

CITIZEN

Miyano

BND51

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 $\phi 51$ 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.



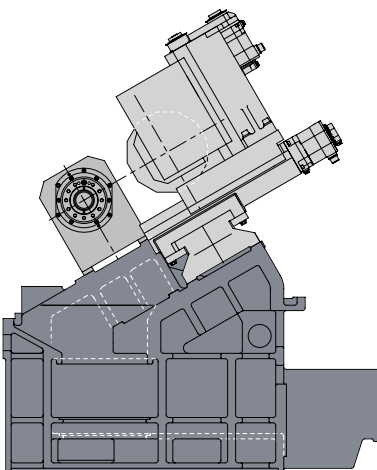




Strong, Highly Rigid Construction

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.



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.

Standard Equipment and Options



Part catcher (standard)



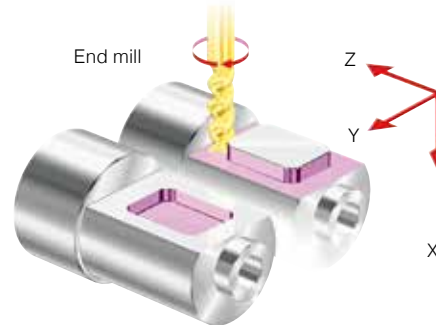
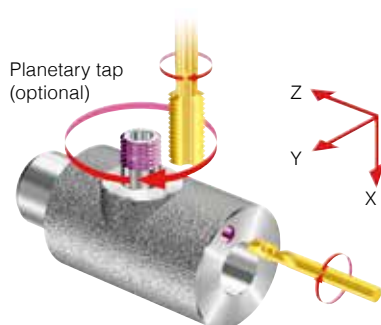
Part conveyor (standard)



Chip conveyor (optional)

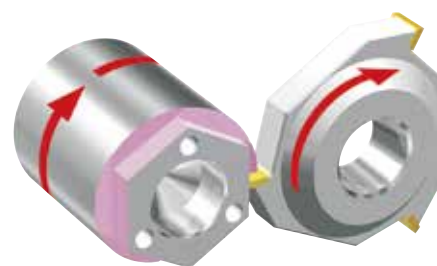
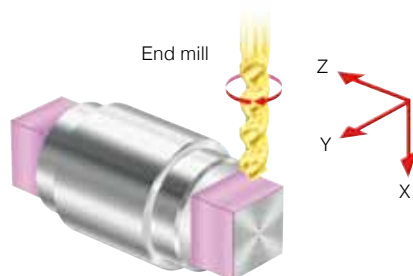
Basic complex machining

Large boss and pocket milling

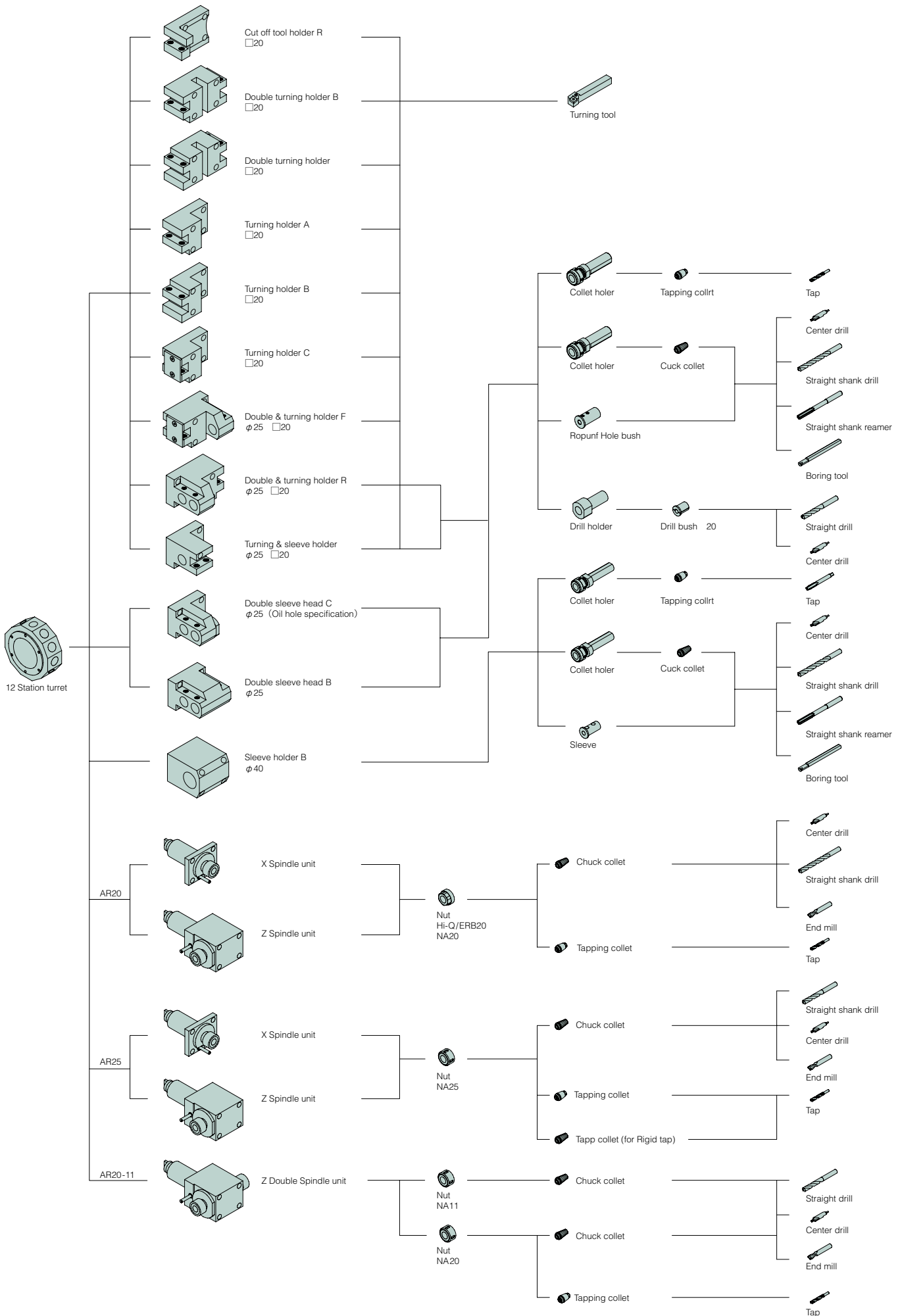


High-precision milling

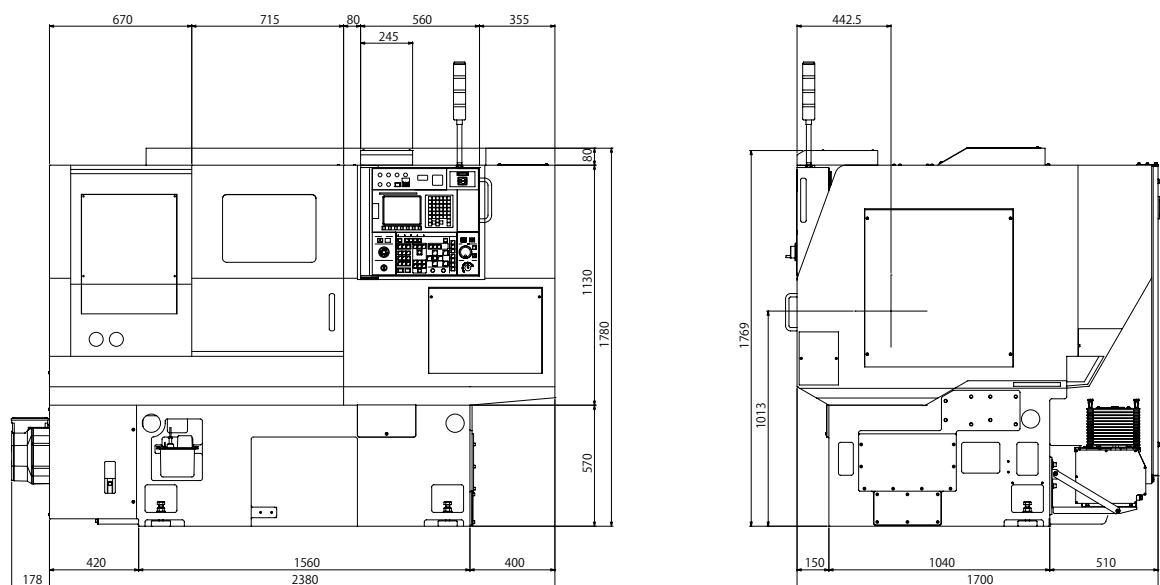
Polygon machining (optional)

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Tooling system



External view



NC Custom Menu

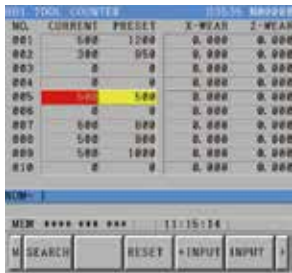
'One-touch' functions for faster set-ups.



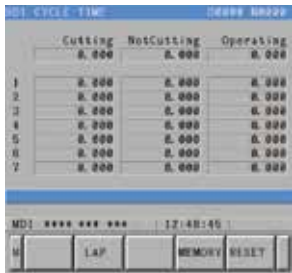
Custom menu
Displays the list of custom screens.



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.



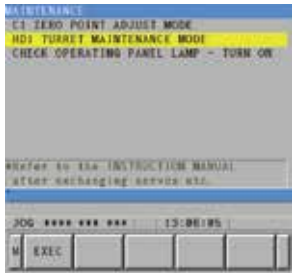
Automatic running monitor
Displays the control status of each axis.Used to set ON / OFF for the machine lock function.



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 specifications

Item		BND-51SY2
Machining capacity		
Maximum work length		320 mm
Maximum bar Dia.		51 mm Dia.
Maximum blank diameter	chucker	Max. 210 mm Dia.
Spindle		
Number of spindles		2
Spindle speed		50 - 5,000min ⁻¹
Draw tube Dia	SP1	52 mm Dia.
	SP2	26 mm Dia.
Power chuck type		Hydraulic
Type of collet chuck	SP1	H-S22 Pads
	SP2	H-S16, S22 pads
Power chuck size and type	SP1	6" Through hole type
	SP2	5" Through hole type
Turret		
Number of turret		1
Turret stations		12 ST.
Shank size of square turning tool		20 mm Sq.
Diameter of drill shank		25mm Dia.
Turret index time		0.25 sec./ 1pos.
Feed rate		
Slide stroke	Xaxis	175 mm
	Zaxis	435 mm
	Yaxis	75 mm
	Baxis	530 mm
Rapid feed rate	Xaxis	18 m/ min.
	Zaxis	20 m/ min.
	Yaxis	12 m/ min.
	Baxis	18 m/ min.
Revolving tool		
Number of revolving tools		Max12
Tool spindle speed range		60 - 6,000min ⁻¹
Capacity	Drill	Max 13 mm Dia.
	Tap (Steel)	Max M8
	Tap (Al, Brass)	Max M8
Tank capacity		
Hydraulic oil tank capacity		10 L
Lubricatibg oil tank capacity		2 L
Coolant tank capacity		150 L
Machine dimensions		
Machine height		1,700 mm
Floor spase		2,560 mm × 1,700 mm
Machine weight		4,750 kg
Motors		
Spindle motor	SP1	AC 15/ 11 kW
	SP2	AC 5.5/ 3.7 kW
Revolving tool motor		AC 2.2 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.		

NC specifications	
	FANUC 0i-TD
Axial control	X, Z, Y, B, Cs
Simultaneous control axis	4 axis
Minimun setting unit	0.001mm, 0.001deg, Cs axis
Minimum output unit	X: 0.0005mm, Z: 0.001mm Y: 0.001mm, B: 0.001mm, Cs: 0.001deg
Interpolation functions	G00, G01, G02, G03, G04, G32, G33
Program storage capacity	1 Mbyte (2560 m)
Spindle function	S4 digit
Cutting feed rate	F3.4 digits per revolution, F6 digits per minute directly specified
Feed rate override	0 - 150% (10% steps)
Rapid feed override	F0, 25, 50, 100%
Thread cutting	G32, G33, G92
Canned cycle	G90, G92, G94
Tool function	T AABB (AA=Tool number and geometry, BB=Wear offset number)
Tool position direct input function	by measured MDI Data input-and-output Memory card interface, USB memory interface, Auto data backup
Autmatic operation	1cycle/ Automatic operation, Single block, Block delete, Machine lock, Optional block skip, Dry run, Feed hold
Others	8.4" color 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.
NC Option	Helical interpolation, Leader puncher interface, etc.

CITIZEN MACHINERY CO., LTD.

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JAPAN	CITIZEN MACHINERY CO.,LTD. 4107-6 Miyota, Miyota-machi, Kitasaku-gun, Nagano-ken, 389-0206, JAPAN	TEL.81-267-32-5901	FAX.81-267-32-5908
SOUTH ASIA / KOREA	CITIZEN MACHINERY CO.,LTD. 4107-6 Miyota, Miyota-machi, Kitasaku-gun, Nagano-ken, 389-0206, JAPAN	TEL.81-267-32-5916	FAX.81-267-32-5928
TAIWAN	CINCOM MIYANO TAIWAN CO.,LTD. 10FL., No.174, Fuh Sing N. Rd., Taipei, TAIWAN	TEL.886-2-2715-0598	FAX.886-2-2718-3133
CHINA	CITIZEN (CHINA) PRECISION MACHINERY CO.,LTD. 10058, XINHUA ROAD OF ZHOUCUN, ZIBO, SHANDONG, P.R. CHINA	TEL.86-533-6150560	FAX.86-533-6161379
EUROPE-Germany	CITIZEN MACHINERY EUROPE GmbH Mettinger Strasse 11, D-73728 Esslingen, GERMANY	TEL.49-711-3906-100	FAX.49-711-3906-106
EUROPE-UK	CITIZEN MACHINERY UK LTD 1 Park Avenue, Bushey, WD23 2DA, UK	TEL.44-1923-691500	FAX.44-1923-691599
EUROPE-Italia	CITIZEN MACCHINE ITALIA s.r.l. Via Campo Romano 11/13 - 24050 Spirano (BG), ITALY	TEL.39-035-877738	FAX.39-035-876547
AMERICA	MARUBENI CITIZEN-CINCOM INC. 40 Bordline Road Allendale, NJ 07401, U.S.A.	TEL.1-201-818-0100	FAX.1-201-818-1877

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

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