

CITIZEN

Miyano

BND 51/64 SY2

Fixed Headstock Type CNC Automatic Lathe



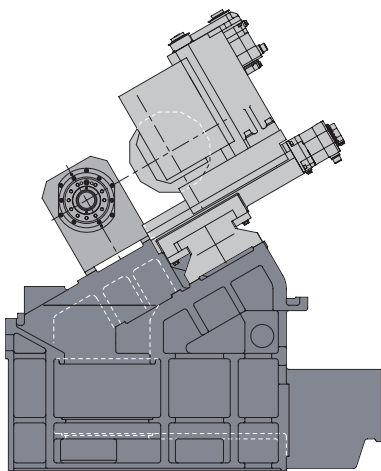
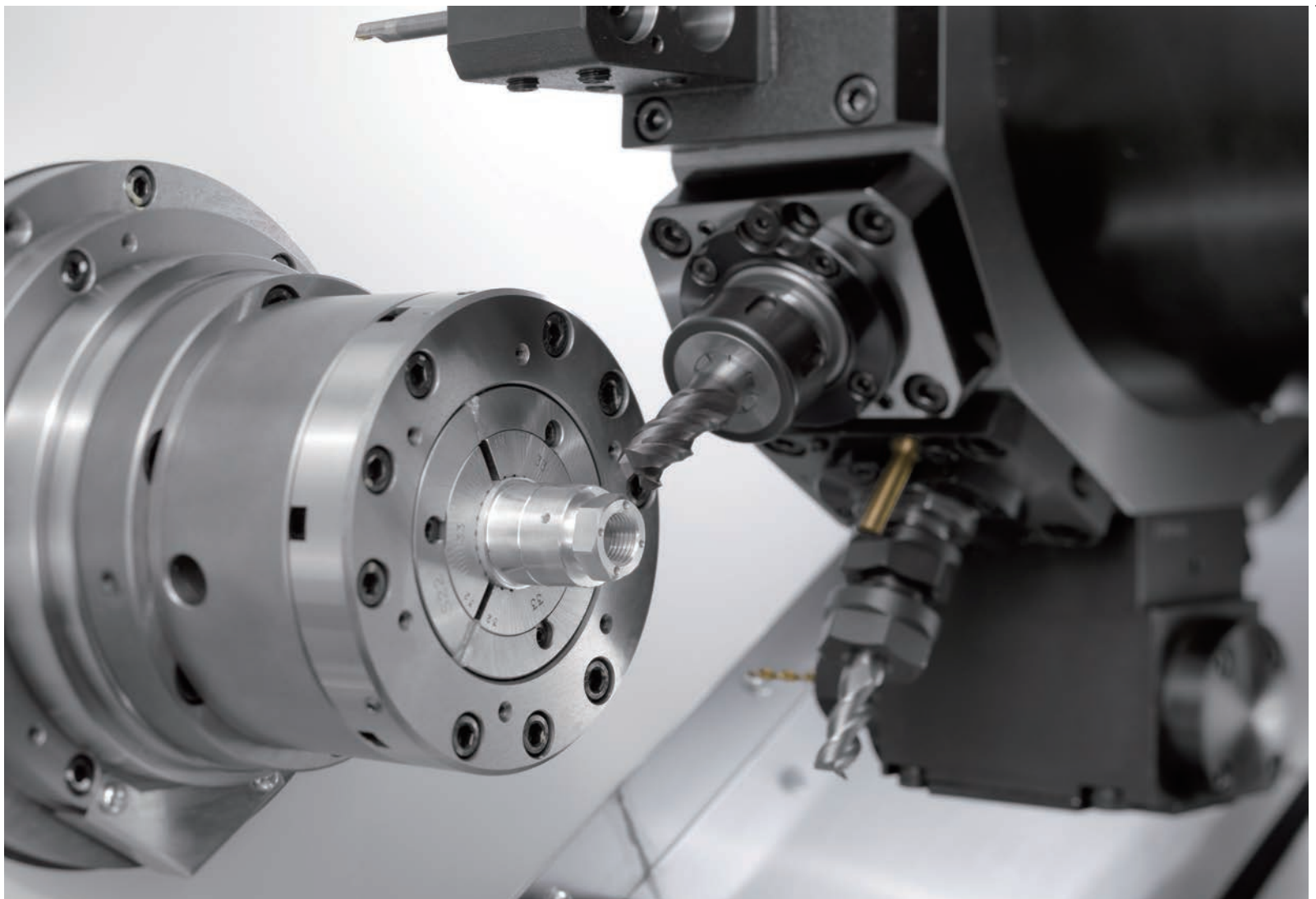
SY

We introduce a new bar machine equipped with a subspindle and a Y axis that can machine bar material up to $\varnothing 51$ mm.

The machine structure consists of precision scraped square guideways that provide high rigidity and excellent vibration damping characteristics. Combined with a heavy 30° slanted, ribbed bed of platform construction this ensures optimal thermal stability and minimal dimensional changes over time, thus realising 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.

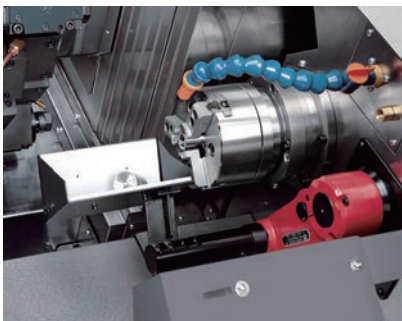
Complex machining with Y axis control

The combination of independently driven revolving tools that can be mounted at all positions on the turret with the Y axis and the subspindle realises 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 maximise tooling flexibility.

Standard equipment and options



Part catcher (standard)



Part conveyor (standard)

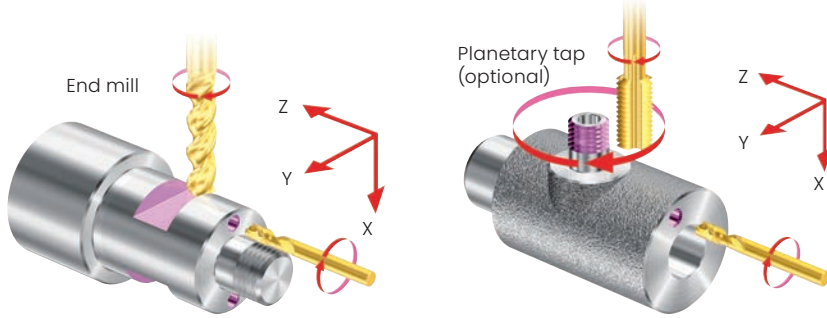


Chip conveyor (optional)

Wide range of complex machining with revolving tools

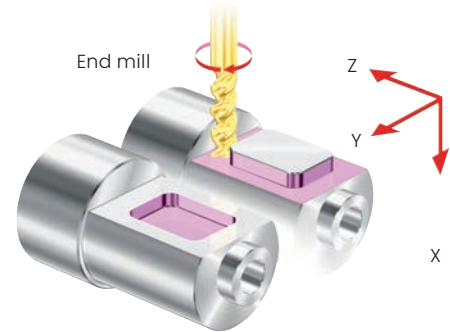
Basic complex machining

The ability to perform off-centre 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.



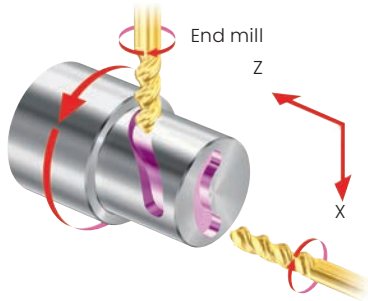
Large boss and pocket milling

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



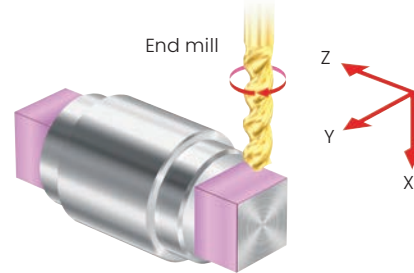
Contouring

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



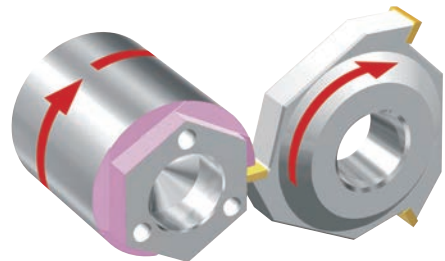
High-precision milling

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.

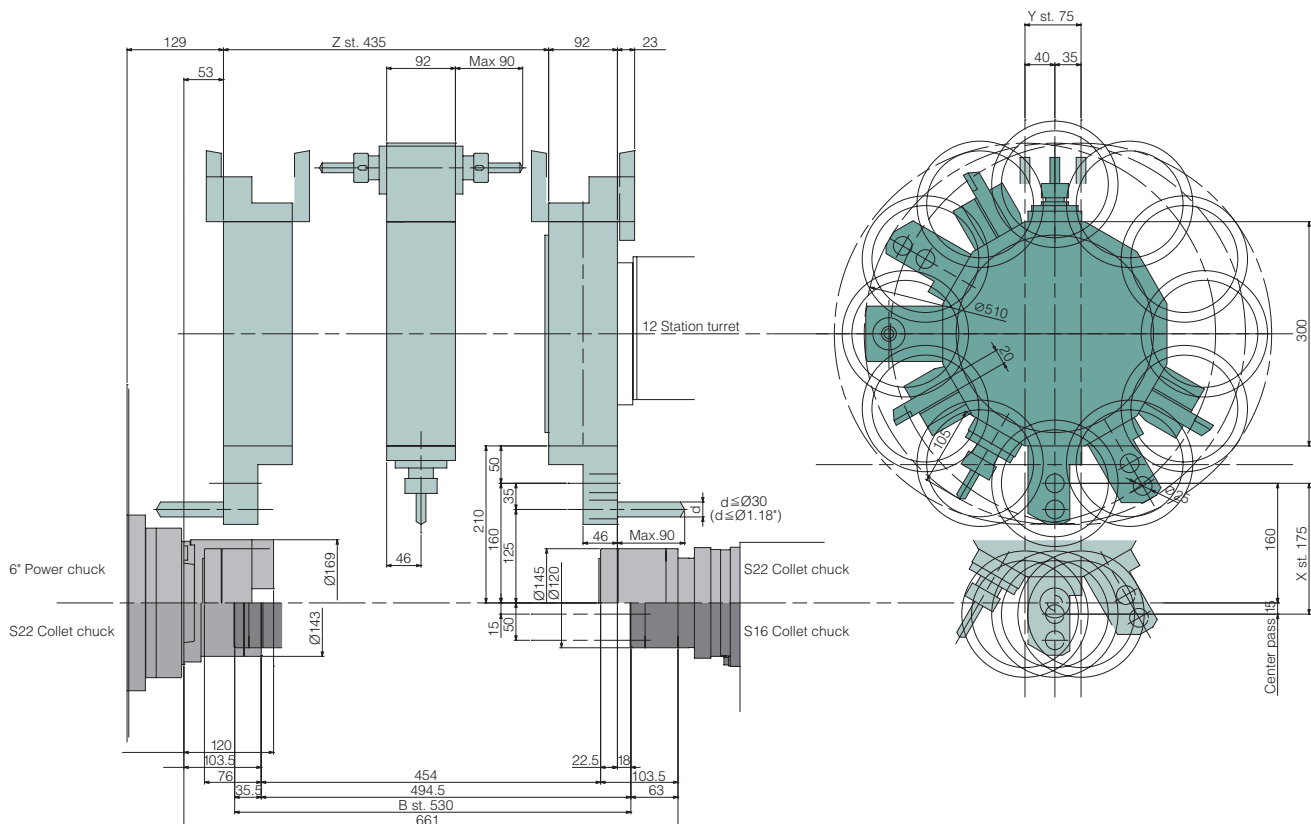


Polygon machining (optional)

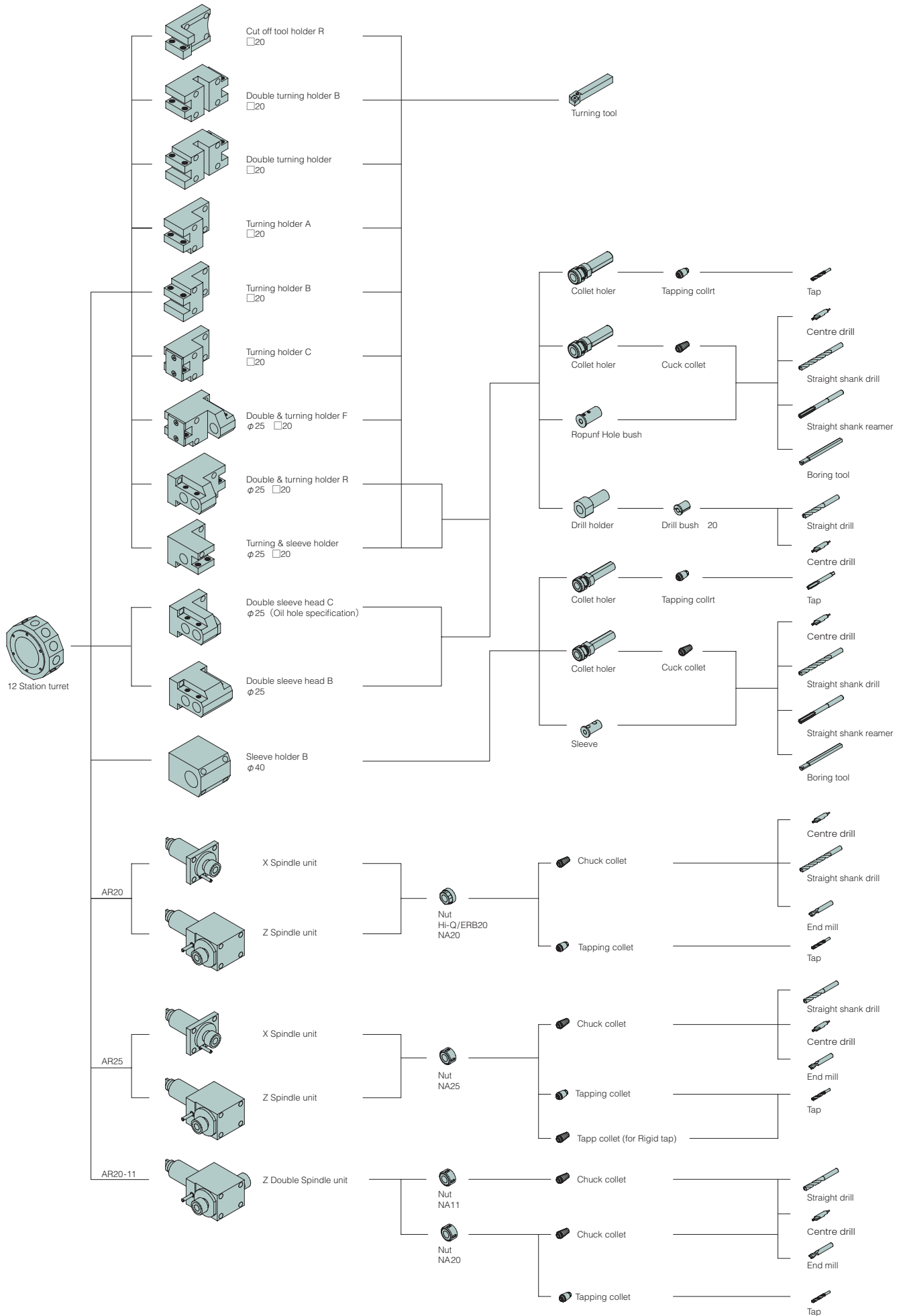
Synchronising the revolving tool speed with the spindle speed at two times permits polygon machining, such as two-, four- and six-sided machining, with a polygon cutter.



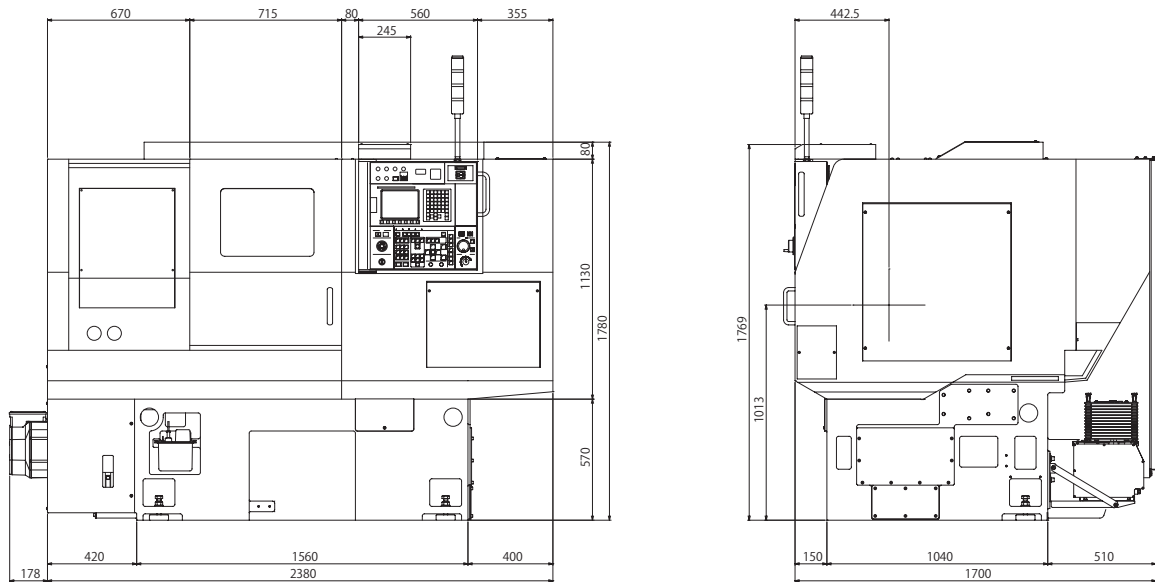
Tooling area



Tooling system

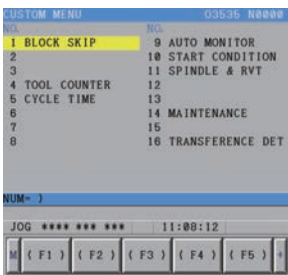


External view



NC custom menu

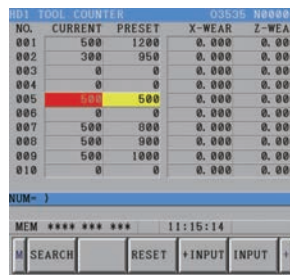
'One-touch' functions for faster set-ups.



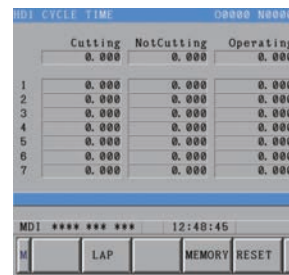
Custom menu
Displays the list of custom screens.



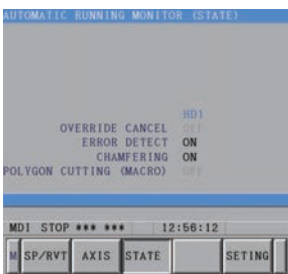
Block skip
Used to set block skip 1 to block skip 9.



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



Cycle time
Measures the cutting time, non-cutting time and running time in each cycle.



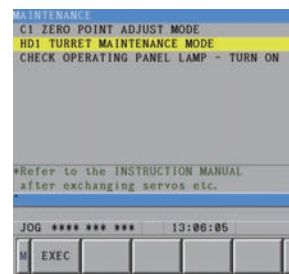
Automatic running monitor
Displays the control status of each axis. Used to set ON / OFF for the machine lock function.



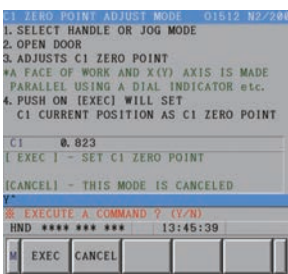
Start condition
Used to set the start conditions for automatic running.



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



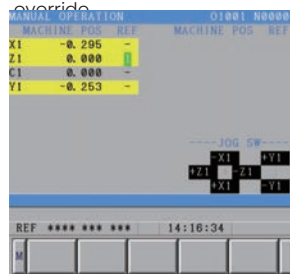
Maintenance
Used to set ON / OFF for the maintenance items.
Used to set ON / OFF for turret zero point adjustment.



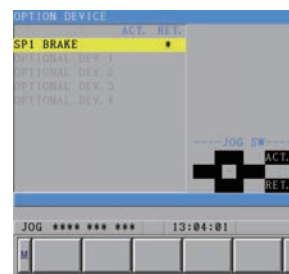
C Zero point adjust mode
Easy to adjust the C axis zero point.



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.

Machine specification

Item		BND-51SY2	BND-64SY2	NC specification
Machining capacity				NC Specification
Maximum work length		320 mm		FANUC 0i-TD
Maximum bar Dia.	SP1	51 mm Dia.	64 mm Dia.	Axial control
	SP2	42 mm Dia.	2 mm Dia.	X, Z, Y, B, Cs
Maximum blank diameter	chucker	Max. 210 mm Dia.		Simultaneous control axis
				4 axis
Spindle				Minimum setting unit
Number of spindles		2		0.001mm, 0.001deg, Cs axis
Spindle speed		50 - 5,000min ⁻¹		Minimum output unit
Draw tube Dia	SP1	52 mm Dia.		X: 0.0005mm, Z: 0.001mm
	SP2	26 mm Dia.		Y: 0.001mm, B: 0.001mm, Cs: 0.001deg
Power chuck type		Hydraulic		Interpolation functions
Type of collet chuck	SP1	H-S22 Pads		G00, G01, G02, G03, G04, G32, G33
	SP2	H-S16, S22 pads		Program storage capacity
Power chuck size and type	SP1	6" Through hole type		1 Mbyte (2560 m)
	SP2	5" Through hole type		Spindle function
Turret				S4 digit
Number of turret		1		Cutting feed rate
Turret stations		12 ST.		F3.4 digits per revolution, F6 digits per minute directly specified
Shank size of square turning tool		20 mm Sq.		Feed rate override
Diameter of drill shank		25mm Dia.		0 - 150% (10% steps)
Turret index time		0.25 sec/ 1pos.		Rapid feed override
Feed rate				F0, 25, 50, 100%
Slide stroke	Xaxis	175 mm		Thread cutting
	Zaxis	435 mm		G32, G33, G92
	Yaxis	75 mm		Canned cycle
	Baxis	530 mm		G90, G92, G94
Rapid feed rate	Xaxis	18 m/ min.		Tool function
	Zaxis	20 m/ min.		T AABB (AA=Tool number and geometry, BB=Wear offset number)
	Yaxis	12 m/ min.		Tool position direct
	Baxis	18 m/ min.		input function
Revolving tool				by measured MDI
Number of revolving tools		Max12		Data input-and-output
Tool spindle speed range		60 - 6,000min ⁻¹		Memory card interface, USB memory interface, Auto data backup
Capacity	Drill	Max 13 mm Dia.		Autmatic operation
	Tap (Steel)	Max M8		1cycle/ Automatic operation, Single block, Block delete, Machine lock, Optional block skip, Dry run, Feed hold
	Tap (Al, Brass)	Max M8		Others
Tank capacity				8.4" colour LCD/ MDI, Program storage capacity addition: 800pieces, A decimal point input, Manual pulse generator Memory protect, AC digital servo motor, The circle radius R command, Nose radius compensation, Constant surface speed control (G96), Back ground editing, Programmable date input (G10), Run hour/Parts count display, Multiple repetitive cycles (G70 - G76), Spindle rigid tap, Polar coordinate interpolation, Custom macro B, Canned cycles for drilling, Tool life management. etc.
Hydraulic oil tank capacity		10 L		NC Option
Lubricating oil tank capacity		2 L		Helical interpolation, Leader puncher interface, etc.
Coolant tank capacity		150 L		
Machine dimensions				
Machine height		1,700 mm		
Floor space		2,560 mm x 1,700 mm		
Machine weight		4,750 kg		
Motors	SP1	AC 15/ 11 kW		
	SP2	AC 5.5/ 3.7 kW		
Revolving tool motor		AC 22 kW 20 Nm		
Power supply				
Voltage		AC 200/ 220 V ± 10%		
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				
Optional accessories				
Collet chuck system, Power chuck system, Spindle brake No.2, Chuck air blow, Automatic fire extinguisher, Automatic power shut-off, Coolant level switch, Sub spindle Inner high pressure coolant & air blow, Speed setter, Chip conveyor, Chip box, Foot switch, Total & preset counter, Coolant mist collector, Oil mist damper, Warning light, Cut-off confirmation, Large bore spindle, Bar feeder interface, Filler tube, Spindle inner bushing, RS-232C port, etc.				

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