



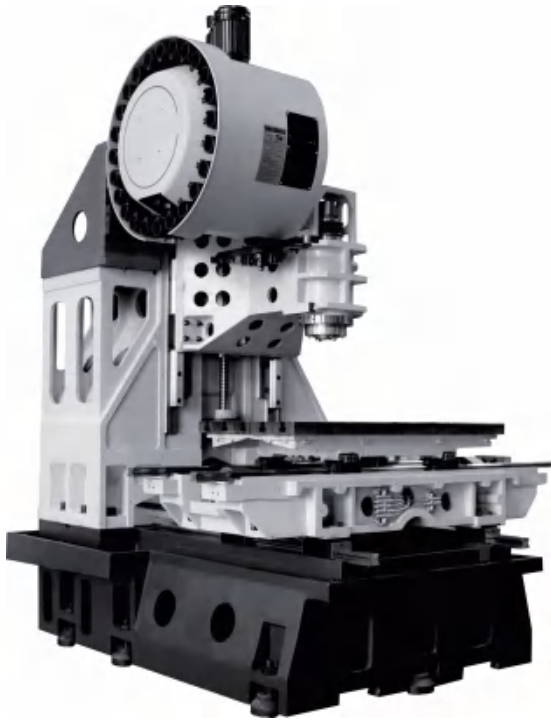
VERTICAL MACHINING CENTER
VMC-SERIES



www.whalescnc.com

VMC850 / VMC1160 Basic Features

Best Performance & Top Selling Vertical Machining Center



⦿ Spindle Speed

VMC850/1160 10000 r/min Belt

VMC850/1160 12000 r/min r/min Direct (Optional)

⦿ Rapid Traverse X/Y/Z Axis

VMC850 48/48/36 m/min

VMC1160 32/32/32 m/min

⦿ Travel (X/Y/Z Axis)

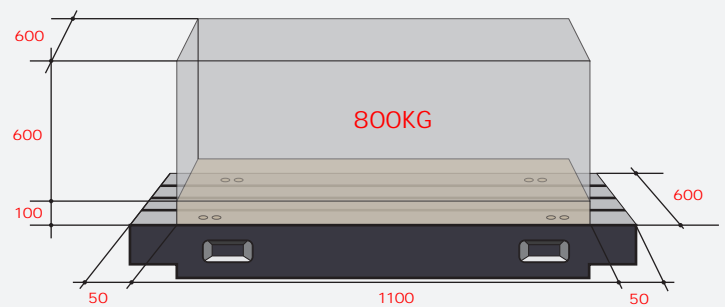
VMC850 800x500x500 mm

VMC1160 1100x600x600 mm

Worktable & Machining Area



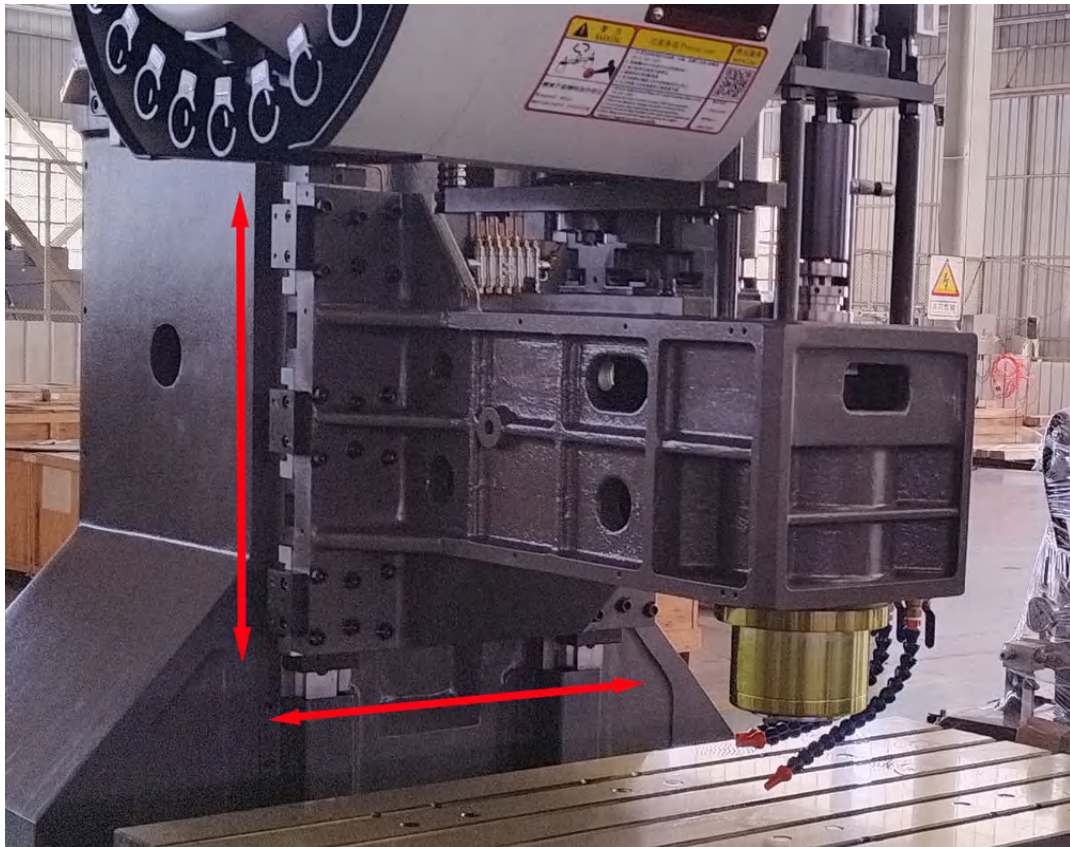
⦿ VMC850



⦿ VMC1160

Best Performance & Top Selling Vertical Machining Center

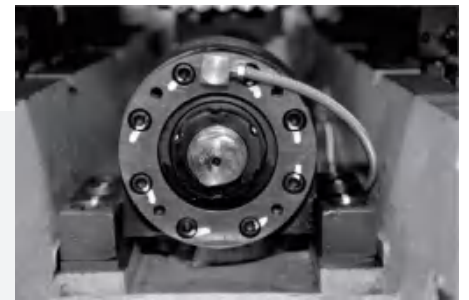
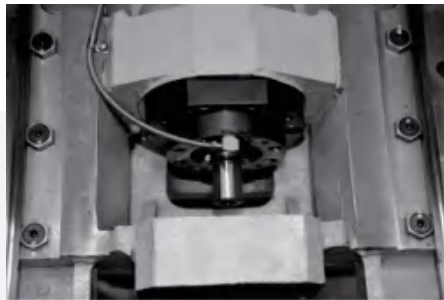
- ⦿ The VMC series is the best-selling machine series due to its combined machining performance of rigidity and precision. It is designed by WhalesCNC independent R&D department by collecting feedback from WhalesCNC VMC series on the market for many years.



01

High Power, High Torque Headstock

Large span of Z axis guideway and big contact ratio between spindle case and column ensure a high torque of headstock.



02

Preloaded And Double Anchored Ball screw

3+2 precision angular contact bearing ensure outstanding positioning and repeatability with virtually no thermal growth.
 Intergrated ball screw housing ensure long stay accuracy.

SPECIFICATIONS

Parameters		Unit	VMC850	VMC1160
Travel	X axis	mm	800	1100
	Y axis	mm	500	600
	Z axis	mm	500	600
	Spindle to table	mm	120-670	120-720
	Spindle center to Z-rail surface	mm	590	650
Worktable	Worktable Size	mm	1000x500	1200x600
	T slot size (W×P×N)	mm	5x18	5/18/100
	Safety load	kgs	500	800
Spindle	Spindle speed	rpm	10000	10000
	Spindle motor	kw	7.5/11	11/15
	Spindle taper		BT40-150	BT40-150
Guide rails			3-linear-rails	3-linear-rails
Feed System	X rapid traverse	m/min	48	32
	Y rapid traverse	m/min	48	32
	Z rapid traverse	m/min	36	32
	Cutting speed	m/min	1-10000	1-10000
Accuracy	Positioning accuracy	mm	0.003/300	±0.003/300 JIS
	Repositioning accuracy	mm	0.003/300	±0.003 JIS
Tool magazine	disc type		24	24
Machine weight (net)		kg	5000	7500
Machine size		mm	2700x2350x2800	3300*2600*2800

VMC1270/1370/1580 Basic Features

High Rigidity, Large Stroke&High Productivity Vertical Machining Center

◎ Spindle Speed

VMC1270/1370/1580 8000 r/min Belt

VMC1270/1370/1580 10000/12000 r/min Direct (Optional)

◎ Rapid Traverse X/Y/Z Axis

VMC1270 24/24/18 m/min

VMC1370 24/24/24 m/min

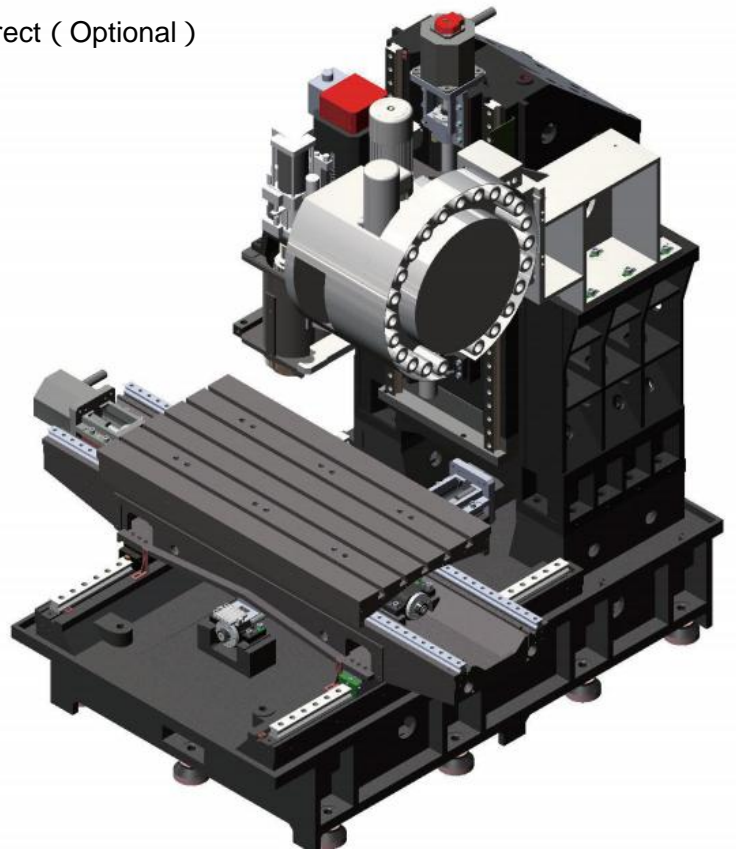
VMC1580 24/24/24 m/min

◎ Travel (X/Y/Z Axis)

VMC1270 1200x700x600 mm

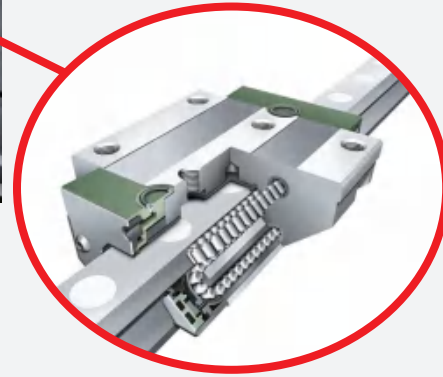
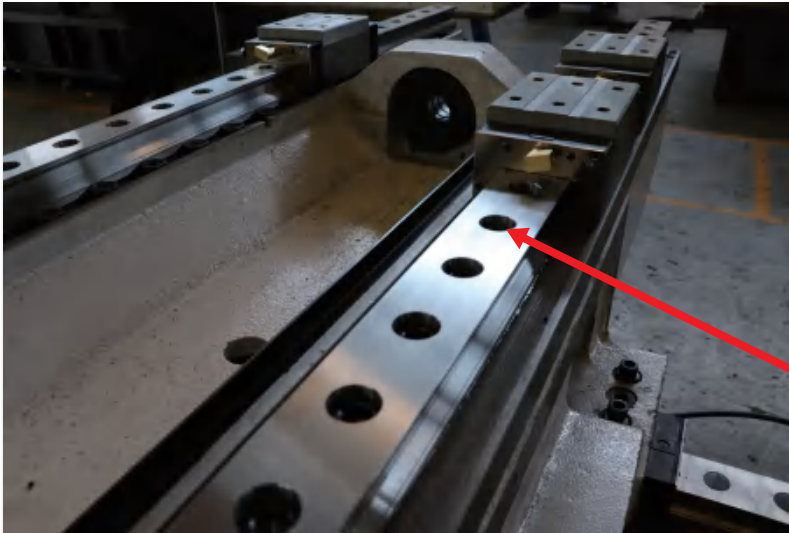
VMC1370 1300x700x700 mm

VMC1580 1500x800x700 mm



High Rigidity, Large Stroke&High Productivity Vertical Machining Center

- ◎ VMC1270/1370/1580 is featuring high rigidity, heavy cutting ability and high operability. The strong base column construction has optimally-placed ribs to counter chatter and twisting during heavy-duty cutting. With three axis roller linear guideway and wide area motor, this vertical machining center can perform heavy-duty cutting and high-speed machining with high torque from low to high speeds.



01

Roller Type LM Guide

By roller linear contacting, the LM guideway can offer a better rigidity which ensure the fast feed rate and reduce cutting time.

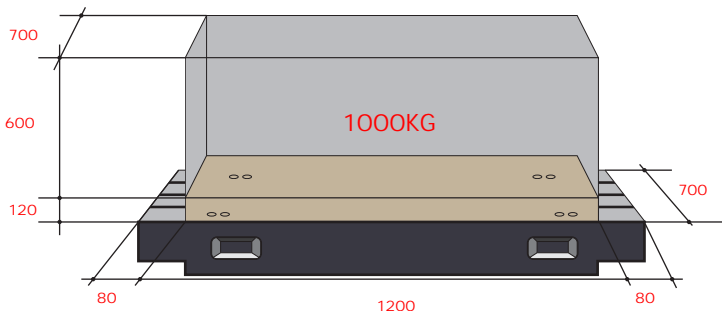


02

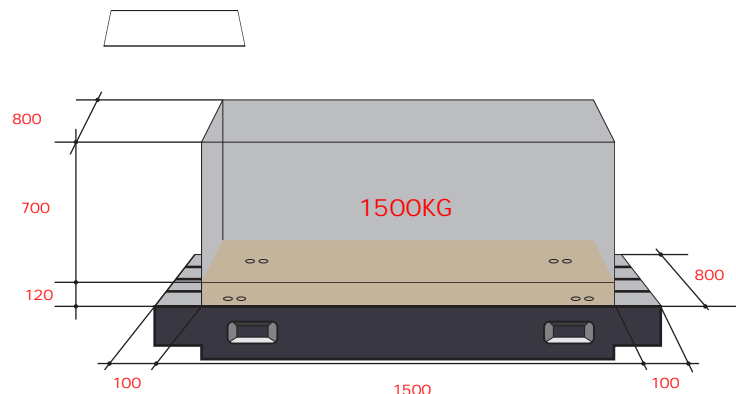
High Feed Spindle

Equipped with BT40-155 spindle, the spindle speed is up to 8000 r/min. Ensuring high-speed machining without compromising accuracy or quality.

Worktable & Machining Area



VMC1270



VMC1580

SPECIFICATIONS

Parameters		Unit	VMC1270	VMC1370	VMC1580
Machining	Travel of X axis	mm	1200	1300	1500
	Travel of Y axis	mm	700	700	800
	Travel of Z axis	mm	600	700	700
	Spindle to table distance (max.)	mm	687	1070	830
	Spindle to table distance (min.)	mm	87	370	130
	Spindle center to Z-rail surface	mm	785	798	810
Worktable	Worktable Size	mm	1360x700	1400x700	1700x800
	T slot size (W×P×N)	mm	5-18x122	5-18x110	5-22x135
	Safety load	kgs	1000	1000	1500
Spindle	Spindle speed	rpm	8000	8000	8000
	Spindle motor	kw	15/18.5	15/18.5	15/18.5
	Spindle taper		BT50-155	BT50-155	BT50-155
Guide rails			Three-linear-rails Y-axis: 4 linear rails, 8 sliders	Three-linear-rails Y-axis: 4 linear rails, 8 sliders	Three-linear-rails Y-axis: 4 linear rails, 8 sliders
Feed System	X rapid traverse	m/min	24	24	24
	Y rapid traverse	m/min	24	24	24
	Z rapid traverse	m/min	24	24	24
	Cutting speed	m/min	1-10000	1-10000	1-10000
Accuracy	Positioning accuracy (X/Y/Z axis)	mm	0.005	0.01	0.008
	Repositioning accuracy (X/Y/Z axis)	mm	0.003	0.008	0.006
Tool magazine	Type		Disc	Disc	Disc
	Capacity		24	24	24
Machine weight (net)		kgs	10000	6000	12000
Machine size		mm	3300x2500x2480	3200x2540x2600	3800x2720x3610

Common Basic Features

Common Basic Features for all WhalesCNC VMCs

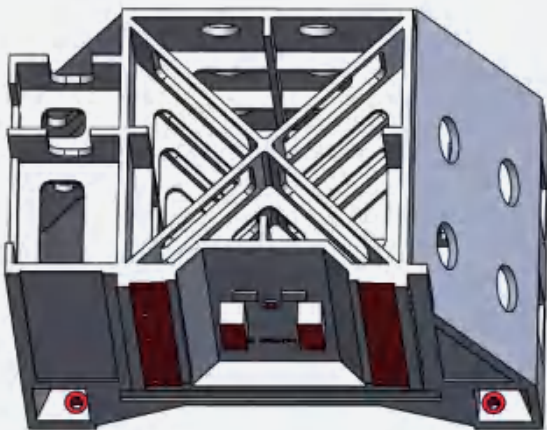
01



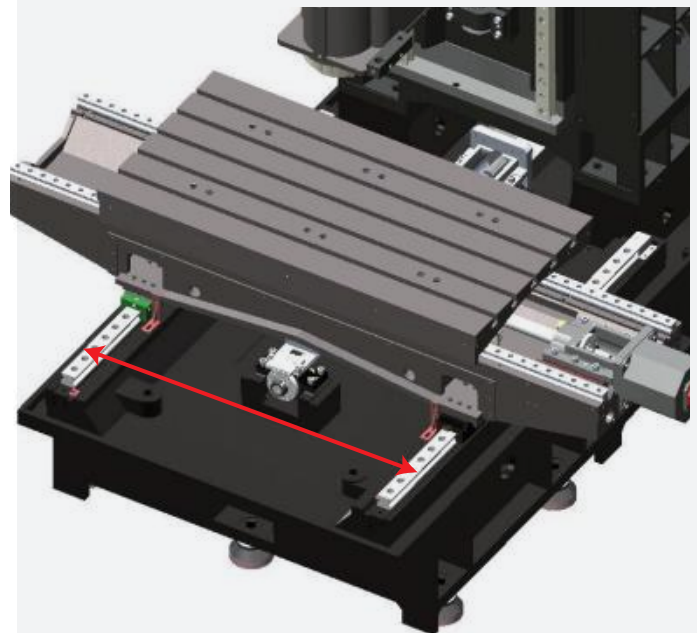
High Rigidity Structural Design

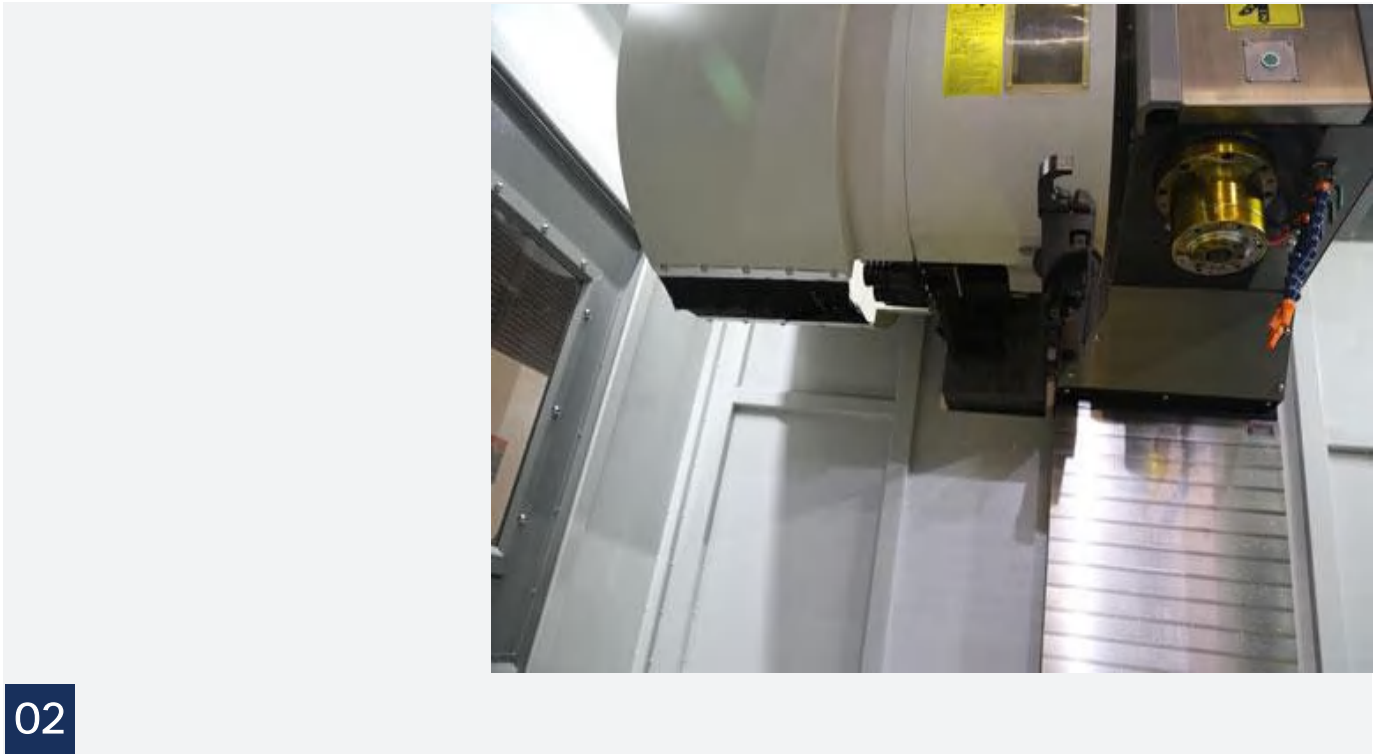
Large pagoda machine column and base ensure the highest stability during high speed movement

- ① The reinforcing ribs inside ensures strong enough rigidity.



- ② The large span of Y axis guideways to keep all the X axis travel is supported

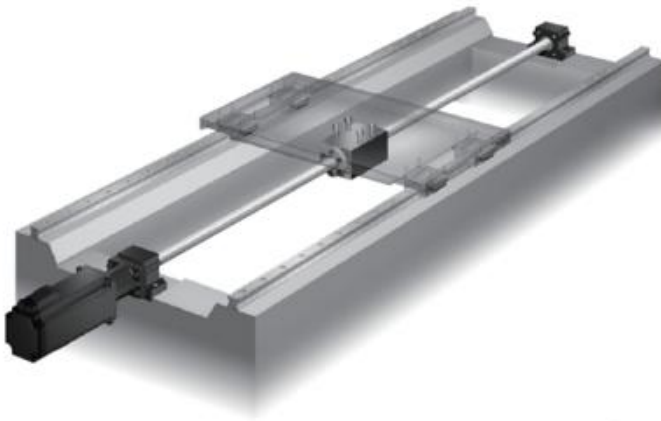




02

Disc type tool magazine

Automatic quick tool change and automatic return to origin functions are available in all ATC drive modes.



03

Preloaded, Direct-Coupled, Double-Anchored Ball Screw

To eliminate thermal growth and improve accuracy, all axes are driven by high-precision double-anchored ball screws.

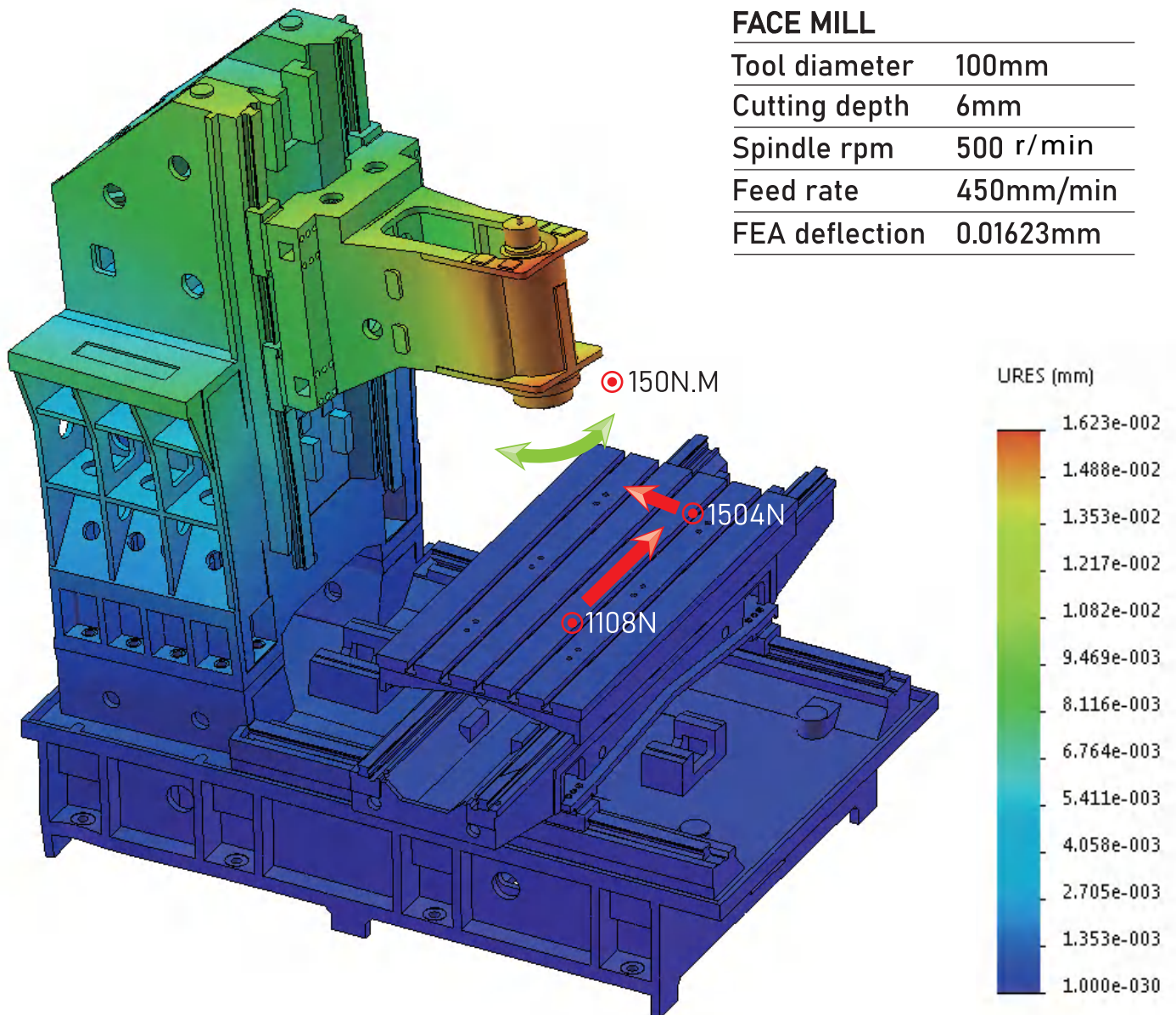
The pretensioned and double anchored design provides outstanding positioning and repeatability with virtually no thermal growth.

The ball screws are directly coupled to the servo motor. This eliminates the need for any transmission parts which may impact machine accuracy and efficiency.

Machining Capability

Orientalional Cutting Test Data

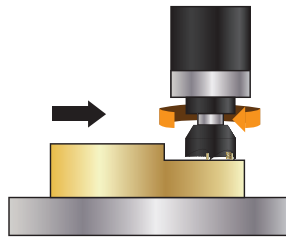
The FEA analysis is a o te to ens re the est mass arrangement and rib construction of the machine for constant stability under the intensive load of heavy-duty cutting.



⦿ **VMC850**

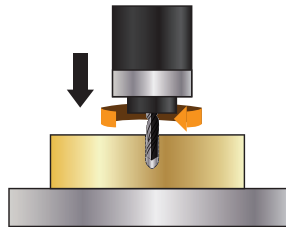
FACE MILL (Material: C45)

Tool diameter	φ100-7Z
Cutting depth	4 mm
Cutting width	80 mm
Cutting speed	400 mm/min
Spindle rpm	800 r/min
Spindle load	135%



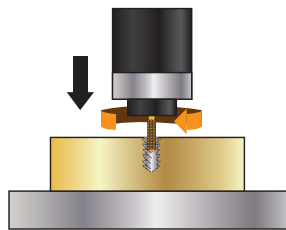
DRILL (Material: C45)

Tool diameter	φ37 U drill
Bore depth	90 mm
Cutting speed	160 mm/min
Spindle rpm	1600 r/min
Spindle load	118%



TAP (Material: C45)

Tap spec./ pitch	M24xP3.0
Cutting depth	60 mm
Cutting speed	600 mm/min
Spindle rpm	200 r/min
Spindle load	95%



⦿ **VMC**

FACE MILL (Material: C45)

Tool diameter	φ100-7Z
Cutting depth	6 mm
Cutting width	80 mm
Cutting speed	500 mm/min
Spindle rpm	600 r/min
Spindle load	118%

DRILL (Material: C45)

Tool diameter	φ59 U drill
Bore depth	90 mm
Cutting speed	100 mm/min
Spindle rpm	1000 r/min
Spindle load	115%

TAP (Material: C45)

Tap spec./ pitch	M36xP4.0
Cutting depth	60 mm
Cutting speed	800 mm/min
Spindle rpm	200 r/min
Spindle load	110%

⦿ **Processing sample**



Connection Plate

Construction Machinery



Turbine Pump Vane

Power Engineering



Pump Casing

Automobile Industry



Adapter Plate

Automobile Industry

Manufacturer Information



Welcome to WhalesCNC, a specialized manufacturer of CNC machine tools with a strong emphasis on research and development, quality, and cooperation. With a dedicated team of 13 engineers and over 30 senior technicians, With two decades of focus on the milling machine field, we have honed our expertise to offer you the best in vertical machining centers, gantry machining centers, horizontal machining centers, and turret milling machines.

We have won the trust of industry leaders in various fields such as construction machinery, home appliances, automobiles, new energy, automation, optoelectronics, construction and dozens of machining companies. Our customers include Xuzhou Heavy Industry, Gree, BYD, Xiaopeng and other well-known brands.

Cooperative Enterprise



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