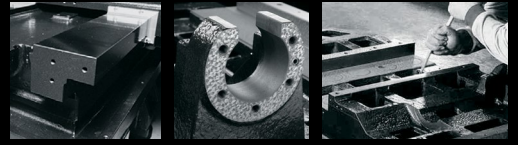


TOYODA



STEALTH VB SERIES



JTEKT

Koyo TOYODA

DOUBLE COLUMN BRIDGE MACHINING CENTERS



TOYODA'S STEALTH VB SERIES

Designed for heavy cutting applications, the Stealth VB Series features powerful technology supported by Toyoda's tried and tested design - promoting reliability, strength and workability - giving Toyoda customers the competitive edge.

With superior precision, exceptional accuracy, and unprecedented cutting power, the Stealth VB Series features ease of operation, strength through thermal stability, operator safety with full access to the table, and maximum vibration dampening - proving time and time again to be the *ideal* choice for heavy milling and drilling applications.



Stealth
VB315



Built for Speed and Power 3

Geared-Head Spindle Features
High Performance Spindle Design
Compact Ram Construction
Spindle Bearing Configuration

Built for Reliability 5

Casting Technology
High-Grade Cast Iron Bed
Solid Platform Construction
Hand-Scraped Metal-to-Metal Surfaces
Precision Guideway Technology

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Fanuc OiM Control
Accessible Operation Door
Easy Access to the Spindle
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POWERFUL SPINDLE



TOYODA'S STEALTH VB STANDARD GEARED-HEAD SPINDLE FEATURES:

- 6,000 RPM Maximum Speed
- 35 HP – 546 ft-lb of Torque
- Five Large Spindle Bearings
- Big Plus - BCV50 Standard
- Boxway Z-Axis



High Performance Spindle

The robust, cast iron headstock is paired with a 6,000 RPM two speed geared-head BigPlus spindle. This combination ensures high revolution accuracy and excellent vibration-dampening capabilities. The large bearings give these two speed gear box driven CAT50 spindles increased rigidity and the ability to machine heavy load capacities.

Thermal expansion is controlled via an oil circulating heat exchanger with temperature-controlled spindle and gear box lubrication.

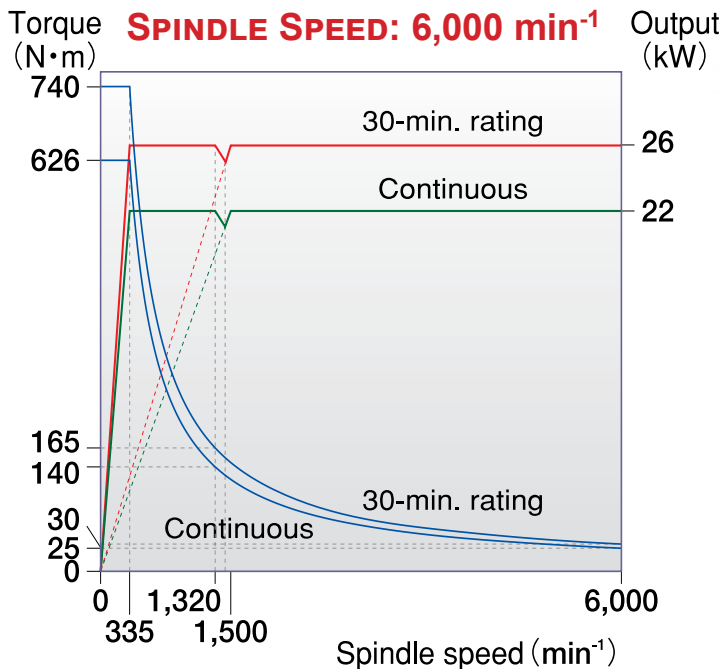
Spindle Speed	10 ~ 6,000 min ⁻¹
Spindle Taper	BVC50
Spindle Drive Motor	22 kW (30 HP) for cont. / 26 kW (35 HP) 30 min.
Maximum Spindle Torque at 100% Duty	626.2 Nm (461 ft-lb)
Spindle Diameter (front bearing bore)	Ø 100 mm (3.9 in)

Compact Ram Construction

Toyoda's rigid boxway z-axis ram features a design promoting high-performance machining. The large ram cross section allows for heavy cutting and smooth, stable drilling operations.

ROBUST SPINDLE BEARING CONFIGURATION

- 5 Rows of Angular Contact Bearings
- (3) 100mm Bearing ID - (2) 90mm ID



Vibration-Dampening Casting Technology

The superior structural rigidity of Toyoda's Stealth VB Series provides long lasting performance even in the most demanding large part machining applications.

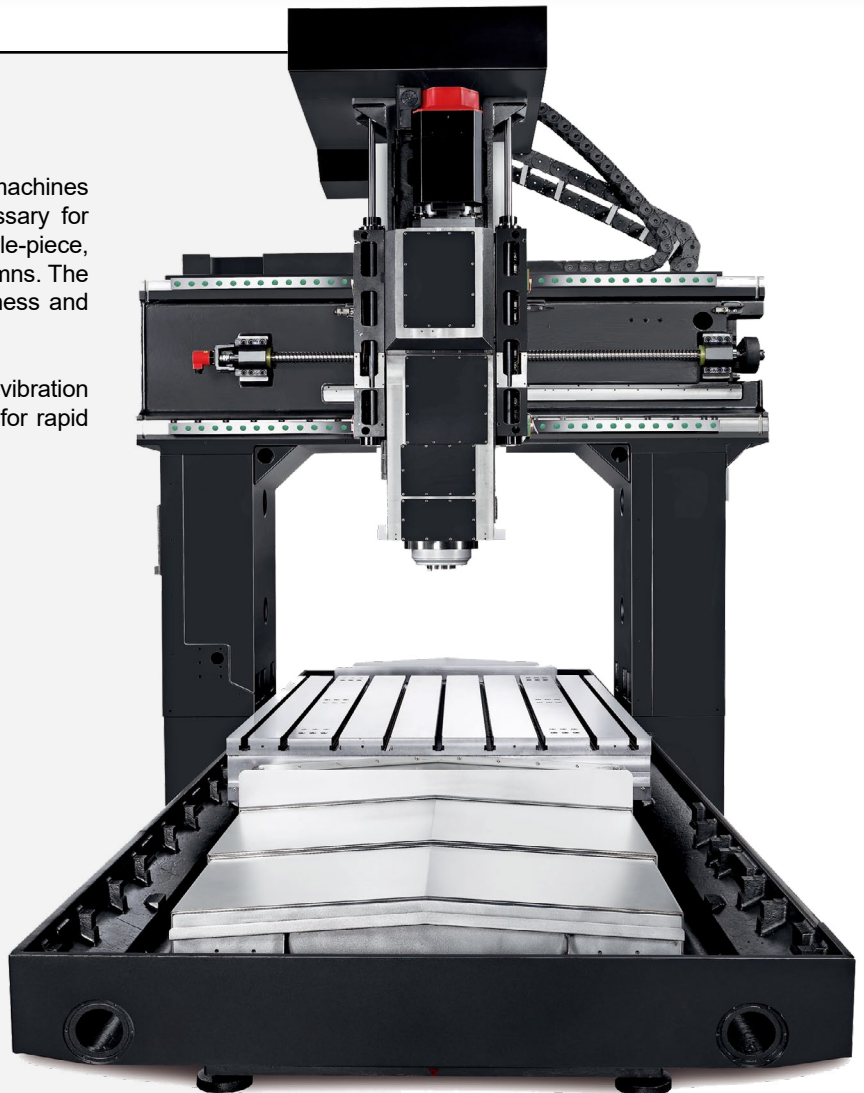
As a result of more than **40 years** of enhanced bridge machine design, product testing, and technological strides, the VB Series overcomes the unique demands of heavy milling and drilling applications - all at a competitive price point.



Solid Platform Construction

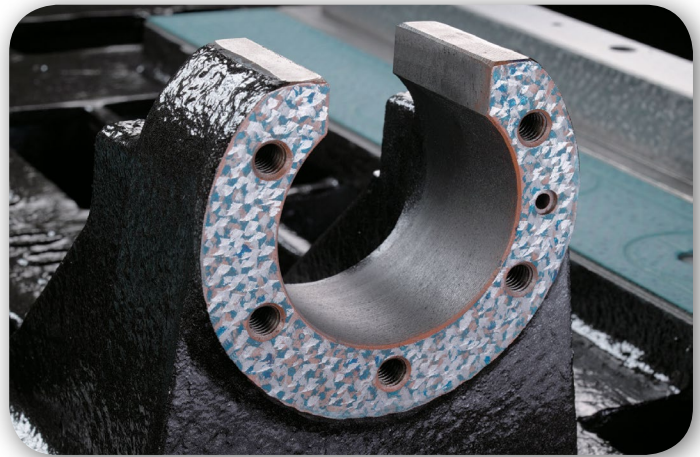
The superior structural rigidity supporting Toyoda's Stealth machines provides the precise and long lasting performance necessary for heavy cutting applications. Models feature massive single-piece, high-grade Meehanite cast iron bases with dual bridge columns. The precision cast iron ground table surface also ensures flatness and parallelism to the tabletop.

Designed for thermal stability, the castings provide excellent vibration dampening, superior tensile strength, and extreme rigidity for rapid material removal of large workpieces.



Hand Scraped Metal-to-Metal Surfaces

All precision contact surfaces are hand-scraped for absolute geometric precision - allowing critical components to mate perfectly within millionths of an inch.



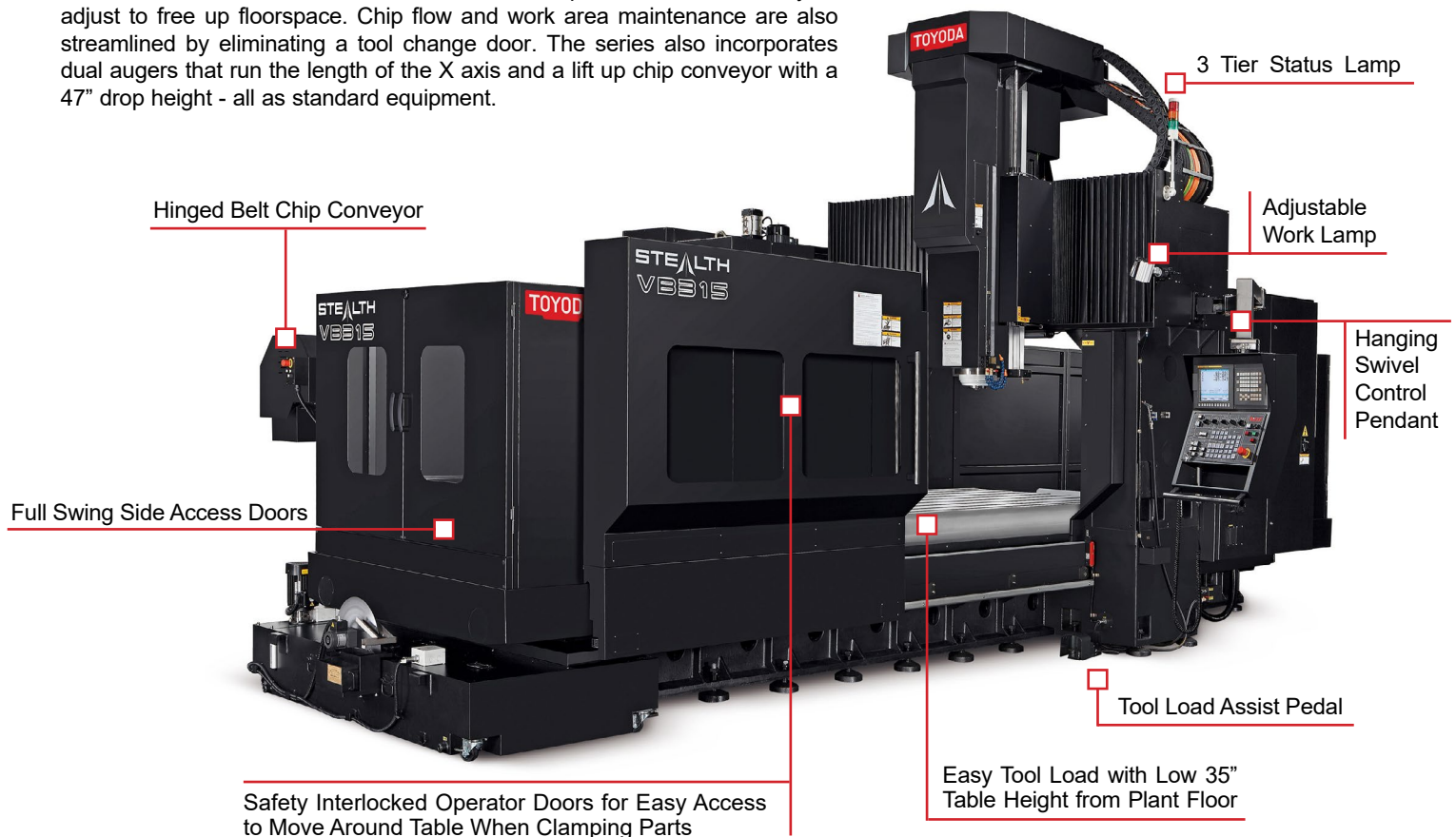
Precision Roller Guideways

Stealth VB models feature heavy-duty precision linear roller guideways on the X and Y axes with a boxway Z axis for dynamic accuracy - exceeding the industry's standards for quality and performance. Despite heavy table loads, Stealth VB models give manufacturers the dependability they need without limiting the raw power of the machine.

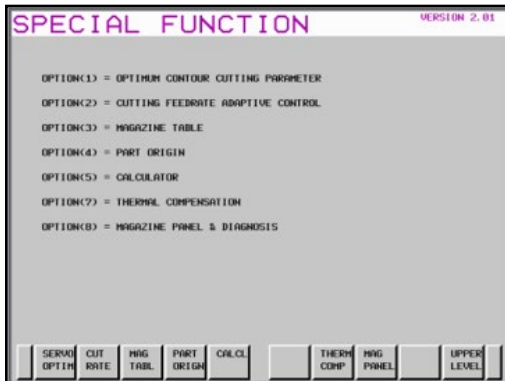
Operation Ergonomics

From the convenience of the fully loaded Fanuc 0iM control, to the easily accessible air and coolant supply located at the load position, the Stealth bridge series was designed to promote ease of maintenance with operator accessibility and safety in mind.

Features include the overhead mounted control pendant which is easy to adjust to free up floorspace. Chip flow and work area maintenance are also streamlined by eliminating a tool change door. The series also incorporates dual augers that run the length of the X axis and a lift up chip conveyor with a 47" drop height - all as standard equipment.

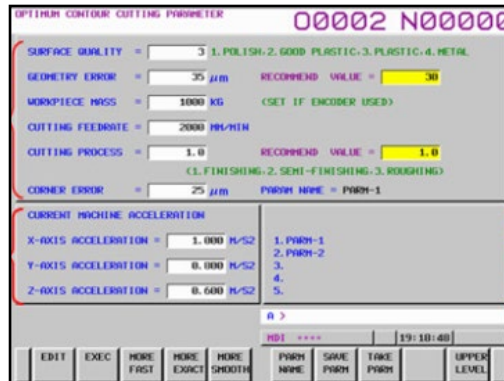


Customized Production Enhancing Technology



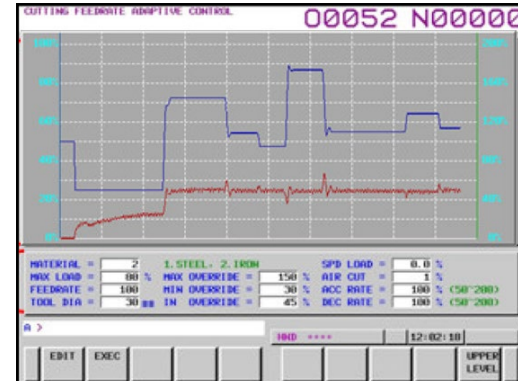
WELE Special Function Software

Exclusive WELE functions expand the performance and flexibility of the machine.



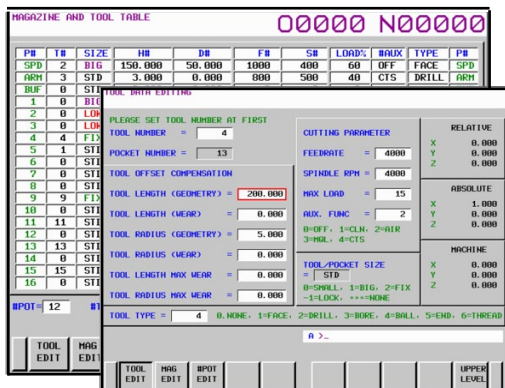
Optimum Contour Cutting

Allows user to define automatic cutting parameters based on surface finish, finished geometry, workpiece weight, cutting speed, and corner override.



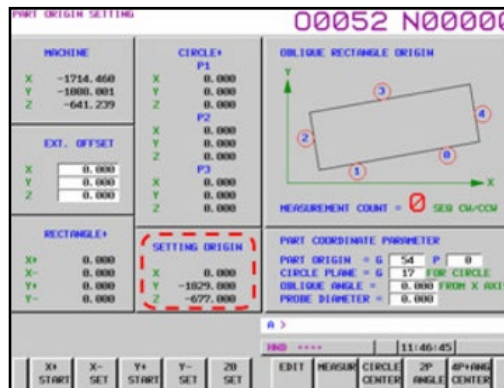
Cutting Feed Adaptive Control

Allows user to adjust parameters to maintain constant cutting load. Load condition is displayed via monitor.



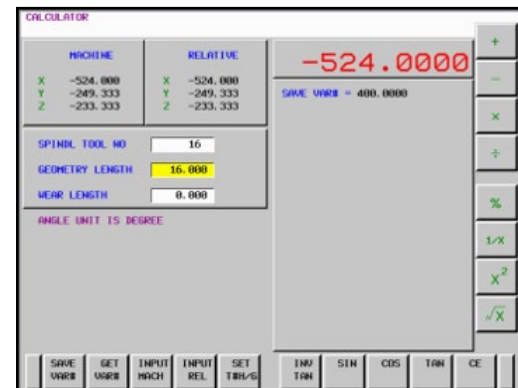
Tool Table

Tool number, geometric offset, auxiliary function control (i.e. CTS), tool type and random/fixed tool pocket assignment.



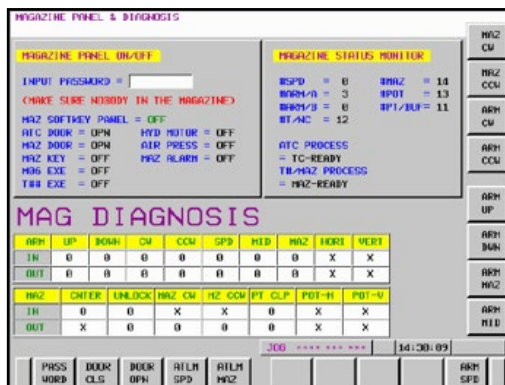
Part Origin Setting

Allows user to quickly and easily define work piece origin offsets - eliminating the need to precisely position work on the table.



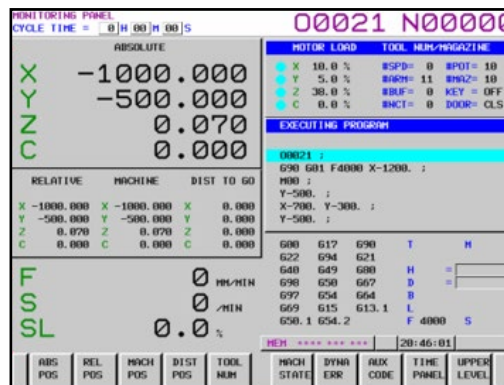
Machining Calculator Function

Convenient machining calculator functions enhance programming for complicated mathematical computational needs.



Tool Magazine Panel & Diagnostics

Convenient for troubleshooting and organization of the tool magazine. Includes manual control features and security function.



Monitoring Panel

Active machining state displays include position, program, feed, spindle, distance to go, parts counter, servo error display, and Ezone for quick program editing.

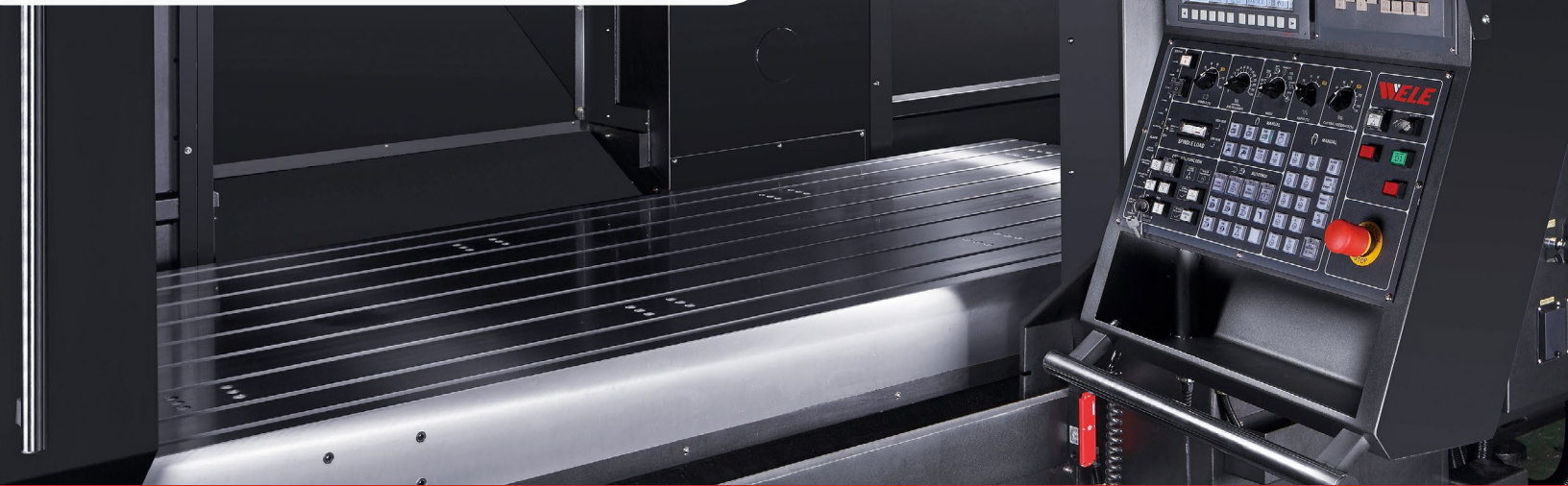
Advanced Control System

All Stealth VB machines utilize a Fanuc 0iM control equipped with the technology necessary to offset the demands of complex heavy-cutting applications. This control features:

- 10.4" Color LCD Display
- Rigid Tapping
- Helical Interpolation
- Custom Macro B

Options include:

- AICC II
- Bell-shaped ACC/DEC



Automatic Tool Changer

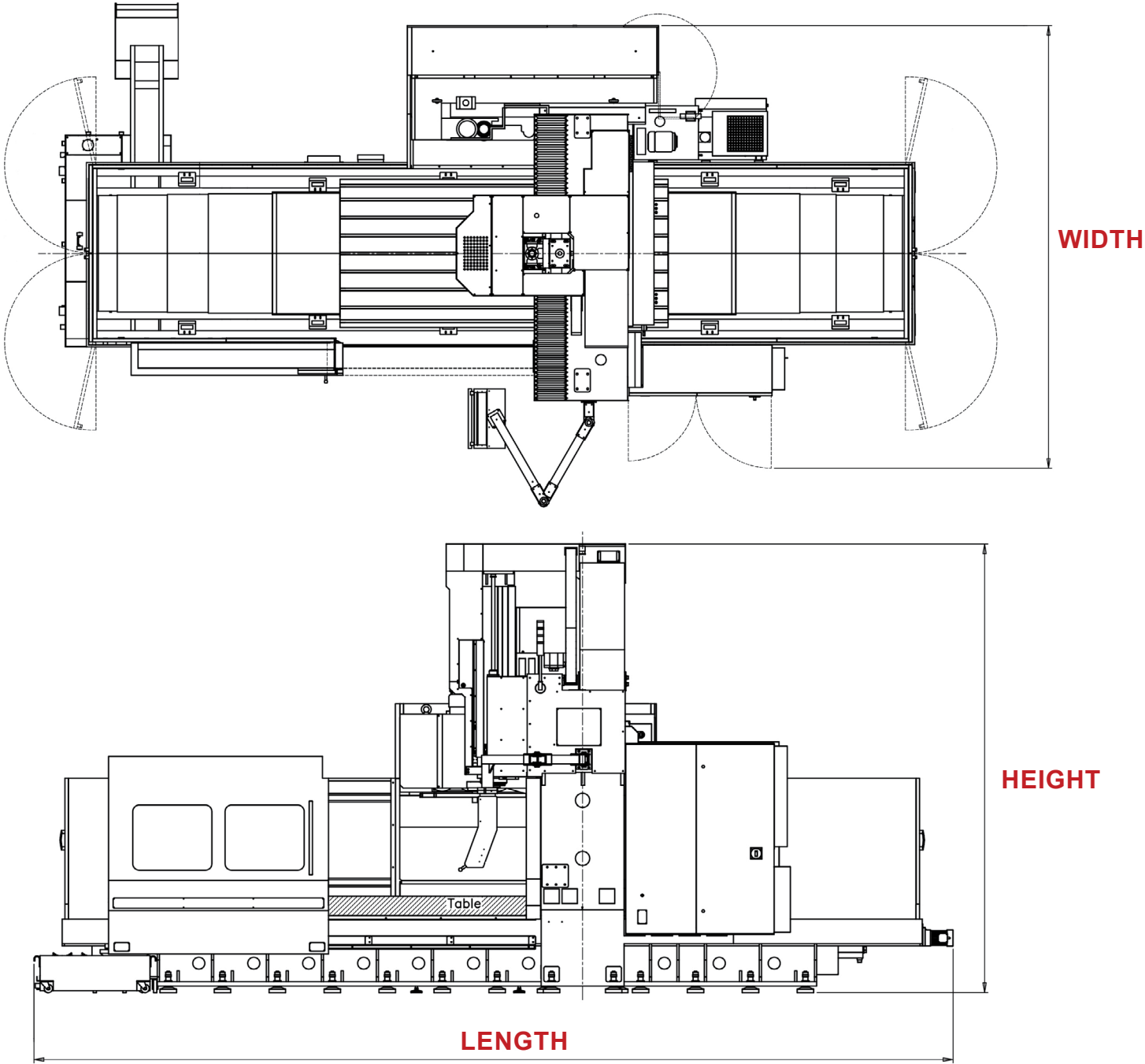
Standard automatic tool changers feature rapid tool change for maximized, efficient machining.

TOOL TO TOOL CHANGE TIME

- 2.5 seconds



Machine Layout



MODEL	DIMENSIONS		
	Length in (mm)	Width in (mm)	Height in (mm)
VB215	250.5" / 6,363	164.6" / 2,181	162.3" / 4,128
VB315	328.4" / 8,363		
VB320	329.7" / 8,376	207.7" / 5,276	163.5" / 4,152
VB420	414.2" / 10,520		

VB STEALTH MACHINE SPECIFICATIONS

Guideways	—	Linear Roller			
Specification / Model	Unit	VB215	VB315	VB320	VB420

STROKE

X-axis Travel	in (mm)	79.5 (2,020)	118.8 (3,020)	158.2 (4,020)
Y-axis Travel	in (mm)	59 (1,500)	78.7 (2,000)	
Z-axis Travel	in (mm)	31.5 (800)		
Distance from Spindle Nose to Table Top	in (mm)	7.9 - 39.4 (200 - 1,000)		
Distance between Columns	in (mm)	62.9 (1,600)	82.6 (2,100)	

TABLE

Table Size (X axis)	in (mm)	82.6 (2,100)	122 (3,100)	161.4 (4,100)
Table Size (Y axis)	in (mm)	55.1 (1,400)	170.8 (1,800)	
Table Load Capacity	lb (kg)	17,600 (8,000)	22,046 (10,000)	26,400 (12,000) 33,000 (15,000)
Table T Slot Size (width x distance x number)	in (mm)	.866 x 6.12 x 9 (22 x 155.5 x 9)	.866 x 70.86 x 11 (22 x 1,800 x 11)	
Table Height from Plant Floor	in (mm)	35.0 (890)		

SPINDLE

Spindle Motor (cont. / 30 min.)	HP (kW)	30 / 35 (22 / 26)
Spindle Speed	RPM	10 ~ 6,000 min ⁻¹
Maximum Spindle Torque at 100% Duty	ft-lb (Nm)	461 (626.2)
Spindle Taper	—	BCV50
Spindle Bearing Diameter	in (mm)	3.9 (100)

FEEDRATE

Rapid Feedrate (X axis)	ipm (m/min)	944 (24)	708.5 (18)
Rapid Feedrate (Y axis)	ipm (m/min)	944 (24)	787.4 (20)
Rapid Feedrate (Z axis)	ipm (m/min)	590 (15)	
Maximum Cutting Feedrate	ipm (m/min)	394 (10)	

AUTOMATIC TOOL CHANGE

Tool Magazine Capacity	pockets	32 (60 Optional)
Max. Tool Diameter / Adjacent Pocket Empty	in (mm)	5.0 / 8.5 (127 / 215)
Maximum Tool Length	in (mm)	15.7 (400)
Maximum Tool Weight	lb (kg)	44.1 (20)
Tool Taper	—	BCV 50
Pull Stud	—	MAS TYPE 1 45°
Tool Change Time	seconds	2.5

ACCURACY

Positioning Accuracy	in (mm)	±0.0004 (±.001)
Repeatability	in (mm)	±.0001 (±.003)

UTILITIES

Total Power Required	v	220
Total kVA Required	kVA	60
Air Pressure	psi	90

DIMENSIONS

Weight	lb (kg)	44,000 (20,000)	55,116 (25,000)	59,400 (27,000)	66,000 (30,000)
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CONTROL

Fanuc 0iM

Standard VB Series Accessories

Lift Up Chip Conveyor



Coolant Supply Unit



RS232 and Ethernet Port



Coolant and Air Gun



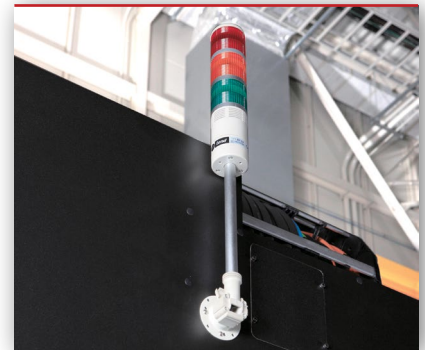
Tool Load Assist Foot Pedal



Oil Chiller and Hydraulics



3-Step Status Lamp



Dual Chip Augers



Fanuc CNC 10.4"



Flash Card and USB Slots



Door and Ceiling Work Lights



Efficient Chip Removal

All models have a high volume of coolant flow across the bed to accelerate chip flow.

The angled bed and coolant flow flush chips along the x-axis into the dual screw-type auger-to-plate conveyor for efficient removal and reduced operator maintenance.

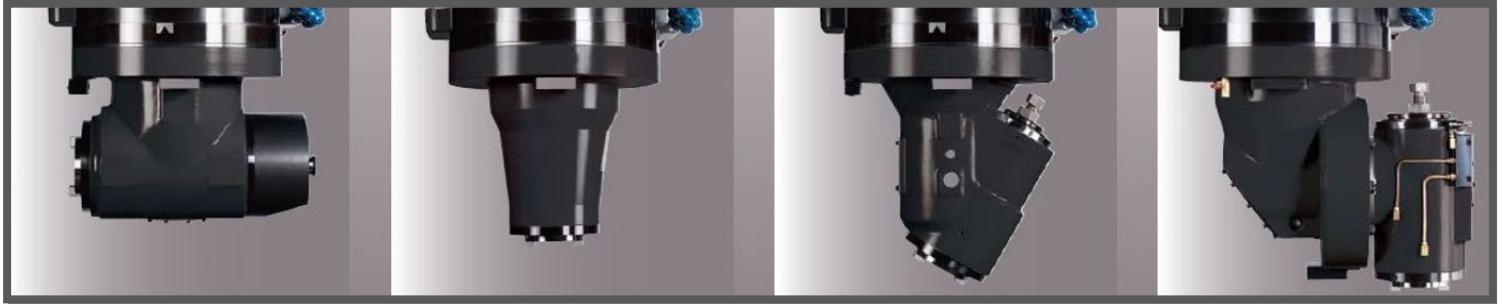
Standard to the VB series is the coolant & air gun, large capacity coolant tank, oil skimmer, and oil chiller.



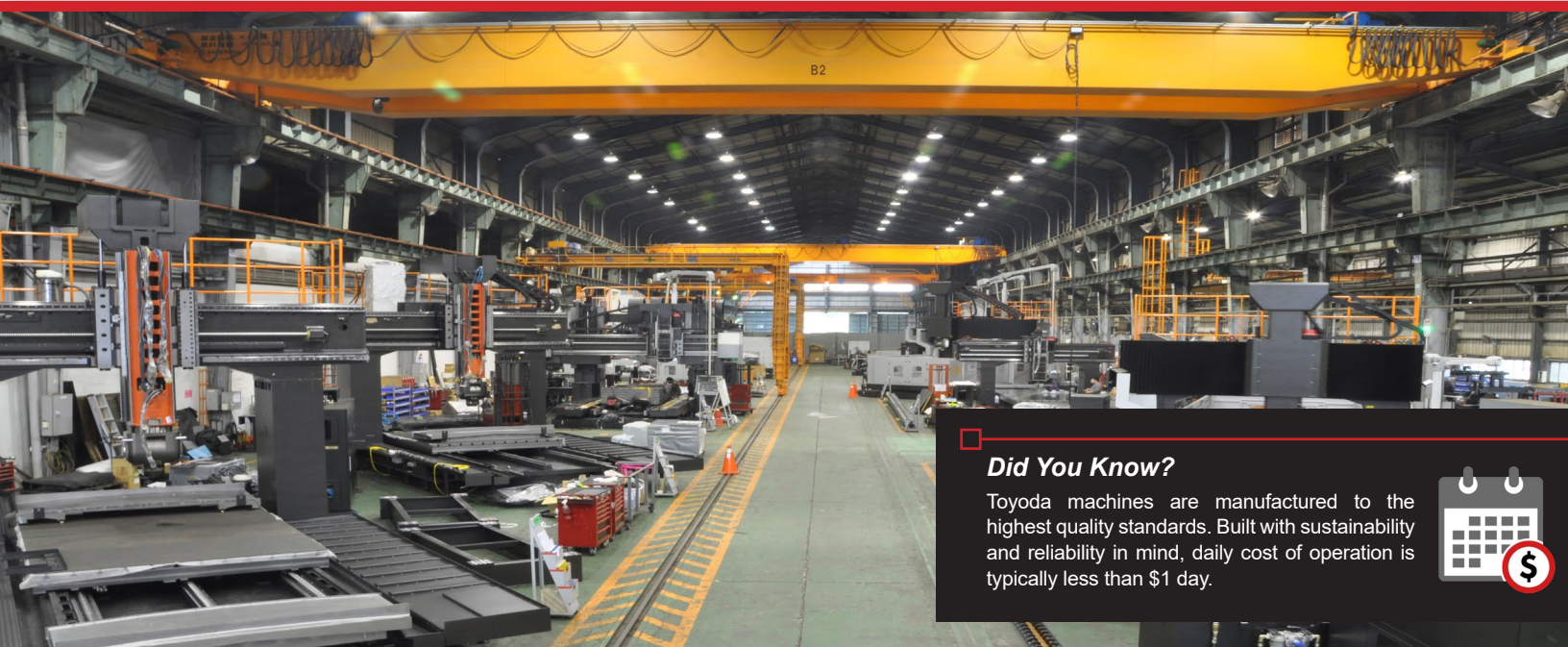
Optional Equipment

Manual Head Attachments

The manual head attachments on the Stealth VB Series increase the machine's flexibility to support a wide range of workpieces.



		90° Head	30° Head	Extension Head	Universal Head
Spindle Taper	—	CAT50			
Spindle Revolution	RPM	2,400	3,000	4,000	2,400
Max. Tool Diameter	mm (in)	215 (8.5)			
Max. Output	kW (HP)	15 (20)		18.5 (25)	15 (20)
Clamping Method	—	Manual			
C-Axis Indexing Method	—	Auto indexing		—	Auto indexing
C-Axis Indexing Angle	degrees	5 Standard (1 option)		—	5 Standard (1 option)



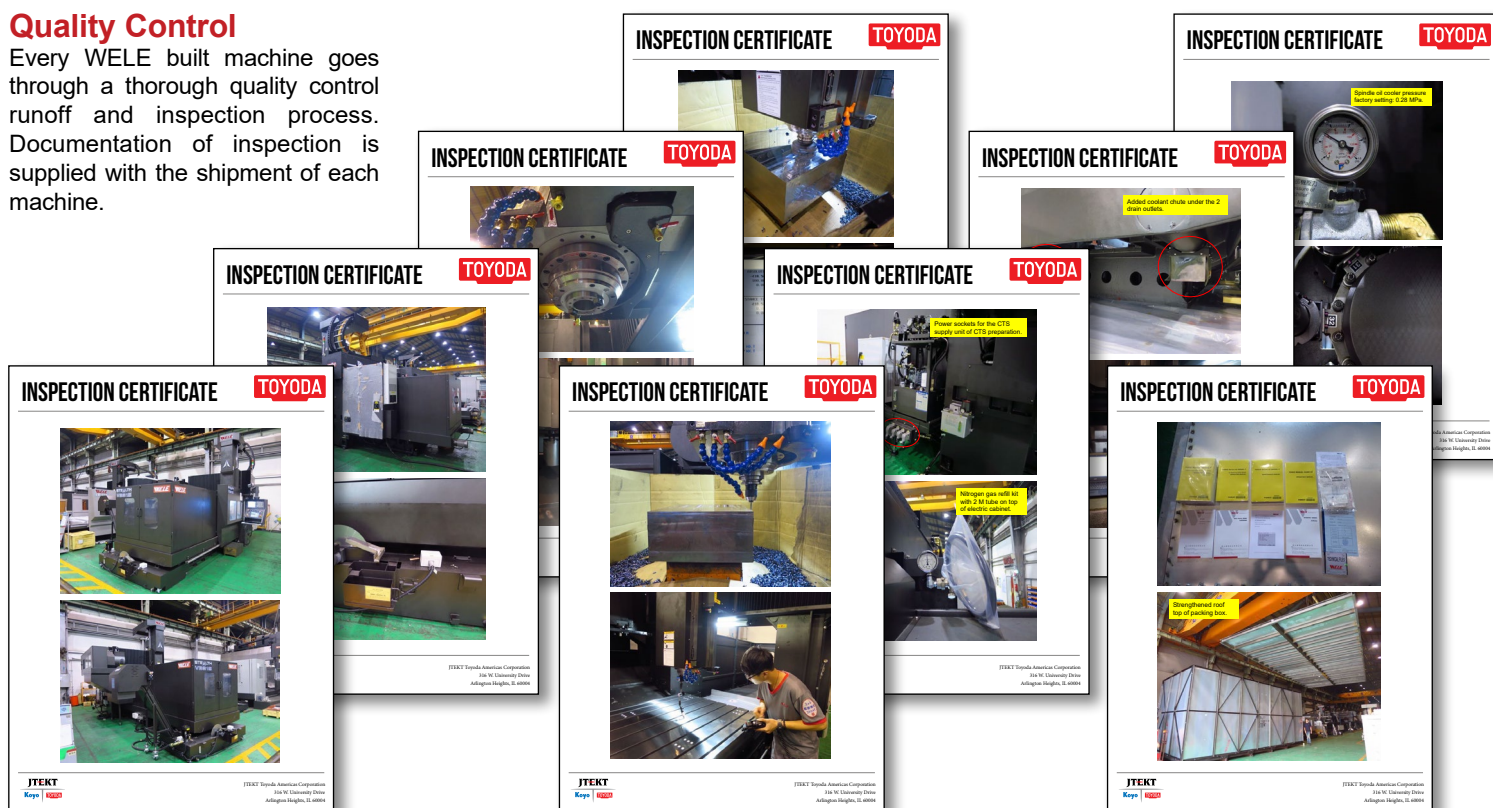
Did You Know?

Toyota machines are manufactured to the highest quality standards. Built with sustainability and reliability in mind, daily cost of operation is typically less than \$1 day.



Quality Control

Every WELE built machine goes through a thorough quality control runoff and inspection process. Documentation of inspection is supplied with the shipment of each machine.



About JTEKT Corporation

JTEKT was formed in 2006 from the merger of two Japanese companies with a long-time presence in North America. The merger combined the steering and bearing expertise of Koyo Seiko (operating in North America since 1958), and the machine and driveline expertise of Toyoda Machine Works (operating in North America since 1977). The merger created a global company capable of providing a diverse array of technology-driven, high-quality products to the world's leading automakers.

About WELE: A Toyoda Strategic Alliance Company

The story of WELE Mechatronic Co., Ltd. begins in 1973 with Mr. Y. C. Kuan. In hopes of taking Taiwanese manufacturing to an international level, the manufacturing professor began working closely with American machine tool builders to study advanced machining techniques.



Equipped with extensive machining knowledge and experience, Mr. Kuan and his team left the institute to begin their own CNC machinery company. This equipment had proven to be a strong competitor in domestic and international markets, and in 2005, Toyoda Machinery USA became the company's exclusive North American importer.

Mr. Kuan and his team parted ways with the company in 2007 to start WELE Mechatronic Co., Ltd. Backed by the JTEKT Corporation, WELE was operational within the year. As a Toyoda Strategic Alliance Company, WELE began exporting machines for Toyoda's C-frame and bridge mill lineups. Since then, WELE has expanded the product offering to moving cross rail mills, boring and gantry mills, vertical turning centers, and multi-milling turning centers. As a majority shareholder, JTEKT Corporation holds WELE products to the same quality standards as the Toyoda lineup.



THE **TOYODA** DIFFERENCE



For over 70 years, Toyoda has served as one of the world's leaders in machine tool manufacturing. From our roots in grinding machine technology to the advanced capabilities of our ever-increasing product lineup, we've consistently provided **quality** machines **built to excel** in even the toughest manufacturing environments.

At Toyoda, every detail is carefully considered — from the solid cast iron bases to the operator-friendly ergonomic design — maximizing production across all metal cutting industries. Toyoda machines are engineered for innovators, and built with the speed, strength, precision, and capacity to push your business forward. From job shop applications to high-volume production, our long-lasting, dependable machines continue to exceed customer's expectations - redefining industry standards.

In today's highly competitive and unpredictable market, it takes more than a quality machine to set your business apart from your competitors. With every Toyoda machine purchase, our customers are armed with Toyoda's commitment, product support, industry expertise and resources to confidently maintain business profitability while remaining competitive.

WHAT STANDS BEHIND EVERY TOYODA MACHINE?



EXPERIENCED SPINDLE DEPARTMENT

- Team of factory trained certified spindle technicians
- Dedicated state-of-the-art spindle rebuild facility
- Over 9,000 readily available O.E.M. bearings and spare parts
- Over 200 spindles, in-stock, ready for immediate delivery



INNOVATIVE ENGINEERING TEAM

Toyoda's dedicated in-house design & applications departments build total turnkey packages including:

- Fixturing
- Part Handling
- Tooling and Programming
- Full Systems Integration
- Statistical Analysis



\$26 MILLION IN PARTS INVENTORY

Within Toyoda's 100,000 sq. ft. corporate facility, we house over 100,000 unique part numbers - enabling customers to promptly receive the replacement parts they need to keep their business running

Access to www.toyodaparts.com allows customers to place orders online, 24 hours a day, 7 days a week.



55+ DEDICATED SERVICE MEMBERS

Toyoda's growing team of experienced and certified machine specialists service customers in the United States, Mexico, Canada and Brazil.

Our services include preventative maintenance, training courses, and over-the-phone technical solutions with Toyoda's team of machine experts.

TOYODA

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