

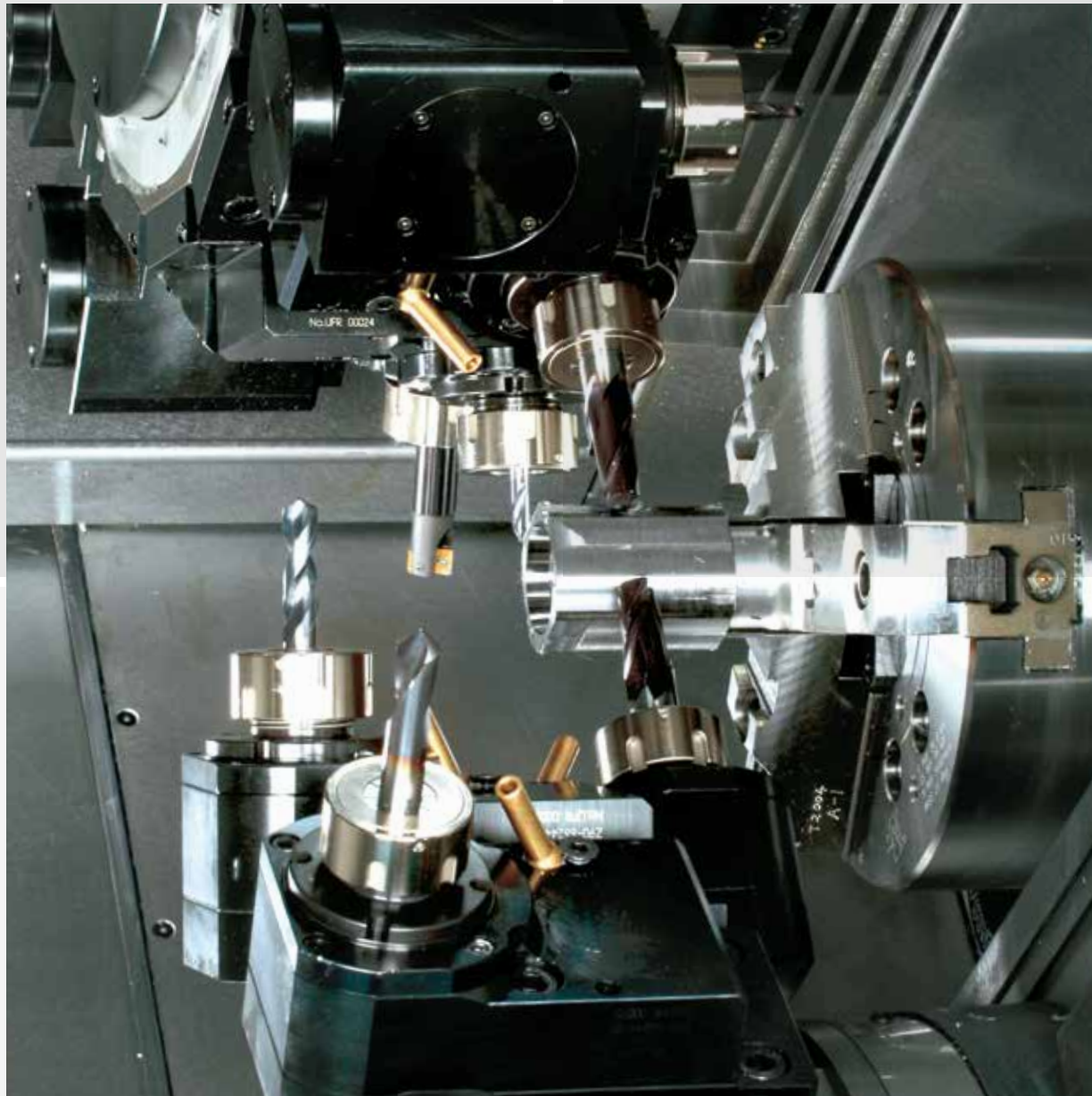


High Productivity Multi-Tasking Machines

MT100/MT200



MURATA MACHINERY, LTD.

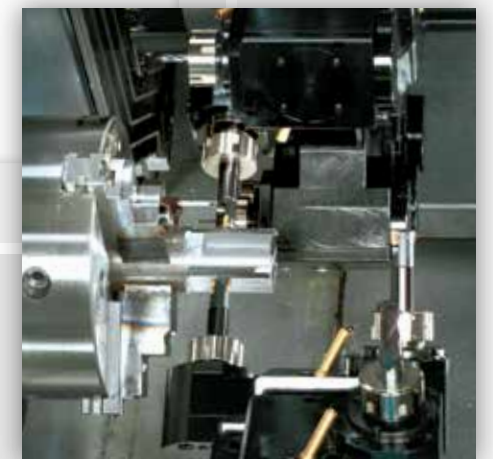


Multi-tasking capabilities

Flexible Automation: all-in-one solution with bar and chuck capabilities.

High Multi-functional Performance for Mass Production

- Large-sized Bar Work Handling (MT200 Max. $\varnothing 80$ mm Left Spindle)
- Selectable Spindle Drive Motors and Speed Ranges
- Y-axis on All Turrets
- Live Tool Function on All Turrets and Stations
- New High-speed 3-axis CNC Gantry Loader
- Intelligent Servo Unloader Type Available for the MT100 and MT200



Turning and Milling Capabilities Combined into One Machine

High rigidity machines available with 2 or 3 turrets.
 Productivity advantages with simultaneous machining capabilities on the left and right spindles.



MT100

Max. bar workpiece size (bearing size)*1	ø51 mm (ø90 mm)*2
	ø65mm (ø110 mm)*3
Chuck size	ø165 mm (6")
Spindle Drive Motor**1	Standard 11 kW/30 min (7.5 kW/cont.)*2
	Option 15 kW/30 min (11 kW/cont.)*3
Turret	2 turrets (Optional 3rd turret)
	Each turret - 15 stations
	Live tool & Y-axis function on all turrets
Live tool motor	2.2 kW (8.0 N-m/cont.)
Max.speed	6,000 rpm

MT200

Max. bar workpiece size (bearing size)*1	ø55 mm (ø100 mm)*2
	ø65 mm (ø110 mm)*2
	ø70 mm (ø120 mm)*3
	ø80 mm (ø130 mm)*3
Chuck size	ø210 mm (8")
Spindle Drive Motor	Standard 15 kW/30min. (11 kW/cont.)*2
	Option 18.5 kW/S3 25%*2
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	4.5 kW (18.0 N-m/cont.)
Max. speed	6,000 rpm*4

*1 Selection may vary by region.
 *2 Right and Left spindles
 *3 Left spindle
 *4 Restrictions are applied by duty time and torque

High Productivity Multi-Tasking Machine

MT100



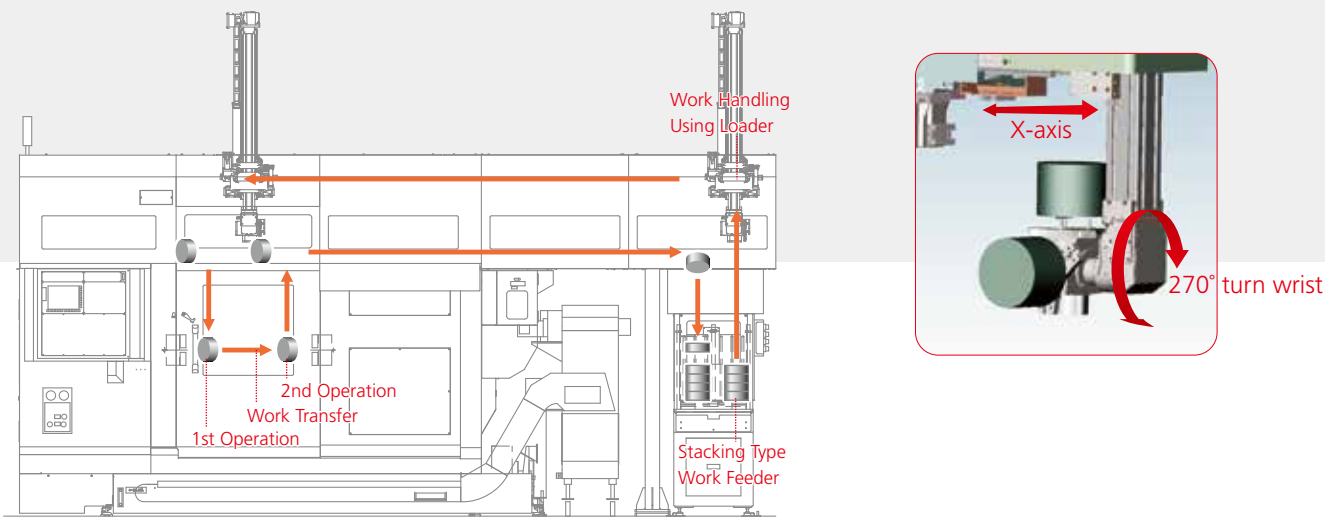
High Productivity Multi-Tasking Machine

MT200



Muratec Original New High-speed 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



MT100

Gantry Loader

Loader workpiece handling size* 1	3 Jaws	ø120 mm × L100 mm	5.0 kg × 2
	2 Jaws	ø70 mm × L230 mm	5.0 kg × 2
		ø70 mm × L300 mm	5.0 kg × 1
Stroke	Z-axis	Left : 2,300 mm	
		Right : 3,200 mm	
	Y-axis	870 mm	
	X-axis	250 mm	
Max. speed	Z-axis	200 m/min	
	Y-axis	150 m/min	
	X-axis	60 m/min	

MT200

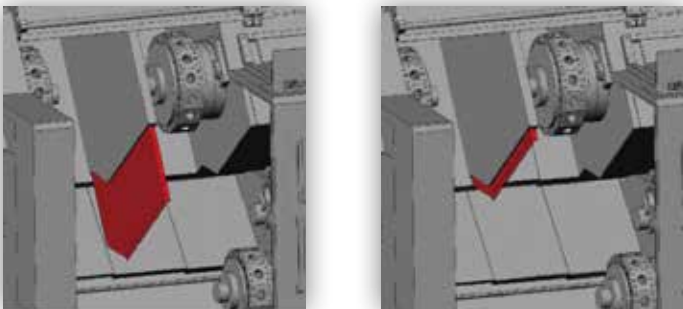
Gantry Loader

Loader workpiece handling size* 1	3 Jaws	ø140 mm × L105 mm	8.0 kg × 2
	2 Jaws	ø80 mm × L290 mm	8.0 kg × 2
		ø80 mm × L370 mm	8.0 kg × 1
Stroke	Z-axis	Left : 2,300 mm	
		Right : 3,400 mm	
	Y-axis	870 mm	
	X-axis	250 mm	
Max. speed	Z-axis	200 m/min	
	Y-axis	150 m/min	
	X-axis	60 m/min	

*1 Selection may vary by region.

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.



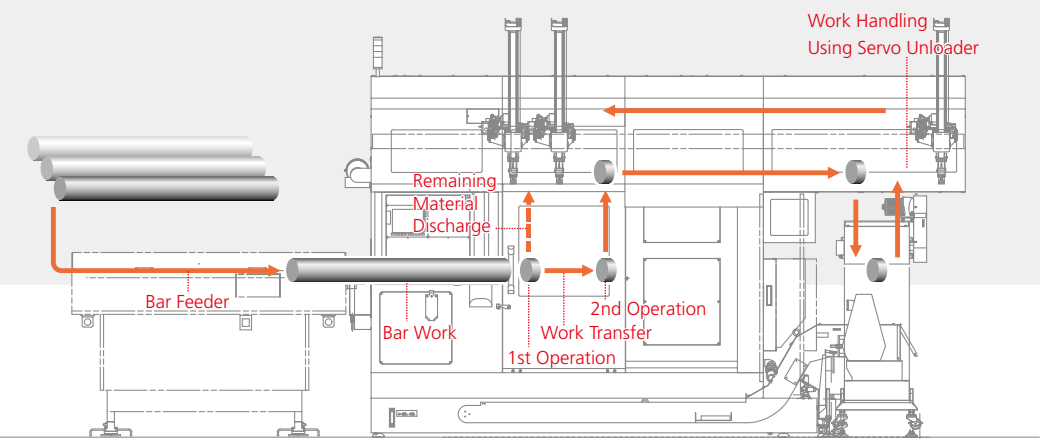
High Productivity Multi-Tasking Machine

MT200 Gantry Loader Type



Muratec Original Intelligent Servo Unloader

Z-axis and Y-axis are servo-driven. Easily access pallets, conveyors, or other outlet devices after machining.



Flexible Automation: All-in-One Solution for Bar Work.

High Productivity Multi-Tasking Machine

MT100 Intelligent Servo Unloader Type



MT100

Servo Unloader

Loader workpiece handling size*1	2 Jaws	ø70 mm × L300 mm	5.0 kg
Stroke	Z-axis	Left : 320 mm	
		Right : 2,800 mm	
	Y-axis	735 mm	
Max. speed	Z-axis	100 m/min	
	Y-axis	100 m/min	

MT200

Servo Unloader

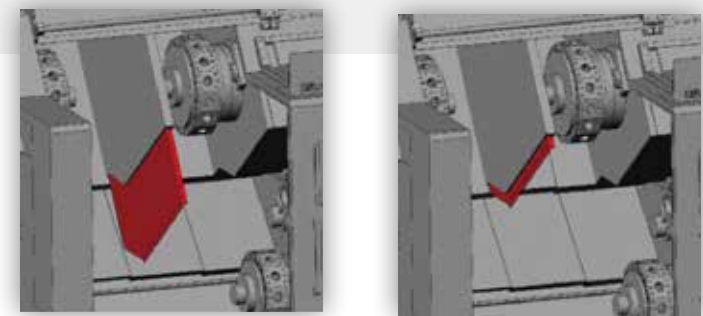
Loader workpiece handling size*1	2 Jaws	ø80 mm × L370 mm	5.0 kg
Stroke	Z-axis	Left : 400 mm	
		Right : 2,900 mm	
	Y-axis	735 mm	
Max. speed	Z-axis	100 m/min	
	Y-axis	100 m/min	

*1 Selection may vary by region.

*2 Restrictions are applied by duty time and torque

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.

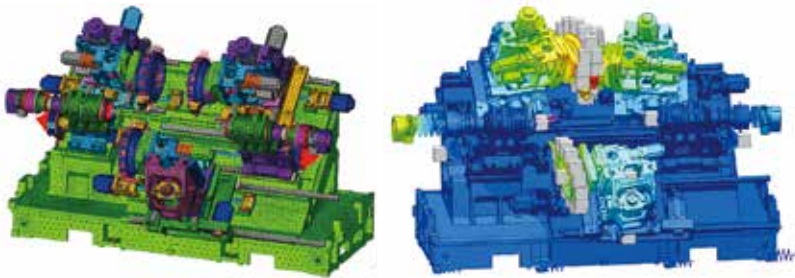
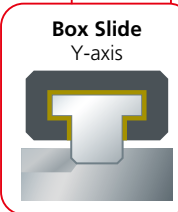
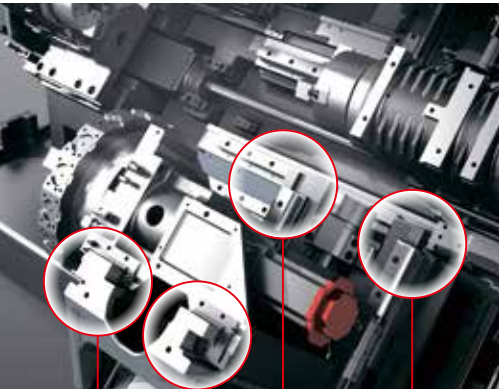
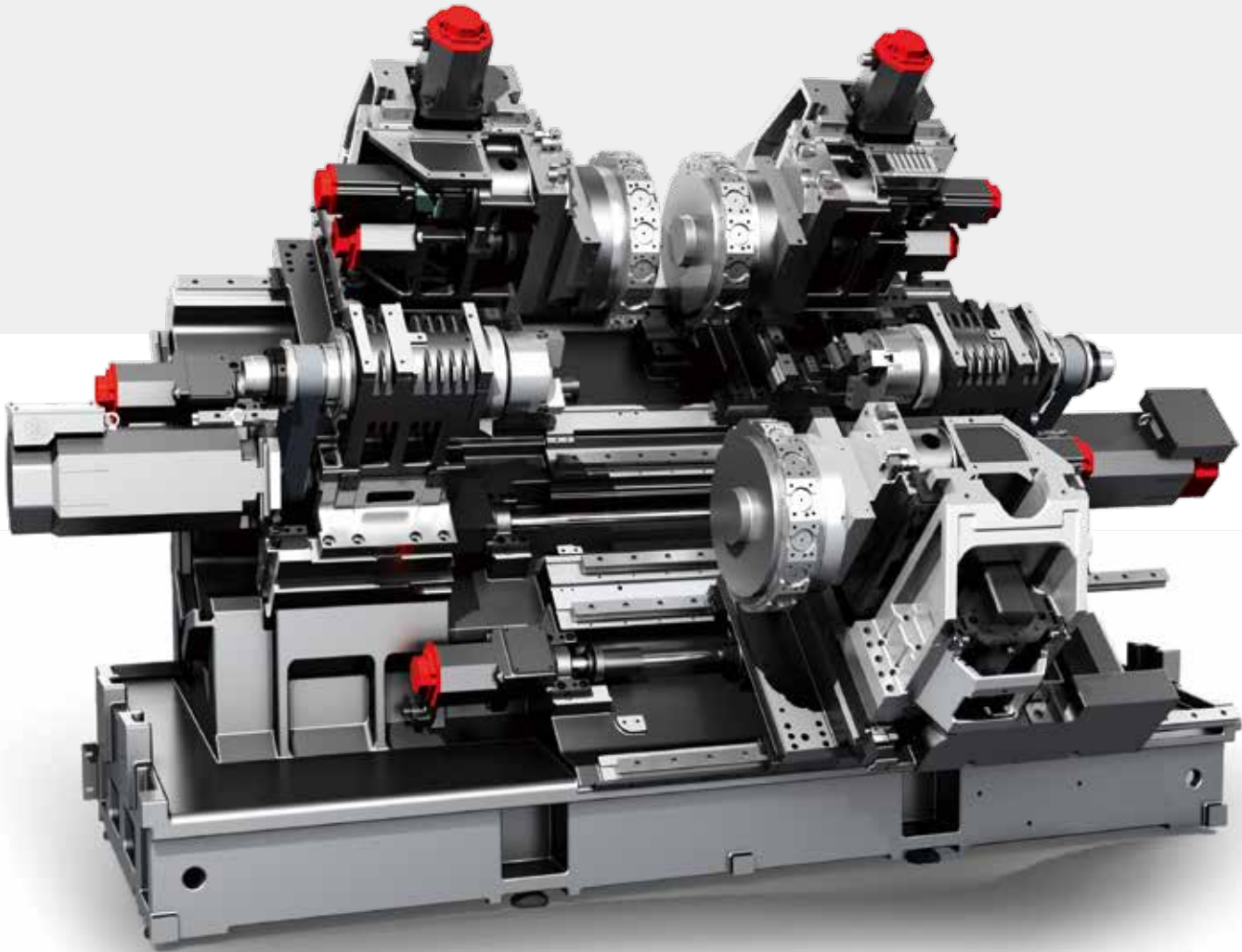


High Productivity Multi-Tasking Machine

MT200 Intelligent Servo Unloader Type



Basic Structure: Highly Rigid Body & Enhanced Thermal Stability

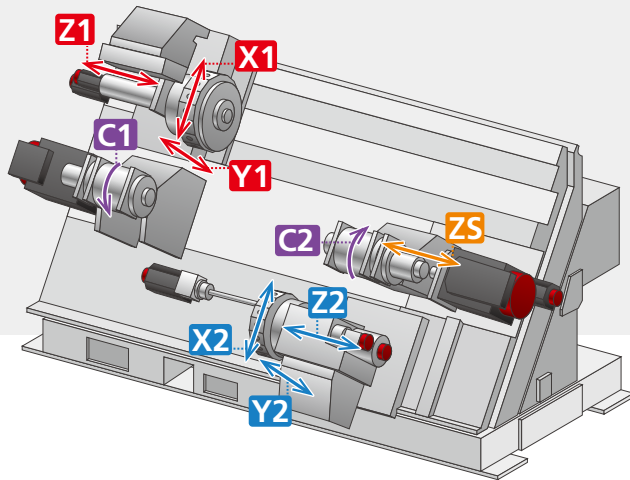


Muratec design using FEM analysis to simulate the structure's deformation under load and thermal deformation. Adjustments to every detail were made from the thickness of the bed to the shape and arrangement of the rib, achieving high flexural rigidity and small thermal deformation.

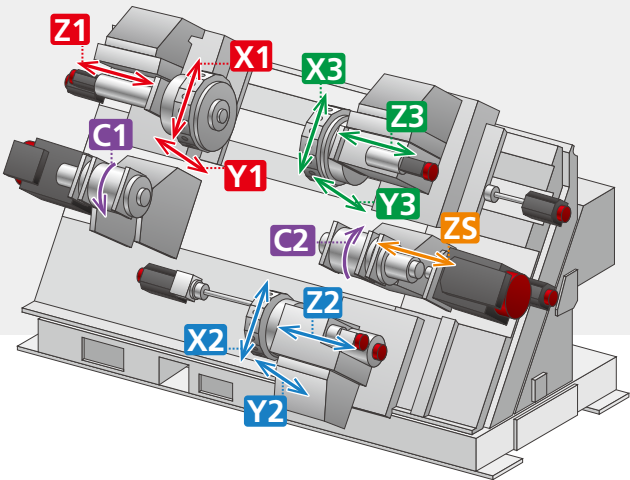
Turrets and Spindles

Standard 2 turrets with optional 3rd

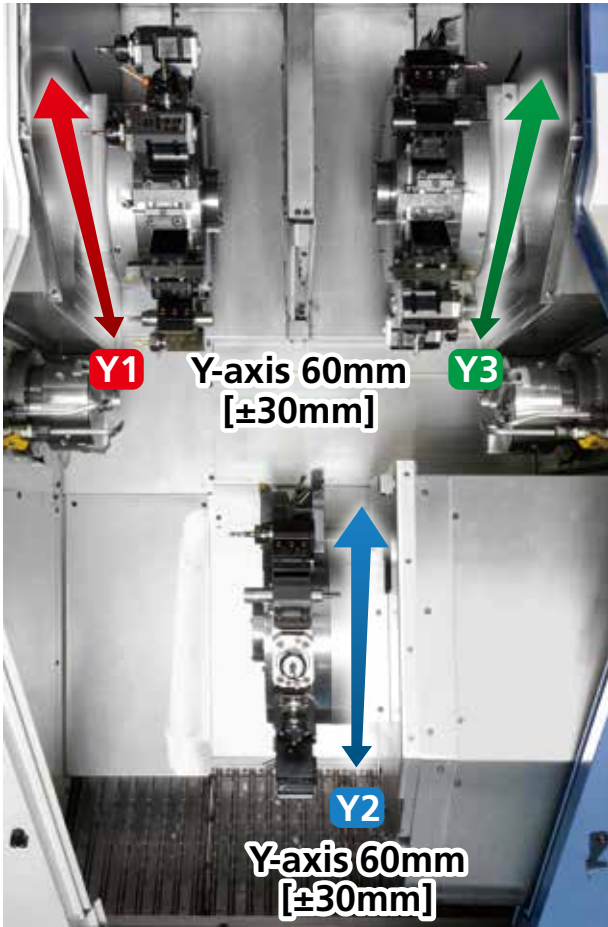
2 Turret type



3 Turret type

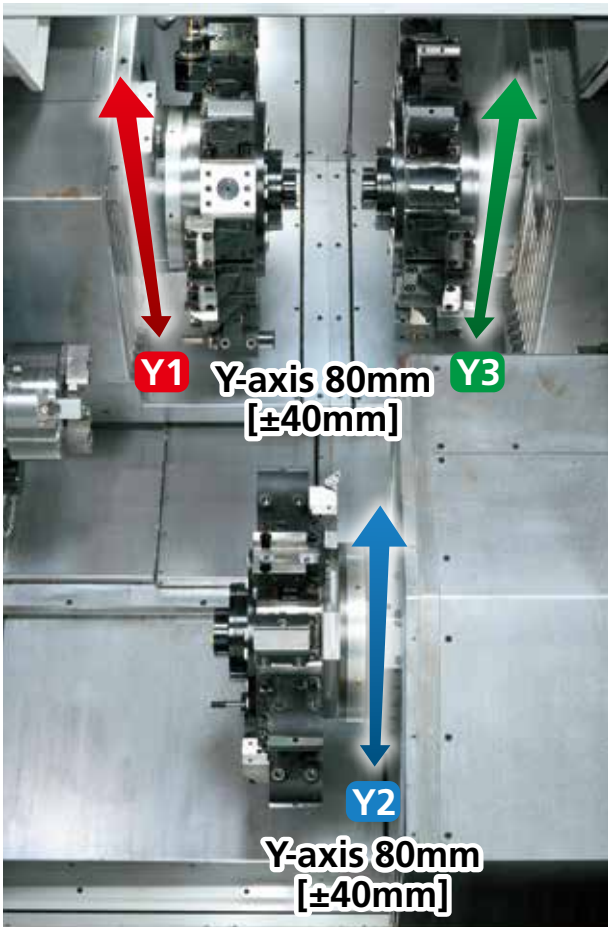


Y-axis on all turrets. Live-tool on all turrets and all stations



MT100

Each turret: 15 stations

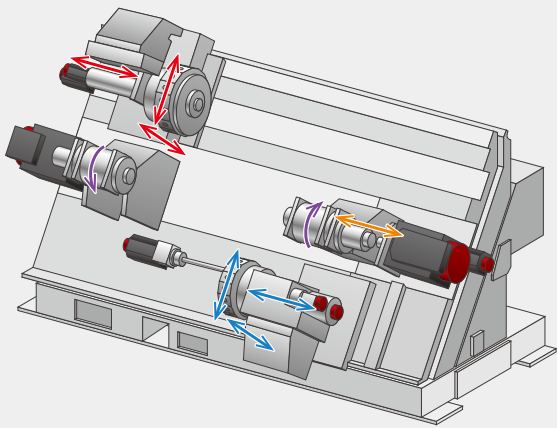


MT200

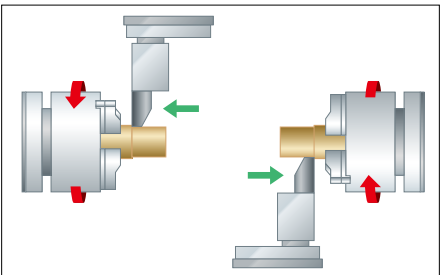
Upper turret: 15 stations
Lower turret: 12 stations

2 Turret Configuration

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

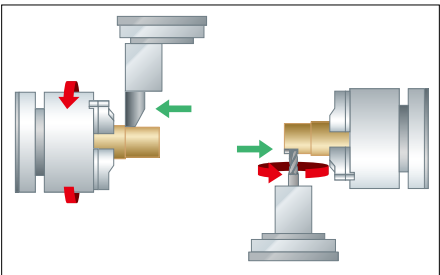


Cutting Variations



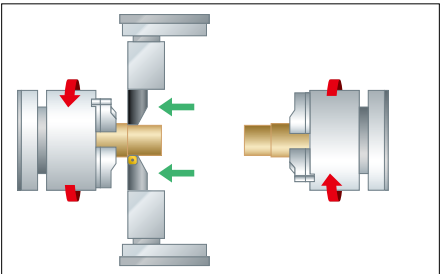
Individual Turning Process on Each Side

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



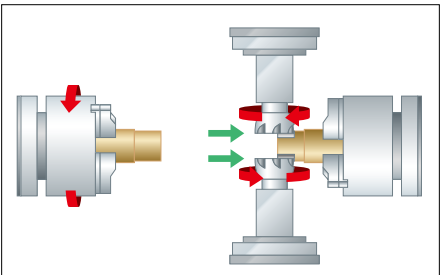
Individual Turning and Milling Process on Each Side

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
Other Spindle - Turning process on standby
Applicable: Both spindles

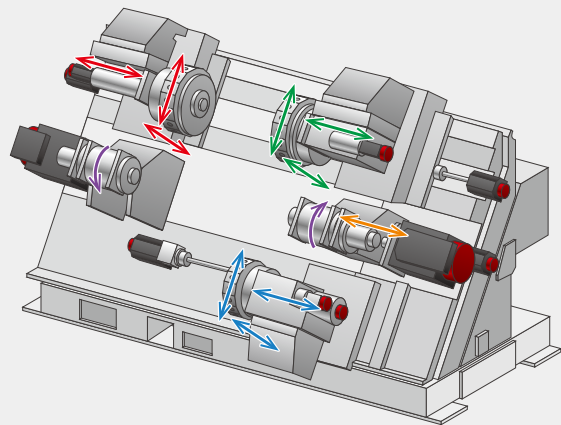


Simultaneous Milling Process

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

3 Turret Configuration

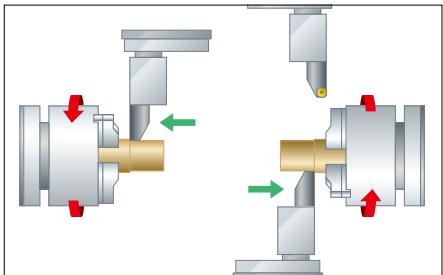
- Y-axis on all turrets
- Live tool function on all turrets and stations



Cutting Variations

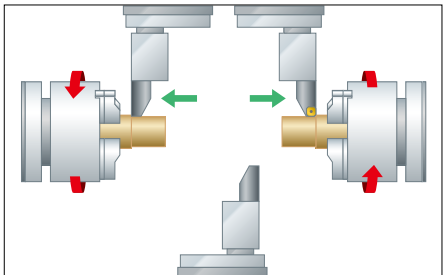


MT200



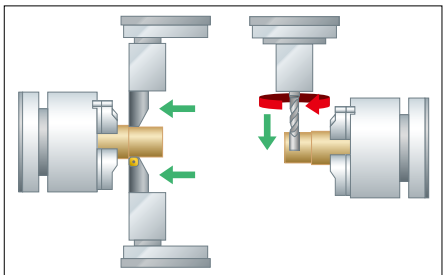
Individual Turning Process on Each Side

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



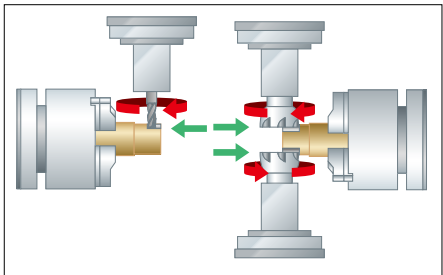
Individual Turning Process on Each Side

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
Other Spindle - Turning or milling process



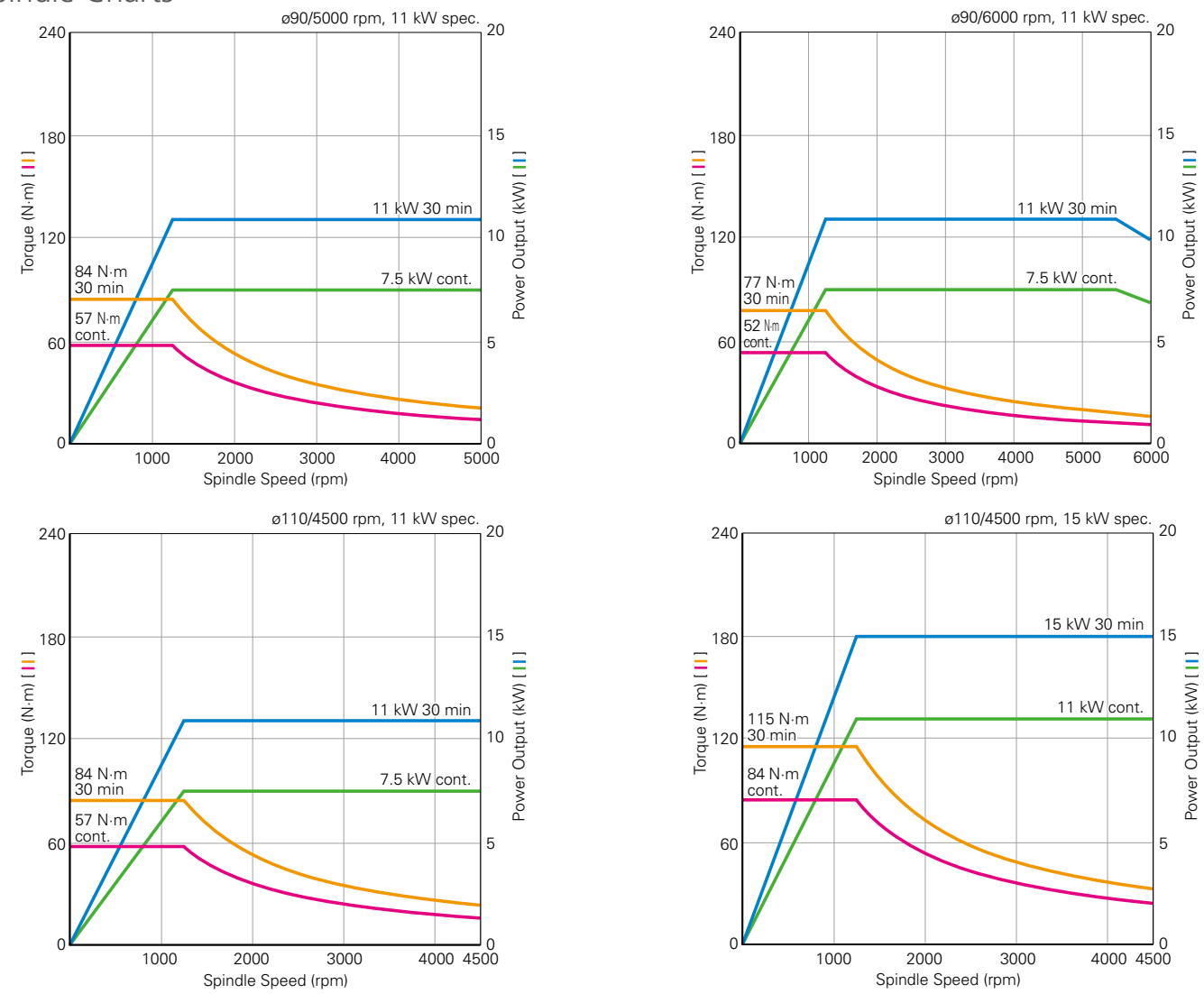
Simultaneous Milling Process

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

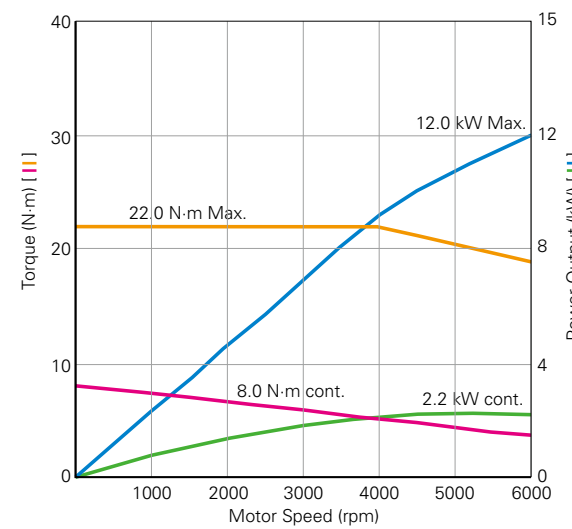
Spindle and Live Tool Specifications

MT100

Spindle Charts



Live Tool Chart

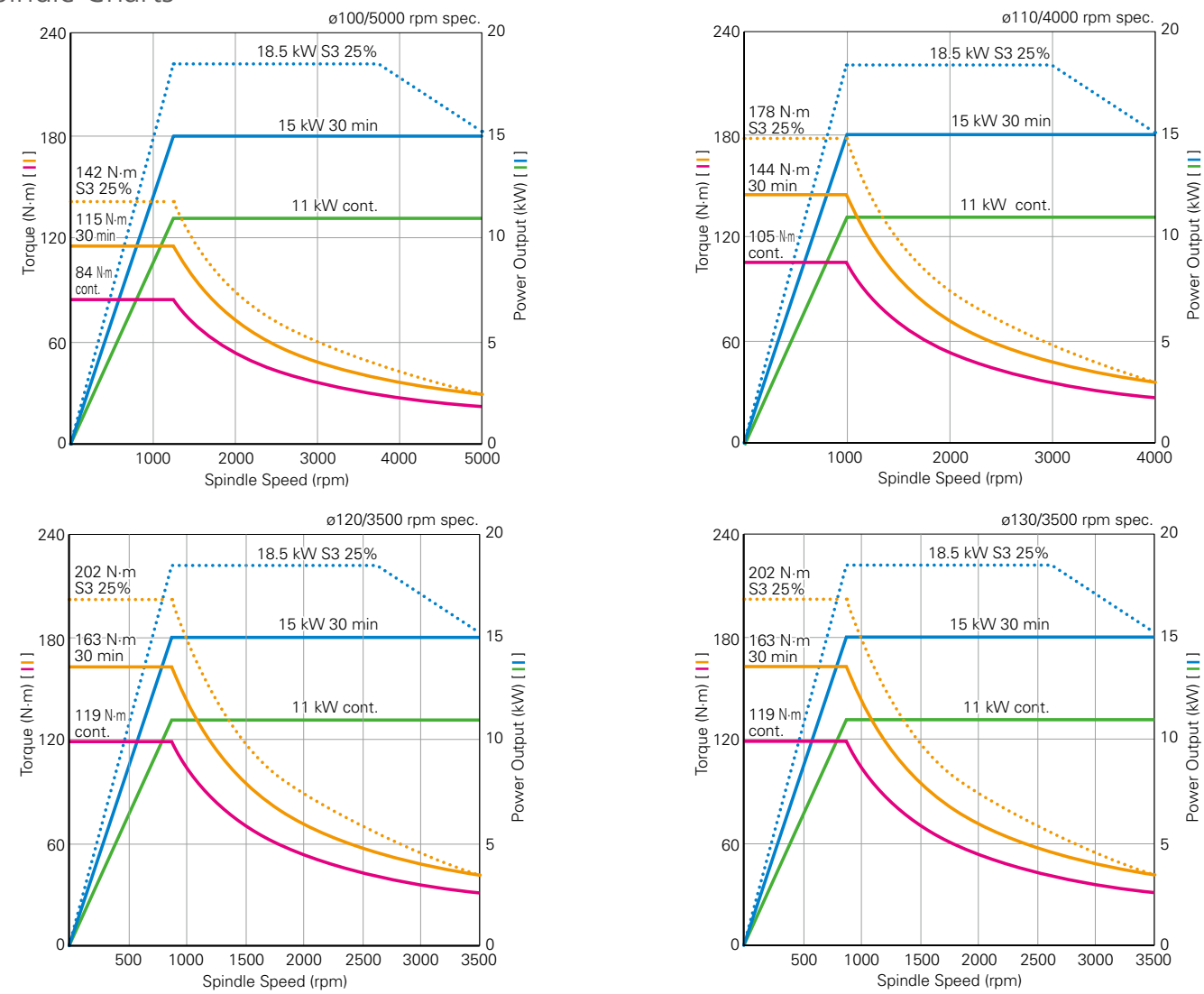


MT100

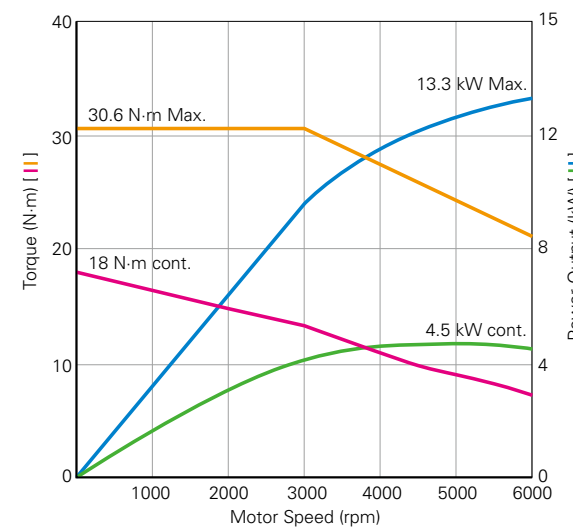
Chuck size	ø165 mm (6")
Max. bar workpiece size (bearing size)	Standard ø51 mm (ø90 mm) Option ø65 mm (ø110 mm, Left spindle)
Spindle drive motor	Standard 11 kW/30min (7.5 kW/cont.) × 2 Option 15 kW/30min (11 kW/cont., ø110 mm, Left spindle)
Spindle speed range (bearing size)	Standard 50 rpm ~ 5,000 rpm (ø90 mm) Option 60 rpm ~ 6,000 rpm (ø90 mm) 45 rpm ~ 4,500 rpm (ø110 mm)
Spindle nose size	ø90 JIS A2-5 ø110 JIS A2-6
Live tool motor	2.2 kW (8.0 N-m/cont.)
Max. speed	6,000 rpm
Max. tool shank size	ø16 mm
Spindle positioning function	C-axis positioning accuracy ±0.015° Max. speed 200 rpm Least command increment 0.001°

MT200

Spindle Charts



Live Tool Chart



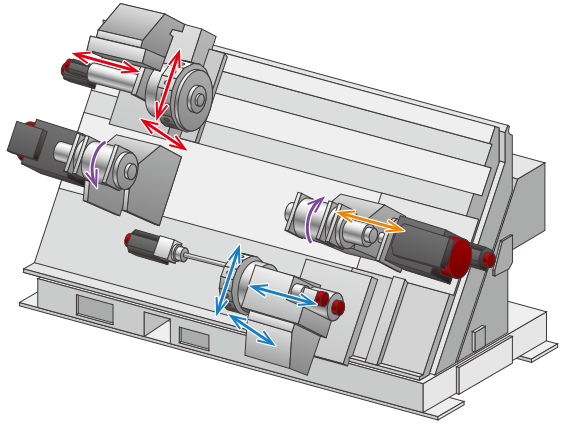
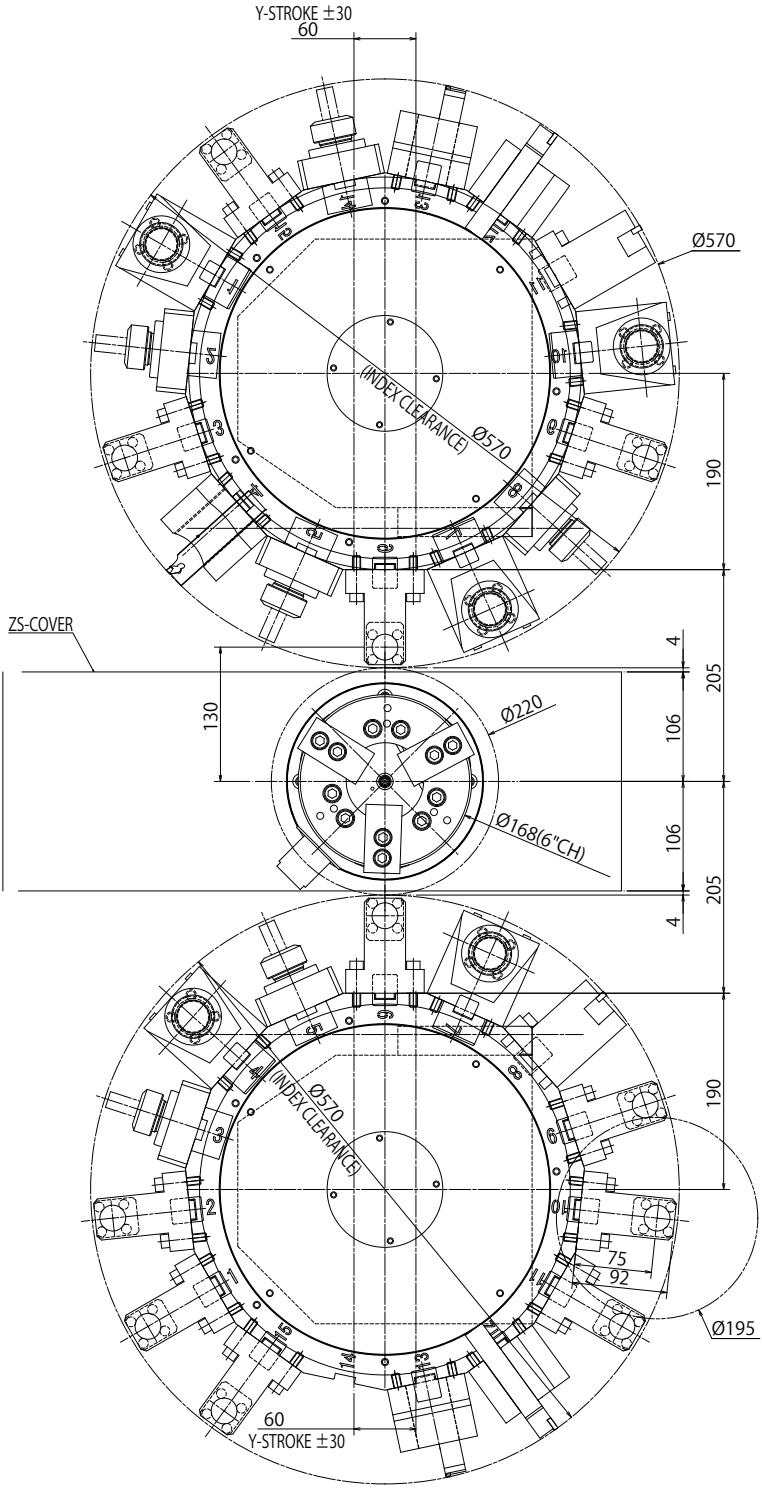
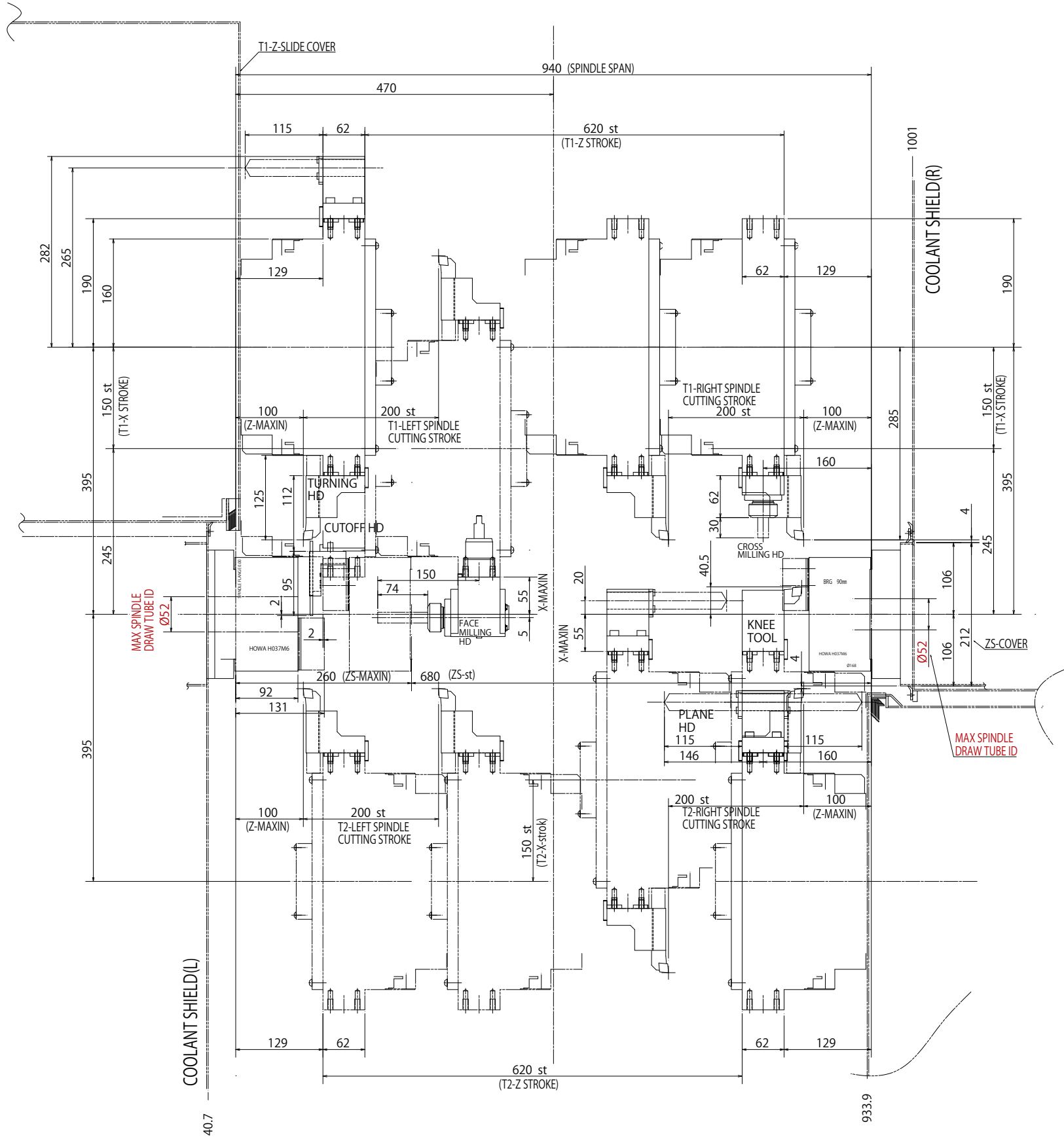
MT200

Chuck size	ø210 mm (8")
Max. bar workpiece size (bearing size)	Standard ø55 mm (ø100 mm) Option ø65 mm (ø110 mm) ø70 mm (ø120 mm, Left Spindle) ø80 mm (ø130 mm, Left Spindle)
Spindle drive motor	Standard 15 kW/30min. (11 kW/cont.) × 2 Option 18.5 kW/S3 25% × 2
Spindle speed range (bearing size)	Standard 50 rpm ~ 5,000 rpm (ø100 mm) Option 40 rpm ~ 4,000 rpm (ø110 mm) 35 rpm ~ 3,500 rpm (ø120 mm, ø130 mm)
Spindle nose size	ø100, ø110, ø120 JIS A2-6 ø130 JIS A2-8
Live tool motor	4.5 kW (18.0 N-m/cont.)
Max. speed	6,000 rpm ^{*1}
Max. tool shank size	ø16 mm
Spindle positioning function	C-axis positioning accuracy ±0.015° Max. speed 200 rpm Least command increment 0.001°

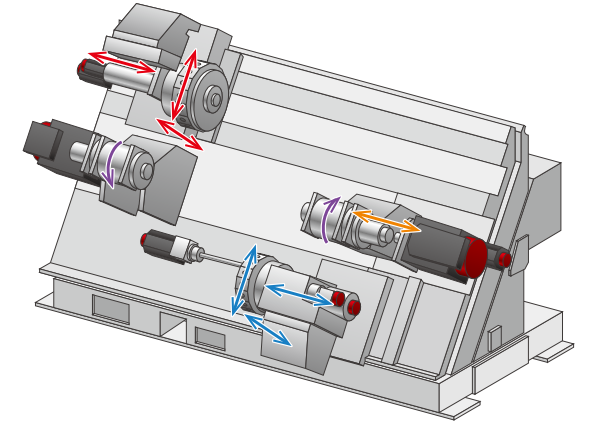
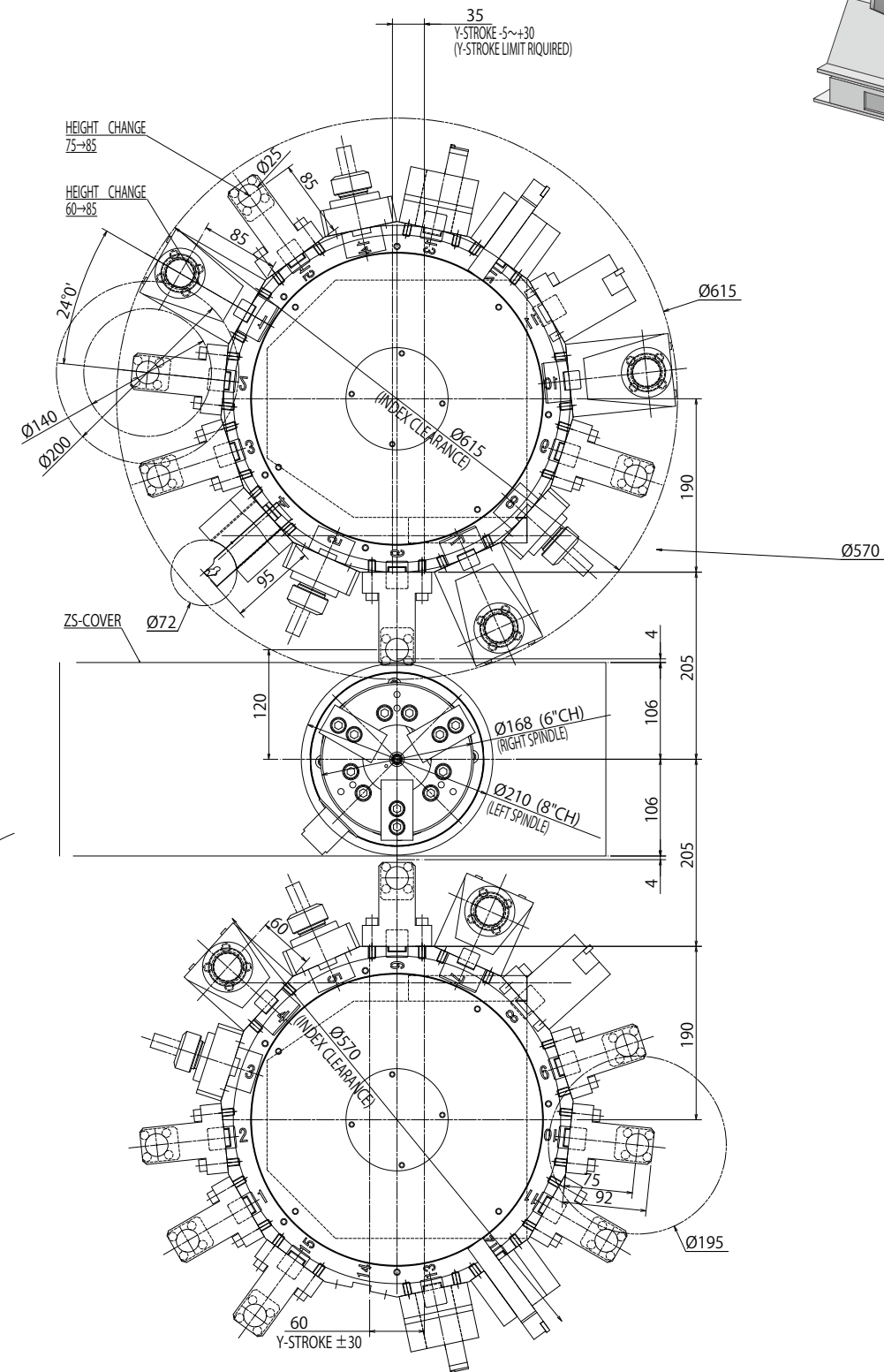
*1 Restrictions are applied by duty time and torque

2 Turret Type Tool Dimension

MT100 Max. bar workpiece size Left: ø51 Right: ø51

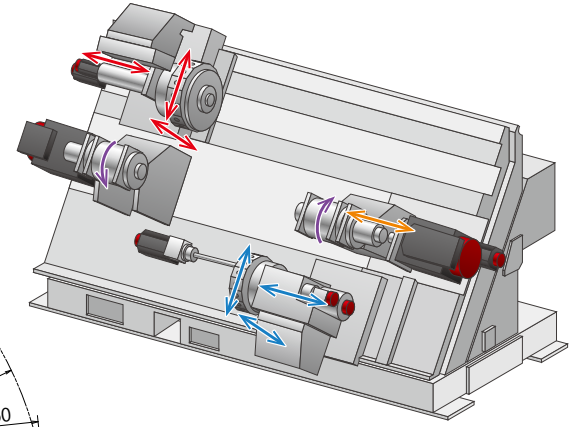
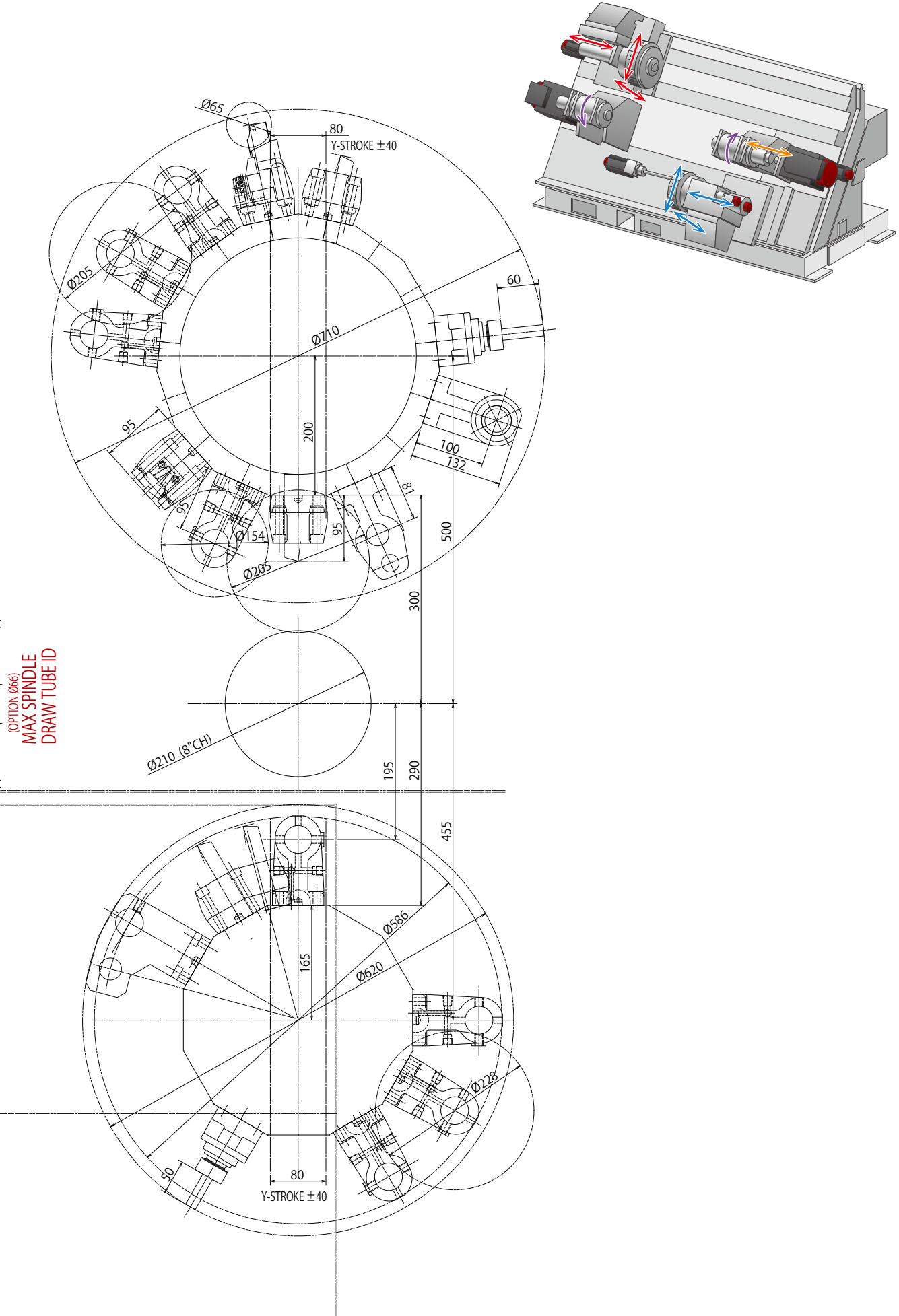
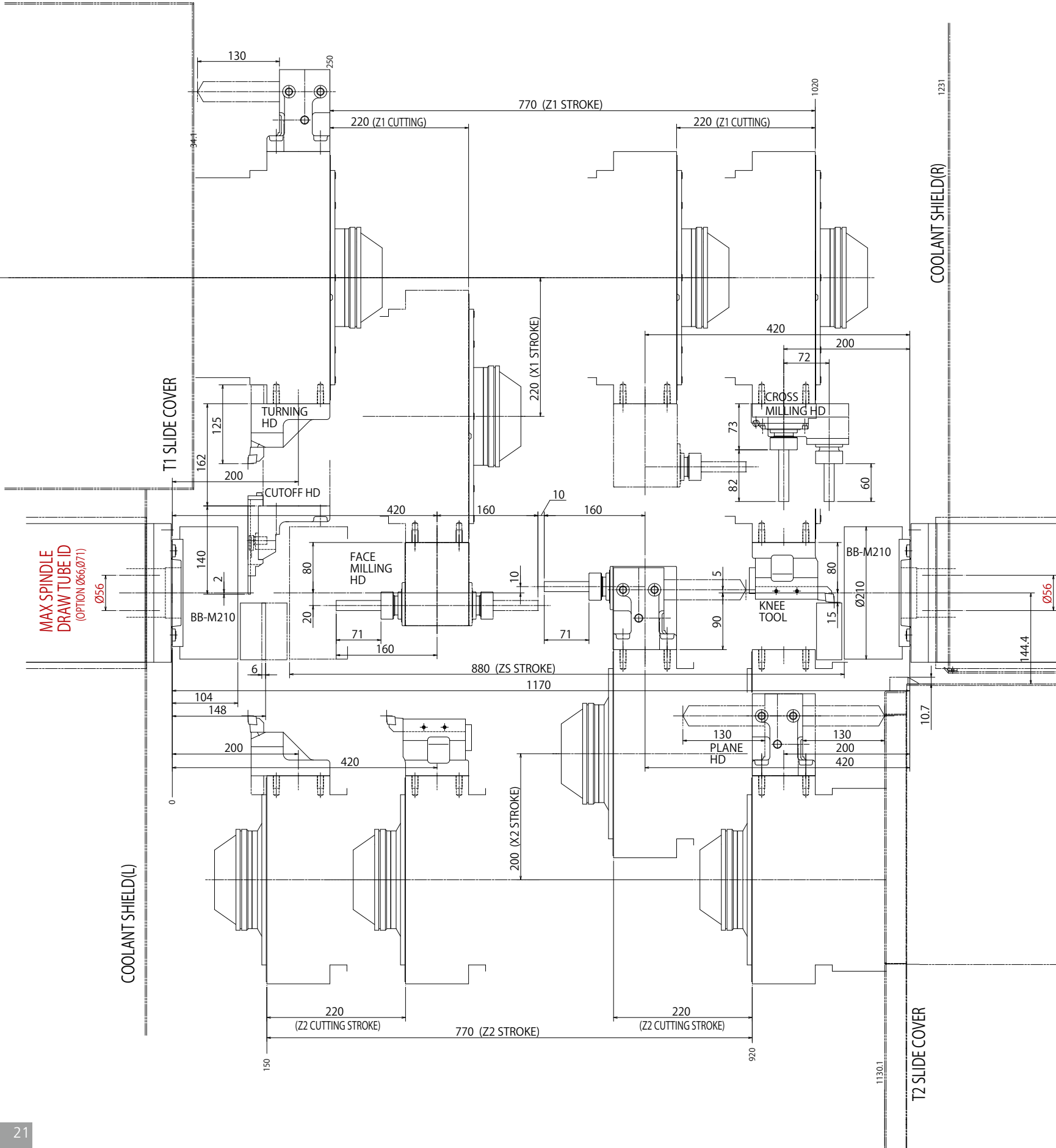


Max. bar workpiece size Left: ø65 Right: ø51



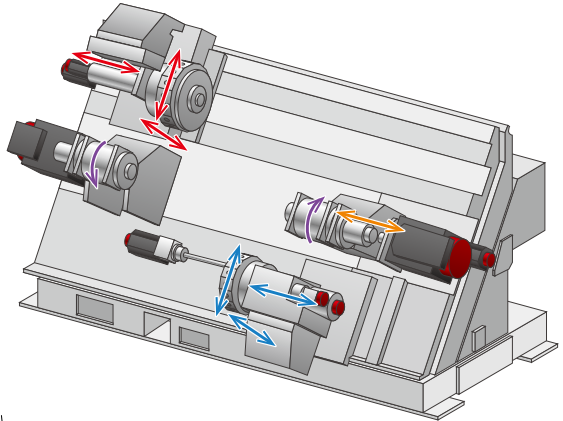
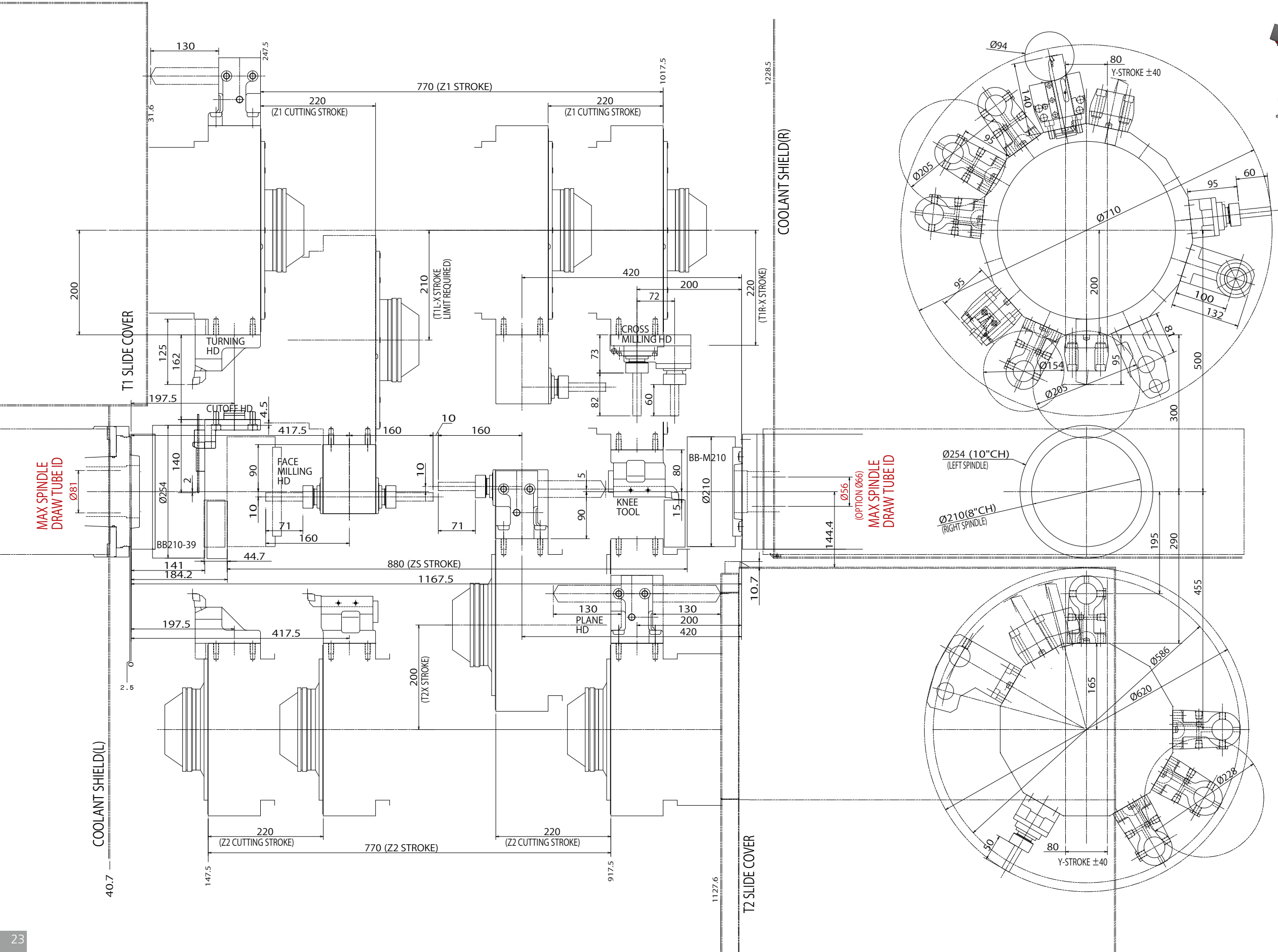
2 Turret Type Tool Dimension

MT200 Max. bar workpiece size Left: $\varnothing 70$ Right: $\varnothing 65$



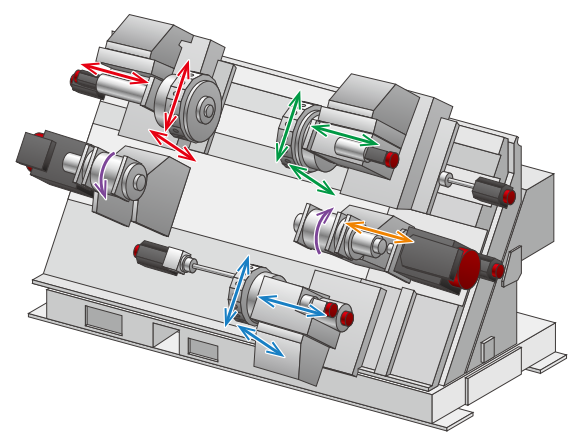
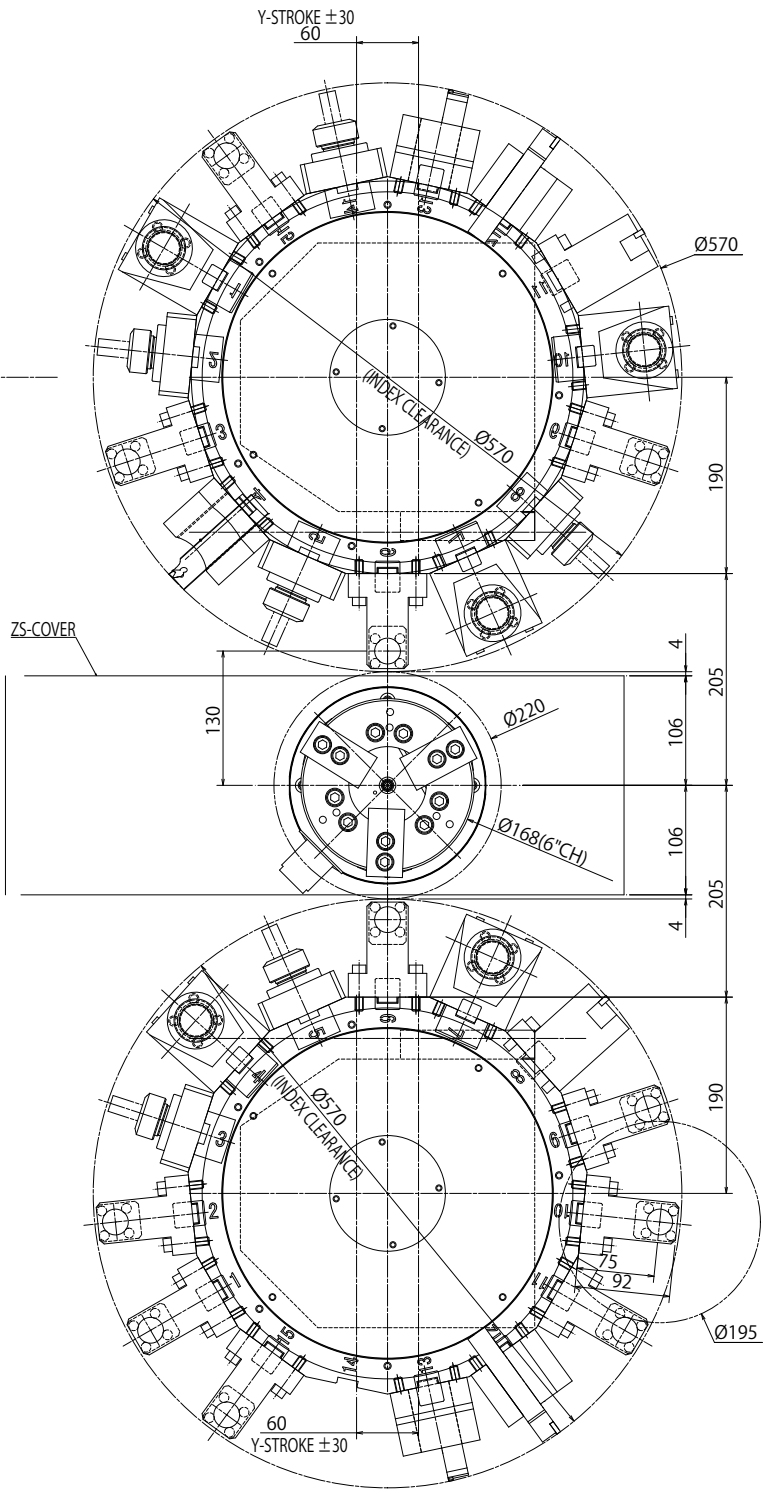
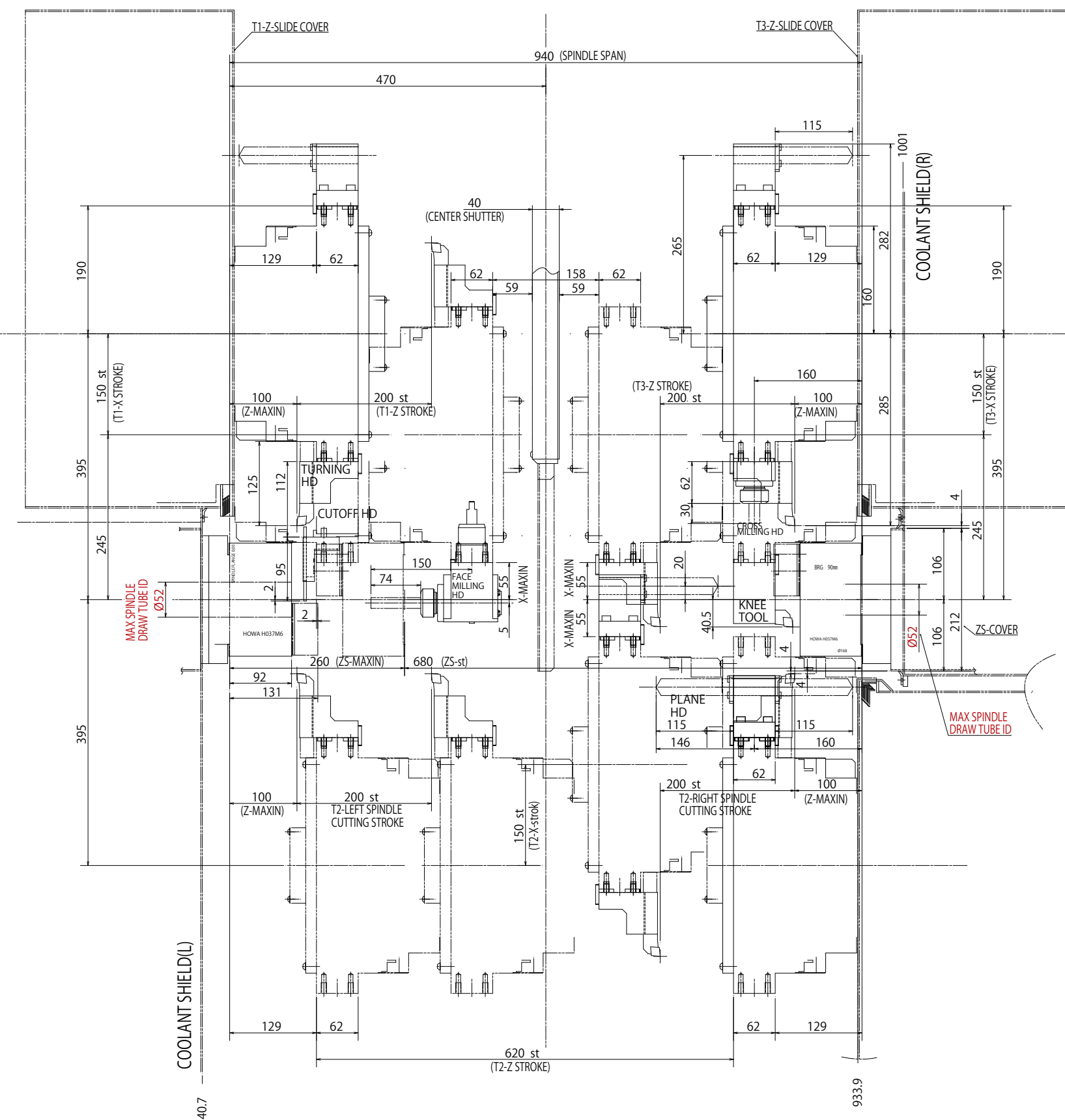
2 Turret Type Tool Dimension

MT200 Max. bar workpiece size Left: $\varnothing 80$ Right: $\varnothing 65$



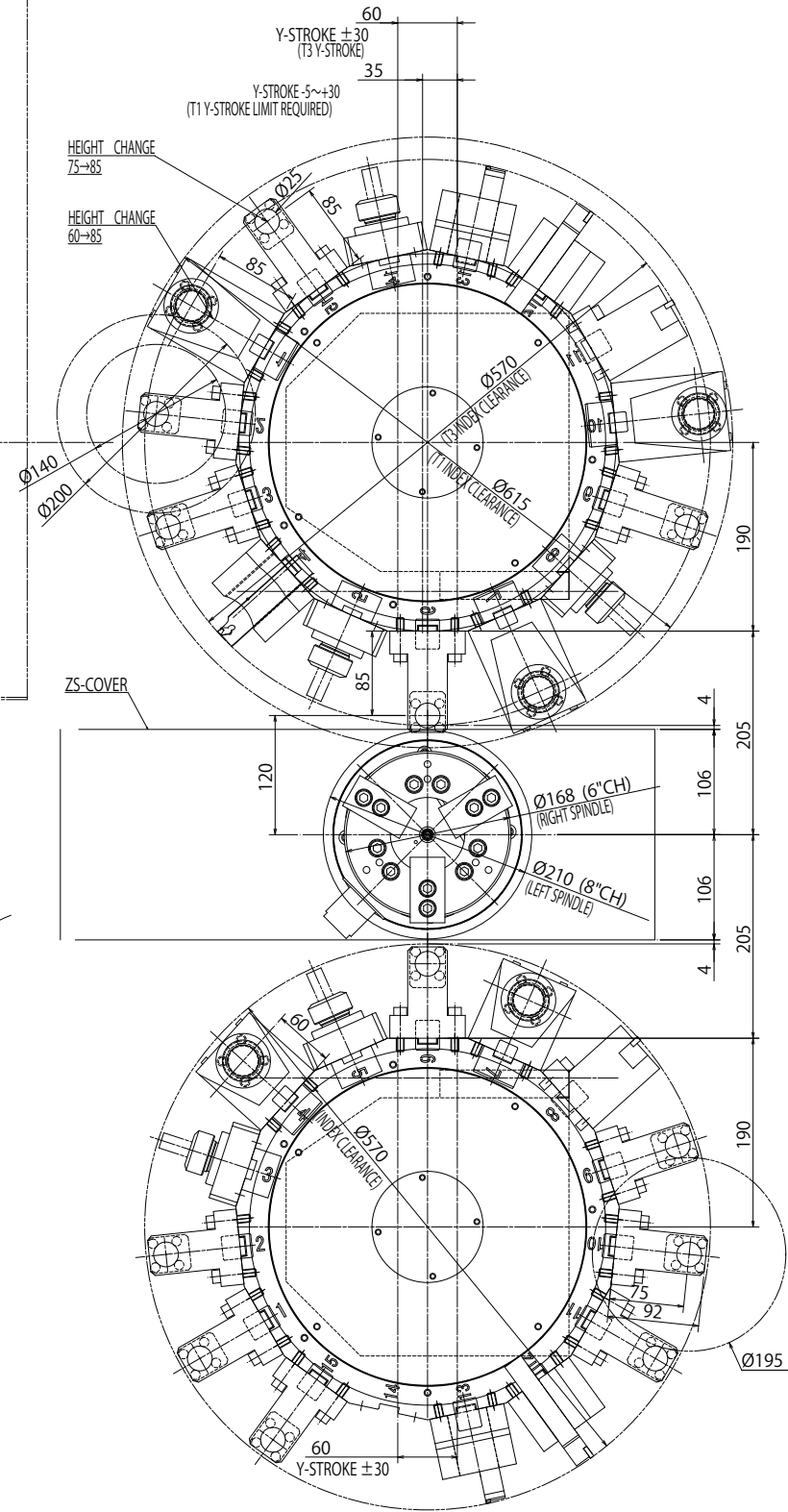
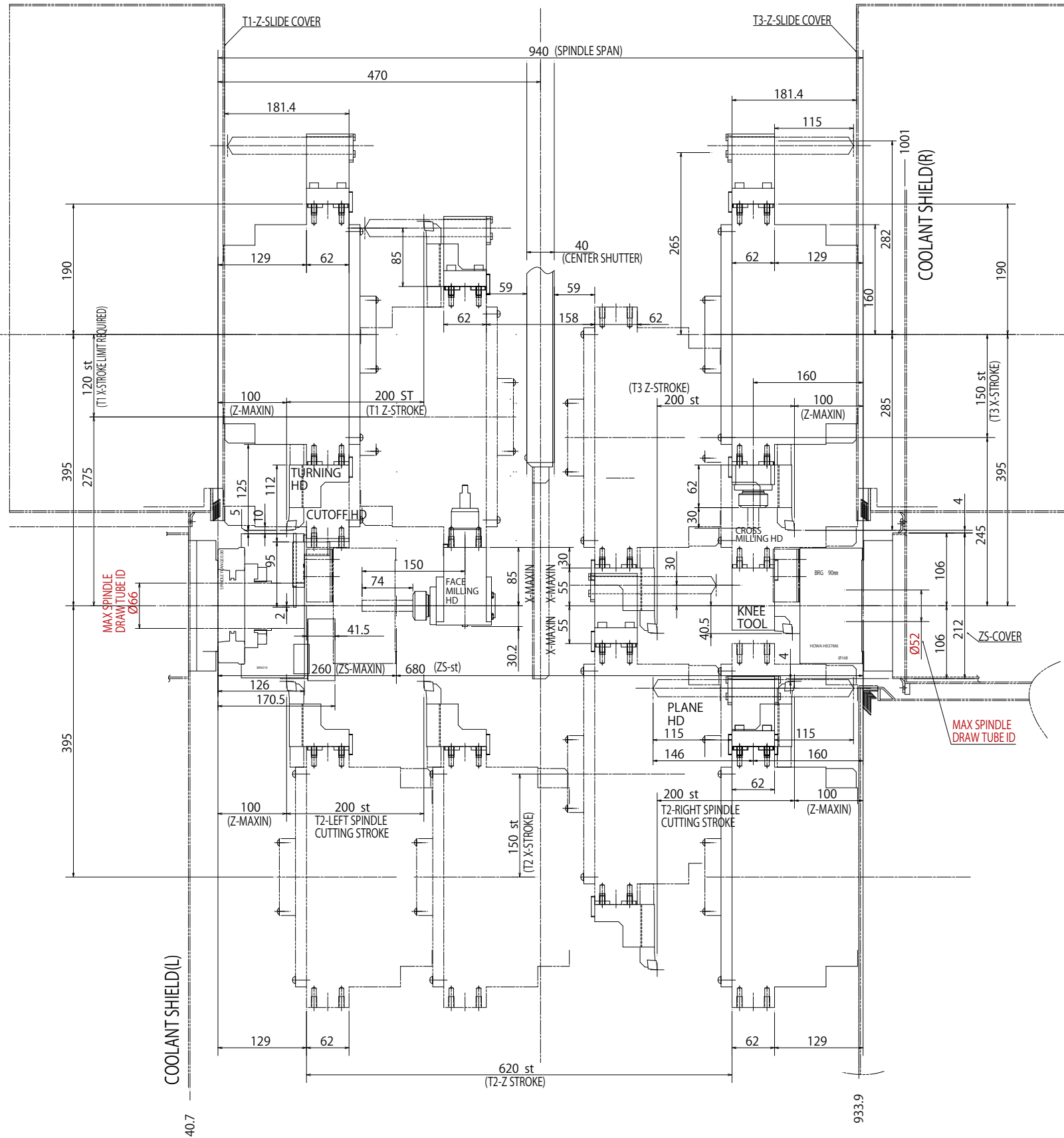
3 Turret Type Tool Dimension

MT100 Max. bar workpiece size Left: $\varnothing 51$ Right: $\varnothing 51$

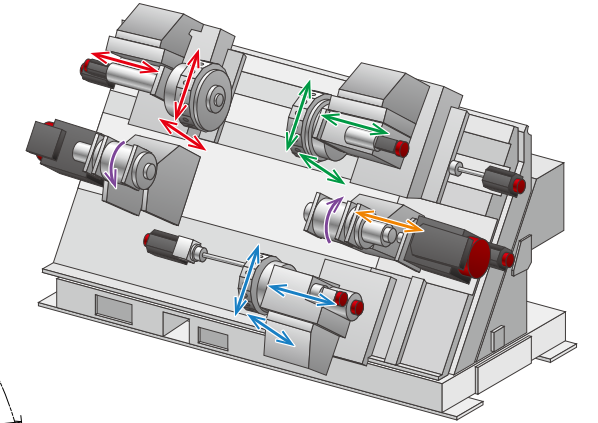


MT100

Max. bar workpiece size Left: ø65 Right: ø51

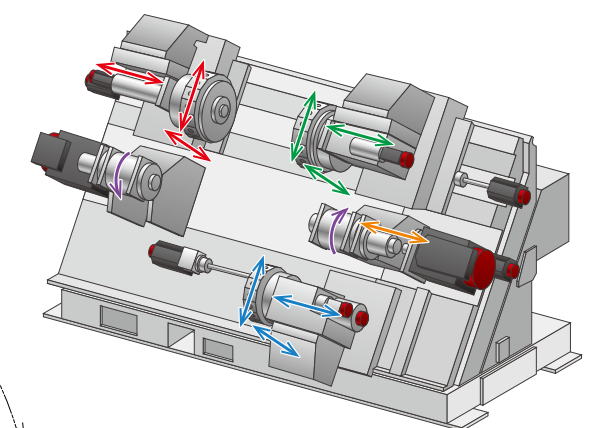


Max. bar workpiece size Left: ø70 Right: ø65



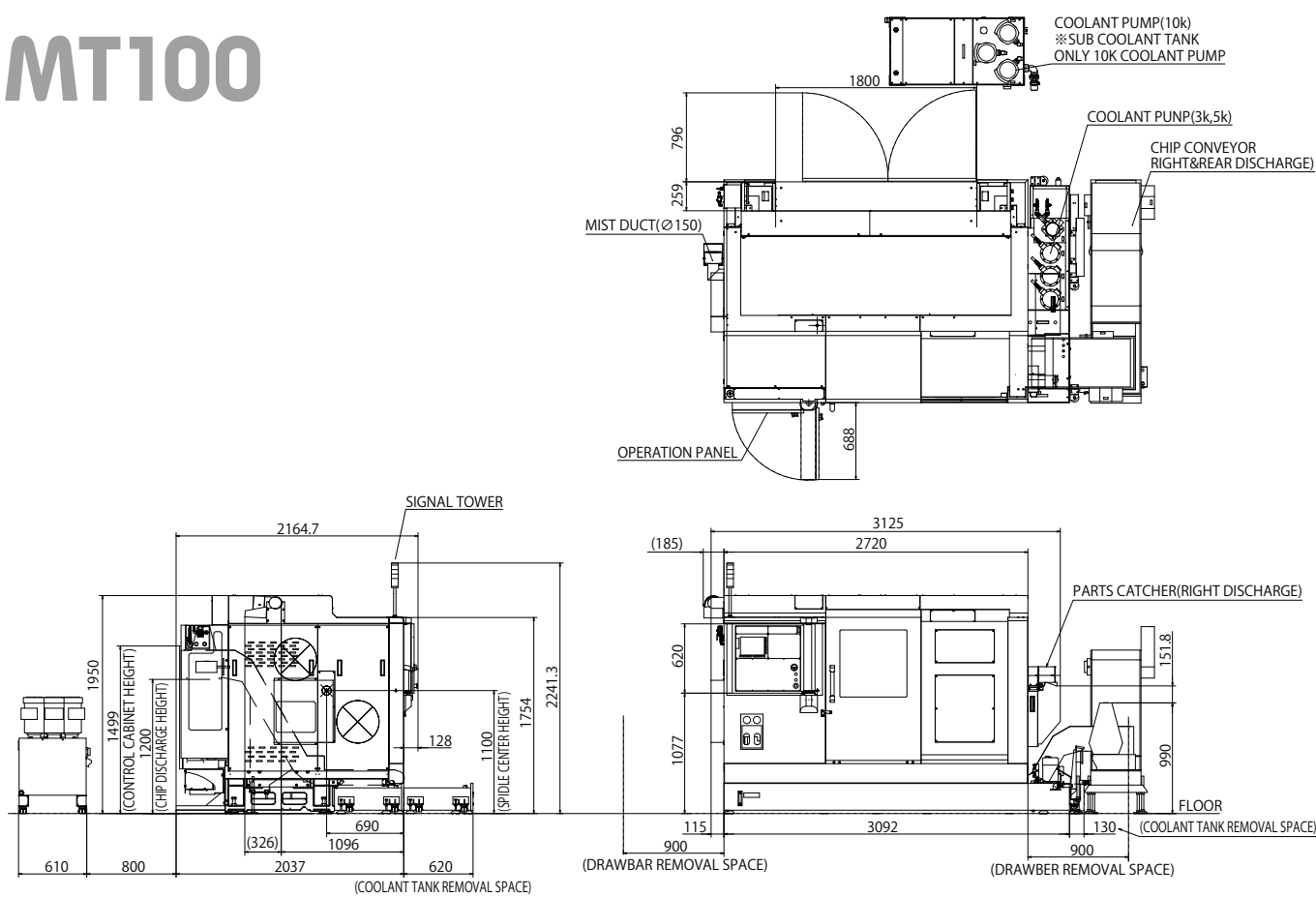
MT200

Max. bar workpiece size Left: ø80 Right: ø65



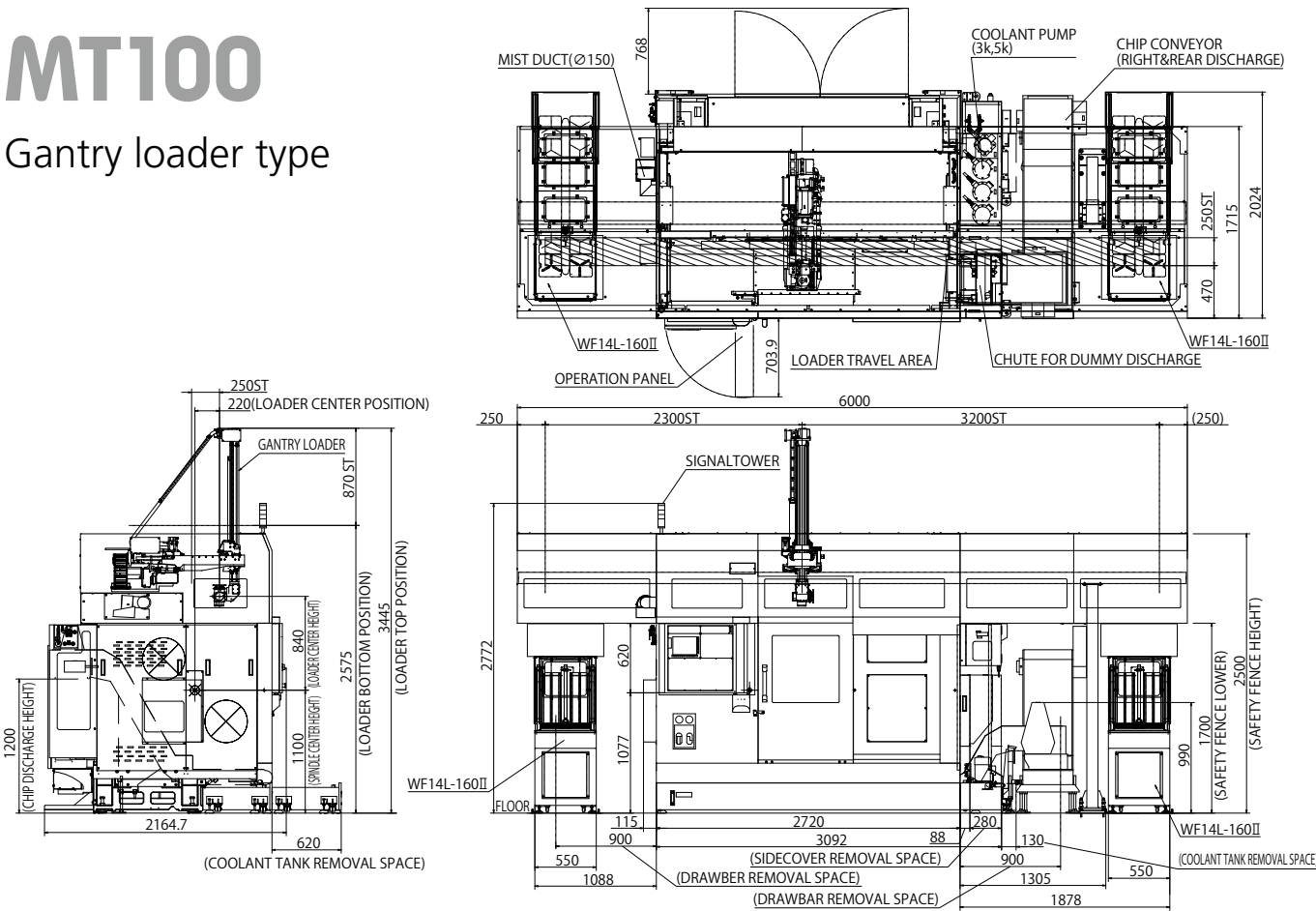
Floor Layout

MT100

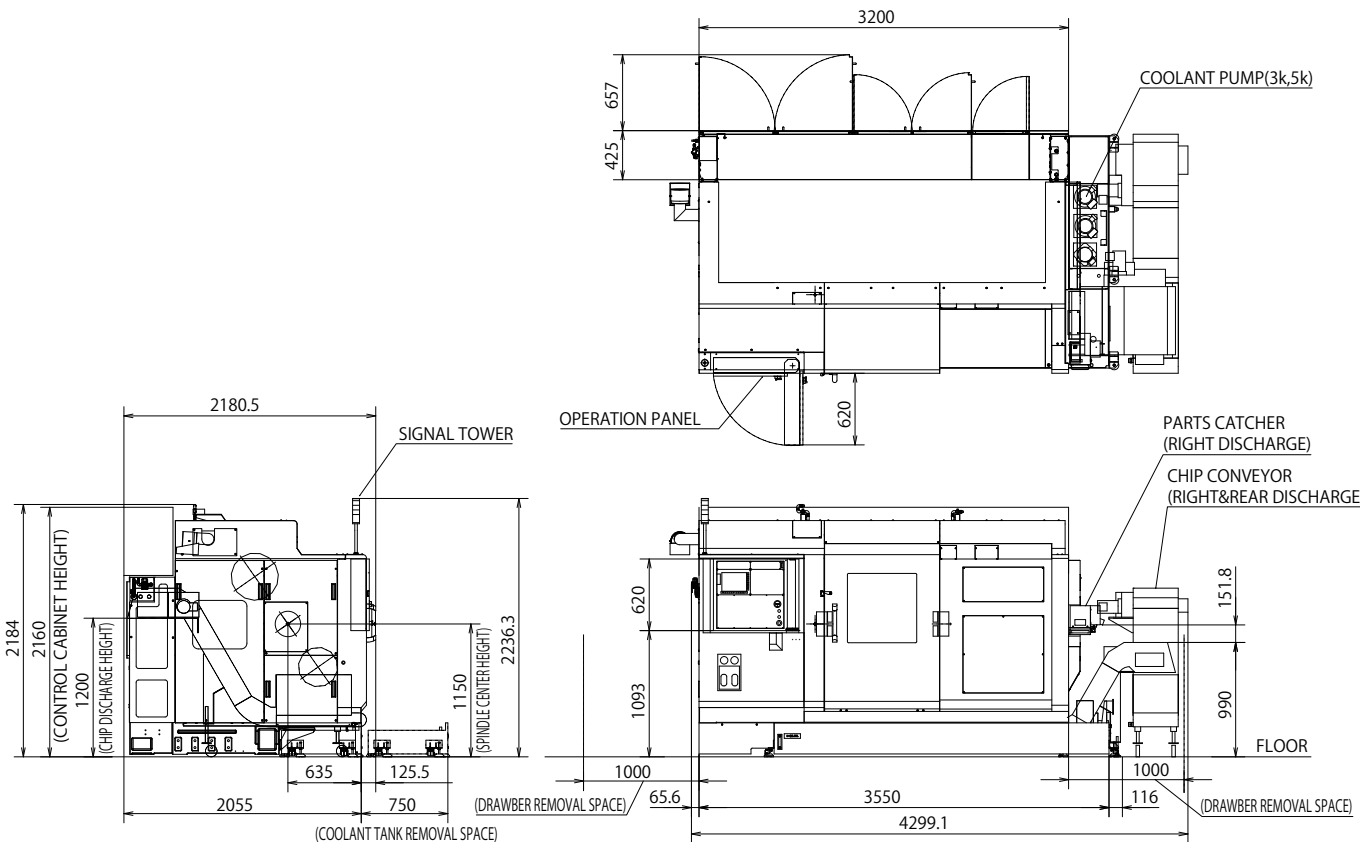


MT100

Gantry loader type

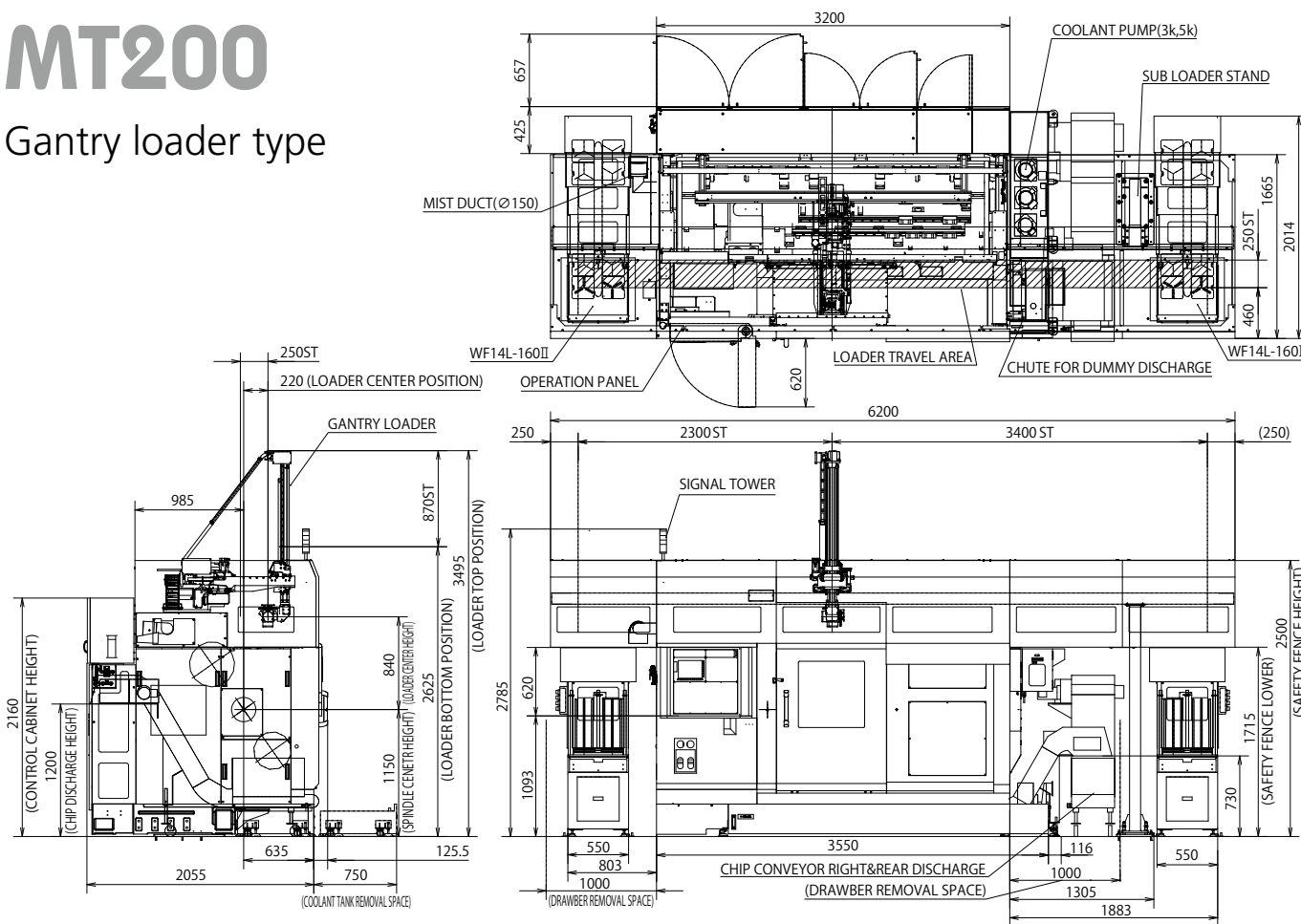


MT200



MT200

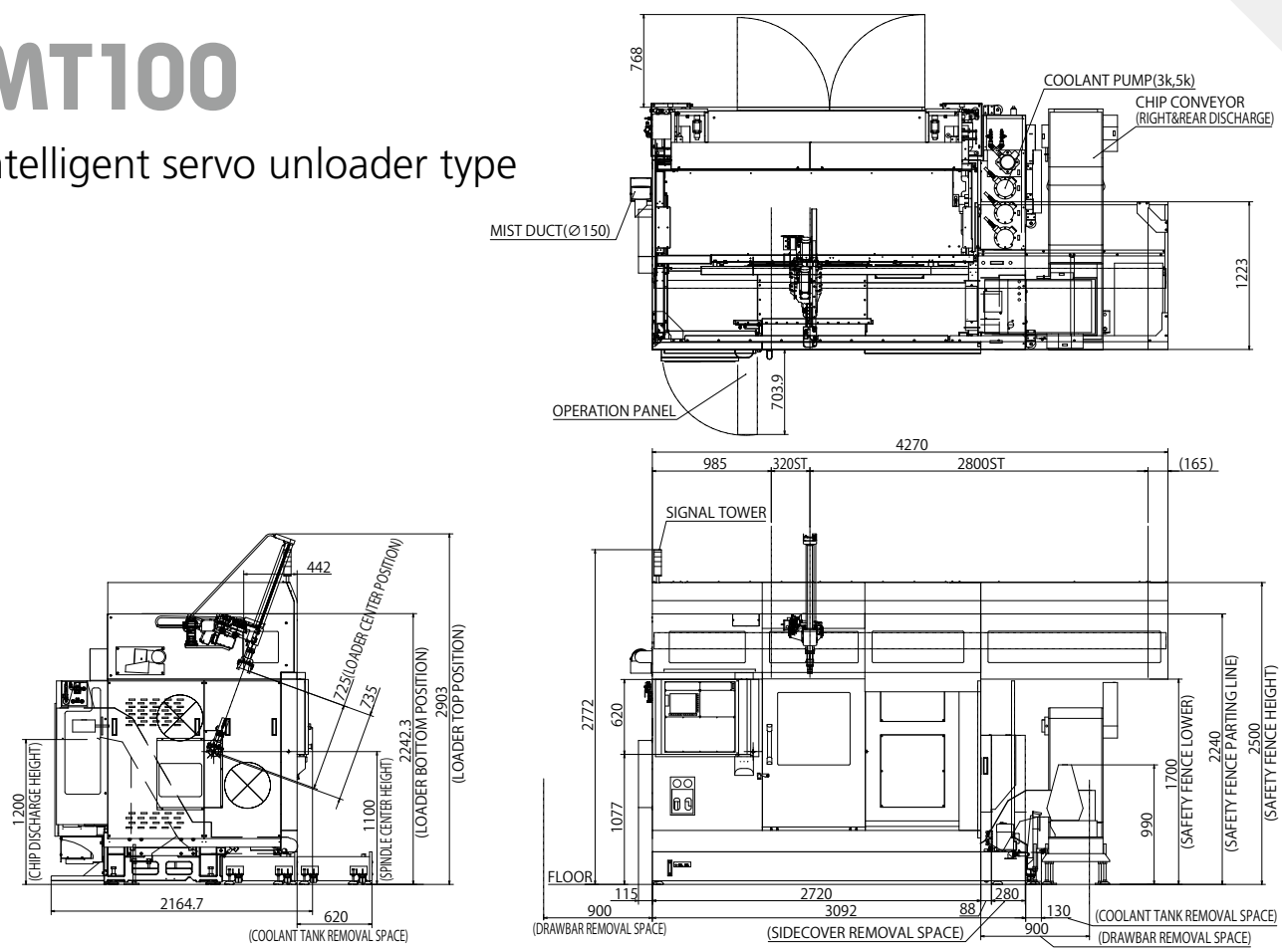
Gantry loader type



Floor Layout

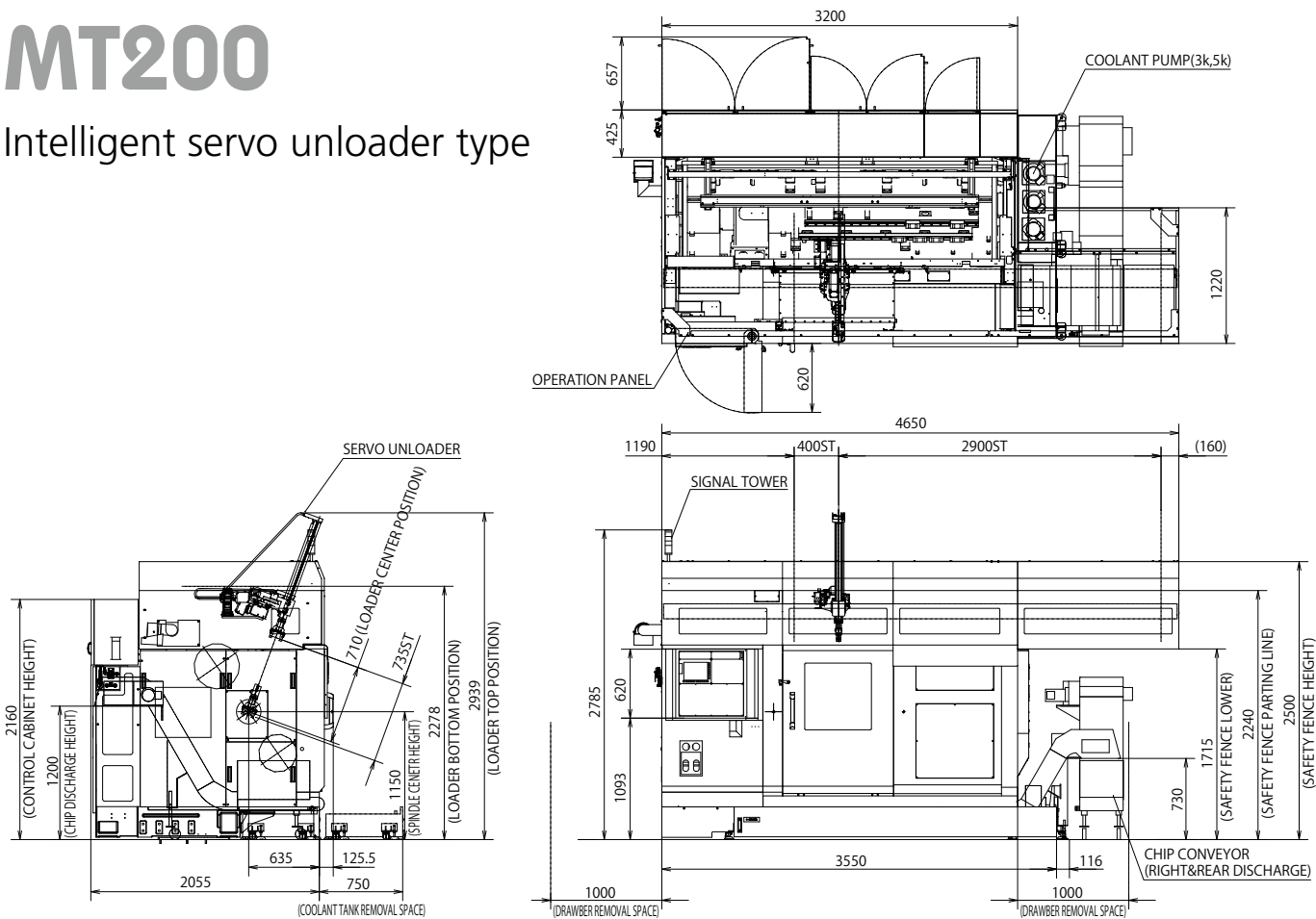
MT100

Intelligent servo unloader type

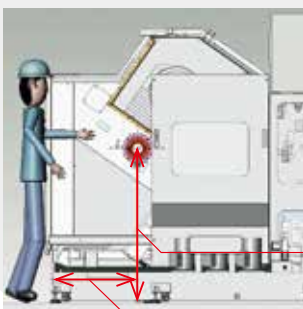


MT200

Intelligent servo unloader type



Workability and Maintainability



Easy access to Spindles
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.
MT100: 1,100 mm
MT200: 1,150 mm
MT100: 690 mm
MT200: 635 mm



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



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



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

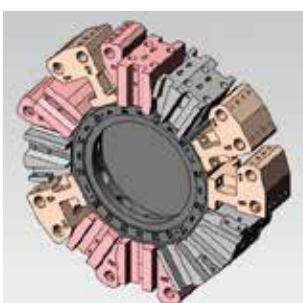
Application



Parts catcher
A finished workpiece of maximum size (MT100: ø65 mm x L150 mm, MT200: ø80 mm x L180) 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, ultimately increasing productivity.

Programming Support Software



Integrated Operation & Programming Guidance with extremely simplified operations



Compatibility with ESPRIT



Specifications at a Glance

Basic Specifications

		MT100	MT200
Chuck size		ø165 mm (6")	ø210 mm (8")
Maximum swing (Standard plain head) *1	15 stations	ø190 mm	ø205 mm
	12 stations	—	ø228 mm
Max. bar workpiece size (bearing size) *1	Standard	ø51 mm (ø90 mm, Right and Left spindles)	ø55 mm (ø100 mm)
	Option	ø65 mm (ø110 mm, Left spindle)	ø65 mm (ø110 mm)
			ø70 mm (ø120 mm, Left spindle)
			ø80 mm (ø130 mm, Left spindle)
Number of turret stations	2-Turret	15 × 2	15 (upper) & 12 (lower)
	3-Turret	15 × 3	15 (upper&right) & 12 (lower)
Specification of cutting axes(Stroke) 2- turret spec.	Upper turret	X : 150 mm / Z : 620 mm / Y :±30 mm	X : 220 mm / Z : 770 mm / Y :±40 mm
	Lower turret	X : 150 mm / Z : 620 mm / Y :±30 mm	X : 200 mm / Z : 770 mm / Y :±40 mm
	Right spindle	Zs : 680 mm	Zs : 880mm
Specification of cutting axes(Stroke) 3- turret spec.	Upper turret	X : 150 mm / Z : 200 mm / Y :±30 mm	X : 220 mm / Z : 220 mm / Y :±40 mm
	Lower turret	X : 150 mm / Z : 620 mm / Y :±30 mm	X : 200 mm / Z : 770 mm / Y :±40 mm
	Right turret	X : 150 mm / Z : 200 mm / Y :±30 mm	X : 220 mm / Z : 220 mm / Y :±40 mm
	Right spindle	Zs : 680 mm	Zs : 880 mm
Specification of cutting axes (Maximum speed)	All turrets	X : 24 m/min	X : 24 m/min
		Z : 40 m/min	Z : 36 m/min
		Y : 12 m/min	Y : 12 m/min
	Right spindle	Zs : 40 m/min	Zs : 36 m/min
Use tool	O.D tool	□ 20 mm	□ 20 mm
	I.D. tool	ø 25 mm	ø 40 mm
Spindle drive motor	Standard	11 kW/30min (7.5 kW/cont., Right and Left spindles)	15 kW/30min (11 kW/cont.) × 2
	Option	15 kW/30min (11 kW/cont., Left spindle, BRGø110 mm)	18.5 kW/S3 25% × 2
Spindle speed range (BRG size)	Standard	5,000 rpm (ø90 mm)	5,000 rpm (ø100 mm)
	Option	6,000 rpm (ø90 mm)	4,000 rpm (ø110 mm)
		4,500 rpm (ø110 mm)	3,500 rpm (ø120 mm, ø130 mm)
Spindle nose size		ø90 JIS A2-5	ø100、ø110、ø120 JIS A2-6
		ø110 JIS A2-6	ø130 JIS A2-8
Parts catcher handing capacity		ø65 mm × L150 mm, 2.5 kg	ø80 mm × L180 mm, 4.0 kg
Total Weight With loader and tools (Without coolant tank)		9,000 kg	12,000 kg

*1 Maximum diameter not to interfere with adjacent tools

Live Tooling Specifications

		MT100	MT200
Live tool motor		2.2 kW (8.0 N·m/continuous)	4.5 kW (18.0 N·m/continuous)
Max. speed		6,000 rpm	6,000 rpm*2
Max. tool shank size		ø16 mm	ø16 mm
Spindle positioning function	C-axis positioning accuracy	±0.015°	±0.015°
	Max. speed	200 rpm	200 rpm
	Least command increment	0.001°	0.001°

CNC Gantry Loader Specifications

		MT100	MT200
Loader workpiece handling size*1	3 Jaws	ø120 mm × L100 mm, 5.0 kg × 2	ø140 mm × L105 mm, 8.0 kg × 2
	2 Jaws	ø70 mm × L230 mm, 5.0 kg × 2	ø80 mm × L290 mm, 8.0 kg × 2
		ø70 mm × L300 mm, 5.0 kg × 1	ø80 mm × L370 mm, 8.0 kg × 1
Stroke	Z-axis	Left : 2,300 mm	Left : 2,300 mm
		Right: 3,200 mm	Right: 3,400 mm
	Y-axis	870 mm	870 mm
	X-axis	250 mm	250 mm
Max. speed	Z-axis	200 m/min	200 m/min
	Y-axis	150 m/min	150 m/min
	X-axis	60 m/min	60 m/min

Intelligent Servo Unloader Specifications

		MT100	MT200
Loader workpiece handling size*1	2 Jaws	ø70 mm × L300 mm, 5.0 kg	ø80 mm × L370 mm, 5.0 kg
	Z-axis	Left 320 mm Right 2,800 mm	Left 400 mm Right 2,900 mm
Stroke	Y-axis	735 mm	735 mm
	Z-axis	100 m/min	100 m/min
Max. speed	Y-axis	100 m/min	100 m/min

*1 Selection may vary by region.

*2 Restrictions are applied by duty time and torque

• **Safety Specification**

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

* The machines shown in the catalogue include some optional items and may vary in appearance from the actual machines.

* Specifications and designs are subject to change without prior notice.

MURATA MACHINERY, LTD.
MACHINE TOOLS DIVISION



Network

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