

BRIDGEPORT V650 5AX

5-AXIS VERTICAL MACHINING CENTER



 **HARDINGE**[®]

Bridgeport[®]

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Bridgeport V650 5AX five-axis vertical machining center is developed and designed to meet the processing needs of complex parts in various industries. The large working space and humanized structural design bring users the most convenient experience.

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. Provide stronger technical support for five-axis linkage interpolation applications. The machine simulation function is deeply integrated to provide users with more convenient processing program simulation and processing cycle simulation.



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

KEY FEATURES

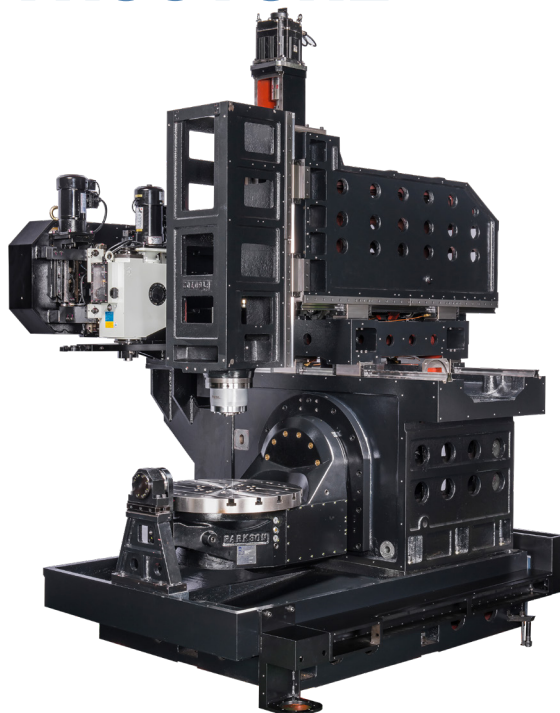
- 19" Multi-touch display modular
- Integrated QWERTY keyboard Ethernet interface, 2*USB3.0
- Processing Step Programming/Graphical
- HMI
- Graphical 3D Simulation
- 5-axis Imputation
- Look-ahead of Max. 3.000 blocks
- 2D/3D Collision Avoidance
- Zero offset 100 sets
- Number of the tool / number of cutting edge 600/1.500
- Online Help function
- CNC internal 6MB, external memory 10M Helical interpolation
- Max of NCU program 1.000
- 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 optimized design of the headstock structure enhances thermal stability, and the light-weight design also reduces the overall load on the Z-axis and improves processing performance.

Servo chain type magazine, standard 32 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.

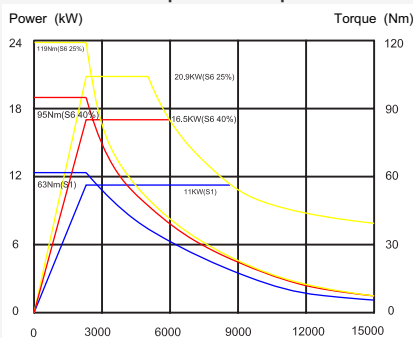


The X/Y/Z axis adopts precision grade roller linear guide rails and heavy-duty sliders to enhance the load-carrying capacity of the transmission system and improve the processing performance of the machine.

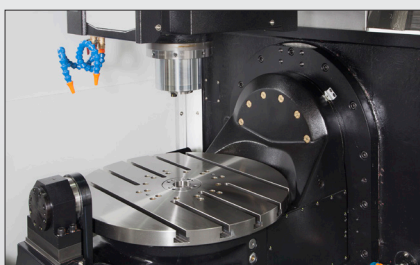
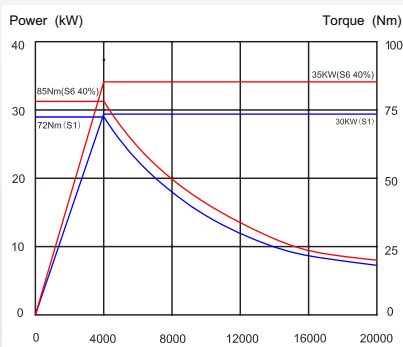
The high-quality gray cast iron box-type bed design improves the rigidity of the bed structure.

SPINDLE POWER & TORQUE

15.000 rpm DDS spindle



20.000 rpm electro-spindle



BRIDGEPORT V650 5AX SPECIFICATIONS

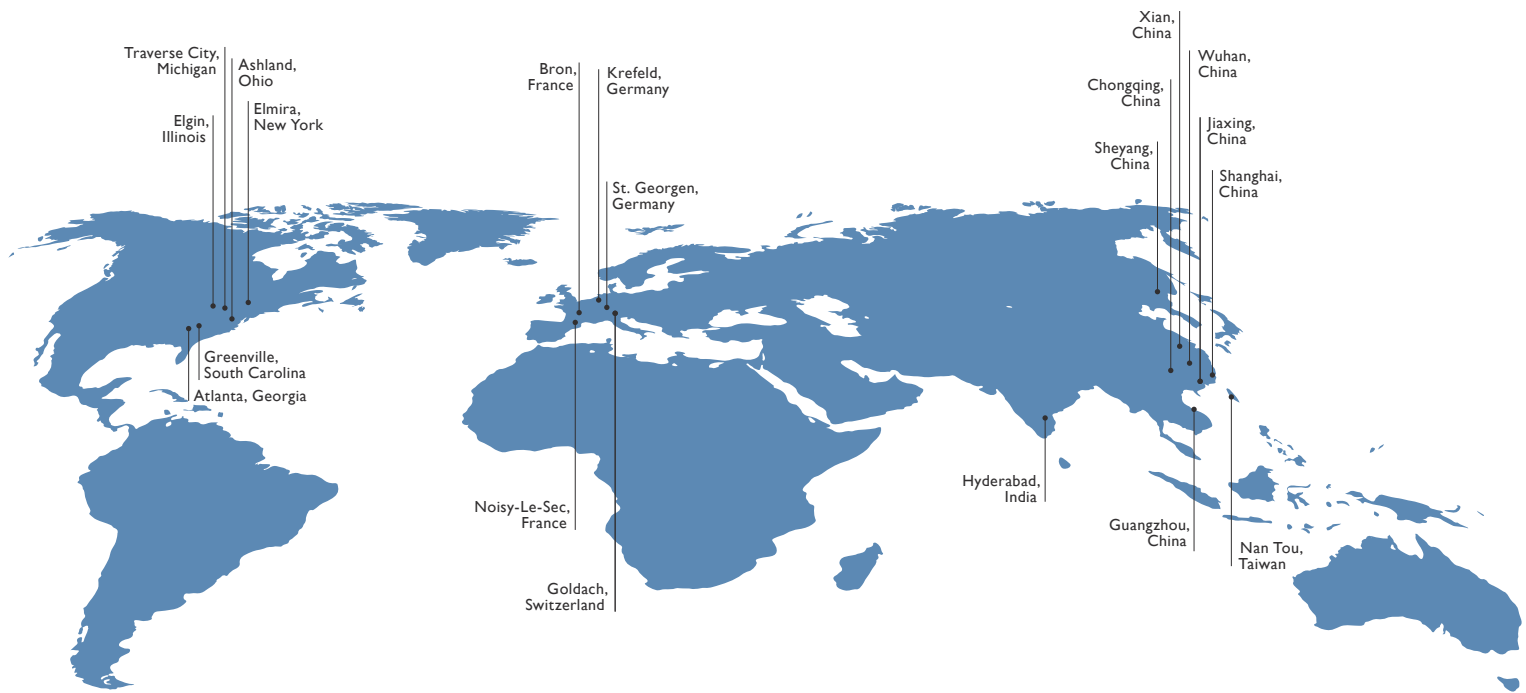
Travels	
X/ Y/ Z Achsen Verfahrwege	620/ 520/ 460 mm
Schwenkbereich der B-Achse	-50°+110°
Drehbereich der C-Achse	360°
Abstand Spindelnase zu Tisch	150~ 610 mm
Three-axis linear guide	Roller type
Table	
Diameter	Ø650 mm
Load Capacity (Horizontal)	300 kg
Load capacity (Tilt)	200 kg
T-slots (number x size x spacing)	5x18x100 mm
Spindle	
Spindle Taper	BBT40
Spindle Speed	15.000 rpm
Spindle Transmission	Direct Connected
Spindle Power (S1/S6 40%)	11 / 16,5 kW
Spindle Torque (S1/S6 40%)	63 / 95 Nm
Automatic Tool Changer (ATC)	
ATC type	Mechanical
Tool Capacity	32T
Max. Tool Diameter (Continuous)	Ø75 mm
Max. Tool Diameter (Without adjacent tools)	Ø125 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 Maximum Feed speed	15 m/min
Others	
Machine Weight	8.200 kg
Machine Length (approx.)	4.250 mm
Machine depth (approx.)	4.120 mm
Machine height (approx.)	3.100 mm

Standard/Optional Configuration	E	P
Controller: SINUMERIK ONE	•	•
15.000 rpm DDS Spindle (with Chiller) BBT40	•	–
20.000 rpm Built-in Spindle (with Chiller) HSK-A63	–	•
40 Chain Type Magazine ATC, 32 Tools	•	–
40 Chain Type Magazine ATC, 60 Tools	○	–
HSk Chain Type Magazine ATC, 32 Tools	–	•
HSk Chain Type Magazine ATC, 60 Tools	–	○
Tool Magazine Auto Door	•	•
Worm Gear Type B/C Axis	–	•
Coolant Through Spindle (CTS) 20bar	○	○
Coolant Through Spindle (CTS) 40bar	○	○
Air Gun	○	○
Cutter Air Blast	○	○
Surround Tool Coolant	•	•
Coolant Chip Flush + Coolant Wash Gun	•	•
Hinge Type Chip Conveyor	○	○
Scraper Type Chip Conveyor	○	○
Chip Cart	○	○
Auto Central Grease Lubrication	•	•
Automatic Power Off	•	•
Remote MPG Hand Wheel	•	•
X/Y/Z Axis Linear Scale	○	•
B/C Axis Encoder	•	•
3 Color Stack Light, LED	•	•
Part Probe RENISHAW OMP40-2+OMI-2T	○	○
Tool Probe, RENISHAW TR27R	○	○
Chiller for Power Case	•	•
HSK Balanced Tool Holder	–	•
Datum Ball, RENISHAW D19	○	○
Table Hydraulic Fixture, 4 port	○	○
Operation Manual (CD-ROM)	•	•

• Standard ○ Optional - Not available

E = Economical = DDS spindle + worm gear type B/C table
P = Performance = Built in spindle + DDM1 type B/C table

HARDINGE WORLDWIDE



Hardinge is a leading international provider of advanced metal-cutting solutions. We provide a full spectrum of highly reliable CNC turning, milling, grinding, and honing machines as well as technologically advanced workholding accessories.

The diverse products we offer enable us to support a variety of market applications in industries including aerospace, agricultural, automotive, construction, consumer products, defense, energy, medical, technology, transportation and more.

We've developed a strong global presence with manufacturing operations in North America, Europe, and Asia. Hardinge applies its engineering and applications expertise to provide your company with the right machine tool solution and support every time.

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