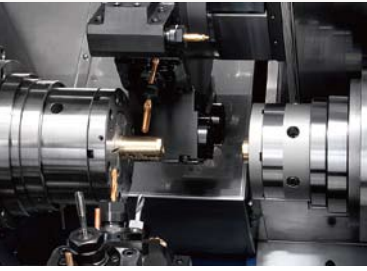


Miyano

CITIZEN
Micro HumanTech



BNE-3455/5155/34SY5/51SY5 CNC Turning Center with 2 Spindles, 2 Turrets and 1 Y-axis Slide

BNE

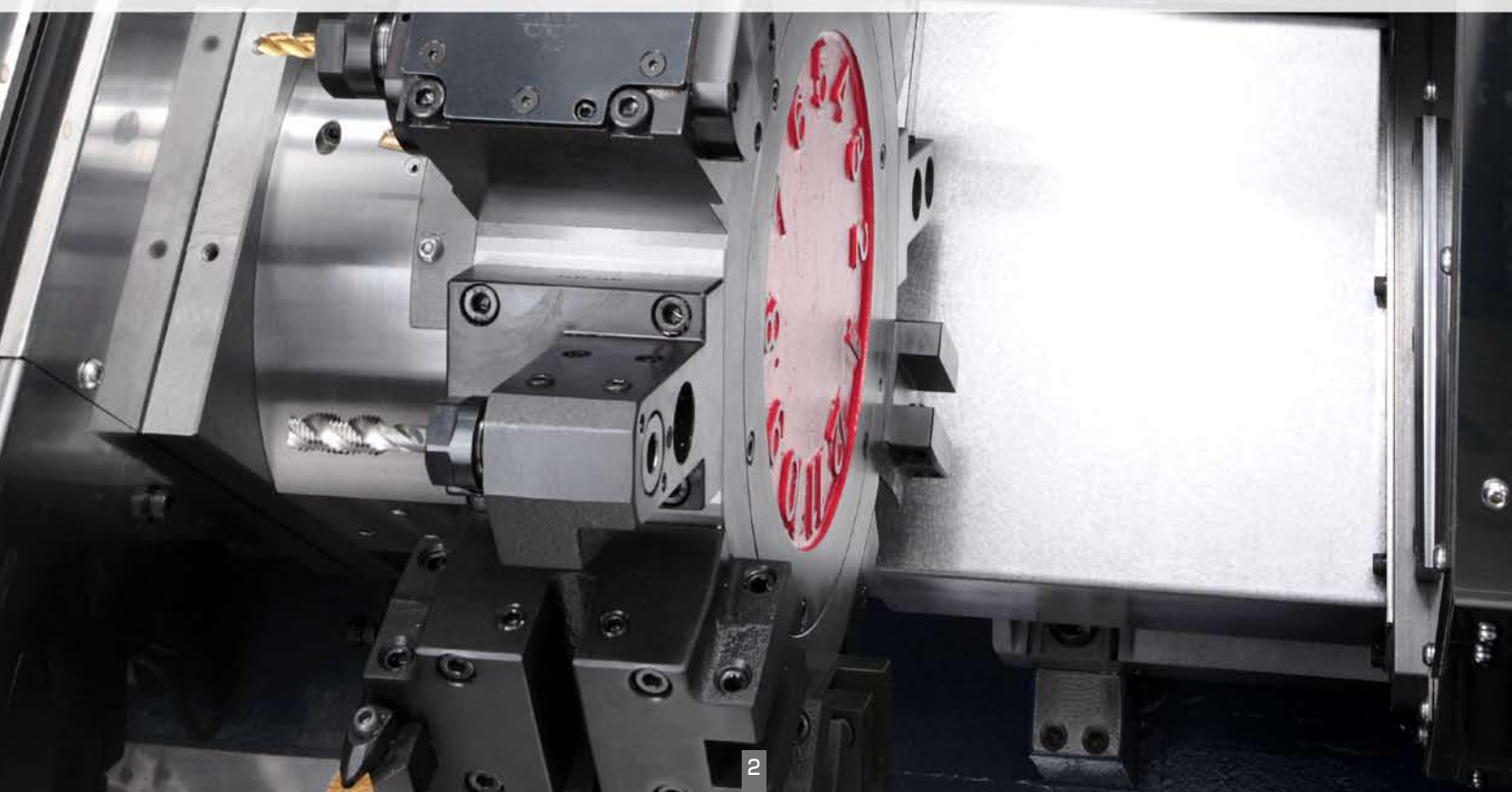


Cincom **Miyano**

“Evolution and Innovation” is the Future



The BNE series handles your high value barwork



The BNE Series was designed to handle today's ever demanding high efficiency barwork. Operating multiple tools simultaneously, parts with more complex functions can now be produced with higher level of efficiency. The S-Type features simultaneous multiple tooling on the L/R spindles.

The "SY" type with Y-Axis slide for the upper turret has the capability of a machining center to handle more complex workpieces. The new design of the 2-types feature eases programming and machine operation to reduce set-up times.

CNC Turning Center with 2 Spindles, 2 Turrets

BNE-34S5 / BNE-51S5



CNC Turning Center with 2 Spindles, 2 Turrets and 1 Y-axis Slide

BNE-34SY5 / BNE-51SY5

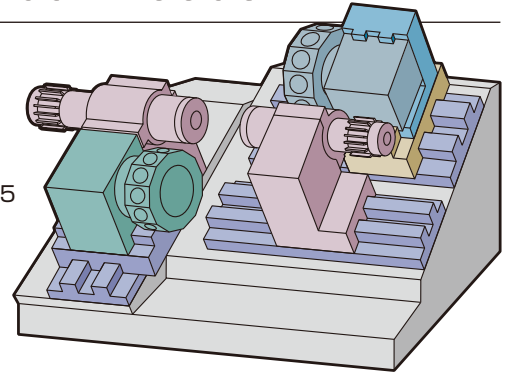


Models And Features Optimized For Your Needs.

Select the models and the options to build a system optimized for your needs.

S type features complete, single-setup machining with L/R spindles, C-Axis and live tools. SY-Type features more sophisticated combined machining with Y-Axis slide. Method of the Y-Axis programming is common with all SY models.

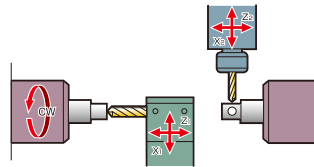
BNE-34SY5 · 51SY5
Machine Schema



Simultaneous Machining To Eliminate Second Operations.

Completes machining made faster by L/R spindles, U/L Turrets, and C/Y-Axis.

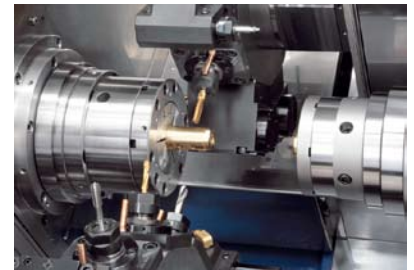
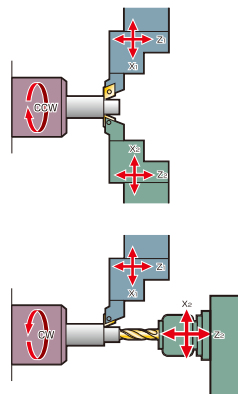
The 2-machine-in-one, 2-spindle/2-Turret design combines all processing within a single machine. This will eliminate the secondary operation and the time loss by part-handling to achieve optimum efficiency.



Powerful, Combined Machining Saves Time.

High-power/speed balanced turning and differential cutting boost efficiency.

"Balance turning", simultaneous turning by the upper/lower turret, and differential cutting will further reduce the cycle time.



Build Your IT System By Ethernet Connection.

Ethernet helps manage the programs and monitor the machine operation.

FANUC Series i NC allows you to connect multiple BNE models to your PCs to manage your programs and monitor the machine operation. Total machine management solutions are provided.

Costs Reduced By Unmanned Operation

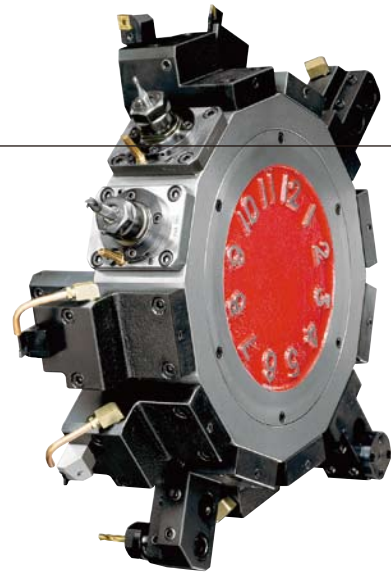
Bar material to finished parts by automatic magazine barfeeder and parts stocker.

Tremendous cost saving can be achieved by using magazine loaded automatic barfeeder, part catcher, and parts stocker. Please see page 6 for details.



12-Station High-rigidity Turrets

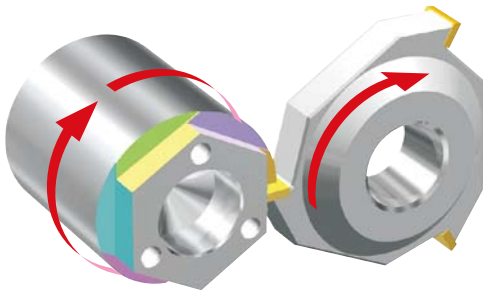
Two turrets are of identical design and accept revolving tools on each of the 12 stations. These turrets also feature large slide and curvic coupling for high-rigidity.



Machining Examples

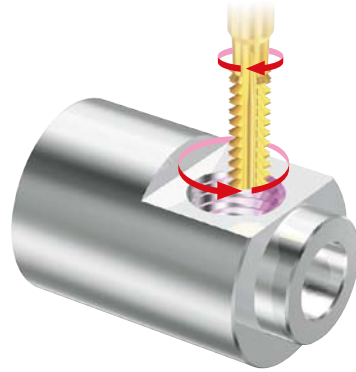
Polygon Cut

By running a polygon-cutter at twice the revolving speed of the main spindle, two-sided, square, or hexagonal machining can be done achieving excellent surface finished.



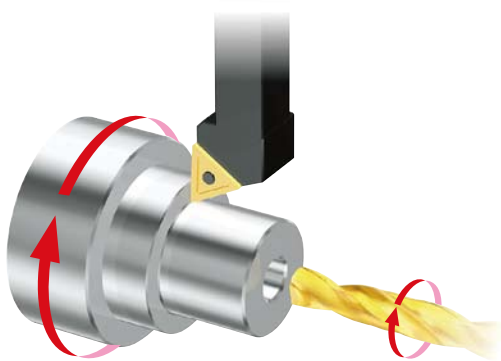
Large Thread, by Helical Interpolation (SY-Type Only)

By using a planetary tap and helical interpolation, large diameter thread-cutting is possible.



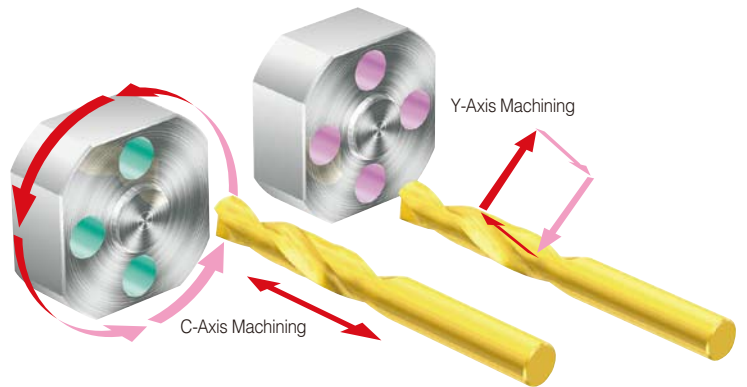
Differential Cut by Revolving Tool

By turning a small drill to the opposite direction against the revolving main spindle, the drill can run at the optimum working speed. A large drill can run at a slower speed by turning the same direction as the main spindle. As a result, tool life is extended and performance is enhanced.



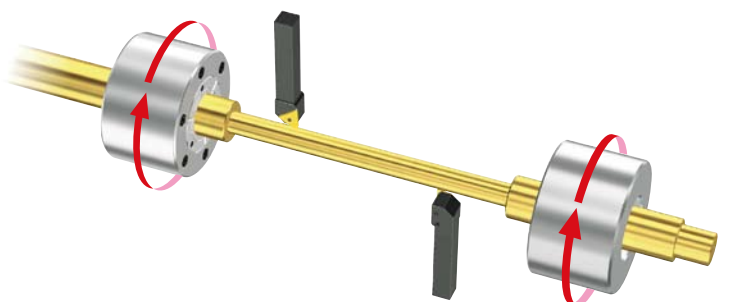
Efficient Cross Hole Machining (SY-Type Only)

Working on X-Y Axis or Z-Y Axis plane by "C" axis can increase cycle times. takes long time to index. Use of Y-Axis slide will help achieve more efficient machining.

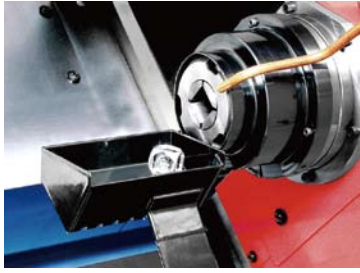


Long Shaft Work

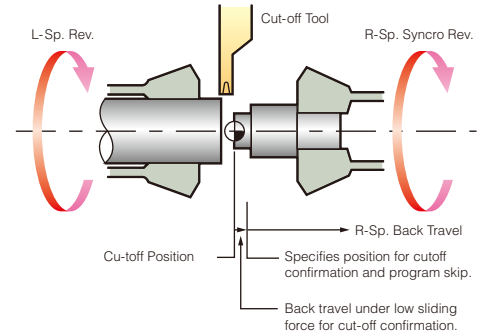
A long-shaft piece, after the first process on the L-spindle, is pulled out by the R-spindle, and the both ends are chucked by the L & R spindles to perform long shaft turning, using the U/L-turrets simultaneously. After the cutoff and the end working on the R-spindle, the finished piece is pushed into the R-spindle by the next workpiece, and is eventually ejected out of the spindle.



A Variety of Options to Meet Your Needs



Part Catcher & Parts Conveyor
Standard bucket-type part catcher receives the workpiece and places it on parts conveyor to carry it to the outside of the machine.



Cutoff Confirmation System

This function confirms by program that the R-spindle can retract with a small amount of thrust command position for the cutoff confirmation and physical interference or machanical breakdown.



Automatic Measuring Device

By placing inside or outside the machine, the device performs automatic geometry offset.



Magazine Loaded Automatic Bar Feeder

A key item to achieve long hours of barwork operation



Parts Stoker with Pallet Changer

The workpiece received from the part catcher is placed in order onto a pallet through a shuttle conveyor. When it's full, the pallet is exchanged automatically.

Chip Conveyor

The device promptly transfers chips to the outside of the machine.



MS Jet

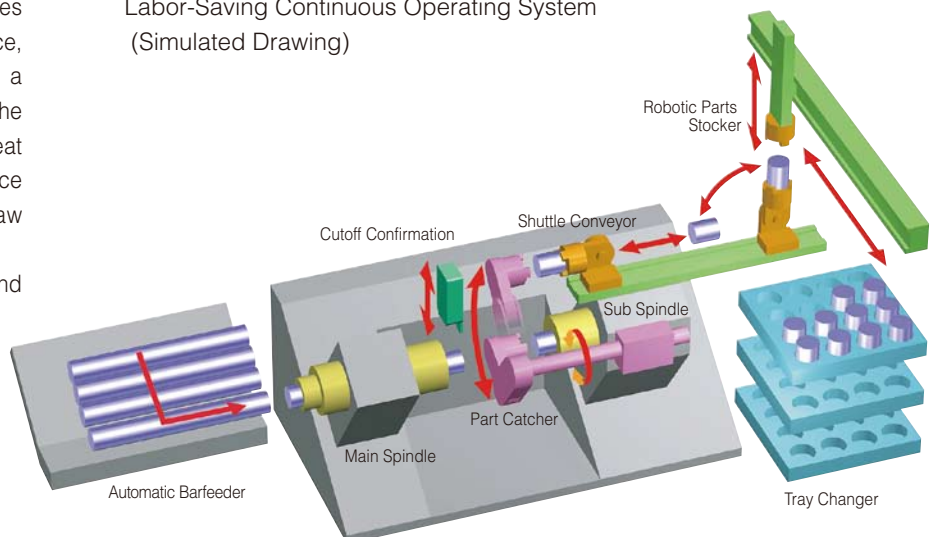
The high-pressure coolant at 6 Mpa extends tool life and forces out the cutting chips.

System to Save Labor

Basic options for barworking system includes automatic bar feeder, cutoff confirmation device, parts catcher and parts conveyor. Additionally, a parts stoker with tray changer which arranges the parts on the tray in an upright position in neat order, as well as an automatic measuring device forms a complete hands-free system from raw material to finished parts.

This helps to achieve an efficient work-flow and eliminates work in progress, Just-in-time.

Labor-Saving Continuous Operating System (Simulated Drawing)



MACHINE SPECIFICATIONS

Items	Model Name	BNE-34S5	BNE-51S5	BNE-34S5s	BNE-51S5s
Machining Capacity & Chuck System					
Max. Bar Capacity	L/R Spindle	$\phi 34/\phi 34$ mm (1.34"D/1.34"D)	$\phi 51/\phi 42$ mm (2.0"D/1.6"D)	$\phi 34/\phi 34$ mm (1.34"D/1.34"D)	$\phi 51/\phi 42$ mm (2.0"D/1.6"D)
Max. Turning Length		90mm(3.54")	90mm(3.54")	90mm(3.54")	90mm(3.54")
Power Chuck & Size	L/R Spindle	5/5" Oil Hyd.	6/5" Oil Hyd.	5/5" Oil Hyd.	6/5" Oil Hyd.
Spindle					
Type of Cilet Chuck		Stationary	Stationary	Stationary	Stationary
Spindle Speed Range	L Spindle	70~7,000min ⁻¹	50~5,000min ⁻¹	70~7,000min ⁻¹	50~5,000min ⁻¹
	R Spindle	50~5,000min ⁻¹	50~5,000min ⁻¹	50~5,000min ⁻¹	50~5,000min ⁻¹
Spindle Motor	L/R Spindle(30min. rat)	7.5/5.5kW	15/5.5kW	7.5/5.5kW	15/5.5kW
R Spindle Slide Travel (B Axis)		450mm(17.72")	450mm(17.72")	450mm(17.72")	450mm(17.72")
Turret					
Type of Turret	Upper/Lower Turret	12St./12St. Turret	12St./12St. Turret	12St./12St. Turret	12St./12St. Turret
Type of Y Axis Slide		Orthogonal Slide	Orthogonal Slide
Tool Shunk Size	Upper & Lower Turret	20mm(3/4" Sq.)	20mm(3/4" Sq.)	20mm(3/4" Sq.)	20mm(3/4" Sq.)
Tool Hole Dia.	Upper & Lower Turret	$\phi 25$ mm(1" Dia.)	$\phi 25$ mm(1" Dia.)	$\phi 25$ mm(1" Dia.)	$\phi 25$ mm(1" Dia.)
Upper Turret Slide Travel	X ₁ Axis Slide	175mm(6.9")	175mm(6.9")	175mm(6.9")	175mm(6.9")
	Z ₁ Axis Slide	380mm(14.97")	380mm(14.97")	380mm(14.97")	380mm(14.97")
	Y Axis Slide	± 40 mm(± 1.58 ")	± 40 mm(± 1.58 ")
Lower Turret Slide Travel	X ₂ Axis Slide	145mm(5.7")	145mm(5.7")	145mm(5.7")	145mm(5.7")
	Z ₂ Axis Slide	175mm(6.9")	175mm(6.9")	175mm(6.9")	175mm(6.9")
Turret Indexing Time	Upper/Lower Turret	0.25/0.25sec./pos	0.25/0.25sec./pos	0.25/0.25sec./pos	0.25/0.25sec./pos
Revolving tools					
No. of Revolving Tool St.	Upper/Lower Turret	12/12	12/12	12/12	12/12
Revolving Tool Speed Range	Upper/Lower Turret	60~6,000min ⁻¹	60~6,000min ⁻¹	60~6,000min ⁻¹	60~6,000min ⁻¹
Drilling Capacity	Upper & Lower Turret	$\phi 16$ mm(0.5" D)	$\phi 16$ mm(0.5" D)	$\phi 16$ mm(0.5" D)	$\phi 16$ mm(0.5" D)
Tapping Capacity	Upper & Lower Turret	M12(5/16-22UN)	M12(5/16-22UN)	M12(5/16-22UN)	M12(5/16-22UN)
Driving Motor Cont/Short Rat.	Upper & Lower Turret	2.2/ 8.3kW	2.2/ 8.3kW	2.2/ 8.3kW	2.2/ 8.3kW
Coolant					
Tank Capacity		350L	350L	350L	350L
Machine Dimensions					
Machine Hight		1,895mm(74.6")	1,895mm(74.6")	2,080mm(81.9")	2,080mm(81.9")
Hight of Spindle Center		1,200mm(47.2")	1,200mm(47.2")	1,200mm(47.2")	1,200mm(47.2")
Floor Space		2,690x2,080mm (105.9"x81.9")	2,690x2,080mm (105.9"x81.9")	2,690x2,080mm (105.9"x81.9")	2,690x2,080mm (105.9"x81.9")
Machine Weight		7,080kg(15,610"Lbs.)	7,080kg(15,610"Lbs.)	7,380kg(16,270"Lbs.)	7,430kg(16,380"Lbs.)
Others					
Splash Guard Interlock, Coolant, Pneumatic Unit, Machine Light					
Options					
Collet Chuck System, Power Chuck System, Cut-off Confirmation, R Spindle Through Coolant & Work Ejector, Air Blow, High Pressure Coolant, Coolant Level Switch, Revolving Tools & Driving Unit, Parts Catcher & Parts Conveyor, Auto Door, Automatic Power Off, Chip Conveyor, Signal Tower (3 Steps), Magazine Bar Feeder.					

Note. The specifications are subject to change without notice. Standard equipment package may vary by region. Machine in photo. may not look exactly the same as the actual products.

NC SPECIFICATIONS

MIYANO-FANUC

Simultaneous control axis	4/3 Axes: 2 System (X1, Z1, X2, Z2, B, Cs1, Cs2-axis)... S Type 5/4 Axes: 2 System (X1, Z1, Y1, A1, X2, Z2, Y2, A2, Cs1, Cs2-axis)... SY Type
Min. input increment	0.001mm, 0.0001inch, 0.001degree
Min. output resolution	X-axis: 0.0005mm, Z-axis: 0.001mm, Cs-axis: 0.01deg., Y-axis: 0.001mm
Parts program storage capacity	64kB (160m tape length), 120 Programs
Spindle function	Spindle speed S5 digits direct specify (G97), Constant cutting speed control (G96),
Cutting feed rate	F3.4 digit direct specify(feed per rev.: mm/rev., feed per min.: mm/min.)
Cutting feed rate override	0~150% (10steps)
Interpolation	G01, G02, G03
Threading	G32, G33 (SY-type), G92
Canned cycle	G90, G92, G94
Work coordinate setting	Automatic setting, 32 sets by the geometry offset function per each system.
Tool selection and work coordinate system selection	Tool and work coordinate system selection 1~32 can be done by the first two digit of the T-4 digit code.
Tool wear offset	Tool wear offset selection Last two digit of the T-4 digit code.
Direct input of the tool position	Measured value can be directly key in.
Manual pulse generator	0.001mm/1pulse (x1 x10 x100 selection)
Automatic operation	1 cycle operation/Continuous operation, Single block operation, Block delete, Machine lock, Optional block skip [J], Dry run. Feed hold.

Others

10.4" color LCD, Decimal point input, Memory protect, Cs-axis control (L/R Spindle), Synchronous mixed control, Polar coordinate interpolation, AC digital servo, Machine alarm display, Absolute position coder, I/O interface (RS-232C, PC card slot)
NC Options
Chamfering/Corner R, Tool nose R compensation, Multi-repetitive canned cycle (G70~G76), Drilling canned cycle (G80~G86), Run hour/Parts number countering, Background editing, Additional tool wear off-set (Total: 64 pairs), Additional parts program storage (Total: 320m, 640m, 1,280m, 2,560m), Programmable data input (G10), Tool life management system, Retrace Function on a tool path, Custom Macro B, Cylindrical interpolation (for Cs-axis), Continuous multi-lead thread cutting, Variable lead threading, Rigid tapping function at L/R-spindle/Revolving tools (Include drilling canned cycle), Helical interpolation, Polygon Turning function, Direct drawing dimension input, Superpose feed function A



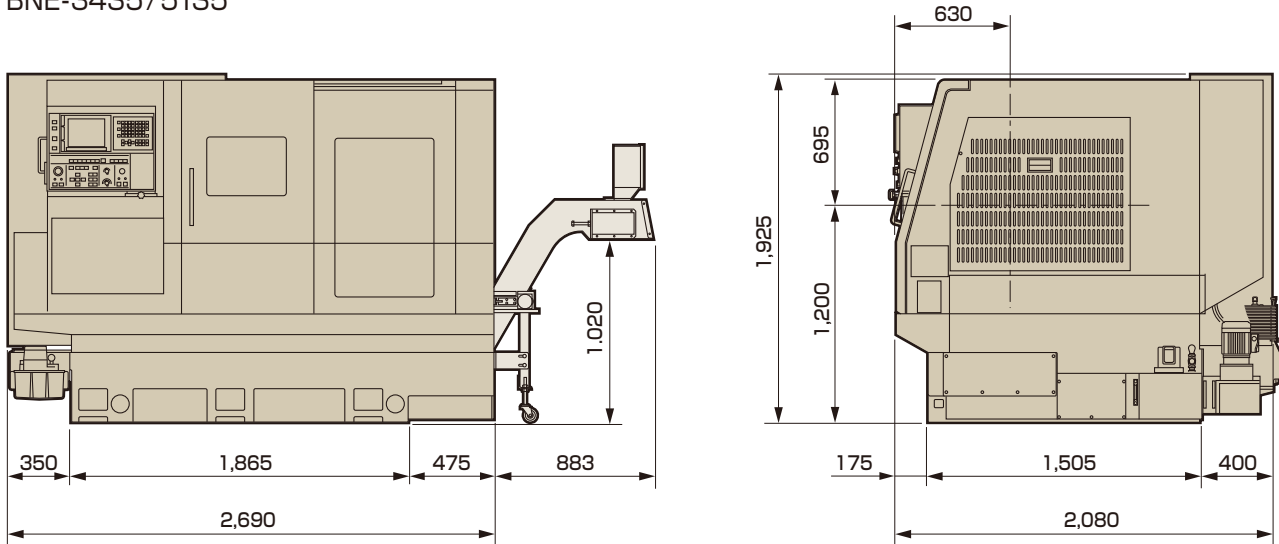
NC Operation Panel



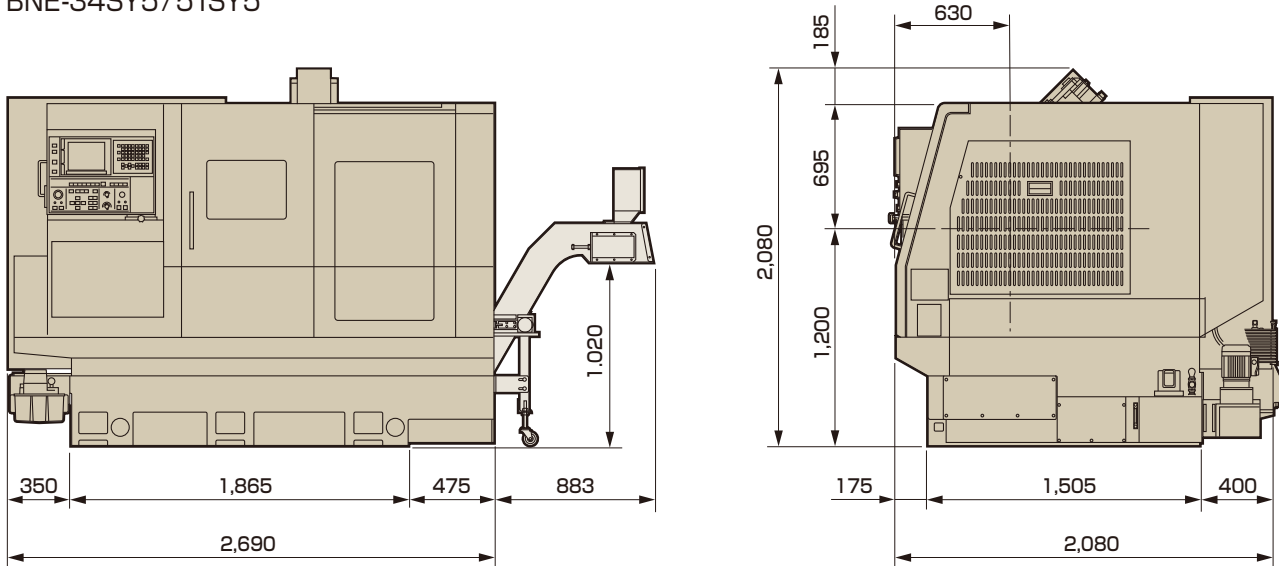
Data I/O with laptop PC

EXTERNAL VIEW

BNE-34S5/51S5



BNE-34SY5/51SY5



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	SOUTH ASIA	CITIZEN MACHINERY ASIA CO.,LTD. 69 Moo 1 Phaholyothin Road, Sanubtube, Wang Noi, Ayutthaya 13170, THAILAND	TEL.66-35-721-833 FAX.66-35-721-835
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