

# BRIDGEPORT V SERIES

PERFORMANCE  
FIVE AXIS  
VERTICAL MACHINING CENTER

V650 5AX



***Bridgeport***<sup>®</sup>

# BRIDGEPORT V650 5AX

## 5-Axis Vertical Machining Center

Bridgeport V650 5AX 5-Axis vertical machining center is developed and designed to meet the processing needs of complex parts in high precision manufacturing industries.



<b>X-Axis</b> (620mm)	<b>Y-Axis</b> (520mm)	<b>Z-Axis</b> (460mm)
<b>B-Axis</b> - 50°~ +110°	<b>Table Diameter</b> (650mm)	<b>C-Axis</b> 360°

## Siemens Sinumerik One Control System

The latest generation of high-end CNC system from Siemens adopts a newly designed hardware platform, which improves the operation speed and precision in an all-round way. The machine simulation function is deeply integrated to provide users with more convenient processing program simulation and processing cycle simulation.

- 19" Multi Touch Display Modular
- Integrated QWERTY Keyboard
- Ethernet Interface, 2x USB 3.0
- Processing Step Programming/Graphical
- Man-Machine Interface
- Graphical 3D Simulation
- 5-Axis Inputation
- Look-Ahead of Max. 3000 Blocks
- 2D/3D Collision Avoidance
- Zero Offset 100 Sets
- Number of The Tool / Number of Cutting Edge 600/1500
- Online Help Function
- CNC Internal 6MB , External Memory 10M
- Helical Interpolation
- Max of NCU Program 1000
- High-Speed Interrupt Continuous-Path
- Auxiliary Functions
- Tool Life and Workpiece Count Monitoring
- Network Management
- Universal Interpolator NURBS (Non-Uniform Rational B-Splines)
- Handwheel Overlay

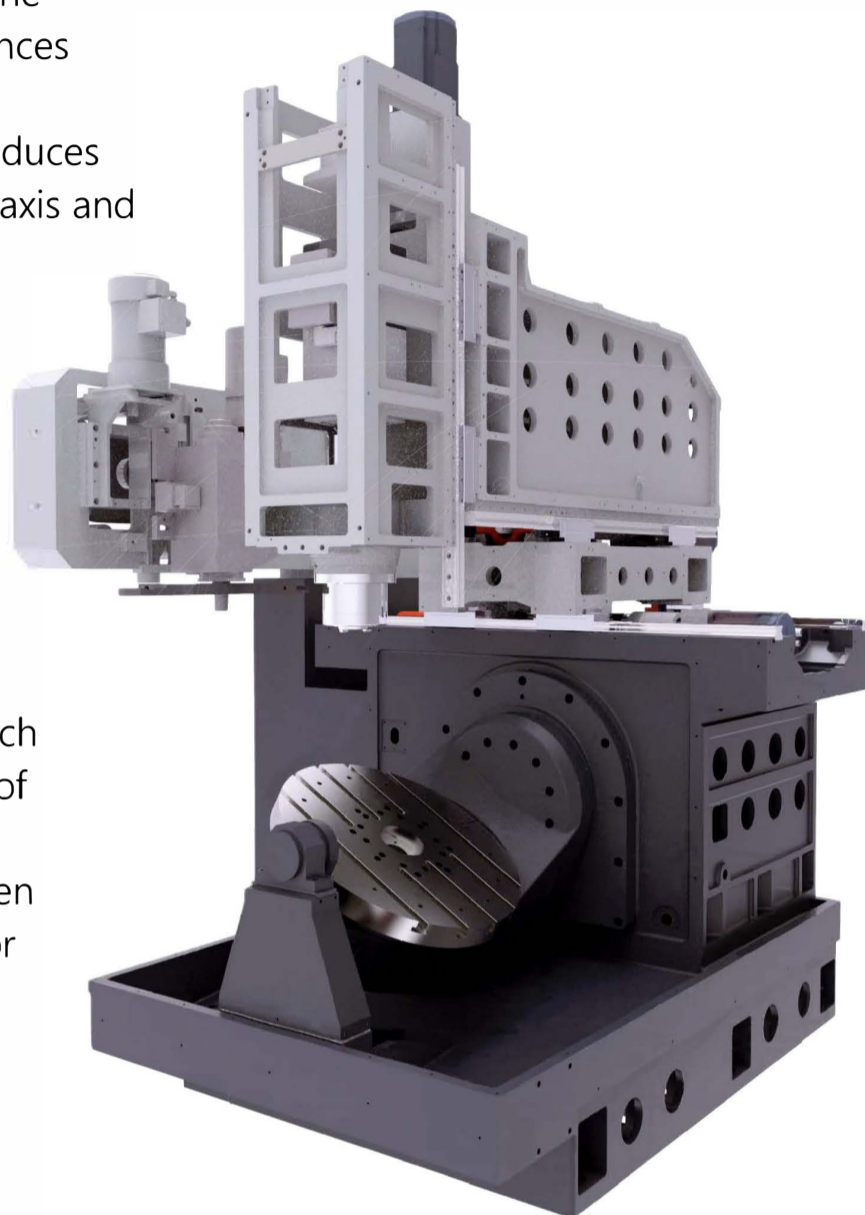


# Machine Structure

The optimised design of the headstock structure enhances thermal stability, and the lightweight design also reduces the overall load on the Z-axis and improves processing performance.

Chain type magazine, standard 40 tools, options 60 tools.

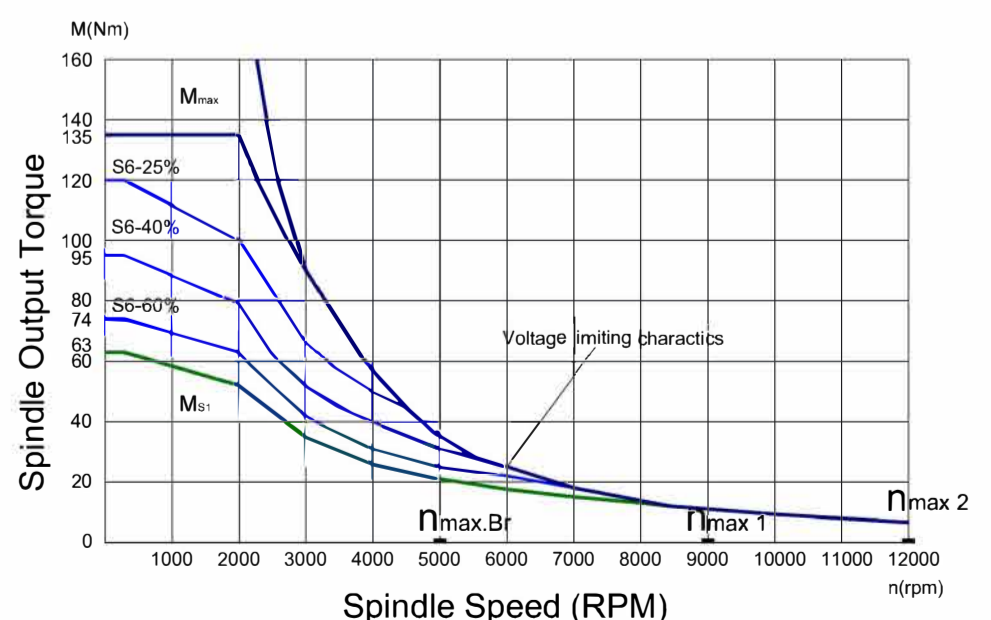
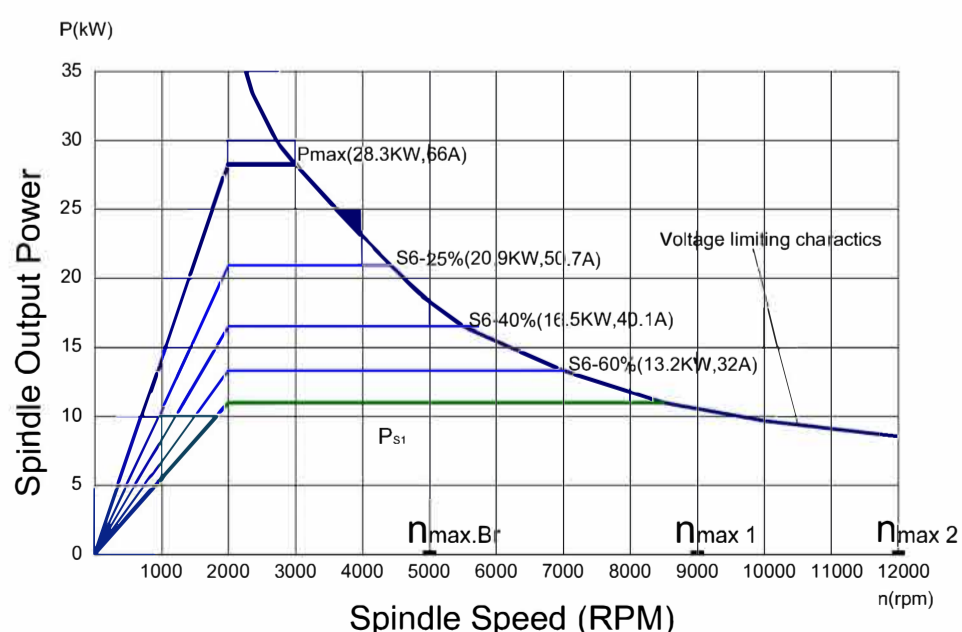
The B/C axis has a tighter structural design and excellent accessibility, which facilitates the integration of manual operation and automation systems. Driven by precision worm/gear or built-in motor.



The X/Y/Z axis adopts precision-grade roller linear guide rails and heavy-duty sliders to enhance the load-carrying capacity of the transmission system and improve the processing performance of the machine.

The high-quality gray cast iron box-type bed design improves the rigidity of the bed structure.

## Spindle Motor Power & Torque Characteristic Curve



# V650 5AX SPECIFICATIONS

V650 5AX	
Travels	
X/Y/Z Axes Travels	620 x 520 x 460 mm
B-Axis Swing Range	-50° ~ +110°
C-Axis Rotation Range	360°
Spindle Nose to Table	150 - 610 mm
Three Axes Linear Guide	Roller Type
Table	
Table Size	Φ650 mm
Load Capacity (Horizontal)	300 kg
Load Capacity (Tilt)	200 kg
T-Slots (Number x Size x Spacing)	5 x 18 x 100 mm
Spindle	
Spindle Taper	BBT40
Spindle Speed	15000 rpm
Spindle Transmission	Direct Connected
Spindle Power	11/ 16.5 kW (S1/ S6-40%)
Maximum Torque at Base Speed	63/ 95 Nm (S1/ S6-40%)
Automatic Tool Changer (ATC)	
ATC Type	Mechanical
Tool Capacity	40T
Max. Tool Dia. (Full Drum)	Φ75 mm
Max. Tool Dia. (Full Drum/Adj. Pocket Empty)	Φ125 mm
Max. Tool Length	250 mm
Max. Tool Weight	7 kg
Servo Axis	
X, Y, Z-Axis Rapid Traverse Speed	36/ 36/ 36 m/min
X, Y, Z-Axis Max. Feed Speed	15 m/min
General Specification	
Machine Weight	8200 kg
Machine Length (Approx.)	4250 mm
Machine Depth (Approx.)	4120 mm
Machine Height (Approx.)	3100 mm

## Standard Features

- Controller: SINUMERIK ONE, 19" Screen
- 15000rpm DDS Spindle (With Chiller) BBT40
- Tool Magazine Auto Door
- Worm Gear Type B/C Axis
- Surround Tool Coolant
- Coolant Chip Flush + Coolant Wash Gun
- Auto Central Grease Lubrication
- Automatic Power Off
- Remote MPG Hand Wheel
- B/C Axis Encoder
- 2 Color Stack Light, LED
- Chiller For Power Case

## Optional Features

- Chain Type Magazine ATC, 60 Tools
- Built-in Motor Type B/C Axis
- Coolant Through Spindle (CTS) 20bar
- Air Gun
- Cutter Air Blast
- Hinge Type Chip Conveyor
- Scraper Type Chip Conveyor
- Chip Cart
- X/Y/Z Axis Linear Scale
- Part Probe RENISHAW OMP40-2+OMI-2T
- Datum Ball, RENISHAW D19
- Table Hydraulic Fixture, 4 Port

※To keep improvement and developing new functions, Bridgeport Machine Company reserves the rights to change specifications without further notice.



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