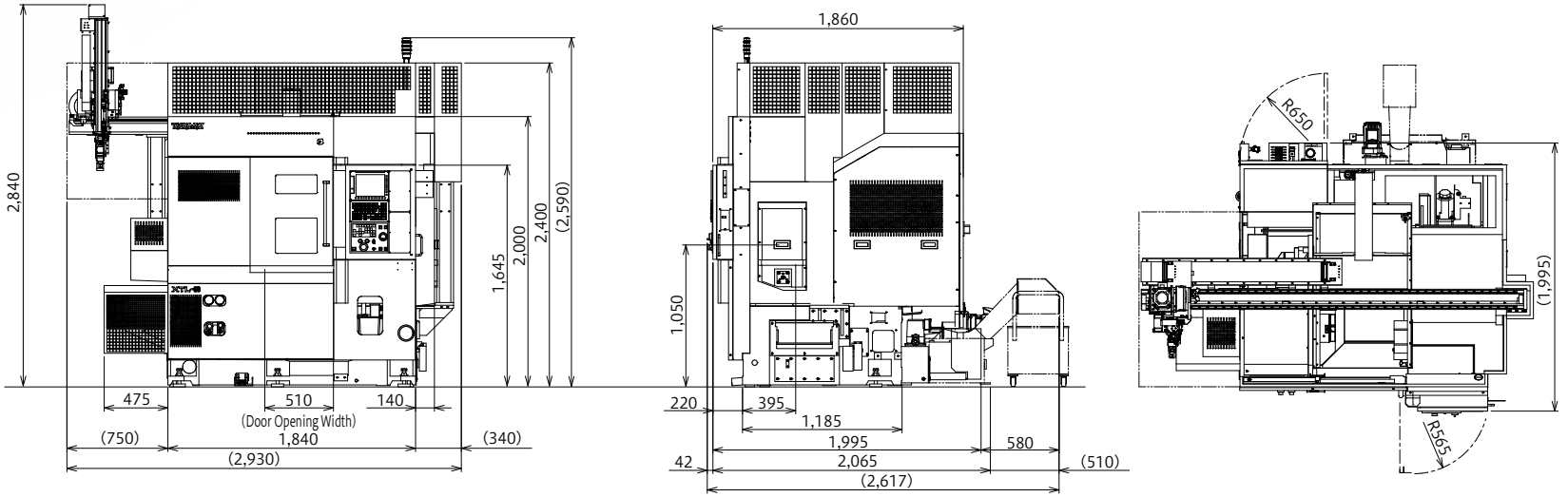
Floor Space Drawing

XTL-8

Standard type



Gantry Loader Specifications

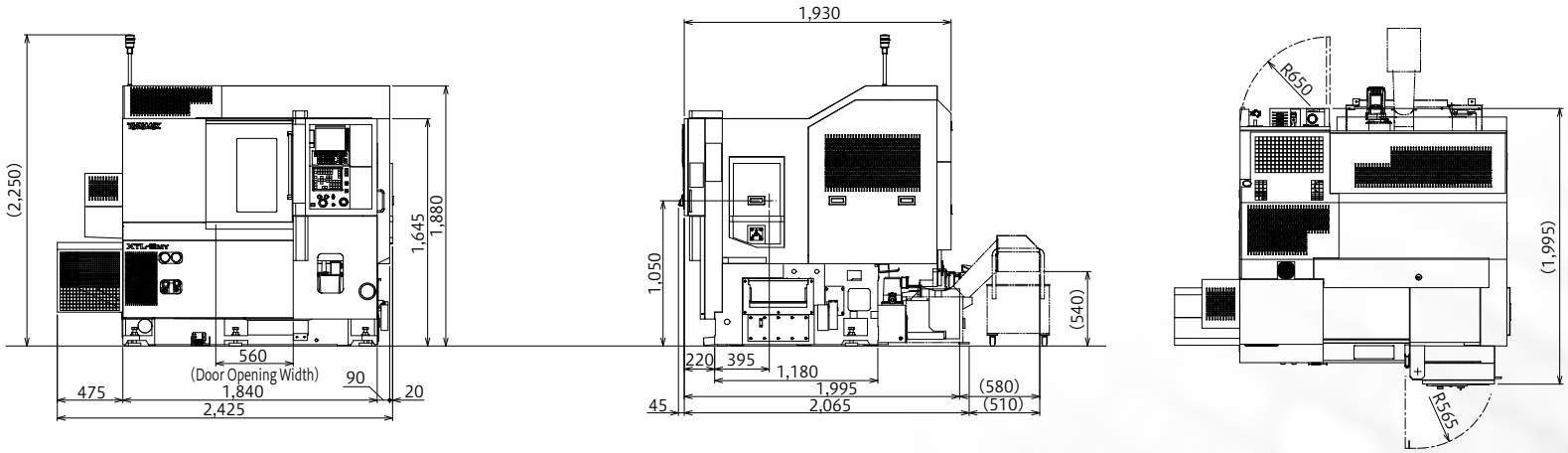


Unit (mm)

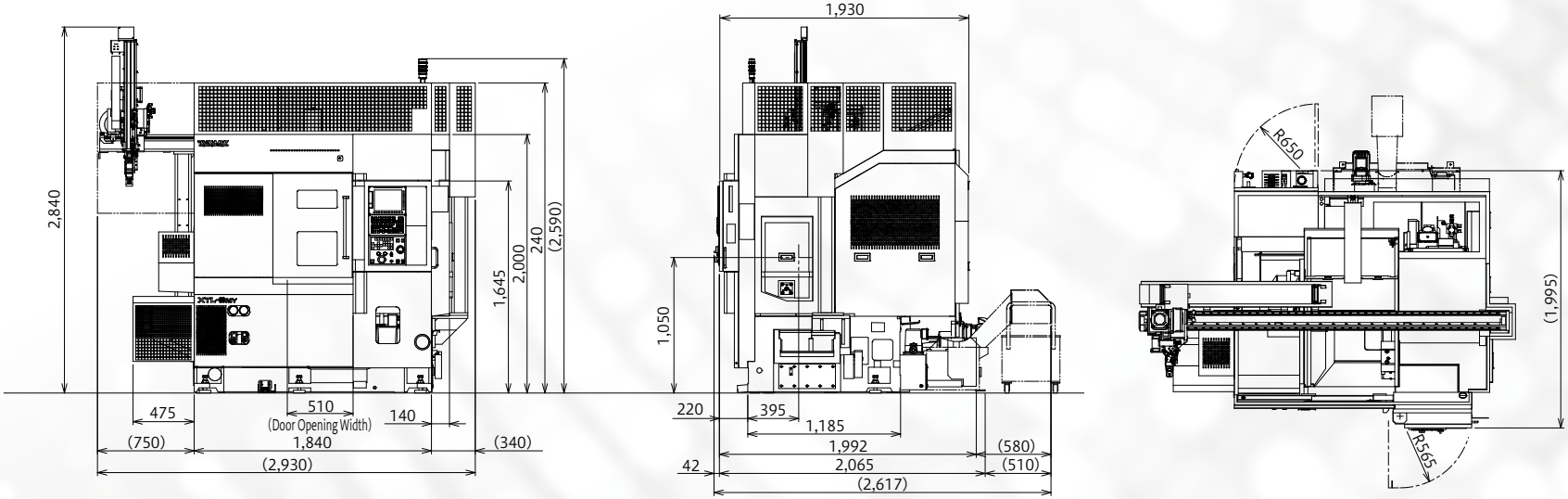
Floor Space Drawing

XTL-8MY

Standard type



Gantry Loader Specifications

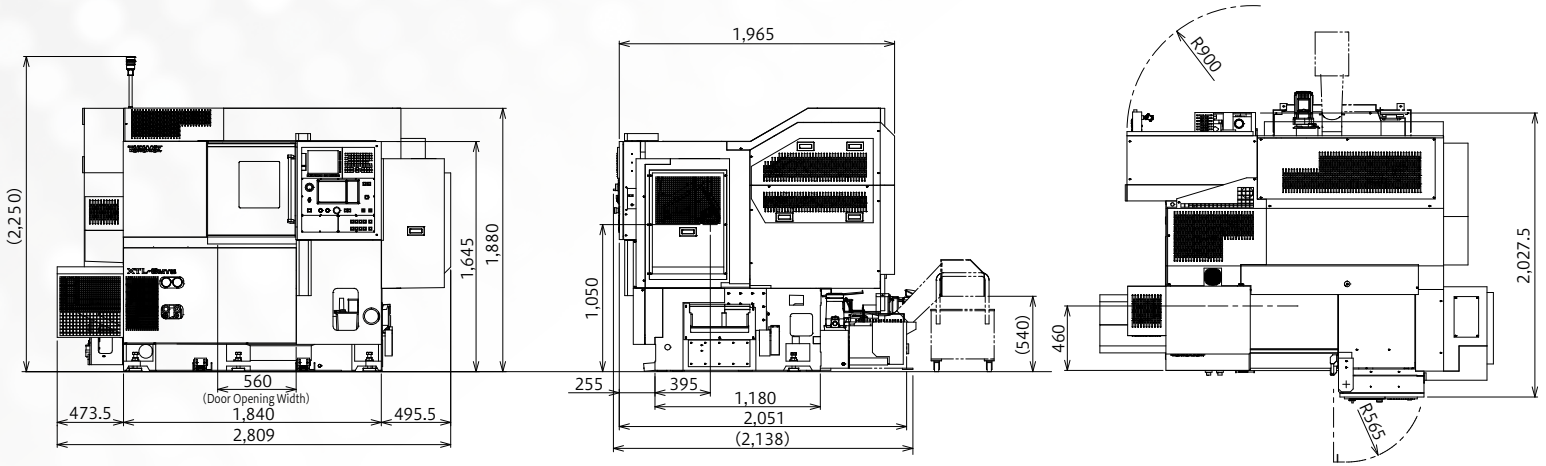


Unit (mm)

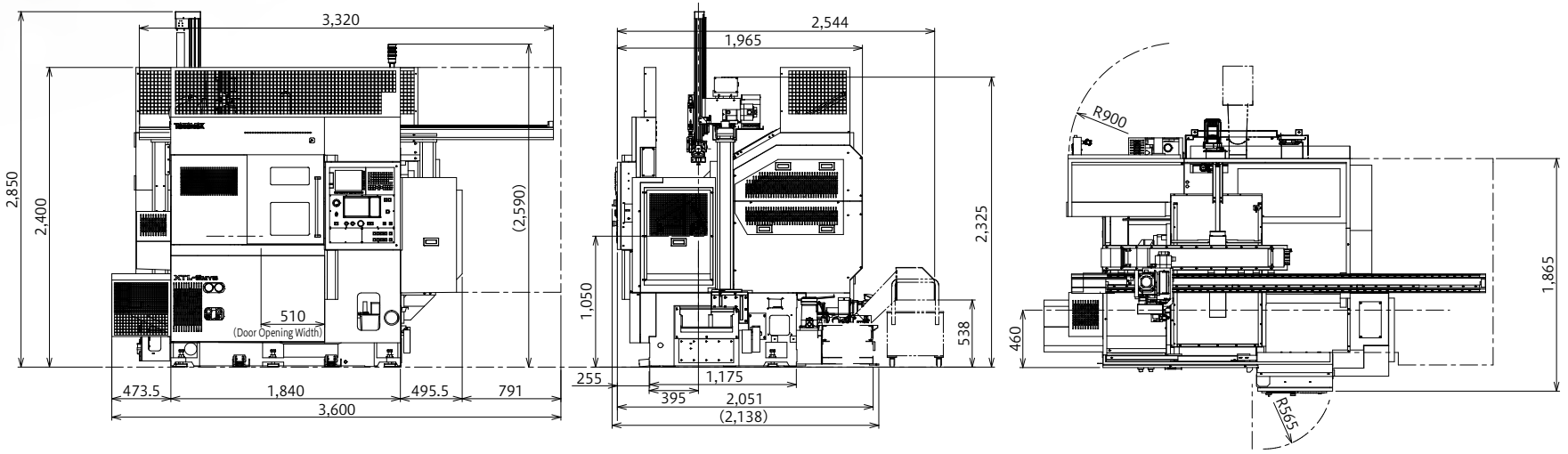
Floor Space Drawing

XTL-8MYS

Standard type



Gantry Loader Specifications



Unit (mm)

Machine Specifications

Item		Unit	XTL-8		XTL-8 MY	XTL-8 MYS	
			8-station Specifications〈Standard〉	12-station Specifications〈Option〉		Main-spindle	Sub-spindle
Capacity	Max. turning diameter	mm	φ340	φ300	φ230	φ230	
	Max. turning length	mm	593	598	508	404	
	Max. bar diameter	mm	Solid(φ42、φ51、φ65)		Solid(φ42、φ51)	Solid(φ42、φ51)	Solid(φ35)
	Chuck size	inch	8(10)		8	8	6
Spindle	Spindle nose	JIS	A2-6(A2-8)		A2-6	A2-6	A2-5
	Spindle bearing I.D.	mm	φ100(φ120)		φ100	φ100	φ75
	Through-hole on spindle	mm	φ61(φ80)		φ61	φ61	φ46
	Spindle speed	min^{-1}	Max.4,000(5,000) (3,000)		Max.4,000	Max.4,000	
Tool post	Type		8-station turret	12-station turret	12-station turret	12-station turret	
	Tool shank	mm	□25		□25	□25	
	Boring holder I.D.	mm	φ40		φ40	φ40	
	Max. stroke	mm	X:190 Z:600		X:175 Z:550 Y:+35、-40	X:175 Z:550 Y:+35、-40 A:400	
	Rapid traverse rate	m/min	X:18 Z:24		X:18 Z:24 Y:10	X:18 Z:24 Y:10 A:30	
Power tools	Tool storage capacity	pcs.	—		12	12	
	Max. rotaring speed	min^{-1}	—		Max.4,000	Max.4,000	
	Capacity Drill	mm	—		φ20	φ20	
	Capacity Endmill	mm	—		φ20	φ20	
	Capacity Tap	mm	—		M16	M16	
Cs-axis	Rapid traverse rate	deg./min	—		36,000	36,000	
Motors	Spindle motor	kW	AC15/11:φ100 4,000min^{-1} AC15/11:φ100 5,000min^{-1} AC15/11:φ120 3,000min^{-1}		AC15/11	AC15/11	AC7.5/5.5
	Feed motor	kW	X:AC1.7 Z:AC 2.5		X:AC1.7 Z:AC2.5 Y:AC 1.0	X:AC1.7 Z:AC2.5 Y:AC1.0 A:AC1.7	
	Coolant motor	kW	AC 0.25		AC 0.25	AC 0.4	
	Hydraulic motor	kW	AC1.5		AC1.5	AC1.5	
	Power tools motor	kW	—		AC 5.5/3.7/2.2	AC 5.5/3.7/2.2	
Tailstock	Pointed End		MT-4		MT-4	—	
	Quill O.D.	mm	φ75		φ75	—	
	Tailstock stroke	mm	240		240	—	
	Max. thrust	kN	5.3		5.3	—	
Size	L×W×H	mm	Manual Machine 2,410〈1,840※1〉×1,860×1,880 Machine with loader 2,410〈1,840※1〉×1,860×2,400		Manual Machine 2,410〈1,840※1〉×1,930×1,880 Machine with loader 2,410〈1,840※1〉×1,930×2,400	Manual Machine 2,808〈1,840※1〉×1,965×1,880 Machine with loader 2,764〈1,840※1〉×1,965×2,400	
	Machine weight	kg	4,500		5,000	5,100	
Total electric capacity		KVA	22～24〈Depends on specifications.〉		26～29〈Depends on specifications.〉	36～38〈Depends on specifications.〉	
Noise level		dB(a)	68.6		68.4	72.7	

※1:Bed width ( ):Option

Other specifications･accessories

Standard Accessories

Item	XTL-8	XTL-8 MY	XTL-8 MYS
Boring holder	2 sets	2 sets	2 sets
O.D. holder	—	2 sets	2 sets
Cut-off holder	—	—	1 set
Clamp block	8 sets(12 sets)	—	—
Coolant block	8 sets(12 sets)	—	—
Hydraulic chucking cylinder(Hollow)	1 set	1 set	1 set
Hydraulic chucks(8 inch Solid)	1 set	1 set	1 set
Sub spindle	—	—	1 set
Hydraulic chucking cylinder (hollow sub)	—	—	1 set
Hydraulic chucks(6 inch Solid sub)	—	—	1 set
Hydraulic unit	1 set	1 set	1 set
Chuck clamp detector	1 set	1 set	1 set(for both spindles)
Spindle indexing device(Cs-axis)	—	1 set	1 set(for both spindles)
Power tools drive unit	—	1 set	1 set
Thread cutting unit(Including constant surface speed control)	1 set	1 set	1 set(for both spindles)
Tailstock	1 set	1 set	—
Coolant unit	1 set	1 set	1 set
Work light	1 set	1 set	1 set
Service tool kit	1 set	1 set	1 set
TAKAMAZ Instruction manual	1 set	1 set	1 set

Optional Accessories

- ☐Tool holders
- ☐Collet chucks
- ☐Chuck stroke check function
- ☐Thermony® (Thermal displacement correction system)
- ☐TAKAMAZ loader system
- ☐Bar feeder system(XTL-8MYS)
- ☐Parts catcher(XTL-8MYS)
- ☐Work set detector
- ☐Special spindle speed(5,000min^{-1}、3,000min^{-1}) (XTL-8)
- ☐Chip conveyor (Rear／Side)
  (Floor type／Spiral type)
- ☐Front air blower
- ☐Rear air blower
- ☐Rear coolant unit
- ☐Signal light(1-color／2-color／3-color)
- ☐Automatic fire extinguisher
- ☐Automatic power shut-off device
- ☐Automatic door system (Auto door／Shutter)
- ☐Chuck clamp detector (Adjustable on the screen)
- ☐Special color
- ☐Others

Controller Specifications

Item	XTL-8	XTL-8 MY	XTL-8 MYS
	TAKAMAZ & FANUC 0i-TF Plus F Loader:type 0　Standard:type 1		
Controlled axes	2 axes(X、Z)	4 axes(X、Z、C、Y)	6 axes(X、Z、C、Y、A、E)
Simultaneously controllable axes	Simultaneous 2 axes	Simultaneous 4 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、Y:0.001mm C:0.001deg.	X:0.0005mm Z、Y、A:0.001mm C、E:0.001deg.
Auxiliary function	M-code 3 digit		
Spindle function	S-code 4 digit		
Tool function	T-code 4 digit		
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		
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		

Item	XTL-8	XTL-8 MY	XTL-8 MYS
	TAKAMAZ & FANUC 0i-TF Plus FLoader:type 0　Standard:type 1		
Multiple repetitive cycle II	Pocket-shaped		
Spindle synchronous control	—	—	Standard
Sub-spindle torque skip	—	—	Standard
Y-axis offset	—	Standard	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	—	Power tool only	Power tool only
Polar coordinate interpolation	—	Standard	Standard
Cylindrical interpolation	—	Standard	Standard
Stored stroke check 1	Standard		
Stored stroke check 2、3	Standard		
Input／Output interface	Flash Memory, Memory card※, Ethernet		
Alarm message	Standard		
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 (Standard Specification only)		
T-ECO Support	Idle stop function, Energy-saving level selection function, Power consumption monitor screen		
TAKAMAZ option functions	Work／Tool counter, Tool load monitor, Others		
TAKAMAZ maintenance function	Standard		
FANUC set of manuals	DVD-ROM		

Optional Controller Specifications

Item	XTL-8	XTL-8 MY	XTL-8 MYS
Input／Output interface	RS232C		
Tool life management	—		
Multiple M codes in one block	Max. 3		
Spindle orientation	1 set／6 set		
Dynamic graphic display	Supported only with standard specifications		
FANUC instruction manuals	Bound		
FANUC loader special control function	In-machine camera display function, wear offsetting using digital measuring devices		

※In the case of FGH loader specification, this is in the electric cabinet.

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