

CITIZEN

Miyano

BND51

Fixed Headstock Type CNC Automatic Lathe



Best solution for machining of complex parts.

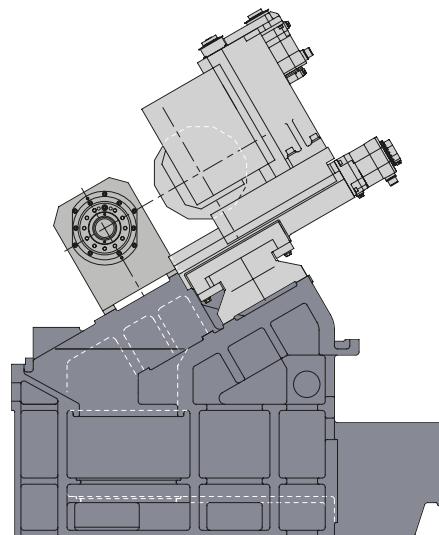
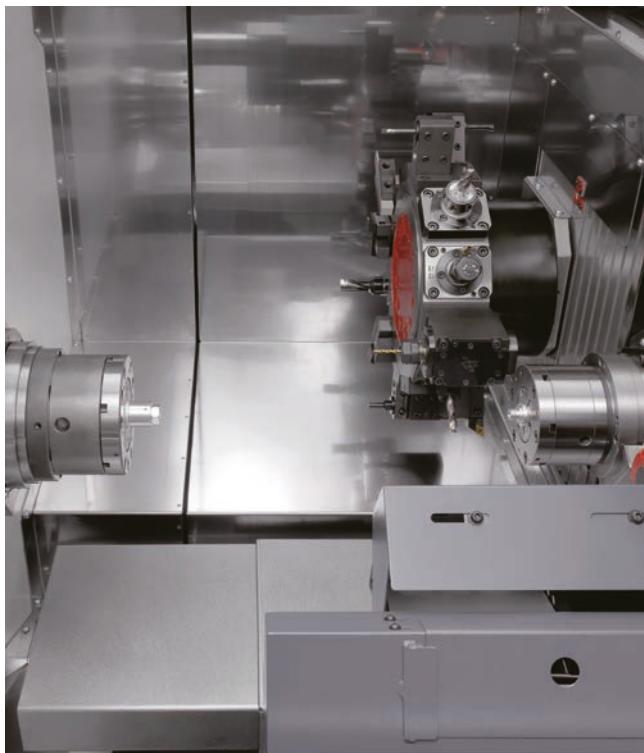
We introduce a new bar machine equipped with a subspindle and a Y axis that can machine bar material up to Ø 51 mm. The structure of the machine, consisting of precision scraped square guideways that provide high rigidity and excellent vibration damping characteristics and a heavy 30° slanted bed of a platform construction with appropriately arranged ribs ensuring good thermal stability and minimum dimensional changes over time, realizes consistent high machining accuracy.



Strong, Highly Rigid Construction.

Rigid square guideways are used for all axes. The 30° slanted bed where major machine units such as spindles and tool slides are mounted has been given a platform-like ribbed structure to provide rigidity and stability. This structure combined with exceptional rigidity ensures the Miyano characteristics of high precision, consistent production and extended tool life.

BND51



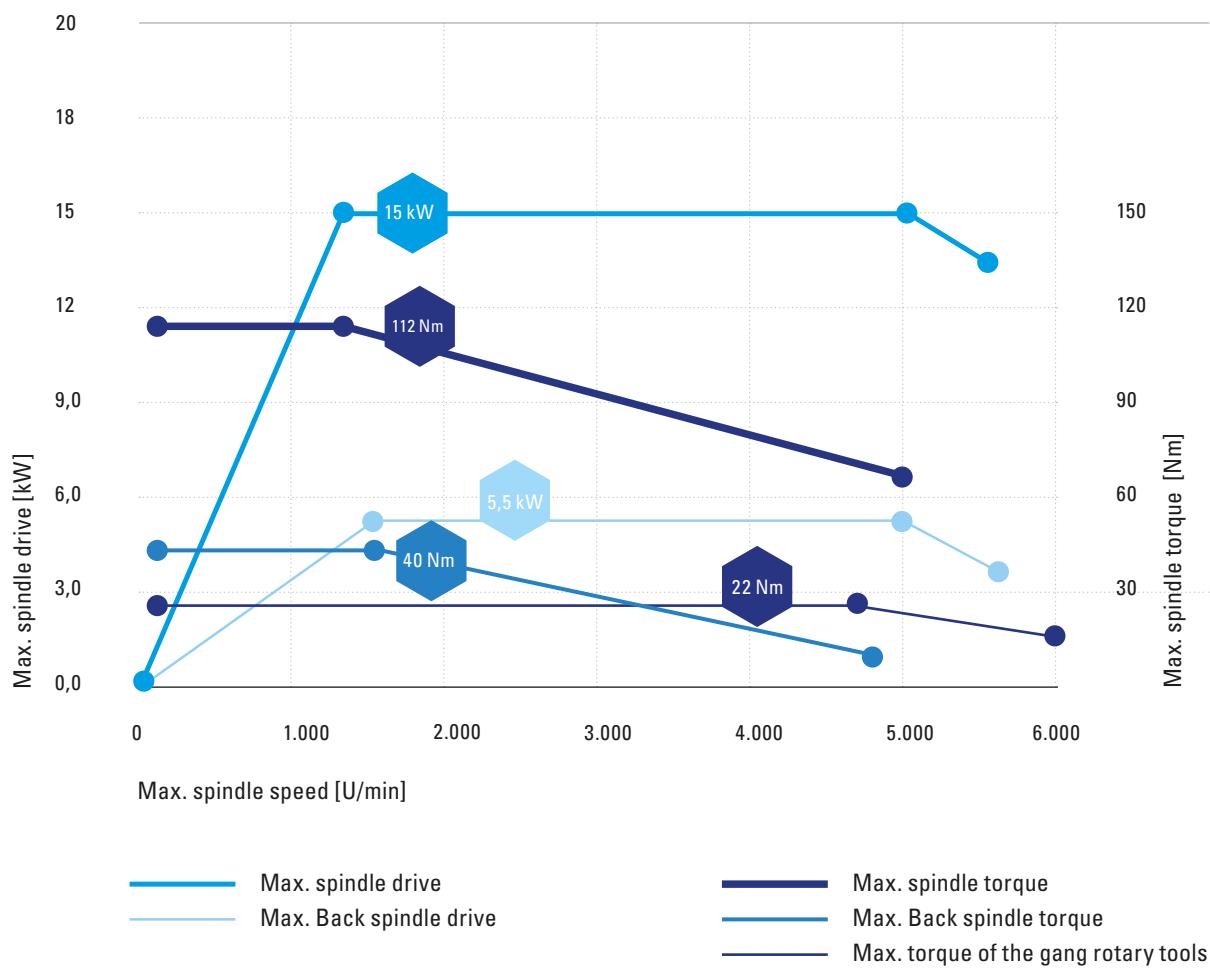
Complex Machining with Y Axis Control

The combination of independently driven revolving tools that can be mounted at all positions on the turret with the Y axis and the subspindle realizes a high level of process integration in complex machining.

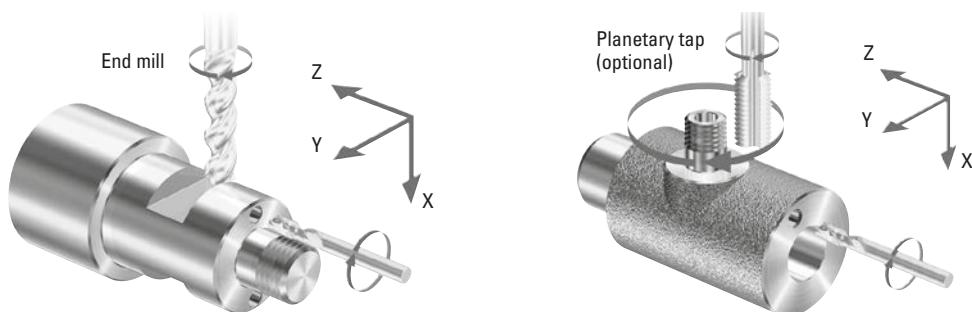
Easy to Use Tooling System

Double sleeve holders and double turning holders allow multiple tools to be mounted at a single position on the turret to maximize tooling flexibility.

Power and torque graph of the Miyano BND51

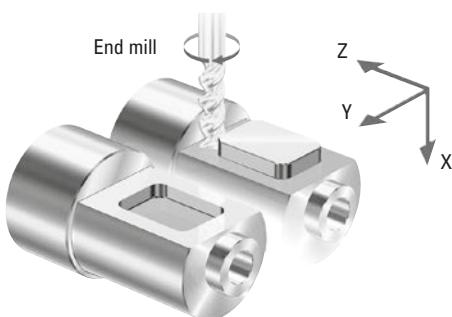


Wide Range of Complex Machining with Revolving Tools.



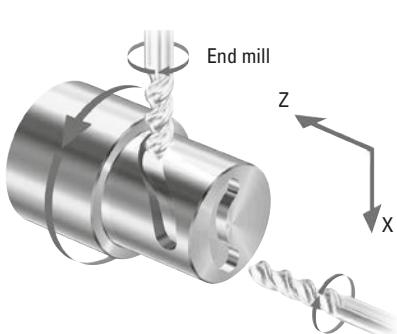
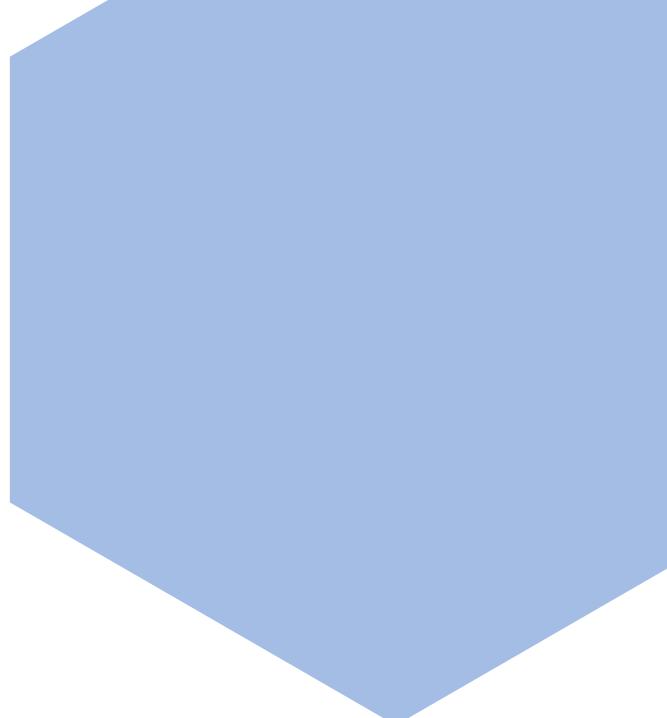
Basic complex machining

The ability to perform off-center cross-drilling, cross-tapping and end milling in the X-Y and Z-Y planes as well as milling by controlling the C axis allows machining of high level functional parts beyond the capabilities of conventionally available models.



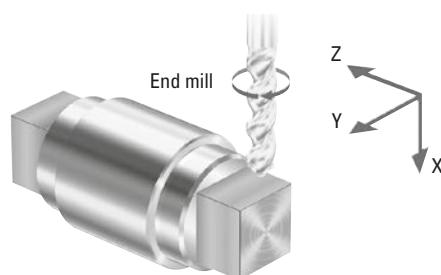
Large boss and pocket milling

Large boss and pocket milling can be done in the Y-Z plane using the circular and linear interpolation functions.



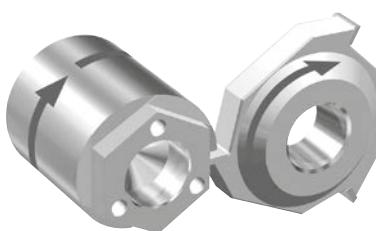
Contouring

Contouring using simultaneous 3-axis control (C, X and Z axes) is possible.



High-precision milling

High-precision complex machining thanks to the high C axis positioning accuracy and the ability to control the Y axis with high accuracy expands the range of machining.

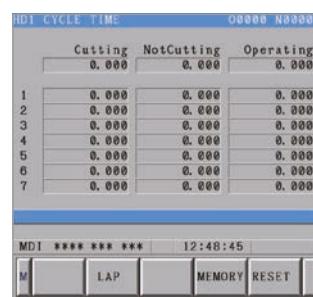
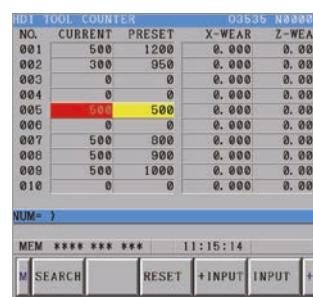


Polygon machining (optional)

Synchronizing the revolving tool speed with the spindle speed at two times permits polygon machining, such as two-, four- and six-sided machining, with a polygon cutter.

NC Custom Menu.

'One-touch' functions for faster set-ups



Custom menu

Displays the list of custom screens.

Block skip

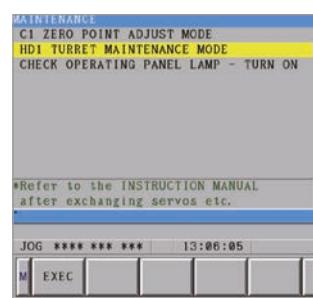
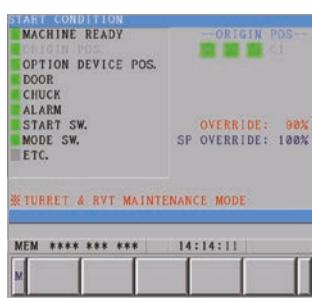
Used to set block skip 1 to block skip 9.

Tool counter

Used to set and reset the tool counter stop value and enter the tool wear offsets.

Cycle time

Measures the cutting time, noncutting time and running time in each cycle.



Automatic running monitor

Displays the control status of each axis. Used to set ON / OFF for the machine lock function.

Start condition

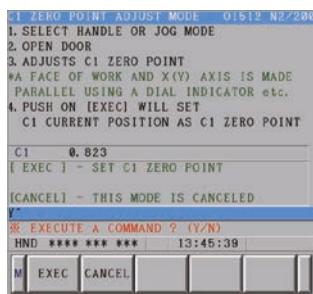
Used to set the start conditions for automatic running.

Spindle & RVT

Used to set the rotational speed of the spindle and revolving tools. Used to set the spindle override.

Maintenance

Used to set ON / OFF for the maintenance items. Used to set ON / OFF for turret zero point adjustment.



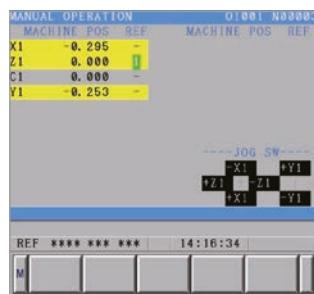
C Zero point adjust mode

Easy to adjust the C axis zero point.



Turret Maintenance

Used to adjust the turret zero point.



Manual operation

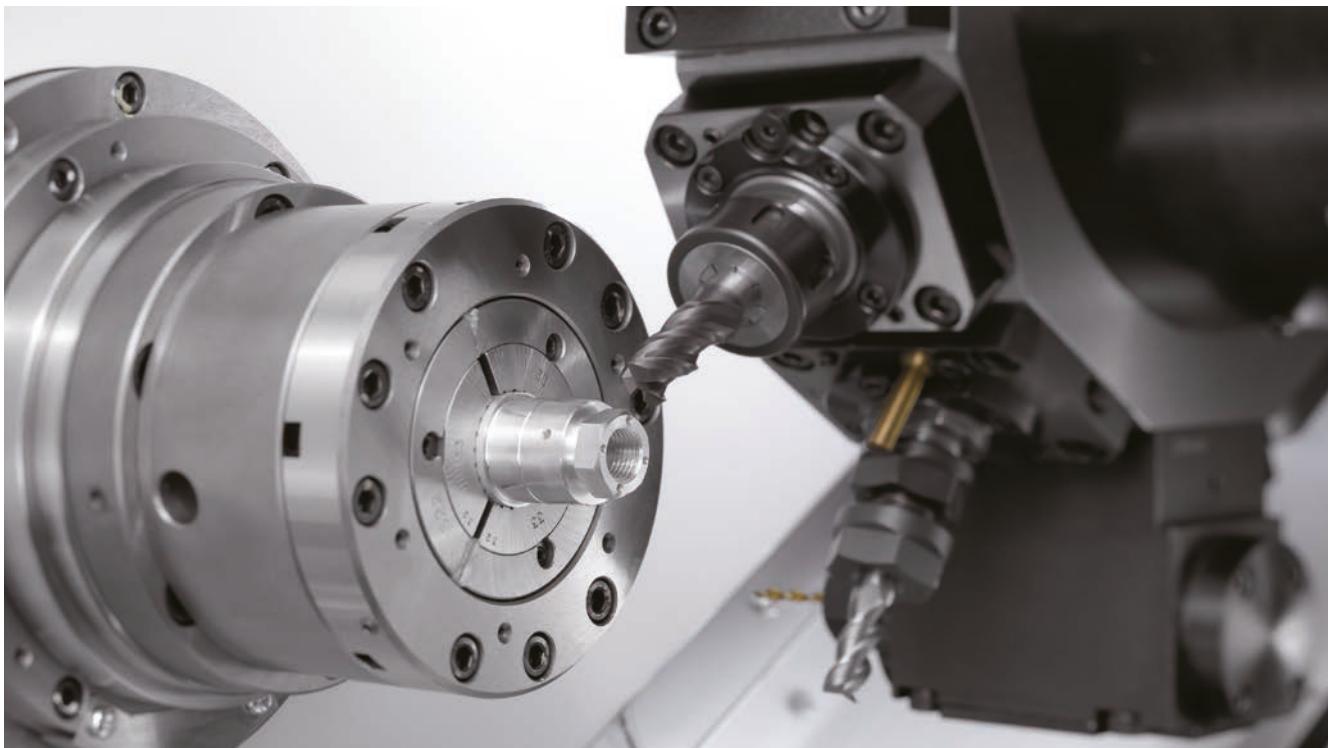
Displays the zero point lamp status and the machine coordinate of each axis.



Option device

Used to select an auxiliary device such as a part catcher to be operated manually.

Standard Equipment and Options.



Part catcher (standard)

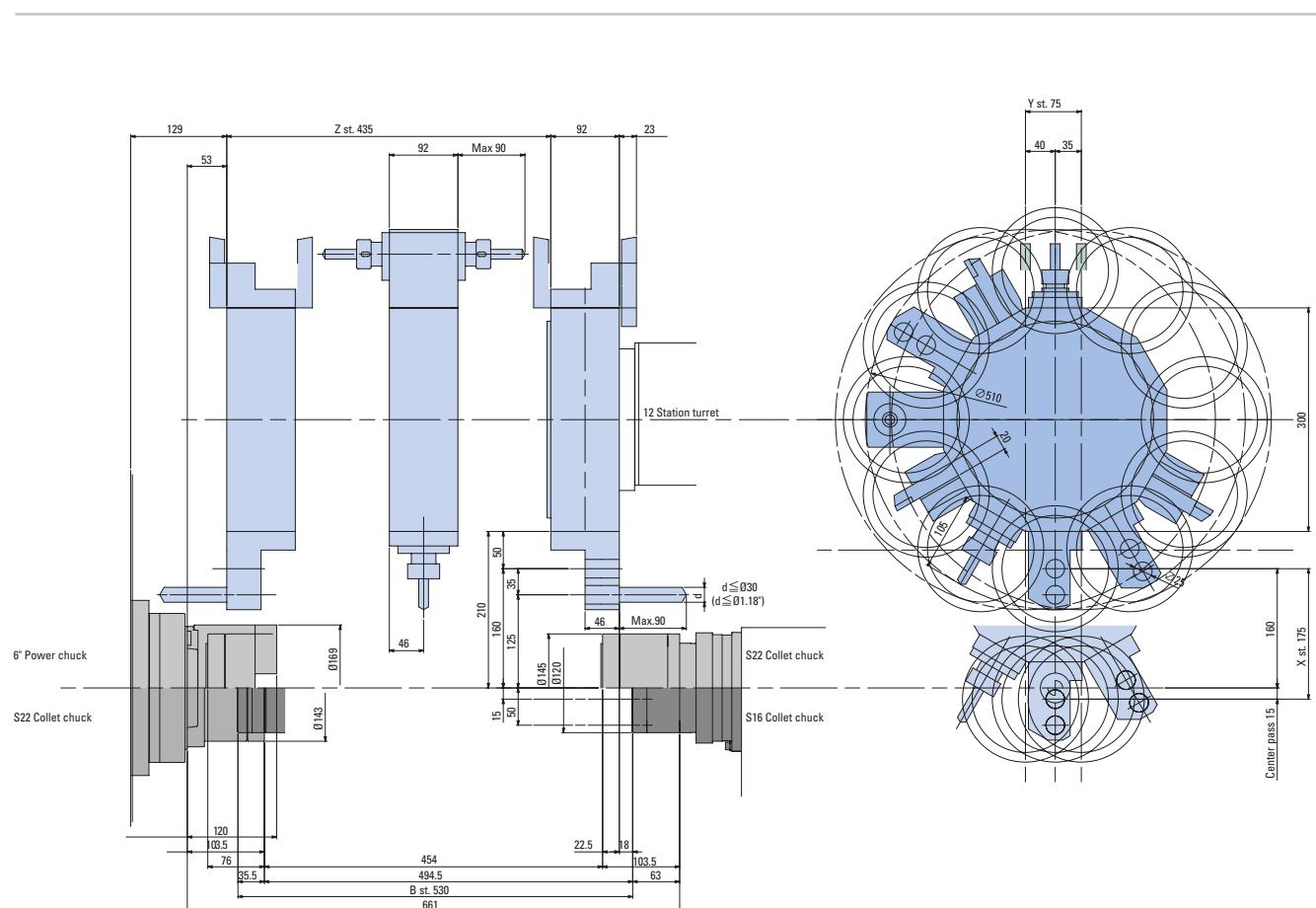


Part conveyor (standard)

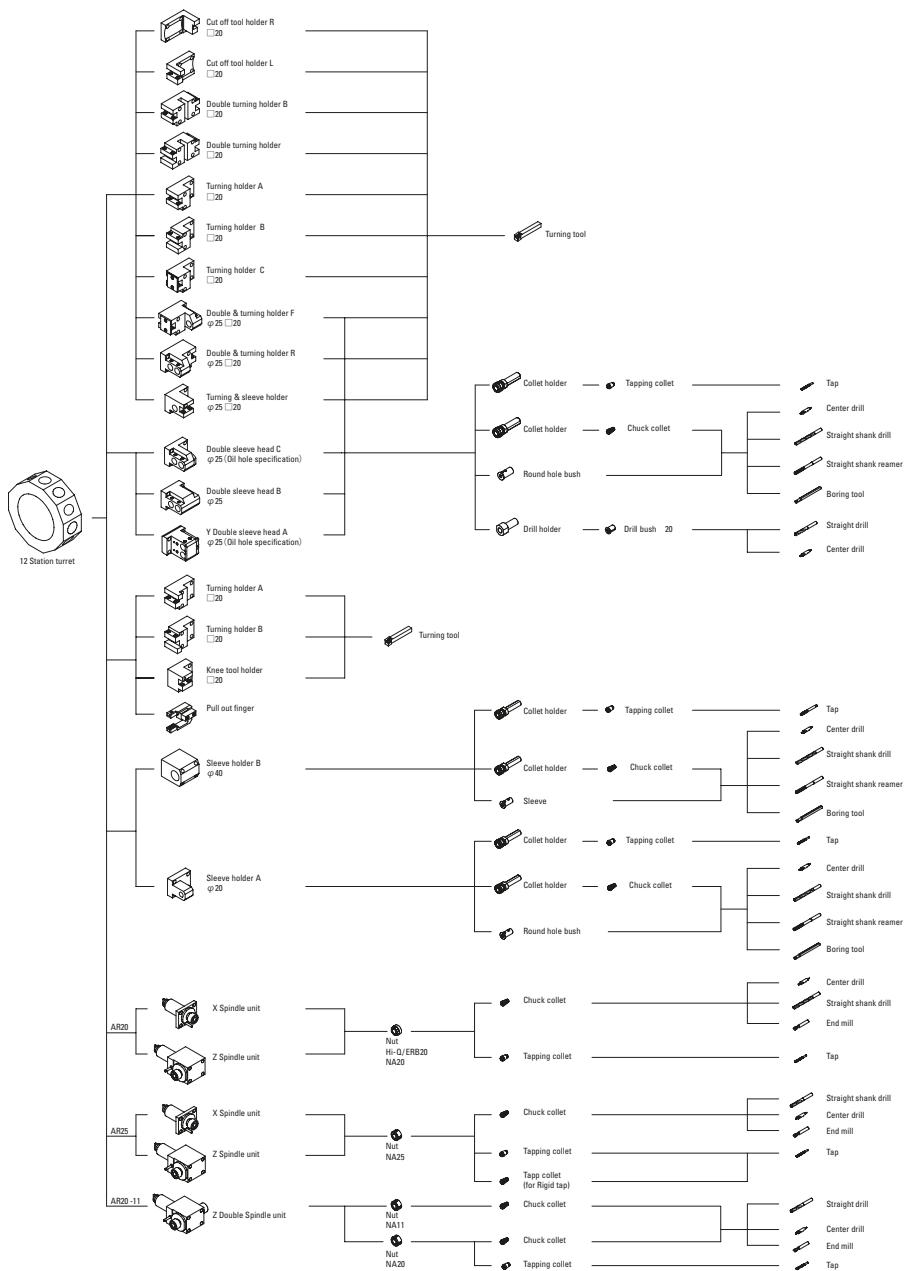


Chip conveyor (optional)

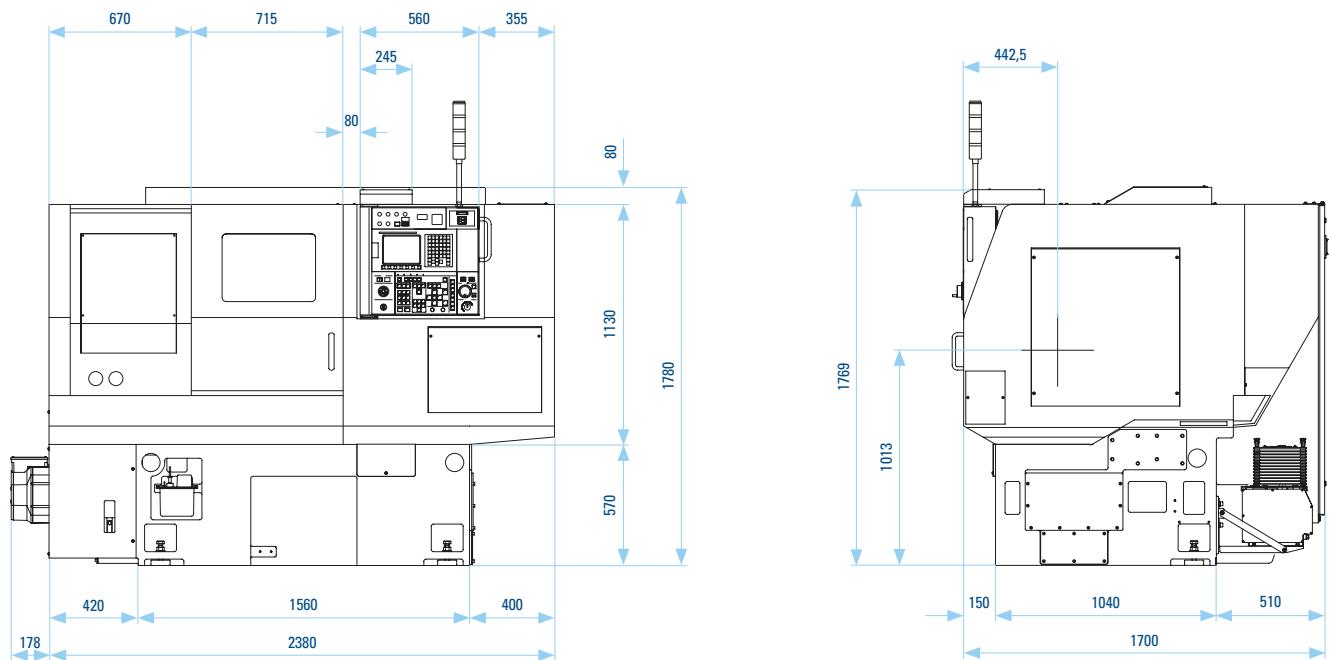
Tooling area.



Tooling system.



External View.



Tradition and Global Innovation Power for Local Markets.

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* Mo. through Fr. 7 am – 8 pm,
Hotline available throughout Germany

Machine specifications

Items	BND51SY2	NC Specification
Machining capacity		
Maximum work length	320 mm	FANUC 0i-TD
Maximum bar Dia.	51 mm Dia.	X, Z, Y, B, Cs
Maximum blank diameter	Max. 210 mm Dia.	4 axis
Spindle		
Number of spindles	2	X: 0.0005mm, Z: 0.001mm
Spindle speed	50 - 5.000 min ⁻¹	Y: 0.001mm, B: 0.001mm, Cs: 0.001deg
Draw tube Dia	SP1	G00, G01, G02, G03, G04, G32, G33
	SP2	1 Mbyte (2560 m)
Power chuck type		S4 digit
Type of collet chuck	SP1	F3.4 digits per revolution,
	SP2	F6 digits per minute directly specified
Power chuck size and type	SP1	Feed rate override
	SP2	0 - 150% (10% steps)
Power chuck size and type	6" Through hole type	Rapid feed override
	5" Through hole type	F0, 25, 50, 100%
Turret		Thread cutting
Number of turret	1	G32, G33, G92
Turret stations	12 ST.	Canned cycle
Shank size of square turning tool	20 mm Sq.	G90, G92, G94
Diameter of drill shank	25mm Dia.	Tool function
Turret index time	0.25 sec./1pos.	(AA=Tool number and geometry, BB=Wear offset number)
Feed rate		Tool position direct input function
Slide stroke Xaxis	175 mm	by measured MDI
	Zaxis	Data input-and-output
	Yaxis	Memory card interface, USB memory
	Baxis	interface, Auto data backup
Rapid feed rate Xaxis	18 m/ min.	Automatic operation
	Zaxis	1 cycle/ Automatic operation, Single block,
	Yaxis	Block delete, Machine lock,
	Baxis	Optional block skip,
		Dry run, Feed hold
Revolving tool		
Number of revolving tools	Max12	
Tool spindle speed range	60 - 6,000 min ⁻¹	
Capacity	Drill	
	Tap (Steel)	8.4" color LCD/ MDI,
	Tap (Al, Brass)	Program storage capacity addition: 800pieces,
Tank capacity		A decimal point input, Manual pulse generator
Hydraulic oil tank capacity	10 L	Memory protect, AC digital servo motor,
Lubricating oil tank capacity	2 L	The circle radius R command, Nose radius compensation,
Coolant tank capacity	150 L	Constant surface speed control (G96),
Machine dimensions		Back ground editing, Programmable date input (G10),
Machine height	1.700 mm	Run hour/Parts count display,
Floor space	2.560 mm x 1.700 mm	Multiple repetitive cycles (G70 - G76),
Machine weight	4.750 kg	Spindle rigid tap, Polar coordinate interpolation,
Motors		Custom macro B, Canned cycles for drilling,
Spindle motor	SP1	Tool life management. etc.
	SP2	Tool life management. etc.
Revolving tool motor		
Power supply		
Voltage	AC 200/ 220V ± 10%	Helical interpolation, Leader puncher interface, etc.
Capacity	37 KVA	
Fuse	125 A	
Air supply	0.5 MPa (5 kgf/ cm ²)	
Others		
Splash guard interlock, Revolving tool driving unit, Pneumatic, Spindle brake No.1, High pressure coolant, Parts Catcher, Parts conveyor, Work ejector & inner high pressure coolant.		

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