

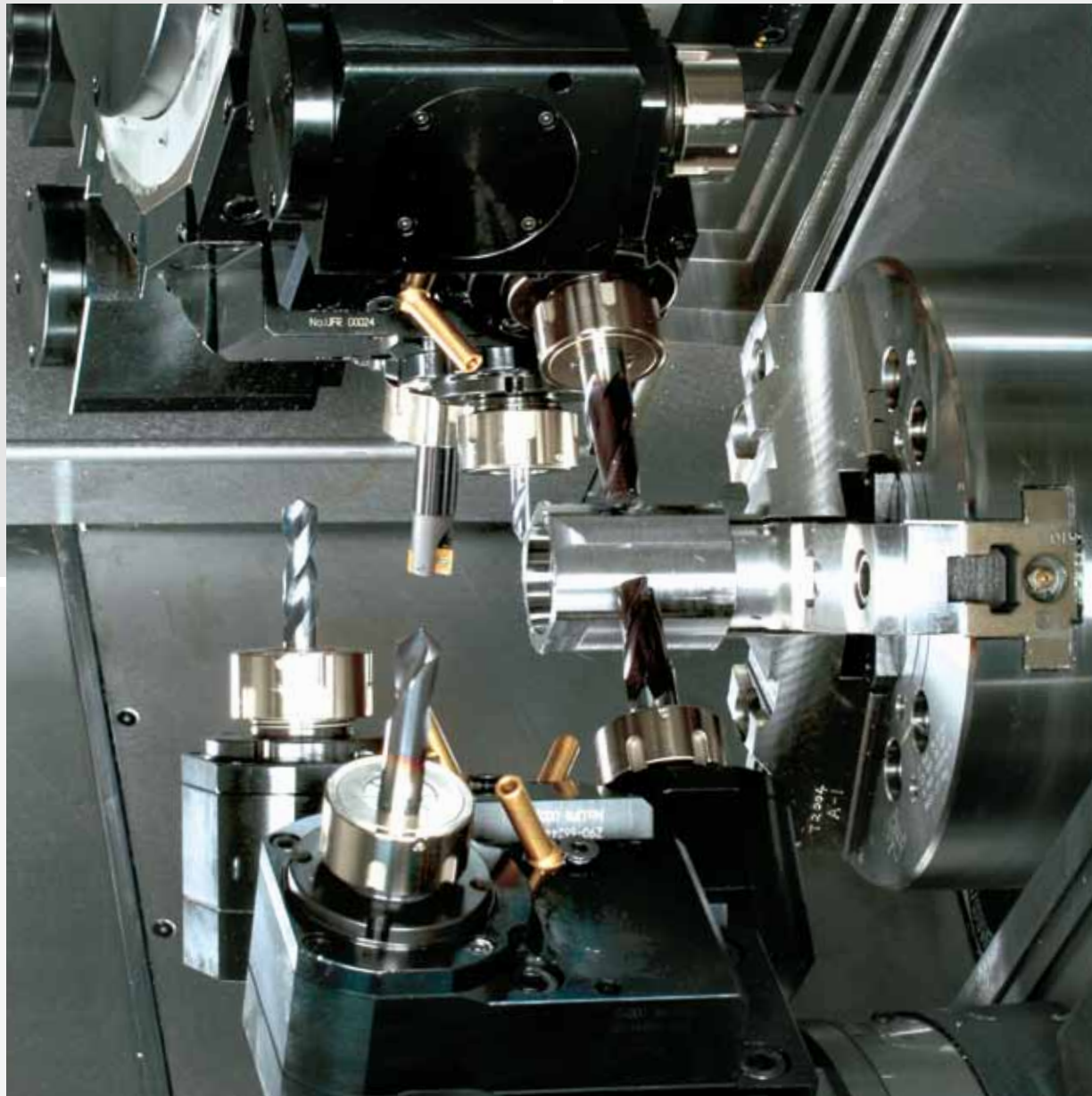


High Productivity Multi-Tasking Machines

MT100/MT200



MURATA MACHINERY, LTD.

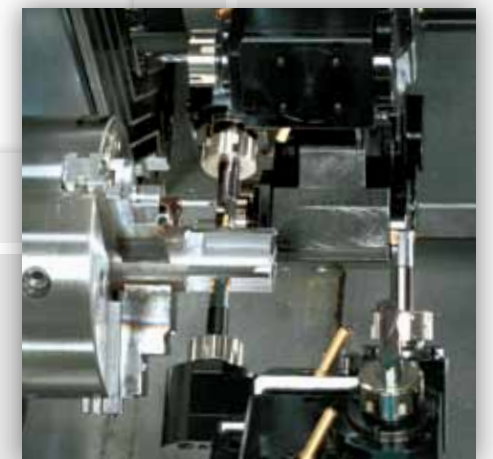


Multiple Operations by Multiple Turrets

All-in-One Solution with Bar and Chuck Work Combined with Flexible Automation

High Performance for Mass Production

- Large-sized Bar Work on Both Spindles
- Same-sized Spindle Motors on Both Spindles
- Y-axis on All Turrets
- Live Tool Function on All Turrets and Stations
- High Speed 3-axis CNC Gantry Loader
- Intelligent Servo Unloader (MT100)



Turning and Milling Capabilities Combined in One Machine

High rigidity with selectable number of turrets (2 or 3).
In addition to the advantages of simultaneous machining on the left and right spindles.



High Productivity Multi-Tasking Machine

MT100



Specifications

MT100

Target part size	ø51 mm bar material
Chuck size	ø165 mm (6")
Spindle motor	11kW/30 min (7.5 kW/cont.) (Left/Right)
Turret	2 turrets (Optional 3rd turret) Each turret - 15 stations Live tool & Y-axis function on all turrets
Live tool motor	8.0 kW/Max (2.2 kW/cont.) [Max=3500 rpm, Time duty 10% (On:3.0s)] Maximum Speed 6000 rpm

MT200

Target part size	ø65 mm bar material (ø80 Option)
Chuck size	ø210 mm (8")
Spindle motor	15kW/30min (11 kW/cont.) (Left/Right)
Turret	2 turrets (Optional 3rd turret) Upper turret - 15 stations Lower turret - 12 stations Live tool & Y-axis function on all turrets
Live tool motor	14.0 kW/Max (4.8 kW/cont.) [Max=4500 rpm, Time duty 10% (On:3.0s)] Maximum Speed 4500 rpm

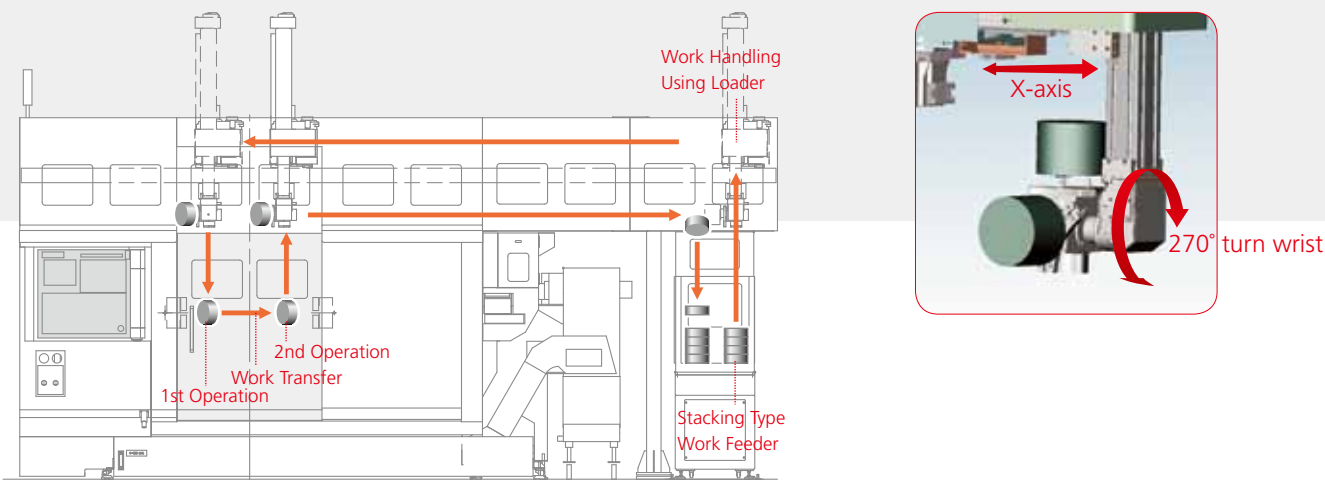
High Productivity Multi-Tasking Machine

MT200



Muratec Original High Speed 3-Axis Gantry Loader

Our integral, intelligent 3 axis gantry loader offers versatile automation.
A multitude of optional peripheral devices, and loader re-start in any position anytime.



Flexible Automation: All-in-One Solution on Chuck Work

High Productivity Multi-Tasking Machine

MT100 Gantry Loader Type



Specifications

MT100	
Target part size	ø51 mm bar material
Chuck size	ø165 mm (6")
Spindle motor	11kW/30 min (7.5 kW/cont.) (Left/Right)
Turret	2 turrets (Optional 3rd turret)
	Each turret - 15 stations
	Live tool & Y-axis function on all turrets
Live tool motor	8.0 kW/Max (2.2 kW/cont.)
	[Max=3500 rpm, Time duty 10% (On:3.0s)]
	Maximum Speed 6000 rpm

Gantry Loader

Workpiece capacity	3 Jaws	ø120mm x L100mm, 3.0 kg x 2 (5.0 kg x 2 Option)
	2 Jaws	ø70 mm x L200 mm, 3.0 kg x 2 (ø70 mm x L270 mm, 3.0 kg x 2 Restricted option*1)
Stroke	Z-axis	Left : 2210 mm, Right : 3170 mm
	Y-axis	780 mm
	X-axis	210 mm
Max. speed	Z-axis	160 m/min
	Y-axis	120 m/min
	X-axis	60 m/min

MT200	
Target part size	ø65 mm bar material (ø80 Option)
Chuck size	ø210 mm (8")
Spindle motor	15kW/30min (11 kW/cont.) (Left/Right)
Turret	2 turrets (Optional 3rd turret)
	Upper turret - 15 stations
	Lower turret - 12 stations
	Live tool & Y-axis function on all turrets
Live tool motor	14.0 kW/Max (4.8 kW/cont.)
	[Max=4500 rpm, Time duty 10% (On:3.0s)]
	Maximum Speed 4500 rpm

Gantry Loader

Workpiece capacity	3 Jaws	ø140mm x L105mm, 5.0 kg x 2 (8.0 kg x 2 Option)
	2 Jaws	ø80 mm x L200 mm, 4.0 kg x 2 (ø80 mm x L320 mm, 4.0 kg x 2 Restricted option*1)
Stroke	Z-axis	Left : 2080 mm, Right : 3360 mm
	Y-axis	680 mm
	X-axis	210 mm
Max. speed	Z-axis	160 m/min
	Y-axis	120 m/min
	X-axis	50 m/min

Center Partition

With the addition of the center partition to the machine, one spindle is isolated from the other spindle. The loader is isolated from the machining side during operation.



High Productivity Multi-Tasking Machine

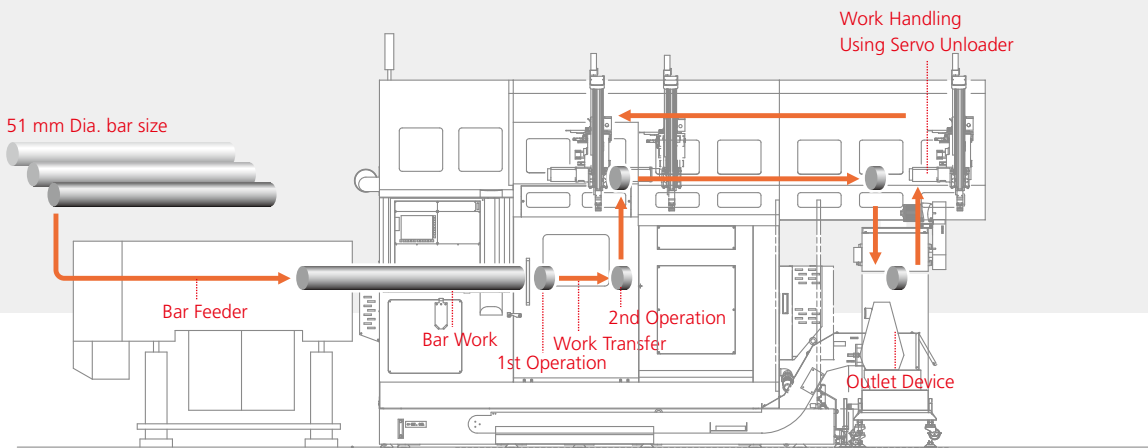
MT200 Gantry Loader Type



*1 Depending on workpiece shape and grip position. Please contact us for details.

Muratec Original Intelligent Servo Unloader

Z-axis and Y-axis are servo-driven. Easy access for pallet or outlet devices.



Flexible Automation: All-in-One Solution on Bar Work

High Productivity Multi-Tasking Machine

MT100 Intelligent Servo Unloader Type



Specifications

MT100

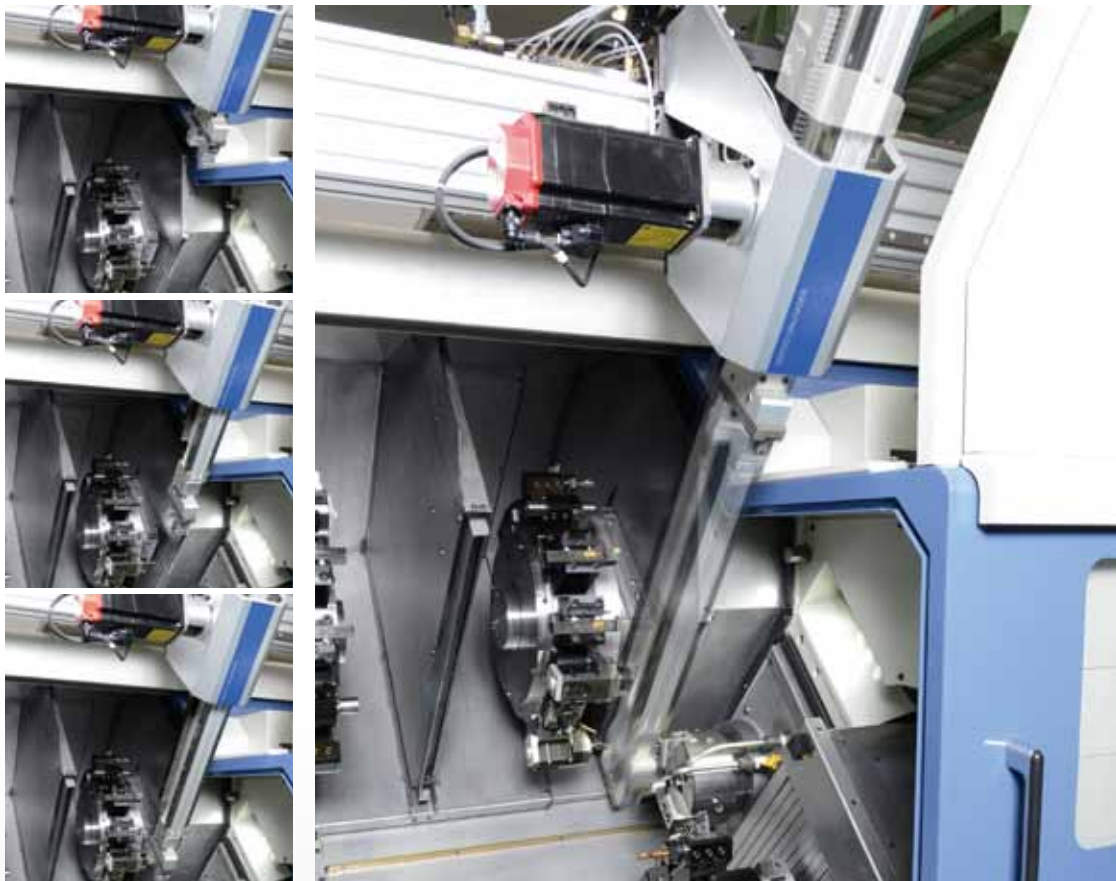
Target part size	ø51 mm bar material
Chuck size	ø165 mm (6")
Spindle motor	11kW/30 min (7.5 kW/cont.) (Left/Right)
Turret	2 turrets (Optional 3rd turret)
	Each turret - 15 stations
	Live tool & Y-axis function on all turrets
Live tool motor	8.0 kW/Max (2.2 kW/cont.)
	[Max=3500 rpm, Time duty 10% (On:3.0s)]
	Maximum Speed 6000 rpm

Servo Unloader

Workpiece handling capacity	2 Jaws	ø51 mm × L180 mm ^{*1} , 2.5 kg
Stroke	Z-axis	2460 mm
	Y-axis	700 mm
Max. speed	Z-axis	60 m/min
	Y-axis	80 m/min

Center Partition

With the addition of the center partition to the machine, one spindle is isolated from the other spindle. The unloader is isolated from the machining side during operation.

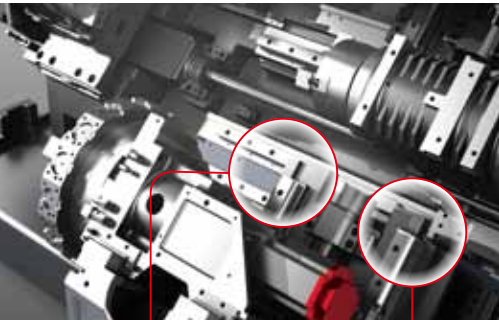
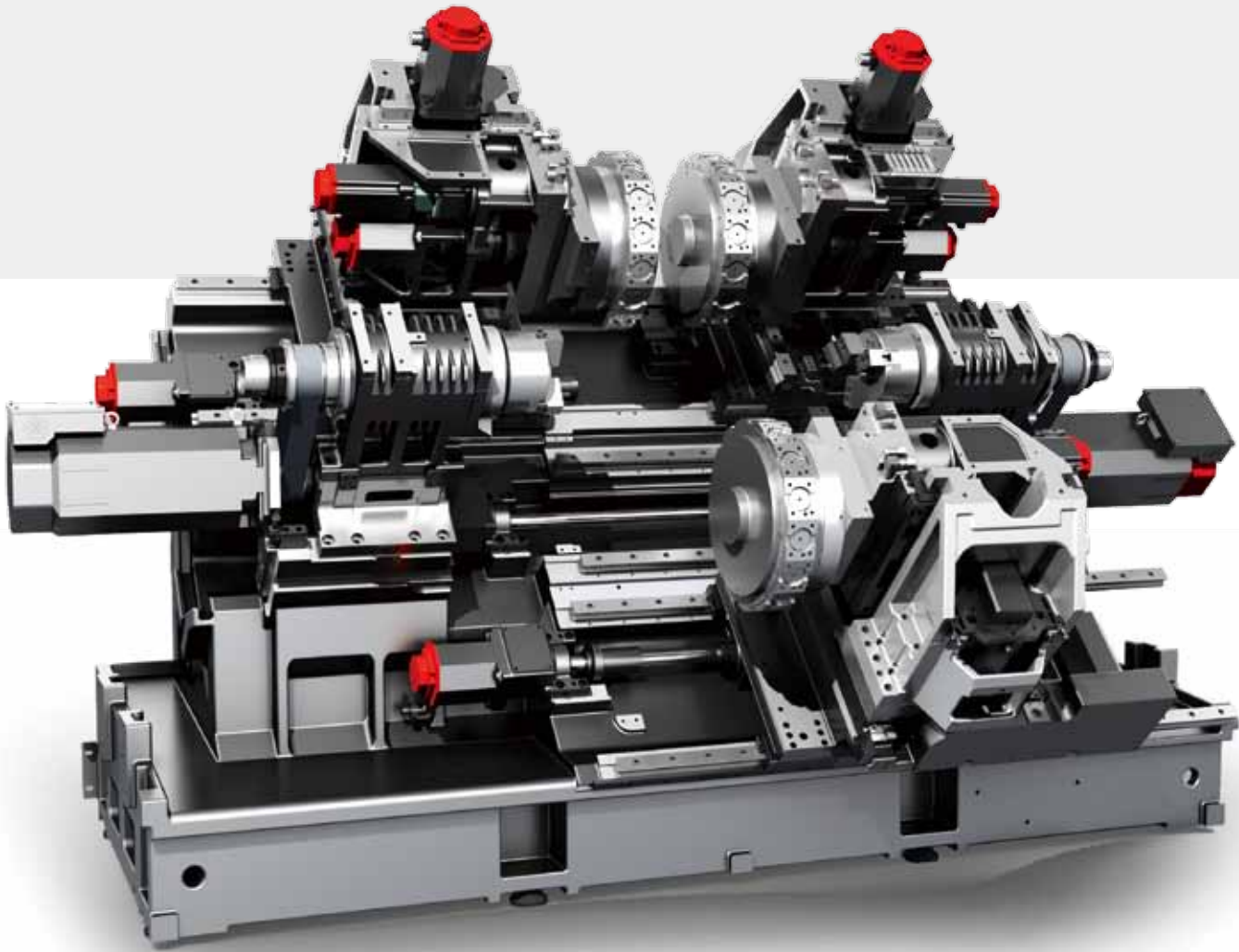


Intelligent Servo Unloader

Newly-developed 2-axis servo robot for unloading finished parts.

^{*1} Depending on workpiece shape and grip position. Please contact us for details.

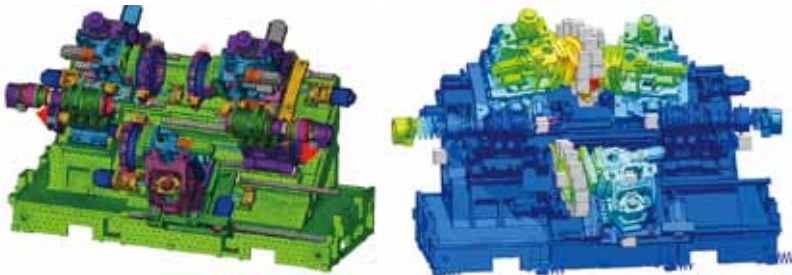
Basic Structure: Highly Rigid Body & Thermal Stability



Roller Guide
X-axis, Z-axis



Box Slide
Y-axis

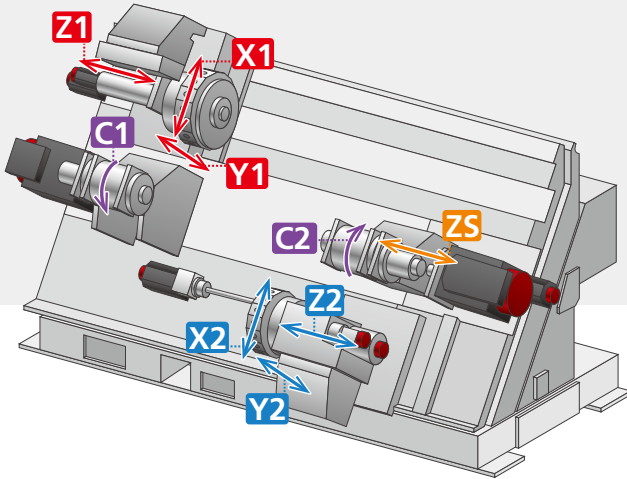


We used FEM analysis to simulate the structure's deformation under load and thermal deformation. By making fine adjustments to every detail, from the thickness of the bed to the shape and arrangement of the ribs. We achieved high flexural rigidity and small thermal deformation

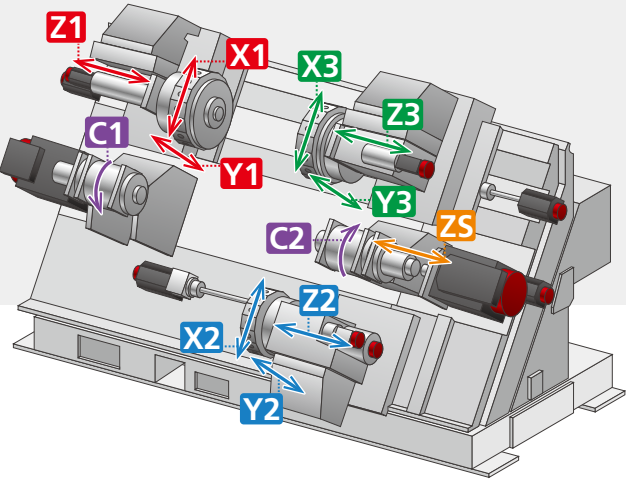
High Productivity Multi-Tasking Machines

Y-axis on all turrets. Live-tool on all turrets and all positions.

2 Turret type

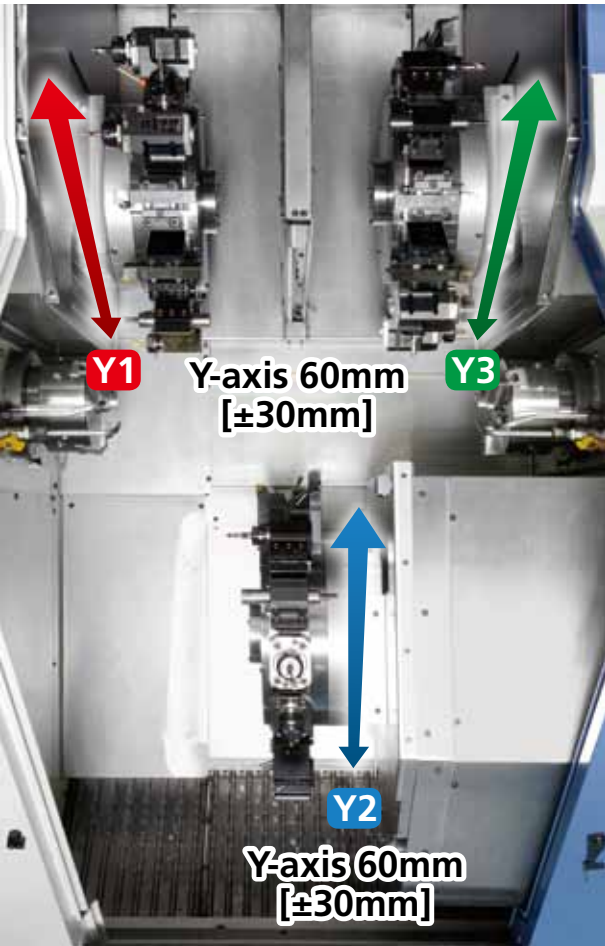


3 Turret type



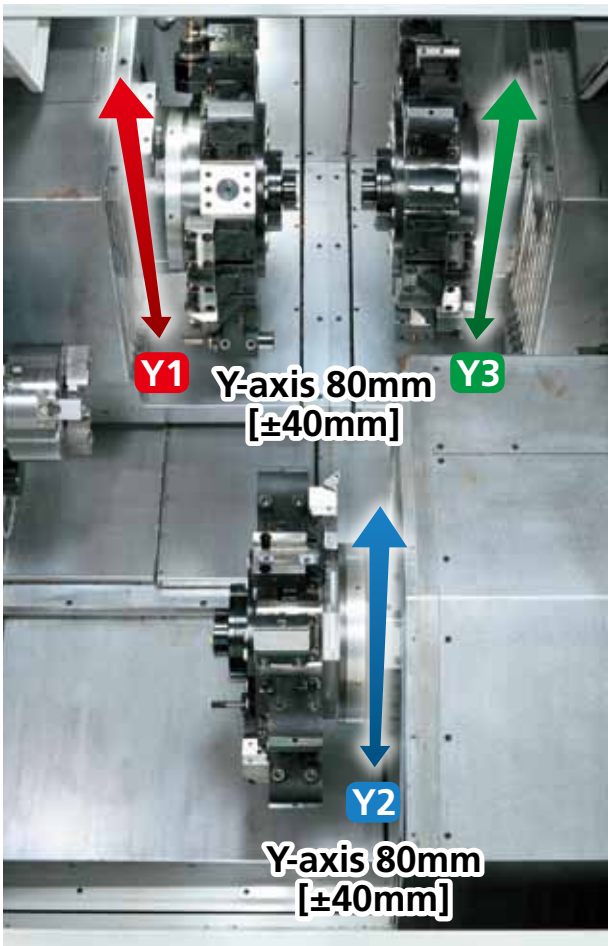
MT100

Each turret: 15 stations



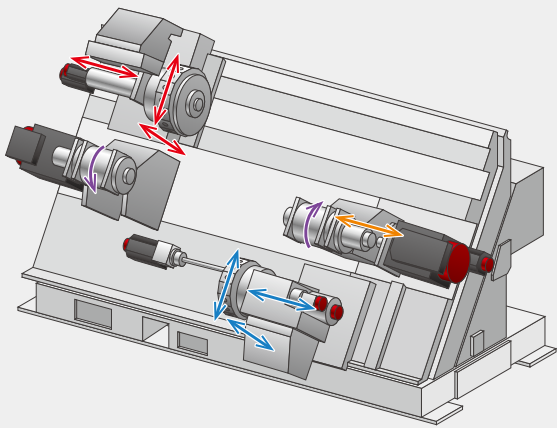
MT200

Upper turret: 15 stations
Lower turret: 12 stations

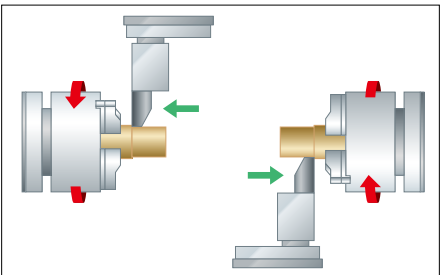


2 Turret Configuration

- Y-axis on all turrets
- Live tool function on all turrets and stations

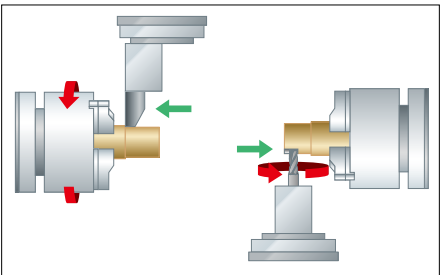


Cutting Variations



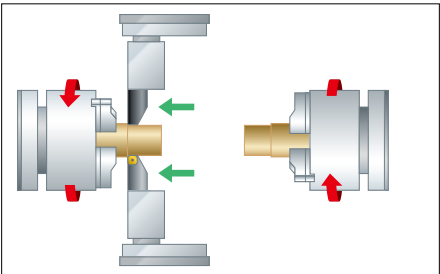
Individual Turning Process on Each Side

Left Spindle - Turning process on the left upper turret
Right Spindle - Turning process on the right lower turret
Available : Special process Left spindle - Right turret
Right spindle - Left turret



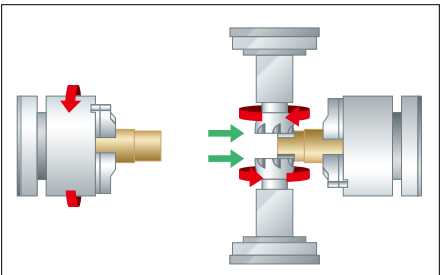
Individual Turning and Milling Process on Each Side

Left Spindle - Turning process on the left upper turret
Right Spindle - Milling process on the right lower turret
Available : Opposite turning process Left spindle - Milling
Right spindle - Turning



Simultaneous Turning Process

One Spindle - Turning process on the upper and lower turrets
The Other Spindle - Turning process on standby
Applicable: Both spindles

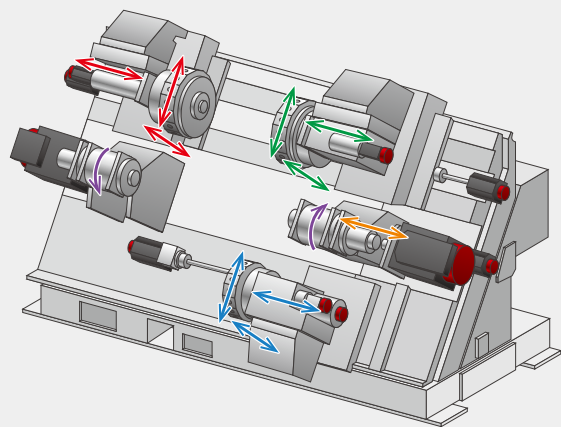


Simultaneous Milling Process

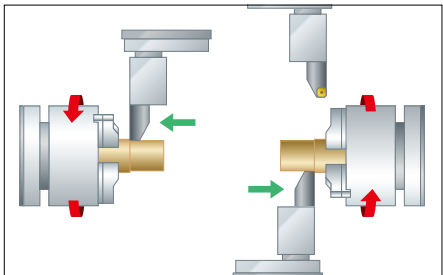
One Spindle - Milling process on the upper and lower turrets
The Other Spindle - Milling process on standby
Applicable: Both spindles

3 Turret Configuration

- Y-axis on all turrets
- Live tool function on all turrets and stations

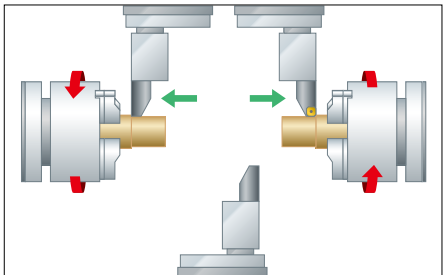


Cutting Variations



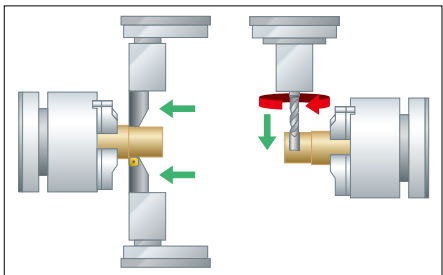
Individual Turning Process on Each Side

Left Spindle - Turning Process on the left upper turret
Right Spindle - Turning process on the lower turret
Right upper turret on standby
Available : Opposite turning process



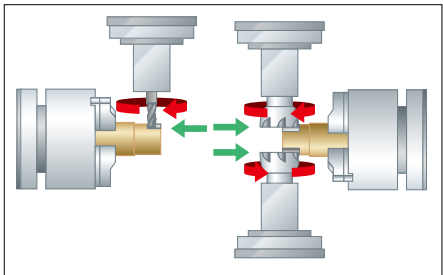
Individual Turning Process on Each Side

Left Spindle - Turning process on the left upper turret
Right Spindle - Turning process on the right upper turret
Lower turret on standby
Available : Lower turret accessible to left and right spindles



Simultaneous Turning Process

One Spindle - Simultaneous turning process on the upper and lower turrets
The Other Spindle - Turning or milling process



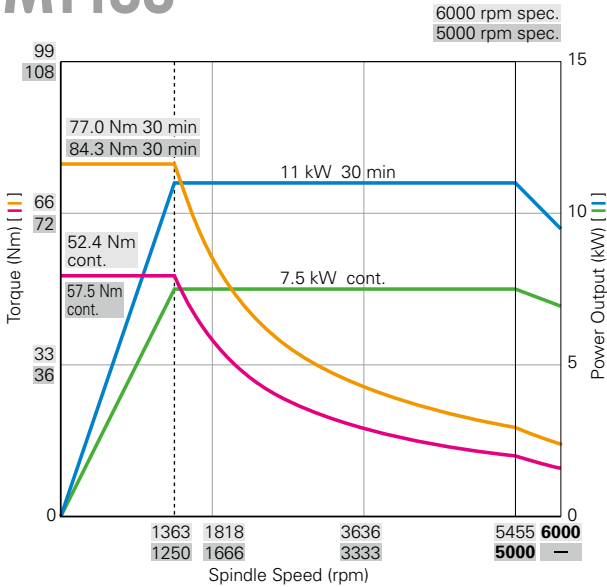
Simultaneous Milling Process

One Spindle - Simultaneous milling process on the upper and lower turrets
The Other Spindle - Turning or milling process

Spindle Specifications



MT100

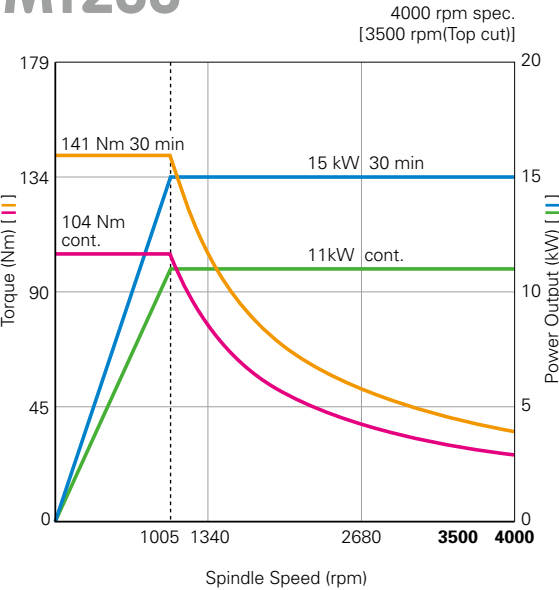


Specifications

MT100

Spindle drive motor	11 kW/30 min(7.5kW/cont.) × 2
Spindle speed range	Std 50 rpm~5000 rpm
	Op 60 rpm~6000 rpm
Spindle nose size	JIS A2-5
Spindle diameter at front bearing mounting	ø90 mm
Diameter of spindle bore	Std ø62 mm
	—
Spindle draw tube diameter	Std ø52 mm
	—

MT200



Specifications

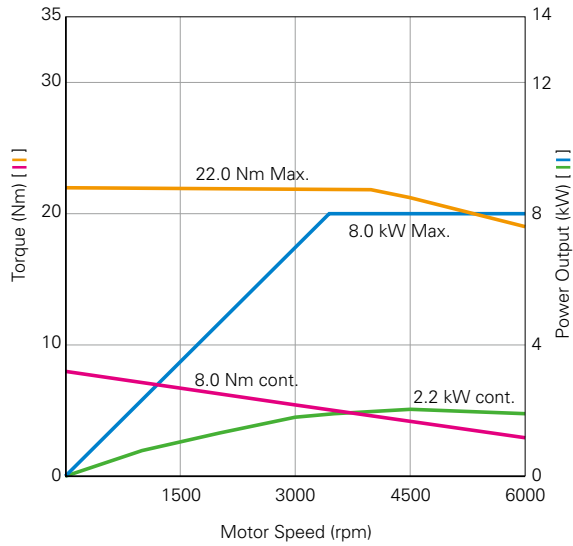
MT200

Spindle drive motor	15 kW/30 min(11kW/cont.) × 2
Spindle speed range	ø110 40 rpm~4000 rpm
	ø130 40 rpm~3500 rpm (Top cut)
Spindle nose size	JIS A2-6
	(A2-8 : ø80 mm Max bar size option)
Spindle diameter at front bearing mounting	Std ø110 mm
	Op ø130 mm
Diameter of spindle bore	Std ø77 mm
	Op ø95 mm ^{*2}
Spindle draw tube diameter	Std ø66 mm
	Op ø81 mm ^{*2}

Live Tool Specifications



MT100

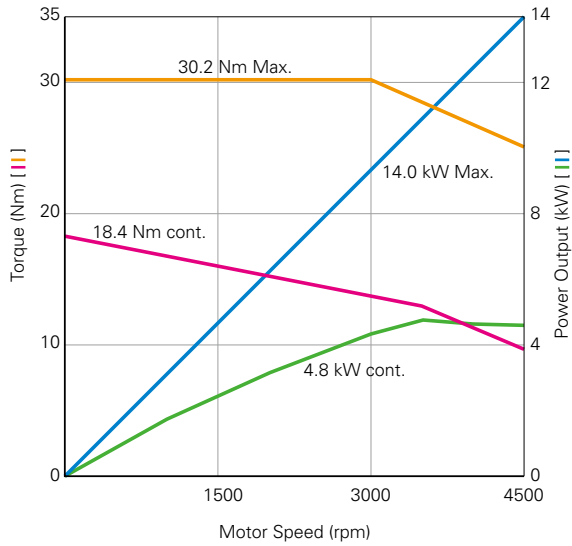


Specifications

MT100

Live tool drive motor	8.0 kW/Max (2.2 kW/cont.)
	[Max=3500 rpm, Time duty 10% (On:3.0s)]
Maximum speed	6000 rpm
Maximum tool shank size	ød=16 mm
Spindle positioning function	
C-axis control	±0.015°
Maximum speed	200 rpm
Least command increment	0.001°

MT200



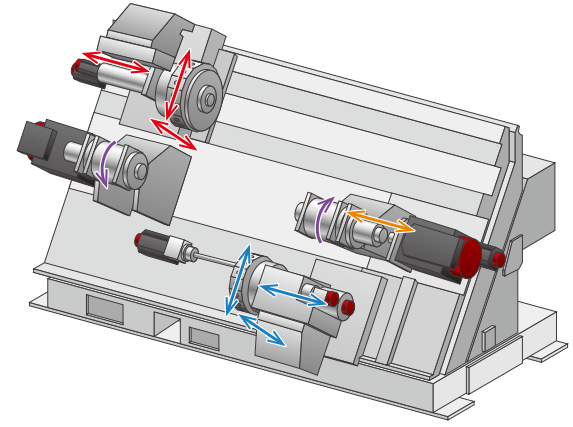
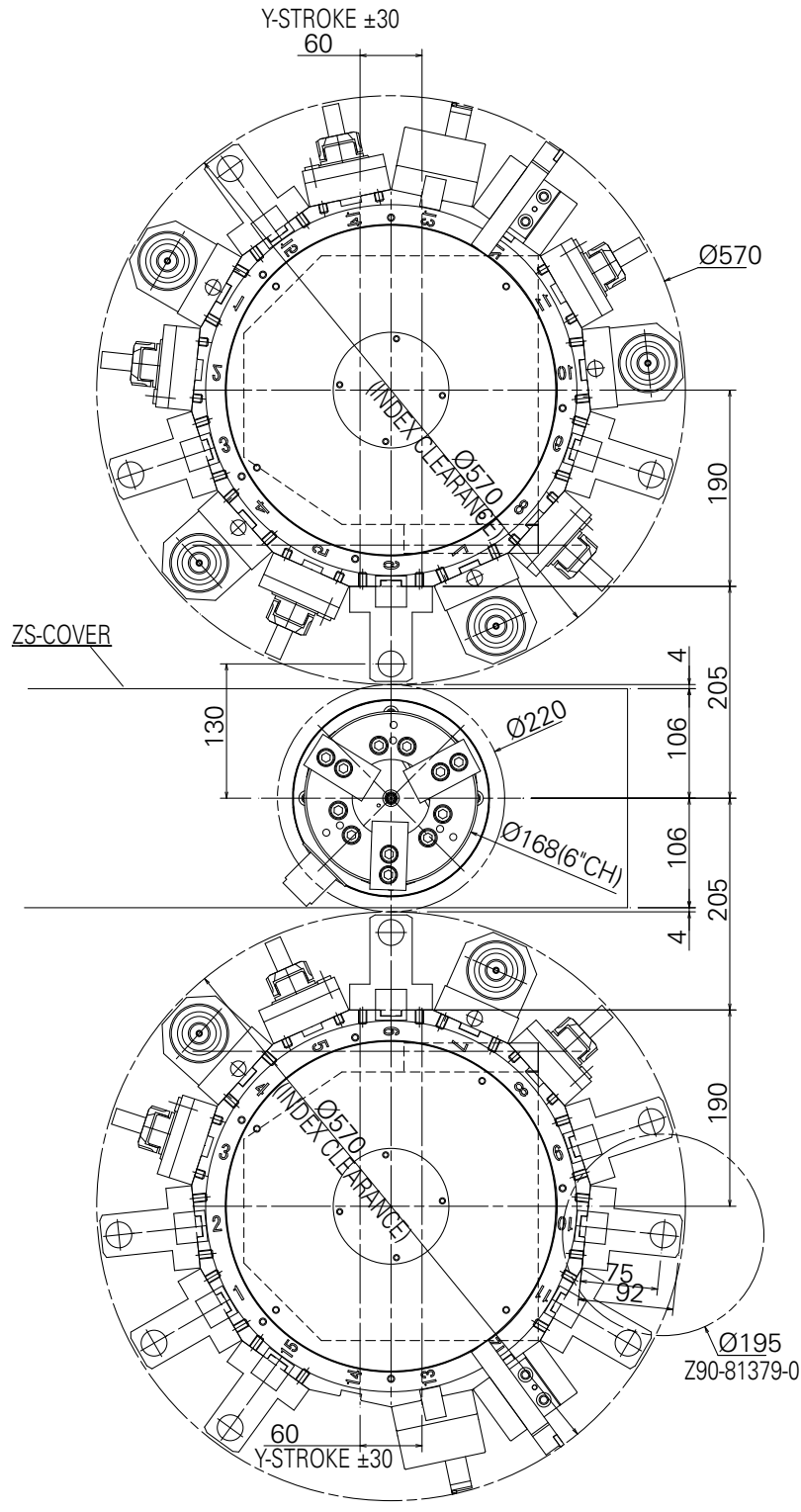
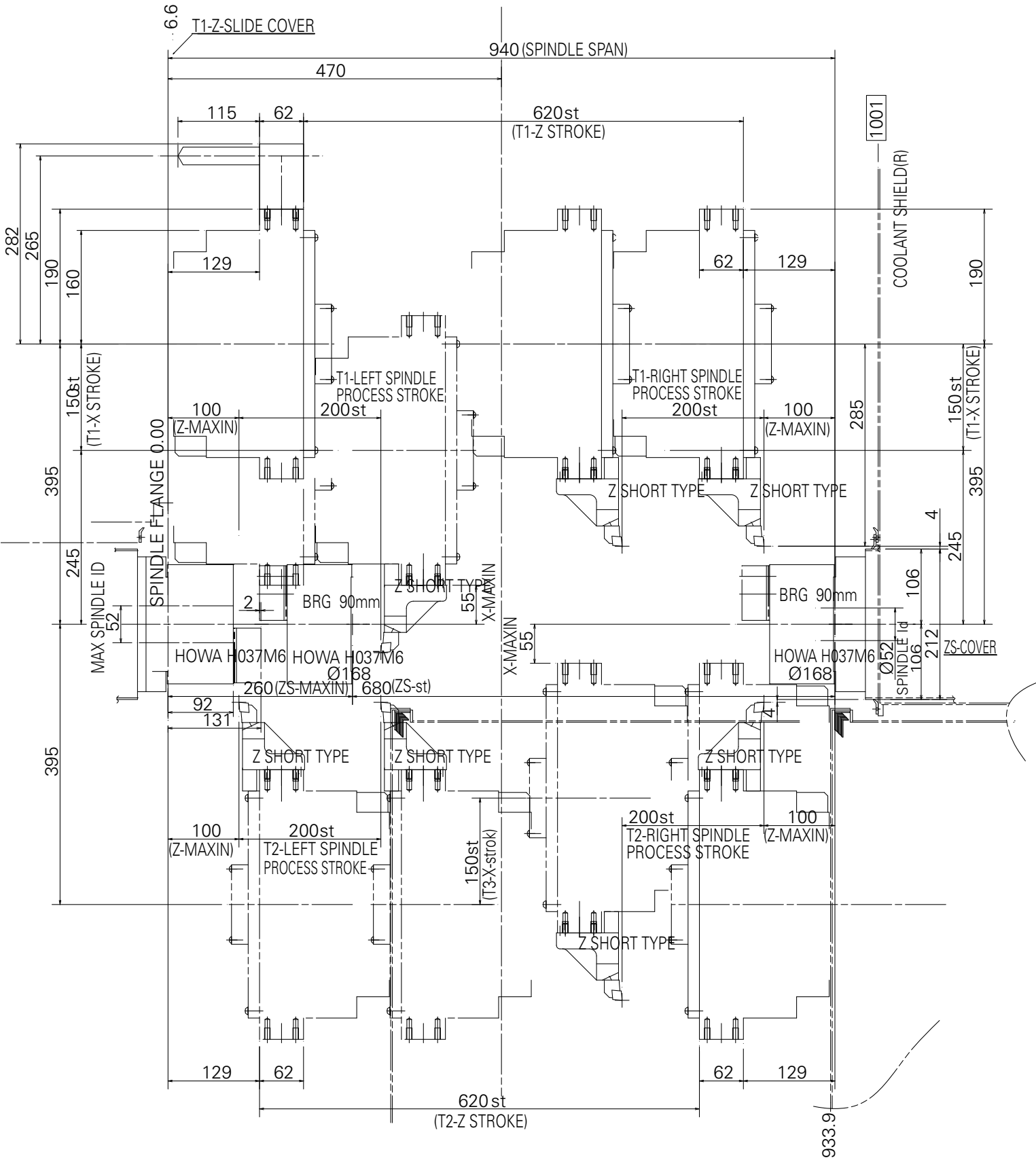
Specifications

MT200

Live tool drive motor	14.0 kW/Max (4.8 kW/cont.)
	[Max=4500 rpm, Time duty 10% (On:3.0s)]
Maximum speed	4500 rpm
Maximum tool shank size	ød=16 mm
Spindle positioning function	
C-axis control	±0.015°
Maximum speed	200 rpm
Least command increment	0.001°

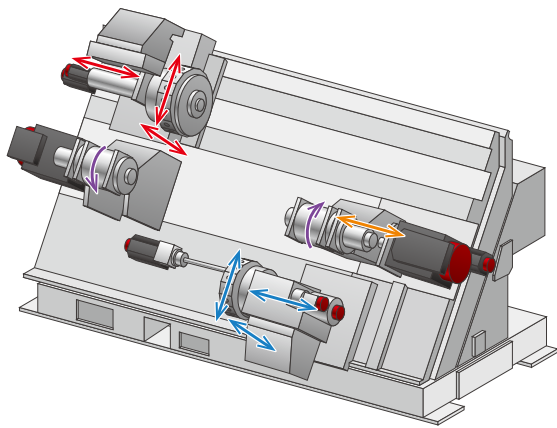
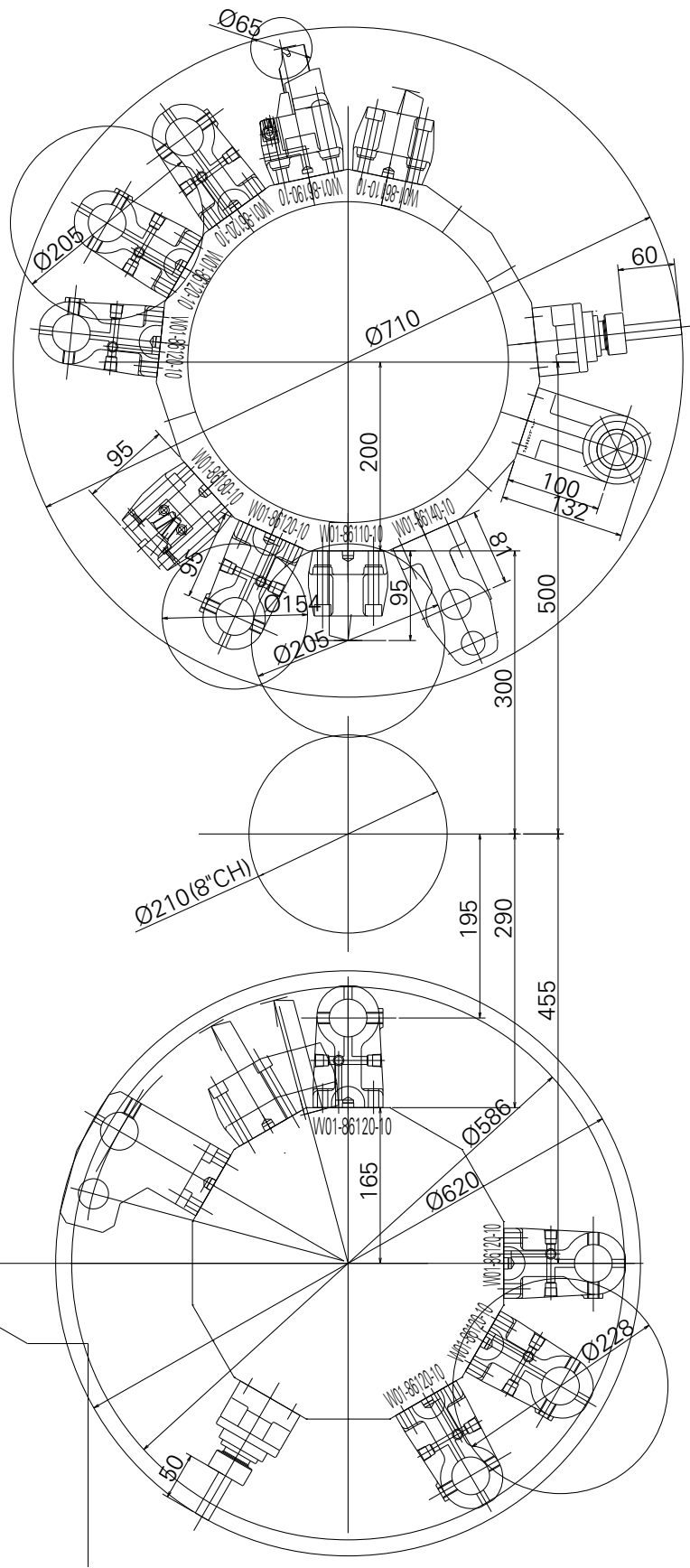
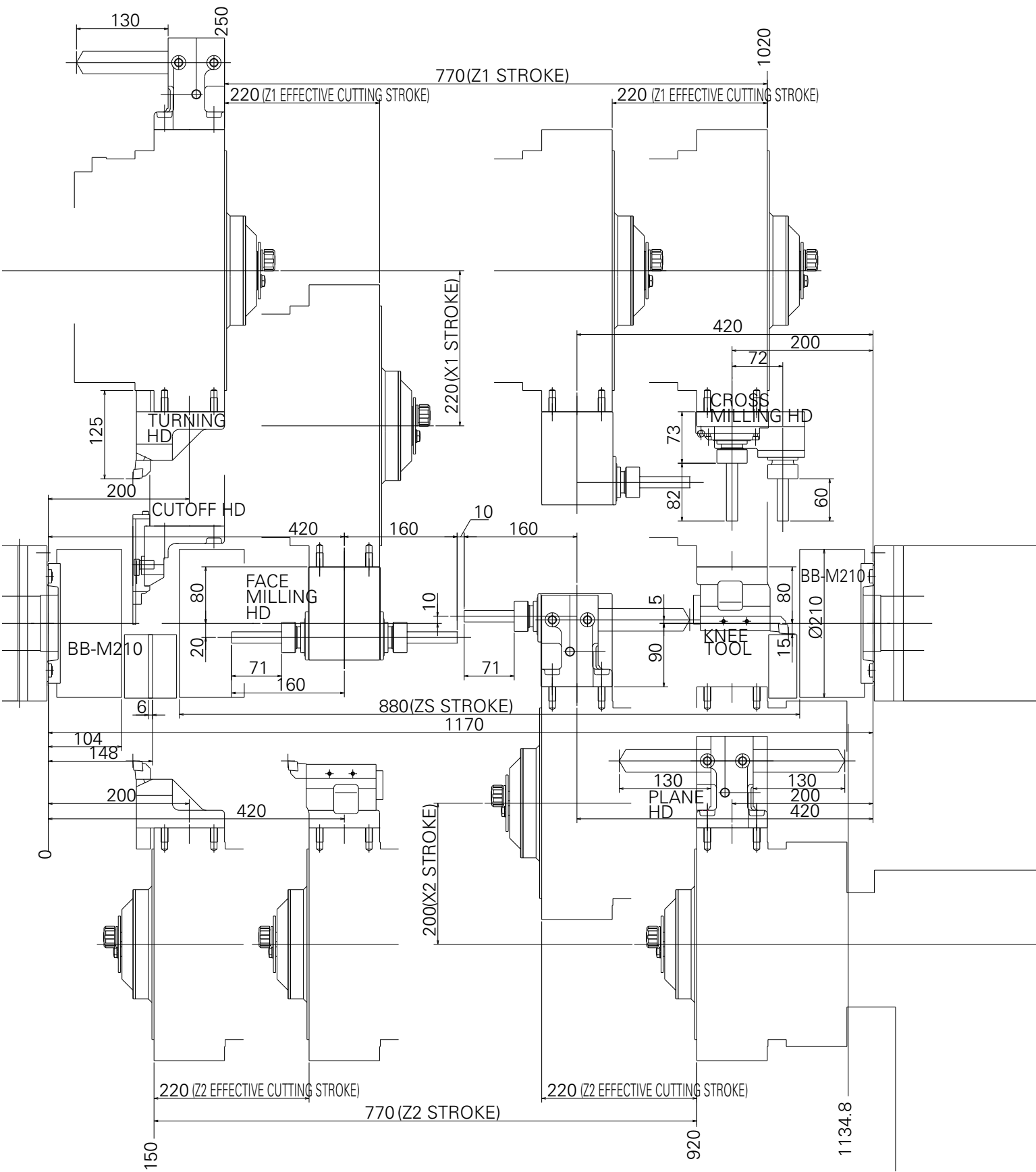
2 Turret Type Tool Dimension

MT100

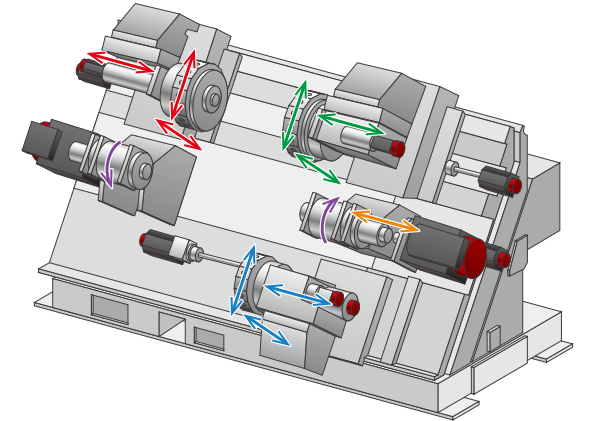
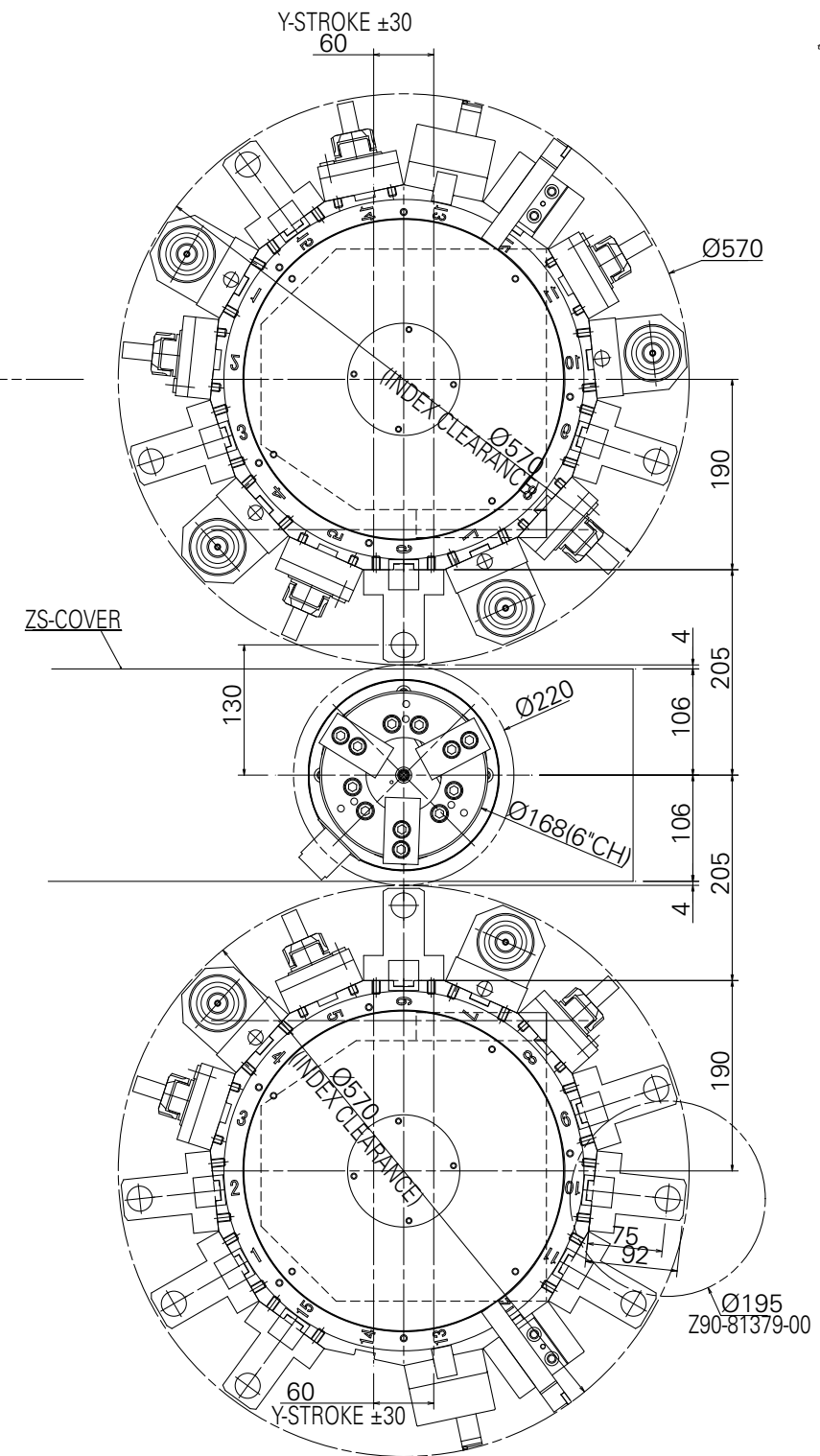


2 Turret Type Tool Dimension

MT200

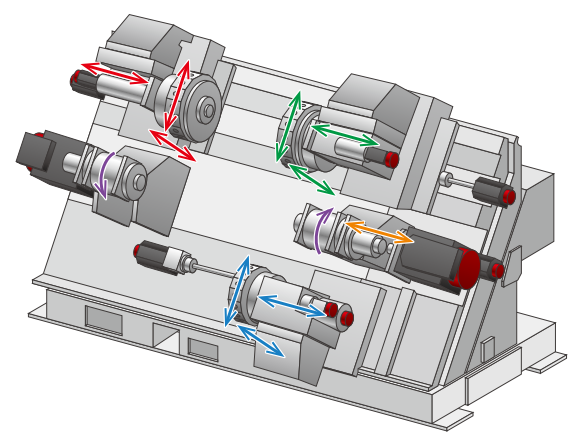
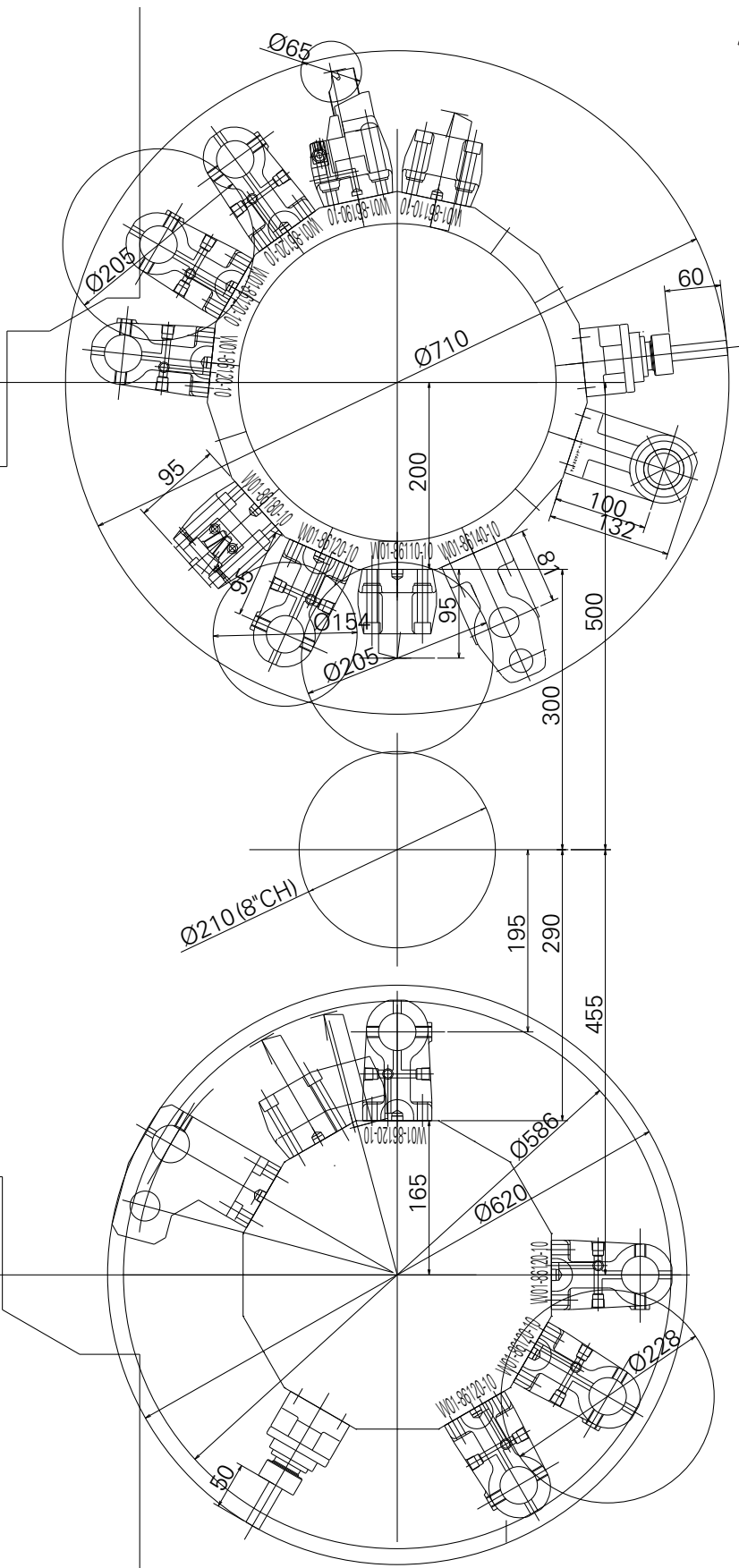
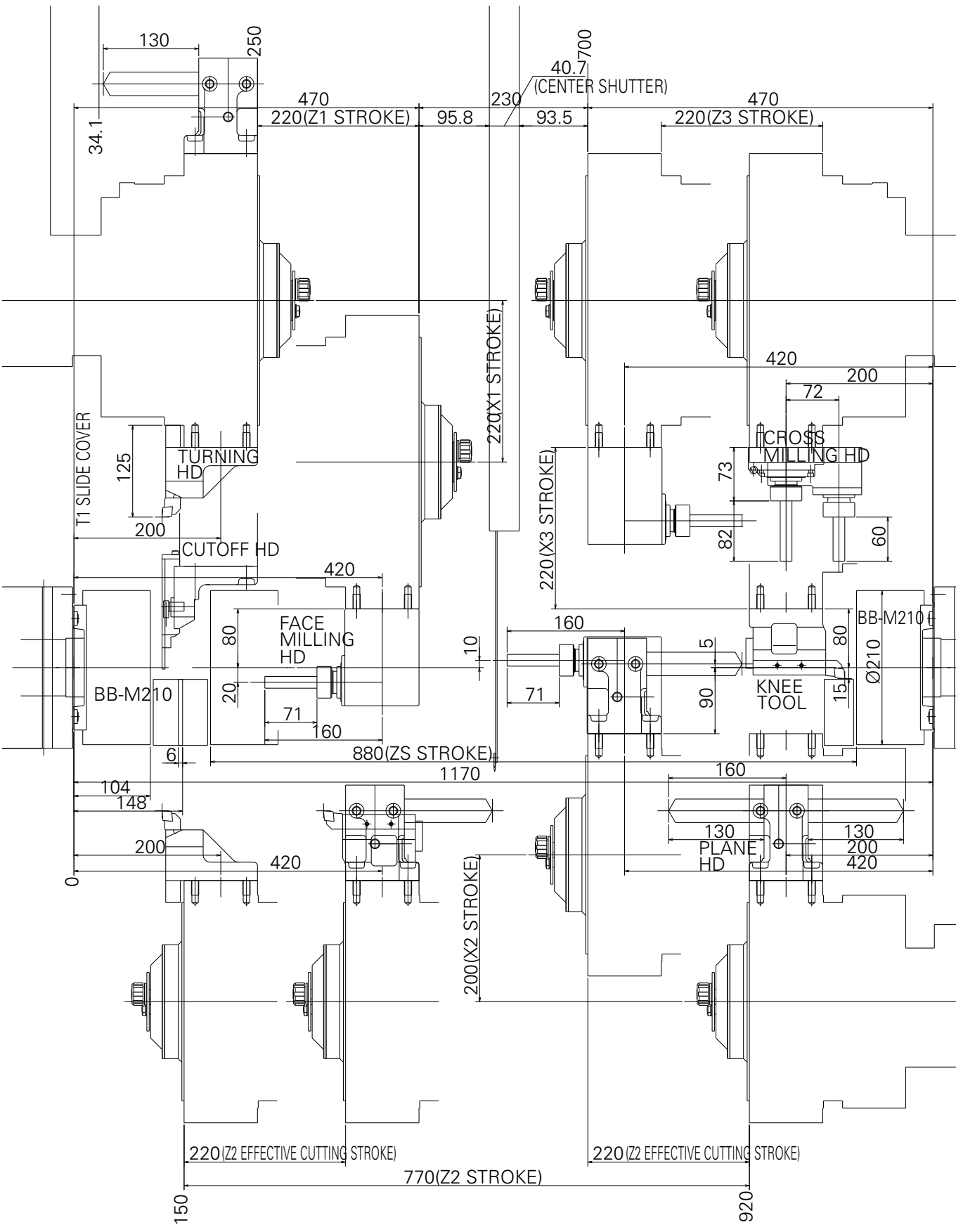


MT100

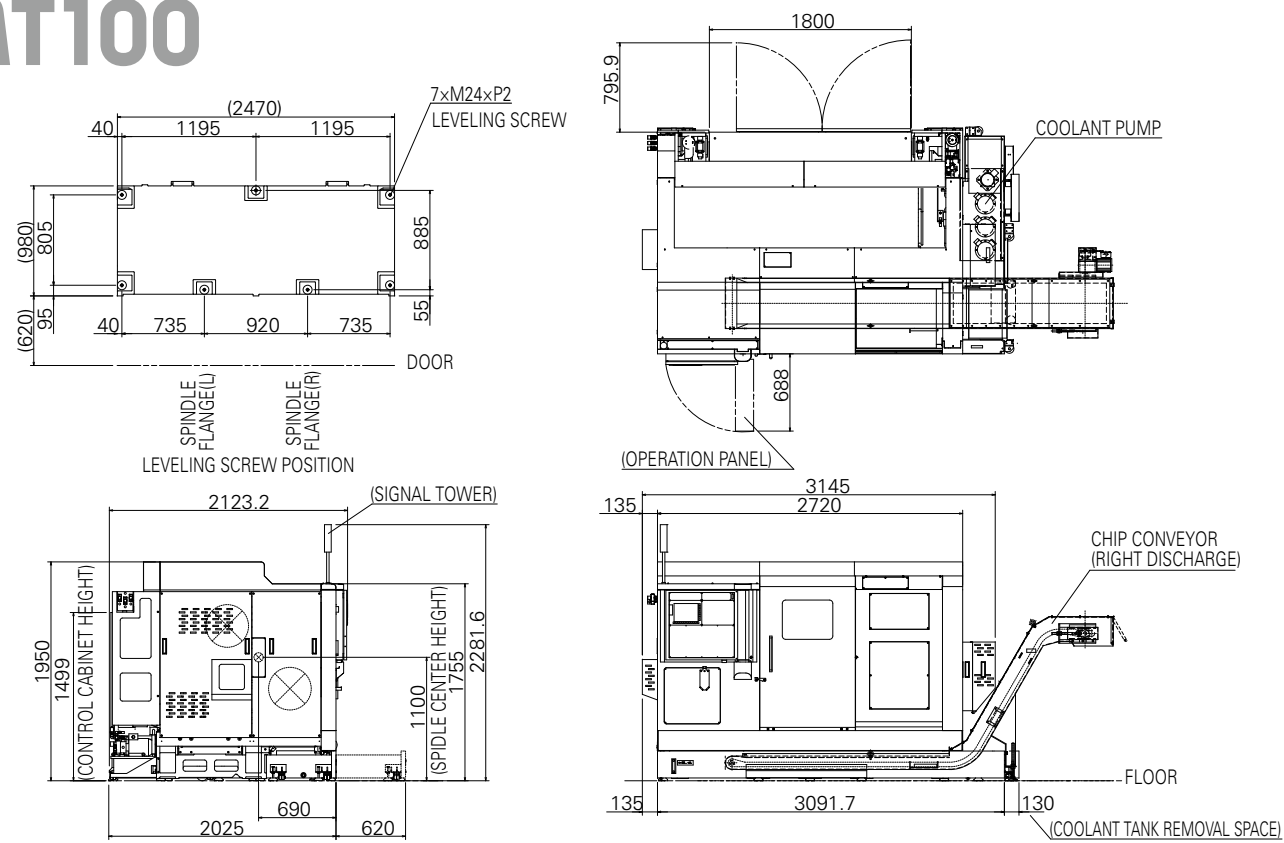


3 Turret Type Tool Dimension

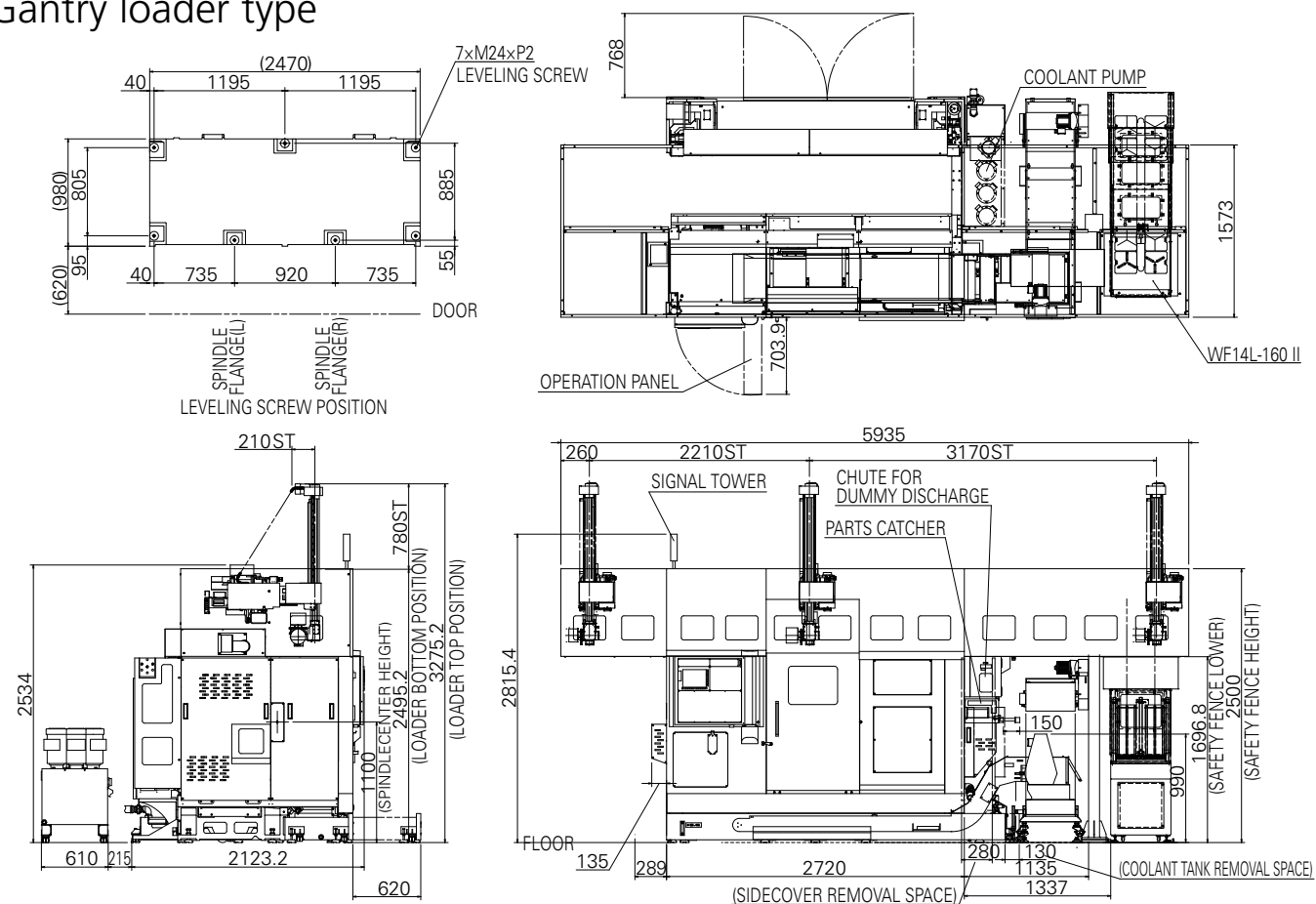
MT200



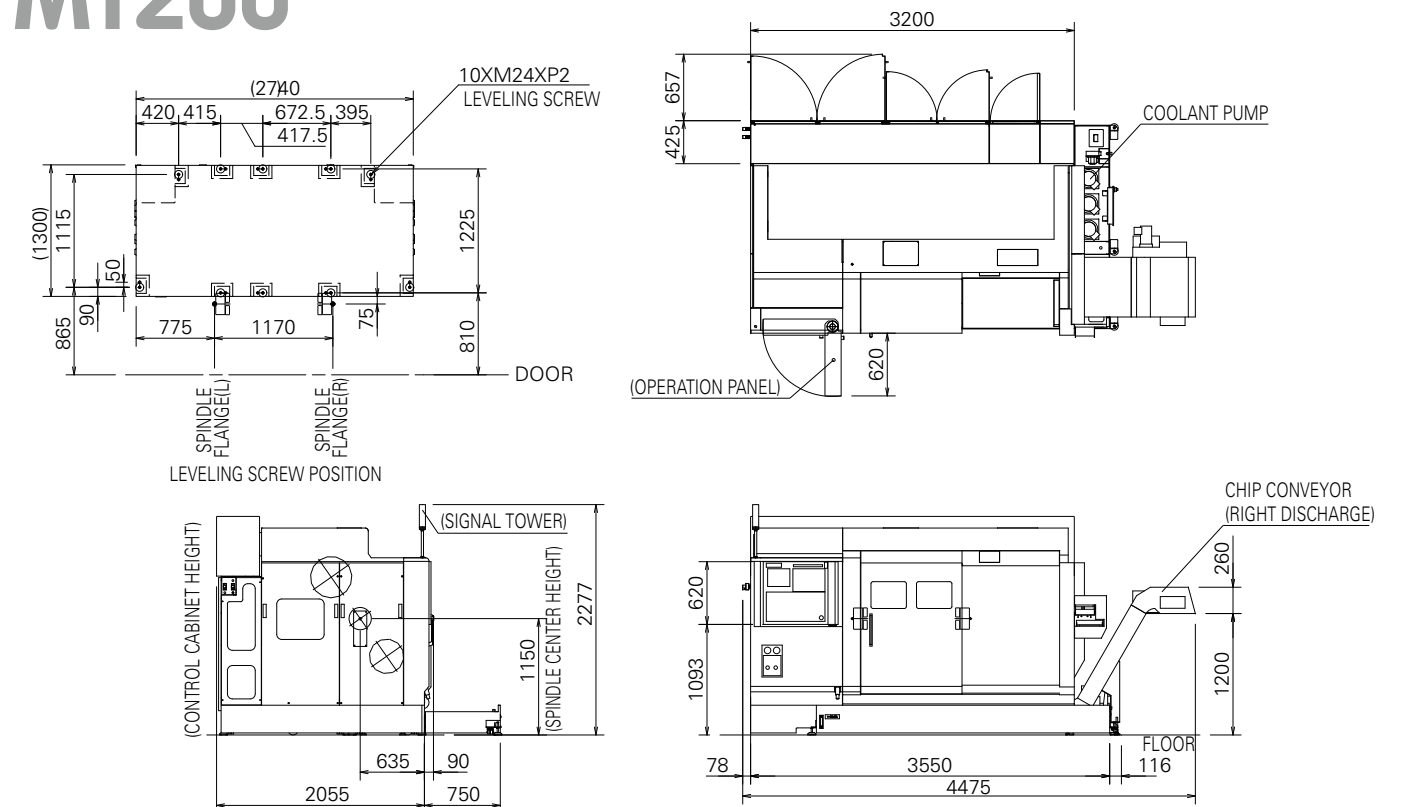
MT100



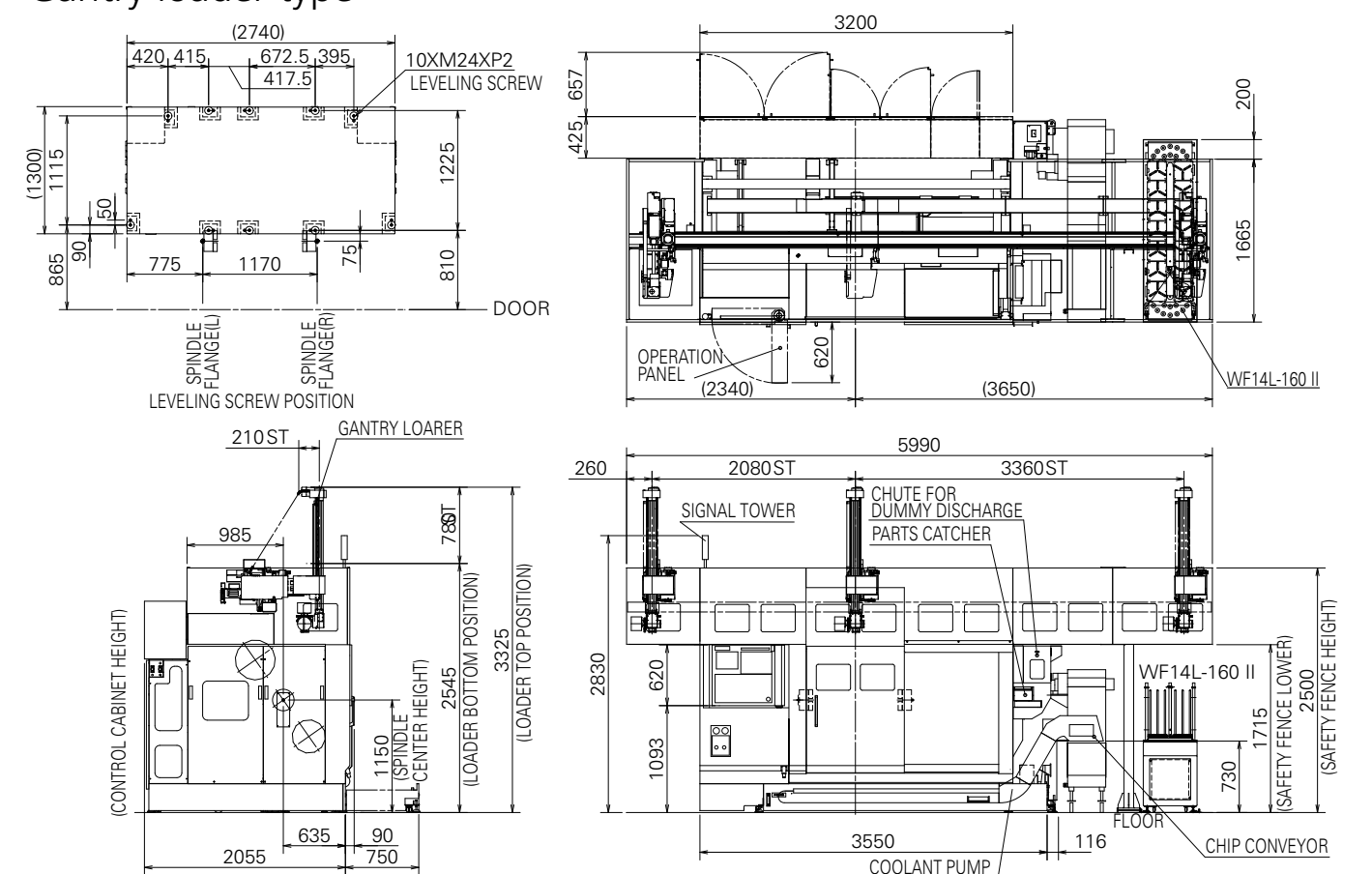
Gantry loader type



MT200



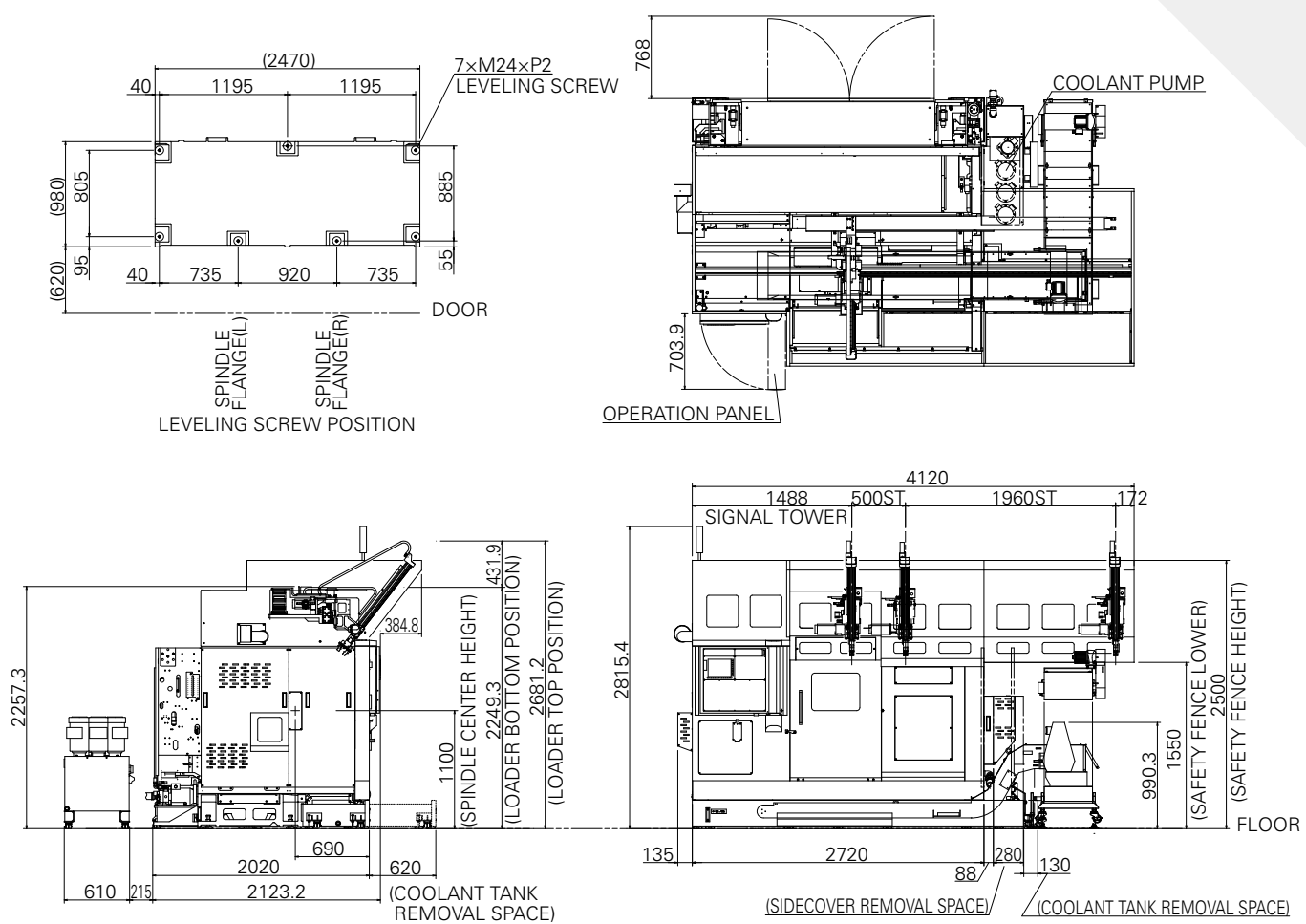
Gantry loader type



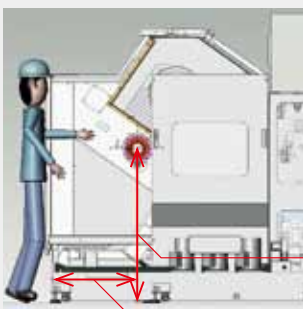
Floor Layout

MT100

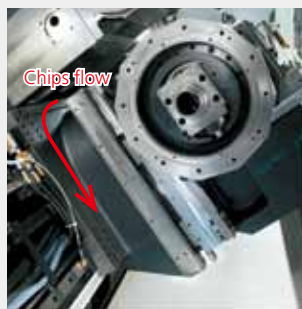
Intelligent servo unloader type



Workability and Maintainability



Easy access to spindle
The MT100 and MT200 are designed to ensure easy access to the main spindles by reducing the distance between the machine front and the spindle center.
MT200: 1150 mm
MT100: 1100 mm
MT200: 635 mm
MT100: 690 mm



Lower turret chip flow
The lower turret is designed with appropriate space for chips to fall so that accumulation does not occur. (MT200)



Wide door opening
Our wide opening door allows work-holding, replacement, tool changeover and maintenance jobs to be easily performed.
MT200: 920 mm
MT100: 760 mm



Operation panel
The buttons and layout of the operation panel are specifically designed to allow for easy operation of the three turrets.

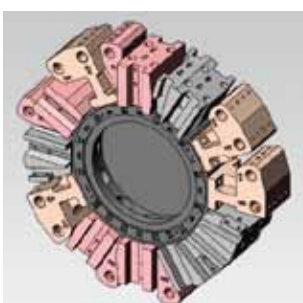
Application



Parts catcher
A finished workpiece of maximum size (MT100: ø51 x 150, MT200: ø65 x 160) can be unloaded from the right spindle automatically using the integrated 'Parts Catcher'. A combination of both the 'Parts Catcher' and a 'Bar Feeder' allows for unattended operation of both Bar and Chuck work.



Manual tool setter
Tool changeover time can be significantly reduced by utilizing the available Tool Setter. The Tool Setter is manually installed and is used to check the tool gauge lengths for both the upper and lower turrets. The Tool Setter can be manually mounted on both the left and right spindles and is manually removed from the machine during operation.



Special lower turret (MT200)
With special tooling blocks, it is possible to utilize 24 stations on the lower turret (Non-Live Tool Specification). This feature provides reduction in changeover time which in turn increases productivity.

Programming Support Software



Integrated Operation & Programming Guidance with extremely simplified operations



Specifications

Machine specifications

Chuck size	
Maximum Swing (with plain head)	15 stations 12 stations
Maximum bar workpiece size	Standard Option
Number of turret stations	T2 T3
Specification of cutting axes (Stroke) 2 turrets spec.	Upper turret Lower turret Right spindle
Specification of cutting axes (Stroke) 3 turrets spec.	Upper turret Lower turret Right turret Right spindle
Specification of cutting axes (Maximum speed)	All turrets Right spindle
Use tool	O.D tool I.D. tool
Spindle drive motor	
Spindle speed range	
Spindle nose size	
Spindle diameter at front bearing mounting	Standard Option
Parts catcher handing capacity	

MT100

Chuck size	ø165 mm (6")
Maximum Swing (with plain head)	ø190 mm –
Maximum bar workpiece size	ø51 mm –
Number of turret stations	15 (All turrets) 15 (All turrets)
Specification of cutting axes (Stroke) 2 turrets spec.	X : 150 mm / Z : 620 mm / Y : ±30 mm X : 150 mm / Z : 620 mm / Y : ±30 mm Zs : 680 mm
Specification of cutting axes (Stroke) 3 turrets spec.	X : 150 mm / Z : 200 mm / Y : ±30 mm X : 150 mm / Z : 620 mm / Y : ±30 mm X : 150 mm / Z : 200 mm / Y : ±30 mm Zs : 680 mm
Specification of cutting axes (Maximum speed)	All turrets Right spindle
Use tool	O.D tool I.D. tool
Spindle drive motor	
Spindle speed range	
Spindle nose size	
Spindle diameter at front bearing mounting	Standard Option
Parts catcher handing capacity	

MT200

Chuck size	ø210 mm (8")
Maximum Swing (with plain head)	ø205 mm ø228 mm
Maximum bar workpiece size	ø65 mm ø80 mm
Number of turret stations	15 (upper) & 12 (lower) 15 (upper&right) & 12 (lower)
Specification of cutting axes (Stroke) 2 turrets spec.	X : 220 mm / Z : 770 mm / Y : ±40 mm X : 200 mm / Z : 770 mm / Y : ±40 mm Zs : 880mm
Specification of cutting axes (Stroke) 3 turrets spec.	X : 220 mm / Z : 220 mm / Y : ±40 mm X : 200 mm / Z : 770 mm / Y : ±40 mm X : 220 mm / Z : 220 mm / Y : ±40 mm Zs : 880 mm
Specification of cutting axes (Maximum speed)	All turrets Right spindle
Use tool	O.D tool I.D. tool
Spindle drive motor	
Spindle speed range	
Spindle nose size	
Spindle diameter at front bearing mounting	Standard Option
Parts catcher handing capacity	

Live tooling specifications

Live tool motor	
Maximum speed	
Maximum tool shank size	
Spindle positioning function	C-axis control
	Maximum speed
	Least command increment

MT100

Live tool motor	
Maximum speed	
Maximum tool shank size	
Spindle positioning function	C-axis control
	Maximum speed
	Least command increment

MT200

Live tool motor	
Maximum speed	
Maximum tool shank size	
Spindle positioning function	C-axis control
	Maximum speed
	Least command increment

CNC Gantry loader specifications

Workpiece handling capacity	3 Jaws
	2 Jaws
Stroke	Z-axis
	Y-axis
	X-axis
Max. speed	Z-axis
	Y-axis
	X-axis

MT100

Workpiece handling capacity	
Stroke	
Max. speed	

MT200

Workpiece handling capacity	
Stroke	
Max. speed	

Intelligent servo unloader specifications

Workpiece handling capacity	
Stroke	
Max. speed	

MT100

Workpiece handling capacity	
Stroke	
Max. speed	

*1 Depend on work-piece shape and grip position. Please contact us for details.

● **Safety Specification**

For EU countries, machines are built with CE-safety conformity.

* The machines shown in the catalogue may differ in appearance from the actual machines.

* All specifications are subject to change without advance notice

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