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ISO 9001



ISO 14001



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NVP SERIES

Ultra Performance Bridge Type Machining Center



AWEN®

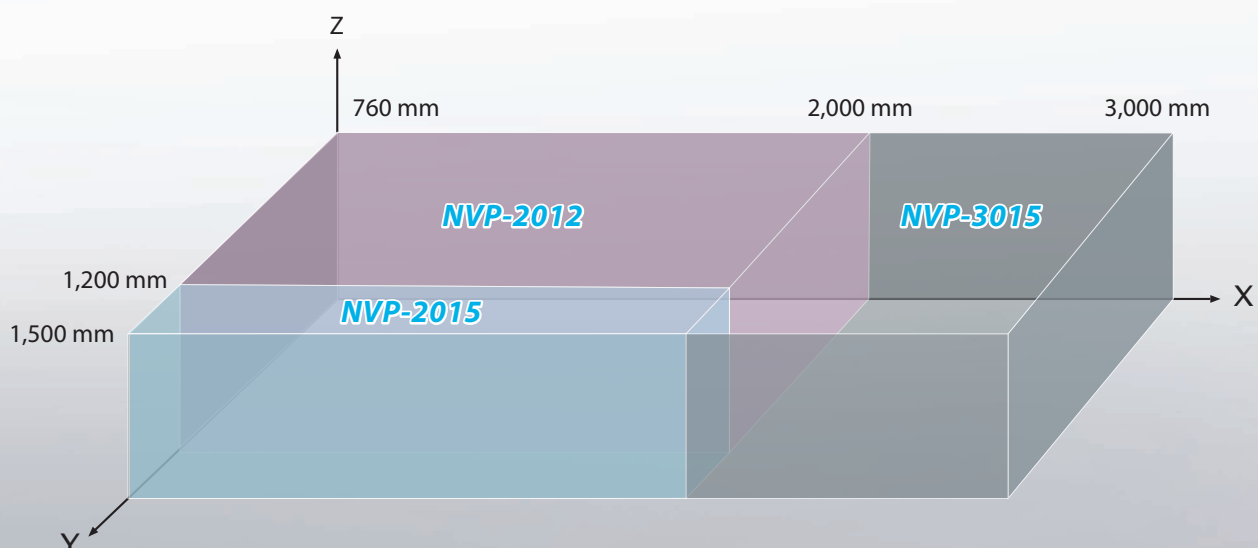
THE ULTIMATE MACHINING POWER



Ultra Performance Bridge Type Vertical Machining Center

Introducing AWEA with mature manufacturing abilities and advanced technology skills, the NVP series bridge type vertical machining centers combine advanced concept of design and stable machine structure provide you The Ultimate Machining Power at the most compact floor space. It is one of the most cost-effective models. All series are adopted with modular design, the full product line provides you high performance, high productivity machining solutions to meet your demands of today and tomorrow. It can be broadly applied in the automotive, precision die & mold, aerospace, and energy industries, etc.

NVP Series Product Map (X / Y / Z axes travel)



NVP Series 2012 / 2015 / 3015

Ultra Performance Bridge Type Vertical Machining Center

Thanks to our advanced developing skills and strict assembly process, gives the NVP series ultra performance bridge type vertical machining center optimum rigidity, accuracy and efficiency.

- The modular spindle design provides cutting flexibility for various working conditions.
- Super rigidity linear guide ways on the X, Y axes.
- The Z-axis is adopted with super rigidity box way which is hardened and precisely ground suitable for heavy-duty cutting conditions. (Opt. : The Z-axis can be adopted with roller type linear guide ways if equipped with high speed direct-driven spindle.)



- Optional long nose spindle provide stronger cutting rigidity with reduced tool extension.





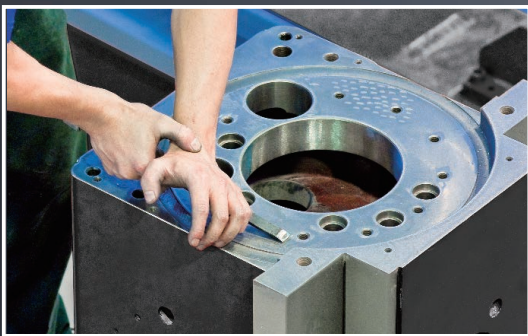
NVP-2015
(X: 2,000 / Y: 1,500 / Z: 760 mm)

NVP Series 2012 / 2015 / 3015

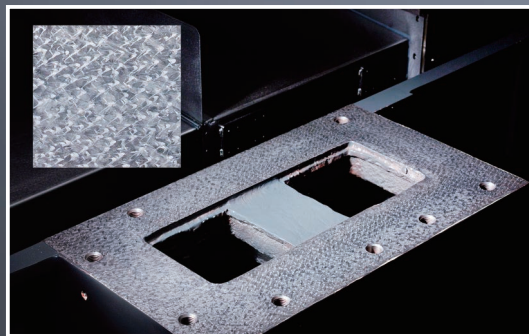
Ultra Performance Bridge Type Vertical Machining Center

Super Rigidity Structure

- The Finite Element Methods (FEM) provides optimum machine design and light-weighted structure advantages while ensuring best machine rigidity.
- Optimized bridge and base casting structure with hand scraped contact surfaces ensure optimum assembly precision, structural rigidity and load balancing.
- Rib reinforced working table restrains vibration while increasing machining stability.



■ Precision Hand Scraping



■ The contact area between columns and bed are precisely hand scraped.



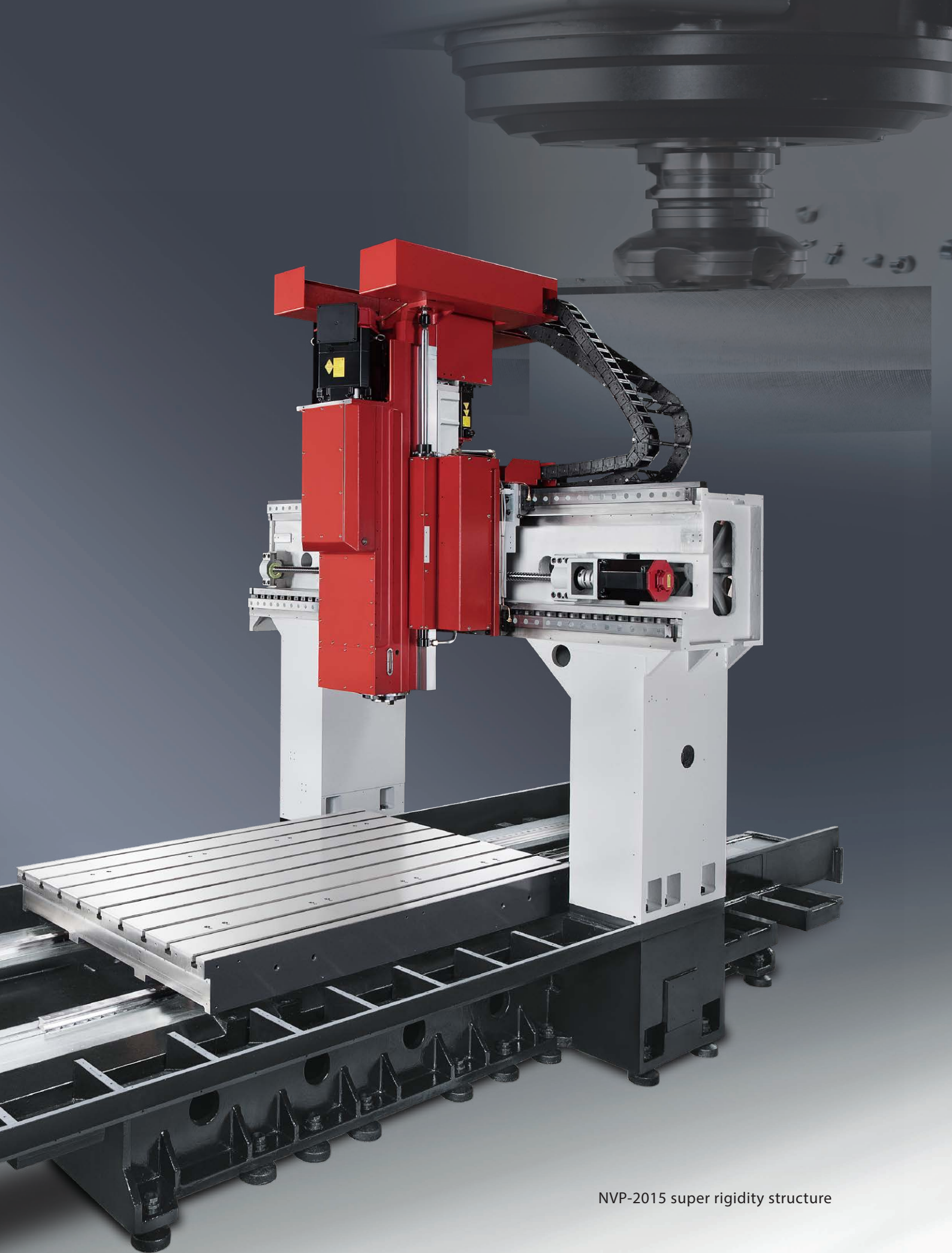
■ Precision Feedback System

The semi-closed loop circuit system which the ball screw end is directly connected to the encoder ensures high positioning accuracy.

■ Axial Torque Clutch

Ball screws are equipped with mechanical torque clutches to minimize damages due to over load issues or crash.



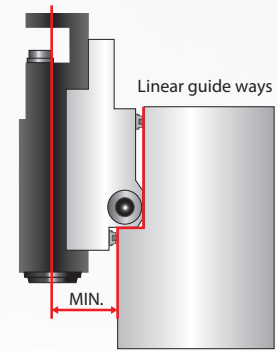


NVP-2015 super rigidity structure

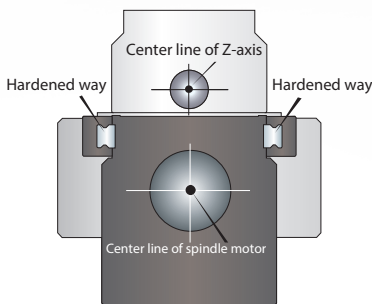
Optimized Spindle System

Powerful Cutting Capability

Inner-rail embraced structure provides super rigidity and gains good stress flow which minimizes overhang and vibration issues. The Y-axis linear guide ways offset from each other increases structural rigidity reduces distance between spindle to cross beam enhances overall cutting performance.



■ Y-axis sectional linear guide ways design



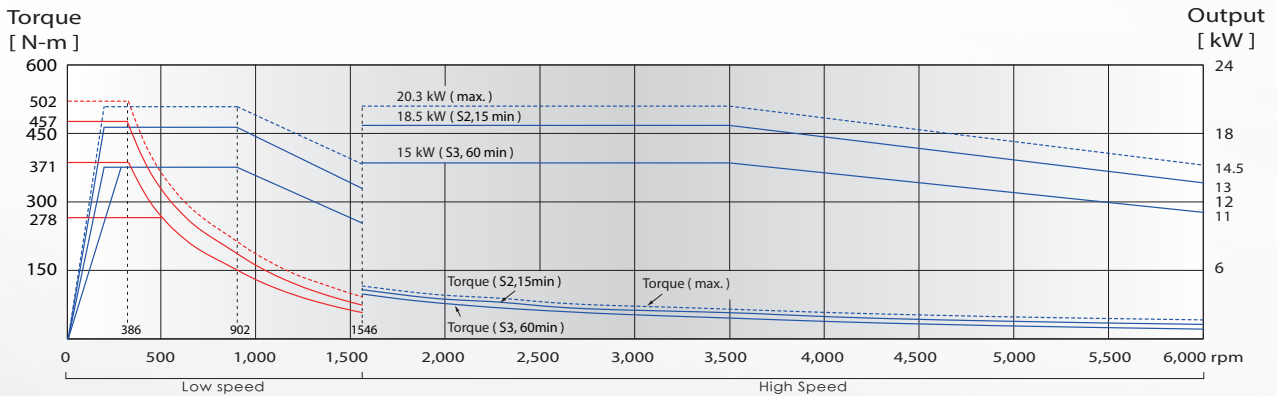
■ Centro-symmetric main spindle system design

Centro-symmetric Main Spindle System

Unique head design which the main spindle, spindle motor, ball screw and hydraulic counter balance cylinders are symmetrically placed. Hereby preventing thermal distortion and minimizing deflection. Assuring accuracy and heavy cutting capability.

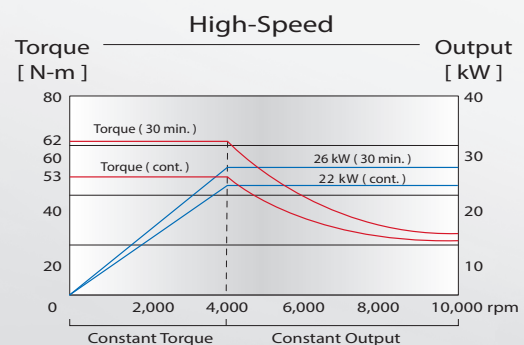
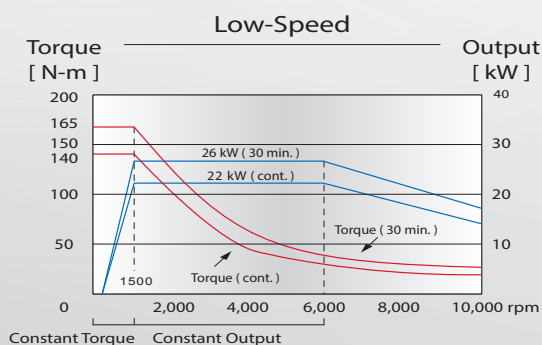
BT50

6,000 rpm Gear Spindle



BT50

10,000 rpm Direct-driven Spindle



Advanced Control System



FANUC Oi-MF

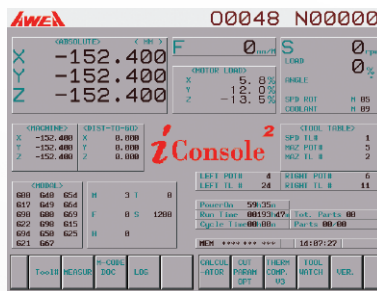
- USB port is available to transfer the NC programs to CF memory card.
- Embedded Ethernet is supported on the CNC main board, it can be connected to a PC to transfer the NC programs.

i Console

Optional

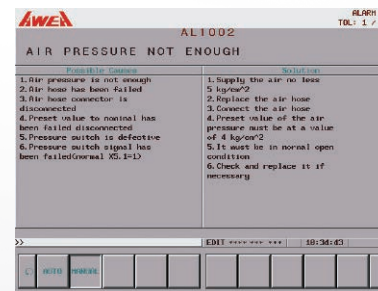
Informative Control Console

Multiple Functions Status Display



- Real time operation information
- Tool list
- Work piece measurement
- M code illustration
- PLC function
- Calculator
- CNC optimize parameter (Opt.)
- Spindle thermal compensation (Opt.)

Trouble Shooting



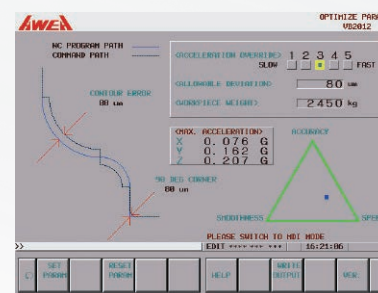
When the alarm appears, the program will display the breakdown cause and a troubleshooting procedure. Users can easily troubleshoot minor problems to save machine shutdown time.

Circular Work Piece Measurement



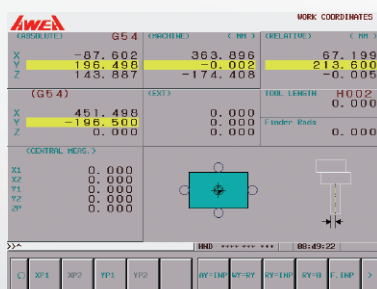
The circular work piece program can calculate the center coordinate of a work piece by measuring point A, B and C coordinates.

CNC Optimized Parameter



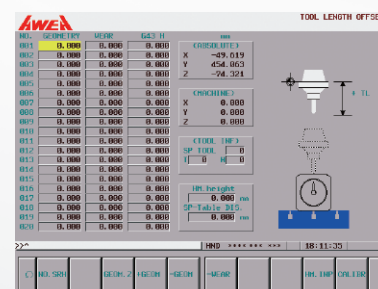
From rough cutting to fine machining, users can select different working modes, determine the allowable tolerance and the weight of the work piece, based on your desired working condition.

Rectangular Work Piece Measurement



The rectangular work piece program can calculate the center coordinate and the slant angle of a work piece by measuring point A, B, C, D and E coordinates; the calculated center coordinate can be inputted into the work piece coordinate program (G54 ~ G59).

Manual Tool Length Measurement

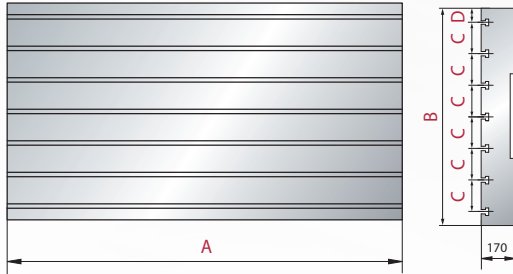


After manually measuring the tool length, the controller will automatically calculate the tool tip position and input the data into the tool length offset table.

Dimensions

(Unit: mm)

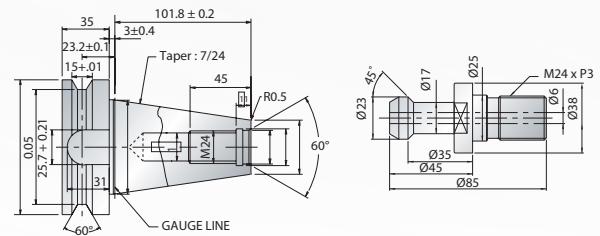
Table Dimensions



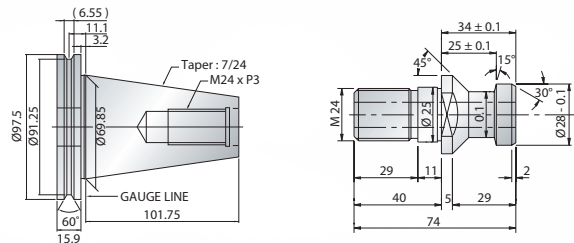
Model	A	B	C	D
NVP-2012	2,000	1,100	160	70
NVP-2015	2,000	1,400	160	60
NVP-3015	3,000	1,400	160	60

Tool Shank and Pull Stud Dimensions

BT50

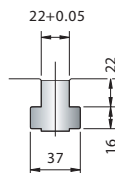


DIN69871-A (#50) (Opt.)



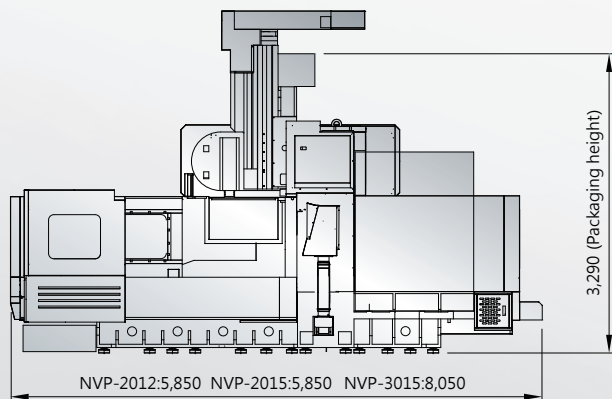
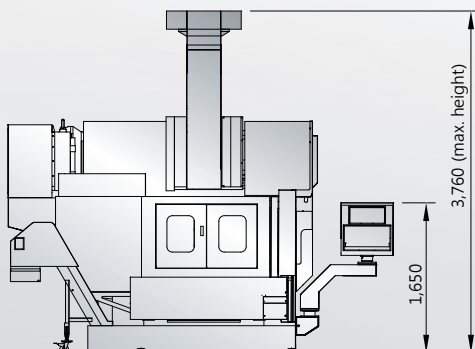
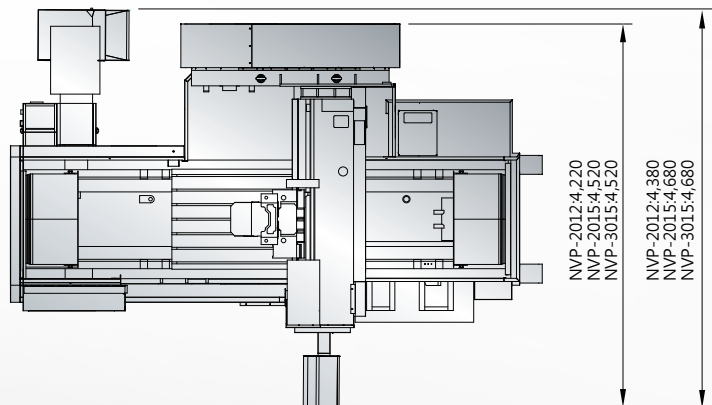
T-slot Dimensions

Model	no. of T-slot
NVP-2012	7
NVP-2015	9
NVP-3015	9



Machine Dimensions

(Unit: mm)



		NVP-2012	NVP-2015	NVP-3015
SPECIFICATIONS				
X-axis travel	mm	2,000	2,000	3,000
Y-axis travel	mm	1,200	1,500	1,500
Z-axis travel	mm	760		
Distance from spindle nose to table top	mm	200 ~ 960		
Distance between columns	mm	1,300	1,600	1,600
WORKING TABLE				
Table size (X direction)	mm	2,000	2,000	3,000
Table size (Y direction)	mm	1,100	1,400	1,400
Table load capacity	kg	3,500	3,500	4,500
SPINDLE				
Spindle taper		BT50		
Spindle motor (S3, 60min / S2,15min / max.)	kW	15 / 18.5 / 20.3		
Spindle speed	rpm	Gear spindle 6,000		
FEED RATE				
X-axis rapid feed rate	m/min	20		
Y-axis rapid feed rate	m/min	20		
Z-axis rapid feed rate	m/min	20		
Cutting feed rate	mm/min	10		
TOOL MAGAZINE				
Tool magazine capacity	T	32 (40 / 60 opt.)		
Max. tool length	mm	350		
Max. tool weight	kg	15		
Max. tool diameter / adj. pocket empty	mm	Ø 125 / Ø 215		
ACCURACY				
Positioning accuracy (JIS B 6338)	mm	± 0.010 / Full travel		
Positioning accuracy (VDI 3441)	mm	P ≤ 0.02 / Full travel		
Repeatability (JIS B 6338)	mm	± 0.003		
Repeatability (VDI 3441)	mm	Ps ≤ 0.015		
GENERAL				
Control system		FANUCc 0i-MF		
Power requirement	kVA	40		
Pneumatic pressure requirement	kg/cm²	5 ~ 7		
Hydraulic unit tank capacity (pump)	liter (HP)	5.5 (2.1)		
Lubrication oil tank capacity	liter	4		
Coolant tank capacity (pump)	liter	400	460	460
Machine weight	kg	16,000	17,500	22,000

Specifications are subject to change without notice.

Standard Accessories

- Spindle cooling system
- Fully enclosed splash guard w/o roof
- Coolant system with pump and tank
- Twin screw type chip auger
- Caterpillar type chip conveyor
- Heat exchanger for electrical cabinet
- Centralized automatic lubricating system
- Automatic power off system
- Foundation bolt kit
- Tool box
- Alarm light
- Air gun system

Optional Accessories

- Direct-driven spindle
BT50 : 10,000 rpm
- Spindle taper :
DIN50 / CAT50 / ISO50
- Column extension 200 mm
- Tool magazine : 40 / 60 T
- X / Y / Z axes optical linear scale
- Coolant through the tool adapter
- Coolant through the spindle
- Auto. tool length measurement
- Auto. work piece measurement
- CNC rotary table
- Oil skimmer