

CITIZEN

Miyano

ABX65/80THY

Fixed Headstock Type Automatic CNC Lathe



80mm and 65mm Revamped ABX Series

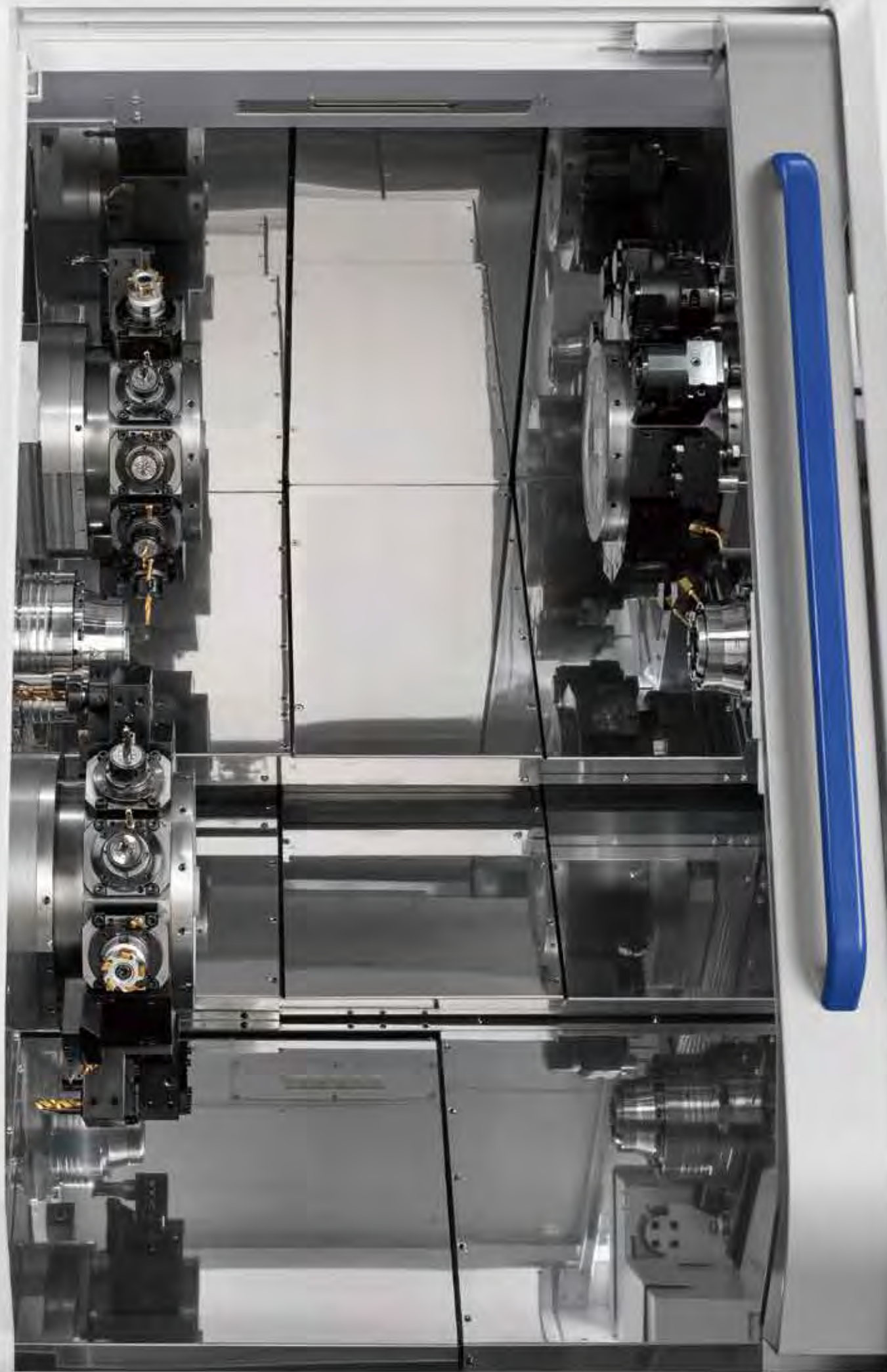
The new ABX Series is equipped with a ϕ 80-/ ϕ 65-mm front spindle. The back spindle is ϕ 65 mm. In combination with three turrets equipped with a Y axis, this extends the range of workpiece machining capabilities. The product design has also been completely overhauled. A large window and 19-inch touchscreen operation panel are provided for better operability and visibility. In addition, environmental performance is improved by visualizing power consumption and reducing air consumption.



EcoBalance Machine

CITIZEN Machinery aims to create a sustainable society by innovating customers' manufacturing workflow with a focus on their future issues as well as their current ones. We work to continuously enhance corporate value through "sustainable management" that takes into account social issues such as human rights and the global environment throughout the value chain, while at the same time promoting the provision of "sustainable products" such as our proprietary technologies, which include LFV (low-frequency vibration cutting) technology, the "FA-friendly" robot system, and "alkappliesolution" utilizing ICT technology, centering on the Cincom and Miyano brands.

警告
本装置は高圧電圧を発生する可能性があります。
修理作業を行う場合は、必ず電源を切断し、
接地を確認してください。
また、本装置は可燃性ガスを発生する可能性があります。
修理作業を行う場合は、必ず換気を行い、
火気厳禁の場所で行ってください。
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Basic Construction

Spindle 1

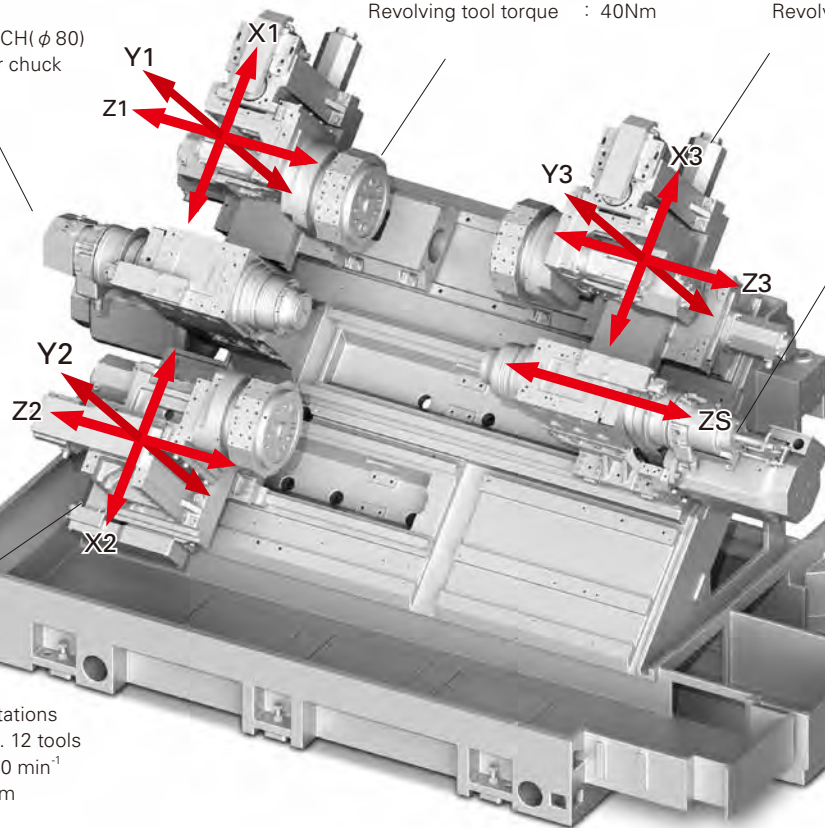
Spindle speed : 5,000 min⁻¹(65THY)/ 4,000 min⁻¹(80THY)
 Collet chuck type : DIN 185E
 HAINBUCH(φ 65)
 H-S26
 HAINBUCH(φ 80)
 Power chuck type : 6" power chuck

Turret 1

Type of the tool slide : 12 stations
 Revolving tool capacity : Max. 12 tools
 Rotational speed of revolving tools : 6,000 min⁻¹
 Revolving tool torque : 40Nm

Turret 3

Type of the tool slide : 12 stations
 Revolving tool capacity : Max. 12 tools
 Rotational speed of revolving tools : 6,000 min⁻¹
 Revolving tool torque : 40Nm



Spindle 2

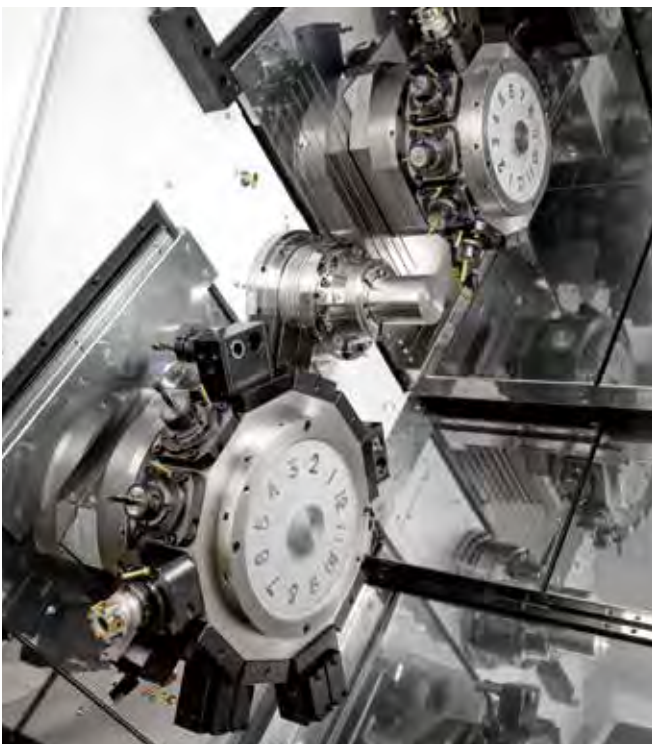
Spindle speed : 5,000 min⁻¹
 Collet chuck type : DIN 185E
 H-S26
 HAINBUCH
 (φ 65, φ 80)
 Power chuck type : 6" power chuck

Turret 2

Type of the tool slide : 12 stations
 Revolving tool capacity : Max. 12 tools
 Rotational speed of revolving tools : 6,000 min⁻¹
 Revolving tool torque : 40Nm

Equipped with a φ80mm front spindle

With the ABX80THY, the maximum machining diameter of the front spindle is φ80 mm, and the back spindle can also be used with an 80-mm chuck. This configures a new machining area.



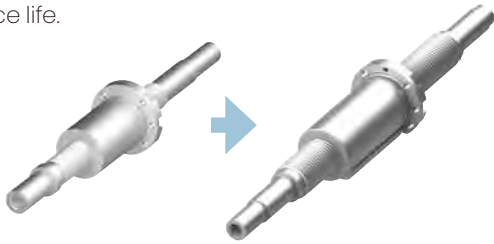
Front side



Back side

Ball screw diameter enlarged to $\phi 32$ mm for all axes

The ball screw diameter for all axes has been increased to improve rigidity. This also helps to extend the machine's service life.



Spindle Air Purge Function Incorporated

An air purge function is standard on front and back spindles. This prevents coolant from entering the spindles, protecting their bearings and other internal structures. In addition, the spindle air purge is turned ON/OFF automatically according to operating status in order to suppress air consumption.



Air blow intermittent discharge function

Air blow is discharged intermittently to reduce air consumption.

Spindle diagnosis function

The health status of the spindles is shown on the NC screen. Early detection of spindle faults prevents unexpected machine stoppages and contributes to stable production.



Thermal displacement correction function

This makes it possible to maintain a high level of accuracy during cutting, and increases machine reliability. Warm-up operation time is also shortened, which contributes to power and labor savings.

Power Consumption Visualized

The Ecoll function visualizes power consumption and CO2 emissions on the screen to support customers' efforts to save energy.

Large window area

The visibility in the tooling area is greatly improved. This means that the chuck end face and machining point can be seen at a glance.



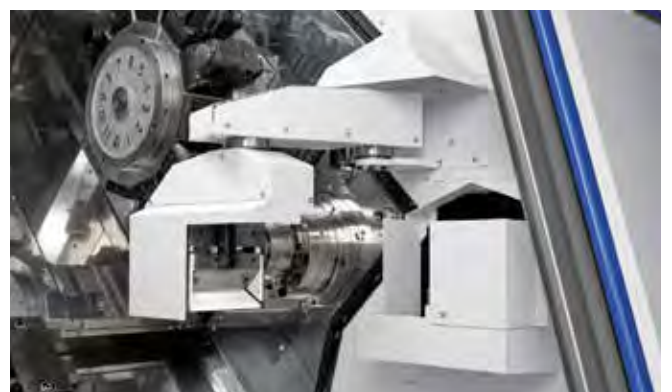
19-inch touchscreen operation panel

The center of the screen is set at the optimal height, and the panel surface is inclined, to facilitate operations by touch so as to reduce fatigue.

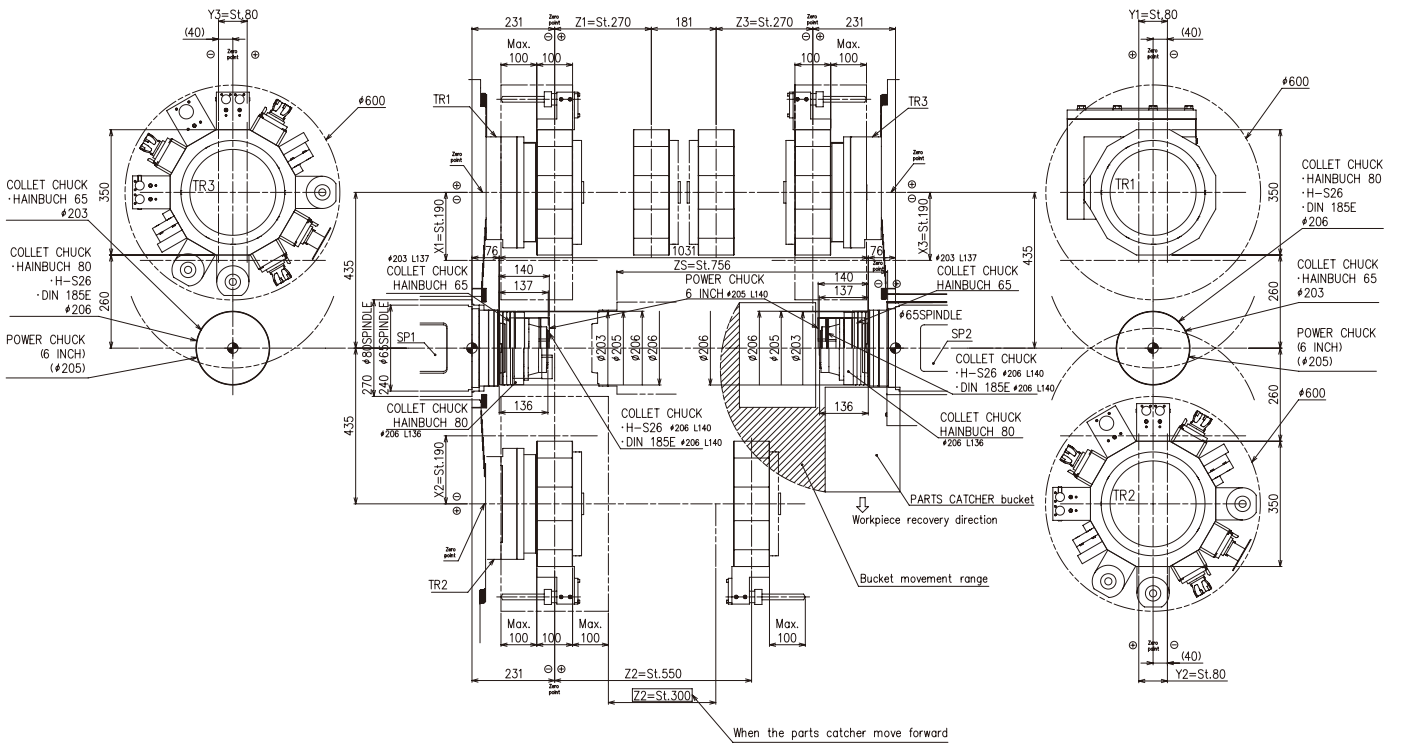


Part catcher

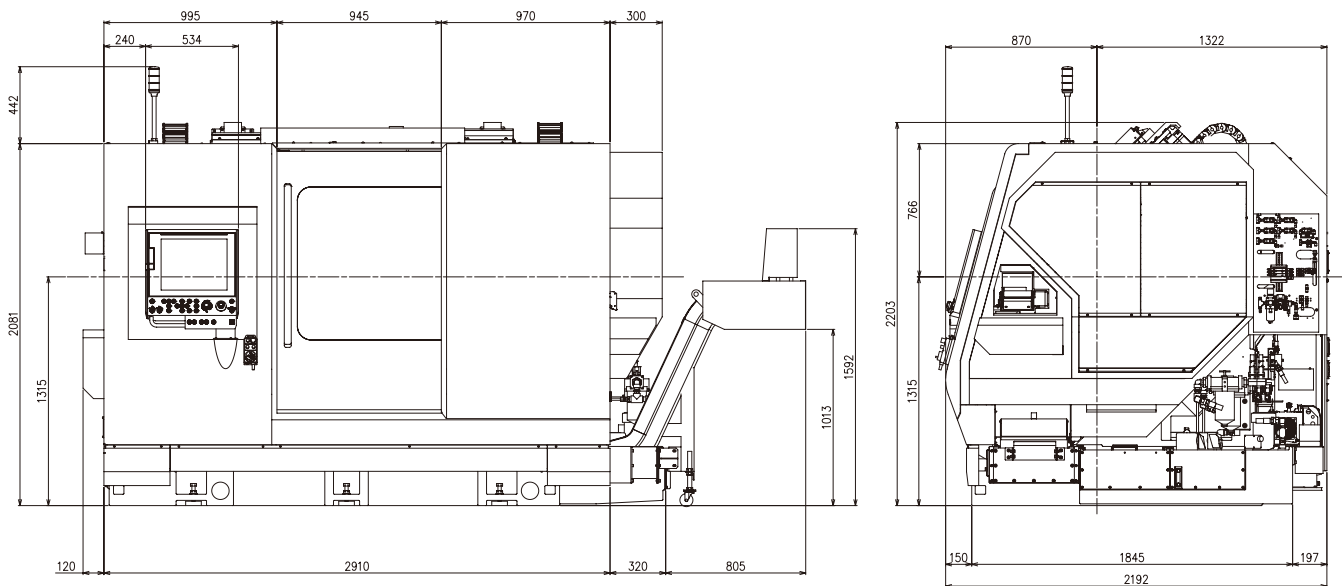
The maximum load length (maximum collection length) is 150 mm, and the maximum weight is 6.5 kg.



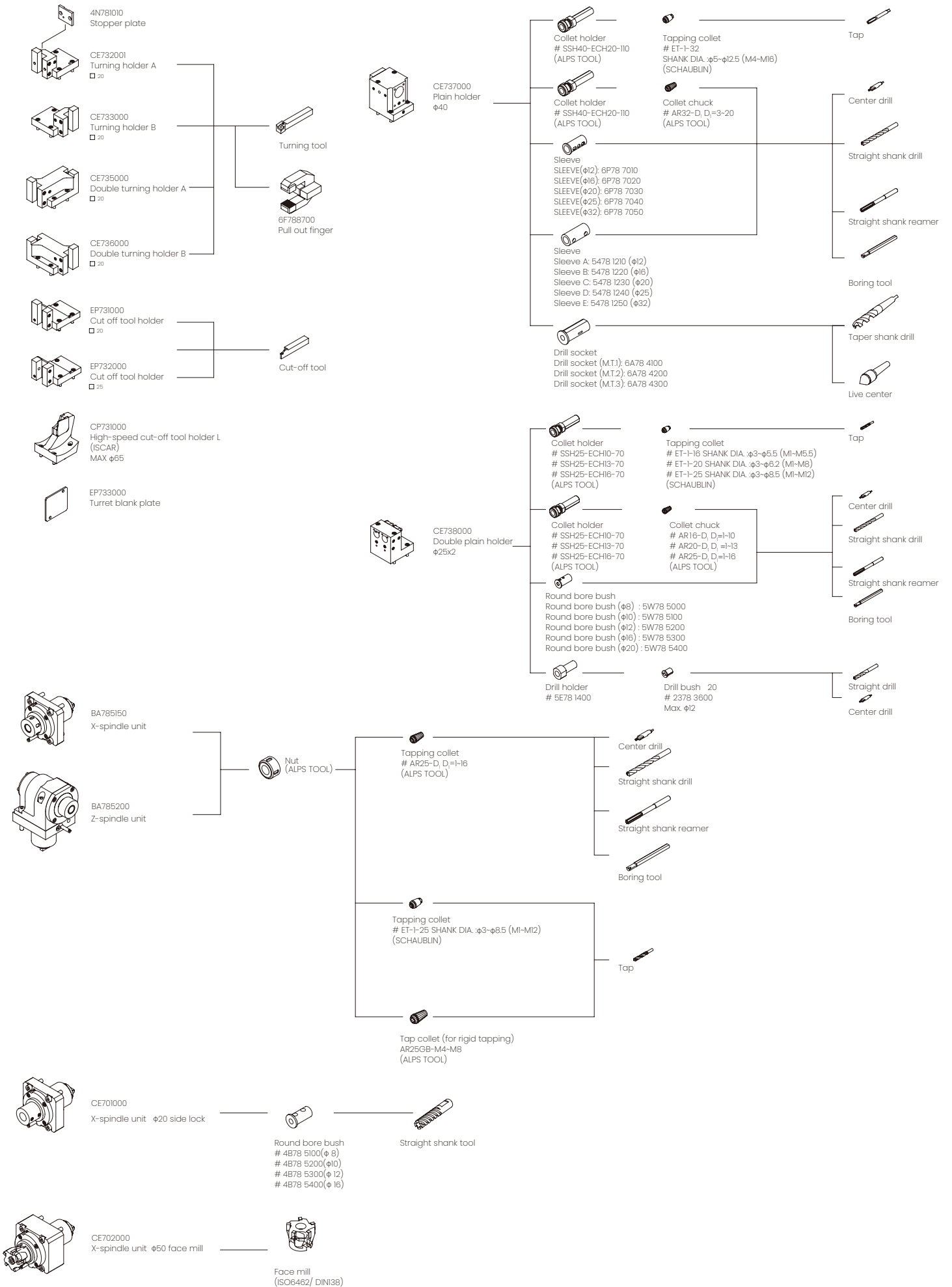
Tooling Area



Tooling Area



Tooling System



Machine specifications

Item		ABX-65THY3	ABX-80THY3
Capacity / capacity			
Standard machining diameter (gripping diameter)	SP1	φ 65 mm	φ 80 mm
	SP2	φ 65 mm	φ 65 mm
Distance between spindle end faces		1031 mm	
Slide stroke			
TR1, TR2, TR3	X1, X2, X3 axis	190 mm	
	Z1 axis	270 mm	
	Z2 axis	550 mm	
	Z3 axis	270 mm	
	Y1, Y2, Y3 axis	80 (± 40)	
	ZS axis	756 mm	
Spindle			
Number of spindles		2	
Spindle speed	SP1	5,000 min ⁻¹	4,000 min ⁻¹
	SP2	5,000 min ⁻¹	
Draw tube through-hole diameter	SP1	φ 66 mm	φ 81 mm
	SP2	φ 66 mm	
Collet chuck type	SP1	DIN 185E	
		HAINBUCH 65	HAINBUCH 80
		H-S26	
	SP2	DIN 185E	
		HAINBUCH 65/ 80	
		H-S26	
Power chuck type	SP1, SP2	6" POWER CHUCK	
Machining capacity	SP1, SP2	Drill	φ 25 mm
		Tap	M22 × 2.5
Spindle indexing			
Minimum spindle indexing command	SP1, SP2	0.001°	
Tool post			
Number of tool slides		3	
Type of the tool slide	TR1, TR2, TR3	12 st.	
Distance between opposite sides of tool slide	TR1, TR2, TR3	350 mm	
Maximum indexing diameter of tool slide	TR1, TR2, TR3	φ 600 mm	
Dimensions of tools used		□ 20	
Dimensions of tool mounting holes		φ 25	
Revolving Tool			
Revolving tool capacity		Max. 12/ 12/ 12	
Revolving tool drive type		Single clutch drive	
Rotational speed of revolving tools		6,000 min ⁻¹	
Machining capacity	Drill	Max. φ 20	
	Tap	Max. M 14 x 2	
Feed rate			
Rapid feed rate	X1, X2, X3 axis	20 min ⁻¹	
	Z1 axis	20 min ⁻¹	
	Z2 axis	30 min ⁻¹	
	Z3 axis	20 min ⁻¹	
	Y1, Y2, Y3 axis	12 min ⁻¹	
	ZS axis	30 min ⁻¹	
Motor for feed axes	X1, X2, X3, Z1, Z2, Z3, ZS axis	1.8 kw	
	Y1, Y2, Y3 axis	1.2 kw	
Motor drive			
Motor for spindle	SP1, SP2	18.5/ 15 kw (30min/ cont.)	
Motor for revolving tools	TR1, TR2, TR3	4.5 kw	
Motor for coolant pump		0.25 kw × 2	
Motor for medium-pressure coolant (1MPa) (option)		0.8/ 11 kw (50/ 60Hz) × 2	
Required power source			
Power source used		AC200/ 220 V/ Hz +5%-10% 50/ 60 Hz ± 1%	
Rated power consumption		56 KVA	
Load operation average power consumption		33.1 KVA	
Fuse capacity at machine side		250 KVA	
Pneumatic source		0.5 MPa	
Tank capacity			
Hydraulic tank capacity		18 L	
Lubricating oil tank capacity		5 L	
Coolant tank capacity		400 L	
Machine size			
Machine height		2,210 mm	
Required floor space (length x width)		3260 × 2200 mm	
Machine weight		11,300 kg	

Special Accessories

Air blower	Workpiece ejector
Automatic fire extinguisher	Chip box
Part conveyor	Medium-pressure coolant (1 MPa)
Through-spindle air blower	Turret air blower
Tool setter	Part catcher
Part box	Chuck system
Chip conveyor	Mist collector duct & fire-prevention damper
Through-spindle bushing	3-color signal tower
Front ejection of remnant bar	Drill checker
RS-232C	

Standard NC Functions

MIYANO SYSTEM FS3ii-Model B Plus	19-inch SXGA touchscreen operation panel
USB slot	On-machine program check function
Operating time display	Product counter: max. 8 digits
Automatic power-off function	Collision detection function
Tool offset pairs 200	Program storage capacity 4 MB
User macro	Corner chamfering/Corner rounding
Optional block skip (9 sets)	Spindle constant surface speed control function
Spindle C-axis function	Spindle synchronized function
Canned drilling cycle	Helical interpolation function
Synchronized tapping function	Sub-micron specifications
Inch specifications	Sub-inch specifications
Thermal displacement correction function	Variable lead thread cutting
Multiple repetitive cycle for turning	Milling interpolation function
Cylindrical interpolation	Polygon machining function
Spindle diagnosis function	

Special Additional NC Functions

ool offset pairs 400	Program storage capacity 8 MB
Tool monitor	RS232C Connector

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URL: <https://cmj.citizen.co.jp/>

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