

CITIZEN

Miyano

BNE-51 MYY/MSB

BNE-65 MYY/MSB

Fixed Headstock Type CNC Automatic Lathe





BNE65MSB

Equipped with twin Y axes and a B axis. New BNE series models: Improved superimposed machining

These four new BNE Series models, developed from the existing BNE range have inherited the characteristics of high rigidity and precision for which the BNE Series has been greatly praised. Made up of MYY models with a Y axis equipped to both upper and lower turrets, and MSB models that are also equipped with a B axis on the upper turret.



BNE65MY

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 for ease of operation, and its use with the new NC units also improves productivity.



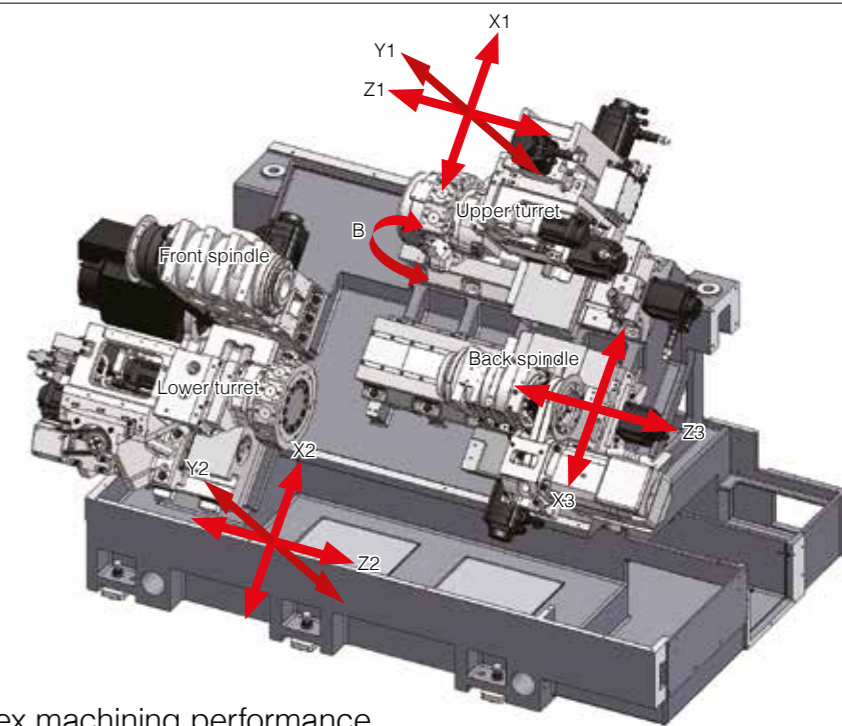
MSB models equipped with B axis function

The BNE-51MSB and BNE-65MSB are equipped with a B axis function on the upper turret. The B axis function increases your range of freedom for machining due to the 360° range of movement that enables machining on both main and sub spindles. It also allows you to execute NC programs for the normally difficult angular machining by simple commands using dedicated G codes.



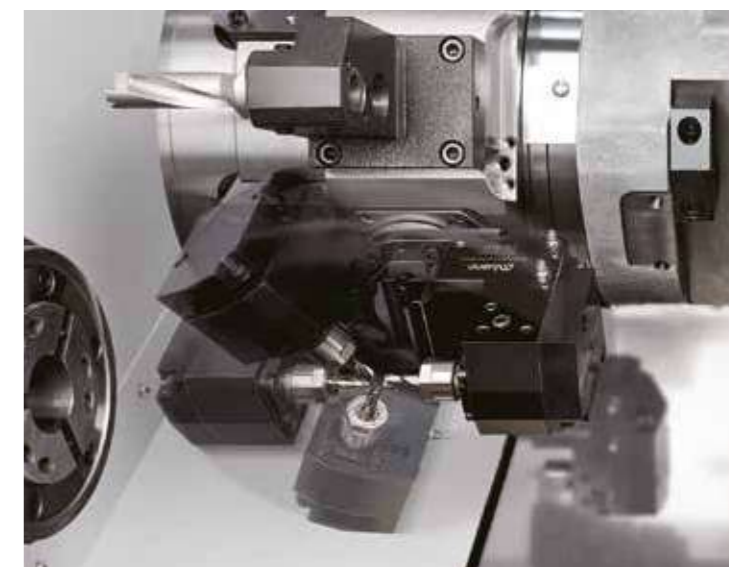
Basic structure and axis configuration

These new models have inherited the slide structure of the BNE that makes it easy for swarf to drop away. 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, enabling heavy metal removal while also helping to extend cutting tool life.



Equipping of B axis to improve complex machining performance

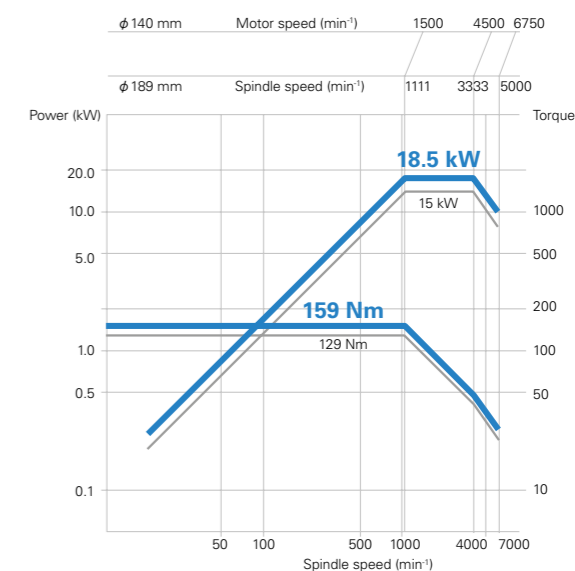
The B axis tool, which can be mounted to the upper turret, can occupy five of the 10 stations. The 360° range of movement enables machining on the back spindle to increase your range of machining options.



Max. machining bar diameter of 65 mm

The BNE65 Series can take 65mm bar diameter through the main spindle. The output of the front and back spindle motors has been greatly increased in order to improve machining capability. Additionally, increasing the maximum speed to 5,000 RPM enables optimal conditions for cutting of small diameter workpieces.

Graph of BNE65MY/65MSB front spindle torque





Upper/Lower Y-axis machining

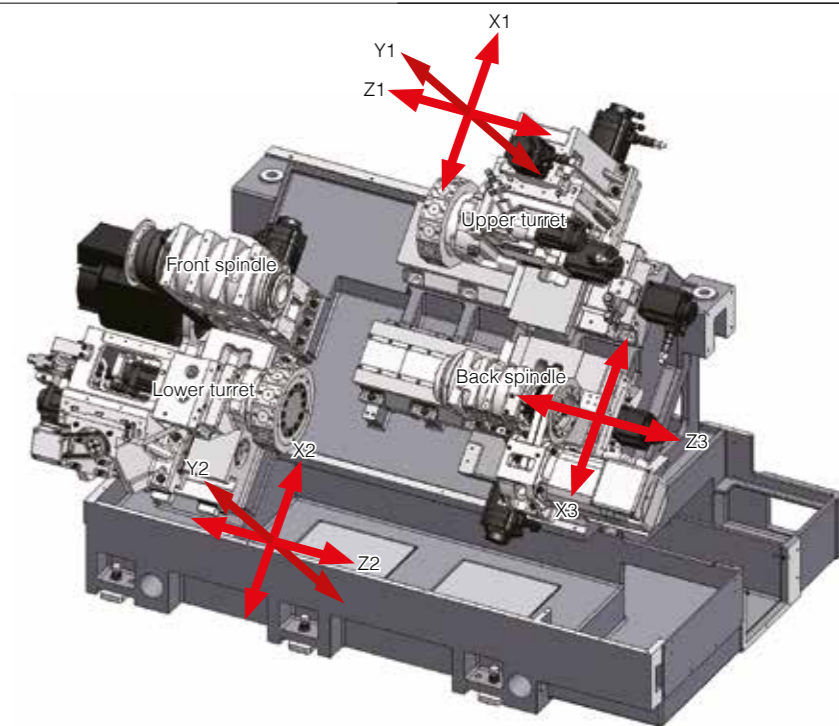
MYM models equipped with twin Y axes

The upper and lower turrets of the BNE-51MYM and BNE-65MYM are equipped with a Y axis. Operating with the same capabilities, these two 12-station turrets complete tooling flexibility thus maximising balanced machining operations.



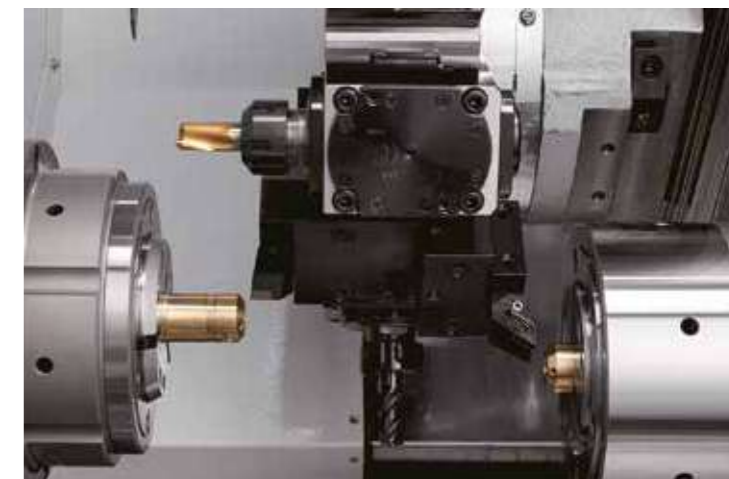
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Reduced cycle times with high-efficiency machining

The two turrets equipped with a Y axis, on rigid construction, serve to reduce cycle times by enabling highly efficient machining. Utilising simultaneous and superimposed machining.



Superimposed machining

New HMI (Human Machine Interface) operating panel

A new HMI (Human Machine Interface) equipped operating panel with a 15-inch touchscreen has been added to improve ease of use for the machine operator.

Consideration has been given to the different ways colours are perceived in order to ensure that information is provided in a manner that is readily visible and easily understood by anyone.



Machine Specification

| Item | BNE-51MY | BNE-51MSB | BNE-65MY | 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. |
| | HD2 | 12 ST. | | |
| Dimensions of tools used | □ 20 mm | | | |
| Dimensions of tool post holes | 25 mm dia. | | | |
| Rotary tools | | | | |
| Number of installed rotary tools | HD1 | Max.12 | Max.10 | Max.12 |
| | 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 | | |
| Slide thrust | | | | |
| | X1, Z1, X3 axes | 8.5 KN | | |
| | X2 axis | 11.3 KN | | |
| | Z2, Y1 axes | 6.6 KN | | |
| | Z3 axis | 5 KN | | |
| | Y2 axis | 5.8 KN | | |
| 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-MY) | | |
| | | 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-MY/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

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

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