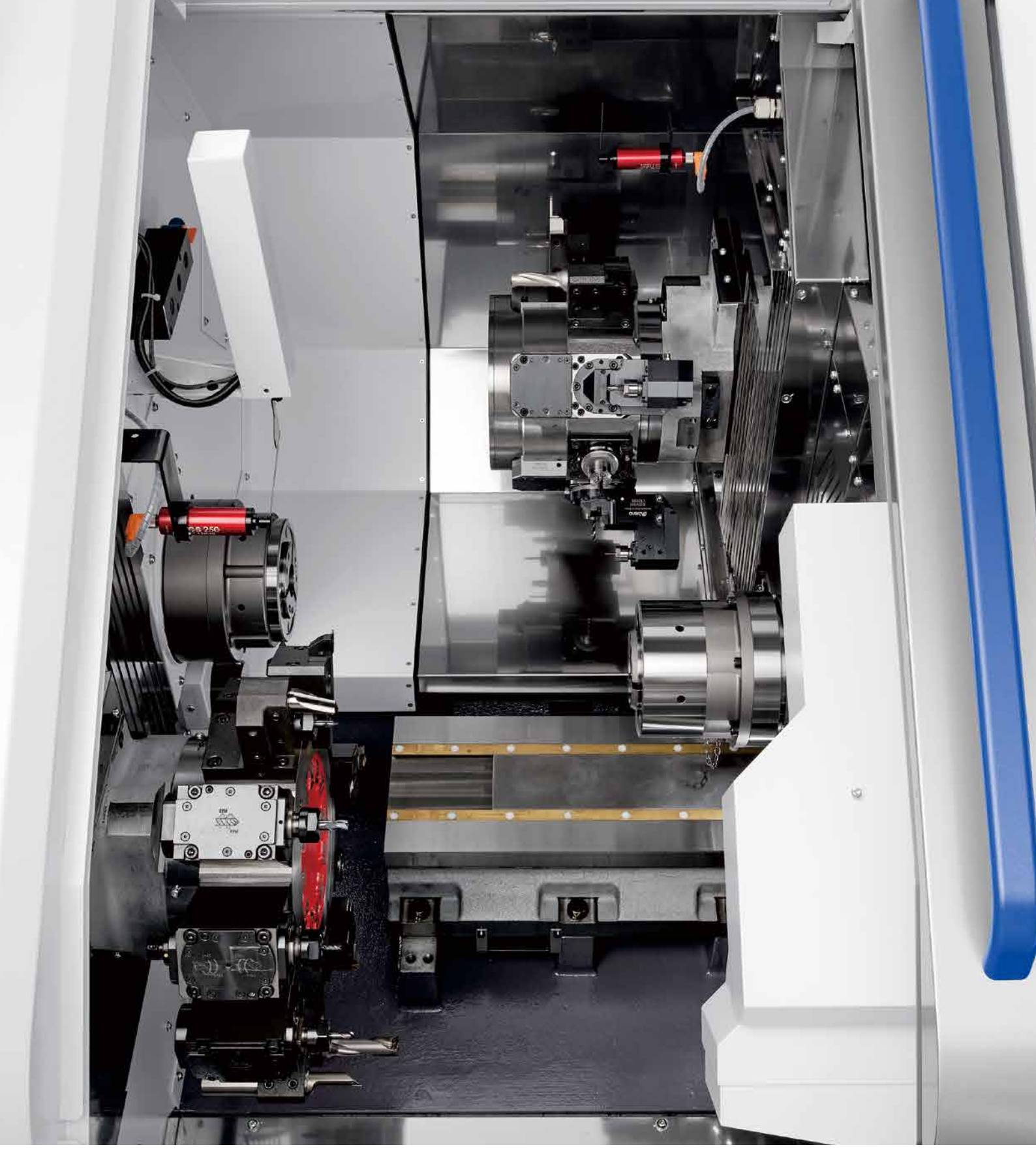
CITIZEN

Miyano

BNE51MYY / MSB
BNE65MYY / MSB

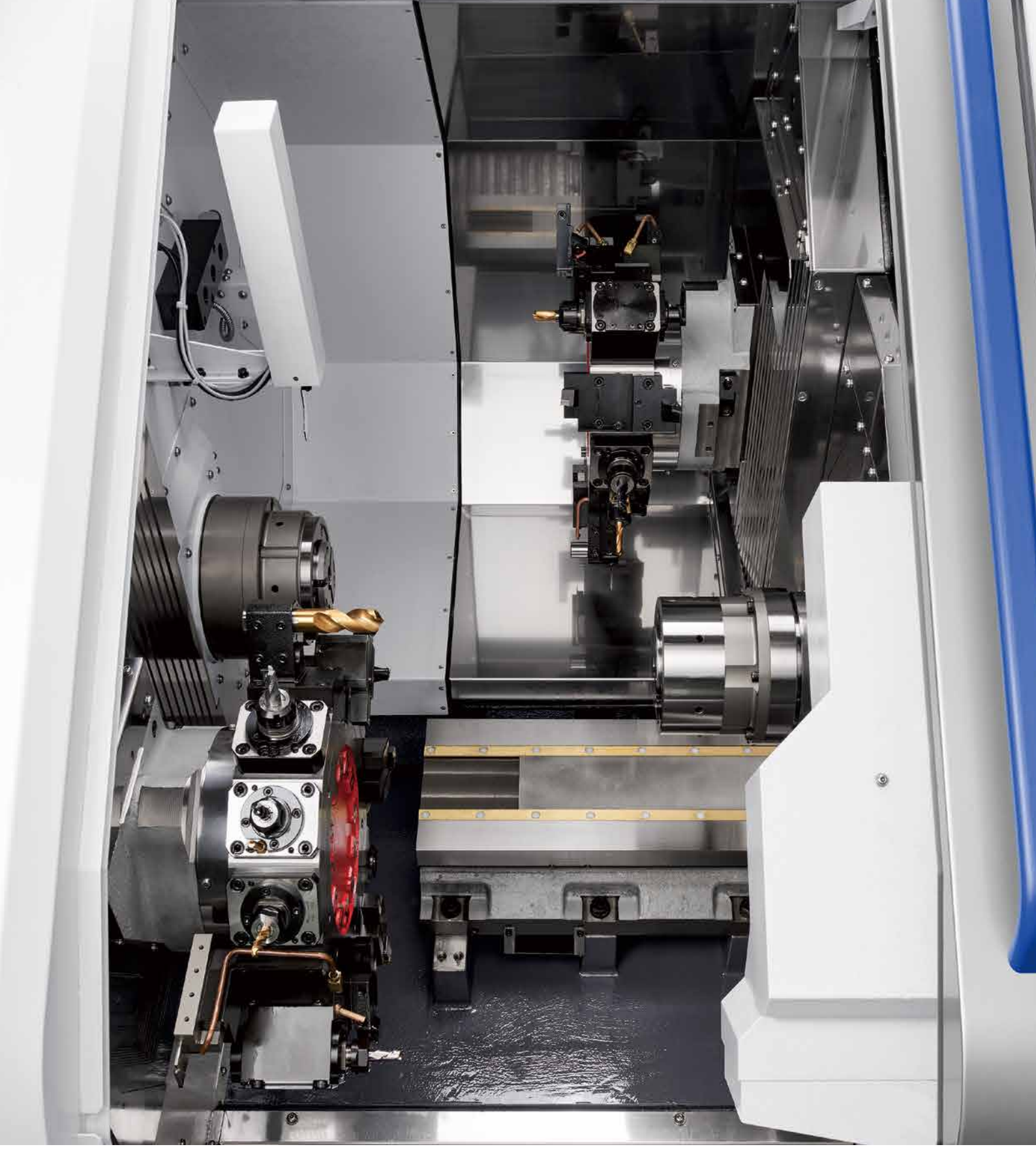
Fixed Headstock Type CNC Automatic Lathe



BNE65MSB

Equipped with double-Y axis and B axis. New BNE series models: Improved composite machining

These four new BNE Series models, developed from the BNE51 and BNE65 (with machining diameters of 51 and 65 mm respectively) have inherited the characteristics of high rigidity and precision for which the BNE Series has been greatly praised. They consist of MYY models with a Y axis equipped to the both upper and lower turrets, and MSB models that are equipped with a B axis on the upper turret.



BNE65MYY

The cover has been completely redesigned with a large window to provide excellent visibility.
It has also been equipped with a new HMI (Human Machine Interface).
Use of a touch panel improves operability, and its use with the new NC units also improves productivity.

MSB models equipped with B axis function

The BNE51MSB and BNE65MSB are equipped with a B axis function for the upper turret.

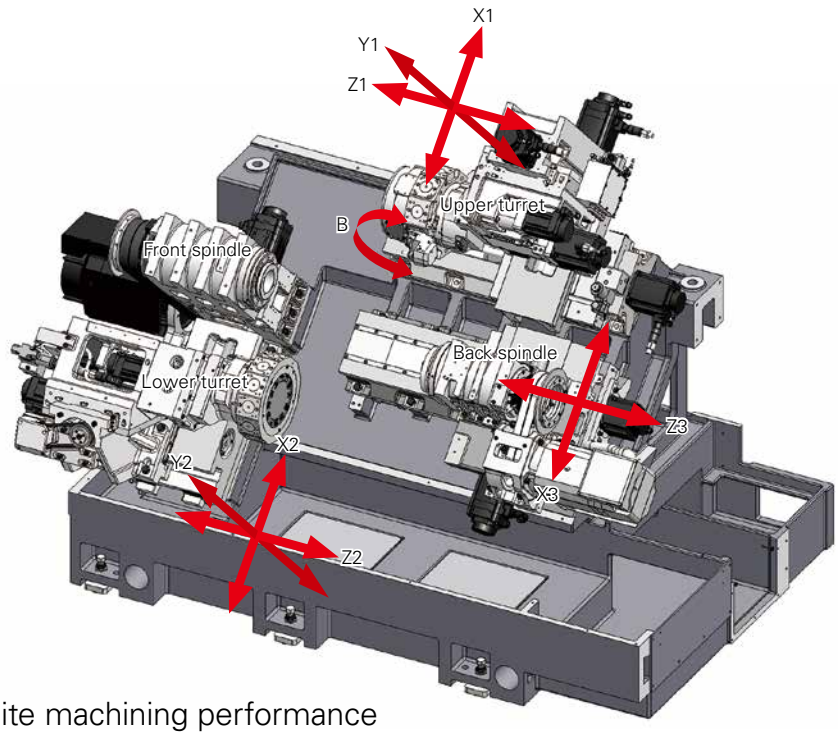
Positioned at a slant in relation to the Y axis, the B axis enables you to perform a wider variety of processing such as oblique machining at multiple angles and helical interpolation machining.

This B axis function increases your range of freedom for machining due to the 360° range of movement that enables machining on the back spindle side also.

It also allows you to execute NC programs for the normally difficult oblique machining by simple commands using dedicated G codes.

Basic structure and axis configuration

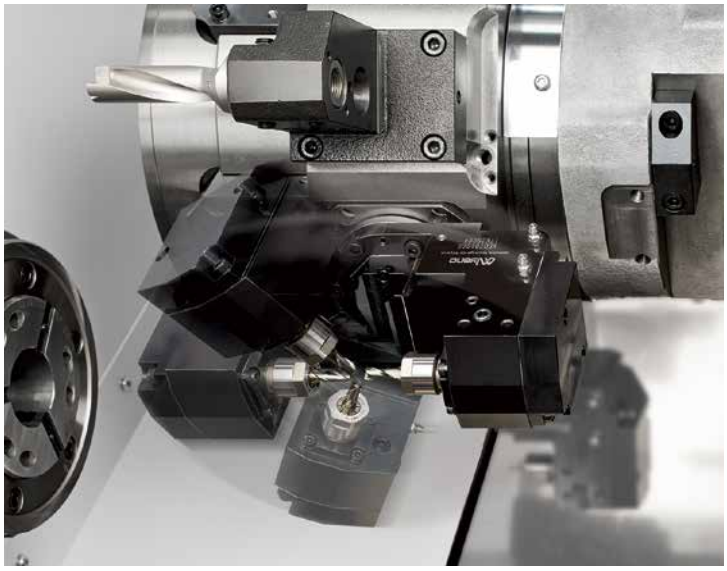
These new models have inherited the slide structure of the BNE that makes it easy to clean away chips.
Rectangular lapped slides have been adopted for all slides except for the X3 axis. The sliding contact between surfaces provides excellent rigidity and damping performance, as well as strong cutting performance, while also helping to extend the service life of cutting tools.



Equipping of B axis to improve composite machining performance

The B axis tool, which can be installed to the upper turret, can be installed to five of the 10 stations. The 360° range of movement enables machining on the back spindle side to increase your range of freedom for machining.

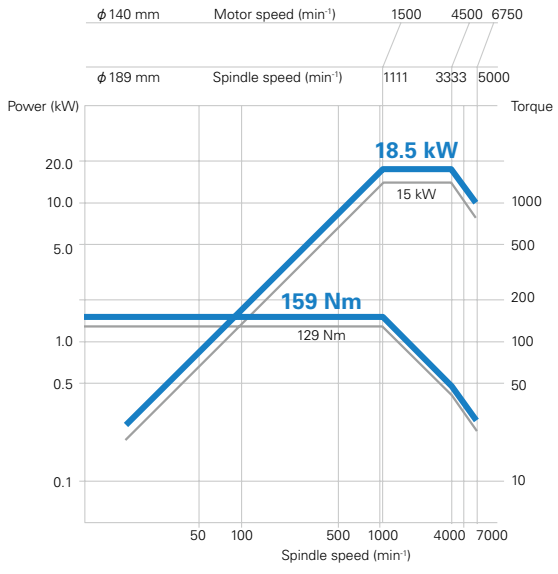
B axis tool



Max. machining diameter of 65 mm

The BNE65 Series is compatible with a 65-mm diameter, the largest machining diameter for bar material machining of the entire Miyano brand.
The output of the front and back spindle motors has been greatly increased to 1.2 to 1.5 times that of current models in order to improve cutting capability.
Additionally, increasing the maximum speed to 5,000 min-1 enables optimal conditions for cutting of small-diameter workpieces.

Graph of BNE65MYY/65MSB front spindle torque



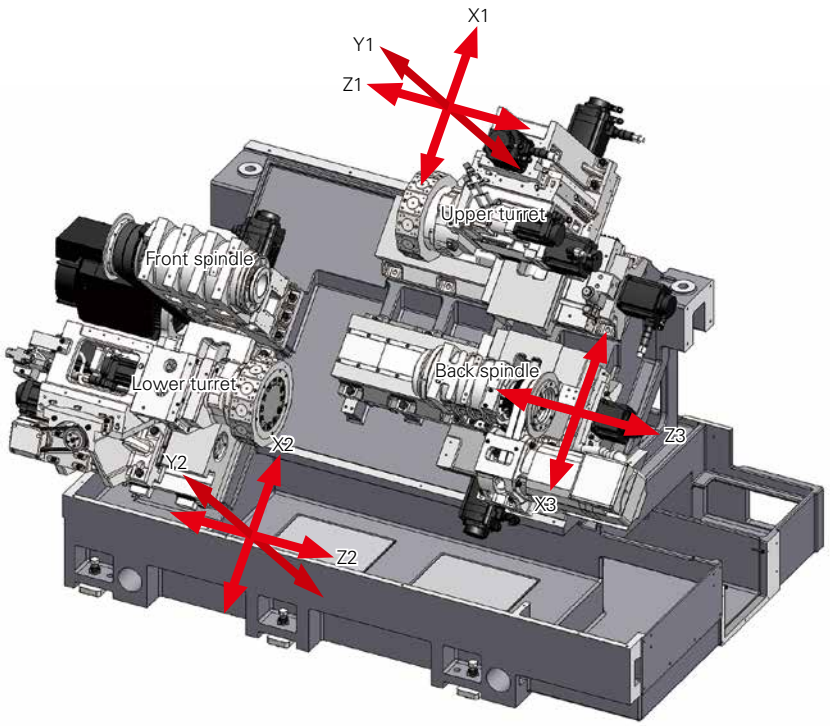
Upper/Lower Y-axis machining

MYY models equipped with double-Y axis

The upper and lower turrets of the BNE51MYY and BNE65MYY are equipped with a Y axis. Operating with the same capabilities, these two 12-station turrets provide even more flexible tooling due to optimal process allocation that is not restricted by machining balance limitations.

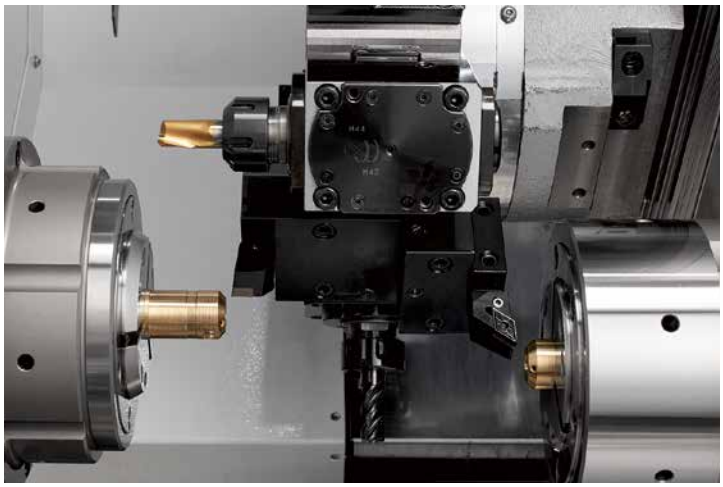
Basic structure and axis configuration

These new models have inherited the slide structure of the BNE that makes it easy to clean away chips.
Rectangular lapped slides have been adopted for all slides except for the X3 axis. The sliding contact between surfaces provides excellent rigidity and damping performance, as well as strong cutting performance, while also helping to extend the service life of cutting tools.



Reduced cycle times with high-efficiency machining

The two turrets equipped with a Y axis, and mechanical structure formed from the front and back spindles serve to reduce cycle times by enabling high-efficiency machining such as simultaneous left/right and up/down machining for superimposed and similar types of machining.



Superimposed machining

New HMI (Human Machine Interface) operating panel

A new HMI (Human Machine Interface)-equipped operating panel with a 15-inch touch panel has been adopted to improve machine operability for workers.
Additionally, universal design has been applied to operating panel colors and similar elements for the first time. Universal design has been adopted in consideration of the different ways colors are perceived in order to ensure that information is provided in a manner that is readily visible and easily understood by anyone.

MUD Certified by the Media Universal Design (MUD) Association.

Machine Specification

Item		BNE-51MYY	BNE-51MSB	BNE-65MYY	BNE-65MSB
Machining capacity					
Max. machining length		195 mm			
Max. machining diameter		51 mm dia.		65 mm dia.	
Max. drilling diameter	SP1	25 mm dia.			
	SP2	20 mm dia.			
Max. tapping diameter	SP1	M22 × 2.5			
	SP2	M20 × 2.0			
Spindles					
Number of spindles		2			
Main spindle speed	SP1 & SP2	Max. 5,000 min-1			
Main spindle collet chuck	SP1	Hardinge S22		Hardinge S26	
		DIN 177E		DIN 185E	
		HAINBUCH 51		HAINBUCH 65	
	SP2	Hardinge S22		Hardinge S26	
		DIN 177E		DIN 185E	
		HAINBUCH 51		HAINBUCH 65	
Power chuck type	SP1 & SP2	6" 3-claw chuck, 6" 2-claw chuck			
Travel distance					
Slide travel distance	X axis	X1: 205 mm, X2: 205 mm, X3: 155 mm			
	Z axis	Z1: 380 mm, Z2: 175 mm, Z3: 500 mm			
	Y axis	Y1: +60/ - 40mm, Y2: ±40 mm			
Tool posts					
Number of tool posts		2			
Type of tool post	HD1	12 ST.	10 ST.	12 ST.	10 ST.
	HD2	12 ST.			
Dimensions of tools used		20 mm sq.			
Dimensions of tool post holes		25 mm dia.			
Rotary tools					
Number of installed rotary tools	HD1	Max.12	Max.10	Max.12	Max.10
	HD2	Max.12			
Type of rotary tool drive		Independent clutch drive			
Rotating speed of rotary tools		6,000 min-1			
Machining capacities	Drill	16 mm dia.			
	Tap	M12 × 1.75			
B axis (MSB only)	Drill	10 mm dia.			
	Tap	M6 × 1.0			
		Max. M8×1.25 for BSBM			
Feed rate					
Rapid feed rate	X1, Z1, X3, Z3 axes	20 m/ min			
	X2, Z2 axes	18 m/ min			
	Y1, Y2 axes	12 m/ min			
Motors					
Spindle motor	SP1	18.5/ 15 kW (30min./ cont.)			
	SP2	11/ 7.5 kW (15min./ cont.)			
Rotary tools motor	SP1 & SP2	4.0 kW			
Required power source					
Power supply		AC 200 ± 10%			
Power supply capacity		47 KVA			
Air pressure source		0.5 MPa			
Air pressure flowrate		120 NL/min. (When using air blower for 1 sec. in 3 locations)			
Tank capacity					
Hydraulic oil tank capacity		18 L			
Lubricating oil tank capacity		5 L			
Coolant tank capacity		350 L			
Machine dimensions					
Machine height		2,070 mm			
Floor space		W 2,860 × D 2,190 mm			
Machine weight		8,080 kg		8,130 kg	
Option					
Spindle brake, Air blow, Work ejector, Automatic fire extinguisher, Automatic power shut-off, Chip box					
Parts conveyor, Coolant level switch, High pressure coolant, Inner high pressure coolant & air blow					
Turret high pressure & air blow, Tool setter, Parts Catcher, Parts Box, Chuck system, Chip conveyor, Signal tower,					
Filler tube, Spindle inner bushing, Bar feeder inner bushing, Cut-off confirmation, Parts carrier, Left over catcher,					
Thermal displacement correction function					

NC specifications

NC units		MITSUBISHI M830W (BNE-MYY)
		MITSUBISHI M850W (BNE-MSB)
Command specified axes	HD1	X1, Z1, Y1, B1(BNE-MSB)
	HD2	X2, Z2, Y2
	SP1	C1
	SP2	C2
	SP2 Slide	X3, Z3
Auxiliary axes	HD1 Rotary tool	S3
	HD1 Index	T1
	HD2 Rotary tool	S4
	HD2 Index	T2
Control axis groups		3 groups
Input code		ISO
Command input system		Incremental and absolute
Number of tool offsets		99
Feed command system		Per rotation feed and per minute
Override function		Rapid feeding/Cut feeding 0 to 100%
Zero return function		Manual zero return
On-machine program check function		Manual pulse generator
Program operation storage capacity		960 Kbyte (2400 m)
Input/Output interface		SD card slot and USB memory slot
Spindle C-axis function		0.001°

Standard function

Zero return function, On-machine program check function, Manual feed function
Manual data input (MDI) function, Back up function, Operation time display, Product counter display
Eco display, Cycle time check function, Automatic screen off function
4-Group simultaneous spindle speed command, 3-group simultaneous M command, Superimposition of freely selected axis function
BNE-MYY/MSB-dedicated macros, Optional block skip, Optional stop
Cut-off check function, Corner chamfering/ Radius function, Arc radius specification, Canned cycle for threading
Rotary tool synchronous tap function, Spindle synchronizing control function, Multiple canned cycles for turning, Canned cycle for drilling
Milling interpolation, Helical interpolation, Inch/Millimeter switching function, Safety monitoring
Program parameters input, Tool tip machining command (BNE-MSB)
Tool oblique face machining (BNE-MSB)

Standard operating functions

Start position automatic return, Waiting point automatic return, Back spindle retract return, Turret retract return
Automatic cut-off machining function, Tool set function, Spindle speed set function, Tool select function
Check adjustment function, Auxiliary manual operation function (AUX), Jog function, Handle operation function
Zeroing operation function

Editing support functions

Calculator function, Code list display, Code insert, Coordinate calculation function, Format check
Alarm block display function, Background editing, Simultaneous 3-system program editing

Option

Program operation memory capacity of 1,920 Kbyte (4,800 m), Program memory capacity of 10 MB
Program memory range of 20 MB, Program memory range of 50 MB, Program memory range of 100 MB
Network I/O function, RS-232C, Automatic power shut-off function, Thermal displacement correction function, tool setter
Tool monitor, 3D chamfering function, Variable lead threading, Arc threading,
2-System simultaneous threading I, 2-System simultaneous threading II, High-speed tapping function, Tool life management I
Spindle superimposition function, External memory program operation

CITIZEN MACHINERY CO., LTD.

CITIZEN

JAPAN	CITIZEN MACHINERY CO.,LTD. 4107-6 Miyota, Miyota-machi, Kitasaku-gun, Nagano-ken, 389-0206, JAPAN	TEL. 81-267-32-5901
SOUTH ASIA / KOREA	CITIZEN MACHINERY CO.,LTD. 4107-6 Miyota, Miyota-machi, Kitasaku-gun, Nagano-ken, 389-0206, JAPAN	TEL. 81-267-32-5901
TAIWAN	CINCOM MIYANO TAIWAN CO.,LTD. 10Fl., No.174, Fuh Sing N. Rd., Taipei, TAIWAN	TEL. 886-2-2715-0598
CHINA	CITIZEN (CHINA) PRECISION MACHINERY CO.,LTD. 10058, XINHUA ROAD OF ZHOUCUN, ZIBO, SHANDONG, P.R. CHINA	TEL. 86-533-6150560
GERMANY	CITIZEN MACHINERY EUROPE GmbH Mettinger Strasse 11, D-73728 Esslingen, GERMANY	TEL. 49-711-3906-100
UK	CITIZEN MACHINERY UK LTD 1 Park Avenue, Bushey, WD23 2DA, UK	TEL. 44-1923-691500
ITALIA	CITIZEN MACCHINE ITALIA s.r.l. Via Guglielmo Marvoni 47 24040 Comun Nuovo (BG), ITALY	TEL. 39-035-877738
FRANCE	HESTIKA FRANCE S.A.S. 1385 Avenue du Môle Z.A.E des Lacs 3, 74130 AYZE, FRANCE	TEL. 33-4-5098-5269
SPAIN	EGASCA, S.A. Poligono Industrial Erisono 2, 20600 Eibar (Gipuzkoa), SPAIN	TEL. 33-4-5098-5269
AMERICA	MARUBENI CITIZEN-CINCOM INC. 40 Boroline Road Allendale, NJ 07401, U.S.A.	TEL. 1-201-818-0100

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