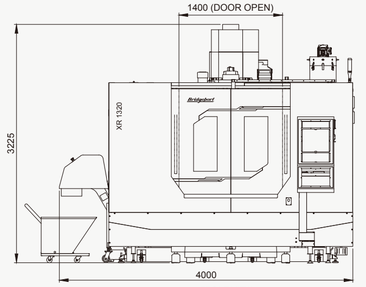
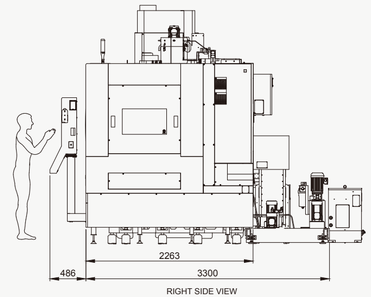
XR 1320 Floor Plan Dimensions





Machine Specification

Unit: mm

Travel	
X/Y/Z Axes	1320 x 630 x 680
Spindle Nose to Table	150 - 830
Y-Throat Distance	638
Table	
Table Size	1400 x 600
Load Capacity	1000Kg
T-Slots (Width x No. x Size)	18 x 5 x 100
Spindle	
Taper	BBT 40
Transmission	DDS
Spindle Speed (RPM)	STD: 12000 (Oil-Air) OPT: 15000 (Oil-Air),
Motor Power	15 kW/ 30kW (Cont./ S3-15%) (Fanuc) 15 kW/ 32kW (S1/ S6-25%) (Heidenhain)
Maximum Torque At Base Speed	95.5N-m/ 191N-m (Cont./ S3-15%) (Fanuc) 95.5N-m/ 203.7N-m(S1/ S6-25%) (Heidenhain)
Automatic Tool Changer	
Tool Capacity	STD: 30 / OPT: 40
Type/ Tool Selection	Swing Arm / Bi-Directional
Pull Stud Type	BT / CAT / SK / ANSI 40
Max. Tool Dia.	Full: 75/ Adj. Empty:130
Max. Tool Length/ Weight	300mm/ 7kg
Tool Change Time (T-T)	1.5 sec
Axes Drives (X/Y/Z Servo Motors)	
Fanuc	3kW/ 3kW/ 4kW
Heidenhain	5kW/ 5kW/ 5.1kW
Ball Screws (X/Y/Z Axes)	
Size	45 / 40 / 45
Pitch	X/Y : 16, Z : 12
Lubrication	Grease Central Lubrication
Linear Guideway (X/Y/Z Axes)	
Type	Ball Guide
Size	35 / 45 / 45
Linear Ways	2 / 2 / 2
Linear Guide Trucks	6 / 4 / 6
Lubrication	Grease Central Lubrication
Rapid Traverse Rate	X/Y: 48m/min, Z: 36m/min
Accuracy (X/Y/Z Axes)	
Positioning	0.01 (With Scales : 0.005)
Repeatability	0.005 (With Scales : 0.004)
General Specification	
Machine Overall Size(Width/Depth/Height)	4000 x 3786 x 3225 (Hiahest)
Machine Weight	9200 Kg
Coolant Tank Capacity	450L
Air Requirement	6 kg/cm² minimum
Power Requirement	85 amp/ 220 volt/ 3 phase (Fanuc) 84 amp/ 400 volt/ 3 phase (Heidenhain)

Standard Features

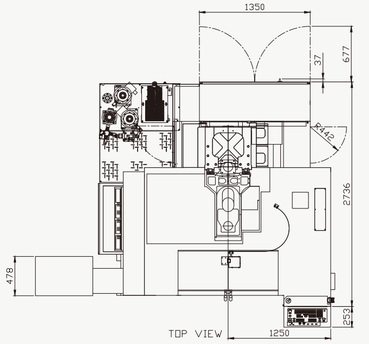
- Automatic Central Grease Lubrication (X/Y/Z Axes)
- Chip Conveyor: Hinge Type
- Work Light
- Stack Light (3 colors)
- Retention Knobs
- Remote MPG (Option for Heidenhain)
- Ethernet Connection
- Thermal Compenstation
- Coolant Through Spindle, 280 psi (20 Bar)
- AICCII (200 Block) (Fanuc)
- Coolant Chip Flush / Manual Chip Wash Gun

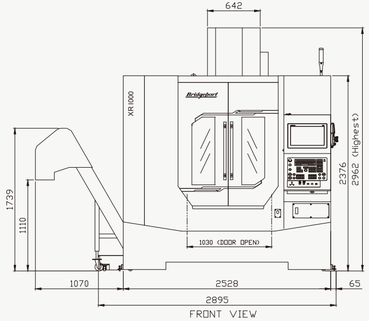
Optional Features

- 4th Axis Drive Package
- 5th Axis Drive Package (4+1)
- Part / Tool Probe (Wireless) (OMP 40-2 + OTS with OMI-2T)
- Linear Optical Scale (X/Y/Z Axes)
- Column Riser 150 mm
- Power Case Chiller
- External Spindle Surround Coolant
- Chip Conveyor : Scraper Type
- Tool Magazine Autodoor
- Spare M-Codes (8)
- Surround Tool Coolant (On Spindle)
- 4th Axis Pre-wiring
- Cutter Air Blast (Spindle side)
- Spindle Oil Chiller
- Automatic Power Off

※To keep improvement and developing new functions, Bridgeport Machine Company reserves the rights to change specifications without further notice.
※Due to varying cutting conditions, actual results may be greater or less than those listed.

XR 1000 Floor Plan Dimensions





Machine Specification

Unit: mm

Travel	
X/Y/Z Axes	1020 x 610 x 610
Spindle Nose to Table	100 - 710
Y-Throat Distance	628
Table	
Table Size	1300 x 600
Load Capacity	900Kg
Distance From Floor to Table Surface	861
T-Slots (Width x No. x Size)	18 x 5 x 100
Spindle	
Taper	BBT 40
Transmission	DDS
Spindle Speed (RPM)	STD: 12000 (Oil-Air) OPT: 15000 (Oil-Air),
Motor Power	15 kW/ 30kW (Cont./ S3-15%) (Fanuc) 15 kW/ 32kW (S1/ S6-25%) (Heidenhain)
Maximum Torque At Base Speed	95.5N-m/ 191N-m (Cont./ S3-15%) (Fanuc) 95.5N-m/ 203.7N-m(S1/ S6-25%) (Heidenhain)
Automatic Tool Changer	
Tool Capacity	STD:30, OPT:48/ 60
Type/ Tool Selection	Swing Arm / Bi-Directional
Pull Stud Type	BT / CAT / SK / ANSI 40
Max. Tool Dia.	Full: 75/ Adj. Empty:150
Max. Tool Length/ Weight	300mm/ 7kg
Tool Change Time (T-T)	1.5 sec
Axes Drives (X/Y/Z Servo Motors)	
Fanuc	3kW/ 3kW/ 4kW
Heidenhain	4.5kW/ 4.5kW/ 5.1kW
Ball Screws (X/Y/Z Axes)	
Size	45 / 45 / 45
Pitch	X/Y : 16, Z : 12
Lubrication	Grease Central Lubrication
Linear Guideway (X/Y/Z Axes)	
Type	Ball Guide
Size	35 / 45 / 45
Linear Ways	2 / 2 / 2
Linear Guide Trucks	4 / 4 / 6
Lubrication	Grease Central Lubrication
Rapid Traverse Rate	X/Y: 48m/min, Z: 36m/min
Accuracy (X/Y/Z Axes)	
Positioning	0.01 (With Scales : 0.005)
Repeatability	0.005 (With Scales : 0.004)
General Specification	
Machine Overall Size(Width/Depth/Height)	2673 x 3026 x 2962 (Hiahest)
Machine Weight	7165 Kg
Coolant Tank Capacity	385L
Air Requirement	5.5 kg/cm² minimum
Power Requirement	89 amp/ 220 volt/ 3 phase (Fanuc) 56 amp/ 400 volt/ 3 phase (Heidenhain)

Standard Features

- Automatic Central Grease Lubrication (X/Y/Z Axes)
- Chip Conveyor: Hinge Type
- Work Light
- Stack Light (3 colors)
- Retention Knobs
- Remote MPG (Option for Heidenhain)
- Ethernet Connection
- Thermal Compenstation
- Coolant Through Spindle, 280 psi (20 Bar)
- AICCII (200 Block) (Fanuc)
- Coolant Chip Flush / Manual Chip Wash Gun

Optional Features

- 4th Axis Drive Package
- 5th Axis Drive Package (4+1)
- Part / Tool Probe (Wireless) (OMP 40-2 + OTS with OMI-2T)
- Linear Optical Scale (X/Y/Z Axes)
- Column Riser 150 mm
- Power Case Chiller
- External Spindle Surround Coolant
- Chip Conveyor : Scraper Type
- Tool Magazine Autodoor
- Surround Tool Coolant (On Spindle)
- 4th Axis Pre-wiring
- Cutter Air Blast (Spindle side)
- Spare M-Codes (8)
- Spindle Oil Chiller
- Automatic Power Off

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BRIDGEPORT XR SERIES

HIGH-PERFORMANCE VERTICAL MACHINING CENTER

XR 1000
XR 1320

BRIDGEPORT XR 1000 / XR 1320

HIGH PERFORMANCE VERTICAL MACHINING CENTER

AS YOUR NEEDS GROW, BRIDGEPORT HAS SOLUTIONS FOR INCREASED CAPACITY.

Whether you're machining simple workpieces, quality molds and dies, or complex prismatic parts, we've got just the right Bridgeport XR- Series machining center for your operation. Bridgeport XR machines easily satisfy the most demanding production and precision component machining requirements in the aerospace, automotive, mold and tool making, power engineering and oil/gas sectors, to name a few.

When more X-axis travel is needed, then the XR1000 satisfies the requirement nicely. These robust machines offer exceptional stiffness and rigidity to deliver outstanding results in the most demanding production environments. They are particularly well-suited to machine exotic metals, such as Titanium and Nimonics (nickle- based alloys).
To further increase productivity, XR-Series VMCs are configuring for 4-axis machining with an optional interface and rotary table.

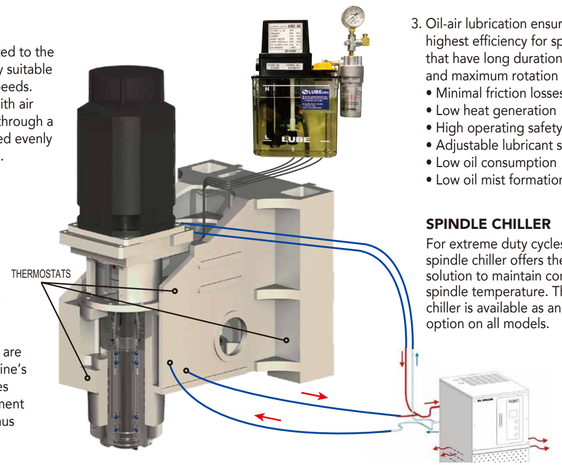
THERMAL STABLE SYSTEM FOR OPTIMAL SPINDLE PERFORMANCE

OIL-AIR LUBRICATION

1. Oil-air lubrication offers lubrication that is targeted to the bearing and is especially suitable for very high rotation speeds.
2. The lubricant is mixed with air and delivered in cycles through a feed hose and distributed evenly to the lubrication points.

DYNAMIC THERMAL COMPENSATION

To minimize the effects of the thermal expansion in the spindle hear the XR1000 machines, thermal compensation sensors (thermostats) positioned around the spindle casting are linked directly to the machine's control system. This ensures rapid and real time adjustment to the machine position, thus minimizing the effects of thermal expansion.



3. Oil-air lubrication ensures the highest efficiency for spindle that have long duration runs and maximum rotation speeds:
   - Minimal friction losses
   - Low heat generation
   - High operating safety
   - Adjustable lubricant supply
   - Low oil consumption
   - Low oil mist formation

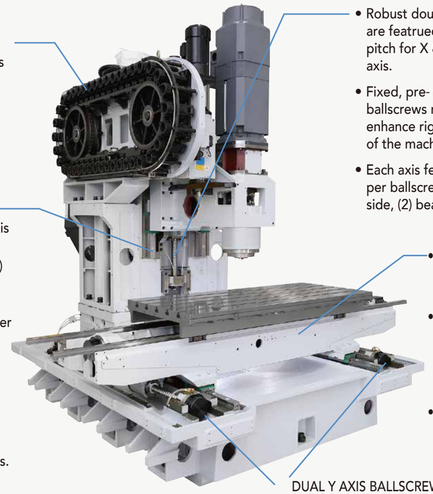
SPINDLE CHILLER

For extreme duty cycles, a spindle chiller offers the best solution to maintain constant spindle temperature. The chiller is available as an option on all models.

High Rigidity Structure

The ATC mount is designed to properly support the ATC's weight by putting the force directly into the column for superior stability, rigidity and minimized vibration to the cutting zone.

- The Z & Y-axis utilizes 45mm ball-guides. The Z-axis features (3) trucks per guideway and the Y-axis, (2) trucks per guideway. The X-axis features (2) 35mm ball-guides with (2) trucks per guideway.
- This heavy duty guideway system ensures a very stiff, rigid and durable machine providing years of low maintenance, high accuracy and superior surface finishes.

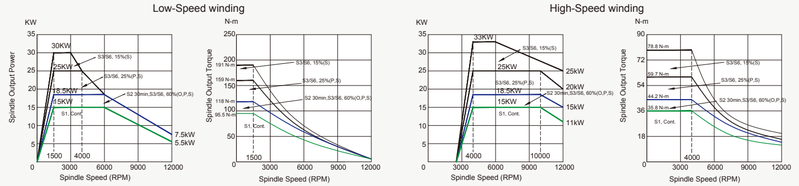


- Robust double-nut ballscrews are featrued, class #3, 45mm, 16mm pitch for X & Yaxis, 12mm pitch for Z axis.
- Fixed, pre- tensioned (0.04mm) ballscrews minimize thermal growth, enhance rigidity, stability, and precision of the machine.
- Each axis features (5) bearings per ballscrew. (3) bearings/set at motor side, (2) bearings/set at end side.
- Robust "C- frame" fixed column design from the popular XR machine family. .
- Strategically ribbed base, column, and spindle carrier for increased rigidity and stiffness during demanding machining applications.
- Includes scraping of column & base joint for improved overall stiffness and rigidity.

DUAL Y AXIS BALLSCREWS (XR 1320)

- Driven at the Center of Gravity Effect
- Improved Surface Quality
- Outstanding Acceleration
- Reduction of Vibration
- Improved Roundness
- Longer Tool Life

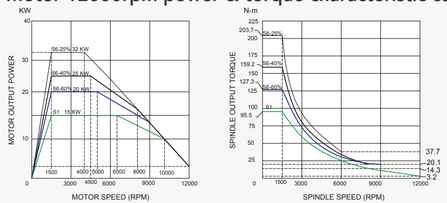
Fanuc Spindle Motor 12000rpm power & torque characteristic curve:



FANUC aiIT15 / 12000-B Spindle Motor

FANUC aiIT15 / 12000-B Spindle Motor

Heidenhain Spindle Motor 12000rpm power & torque characteristic curve:



HEIDENHAIN QAN 260MH 12000RPM SPINDLE MOTOR

Fanuc 0iMF PLUS Control Features:

- 15" LCD Color Display
- Linear / Circular / Helical Interpolation
- Programmable Data Input
- PCMCIA Card Slot
- Workpiece Coordinate System
- Manual Pulse Generator (Handwheel)
- Coordinate System Rotation
- Rigid Tapping
- Tool Life Management
- Tool Length compensation
- Background Editing
- Ethernet Ready/ USB Slot
- Additional Workpiece Coordinate System
- Manual Guide i

Heidenhain 640 Control Features:

- Contour Approach and Departure
- FK Free Contour Programming
- Program Jumps
- Fixed Cycles
- Coordinate Transformations
- Q Parameters
- Programming Aids
- Actual Position Capture
- Verification Graphics
- Program Run Graphics
- Machining Time
- Returning to the Contour
- Datum Tables
- Preset Table
- Data Interfaces
- Tool Compensation
- Cutting Data Tables
- Constant Contouring Speed
- Parallel Operaton
- Interpolation
- 0.5ms Block Processing Time
- Heidenhain Conversational Programming as per ISO
- Several Tool Tables with Any Number of Tools
- Contour Elements
- Pallet Tables
- Touch Probe Cycles