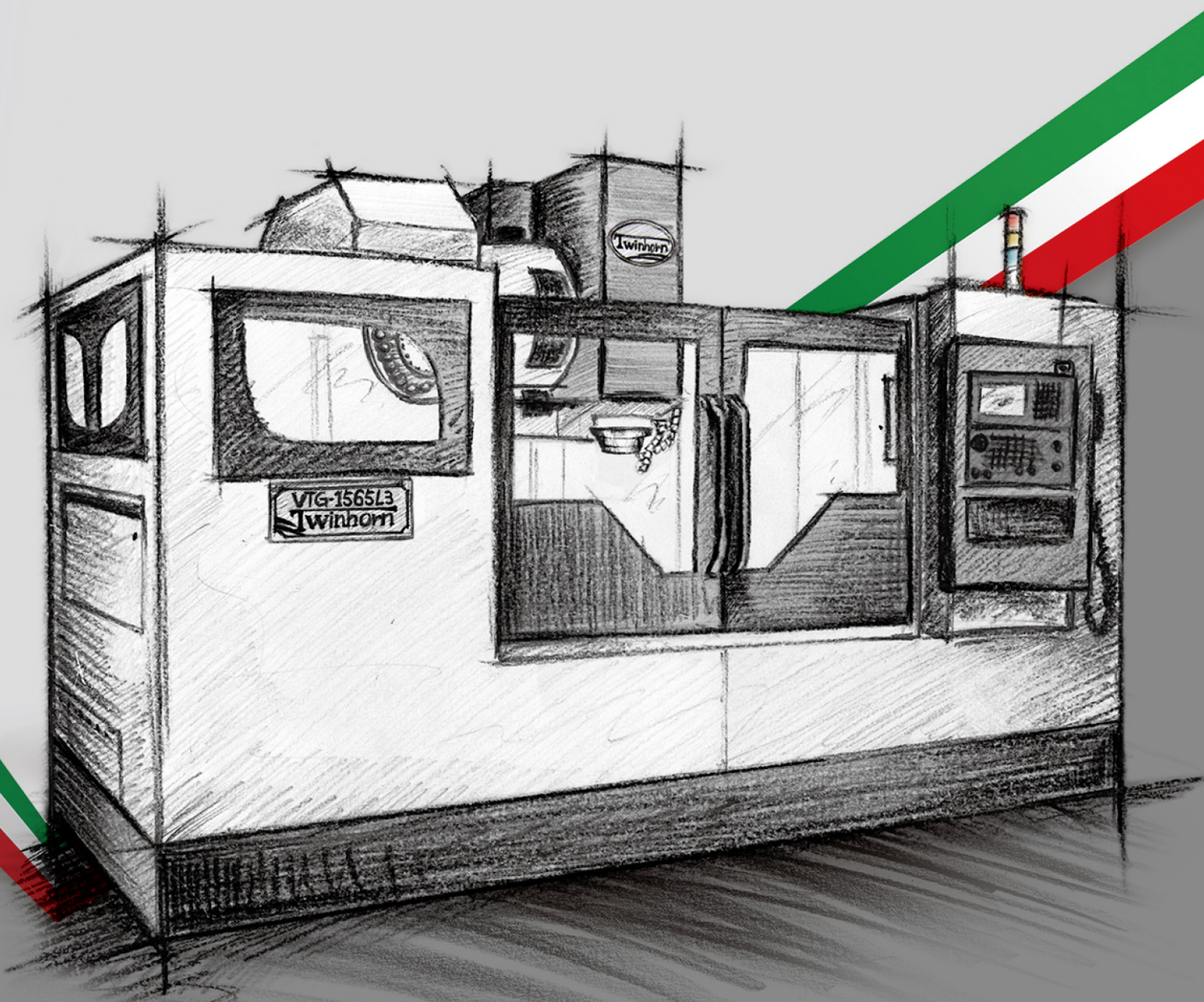
Twinhorn

MTT TECHNOLOGY

VTG Series

Vertical Machining Center



SOLUTION OF WORLDWIDE SALES NETWORK



Twinhorn

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Twinhorn
High-quality

High Precision
5 Face Machining
Center

Large Scale
3d Probe

High-rigidity, high-performance design

The mechanical casting structure is the basis of machine precision. In order to ensure the long-term precision of the machinery, the main structure castings are all used SNK five-face machine for machining process, and using large three-dimensional measuring instruments to do precision testing, all the main parts are used Mehanna Cast iron, high rigidity casting Pieces of material, strong shock absorption, good wear resistance. The whole machine assembly is assembled according to ISO operating standard, creating high quality.



- Large span inverted Y-shapped column, extremely rigid.
- High rigidity, light weight, anti-sagging spindle head.
- High strength integral (one-piece) casting and oil-water separating base.

C3

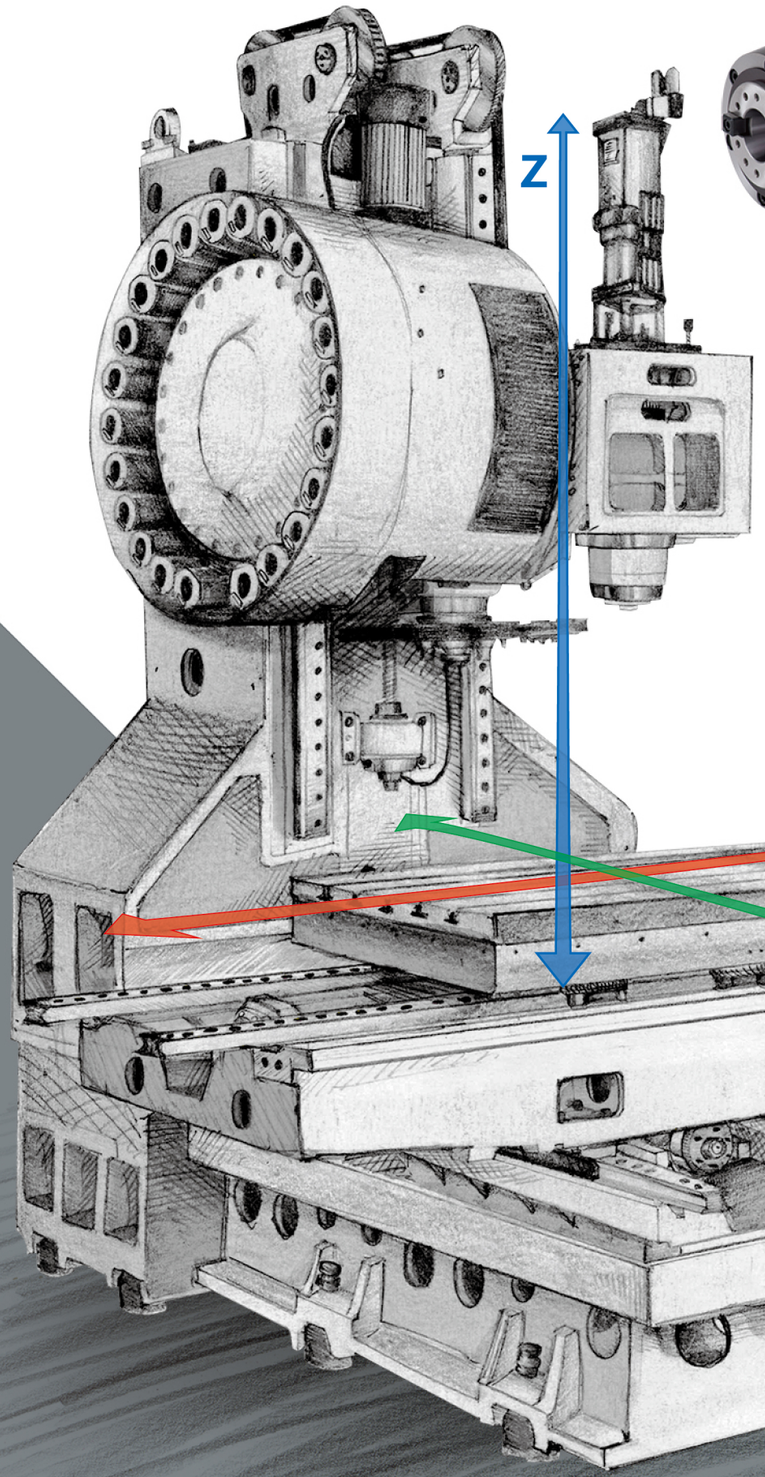
- Three-axis mining pre-pull type C3 precision ball Screw.
- Three-axis with precision linear slides, high precision and fast speed.
- Y/Z Ball Screw is designed for ø45 mm.
- 45LA design of Y/Z line Rail (lengthened slide block) To increase stability.

H

Box way through heat treatment hardening slide surface with Turcite-B resistance Grinding piece, and do the scrapping with automatic forced lubrication to increase the Precision and life of high slide rails.

	Travel
X-axis	1065 / 1165 / 1365 / 1565 (mm)
Y-axis	650 mm
Z-axis	620 mm

VTG-1065L/L3, VTG-1165L/L3
Base Y-axis two-linear way
VTG-1365L/L3, VTG-1565L/L3
Base Y-axis three-linear way

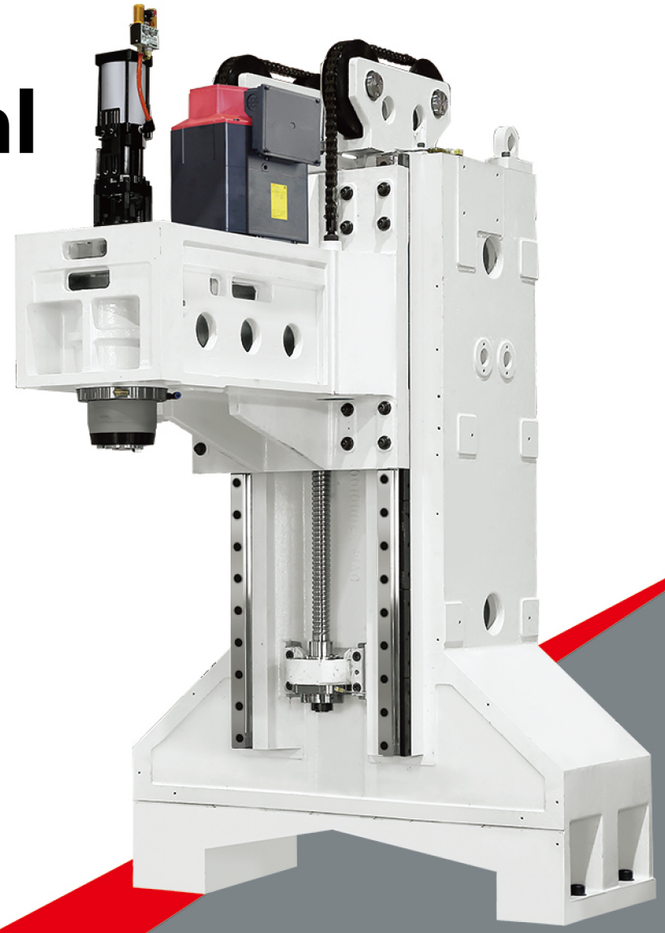




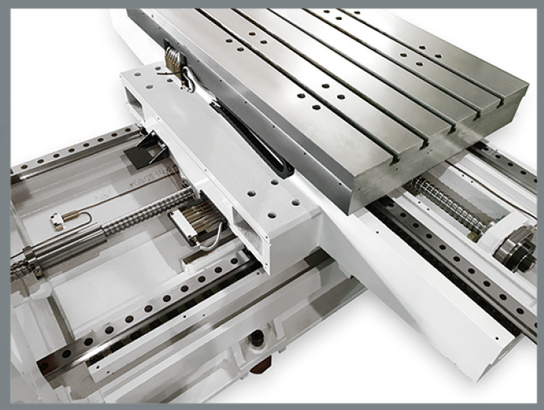
▲ Belt type spindle head

Spindle Taper BT-40		
	Belt type spindle head structure	Gear type spindle head structure
	X, Y, Z Three-axis Roller way	X&Y Roller way, Z Box way
X-axis	36M/min	24M/min
Y-axis	36M/min	24M/min
Z-axis	30M/min	20M/min

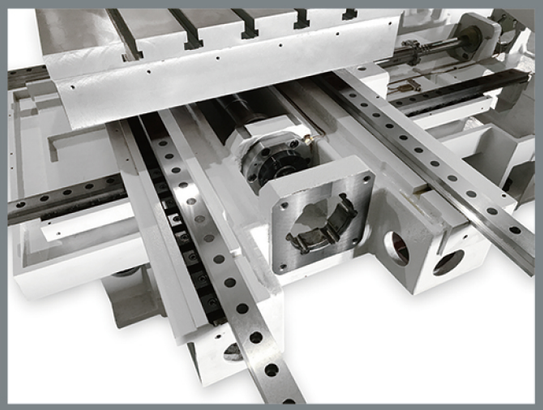
VTG Institutional features



- The column is inverted with Y shaped design to increase the stability of the Z-axis.
- Double wall structure design is adopted inside the base and saddle track to improve the stability of the machine.
- High-precision, large span slide design, at the same time with good rigidity and accurate positioning.
- X-axis adopts a Six-slide block design to reduce the suspended capacity of the worktable.



- The rear side lengthened design of the saddle can improve the stability of Y-axis.



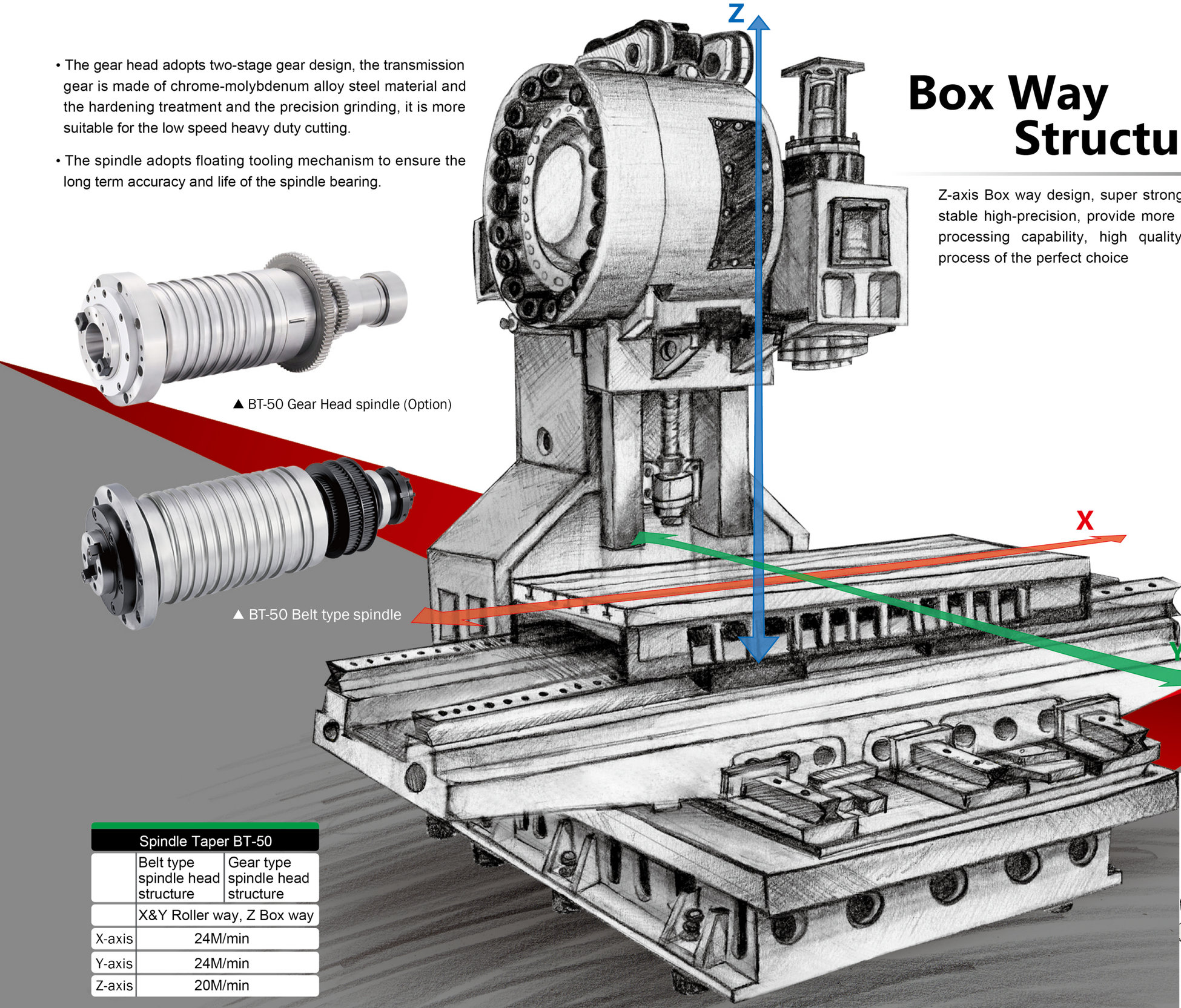
- Box-type structure integrated design, durable resistance to deformation

- The gear head adopts two-stage gear design, the transmission gear is made of chrome-molybdenum alloy steel material and the hardening treatment and the precision grinding, it is more suitable for the low speed heavy duty cutting.
- The spindle adopts floating tooling mechanism to ensure the long term accuracy and life of the spindle bearing.

▲ BT-50 Gear Head spindle (Option)

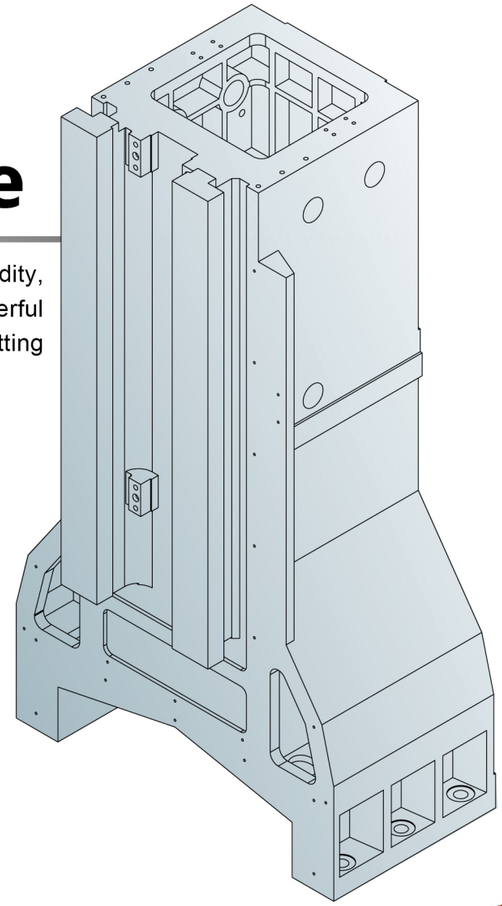
▲ BT-50 Belt type spindle

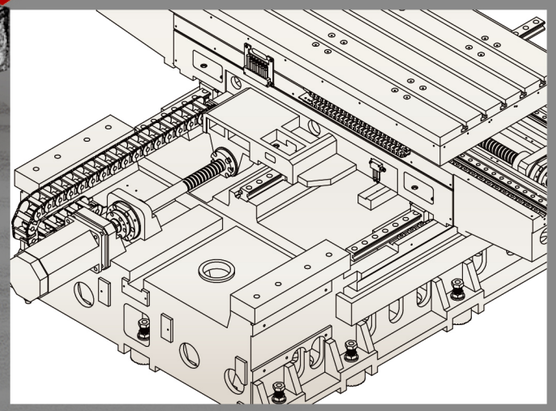
Spindle Taper BT-50		
	Belt type spindle head structure	Gear type spindle head structure
	X&Y Roller way, Z Box way	
X-axis	24M/min	
Y-axis	24M/min	
Z-axis	20M/min	



Box Way Structure

Z-axis Box way design, super strong rigidity, stable high-precision, provide more powerful processing capability, high quality cutting process of the perfect choice





VTG-1165L3
Linear guide way
BT-40
Belt type spindle

Cutting Ability



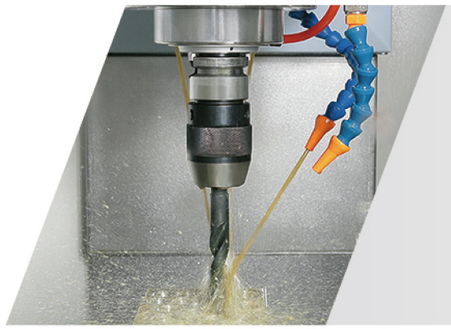
Face Milling

Material	S50C (HRC 18°)
Spindle speed	1500 RPM
Feed rate	1050 mm/min
Cutting depth	4 mm
Material removal	273 cc/min



End Milling

Material	S50C (HRC 18°)
Spindle speed	1500 RPM
Feed rate	2160 mm/min
Cutting depth	30 mm
Material removal	324 cc/min



Drilling

Material	S50C (HRC 18°)
Spindle speed	300 RPM
Feed rate	120 mm/min
Cutting depth	25 mm
Material removal	66 cc/min



Tapping

Material	S50C (HRC 18°)
Spindle speed	133 RPM
Feed rate	399 mm/min
Cutting depth	10 M/mm
Tooth distance	3 mm

Measuring System (Optional)







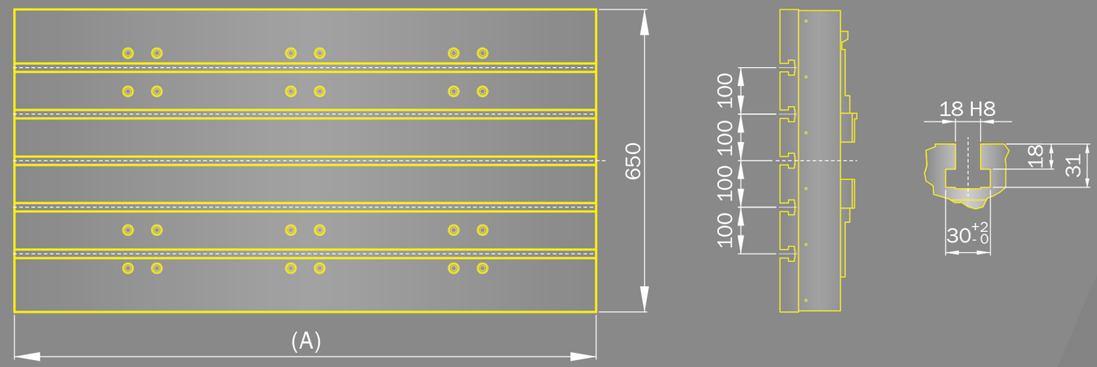
A Production line work piece measurement: can reduce production failure rate and improve production efficiency.

B Production line tool detection: It can accurately feedback the tool damage data, correction the error and greatly improve machining accuracy to improve processing quality.

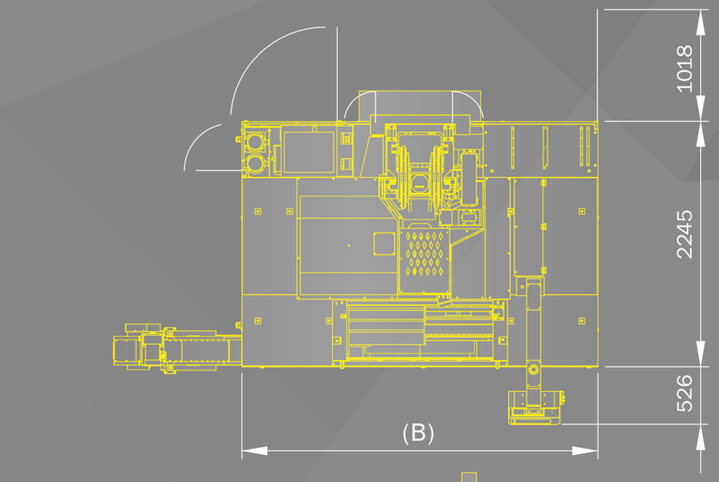
C Can be used with contact or non-contact laser detection system, to completely resolution of machining accuracy problems.

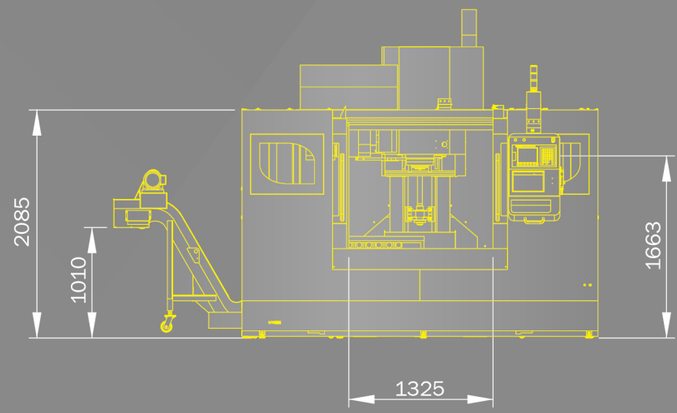
Table Size Chart (Unit: mm)

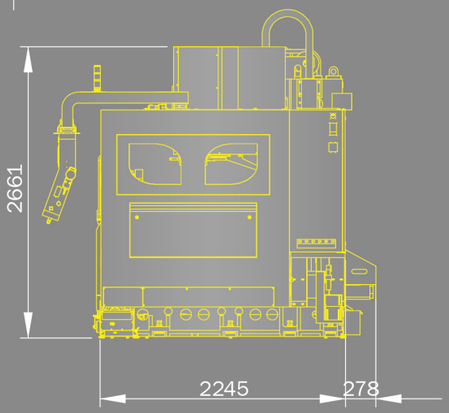
Machine model	VTG-1065L/L3	VTG-1165L/L3	VTG-1365L/L3	VTG-1565L/L3
Table length (A)	1100	1250	1400	1600
Table load (kg)	700	700	1000	1000
Sheet metal exterior dimension (B)	3254	3254	3600	4000



Machine exterior dimension Chart (Unit: mm)







MACHINE SPECIFICATION

Model		VTG-1065L3	VTG-1165L3	VTG-1365L3	VTG-1565L3
Travel and machining range					
X-axis travel	mm	1020	1150	1300	1500
Y-axis travel	mm	650			
Z-axis travel	mm	620			
Spindle nose to table surface	mm	100~720			
Spindle center to front column guide surface	mm	765			
Table					
Table size	mm	1100×650	1250×650	1400×650	1600×650
Maximum load permissible	kg	700	700	1000	1000
T slot (width x slot no. x pitch)		18×5×100mm			
Headstock					
Spindle taper		BT-40			
Spindle speed	rpm	Belt 10000 rpm			
Spindle motor		11/15kw (cont./30min)			
Axis feedrate					
Rapid feedrate (X/Y/Z)	mm/min	36000×36000×30000			
Cutting feedrate	mm/min	10000			
Ball screw dimension (X/Y/Z)	mm	Ø40 / Ø45 / Ø45		Ø45 / Ø45 / Ø45	
Guide way type	mm	Three-axis roller guide (W35 / 45 / 45)			
Automatic tool change					
Arm type ATC system		Arm type cam tool change			
Pull stud		P40T-MAS1-G (45°)			
Tool change time		T-T 1.8 sec, C-C 4.5 sec			
Tool number		24T			
Maximum tool diameter (with adjacent tool/no adjacent tool)	mm	Ø80 / Ø150			
Maximum tool length	mm	300			
Maximum tool weight	kg	7			
Accuracy VDI 3441(JIS B6336-2) (JIS B6338)					
Positioning accuracy		P0.014 mm (±0.004/300mm)			
Repeatability accuracy		PS 0.010 (±0.003mm)			
General data					
Coolant tank capacity	ℓ	300 (240-80%)			
Cutting pump motor		750W / 60HZ			
Air pressure capacity		6kgf / cm²			
Floor space (H)	mm	2727			
Floor spacce (W×D)	mm	5250×3500	5250×3500	5600×3500	6000×3500
Machine weight	kg	6500	7000	7500	8000

◎ Machine specifications, accessories and appearance are subjected to change without notice by CHI-FA.

Model		VTG-1065L	VTG-1165L	VTG-1365L	VTG-1565L
Travel and machining range					
X-axis travel	mm	1020	1150	1300	1500
Y-axis travel	mm	650			
Z-axis travel	mm	620			
Spindle nose to table surface	mm	100~720			
Spindle center to front column guide surface	mm	765			
Table					
Table size	mm	1100×650	1250×650	1400×650	1600×650
Maximum load permissible	kg	700	700	1000	1000
T slot (width x slot no. x pitch)		18×5×100mm			
Headstock					
Spindle taper		BT-50			
Spindle speed	rpm	Belt 6000 rpm / Gear 6000 rpm			
Spindle motor		11/15kw (cont./30min)			
Axis feedrate					
Rapid feedrate (X/Y/Z)	mm/min	24000×24000×20000			
Cutting feedrate	mm/min	10000			
Ball screw dimension (X/Y/Z)	mm	Ø40 / Ø45 / Ø45		Ø45 / Ø45 / Ø45	
Guide way type	mm	X,Y roller guide way (W35 / 45), Z box guide way			
Automatic tool change					
Arm type ATC system		Arm type cam tool change			
Pull stud		P50T-MAS1-G (45°)			
Tool change time		T-T 4 sec, C-C 6.5 sec			
Tool number		24T			
Maximum tool diameter (with adjacent tool/no adjacent tool)	mm	Ø125 / Ø200			
Maximum tool length	mm	300			
Maximum tool weight	kg	15			
Accuracy VDI 3441(JIS B6336-2) (JIS B6338)					
Positioning accuracy		P0.014 mm (±0.004/300mm)			
Repeatability accuracy		PS 0.010 (±0.003mm)			
General data					
Coolant tank capacity	ℓ	300 (240-80%)			300 (240-80%)
Cutting pump motor		750W / 60HZ			
Air pressure capacity		6kgf / cm²			
Floor space (H)	mm	2727			
Floor spacce (W×D)	mm	5250×3500	5250×3500	5600×3500	6000×3500
Machine weight	kg	6700	7200	7700	8200

◎ Machine specifications, accessories and appearance are subjected to change without notice by CHI-FA.

Standard Accessories

- 10000 rpm belt type spindle
- Disc-type tool magazine 24 tools
- Automatic lubrication system
- Spindle oil cooler
- Cutting fluid system
- Work lamp(LEDX2)
- Work air blast
- Spindle air blast
- Fully enclosed splash guard
- Heat exchanger for electrical cabinet
- Operation & maintenance manual
- Rear side flushing (1065L&1165L3)
- Double type (Front/rear) spiral chip removal device (1365L3&1565L3)
- Flat-row screw-chip device
- Air gun, coolant gun

Optional accessories

- 12000 rpm belt type spindle
- Chain-type tool magazine 32 tools
- 4th axis preparation
- 4th axis rotary table
- Auto tool length measurement
- Coolant through spindle device (CTS)
- Oil skimmer
- Chain type chip conveyor
- Transformer
- Optional controller
  Mitsubishi M80
  Fanuc OIMF
  Siemens 828D
  Fagor 8055iFL

Standard Accessories

- 6000 rpm belt type spindle
- Disc-type tool magazine 24 tools
- Automatic lubrication system
- Spindle oil cooler
- Cutting fluid system
- Work lamp(LEDX2)
- Work air blast
- Spindle air blast
- Fully enclosed splash guard
- Heat exchanger for electrical cabinet
- Operation & maintenance manual
- Rear side flushing (1065L&1165L)
- Double type (front/rear) spiral chip removal device (1365L3&1565L)
- Flat-row screw-chip device
- Air gun, coolant gun

Optional accessories

- 6000 rpm gear type spindle (BT-50)
- 6000 rpm gear type spindle (BT-40)
- Chain-type tool magazine 32 tools
- 4th axis preparation
- 4th axis rotary table
- Auto tool length measurement
- Coolant through spindle device (CTS)
- Oil skimmer
- Chain type chip conveyor
- Transformer
- Optional controller
  Mitsubishi M80
  Fanuc OIMF
  Siemens 828D
  Fagor 8055iFL