

BRIDGEPORT XT630 5AX

Superior Machine Accuracy and
Repeatability



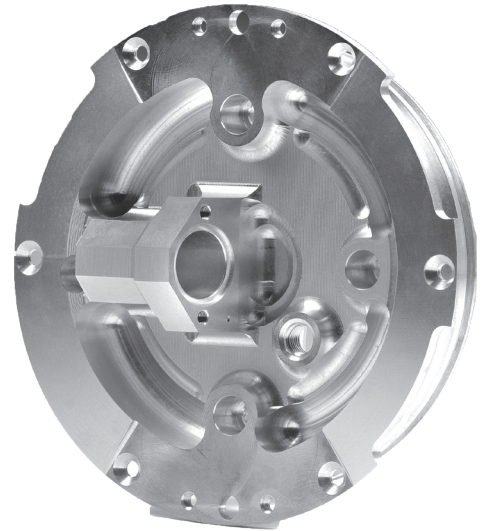
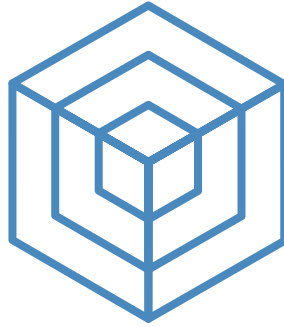
BRIDGEPORT

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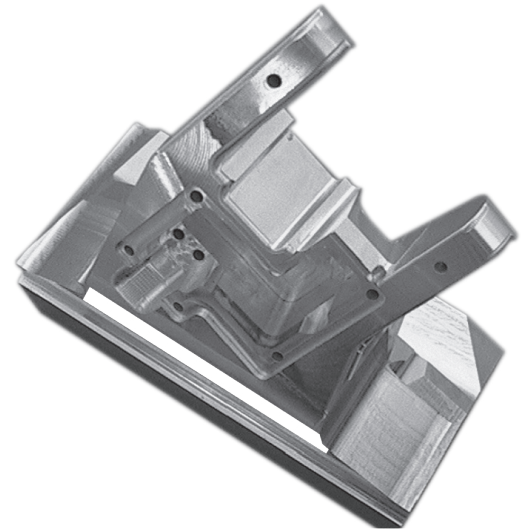
5-AXIS TECHNOLOGY



The Bridgeport XT630 5AX 5-Axis CNC machining centers are designed for accuracy, speed and productivity. They are built to provide years of dependable machining on parts requiring consistent tolerances, tough to machine materials and fine surface finishes.



The XT630 5AX features and robust traveling beam design on an extremely rigid cast iron base.



STANDARD FEATURES

The Bridgeport XT630 5AX has been designed to stand above all other machines in its class. With wide range of options to choose from, this makes this 5-axis machine the best in class against competitive machining centers worldwide. Higher end features have been designed into the XT630 5AX machines, while streamlining overall cost to provide a very price competitive machine for the higher end market.

MACHINE OPTIONS

- C-Axis Rotary Encoder
- X/Y/Z Axis Linear Scale
- Chip Conveyor, Hinge Type (W=500)
- Coolant through Spindle (280PSI)
- Mist Collector (1.5Kw, Airflow 33.3m3/min)
- Renishaw Tool & Part Probe (OMP40-+OTS)
- Blum Tool & Part Probe (TC 52 + TC S4-20)
- Dynamic Collision Monitoring
- 48 Position 40 Taper Tool Magazine
- 60 Position 40 Taper Tool Magazine
- Heidenhain Kinimatic Alignment Software

FEATURES

- 15,000 RPM Direct Coupled Spindle with Oil Chiller & Air/Oil Mist
- BIG-PLUS® BBT 40 Spindle
- 24-station Swing Arm ATC
- CNC Control – Heidenhain iTNC 640
- Coolant Chip Flush System
- Coolant Wash down Gun-Automatic
- Auto Central Grease Lubrication
- A-Axis Rotary Encoder
- Leveling Pad and Screw
- Retention Knobs
- CTS Preparation with Deublin Rotary Union
- Auto Door Magazine
- Spindle Circular Flushing
- Scraper Type Conveyor
- Auto Power Off
- Work Light
- Three Color Stack Light



MACHINE CONSTRUCTION

MACHINE STRUCTURE

- The honey-comb like reinforced-rib radial and peripheral design provides optimum strength to weight ratio at minimum weight.
- The head casting is symmetrically designed about the X-axis and appropriate weight balance in the Z-axis and minimizes heat migration to the head structure.
- The machine design incorporates a twin drive system on the A-axis for higher overall stiffness with minimal for better distribution of cutting forces.



KEY FEATURES

The 4th and 5th axis trunnion table is anchored to the single piece base casting and also equipped with twin motors for the tilt axis. The motors operate in synchronized torque mode to minimize backlash and further enhance repeatable precision achieving to higher overall accuracy.

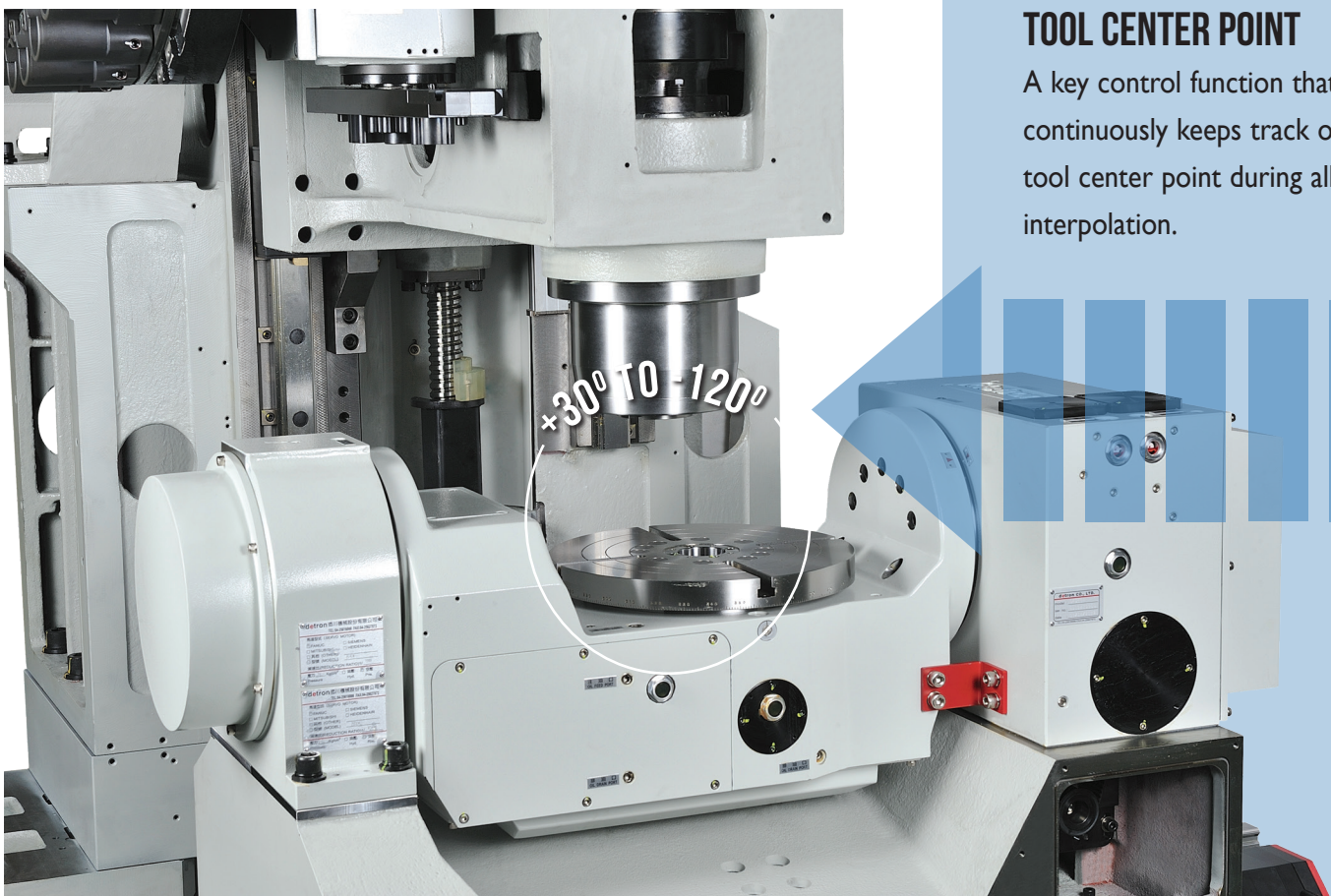
The table capacity of 350kg has a wide gap between the ends of the trunnion exhibiting a 930mm capacity of swing diameter. The tilt axis ranges from $+30^{\circ}$ to -120° , has a fast rotational speeds up to 20 rpm and the C axis has continuous 360° rotation at 25rpm.

TILT ROTARY TABLE

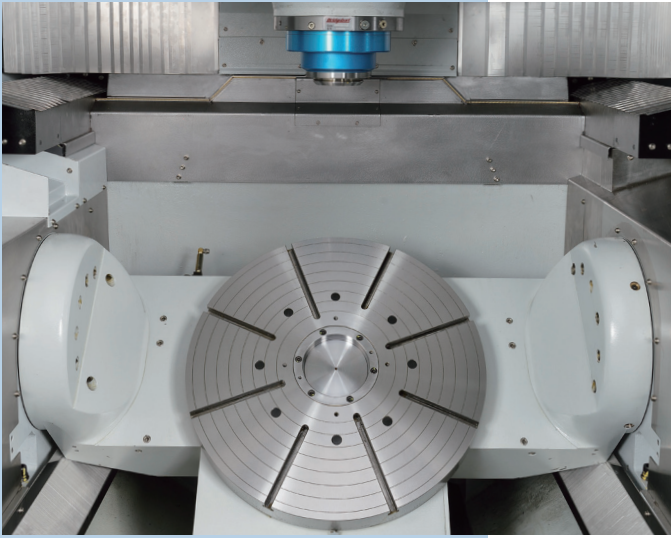
- 5 Axis Simultaneous Motion
- Table Diameter Size:
24.80" (630mm)
- Max. Work Piece Diameter:
35.4" x 13.4" (900mm x 340mm)
- Tilting degree (A degree):
 $+30^{\circ}$ ~ -120°
- C-axis Rotation: 360°
- Load Capacity: 771 lbs (350 kgs)
- Clamping Torque:
C-axis: 2360 ft-lbs (3200 Nm)
A-axis: 3687 ft-lbs (5000 Nm)
- T slots: 0.551" (14mm) x 8

TOOL CENTER POINT

A key control function that continuously keeps track of the tool center point during all axis interpolation.



KEY FEATURES



LARGE CAPACITY, FAST PERFORMANCE AUTOMATIC TOOL CHANGERS

The ATC is fully supported by the column allowing fast, vibration free operation to increase machine accuracy and surface Finish requirements

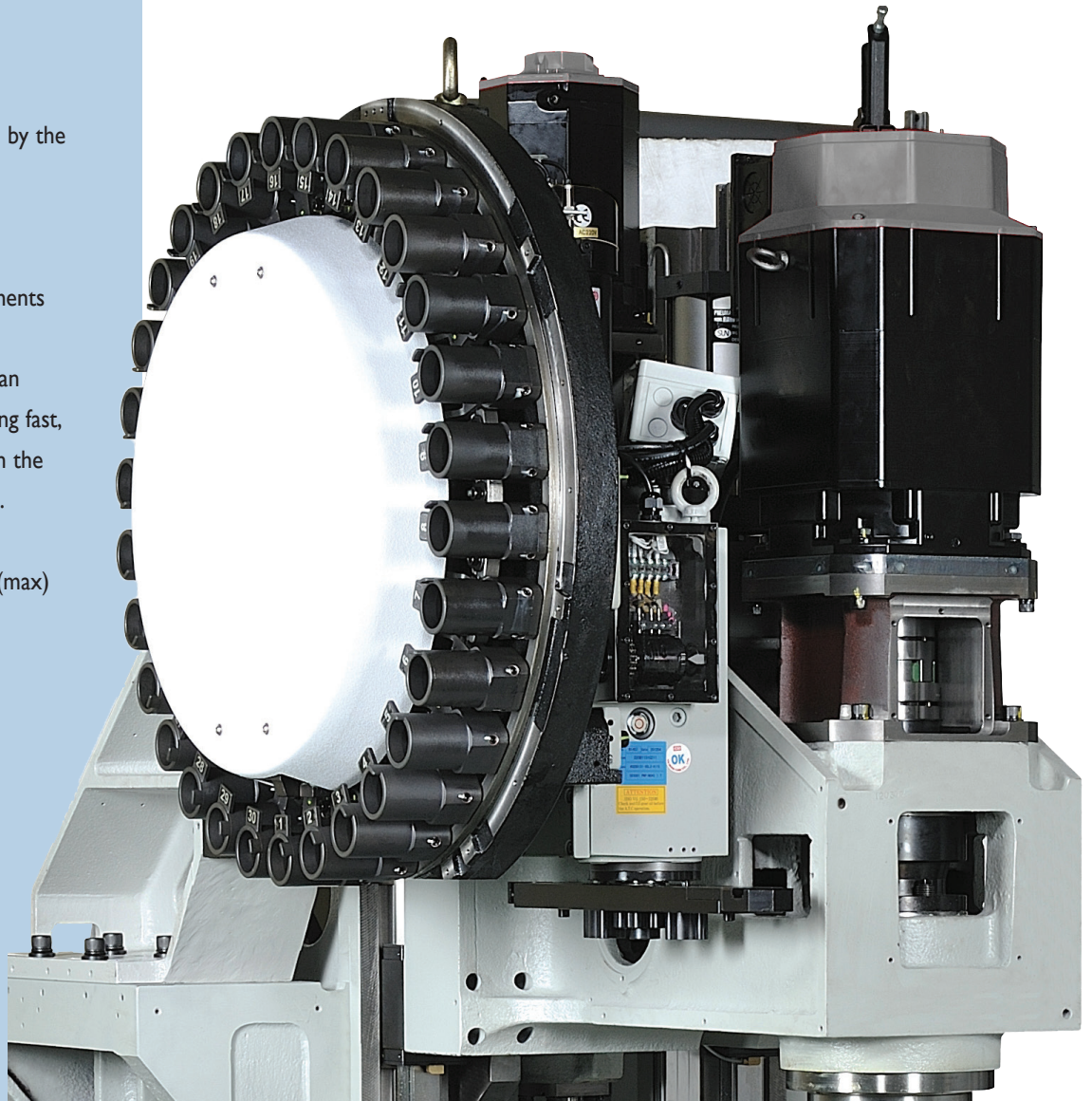
The ATC cam is driven by an inverter type motor allowing fast, easy tool change recover in the event of a collision or fault.

- Standard ATC is 24 tool (max)
- Max. Tool Diameter:
Full Drum: 3.15" (80mm)
- Max. Tool Diameter
(Adj. Pockets Empty):
4.9" (125mm)
- Max. Tool Length:
11.81" (300mm)
- Max. Tool Weight:
17.6 lbs. (8 kg)
- Tool Change Time:
Tool to tool – < 2.0 sec
Chip to chip – < 5.0 sec

This system provides a stiffer interface between the spindle and the tool holder along with minimizing run out on extended tool and better overall rigidity.

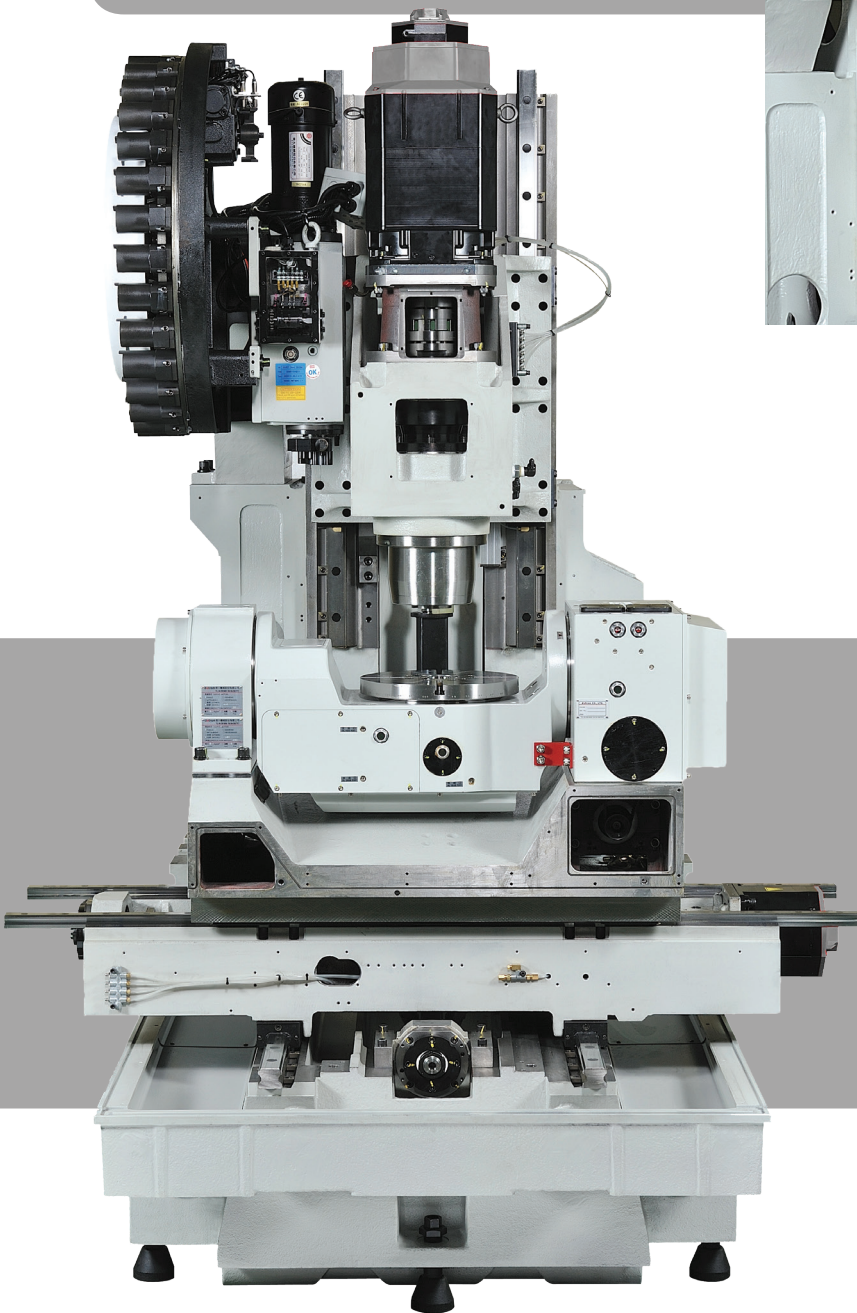
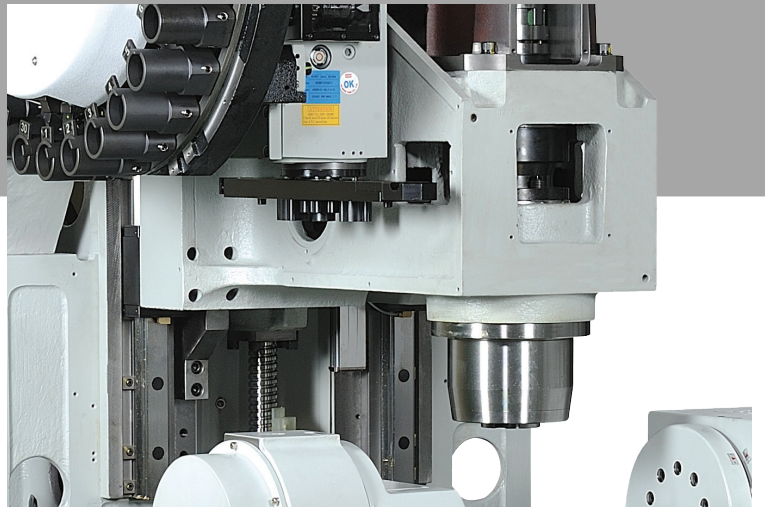
STANDARD ISO-40 DUAL CONTACT TAPER SPINDLE

The ISO-40 "V" flange Dual Contact Taper spindle design is also known as BIG-PLUS®. The fully enclosed hardened and precision ground, pre-loaded ball bearing design allows simultaneous face and taper contact when the tool is clamped in the spindle.



DIRECT DRIVE SPINDLE

- 15,000 rpm DDS
- 26hp (19.5 kW)
- 65.6 ft-lbs (89 Nm)
- BIG Plus 40 & HSK-A63



MACHINE BASE

- The base was designed using FEA (Finite Element Analysis techniques to provide superior machining performance.
- Highly-rigid base with optimum dynamic stability.
- The one-piece cast iron base weighs 10,498lbs (4,762kg).

CONTROLS



SIEMENS 840D SL

- 19" TFT LCD display with Innovative capacitive sensor technology
- Programmable Resolution .0001"/.001mm
- Inch/Metric data selection by G-Code
- MDI (Manual Data Input) Operation
- ShopMill
- 3D Simulation
- SINUMERIK Operate
- Animated element operation
 - Easy Tool Management
 - Measurement cycles
- Transmit and peripheral surface transformation
- CYCLE800
- MDynamics
- Advanced Surface
- Ethernet interface
- (Data Transfer Capability)
- FTP
- Part Program Storage/ Data input/output on:
 - 10 MB CNC memory
 - 6 GB internal Compact Flash
 - USB 2.0
 - Network Drive

SIEMENS



HEIDENHAIN ITNC 640 FS

- 19" TFT display with touchscreen for multi-touch operation
- Contouring control
- Axes: 20 control loops
- Uniformly digital with HSCI interface and EnDat interface
- Storage: HDR hard disk with 160GB or SSDR solid state disk with 32GB
- Programming in HEIDENHAIN conversational format or according to DIN/ISO
- Comprehensive cycle package for milling and turning operations
- Constant surface speed for turning operations
- Tool-tip radius compensation
- Touch probe cycles
- Free contour programming (FK)
- Special function for fast 3-D machining
- Short block processing time (0.5 ms)

HEIDENHAIN