CITIZEN

Miyano

BNA42 SY/CY

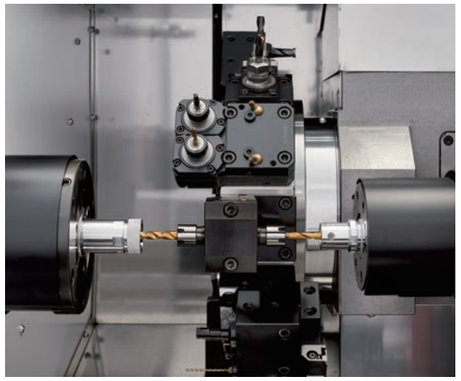
Fixed Headstock Type CNC Automatic Lathe

BNA42SY/CY

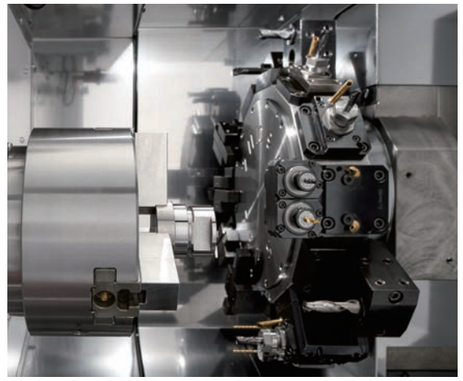
The all new BNA-42SY/CY builds on the success and reputation of the previous generation of BNA machines. With increased mass the all new platform base casting incorporates an increased volume coolant tank, this new BNA brings advances in rigidity and thermal control. Designed with a new all driven 12 station turret, main spindle power is increased to 11kw and a fully flexible manufacturing solution design. The new BNA-42SY and BNA-42CY are firmly focused on improved efficiency and automated solutions.

BNA42SY

BNA42CY

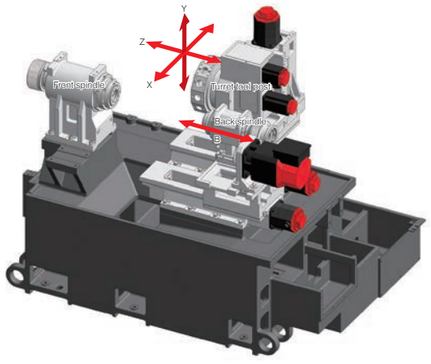


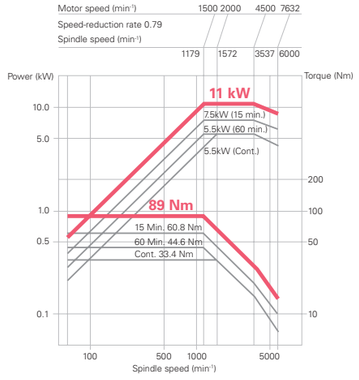
Twin spindle & Y axis



Single spindle, Y axis

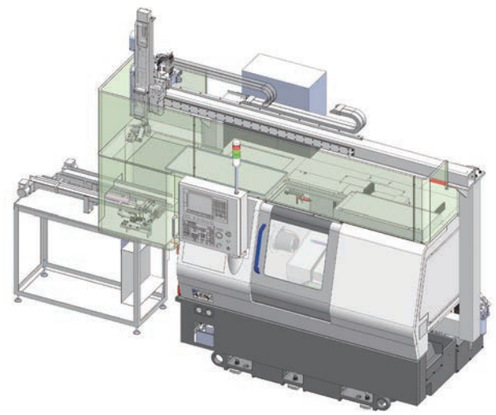
and optional Tailstock

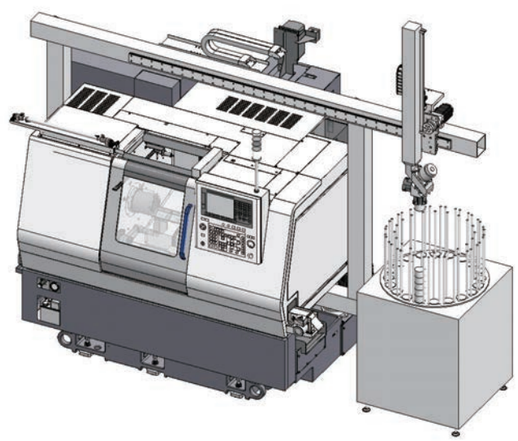




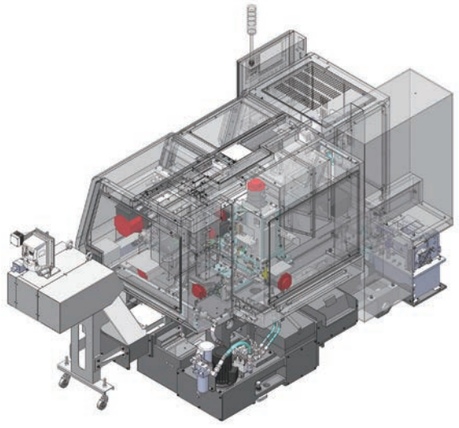
Flexible Manufacturing Solutions

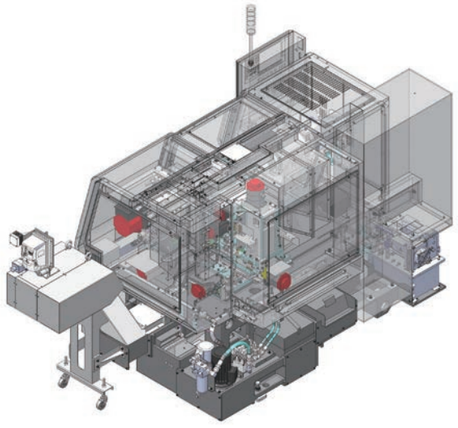
Designed from the very beginning with automation firmly in mind, the new BNA-42SY/CY has built in automation software and hardware, mounting points for direct gantry or robot mounting, a top shutter and auto door options for complete flexibility in layout.





With a left side, right side, or both sides mounted work stocker. A gantry loader or robot loader you have complete versatility. Provision exists for a barfeeder to feed material in the traditional manner, with gantry unloader and right side work stocker options.



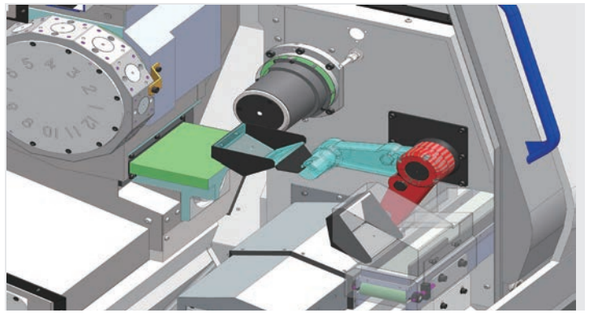


Designed to be mounted side by side to create Flexible Manufacturing System cells, you can specify a rear exit swarf conveyor, or traditional right side discharge swarf conveyor to meet your needs.

BNA42CY

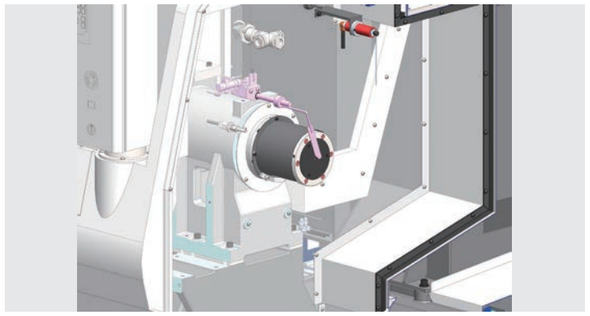
Machine Equipment

For production in the high efficiency and automated processes the machine can be equipped with many functions. These include options like Tool Load Monitoring, Tool Life Management and Sister Tooling, as well as Industry 4.0 and Communication Systems.



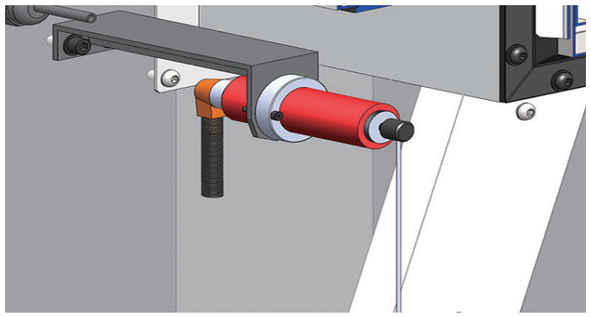
Part Catcher (std)

Receives finished workpieces.
This product is indespensable for bar work.



Cut off-confirmation (std)

This is the funtion that moves the sub spindle to the retract position at a low thrust after the workpiece has been cut off to check for failure in the cut off operation.



Drill breakage detector (opt)

Drill breakage is detected by the swing cylinder. The machine stops when no tool is detected and a second accident can be avoided.

HD1 POWER MONITOR(CYCLE TIME) [kwh]

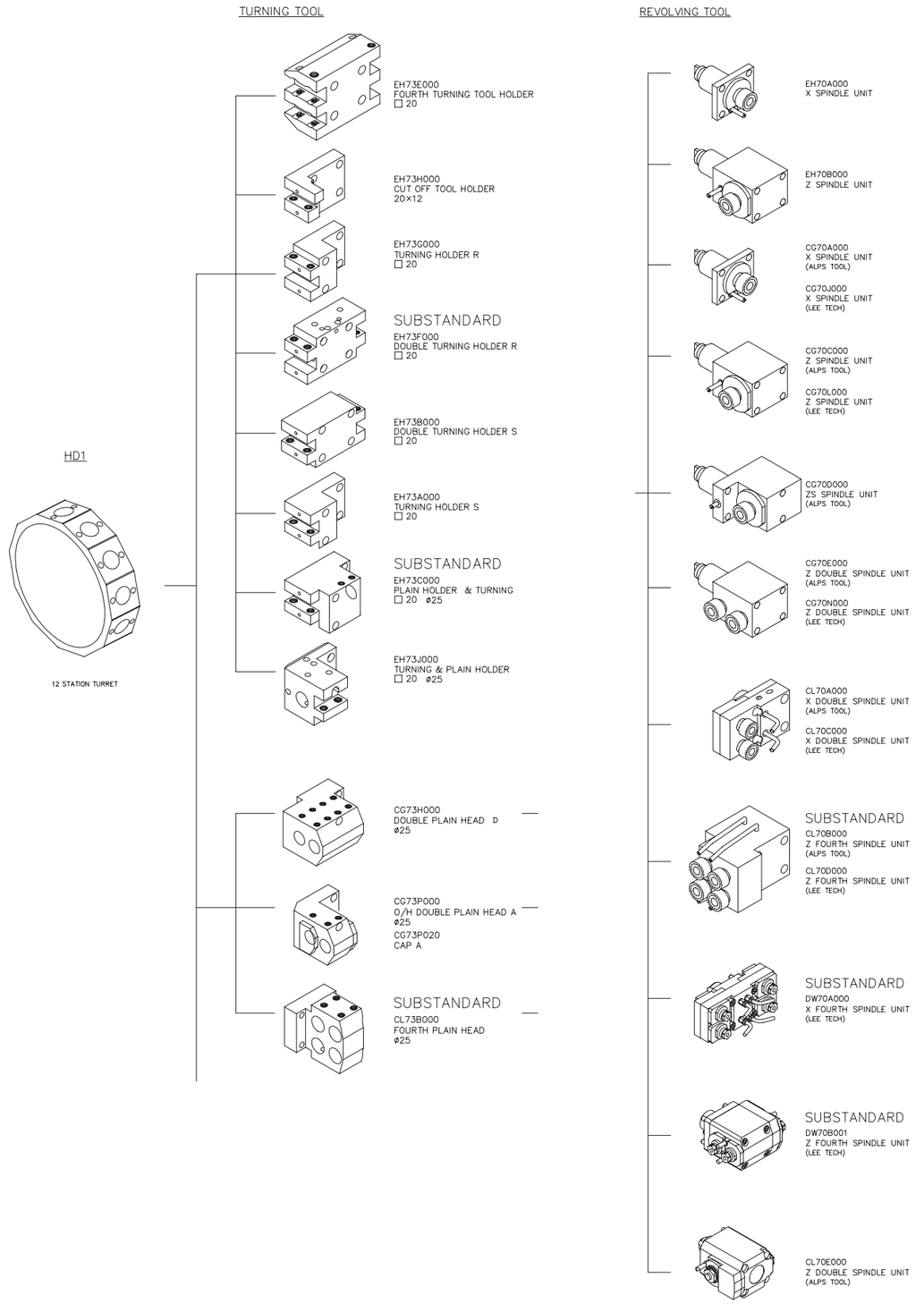
	Power	/hour	Operat.Time
	0.000	0.000	0.000
1	0.000	0.000	0.000
2	0.000	0.000	0.000
3	0.000	0.000	0.000
4	0.000	0.000	0.000
5	0.000	0.000	0.000
6	0.000	0.000	0.000
7	0.000	0.000	0.000

Visualisation of energy consumption with the power monitor

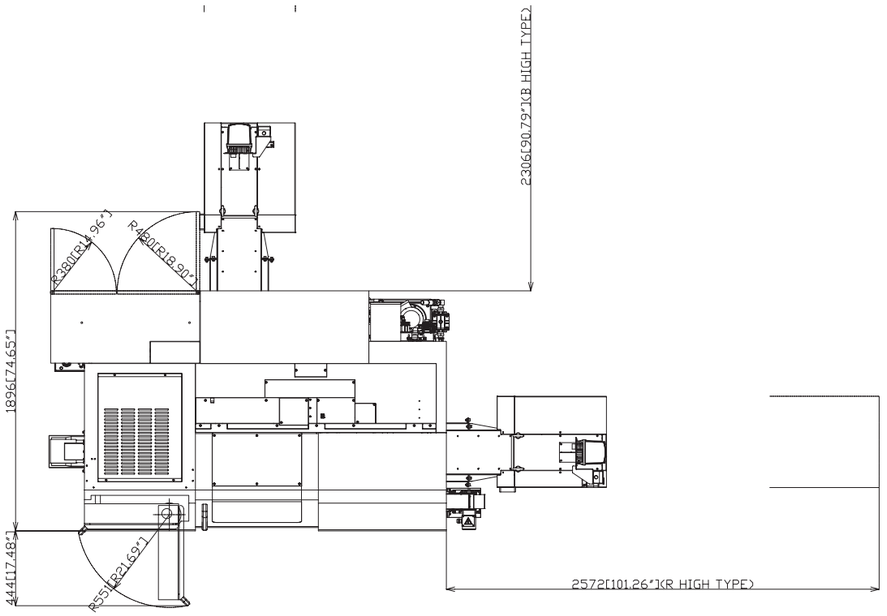
The integral power consumption and power-hour energy consumption of the machine can be checked. This supports the customers power saving efforts.

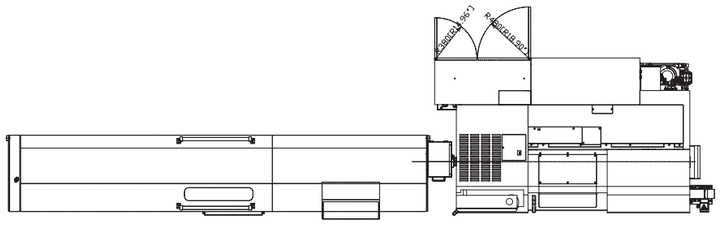
Comprehensive Tooling System

Tooling is compatible with previous generation BNA machines

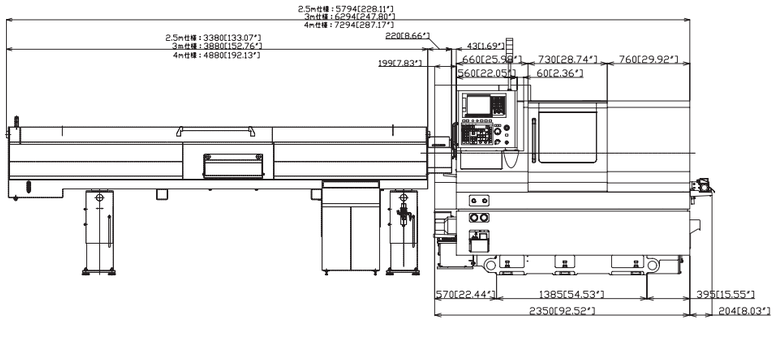


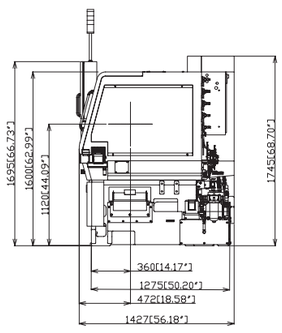
Machine Layout





BNA-42SY5 ASR RX-45 付





Machine Specification

Item		BNA-42CY5	BNA-42SY5
Capacity (billet)		135 mm	135/110 mm
Max. machining length		200 mm (300mm)	100 mm (200mm)
Standard machining diameter	SP1	42 mm dia.	
	SP2	---	42 mm dia.
Travel distance			
Axes stroke	X axis	140 mm	
	Z axis	285 mm	
	Y axis	70 (+/-35) mm	
Back spindle axis stroke	B axis	---	360 mm
Spindles			
Number of spindles		1	2
Spindle speed	SP1	60 to 6,000 min^{-1}	
	SP2		50 to 5,000 min^{-1}
Closing tube through-hole diameter	SP1	43 mm dia.	
	SP2	---	30 mm dia.
Collet chuck type	SP1	Hardinge S20, DIN173E, B&S #22D,	
		JPN34, Hainbuch	
	SP2	---	JPN, DIN171E
			DIN173E, B&S #22
Power chuck type	SP1	5" and 6" hollow chucks	5" hollow chuck
	SP2	---	4" hollow chuck
Tool post			
Number of tool posts		1	
Type of tool post		12 ST.	
Opposite side distance of tool post		300 mm	
Max. turning radius of tool post		505 mm dia.	
Dimensions of tools used		□ 20 mm	
Dimensions of tool post holes		25 mm dia.	
Rotary tools			
Number of installed rotary tools		Max.12	
Type of rotary tool drive		Independent clutch drive	
Rotating speed of rotary tools		50 to 5,000 min-1	
Machining capacities	Drill	Max. 10 dia.	
	Tap	Max. M6 × 1	
		(Limited to spiral and point taps for M8 x 1.25)	
		Max. M8 x 1.25 for BSBM	
Feed rate			
Rapid feed rate	X axis	20 m/min	
	Z axis	20 m/min	
	Y axis	12 m/min	
	B axis	---	20 m/min
Slide thrust			
	X axis	5 kN	
	Z axis	5 kN	
	Y axis	6.7 kN	
	B axis	---	5 kN
Tailstock			
	Max. travel distance	200 mm	
	Morse taper size	MT2	
	Max. slide thrust	4.3 kN (at 3.4 MPa)	
	Min. slide thrust	0.57kN (at0.45 MPa)	
	Drive method	Hydraulic	
Motors			
Spindle motor	SP1	11/7.5/5.5 kW (15%/15 min/cont.)	
	SP2	5.5/3.7 kW (15 min/cont.)	
Rotary tools motor		2.8/1.0 kW	
Coolant pump motor		0.25 kW	
High-pressure coolant motor		1.1/0.75 kW (60/50Hz)	
Required power source			
Power supply		AC 200/220 +5%/-10%, 50/60 Hz ±1%	
Power supply capacity		16 kVA	26 kVA
Air pressure source		0.5 MPa	
Fuse capacity on facilities side		75 A	100 A
Tank capacities			
Hydraulic tank capacity		18 L	
Lubricating oil tank capacity		2 L	
Coolant tank capacity		225 L	
Machine size			
Machine height		1,745 mm	
Required floor surface area		W 2,260 x D 1,433 mm	W 2,350 x D 1,433 mm
Machine weight		3,430 kg	3,880 kg

NC specifications

	BNA-42CY5	BNA-42SY5
Control unit	FS.0i-TF PLUS	
Control axis		
HD1	X1, Z1, Y1, C1, E1 (Turret)	X1,Z1,Y1,B1, C1, C2, E1
	A1 (Rotary tools)	(Turret), A1 (Rotary tools)
		During superimposed operation: X1, Z1, Y1,
		C1, E1 (Turret)
		A1 (Rotary tools)
HD2	- - -	During superimposed operation: Z2, C2,
Feed axis absolute position detector	X, Z1, Y1	X1,Z1,Y1,B
Min. set unit	0.001 mm/0.001 deg.	
Interpolation function		
Positioner	G00	
Linear interpolation	G01	
Circular interpolation	G02, G03 (multiple quadrants available)	
Dwell	G04	
Threading	G32	
Multiple threading	G33	
Feed function		
Rapid feeding override	0 to 100% (10% increments)	
Cutting feed speed override	0 to 150% (10% increments)	
Per minute feed and per rotation	G98/G99	
Manual handle feeding	x1, x10, x100	
Reference point return	G28	
Reference point return chuck	G27	
2nd reference point return	G30 or G30P2	
Program input function		
Tape code	EIA/ISO auto-detection	
Absolute commands	X,Z,Y,C	X,Z,Y,C,B
Incremental commands	U, W, V, H	
Programmable data input	G10	
Coordinate system settings	G50	
Workpiece coordinate system	G54 to G59	
Program storage and editing		
Program storage capacity	512 Kbyte	1 Mbyte (Two system total)
Number of registered programs	400	800 (Two system total)
Spindle and supplementary functions		
Spindle functions	S4 digits	
Supplementary functions	M3 digits	
Constant peripheral speed control	G96	
Tool and tool compensation functions		
Tool functions	T○○△△	
	(○○ = Tool selection and shape compensation, △△ = Wear compensation)	
Nose radius compensation	G40,G41,G42	
Operating functions		
Optional stop	M01	
Jog feeding	0 to 1,260 mm/min	
Input/Output interface		
PC card slot and USB memory slot		
Automatic operation		
One-cycle/Continuous operation, single block, block delete, machine lock		
Optional block skip, dry run, feed-hold, optional stop		
Other		
10.4" color LCD, supporting multiple languages, decimal-point input, manual pulse generator		
Memory protection, AC digital servos, etc.		
Standard NC functions		
Chamfering/corner R, background editing, operating time/number of parts display		
Canned composite cycles (G70 to G76), spindle synchronization function (SY only)		
Spindle rigid tapping (Main and sub (SY only))		
Cylindrical interpolation, custom macro B, canned drilling cycles (G80 to G86)		
Tool service life management, superimposition control function (SY only)		

CITIZEN

Dave Whitworth
North / Scotland / Ireland

07970 783193
dwhitworth@citizenmachinery.co.uk

Tony Nolloth
South Midlands / South West / South Wales

07970 831941
tnolloth@citizenmachinery.co.uk

Neil Vine
East Midlands / East Anglia

07949 389971
nvine@citizenmachinery.co.uk

Paul North
London / South East / Home Counties

07841 671978
pnorth@citizenmachinery.co.uk

Warren Garratt
West Midlands / North Wales

07817 847083
wgarratt@citizenmachinery.co.uk

Cincom Miyano

Citizen Machinery UK
Headquarters
1 Park Avenue
Bushey
Hertfordshire
WD23 2DA

citizenmachinery.co.uk | +44(0)1923 691500

sales@citizenmachinery.co.uk

Citizen Machinery UK
Turning Centre of Excellence
Narrowboat Way
Hurst Business Park
Brierley Hill
West Midlands
DY5 1UF