

# NBP SERIES VERTICAL MACHINING CENTER

▲ GEAR SPECIFICATIONS

MODEL	UNIT	NBP-1000 A		NBP-1100 A		NBP-1300 A			
		BT-40	BT-50	BT-40	BT-50	BT-40	BT-50		
<b>TRAVEL</b>									
X Axis Travel	mm	1,000		1,100		1,300			
Y Axis Travel	mm	610		610		610			
Z Axis Travel	mm	600		600		600			
Spindle Nose to Table Surface	mm	110 - 710		125 - 725		125 - 725			
Spindle Center to Column Surface	mm	660		660		660			
Table Surface to Floor	mm	985		860		860			
Table Center to Column Surface	mm	355 - 965		355 - 965		355 - 965			
<b>TABLE</b>									
Table Dimension	mm	1,150 x 600		1,300 x 600		1,500 x 600			
Max.Loading Weight	kg	1,000		1,300		1,300			
T-Slots (W x No. x P)	mm	18 x 5 x 100		18 x 5 x 100		18 x 5 x 100			
<b>SPINDLE</b>									
Spindle Speed	rpm	10,000 (*8,000)	4,000(*8,000)	10,000 (*8,000)	4,000(*8,000)	10,000 (*8,000)	4,000(*8,000)		
Spindle Nose		7 / 24 taper NO.40	7 / 24 taper NO.50	7 / 24 taper NO.40	7 / 24 taper NO.50	7 / 24 taper NO.40	7 / 24 taper NO.50		
Dia. of Spindle	mm	Ø70(*Ø85)	Ø100(*Ø85)	Ø70(*Ø85)	Ø100(*Ø85)	Ø70(*Ø85)	Ø100(*Ø85)		
Spindle Motor	kW	7.5 / 11	15/18.5	7.5 / 11	15/18.5	7.5 / 11	15/18.5		
<b>FEEDRATE</b>									
Rapid Traverse X Axis	m/min	24		24		24			
Rapid Traverse Y Axis	m/min	24		24		24			
Rapid Traverse Z Axis	m/min	24		24		24			
<b>AUTOMATIC TOOL CHANGER</b>									
Tool Changer		Arm Type		Arm Type		Arm Type			
No. of Tools		24	24	24	24	24	24		
Pull Stud		P-40T (45°)	P-50T (45°)	P-40T (45°)	P-50T (45°)	P-40T (45°)	P-50T (45°)		
Max. Tool Weight	kg	8	15	8	15	8	15		
Max. Tool Length	mm	300	350	300	350	300	350		
Max. Tool Diameter	mm	Ø80	Ø100	Ø80	Ø100	Ø80	Ø100		
Max. Tool Diameter (No Adjacent Tool)	mm	Ø150	Ø200	Ø150	Ø200	Ø150	Ø200		
Tool Changing Time (Tool To Tool)	sec / Hz	1.7/60	2.0/50	3.5/60	5.0/50	1.7/60	2.0/50	3.5/60	5.0/50
<b>OTHER</b>									
Floor Space	mm	3,290 X2,290		3,410 X 2,685		3,650 x 2,740			
Machine Weight	kg	7,000		7,500		8,000			
Max. Machine Height	mm	2,900 (*3,030)	3,135(*3,030)	2,700(*2,930)	3,035(*2,930)	2,700(*2,930)	3,035(*2,930)		
Power Capacity	KVA	30		30		30			
Air Source	bar	6 ~ 8		6 ~ 8		6 ~ 8			

\* Specifications are subject to change without notice.



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Website



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# NBP SERIES

Vertical Machining Center (Box way)





# FEELER NBP Series VMC with BOX WAYS ON THREE AXES PERFORMS PERFECTLY

Engineered to Optimize Machining Efficiency and Stability

## Rugged! Heavy! Precise!

Lowering production costs while upgrading productivity is the solution to stay competitive in today's seriously competitive environment. With the **NBP** series vertical machining center from **FEELER**, you can achieve your expectation. These ruggedly built machines are designed with extra wide box ways on three axes, which will provide exceptionally, fast heavy cuts.

● **NBP-1100A**



● **NBP-1300A**





# THREE AXES BOX WAYS

Built for Heavy Cutting with Stability



Massive, rugged, and precise design built for accurate production work for years! The Feeler NBP series is especially ideal for the task required for efficiency and accuracy.

- The machine structure and major parts are manufactured from Meehanite cast iron for outstanding material stability and assure long-term deformation-free performance.
- Extra wide box ways on three axes guarantee exceptional stability and rigidity.
- Box ways are hardened, precisely ground and coated with Turcite-B for maximum wear resistance and lifetime accuracy.
- The entire machine construction is subjected to ANSYS and NASTRAN Finite Element Analysis to achieve optimum rigidity and stability.
- The column bottom is specially designed with A-shaped structure.
- Servomotor directly drives ball screws. Ball screws are pre-tensioned, ensuring rigidity and accuracy for feeding transmission system.
- Increased Z-axis motor horsepower combined with brake increases circularity accuracy on Z-axis, and eliminates structural vibration caused by counter-balance weight.

## NBP-1000A



## NBP-1100 / 1300

Rugged, Massive Base Construction with 4 Box Ways

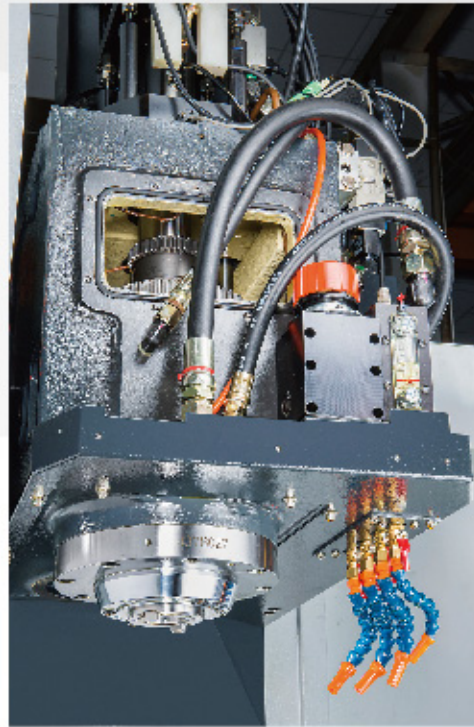
- The ruggedly constructed base is designed with 4 box ways for extra firm support of heavy load.
- Way surfaces are hardened, precisely ground and coated with Turcite-B for maximum wearing resistance.
- Oversized box ways with extra wide span between ways for added stability.

## CHIP CONVEYOR (OPT.)

Various types of chip conveyors.

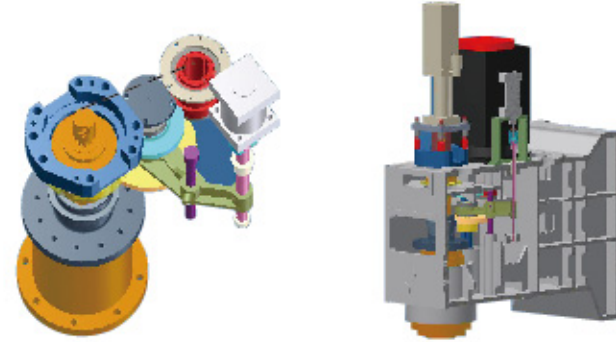


# GEAR DRIVE TRANSMISSION (OPT.)



Outstanding Features, Displaying Extraordinary Performance

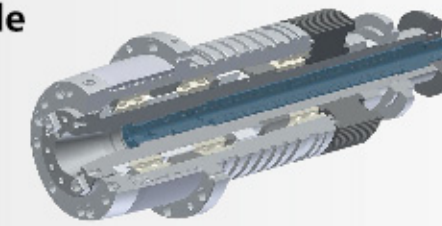
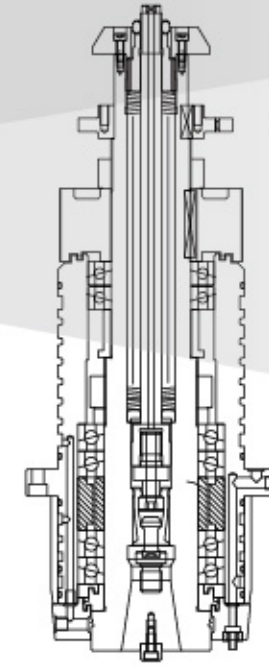
Large machining size  
Low speed for heavy cutting;  
high speed for finish accurate cutting



# Rigorous Spindle Vibration Control is Unmatched by Competitors

2  $\mu$ m  
Spindle Side

1  $\mu$ m  
Spindle Front



Utilizing a high-rigidity spindle greatly increases the metal removal rate. FEELER's performance-proven spindle design also improves the machining accuracy and extends operational life!

Direct Drive

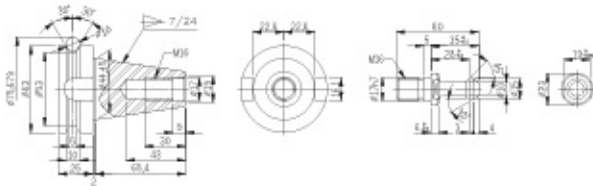


Belt Drive

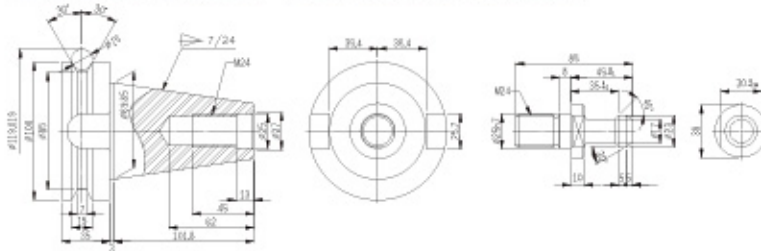


## TOOLING SYSTEM

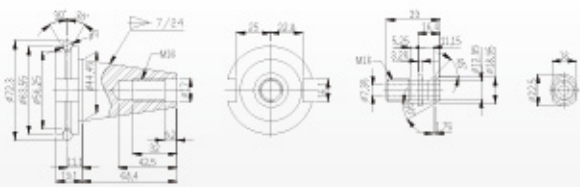
BT-40  
MAS 403 BT-40 SHANK + MAS 403 BT40 PULL STUD



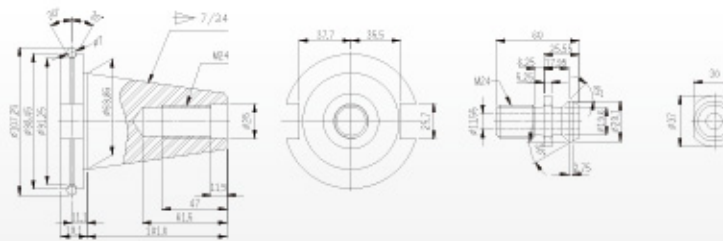
BT-50  
MAS 403 BT-50 SHANK + MAS 403 BT50 PULL STUD



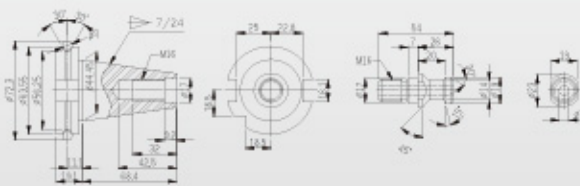
ANSI / ASME B5.50 CAT-40  
ANSI / ASME B5.50 SHANK+PULL STUD



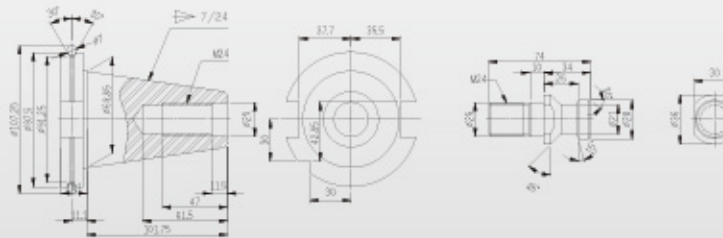
ANSI / ASME B5.50 CAT-50  
ANSI / ASME B5.50 SHANK+PULL STUD



DIN SK-40  
DIN 69871 SHANK + DIN 69872 PULL STUD



DIN SK-50  
DIN 69871 SHANK + DIN 69872 PULL STUD



## Arm-Type ATC

The 24-tool arm-type ATC features random tool selection for quick and smooth tool changing. After tool changing is accomplished, the ATC directly selects an empty pocket for loading tool without ATC rotation to search for an empty pocket. This elevates tool changing efficiency.

## Dependable, Efficient ATC

FEELER'S ATC designs are all subjected to 1 million cycles of continuous tests for durability and stability to assure maximum dependability of operational performance.

## PRECISE BALLSCREWS

Pretensioned ballscrews on X, Y, Z axes ensure accuracy and eliminate positioning error.

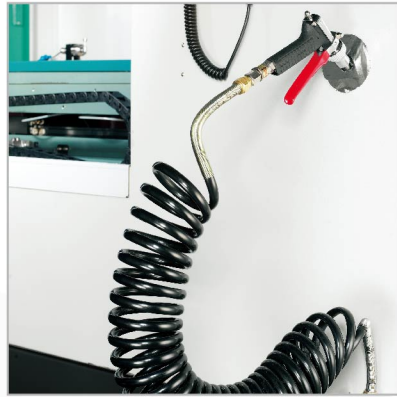


Powerful flushing system can quickly and efficiently remove metal chips.(OPT.)



2 sided chip screws. (OPT.)





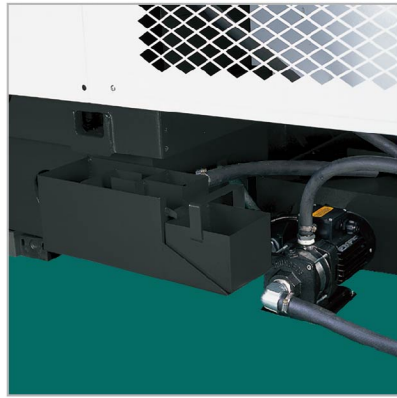
## SPARE AIR AND COOLANT GUN CONNECTION

The machine provides spare ports for future connection of air and coolant gun.



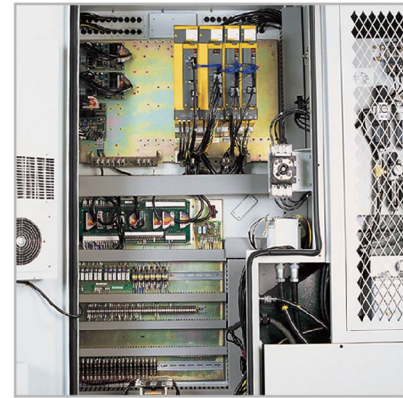
## SEE-THROUGH WINDOW

The see-through window on the spindle head cover provides convenient checking and maintenance.



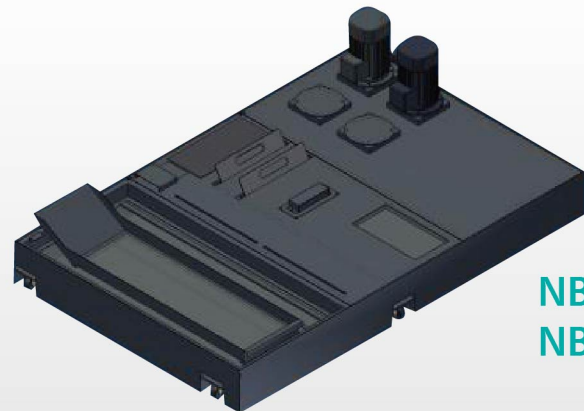
## OIL / COOLANT SEPARATION DEVICE

Mounted at the side of the base, the oil/coolant separation device does not require additional leveling adjustment.



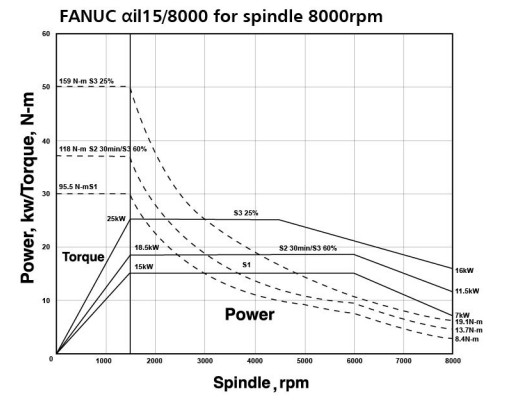
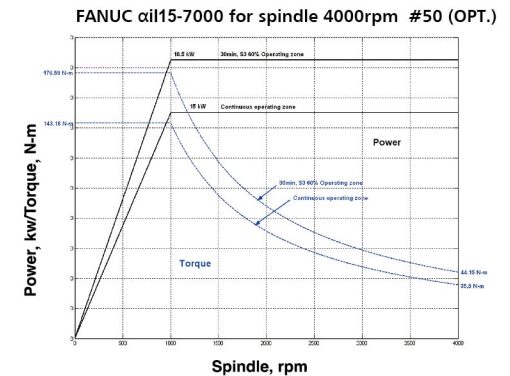
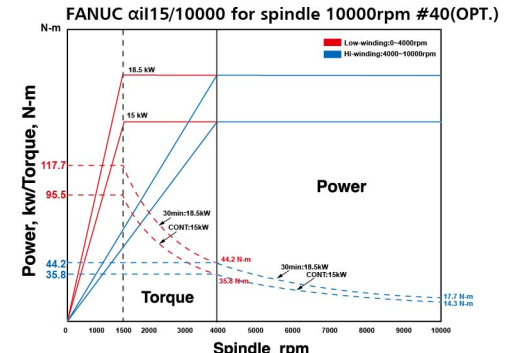
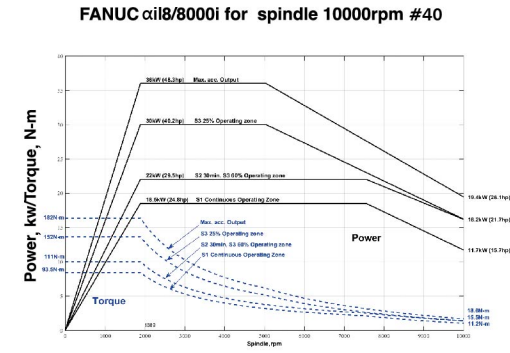
## DUST-PROOF ELECTRICAL CABINET

The control circuit employs high quality electronic components. The electrical cabinet is dustproof. All wire through-holes are protected by water-resistant fittings to prevent oil moisture from entering. This extends electronic part's service life and assures maximum dependability.



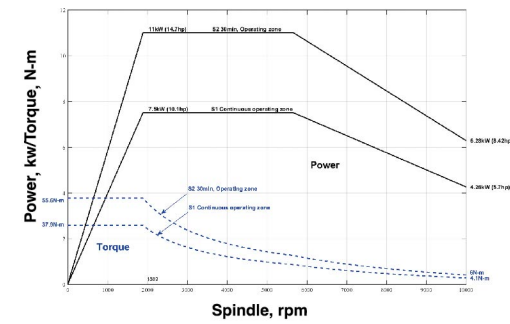
NBP-1000 : 250L  
NBP-1100/1300 : 290L

## SPINDLE SPEED / POWER OUTPUT DIAGRAM FANUC

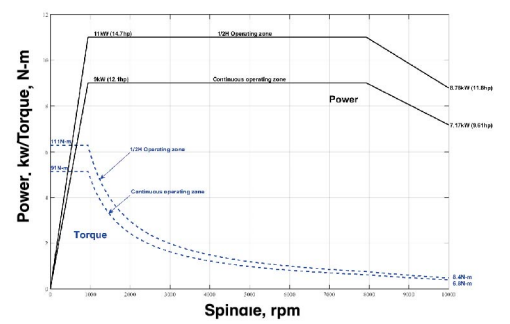


## MITSUBISHI

MITSUBISHI SJ-D11/80-01-C 8000rpm for spindle 10000rpm #40

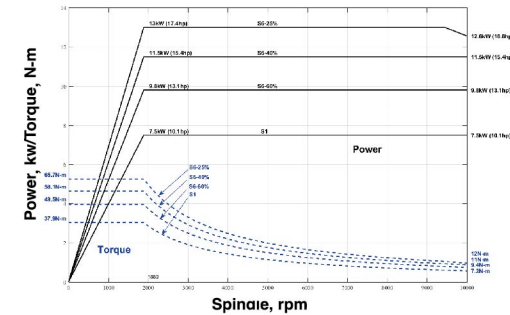


MITSUBISHI SJ-V18.5-03ZT 8000rpm for spindle 10000rpm #40 (OPT.)

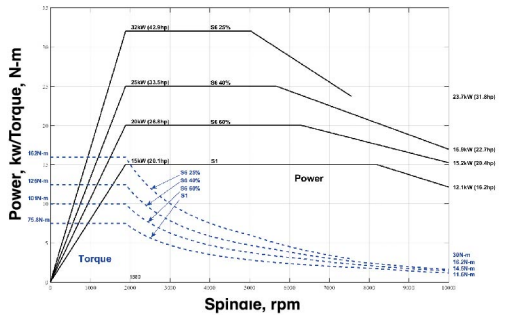


## HEIDENHAIN

HEIDENHAIN QAN200L for spindle 10000rpm #40

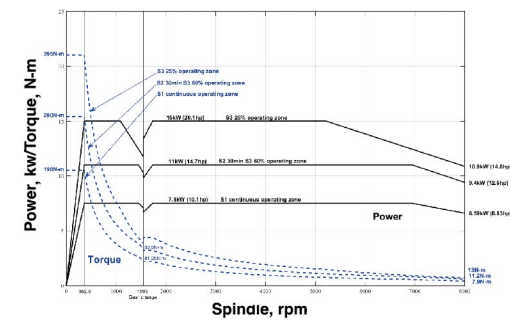


HEIDENHAIN QAN260M for spindle 10000rpm #40 (OPT.)

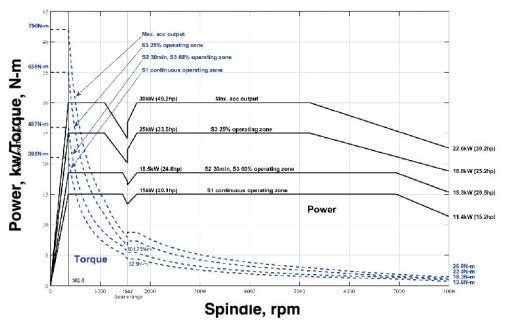


## GEAR DRIVE SPINDLE

FANUC αi18-8000i(7000rpm) for Gear and Spindle 8000 for #40-8000rpm (OPT.)

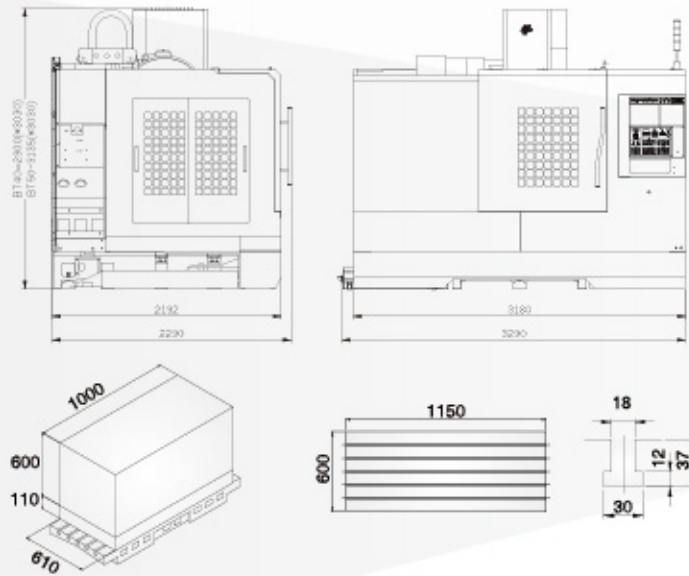


FANUC αi15-7000i for Gear and Spindle 8000 for #50 dia 85mm (OPT.)

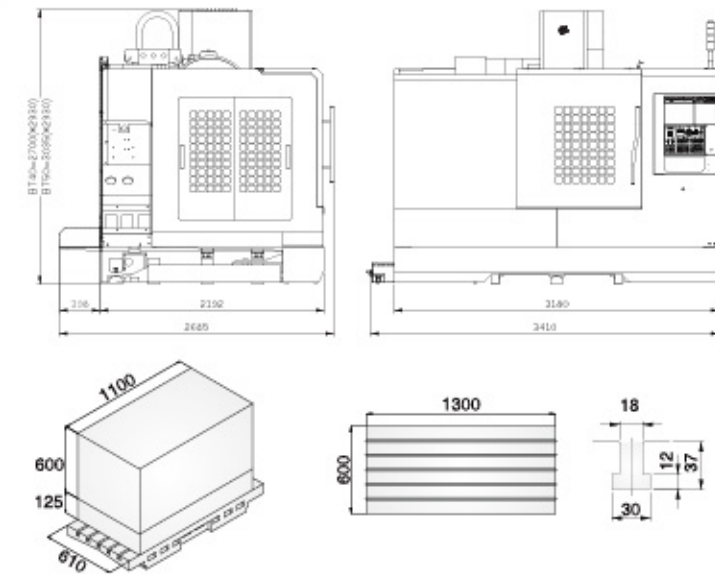


## MACHINE DIMENSIONS & TABLE DIMENSIONS & WORKING CAPACITY

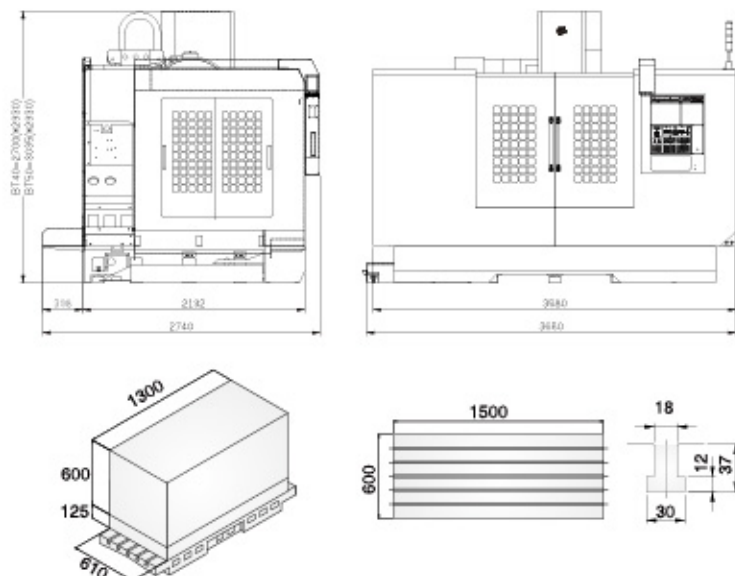
### NBP-1000 A



### NBP-1100 A



### NBP-1300 A



## MACHINE ACCESSORIES

Item	NBP-1000A	NBP-1100A	NBP-1300A
Pretensioned 3-axis ball screws	●	●	●
Automatic lubrication system	●	●	●
Spindle air sealing	●	●	●
Spindle coolant nozzle	●	●	●
Spindle air blast	●	●	●
Balance assembly - Gear and Spindle drive	●	●	●
Dust-proof electrical cabinet	●	●	●
Heat exchanger for electrical cabinet	●	●	●
Levelling bolts and plates	●	●	●
Enclosed splash guard	●	●	●
Operation and maintenance manual	●	●	●
Belt-drive spindle 10,000(#40) + 4,000rpm(#50)	●	●	●
Oil-water separator	●	●	●
Work light	●	●	●
3-Color signal light	●	●	●
Rigid tapping	●	●	●
RS232 interface	●	●	●
Ethernet interface	●	●	●
Spindle oil cooler	○	○	○
Air condition for electrical cabinet	○	○	○
Belt-drive spindle 12,000rpm(#40) + 6,000/8,000rpm(#50)	○	○	○
Spindle with gear box 8,000rpm(#40) + 6,000rpm(#50)	○	○	○
Spindle gear head 8,000rpm(#40/#50)(Counter - balance assembly)	○	○	○
C.T.S Interface	○	○	○
C.T.S with filter system (top roof must included)	○	○	○
Top roof	○	○	○
30/50T(#40) + 30T(#50)	○	○	○
CAT / DIN / HSK tooling system	○	○	○
Oil skimmer	○	○	○
Air gun / Coolant gun	○	○	○
Y-axis rear chip flushing system	○	○	○
Chip flushing system	○	○	○
High pressure coolant pump	○	○	○
Chip screws- Inside the machine	○	○	○
Screw type chip conveyor - Front, Left side / Right side discharge & Chip bucket	○	○	○
Chip Conveyor - Front, Left side / Right side discharge & Chip bucket	○	○	○
Chip Conveyor- Front side / Rear side chip flushing system	○	○	○
3-axes linear scale	○	○	○
4th or 4/5 axis preparation or rotary table package	○	○	○
Auto tool length measurement and breakage detection	○	○	○
Auto workpiece measurement	○	○	○
Transformer	○	○	○

●:Standard ○: Optional N/A: Not available