

# NBP SERIES VERTICAL MACHINING CENTER

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		10,000		10,000	
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		Ø70	Ø100	Ø70	Ø100	Ø70	Ø100
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		Carrousel(Arm)		Carrousel(Arm)		Carrousel(Arm)	
No. of Tools		22 (24)	22 (24)	22 (24)	22 (24)	22 (24)	22 (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)	Carrousel	sec / Hz	7 / 60 7.1 / 50	3.5 / 60	7 / 60 7.1 / 50	3.5 / 60	7 / 60 7.1 / 50
	Arm	sec / Hz	1.7 / 60 2.0 / 50		1.7 / 60 2.0 / 50		1.7 / 60 2.0 / 50
<b>OTHER</b>							
Floor Space	mm	3,290 x 2,290		3,410 x 2,290		3,650 x 2,340	
Machine Weight	kg	7,000		7,500		8,000	
Max. Machine Height	mm	2,900	3,135	2,700	3,035	2,700	3,035
Power Capacity	KVA	25		25		25	
Air Source	bar	6 ~ 8		6 ~ 8		6 ~ 8	

\* Specifications are subject to change without notice.

## STANDARD ACCESSORIES

- \* Automatic Lubrication System
- \* Spindle Air Sealing
- \* 3-axis Pro-tensioned Ballscrew
- \* Rigid Tapping
- \* Heat Exchanger
- \* Dust-proof Electrical Cabinet
- \* 3-color Signal Light
- \* Levelling Bolts & Plates
- \* Operation & Maintenance Manual
- \* Water-oil Separator
- \* Enclosed Splash Guard
- \* Belt Type Transmission
- \* Spindle Air Blast
- \* RS-232 Interface
- \* Working Light

## OPTIONAL ACCESSORIES

- \* Workpiece Measurement
- \* Chip Conveyor or Chip Screw
- \* Auto Tool Length Measurement & Breakage Detection
- \* Coolant Gun
- \* Coolant through Spindle Form A
- \* 3-axis Linear Scale
- \* Spindle Oil Cooler
- \* Rear Flushing
- \* 12000 rpm Belt type Spindle
- \* 12000 / 15000 rpm DDS Spindle
- \* 30 Nos. ATC
- \* 4TH or 5TH Axis Preparation or Rotary Table Package
- \* Deep Hole Adaptor
- \* Transformer
- \* ZF 2-stage Gear Box
- \* Air condition
- \* High Pressure Coolant Pump
- \* CAT / DIN Tooling System
- \* Gear Transmission



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www.feeler.com



# 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

NBP-1300A



## 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.

# 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-1000



## NBP-1100 / 1300

### Rugged, Massive Base Construction with 4 Box Ways

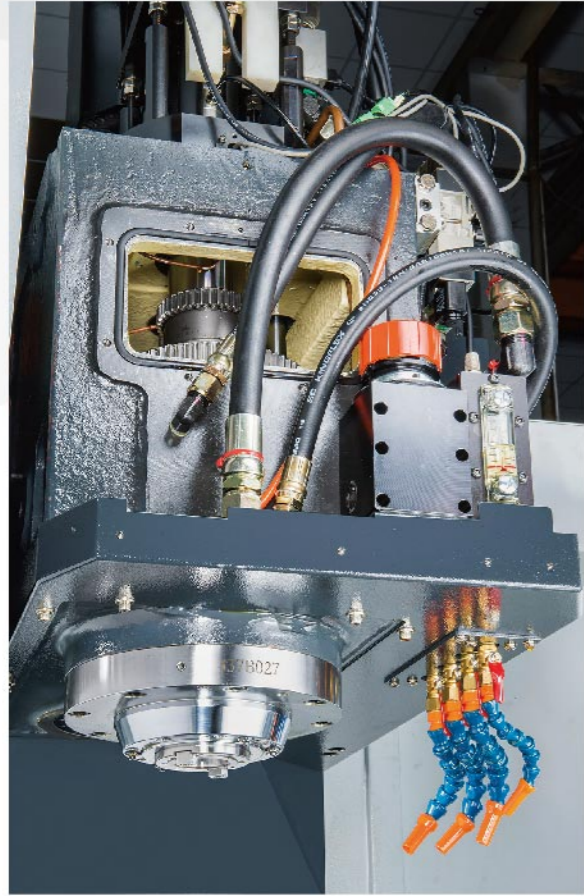
- The ruggedly constructed base is designed with 4 box ways for extra firm support of heavy load.
- Way surfaces are hardened, precisely ground and coated with Turcite-B for maximum wearing resistance.
- Oversized box ways with extra wide span between ways for added stability.

### CHIP CONVEYOR (OPT.)

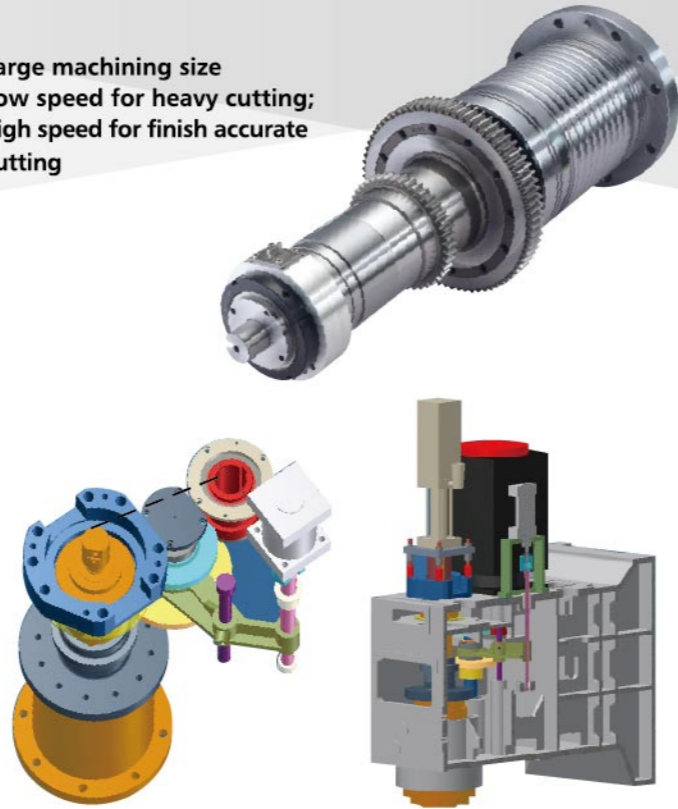
Various types of chip conveyors.

# GEAR DRIVE TRANSMISSION (OPT.)

Outstanding Features, Displaying Extraordinary Performance



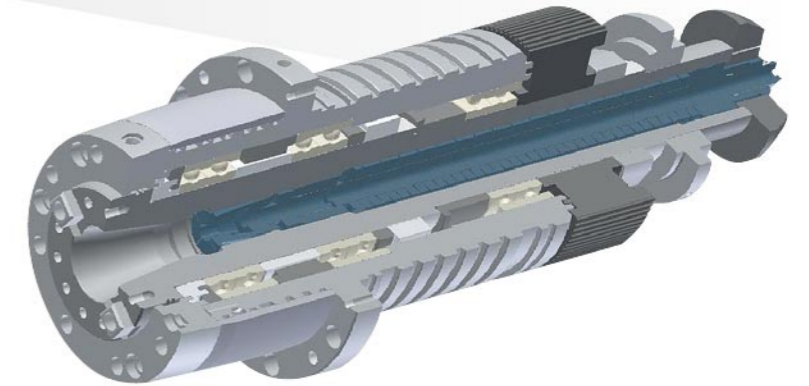
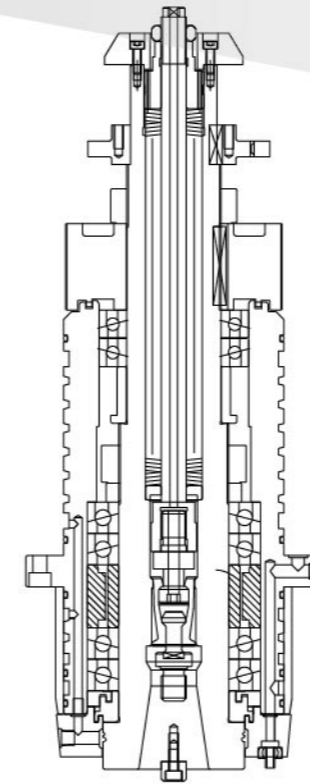
Large machining size  
Low speed for heavy cutting;  
high speed for finish accurate cutting



Rigorous Spindle Vibration Control is Unmatched by Competitors

**2 μm** Spindle Side

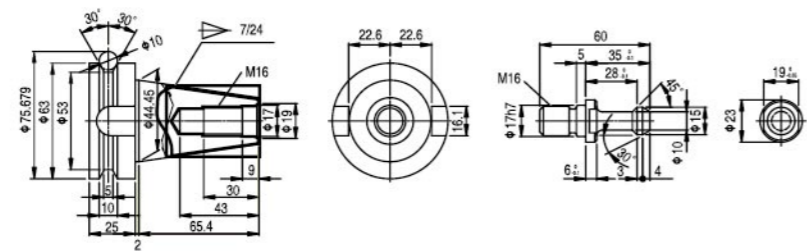
**1 μm** Spindle Front



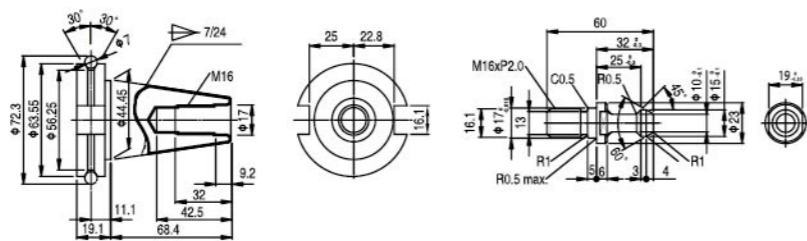
Utilizing a high-rigidity spindle greatly increases the metal removal rate. FEELER's performance-proven spindle design also improves the machining accuracy and extends operational life!

## TOOLING SYSTEM

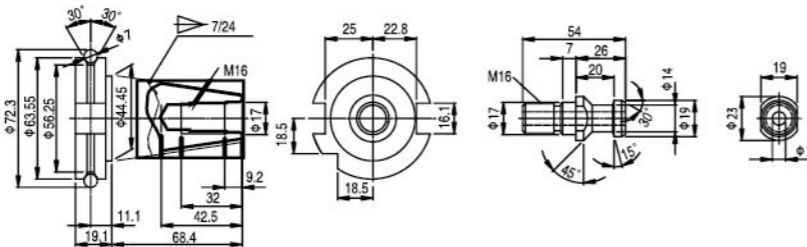
BT-40



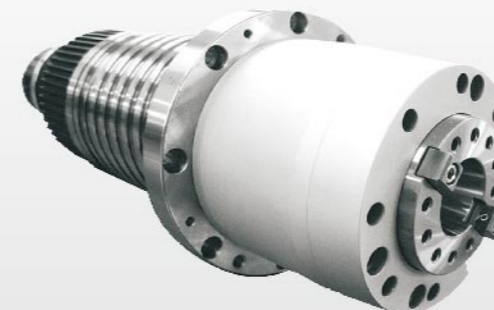
CAT-40



DIN-40



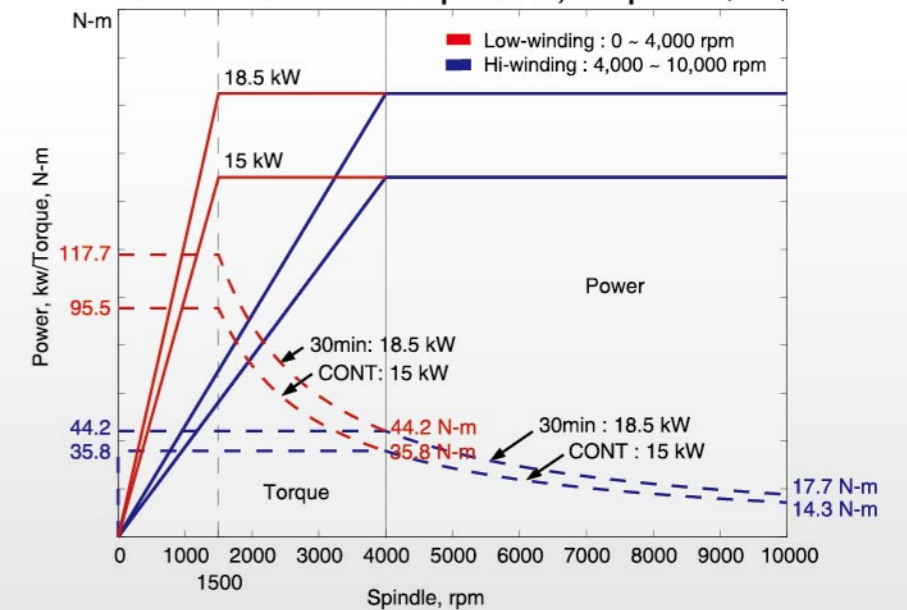
Direct Drive



Belt Drive

## Spindle Speed / Torque Diagram

FANUC α 15/10000i for spindle 10,000 rpm (OPT.)





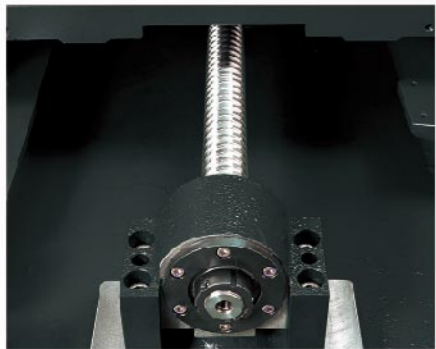
### Carousel Type ATC

The carousel type tool changer with capacity of 22 tools meets flexible machining requirements for molds and parts production.



### 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.(STD.)



2 sided chip screws. (STD.)



### 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.



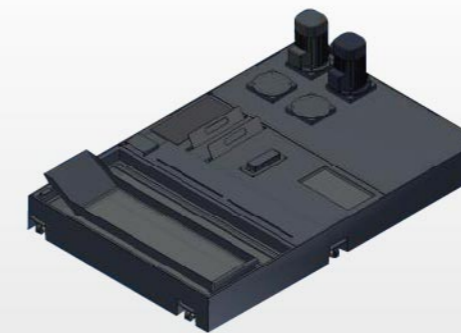
### OIL / COOLANT SEPARATION DEVICE

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

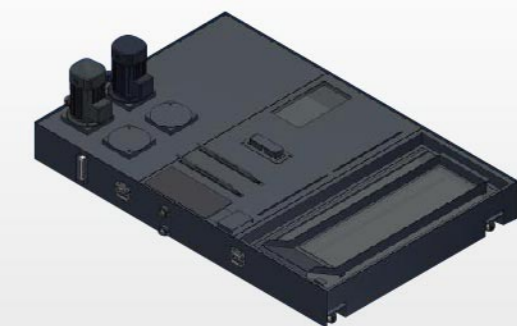


### DUST-PROOF ELECTRICAL CABINET

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.



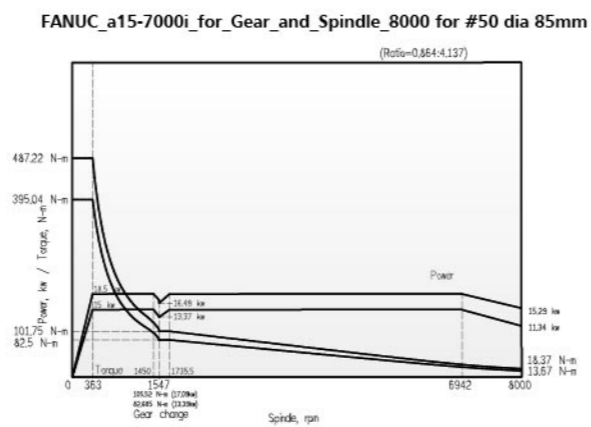
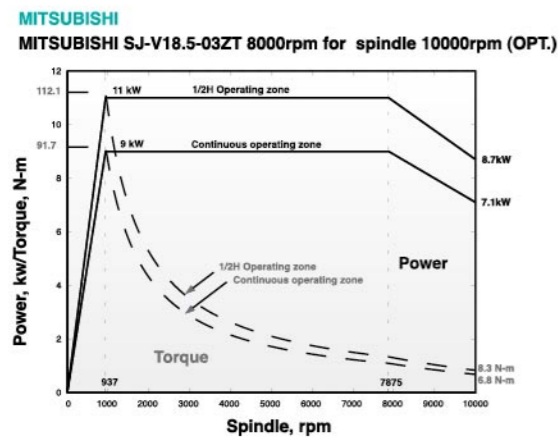
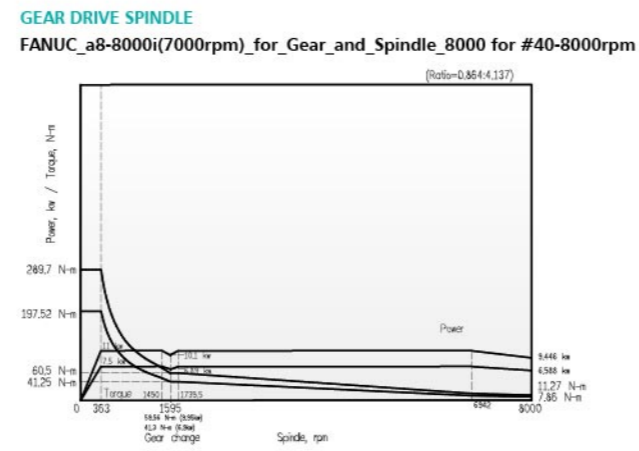
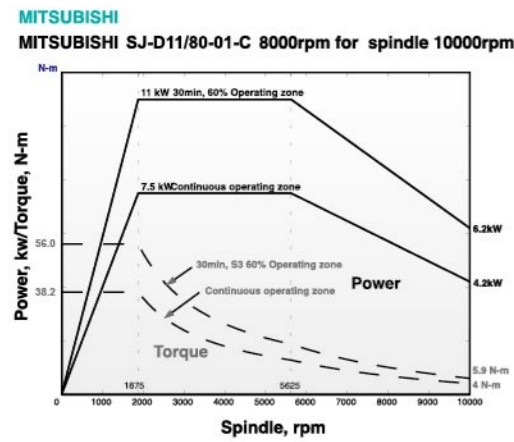
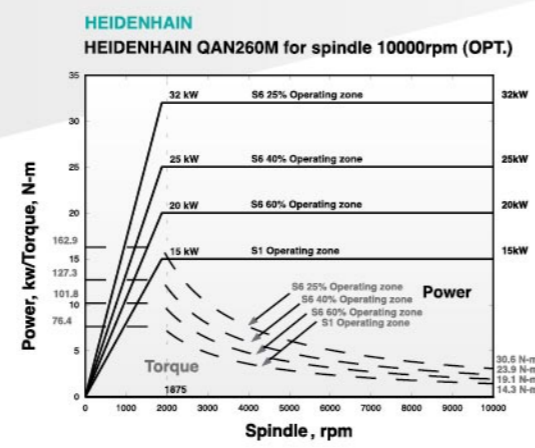
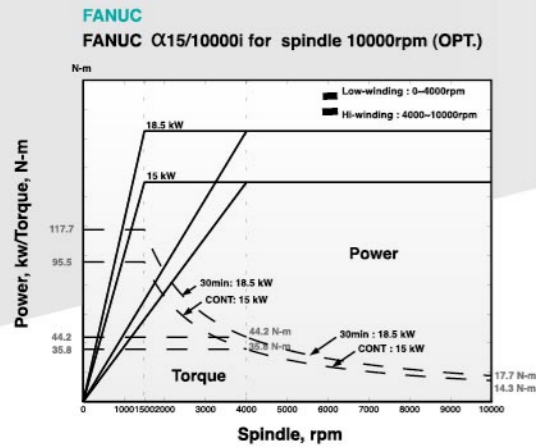
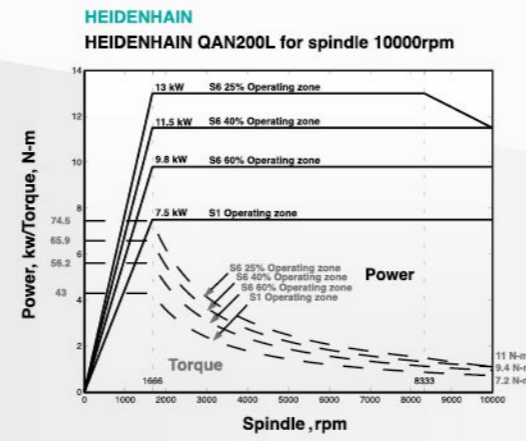
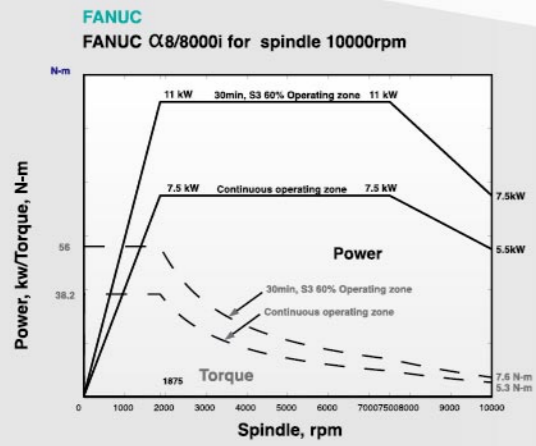
NBP-1100/1300 : 290L



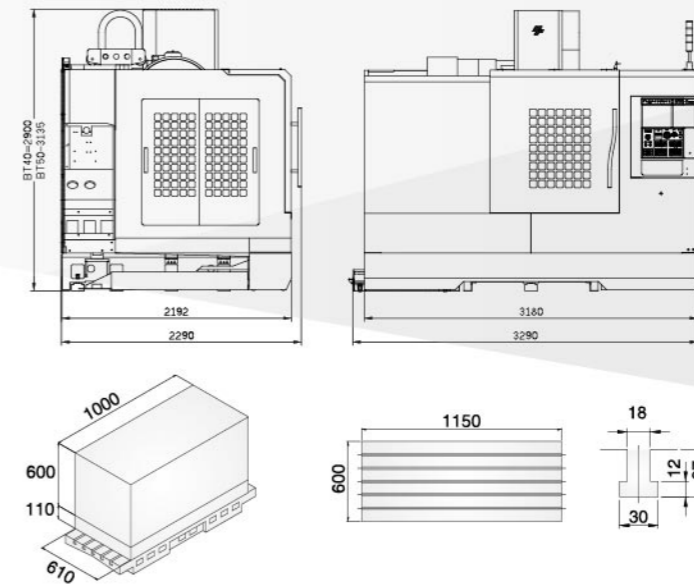
NBP-1000 : 250L

## SPINDLE SPEED / POWER OUTPUT DIAGRAM

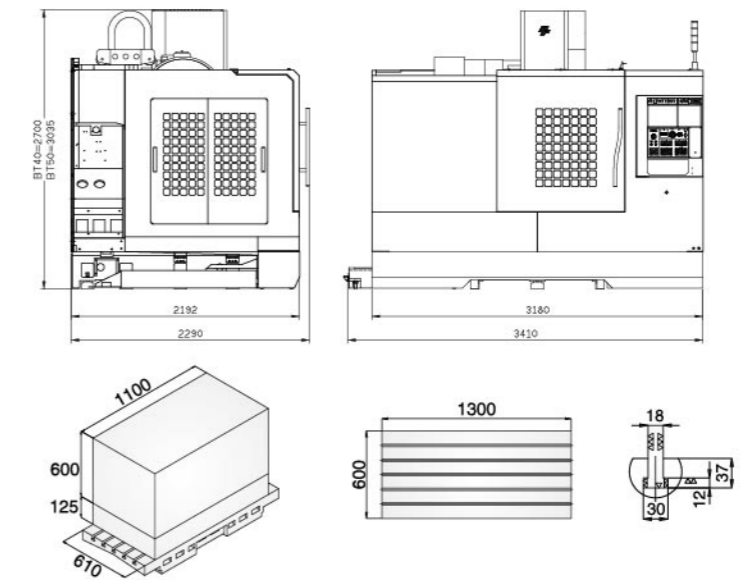
## MACHINE DIMENSIONS & TABLE DIMENSIONS & WORKING CAPACITY



NBP-1000 (A)



NBP-1100 (A)



NBP-1300 (A)

