

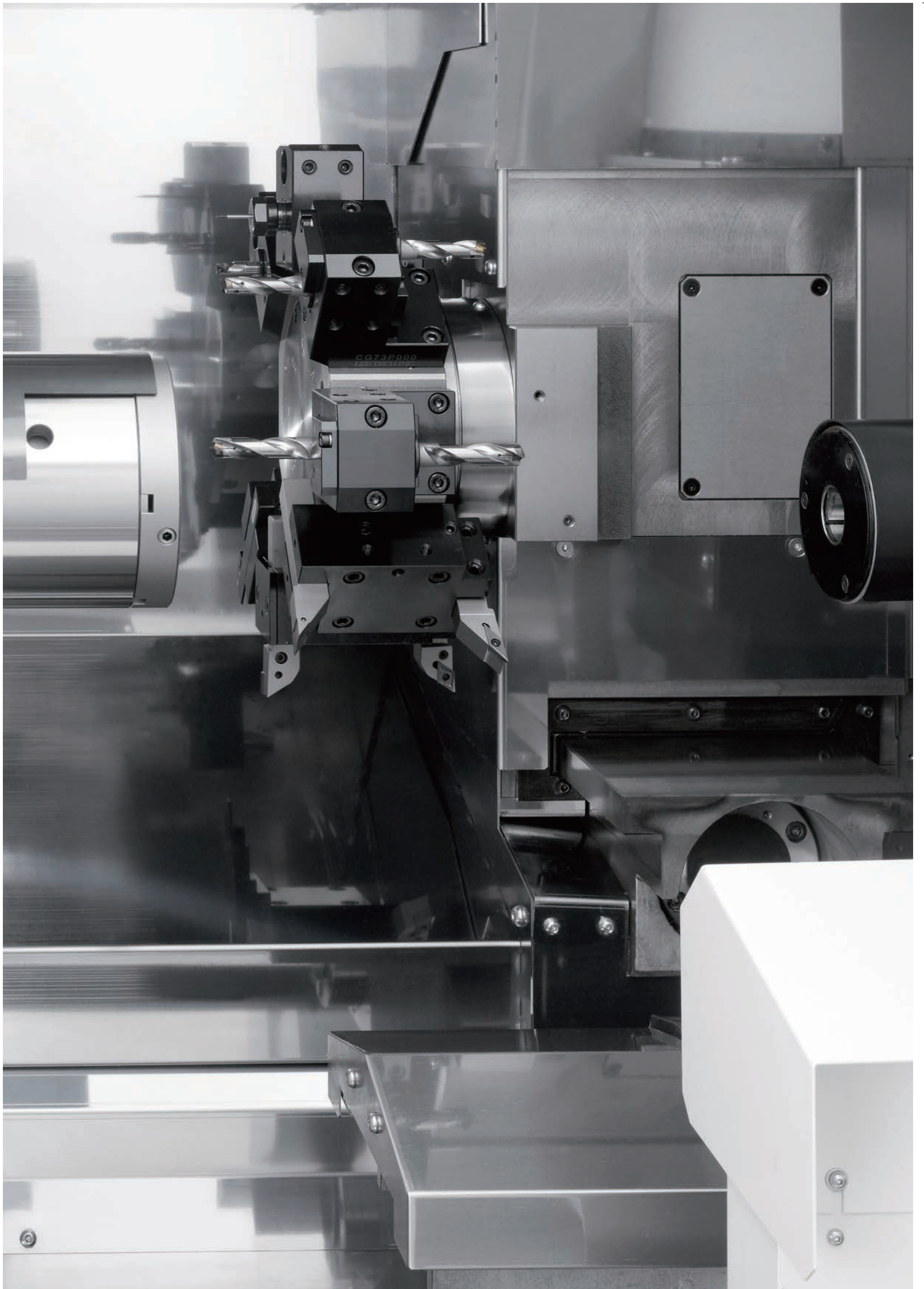
CITIZEN

Miyano

BNA42msy

Fixed Headstock Type CNC Automatic Lathe





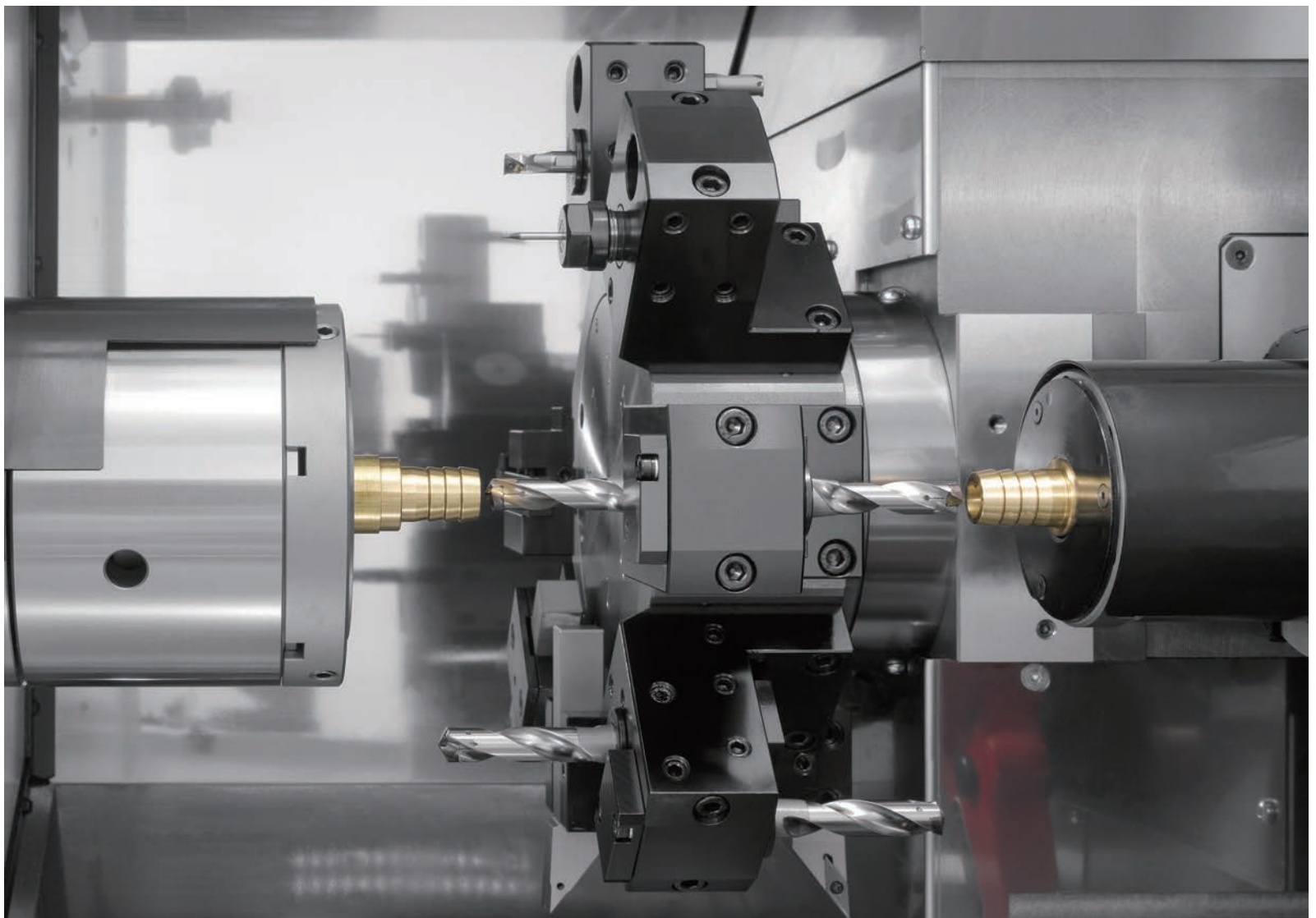
MSY

With two spindles, the subspindle having an additional X axis, a Y axis turret and the latest Mitsubishi control, the BNA-42MSY is able to handle complex machining, with rapid cycle times and quick set ups.

The X2 axis to sub-spindle enables simultaneous independent machining of the front and back of the workpiece. This, in effect, provides the benefits of a twin turret machine with the significant cost savings of a single turret model.

- 2 tool simultaneous cutting
- renowned Miyano accuracy
- quick to set up and changeover
- highly efficient for small and medium batch sizes
- compact design for improved floor space efficiency



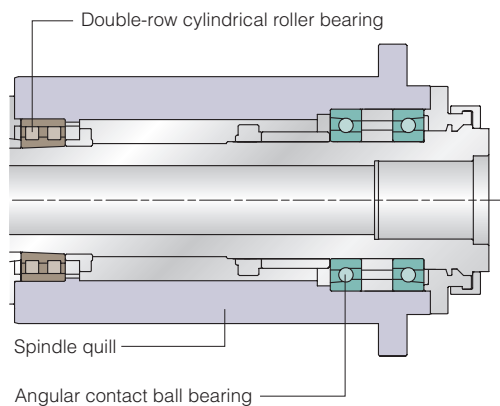


Cycle time shortened by superimposition control

A turret incorporating X, Y and Z axes (HD1) and a sub spindle incorporating X and Z axes (SP2) open up the possibility of machining by superimposition control. As an example each spindle can machine different threads at the same time - drastically lowering cycle times.

High-rigidity spindle

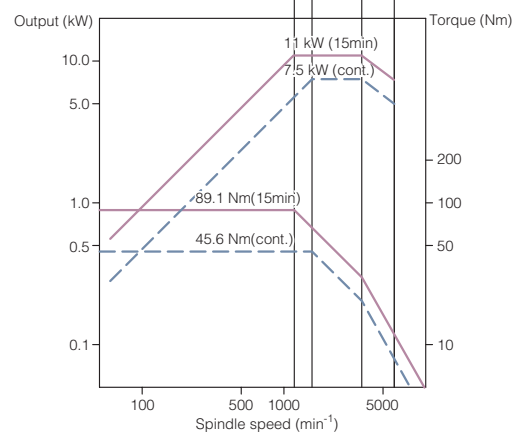
To achieve powerful cutting, the spindle, which is the key component in machining, is equipped with angular contact ball bearings at the front and double-row cylindrical roller bearings at the rear.



Spindle motors with increased output

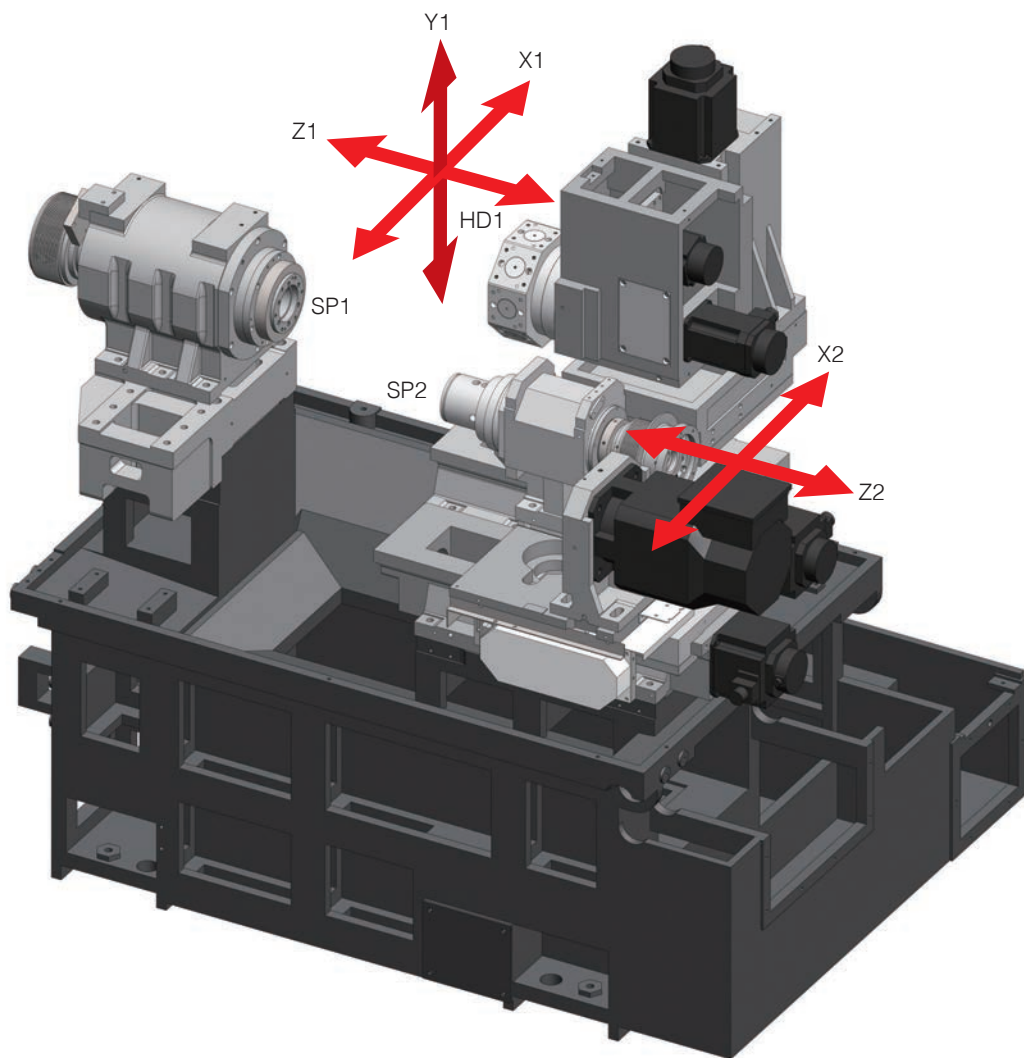
The spindle 1 motor has the highest output in the BNA series. This enables powerful cutting.

Motor pulley diameter: ϕ 125mm Moto $r(\text{min}^{-1})$ 1500 2000 4500 7632
 Speed-reduction rate: 0.786
 Spindle pulley diameter: ϕ 159mm Spindle (min^{-1}) 1179 1572 3537 6000



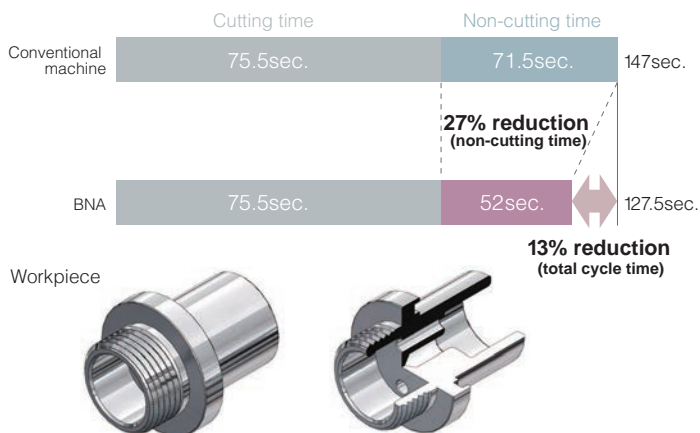
Basic construction

High-rigidity scraped slideways are used on all axes. These slideways with face contacts have exceptional rigidity and damping characteristics, achieve powerful cutting, and help to prolong cutting tool life.



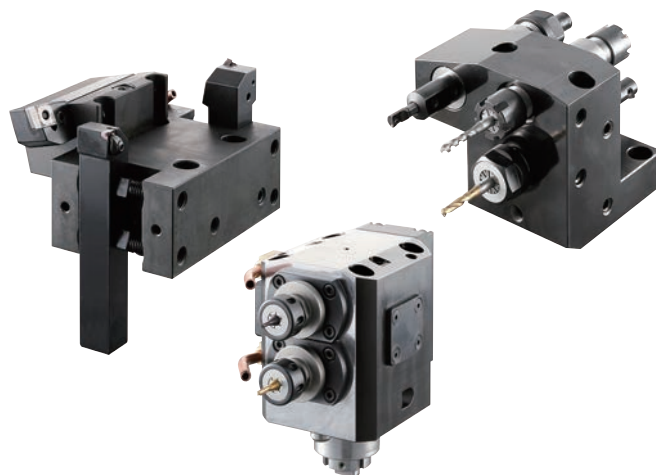
Substantial reduction in non-cutting time

The unique control system cuts non-cutting time by 27% (compared to earlier equivalent Miyano products). The result is a 13% reduction in cycle time.

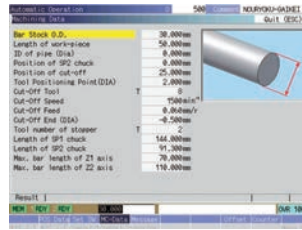
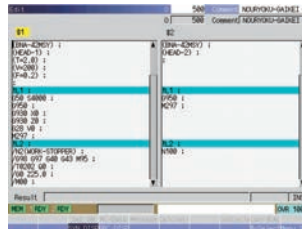


Easy to use tooling system

The turret has 8 stations, but the half-indexing mechanism makes it possible to mount tools at up to 16 positions. The use of optional multiple tool holders can further increase the number of tool positions.

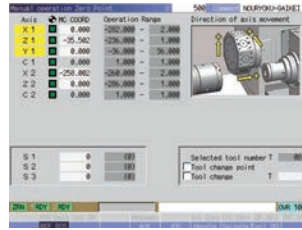
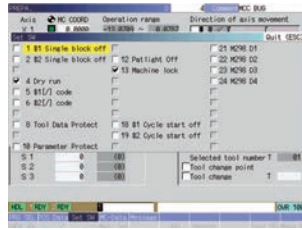
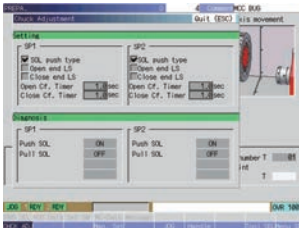


Support screens improve operating convenience

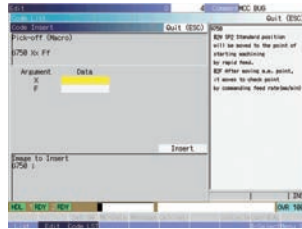
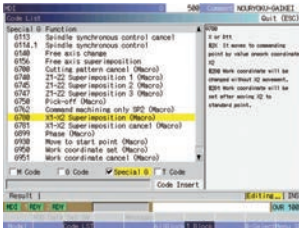


The program screen, organised for easy reading, can be displayed in synchronisation with the editing screen. This simplifies the editing of complex programs with a lot of queuing.

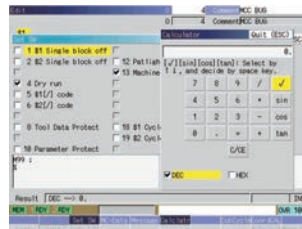
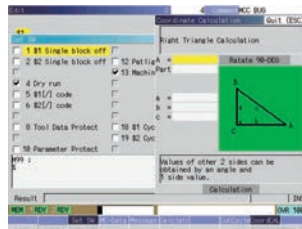
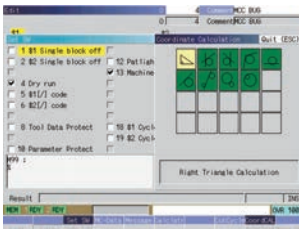
All you have to do is input the machining length, chucking length and so on, and the escape and approach positions are automatically calculated. This is useful for collision prevention and shortening setup times.



HMI (Human Machine Interface) Adopted Graphics displayed for each item and screens that display all the necessary information in one place greatly improve operating convenience.

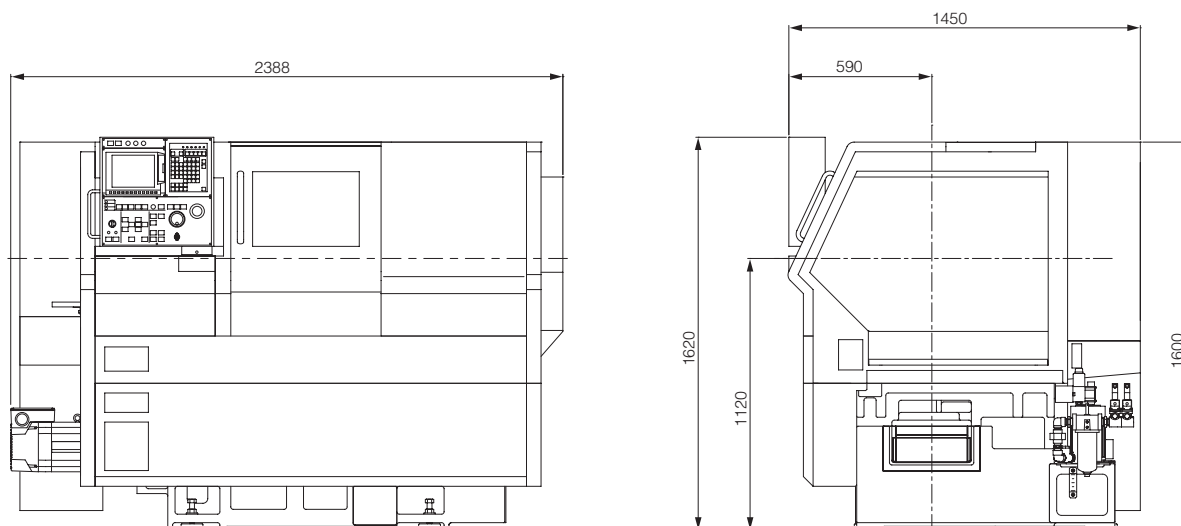


The function displays the list of G and M codes including explanations of the arguments to support programming.

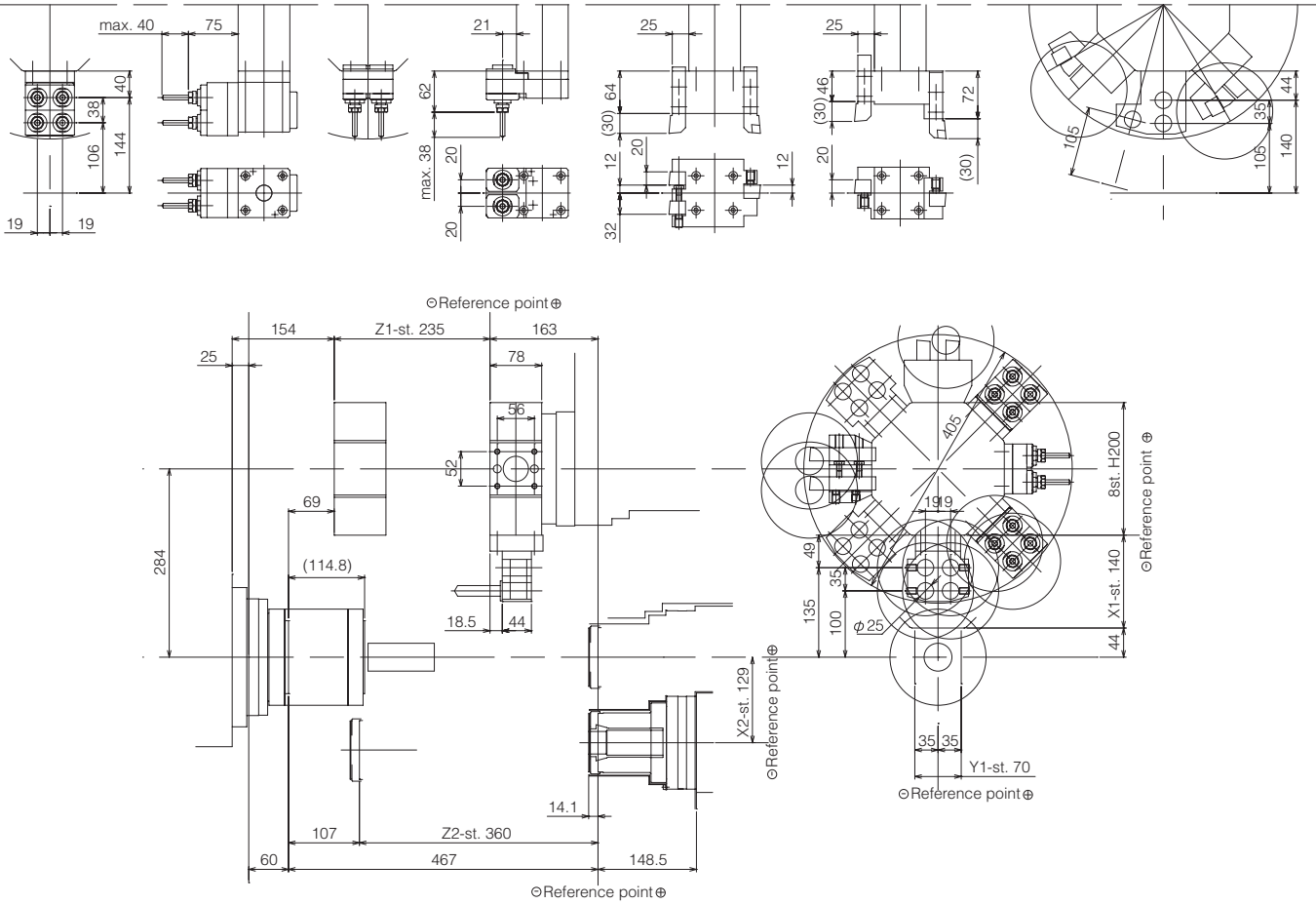


The coordinate calculation function and calculator function incorporated in the NC unit can be used for complex intersection point calculations.

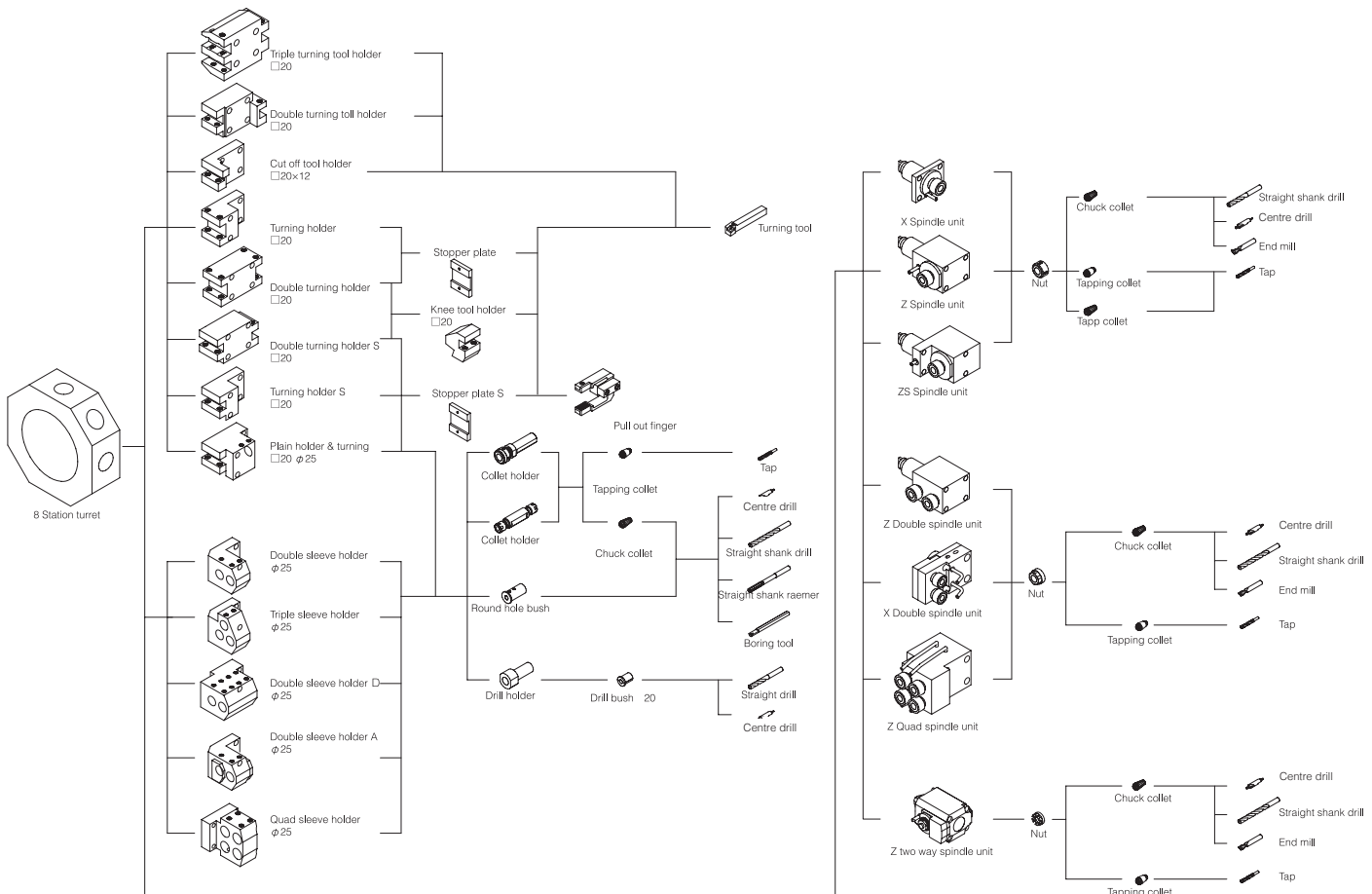
External view



Tooling area



Tooling system



Machine specification

Items			BNA-42MSY2	NC specification	
Machining capacity				Model device	MITSUBISHI M70V
Max. machining diameter of bar work	SP1		42 mm Dia.	Display devise	8.4"color LCD
	SP2		34 mm Dia.	Controllable axis	
Max. work length			100 mm	command specified axes	X1, Z1, Y1, C1, X2, Z2, C2-axis
Slide stroke				auxiliary axes	C3, T1-axis
Turret slide stroke	X1 axis		140 mm	Control axis groups	Two groups
	Z1 axis		235 mm	Input code	ISO
	Y1 axis		70 (±35 mm)	Command input system	Incremental and absolute
Spindle slide stroke	X2 axis		140 mm	Feed command system	Per rotation feed and per minute
	Z2 axis		310 mm	Cutting Feed Rate Override	Max.100%
Spindle				Tool offset data	80 pairs
Number of spindle			2	Program storage capacity	160m
Inner diameter of draw tube	SP1		43 mm Dia.	Standard function	
	SP2		30 mm Dia.	On machine program check function	
Spindle speed range	SP1		6,000 min ⁻¹	Manual feed function	
	SP2		5,000 min ⁻¹	Manual data input (MDI) function	
Collet chuck type	SP1		Hardinge S20, DIN 173E, B&S 22D, HAINBUCH SK42	Operation time display	
	SP2		Spring collet, DIN 173E, B&S 22	Product counter display	
Power chuck type			5" thru-hole chuck	Cycle time check function	
Spindle minimum index angle	SP1		0.001°	Preparation functions	
	SP2		0.001°	Start position automatic return	
Turret				Automatic cut-off machining function	
Number of turret			1	Tool set function	
Type of turret			8st.	Spindle speed simultaneous command for 3 spindle	
Shank size of turning tool			20 mm squ.	3 Sets of M code simultaneous command	
Diameter of sleeve holder			25mm Dia.	Control axis swap function	
Revolving tools				Control axes superimpose command	
Number of revolving tools			Max. 8	Arbitrary superposition function	
Tool spindle speed range			Max. 6,000min ⁻¹	Function to superimpose 2 pairs of axes	
Feed rate				BNA-42MSY dedicated macros	
Rapid Feed rate	X1 axis		20 m/ min	Background editing	
	Z1 axis		20 m/ min	Simultaneous program editing two control axis group	
	Y1 axis		12 m/ min	Editing support functions	
	X2 axis		12 m/ min	Calculator function	
	Z2 axis		20 m/ min	Code list display	
Motors				Coordinate calculation function	
Spindle drive	SP1		11/ 7.5kw (15min/ cont.)	Main spindle C-axis function spindle	
	SP2		5.5/ 3.7kw (15min/ cont.)	Constant surface speed control	
Revolving tool drive			1.0 kW	Cut off confirmation	
Power supply				Tool nose R compensation function	
Electrical capacity			29 KVA	Arc radius specification	
Coolant tank capacity			165 L	Thread cutting canned cycle	
Machine dimensions				Spindle synchronizing control function	
Machine height			1,620 mm	Milling interpolation	
Floor space			W 2,278 x D 1,450 mm	Option	
Machine weight			3,000 kg	Helical interpolation, Corner chamfering/ Radius function,	
Optional accessories				Spindle synchronous tap function, Revolving tool synchronous tap function,	
Spindle air blow, Spindle Brake, High pressure coolant,				Custom macro, Multiple canned cycles for turning, Canned cycles for drilling,	
Inner High pressure coolant & Air blow, Coolant level swich, Signal tower,				Inchi/ metric change	
Coolant mist collector, Automatic fire- extinguishing equipment,					
Automatic power shut-off, Chip conveyor, Chip box, Parts catcher, Parts conveyor,					
Drill breakage detector, RS-232C, 100V					

CITIZEN

CITIZEN MACHINERY CO., LTD.

Japan	Citizen Machinery Co Ltd 4017-6 Miyota, Miyota-machi, Kitasaku-gun, Nagano-ken, 389-0206, Japan	Tel: 81-267-32-5901	Fax: 81-267-32-5908
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

www.citizenmachinery.co.uk

All specifications are subject to change without prior notice. This product is an export control item subject to the foreign exchange and foreign trade act. Thus, before exporting this product, or taking it overseas, contact your CITIZEN machine dealer. Please inform your CITIZEN machine dealer in advance of your intention to re-sell, export or relocate this product. For the avoidance of doubt products includes whole or part, replica or copy, technologies and software. In the event of export, proof of approval to export by government or regulatory authority must be evidenced to CITIZEN. You can operate the machines after the confirmation of CITIZEN. CITIZEN is a registered trademark of Citizen Holdings Co., Japan.