



VESTA 800

**Built to Dominate
in Its Class**



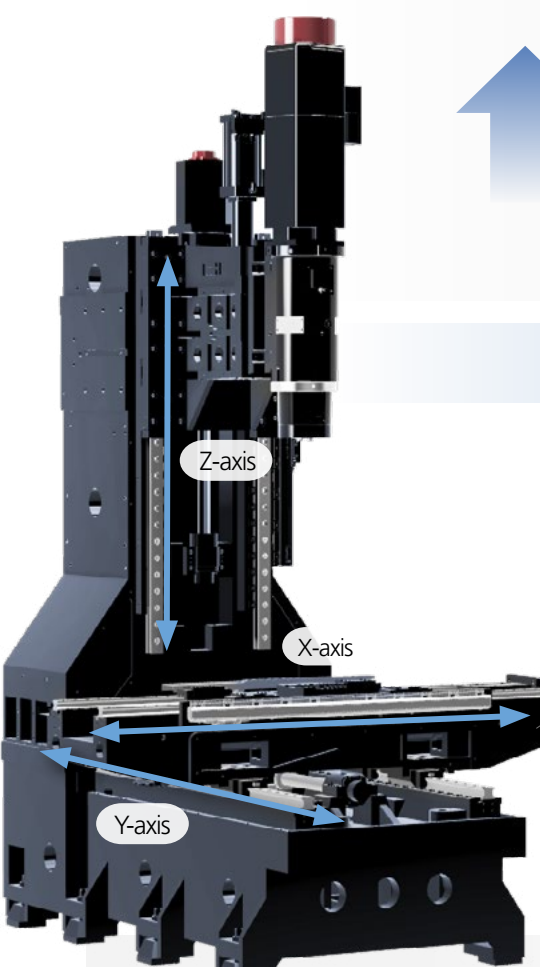
Machine Insights

Precision, Productivity, Compact Design

The VESTA-800 delivers differentiated high-precision machining, enhanced productivity, and a compact design.

Machining Stability

- For heavy duty cutting.
- Spread across 3points (3shoes).
- Improved stability and precision.
- Low vibration.



Frame Weight
26.6% increase
(1,960kg → 2,482kg)

Base Frame Weight
23.4% increase

Roller Block 4/4/4 → **4/4/6**

LM Guide Rigidity
210% increase
34 → 45 mm

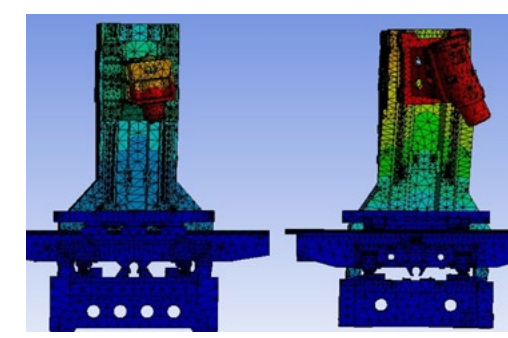
Ball Screw Rigidity
56% increase
Ø38 → Ø40 mm

Accuracy
Rigid

*Based on data compared to VESTA-660

X-axis Directional Rigidity
26.9% increase
(26N/μm → 36N/μm)

Y-axis Directional Rigidity
23% increase
(36N/μm → 28N/μm)



VESTA-800 VESTA-660

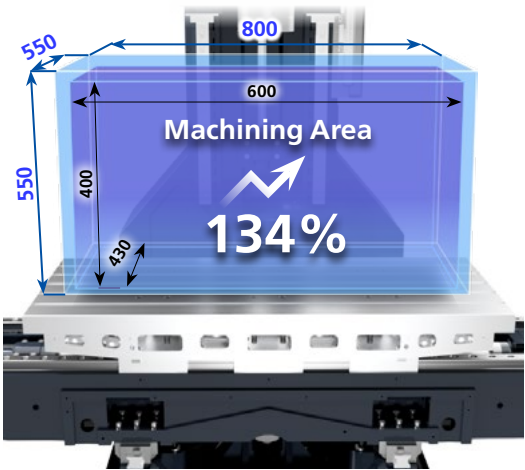
Type	Stroke mm (inch)			Rapid Speed m/min (ipm)		
	X-axis	Y-axis	Z-axis	X-axis	Y-axis	Z-axis
VESTA-800	800 (31.5)	550 (21.65)	550 (21.65)	36 (1,417)	36 (1,417)	36 (1,417)
VESTA-800 PRO				42 (1,654)	42 (1,654)	36 (1,654)

Expanded Table Area for More Flexibility

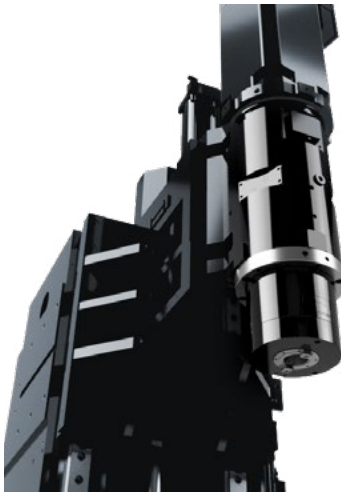
* Unit : mm (inch)

- Supports Various Workpiece and Vice Setups.
- Up to Four 6" Vices Mounted.

— VESTA-800 : 800 x 550 x 550			
— VESTA-660 : 600 x 430 x 400			
Type	Table Size mm(inch)	T Slot W x P mm (inch)	Max. Loading Capacity kg _f (lb _f)
VESTA-800 VESTA-800 PRO	1,000 x 550 (39.37 x 21.65)	18 x 90 (0.71 x 3.54) / 5 ea	600 (1,323)



Stable Spindle with Low Vibration and Heat



Type*		Max Spindle Speed rpm		FANUC	
				Spindle Motor kW	Max Torque Nm
VESTA-800	STD BBT-40/ CAT-40/ SK-40	10,000	Regular Type STD	11 / 7.5	70
			CTS OPT	18.5 / 11	117.8
		12,000	Regular Type OPT	18.5 / 11	
			CTS OPT	18.5 / 11	
VESTA-800 PRO		15,000	Regular Type STD	18.5 / 11	
			CTS OPT	18.5 / 11	

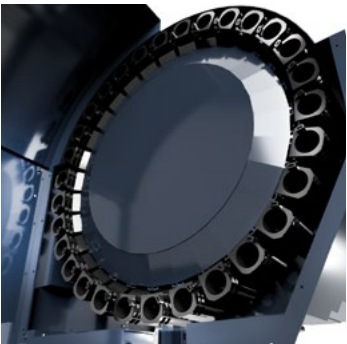
* : Standard Specifications Vary by Country.

Adaptable Tool Selections for the Magazine

Various specifications are available based on users' tool types

Shank	Tool*
Tool Storage Capacity	BBT-40 / CAT-40 / SK-40 STD
Method of Tool Selection	24 STD / 30 OPT
Tool Change Type	Memory Random
	Swing Arm

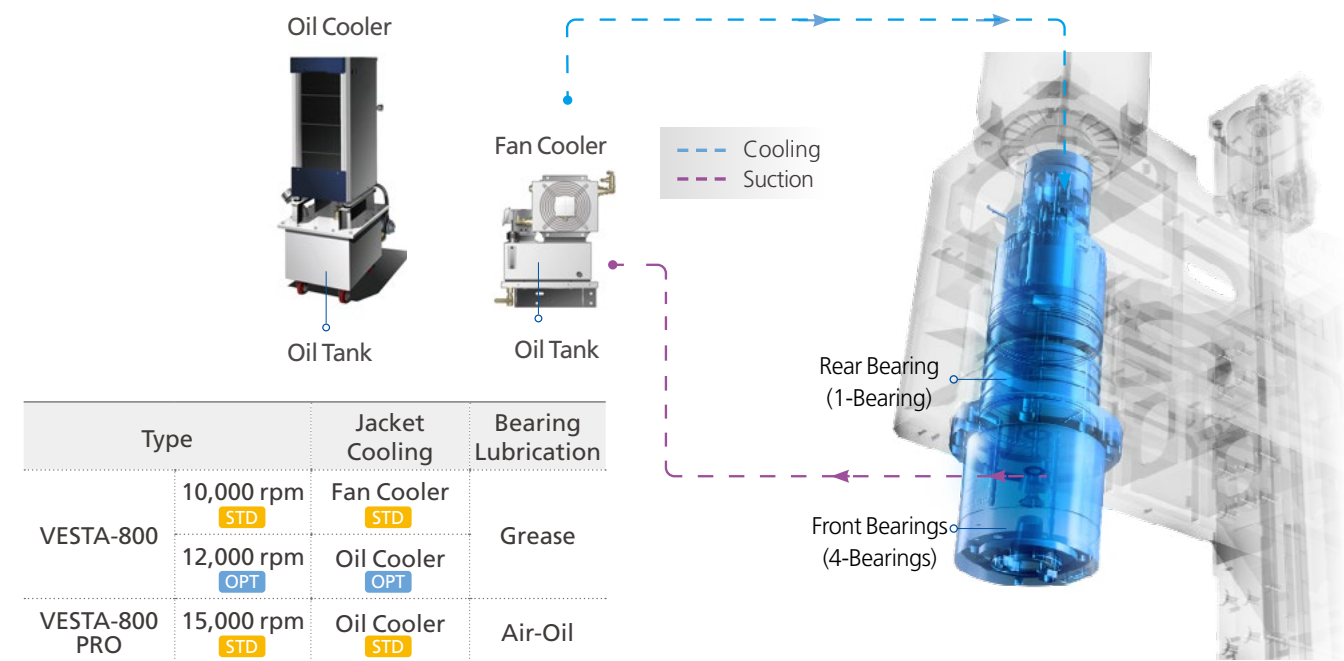
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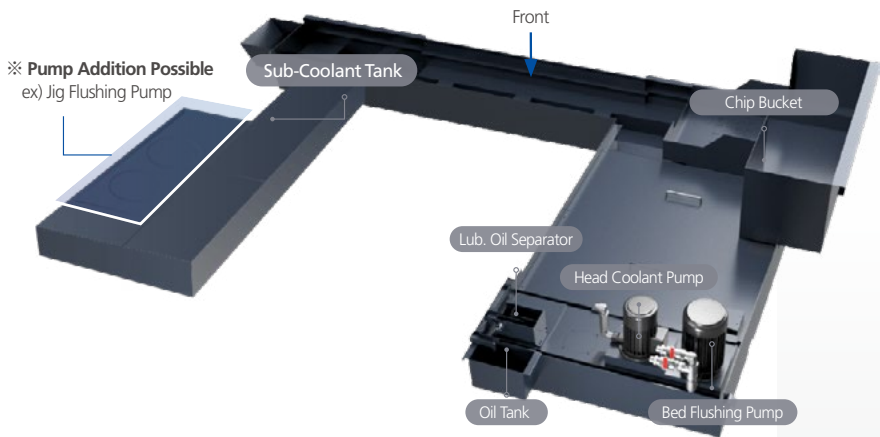
Magazine Shutter Applied **OPT**

Prevents chips from entering the magazine during machining.

Single-Digit “μm” Level Deformation



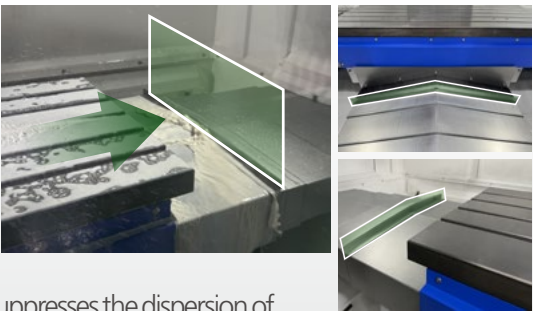
Efficient Chip and Coolant System



- Tank Capacity : 390ℓ (103.03 gal) **STD**
- 300ℓ (79.3 gal) Sub-Coolant Tank **OPT**

Compared to VESTA-660
22% increase

Prevention of Machining Chip Dispersion



- Suppresses the dispersion of machining chips that move with the coolant, effectively preventing chips from accumulating in the corners inside the machine.

Coolant Pump Specifications

- Head Coolant Pump - Power : 1.4 kW
- Bed Flushing Pump - Power : 2.2 kW
- Coolant Gun Pump - Power : 0.4 kW

* Only water-soluble coolants are supported with 7 MPa.

Detailed Information

Standard / Optional Accessories Status

※ S : Standard O : Option

NO.	ITEM	DESCRIPTION	VESTA-800	VESTA-800PRO
1	Spindle	10,000 rpm	S	X
2		10,000 rpm (CTS)	O	X
3		12,000 rpm	O	X
4		12,000 rpm (CTS)	O	X
5		15,000 rpm	X	S
6		15,000 rpm (CTS)	X	O
7	Magazine	24 Tools Magazine	S	S
8		30 Tools Magazine	O	O
9		Magazine Shutter	O	O
10	Tool Shank*	BBT-40 / CAT-40 / SK-40	S	S
11	Coolant Function	Head Coolant Pump (1.4 kW)	S	S
12		Bed Flushing Pump (2.2 kW)	S	S
13		CTS Coolant System	O	O
14		(For 7 MPa, only water soluble coolants are available)	O	O
15		Oil Mist (Semi Dry Cutting System)	O	O
16	Chip Removal Function	Air Blower	S	S
17		Air Gun	O	O
18		Coolant Gun	O	O
19		Sub Coolant Tank (300L)	O	O
20		Lift-up Chip Conveyor (Hinge Type / Scraper Type)	O	O
21		Back Type Lift-up Chip Conveyor	O	O
22		Side Type Lift-up Chip Conveyor (Left / Right)	O	O
23		Chip Conveyor Speed Control Via Inverter Method Applied	O	O
24		Ring Around Flood Coolant Unit	S	S
25		Mist Collector	O	O
26	Precision Machining Function	Linear Scale (X / Y / Z)	O	O
27		Hwacheon Efficient Contour Control System (HECC)	S	S
28		Hwacheon Thermal Displacement Control System (HTDC)	S	S
29		Hwacheon Artificial Intelligence Control System (HAI): 200 Block	S	S
30		Hwacheon Artificial Intelligence Control System (HAI): 400 Block	O	O
31		Grease Supply Unit	S	S
32		High Column (200mm / 300mm)	O	O
33		Spindle Cooler (Jacket Cooling)	O	X
34		Oil Cooler	O	O
35		Fan Cooler	O	O
36	Measuring & Automation Function	Tool Measuring System: Renishaw / Blum (Touch Type, Laser Type)	O	O
37		Workpiece Measuring System: Renishaw / Blum (Touch Type)	O	O
38		Tool Life Management	O	O
39		Auto Door	O	O
40		Hwacheon Tool Load Detect System (HTLD)	S	S
41	Convenient Functions	Cutting Feed Optimization System (OPTIMA)	S	S
42		Ethernet Interface	S	S
43		MPG Handle (1ea)	S	S
44		MPG Handle (3ea)	O	O
45		Signal Lamp with 2 Colors (R, G)	O	O
46		Signal Lamp with 3 Colors (R, G, Y)	S	S
47		Display Unit	S	S
48		15" Color LCD	S	S
49		Operator Panel Supplied as Standard on the Right (Left Side on Request)	S	S
50		3-Step Height Adjustment Device for Operator Panel	S	S
51		Tool Box	S	S
52		NC Cooler	O	O
53		Oil Skimmer	O	O
54		Air Dryer	O	X
55		10,000 rpm	X	S
56		15,000 rpm	X	S
57		Door Interlock	S	S
58		Workpiece Coordinate System	S	S
59		48 Pairs	O	O
60		300 Pairs	S	S
61		Lubrication Oil Separation Tank	S	S
62		Perfect Base Around Splash Guard	S	S
63		Part Program Storage Length 5,120m (2MB)	S	S
64		Data Server (256MB, 1GB, 2GB, 4GB, 16GB, 32GB)	O	O
65		Data Server Interface	O	O
66		Manual Guide i	S	S
67		M-VISION Plus (Monitoring Solution of Real-time Operational Status)	O	O
		M-VISION Pro (Operation Managing and Monitoring Solution of Real-time Operational Status)	O	O
		Energy Saving System	S	S
		H-DRAW MC DESKTOP	O	O
		Transformer	O	O
		4-Axis Interface	O	O

* : Standard Specifications Vary by Country.

Vertical Machining Center for Enhanced Productivity and Work Convenience

Designed for complete machining in a single setup, high-rigidity spindle system.
Hwacheon's intelligent software suite adds layers of safety, monitoring, and control to ensure dimensional accuracy over long cycles.

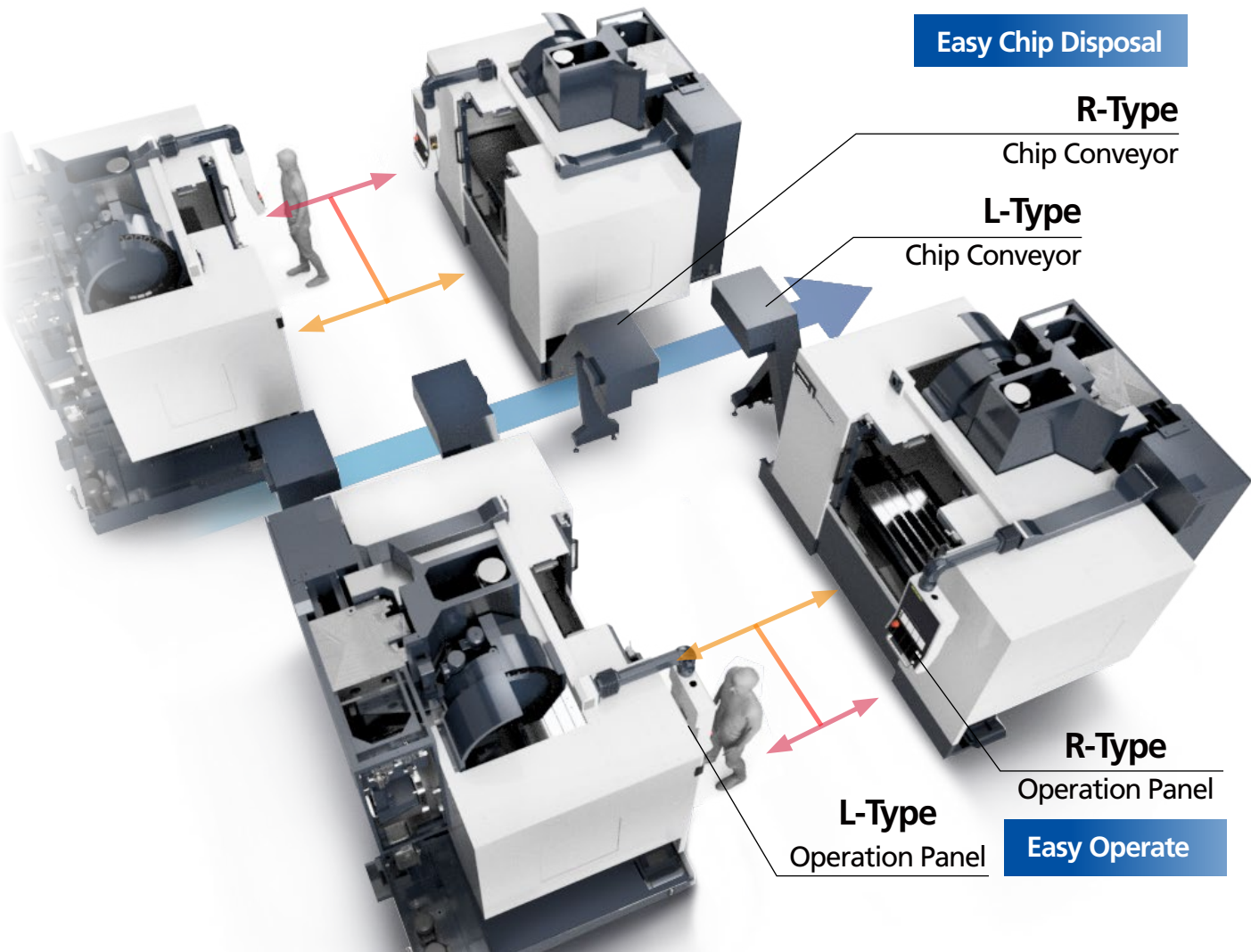


Applied Ring-Around Coolant
Uniform cooling → Prevents tool overheating → Extends tool life

Ergonomic Design

Operator-Friendly Design for Greater Accessibility and Setup Efficiency

The machine offers flexible chip conveyor configurations (R-Type, L-Type, or Rear Type) and matching operation panel setups, providing easy chip disposal and user-friendly control for efficient smart factory integration.



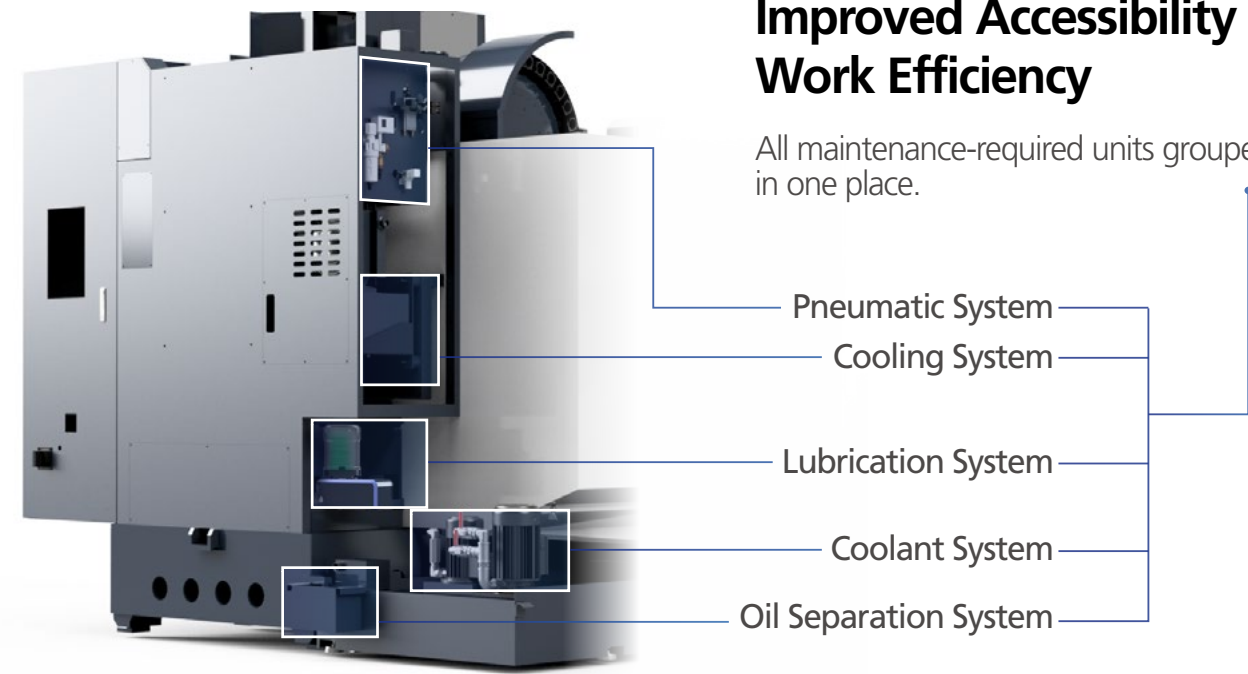
New Slim-Type Design Height Adjustable Control Panel

- Adjustable to user height.
- Improved work convenience.



Improved Accessibility & Work Efficiency

All maintenance-required units grouped in one place.





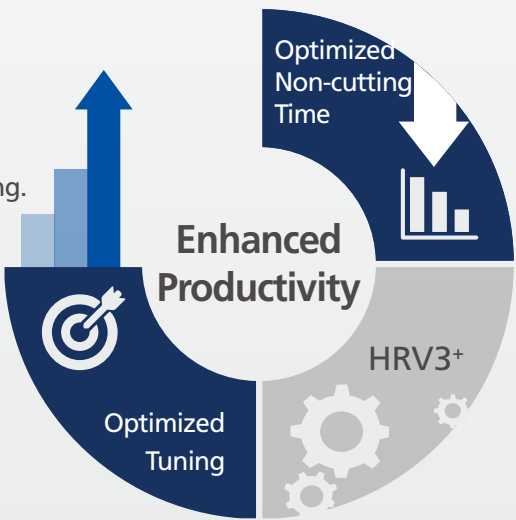
User-Focused Design

The new control panel design improves convenience and usability.

- 15" Display with Standard USB and PCMCIA Interfaces
- Optimized Panel Layout with Improved Button Feedback
- QWERTY Keypad for Faster and More Convenient Data Input
- Independent MPG Handle for Easier Workpiece Setup
- Continuous DNC Operation via CF Card Without Data Server

Machine Optimization STD

- Smart Rigid Tapping for Faster Cycle Times.
- Optimized Feed Acceleration and Cycle Efficiency
- Precision, Speed, and Smooth Motion in Fine Segment Processing.
- Minimized Non-Cutting Time for Maximum Productivity.
- Adoption of Advanced Machining Technologies.
- Enhanced Surface Quality with HRV3+ Control (HRV3+ suppresses oscillation through servo control, ensuring higher surface precision.)



Enhanced Productivity

Energy Saving System STD

Up to 26.6% Energy Reduction

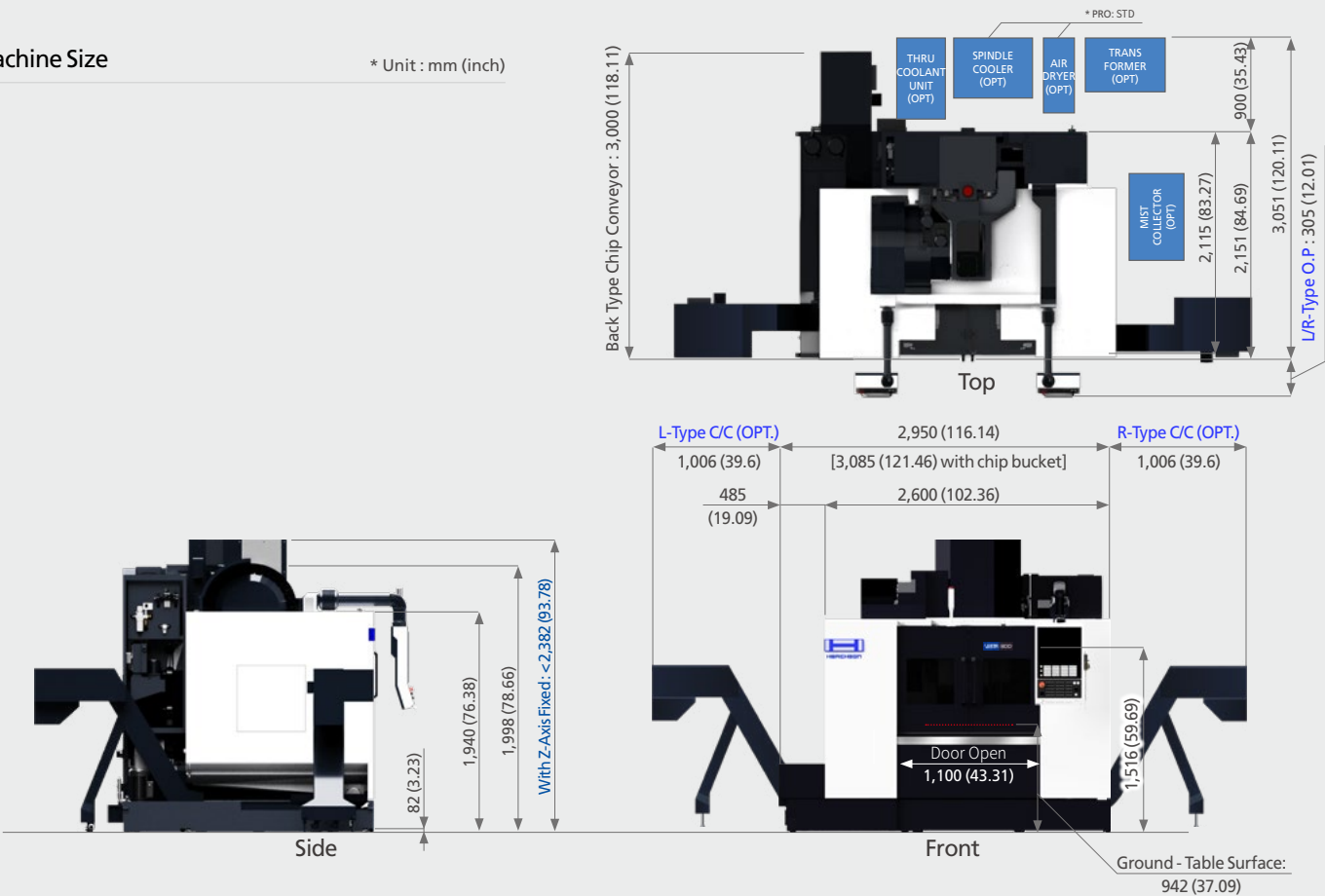
Optimal Control of Power ON/OFF

- High-Efficiency IE3 Coolant Pump: Improves energy efficiency by 24%
- Lubrication: Grease type Reduces annual maintenance costs by 60%
- Inverter Chip Conveyor: Up to 50% energy reduction



Machine Size

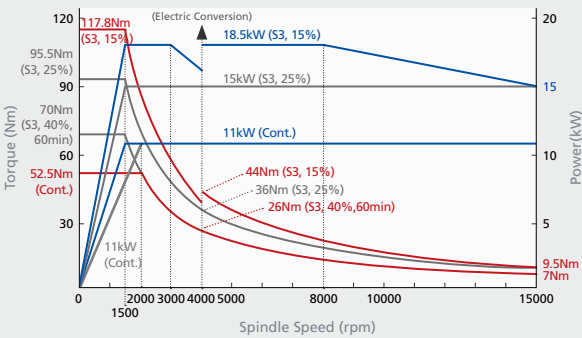
* Unit : mm (inch)



Spindle Power - Torque Diagram

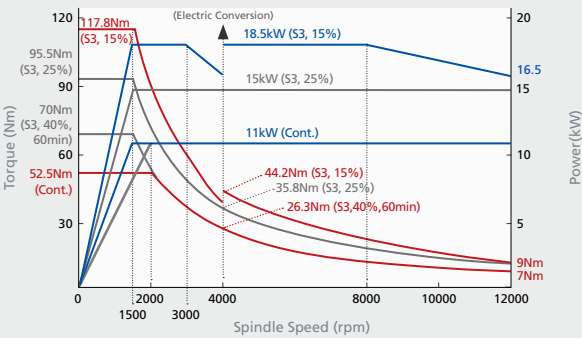
(VESTA-800 PRO)
15,000 rpm Regular Type STD CTS Type OPT

Max Power : 18.5 kW (25 HP) / Max Torque : 117.8 Nm



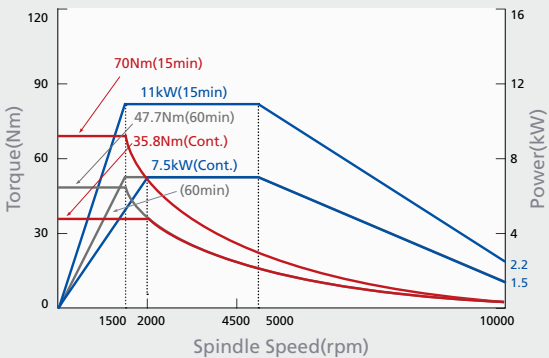
12,000 rpm Regular Type OPT CTS Type OPT

Max Power : 18.5 kW (25 HP) / Max Torque : 117.8 Nm



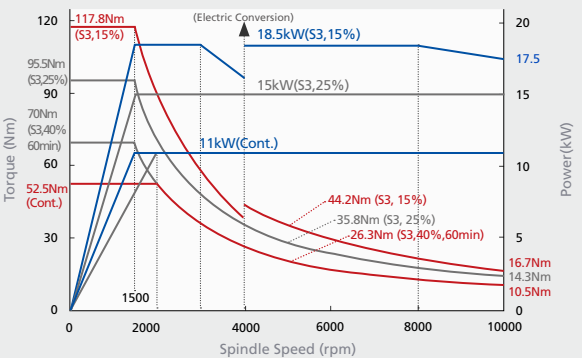
10,000 rpm Regular Type STD

Max Power : 11 kW (15 HP) / Max Torque : 70 Nm

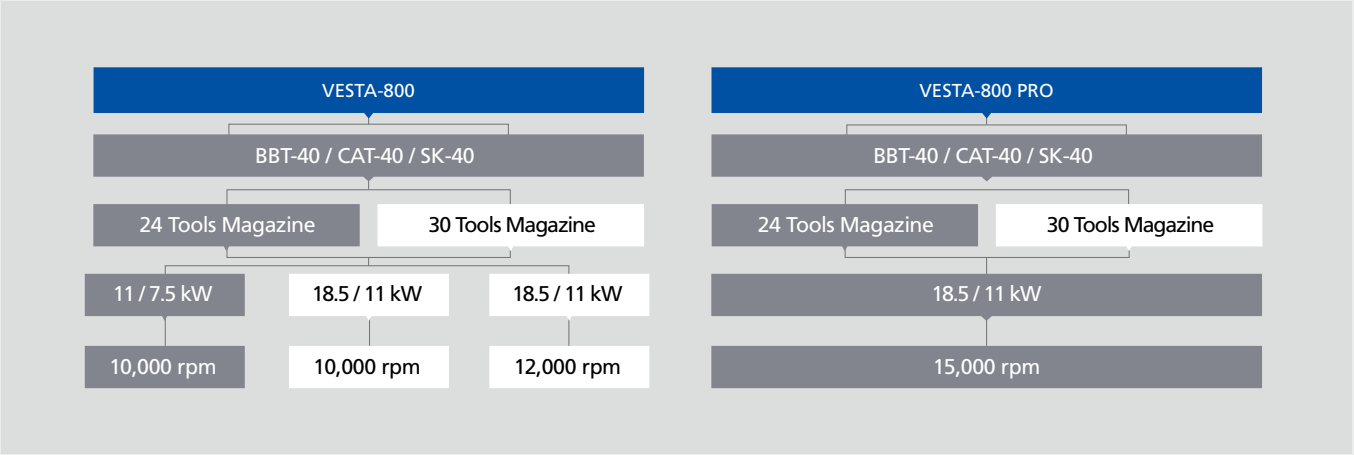


10,000 rpm CTS Type OPT

Max Power : 18.5 kW (25 HP) / Max Torque : 117.8 Nm



Product Line-up



Machine Specifications

ITEM		VESTA-800				VESTA-800 PRO	
Travel							
X-axis Stroke	mm (inch)	800 (31.5)					
Y-axis Stroke	mm (inch)	550 (21.65)					
Z-axis Stroke	mm (inch)	550 (21.65)					
Distance from Table Surface to Spindle Gauge Plane	mm (inch)	90 ~ 640 (3.54 ~ 25.2)					
Distance between Columns to Spindle Center	mm (inch)	590 (23.23)					
Table							
Table Size	mm (inch)	1,000 x 550 (39.37 x 21.65)					
Table Loading Capacity	kg, (lb _r)	600 (1,323)					
T Slot (WxP / No. of slots)	mm (inch)	18 x 90 (0.71 x 3.54) / 5 ea					
Spindle							
Max Spindle Speed	rpm	10,000	10,000(CTS)	12,000	12,000(CTS)	15,000	15,000(CTS)
Spindle Motor	kW (HP)	11 / 7.5 (15 / 10)	18.5 / 11 (25 / 15)			18.5 / 11 (25 / 15)	
Type of Spindle Taper Hole	-	ISO#40, 7 / 24 Taper (BBT-40)					
Spindle Bearing Inner Diameter	mm (inch)	Ø70 (Ø2.76)					
Feedrate							
Rapid Traverse (X / Y / Z)	m/min (ipm)	36 / 36 / 36 (1,417 / 1,417 / 1,417)				42 / 42 / 36 (1,654 / 1,654 / 1,417)	
Cutting Feedrate (X / Y / Z)	mm/min (ipm)	1 ~ 24,000 (0.04 ~ 945)					
Motor							
Feed Motor (X / Y / Z)	kW (HP)	1.8 / 1.8 / 3 (2.5 / 2.5 / 4)					
Coolant Motor (Spindle / Bed)	kW (HP)	1.4 / 2.2 (1.9 / 3)					
Spindle Cooler Motor	kW (HP)	0.18 (0.2)	0.4 (0.5)				
ATC							
Type of Tool Shank*	-	BBT-40 / CAT-40 / SK-40					
Type of Pull Stud	-	MAS P40T-1 (45°)					
Tool Storage Capacity	ea	24 (Option: 30)					
Max Tool Dia (with / without Adjacent Tools)	mm (inch)	Ø80 / Ø150 (Ø3.15 / Ø5.91)					
Max Tool Length	mm (inch)	300 (11.81)					
Max Tool Weight	kg, (lb _r)	8 (17.64)					
Method of Tool Selection	-	Memory Random					
Power Source							
Electric Power Supply	kVA	25 (CTS: 30)					
Compressed Air Supply (Pressure X Consumption)	-	0.5 ~ 0.7 MPa x 690 Nℓ/min					
Tank Capacity							
Spindle Cooling / Grease Supplier	ℓ (gal)	20 (5.28) / 0.7 (0.18)					
Coolant	ℓ (gal)	390 (103.03) [OPT: 690 (182.28)]					
Machine Size							
Height	mm (inch)	2,906 (114.41)					
Machine Size (Length x Width)	mm (inch)	3,085 x 2,596 (121.46 x 102.2)					
Weight	kg, (lb _r)	4,300 (9,480)					
NC Controller		Fanuc 0i-MF Plus					

* : Standard Specifications Vary by Country.

NC Specifications [Fanuc 0i-MF Plus]

※ S : Standard O : Option

ITEM	SPECIFICATION	
Controlled Axis		
Controlled Axis	3-Axis	S
	5-Axis (Max.)	O
Simultaneously Controlled Axes	3-Axis	S
	4-Axis (Max.)	O
Least Input Increment	0.001mm, 0.001deg, 0.0001 inch	S
Least Input Increment 1/10	0.0001mm, 0.0001deg, 0.00001 inch	O
inch / metric Conversion	G20, G21	S
Stored Stroke Check 1		S
Stored Stroke Check 2		S
Mirror Image		S
Stored Pitch Error Compensation		S
Backlash Compensation		S
Operation		
Automatic & MDI Operation		S
DNC Operation by Memory Card	PCMCIA Card is Required	S
Program Number Search		S
Sequence Number Search		S
Dry Run / Single Block		S
Manual Handle Feed	1Unit	S
Manual Handle Feed Rate	x1, x10, x100	S
Handle Interruption		S
Interpolation Function		
Positioning	G00	S
Linear Interpolation	G01	S
Circular Interpolation	G02, G03	S
Dwell (Per Seconds)	G04	S
Cylindrical Interpolation	4-Axis Interface Option is Required	S
Helical Interpolation	Circular interpolation plus max 2 axes linear interpolation	S
Reference Position Return Check	G27	S
Reference Position Return	G28,G29	S
2 nd Reference Position Return	G30	S
Skip Function	G31	S
Feed Function		
Rapid Traverse Override	F0, F25, F50, F100	S
Feed Rate (mm/min)		S
Feed Rate Override	0 - 200%	S
Jog Feed Override	0 - 6,000mm/min	S
Override Cancel	M48, M49	S
Program Input		
Tape Code	EIA / ISO	S
Optional Block Skip	9ea	S
Program Number	O4 Digits (1 - 9999)	S
Sequence Number	N8 Digits	S
Decimal Point Programming		S
Coordinate System Setting	G92	S
Workpiece Coordinate System	G54 - G59	S
Workpiece Coordinate System Preset		S
Additional Workpiece Coordinate Pairs	48ea	S
	300ea	O
Extend Program Edit Function	Copy / Move / Etc.	S
Manual Absolute ON and OFF		S
Chamfering / Corner R		S
Programmable Data Input	G10	S
Sub Program Call	10 Folds Nested	S
Custom Macro B		S
Addition of Custom Macro Common Variables	#100 - #199, #500 - #999	S
Canned Cycles for Drilling		S
Automatic Corner Override		S

ITEM	SPECIFICATION	
Program Input		
Feedrate Clamp Based on Arc Radius		S
Scaling		S
Rotation of the Coordinate System		S
Polar Coordinate System		S
Programmable Mirror Image		S
Tape Format for Fanuc Series 10/11		S
Manual Guide i		S
Spindle Speed Function		
Spindle Serial Output		S
Spindle Override	50 - 150%	S
Spindle Orientation		S
Rigid Tapping		S
Tool Function / Compensation		
Tool Function	T4 Digits	S
Tool Offset Pairs	400ea	S
Tool Offset Memory C		S
Tool Length Compensation		S
Cutter Compensation C		S
Tool Life Management		O
Tool Length Measurement		S
Editing Operation		
Part Program Storage Length	5,120m (2MB)	S
Number of Register Able Programs	Max. 1,000ea	S
Background Editing		S
Extended Part Program Editing		S
Play Back		S
Setting and Display		
Clock Function		S
Self Diagnosis Function		S
Alarm History Display		S
Help Function		S
Run Hour and Parts Count Display		S
Graphic Function		S
Multi-language Display	Chinese, English, French, German, Hungarian, Italian, Korean, Polish, Portuguese, Spanish, Swedish, Russian	S
Data Input / Output		
Data Server	256MB, 1GB, 2GB, 4GB, 16GB, 32GB	O
Data Server Interface		O
Ethernet Interface		S
Memory Card Interface		S
USB Card Interface		S
4-Axis Interface Function (Option)		
Controlled Axis	Included 4-Axis interface Option	O
Simultaneously Controlled Axis	Included 4-Axis interface Option	O
Control Axis Detach	Included 4-Axis interface Option	O
Others		
Display Unit	15" Display	S
	15" Touch Screen Display	O
HWACHEON Software		
High Speed HRV3" Function		S
Hwacheon Artificial Intelligence Control System (HAI): 200 Block		S
Hwacheon Artificial Intelligence Control System (HAI): 400 Block		O
H-DRAW MC DESKTOP		O
Hwacheon Efficient Contour Control System (HECC)		S
Hwacheon Tool Load Detect System (HTLD)		S
Cutting Feed Optimization System (OPTIMA)		S
Hwacheon Thermal Displacement Control System (HTDC)		S
M-VISION Plus (Monitoring of Real-time Operational Status)		O
M-VISION Pro (Operation Managing and Monitoring of Real-time Operational Status)		O

Hwacheon Global Network

 Hwacheon Headquarters  Hwacheon Europe  Hwacheon Asia  Hwacheon America



Please contact us for product inquiries.

www.hwacheon.com

The product design and specifications may change without prior notice.
Read the operation manual carefully and thoroughly before operating the product,
and always follow the safety instructions and warnings labels attached on the surfaces of the machines.

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