

High Precision Vertical Machining Center

High speed | High precision | High efficiency



Taikan

HIGH-END INTELLIGENT EQUIPMENT TURNKEY SOLUTION SERVICE PROVIDER

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Our company's products are constantly improving, and the above information is subject to change without prior notice.

SHENZHEN CREATE CENTURY AUTOMATION TECHNOLOGY CO., LTD.

Address: Room 201 Building 2, No. 180 Huangpu East Ring Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, China

Tel.: +86(755)2996-5778

E-mail: overseas-marketing@szccm.com

Website: www.taikanmachine.com

HIGH-END INTELLIGENT EQUIPMENT TURNKEY SOLUTION SERVICE PROVIDER

WE ARE A DREAM **BUILDER** FOR THE **INNOVATION**

Create Century is not only a high-end intelligent equipment manufacturer but also a creator of industrial machine tools and productivity tools

MACHINERY TAKES **SHAPE** BUT INNOVATION KNOWS **NO BOUNDS**

Create Century transcends with innovation of thinking, intelligence, products and services unveiling the realm of intelligent manufacturing and fostering a shared vision of a better future



COMPANY PROFILE

TAIKAN

Founded **20** years ago

Create Century established in 2005

Ranking **183**rd

Shenzhen's Top 500 Enterprises in 2023

Top **100** businesses

Bao'an District, Shenzhen
 Top 100 enterprises by added value
 Top 100 enterprises by output value
 Top 100 enterprises by tax contribution
 Top 100 enterprises by innovation

4 R&D centers

Shenzhen R&D Center
 Suzhou R&D Center
 Shanghai R&D Center
 Xi'an R&D Center

700+ core patents

Invention patents-----168
 Utility model patents-----509
 Design patents-----121
 Software copyrights-----88

4 strategic partnership agencies

ONE STATION, ONE LAB, AND TWO CENTERS

Academician <Expert> Workstation of Shenzhen
 Engineering Technology Research Center of Guangdong Province
 Engineering Laboratory for Key Technologies in Smart Precision Machining

500+ R&D team members

The Company boasts a technical advisory board consisting of industry-leading technical experts from Mainland China, Taiwan, South Korea, Malaysia, Germany, and other regions, along with a dedicated R&D team of over 500 professionals

Guangdong Create Century Intelligent Equipment Group Co., Ltd. (Create Century for short; stock code: 300083) was publicly listed on the Shenzhen Stock Exchange in 2010, and underwent a transformation in 2016 to become an intelligent equipment Co., Ltd. in 2016. Create Century is a company that specializes in the research and development, production, sales, and service of high-end intelligent equipment. With nearly two decades of industry experience, it is capable of delivering top-quality equipment and comprehensive intelligent solutions to its customers. More importantly, Create Century stands out among similar domestic enterprises for its broad technological expertise and extensive product range.



Dongguan Industrial Park



Suzhou Industrial Park



Yibin Industrial Park



Huzhou Industrial Park

S Standard Edition with Three Linear Guide Rails

High-speed and high-efficiency—A classic masterpiece

- The tool magazine is controlled by encoders and frequency converters, allowing for quicker and more precise tool changes. The tool magazine can enter the tool changing state in advance, thereby saving time during tool changes
- Customers have the flexibility to choose from a range of operating systems, transmission modes, as well as various speeds, powers, and core component brands, allowing for a comprehensive satisfaction of their specific needs
- The machine tool's five major components are manufactured using premium resin sand molding and high-strength cast iron materials, resulting in vibration-free and distortion-free high-speed cutting operations, while maintaining a stable level of precision

High-speed and High-efficiency Vertical Machining Center

T-V856S **T-V1055S**
T-V1165S **T-V1270S**



► **Superior static and dynamic rigidity, resistance to vibration, and thermal stability**

PRODUCT STRUCTURE

■ **Tool magazine**

The tool magazine is controlled by encoders and frequency converters, allowing for quicker and more precise tool changes. The tool magazine can enter the tool changing state in advance, thereby saving time during tool changes

■ **Spindle**

The spindle is a high-speed spindle unit from Taikan, featuring a direct-drive BT40-12000 r/min high-speed long-nose spindle. The spindle bearings offer excellent heat dissipation, minimal thermal distortion, and are complemented by an air curtain protection feature.

■ **Guide rail**

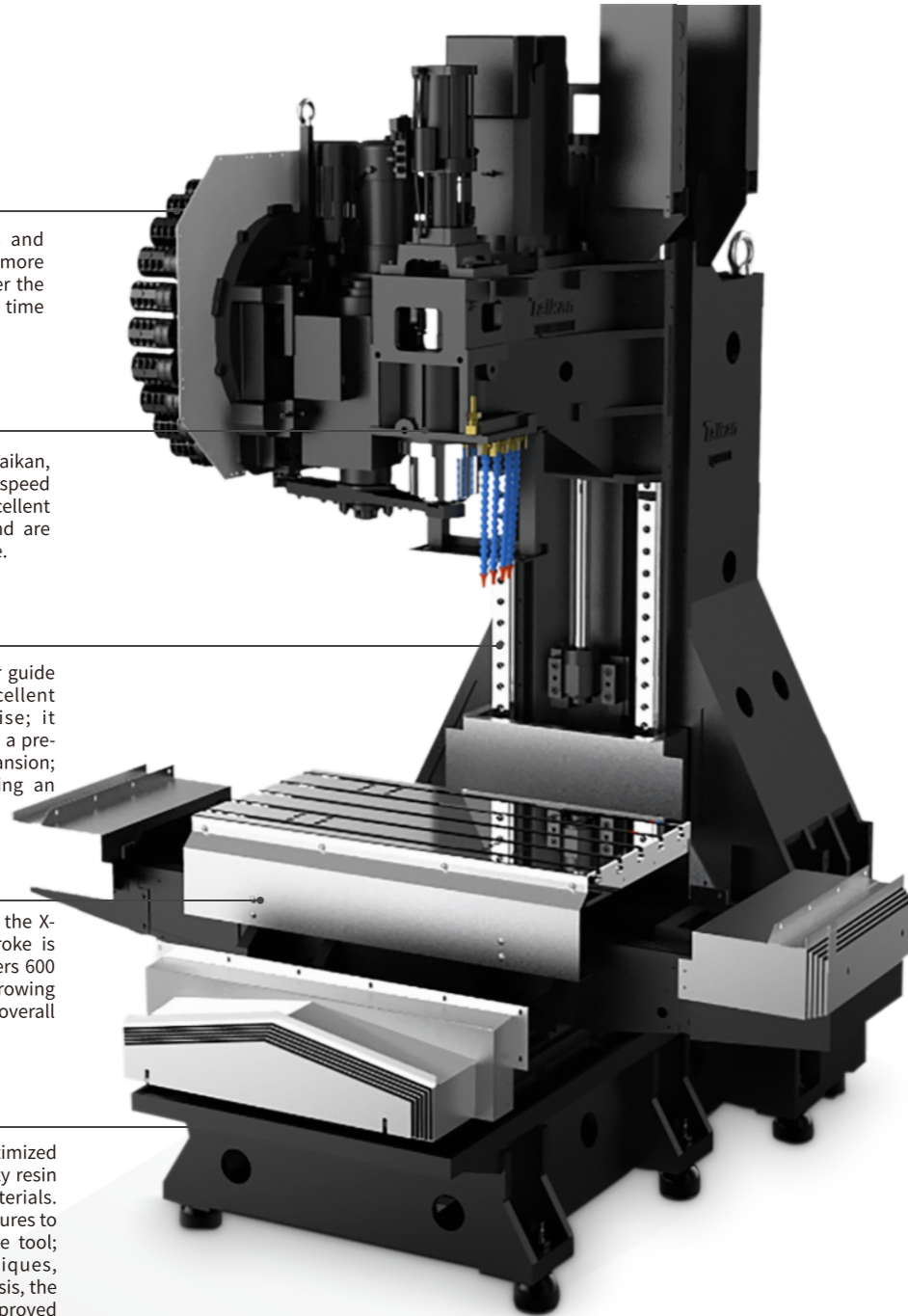
The three-axis guide rail is designed with a roller guide rail for load-bearing purposes, providing excellent rigidity, minimal friction, and reduced noise; it incorporates a C3-level large-diameter screw with a pre-tensioning structure to counteract thermal expansion; the screw bearings are self-lubricating, ensuring an extended lifespan.

■ **Worktable**

Enlarged worktable: 1000 mm x 500 mm in size; the X-axis stroke spans 800 mm, while the Y-axis stroke is extended to 550 mm, while the Z-axis stroke covers 600 mm; this expanded working range caters to the growing need for larger machining spaces and enhances overall versatility to accommodate various requirements

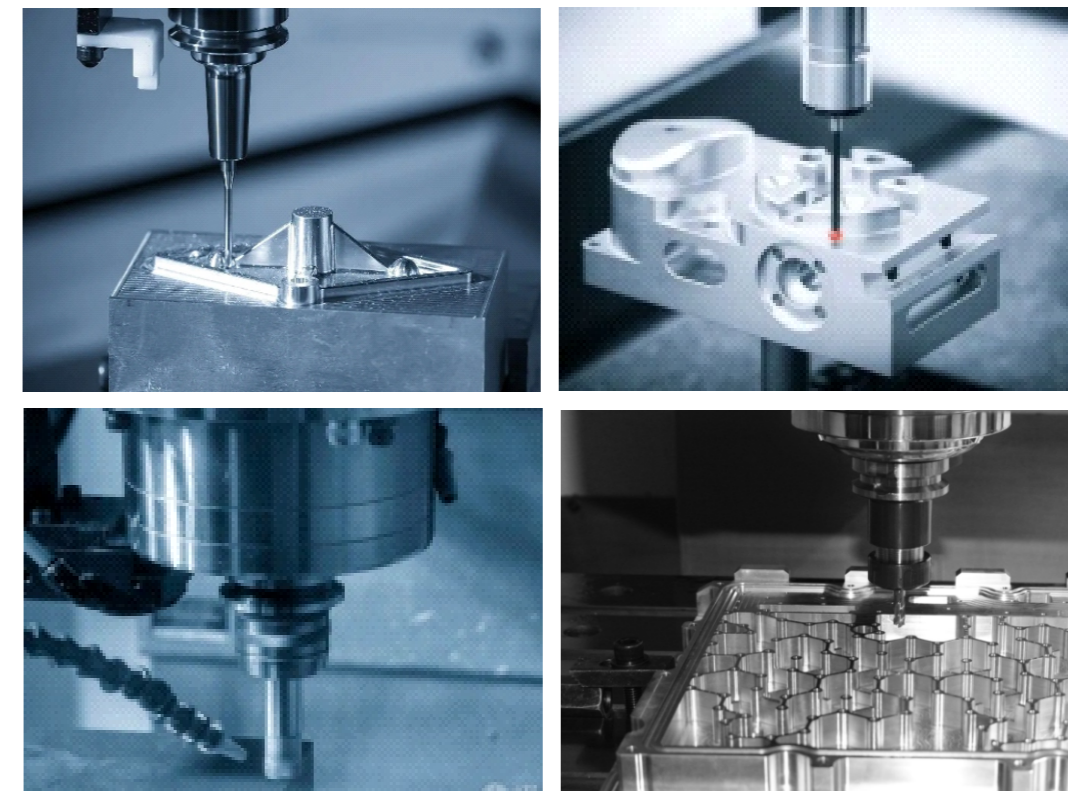
■ **Foundation castings**

The five basic castings for machine tool are re-optimized in their structural design and made of high-quality resin sand molding and high-strength cast iron materials. They are also combined with heat treatment measures to ensure high rigidity and stability of the machine tool; through the use of advanced design techniques, including finite element analysis and modal analysis, the overall performance of the machine has been improved by at least 20%



WORKPIECES DISPLAY

The machine tool is designed for medium and small batch processing of complex parts such as boxes, plates, disks, valves, casings, and molds. It's extensively used in industries such as precision parts, 3C products, hardware, auto parts, and medical devices



S Standard Edition with Three Linear Guide Rails

High-speed and high-efficiency—A classic masterpiece

- High-rigidity belt spindle for high precision and efficiency
- A well-designed machine structure ensures rigid machining performance
- Three-axis ball screw and roller linear guide rail guarantee high-precision and stable operation of the machine tool

High-speed and High-efficiency Vertical Machining Center

T-V1375S **T-V1475S**
T-V1585S **T-V1685S**



▶ **The well-designed machine tool structure guarantees stable precision in high-speed heavy-duty cutting operations**

PRODUCT STRUCTURE

▪ **Tool magazine**

X/Y-axis guide rail is carried by #45 line rail, enjoying high rigidity, low friction and low noise; Z-axis guide rails are carried by #55 rollers, enjoying high rigidity and high vibration resistance, able to carry greater cutting force

▪ **Spindle box**

The spindle box movement (Z-axis) is equipped with nitrogen balancing device, so that the stability is higher even when moving at high speed; the precise ratio of counterweight to spindle box weight can obtain the best machining characteristics and make the Z-axis drive motor have good load characteristics

▪ **Spindle**

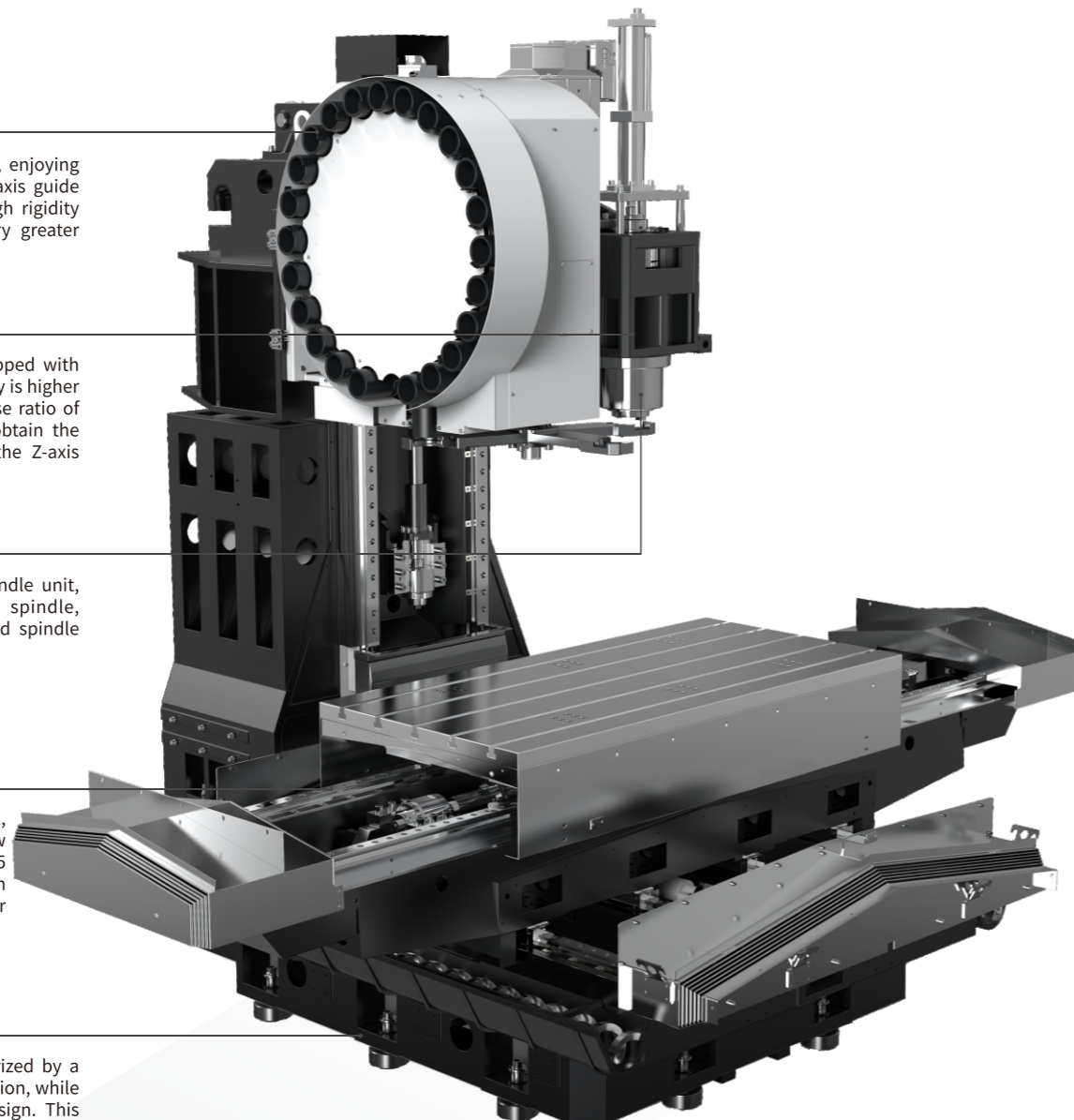
The spindle adopts Taikan's high-speed spindle unit, equipped with belt-driven BT50-6000rpm spindle, enjoying high cutting efficiency and reduced spindle thermal deformation

▪ **Guide rail**

X/Y-axis guide rail is carried by #45 line rail, enjoying high rigidity, low friction and low noise; Z-axis guide rails are carried by #55 rollers, enjoying high rigidity and high vibration resistance, able to carry greater cutting force

▪ **Structure**

The machine's overall structure is characterized by a stationary design and a cross-slide configuration, while the Y-axis incorporates a four-guide rail design. This ensures the machine's capacity to handle heavy loads during processing, while maintaining precise machining accuracy. The overall machine is equipped with a fully enclosed protective structure. The machine tool boasts a visually appealing appearance and is easy to operate and repair



WORKPIECES DISPLAY

With each clamping cycle, it is capable of performing various machining operations such as milling, drilling, boring, broaching, reaming, countersinking, and tapping of workpiece. The machine tool is designed for medium and large batch processing of complex parts such as boxes, plates, disks, valves, casings, and molds. It's extensively used in industries such as precision parts, 5G products, hardware, auto parts, and medical devices.



▶ PARAMETER TABLE

Items	Units	T-V856S	T-V1055S	T-V1165S	T-V1270S	T-V1375S	T-V1475S	T-V1585S	T-V1685S
Worktable size	mm	1000*500	1100*500	1200*600	1300*650	1500*750	1500*750	1700*850	1700*850
Strokes of the three axes (X/Y/Z)	mm	800/550/600	1000/550/600	1100/650/600	1200/700/700	1350/750/750	1400/750/750	1550/850/850	1650/850/850
Distance from spindle nose to table	mm	125 ~ 725	100-700	125-725	100-800	120-870	120-870	120-970	120-970
T-slot of worktable (number of slots - slot width × spacing)	mm	5-18*100	5-18*100	5-18*100	5-18*125	5-18*150	5-18*150	5-18*125+2-18*100	5-18*125+2-18*100
Spindle speed	r/min	Direct coupling12000	Direct coupling12000	Direct coupling12000	Direct coupling12000	Belt 6000	Belt 6000	Belt 6000	Belt 6000
Spindle taper	/	BT40	BT40	BT40	BT40	BT50	BT50	BT50	BT50
Rapid feedrate	m/min	48/48/48	48/48/48	36/36/36	36/36/30	24/24/20	24/24/20	24/24/20	24/24/20
Tool magazine capacity	pc(s)	24	24	24	24	24	24	24	24
Tool weight	kg	7	7	7	7	15	15	15	15
Tool length	mm	250	250	250	250	350	350	350	350

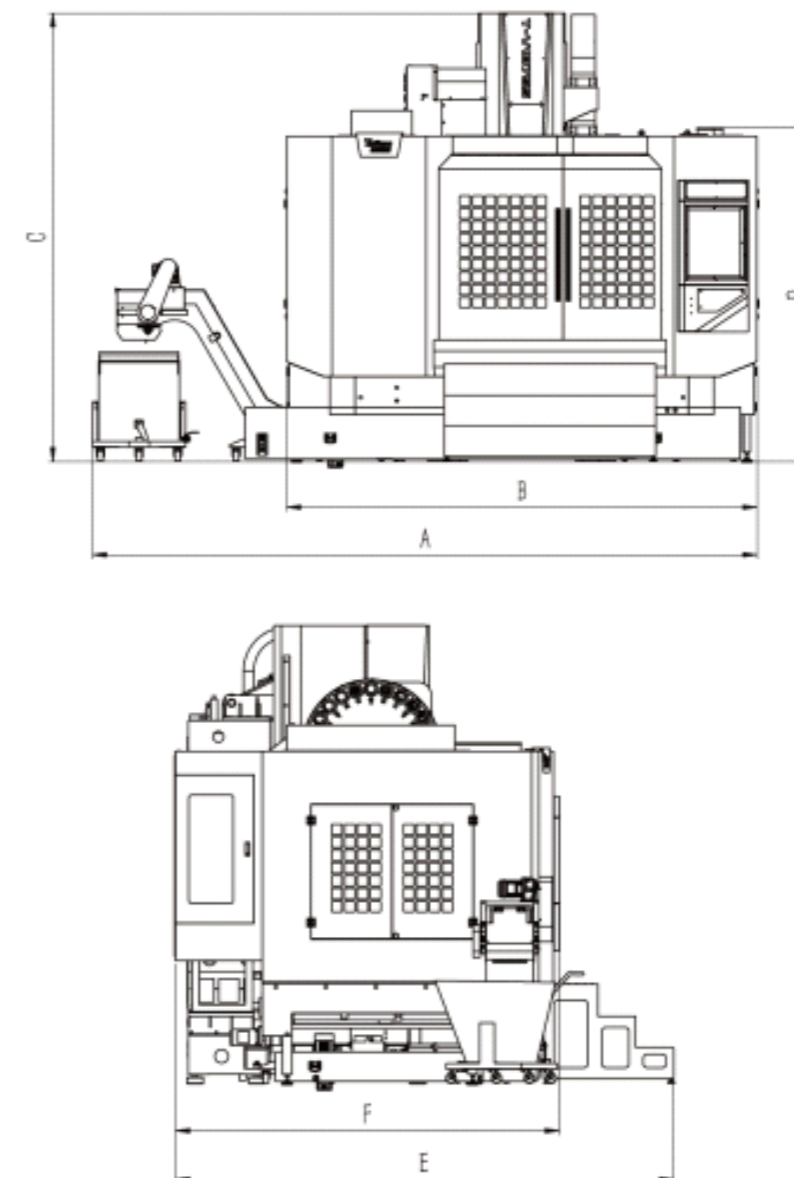
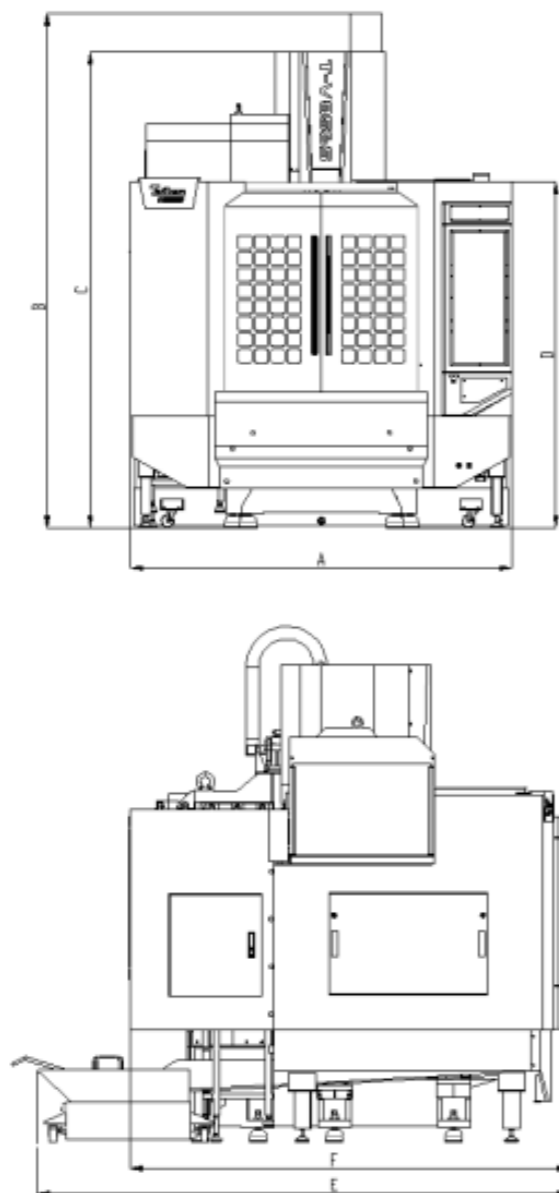
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▶ CONFIGURATION

(● Standard configuration ○ Optional configuration △ Not supported)

Items	T-V856S	T-V1055S	T-V1165S	T-V1270S	Items	T-V1375S	T-V1475S	T-V1585S	T-V1685S
Bt40 belt type 8000 RPM	○	○	○	○	Bt50 belt type 6,000 RPM	●	●	●	●
BT40 belt type 10,000 RPM	○	○	○	○	BT40 belt type 10,000 RPM	○	○	△	△
BT40 direct type - 12,000 RPM	●	●	●	●	BT40 direct type - 12,000 RPM	○	○	○	○
CTS(2MPa/3MPa/5MPa/7MPa)	○	○	○	○	CTS (2MPa/3MPa/5MPa/7MPa)	○	○	○	○
Mitsubishi M80VB	●	●	●	●	Mitsubishi M80VB	○	○	○	○
FANUC-0i-MF (3B)	○	○	○	○	FANUC-0i-MF (3B)	●	●	●	●
Siemens 828D	○	○	○	○	Siemens 828D	○	○	○	○
Huazhong Numerical Control System	○	○	○	○	Huazhong Numerical Control System	○	○	○	○
Four-axis	○	○	○	○	Four-axis	○	○	○	○
Roller linear guide rail	●	●	●	●	Roller linear guide rail	●	●	●	●
24T disc-type tool magazine	●	●	●	●	24T disc-type tool magazine	●	●	●	●
30T disc-type tool magazine	○	○	○	○	30T disc-type tool magazine	○	○	○	○
Rear chain chip conveyor	○	○	○	○	Rear chain chip conveyor	●	●	●	●
Tool setter	○	○	○	○	Tool setter	●	●	●	●
Oil-water separator	○	○	○	○	Oil-water separator	○	○	○	○
Spindle cooling	●	●	●	●	Spindle cooling	●	●	●	●

OVERALL LAYOUT DIAGRAM



		Overall size					
Type	Size	A	B	C	D	E	F
T-V856S		2240	3026	2805	2038	3121	2576
T-V1055S		2500	3026	2745	2435	3141	2591
T-V1165S		2700	2955	2508	2158	2806	3470
T-V1270S		3000	3057	2604	2195	2836	3497

		Overall size					
Type	Size	A	B	C	D	E	F
T-V1375S		5050	3560	3440	2630	3680	2845
T-V1475S		5050	3560	3440	2630	3680	2845
T-V1585S		5240	3920	3662	2640	4054	3190
T-V1685S		5240	4190	3662	2510	4054	3275

H Advanced Edition with Three Linear Guide Rails

High speed and high precision—A testament to exquisite craftsmanship

- Faster and more precise tool change saves time
- Suitable for the machining of workpieces with high precision requirements and moderate chip volume
- With its ability to perform high-speed cutting without any vibrations or deformations, the machine tool maintains consistent precision throughout the process

High-speed and High-precision Vertical Machining Center

T-V856H T-V1165H



▶ **This machine exhibits high levels of static and dynamic stiffness, along with excellent vibration resistance and excellent thermal stability**

PRODUCT STRUCTURE

■ Column

The machine's overall structure is characterized by a stationary design and a cross-slide configuration. Featuring an exceptionally large and stable base, as well as a high-rigidity wide-span inverted "T" shaped column, the machine frame enables high-speed cutting operations without any vibrations or deformations

■ Spindle

The spindle is a high-speed spindle unit from Taikan, featuring a BT40-12,000 r/min direct coupling; the front end of the spindle adopts labyrinth design with air curtain protection to prevent cutting fluid from entering the spindle bearing

■ Guide rail

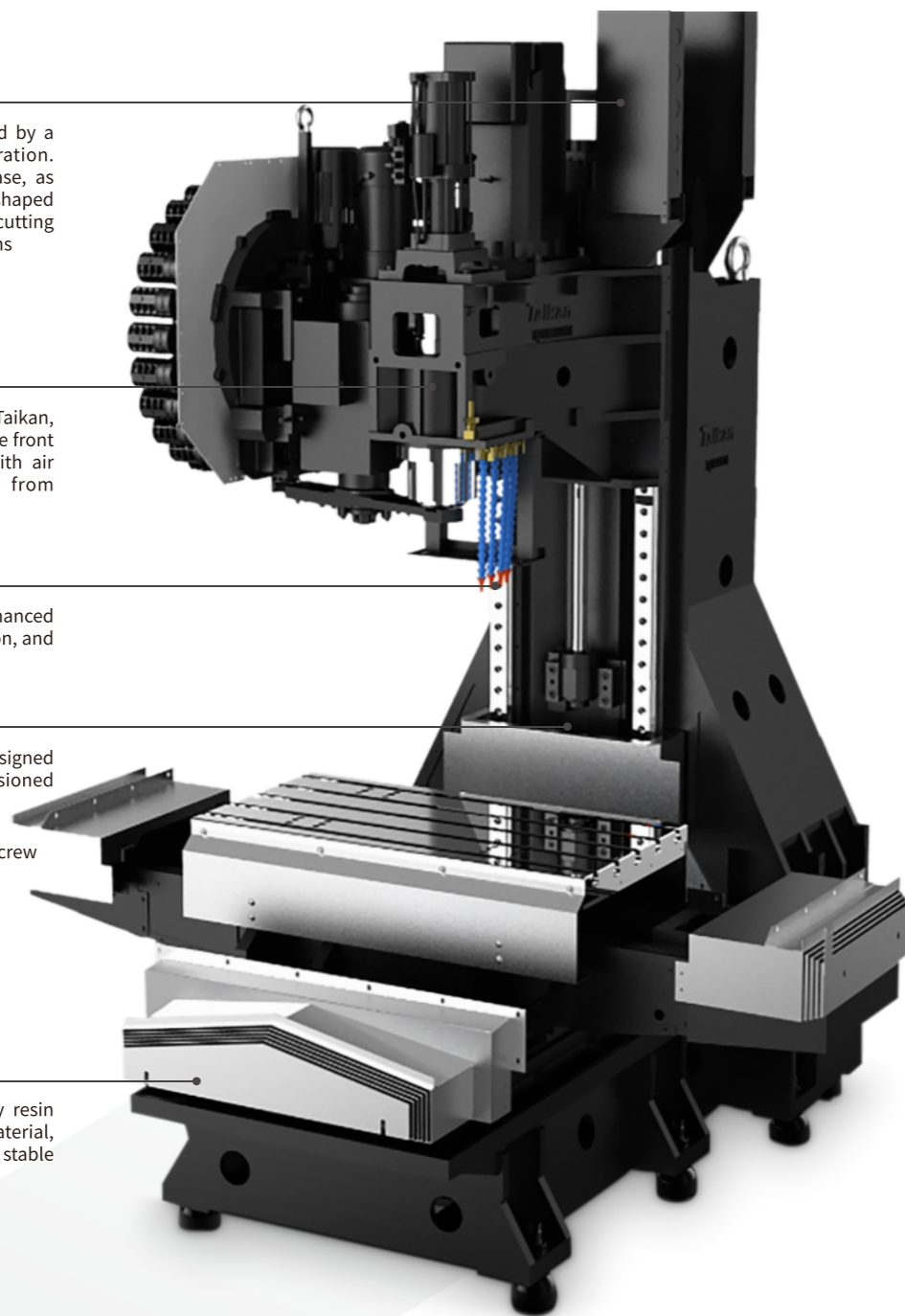
The three axes adopt #45 roller guide rail for enhanced bearing capacity, offering high rigidity, low friction, and low noise

■ Screw

The large-diameter precision ball screw is designed with a hollow cooling system and a pre-tensioned structure to eliminate thermal expansion of the screw, thereby improving machining precision and stability while extending the lifespan of the screw

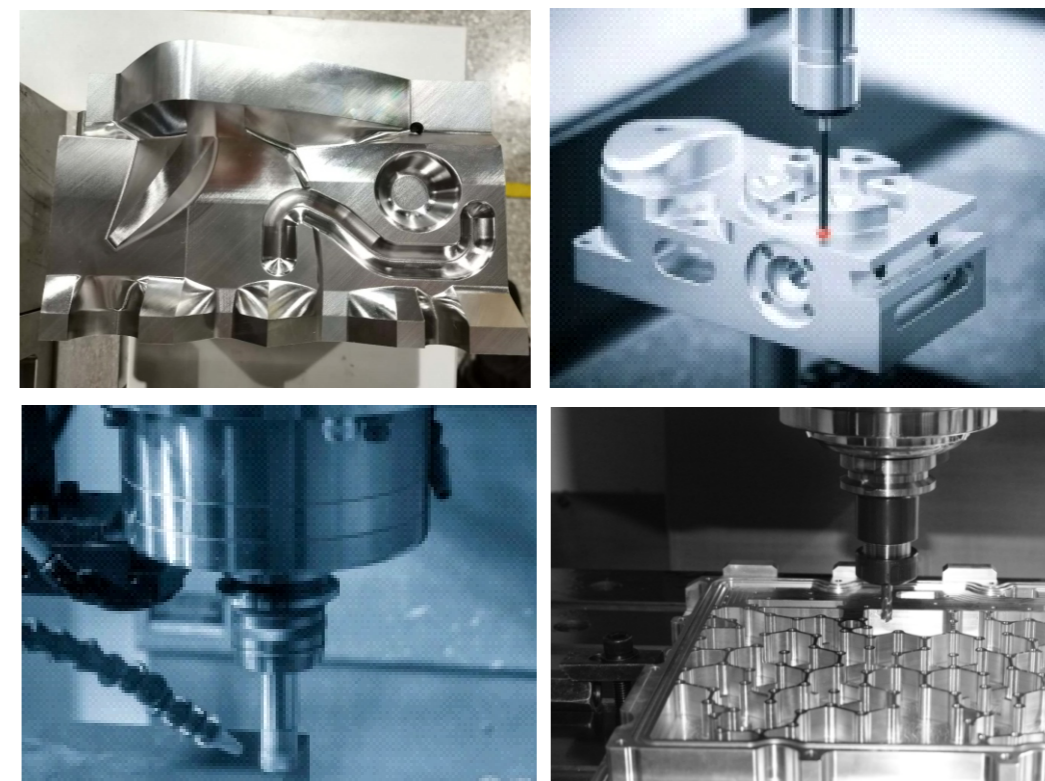
■ Castings

The foundation parts are made of high-quality resin sand molding and high-strength cast iron material, which makes the lathe get high rigidity and stable precision



WORKPIECES DISPLAY

With each clamping cycle, it is capable of performing various machining operations such as milling, drilling, boring, broaching, reaming, and tapping of workpiece. The machine tool is designed for medium and small batch processing of complex parts such as boxes, plates, disks, valves, casings, and molds. It's extensively used in industries such as precision parts, 5G products, hardware, auto parts, and medical devices



▶ **PARAMETER TABLE**

Items	Units	T-V856H	T-V1165H
Stroke	Strokes of the three axes (X/Y/Z)	mm	800/550/600
	Distance from spindle nose to table	mm	125 ~ 725
Worktable	Worktable size	mm	1000*500
	Maximum load bearing capability of the worktable	kg	450
	T-slot of worktable (number of slots - slot width × spacing)	mm	5-18*100
Spindle	Maximum rotational speed of spindle	rpm	50~12000 (direct coupling)
	Spindle taper	#	BT40
	Motor power (rated/short-time)	Kw	11/15
	Motor torque (rated/short-time)	N.m	52.5/118
Tools	Tool magazine capacity	Slot	24
	Maximum diameter (full magazine/vacant adjacent slot)	mm	Φ75/Φ150
	Tool length	mm	250
	Tool weight	kg	7
Feed	Rapid feedrate	m/min	30/30/30

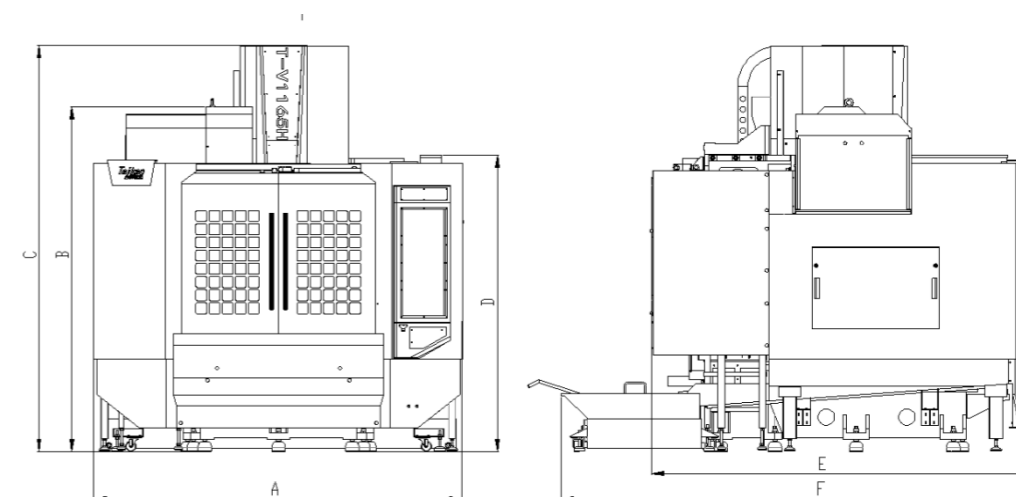
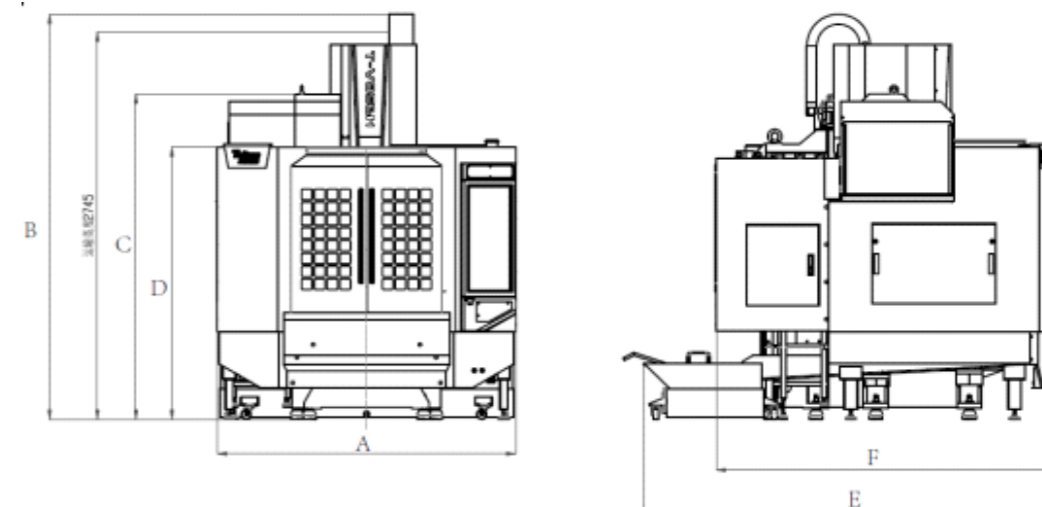
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▶ **CONFIGURATION**

(● Standard configuration ○ Optional configuration △ Not supported)

Items	T-V856H	T-V1165H
BT40 direct type - 12,000 RPM	●	●
BT40 direct type - 15,000 RPM	○	○
BT40 motorized spindle - 15,000 RPM	○	○
HSK-A63 motorized spindle 20,000 RPM	○	○
CTS 2MPa/3MPa/5MPa/7MPa	○	○
Mitsubishi M80VB	●	●
FANUC-0i-MF (3/1)	○	○
Siemens 828D	○	○
Four-axis	○	○
Roller linear guide rail	●	●
24T disc-type tool magazine BT40	●	●
30T disc-type tool magazine BT40	○	○
Tool setter	○	○
Oil-water separator	○	○
Spindle cooling	●	●
Screw hollow cooling	●	●

OVERALL LAYOUT DIAGRAM



		Overall size					
Type	Size	A	B	C	D	E	F
T-V856H		2240	3026	2435	2038	3121	2576
T-V1165H		2691	2508	2953	2156	2840	3500

Two Linear and One Hard Series

High precision and high efficiency - An outstanding masterpiece

- High-rigidity belt spindle for high precision and efficiency
- The structural design of the machine tool guarantees outstanding performance in heavy-duty machining
- Three-axis ball screw and "two linear and one hard" guarantee high-precision and stable operation of the machine tool

High-speed and High-precision Vertical Machining Center

T-856L T-1060L T-1260L



▶ The machine tool structure guarantees stable precision in high-speed heavy-duty cutting operations

PRODUCT STRUCTURE

■ Tool magazine

The fully enclosed tool magazine safeguards and preserves the cleanliness of tools, minimizing the possibility of machining chips contaminating the tools in the magazine. The ATC tool change speed and angle are controlled with frequency converters and angle encoders to improve the tool change speed and stability and boost the overall machining efficiency

■ Spindle

The spindle is a high-speed spindle unit from Taikan, featuring a BT40-8,000 r/min belt head; the front end of the spindle adopts labyrinth design with air curtain protection to prevent cutting fluid from entering the spindle bearing

■ Guide rail

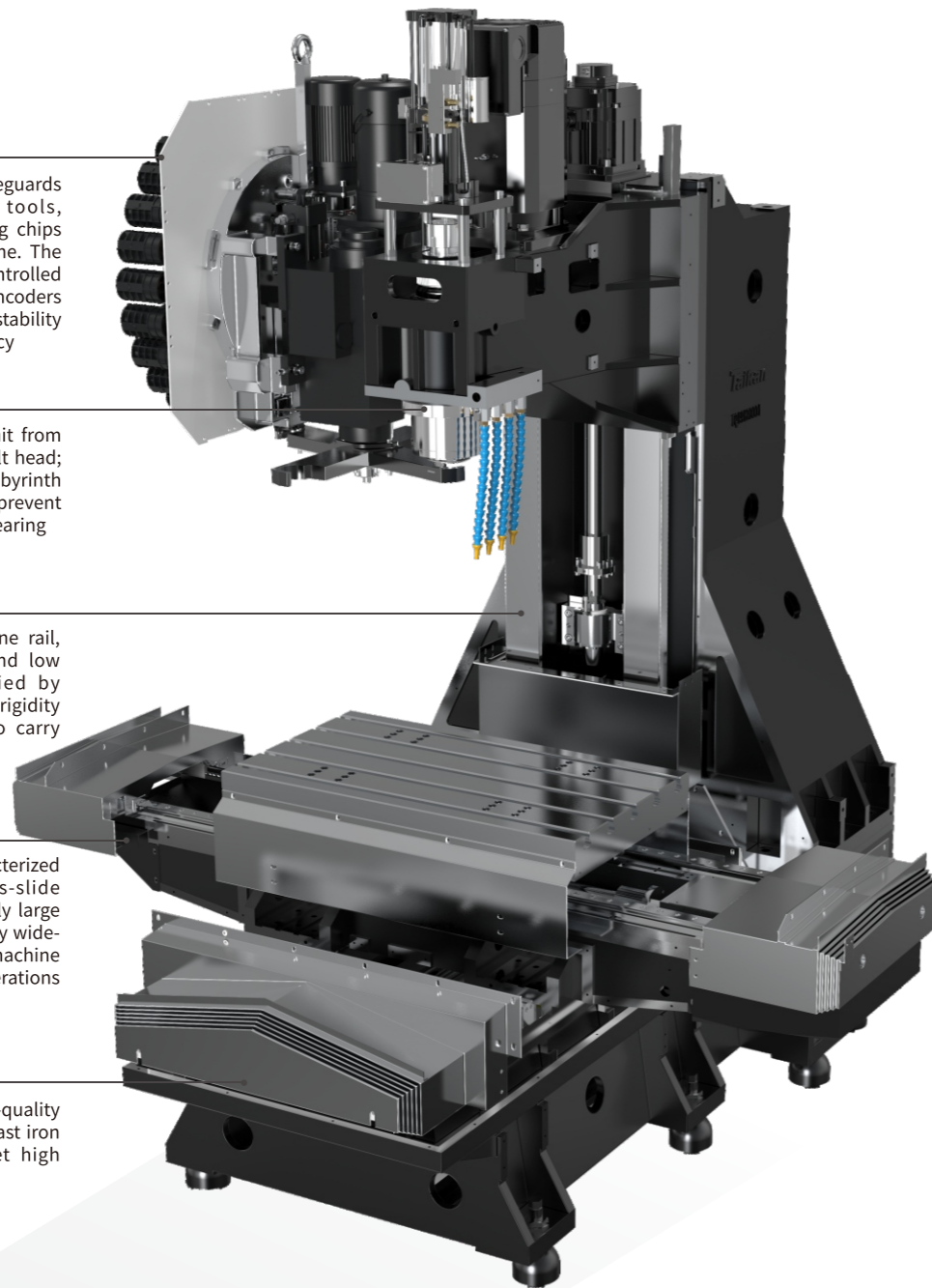
X/Y-axis guide rail is carried by #45 line rail, enjoying high rigidity, low friction and low noise; Z-axis guide rails are carried by rectangular hard rails, enjoying high rigidity and high vibration resistance, able to carry greater cutting force

■ Structure

The machine's overall structure is characterized by a stationary design and a cross-slide configuration. Featuring an exceptionally large and stable base, as well as a high-rigidity wide-span inverted "T" shaped column, the machine frame enables high-speed cutting operations without any vibrations or deformations

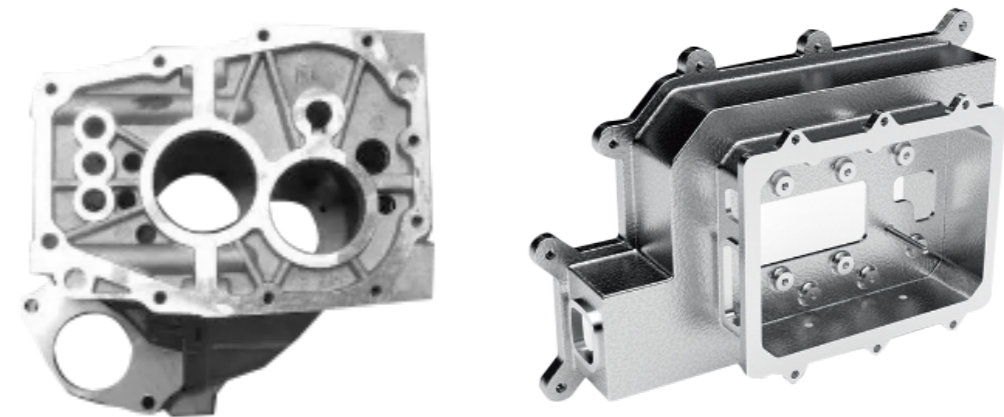
■ Castings

The foundation parts are made of high-quality resin sand molding and high-strength cast iron material, which makes the lathe get high rigidity and stable precision



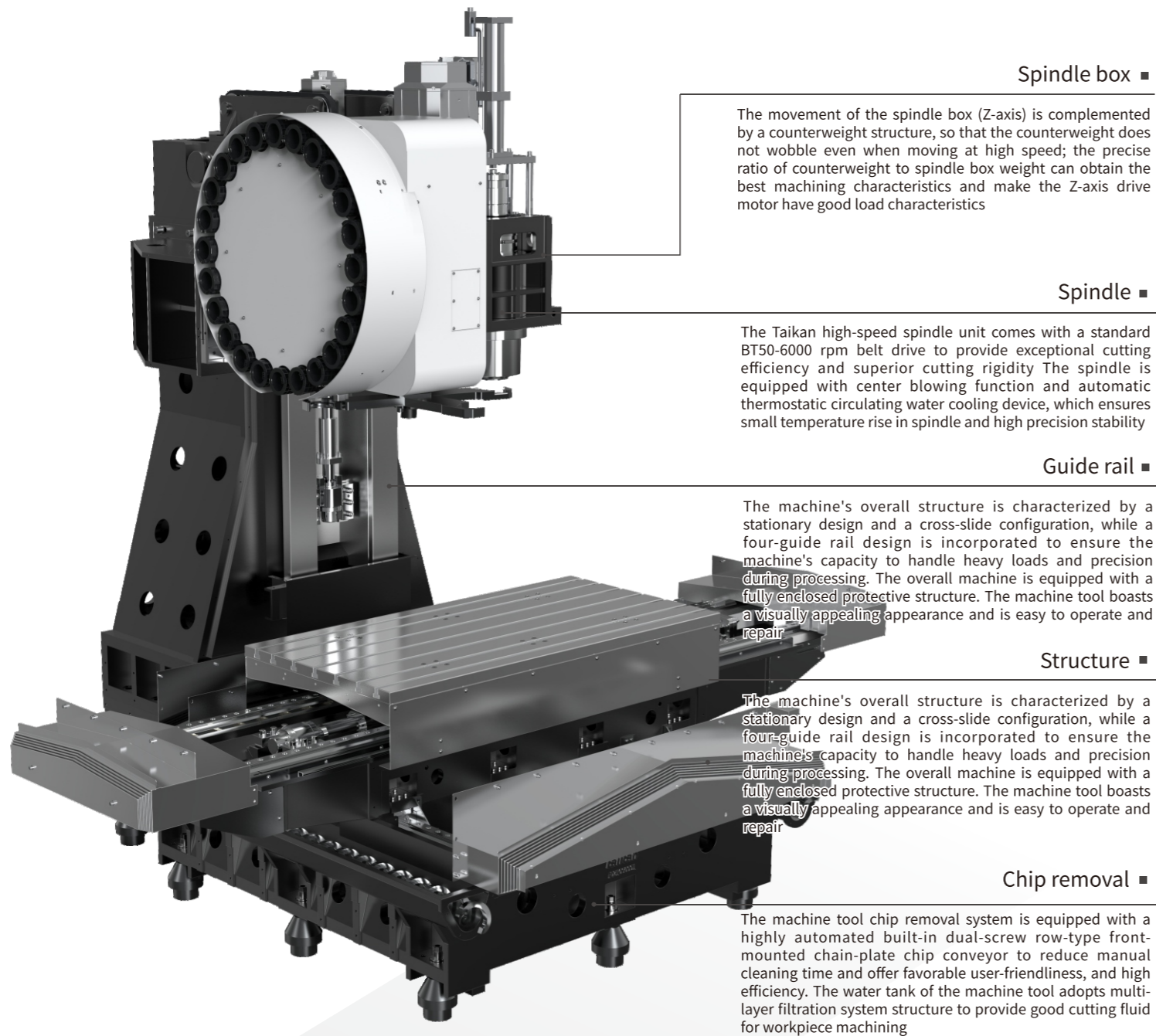
WORKPIECES DISPLAY

This machine is capable of achieving high precision and handling substantial cutting volumes in workpiece machining, making it well-suited for the processing of small to medium-sized precision parts and molds; it finds extensive applications across industries including precision parts, auto parts, medical devices, precision molds, etc.



▶ This machine is capable of achieving high precision, handling substantial cutting volumes, and offering high rigidity for workpiece machining

PRODUCT STRUCTURE



High-speed and High-precision Vertical Machining Center

T-1375L T-1475L
T-1585L T-1685L



▶ **PARAMETER TABLE**

Items	Units	T-856L	T-1060L	T-1260L	T-1375L	T-1475L	T-1585L	T-1685L	
Stroke	Strokes of the three axes (X/Y/Z)	mm	800/500/600	1050/600/570	1200/600/570	1350/750/750	1400/750/750	1550/850/850	1650/850/850
	Distance from spindle nose to table	mm	125 ~ 725	140 ~ 710	140~710	120~870	120~870	120~970	120~970
	Worktable size	mm	1000*500	1200*600	1300*600	1500*750	1500*750	1700*850	1700*850
	Maximum load bearing capability of the worktable	kg	500	800	1000	1300	1400	1500	1600
	T-slot of worktable (number of slots - slot width × spacing)	mm	5-18*100	5-18*100	5-18×100	5-18×150	5-18×150	5-18×125+2-18×100	5-18×125+2-18×100
Spindle	Maximum rotational speed of spindle	rpm	Belt 8000	Belt 8000	Belt 8000	Belt 6000	Belt 6000	Belt 6000	Belt 6000
	Spindle taper	#	BT40	BT40	BT40	BT50	BT50	BT50	BT50
	Motor power (rated/short-time)	Kw	7.5/11	7.5/11	7.5/11	15/18.5	15/18.5	15/18.5	15/18.5
	Motor torque (rated/short-time)	N.m	35.8/95.5	35.8/95.5	35.8/95.5	143/191	143/191	143/191	143/191
Tools	Tool magazine capacity	Slot	24	24	24	24	24	24	24
	Maximum diameter (full magazine/vacant adjacent slot)	mm	Φ75/Φ150	Φ75/Φ150	Φ75/Φ150	Φ105/Φ210	Φ105/Φ210	Φ105/Φ210	Φ105/Φ210
	Tool length	mm	250	250	250	350	350	350	350
	Tool weight	kg	7	7	7	15	15	15	15
Feed	Rapid feedrate	m/min	36/36/24	36/36/20	36/36/20	24/24/15	24/24/15	24/24/15	24/24/15

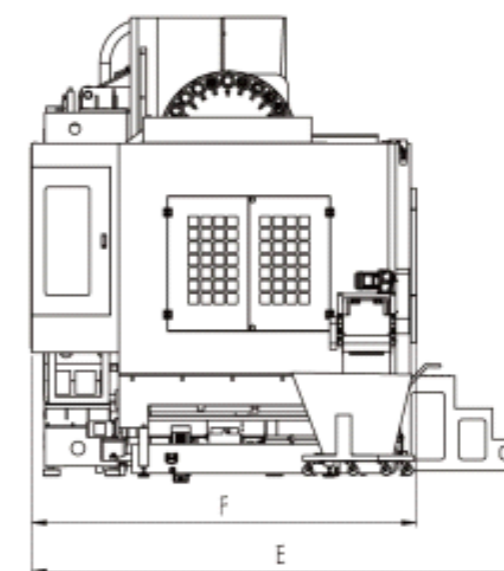
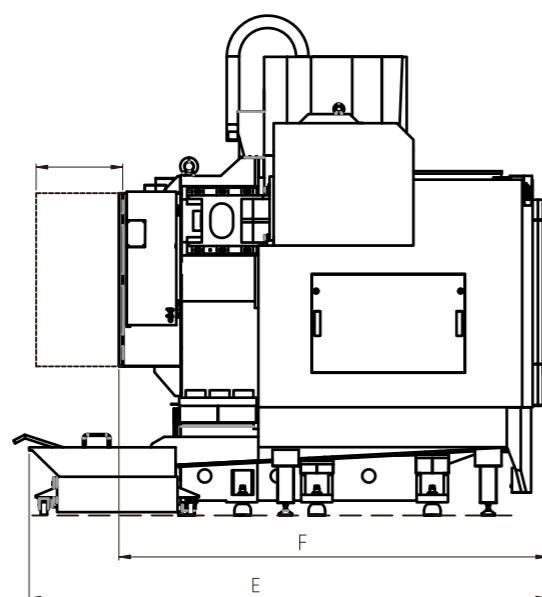
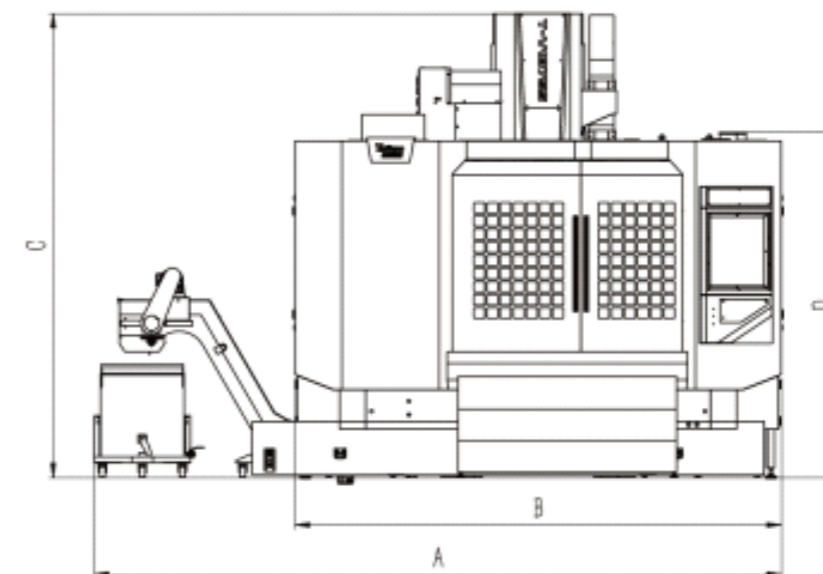
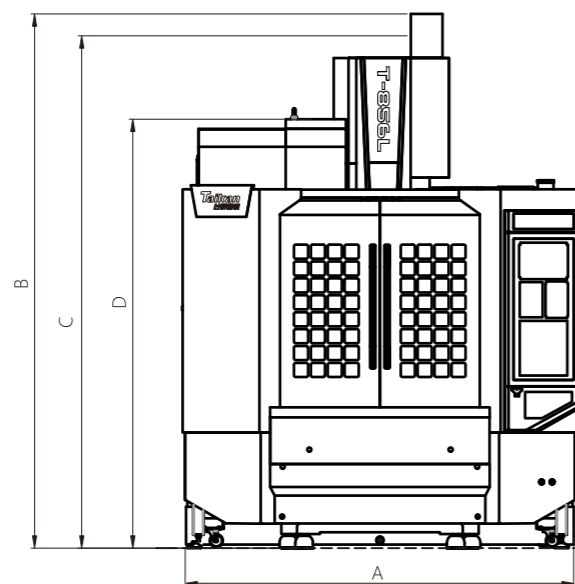
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▶ **CONFIGURATION**

(● Standard configuration ○ Optional configuration △ Not supported)

Items	T-856L	T-1060L	T-1260L	Items	T-1375L	T-1475L	T-1585L	T-1685L
Bt40 belt type 8000 RPM	●	●	●	Bt50 belt type 6,000 RPM	●	●	●	●
BT40 belt type 10,000 RPM	○	○	○	BT50 gear head 6,000 RPM	○	○	○	○
FANUC-0i-MF (3B)	○	○	○	FANUC-0i-MF (3B)	●	●	●	●
Mitsubishi M80VB	●	●	●	Mitsubishi M80VB	○	○	○	○
Siemens 828D	○	○	○	Siemens 828D	○	○	○	○
Water-cooled spindle	●	●	●	Water-cooled spindle	●	●	●	●
Oil-cooled spindle	○	○	○	Oil-cooled spindle	○	○	○	○
Four-axis	○	○	○	Four-axis	○	○	○	○
Five-axis turntable (4.5 axes)	○	○	○	Five-axis turntable (4.5 axes)	○	○	○	○
24T disc-type tool magazine	●	●	●	24T disc-type tool magazine	●	●	●	●
30T disc-type tool magazine	○	○	○	30T disc-type tool magazine	○	○	○	○
Dual-screw chip conveyor	○	○	○	Dual-screw chip conveyor	●	●	●	●
Rear chain chip conveyor	○	○	○	Rear chain chip conveyor	●	●	●	●
Oil-water separator	○	○	○	Oil-water separator	○	○	○	○
CTS (2MPa/3MPa/5MPa/7MPa)	○	○	○	CTS (2MPa/3MPa/5MPa/7MPa)	○	○	○	○
Safety lock	○	○	○	Safety lock	○	○	○	○
Automatic door	○	○	○	Automatic door	○	○	○	○
Water gun	○	○	○	Water gun	○	○	○	○
Electric cabinet air conditioner/heat exchanger	○	○	○	Electric cabinet air conditioner/heat exchanger	○	○	○	○

OVERALL LAYOUT DIAGRAM



		Overall size					
Type	Size	A	B	C	D	E	F
T-856L		2240	3033	2755	2436	3144	2599
T-1060L		2700	3169	2926	2090	3468	2777
T-1260L		3000	3156	2821	2075	3492	2811

		Overall size					
Type	Size	A	B	C	D	E	F
T-1375L		5030	3560	3500	2630	3680	2845
T-1475L		5030	3560	3500	2630	3680	2845
T-1585L		5240	3920	3680	2640	4055	3190
T-1685L		5240	4190	3680	2450	4055	3275

M Series with Excellent Rigidity

High speed and high rigidity - A masterpiece for heavy-duty cutting operations

- A design featuring an exceptionally massive and robust base structure; concealed anchor support structure; a low center of gravity for enhanced stability; exceptional vibration reduction capabilities, and impeccable rigidity and stability
- Large-span high-rigidity H-shaped column; double-layered wall panel design at the bottom, along with the reinforced spindle box with three-layered wall panel structure, and the use of 6-slider roller guide rail design for the Z-axis, to provide strong resistance to deformation during heavy-duty cutting operations and ensure precision preservation
- Belt-driven 8000 RPM spindle offering high cutting rigidity



High-speed and high-rigidity vertical machining center

T-V850M T-V1165M



► **High speed, high precision and high rigidity - A masterpiece for heavy-duty cutting operations**

PRODUCT STRUCTURE

■ Spindle box

The spindle box movement (Z-axis) is equipped with nitrogen balancing device, so that the stability is higher even when moving at high speed; the precise ratio of counterweight to spindle box weight can obtain the best machining characteristics and make the Z-axis drive motor have good load characteristics

■ Spindle

The spindle is a high-speed spindle unit from Taikan, featuring a BT40-8,000 r/min belt head; the front end of the spindle adopts labyrinth design with air curtain protection to prevent cutting fluid from entering the spindle bearing

■ Guide rail

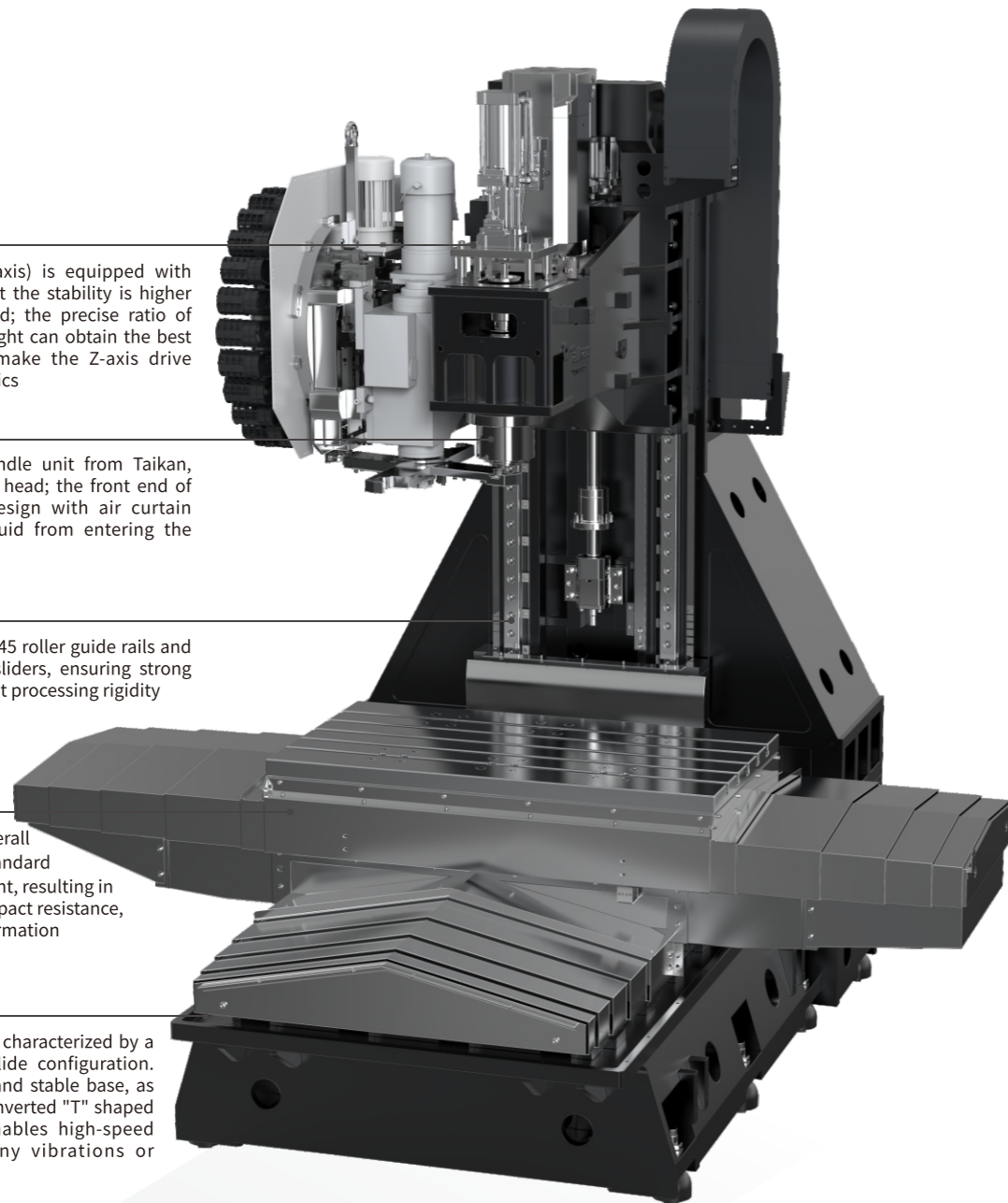
All three axes are furnished with #45 roller guide rails and the X/Z-axis is designed with 6 sliders, ensuring strong load bearing capacity and sufficient processing rigidity

■ Worktable

Thickened worktable enhances overall strength The surface undergoes standard quenching and hardening treatment, resulting in high surface hardness, superior impact resistance, and exceptional resistance to deformation

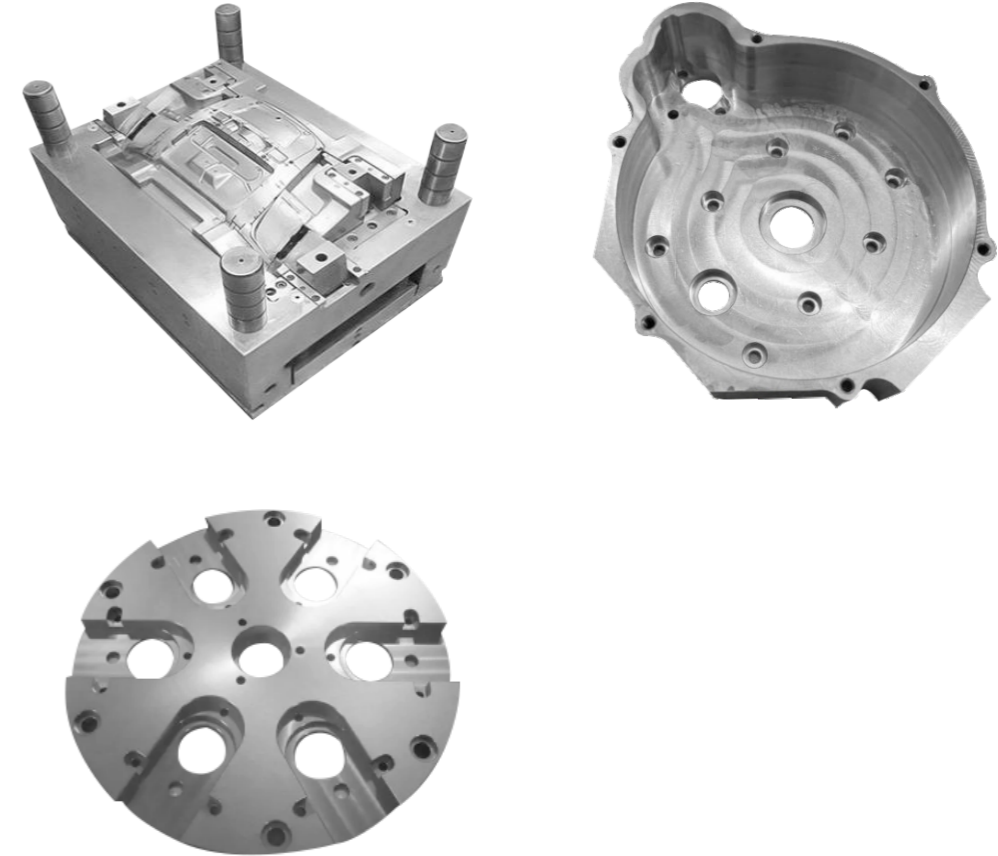
■ Structure

The machine's overall structure is characterized by a stationary design and a cross-slide configuration. Featuring an exceptionally large and stable base, as well as a high-rigidity wide-span inverted "T" shaped column, the machine frame enables high-speed cutting operations without any vibrations or deformations



WORKPIECES DISPLAY

The M series high-rigidity vertical machining center features enhanced dynamic responsiveness for high-speed, high-rigidity cutting operations. It's capable of cutting various types of metal or non-metal materials, delivering high machining precision and excellent surface finishing quality. High-speed machining and batch processing capabilities are suitable for applications in 5G communication, toy manufacturing, hardware, and valve body manufacturing; also suitable for high-speed machining of aluminum and heavy-duty cutting operations of cast iron, steel and other materials



▶ **The machine tool structure can withstand high-intensity heavy-duty cutting, ensuring overall stability and precision**

PRODUCT STRUCTURE

■ Tool magazine

The tool magazine employs Taikan's arm type variable frequency magazine that can accommodate 24 tools and change tools automatically. Featuring fast tool change, reliable quality, and stable performance, this magazine can make up for the drawbacks of slow tool changes in ordinary magazines and accelerated wear caused by the use of mechanical brakes

■ Spindle

The spindle comes standard with 8,000 RPM belt and the bearings are arranged in a "3+2" fashion to improve cutting rigidity; in addition, the front end of the spindle is designed with a labyrinth structure and equipped with an air curtain protection function to extend its lifespan

■ Screw/guide rail

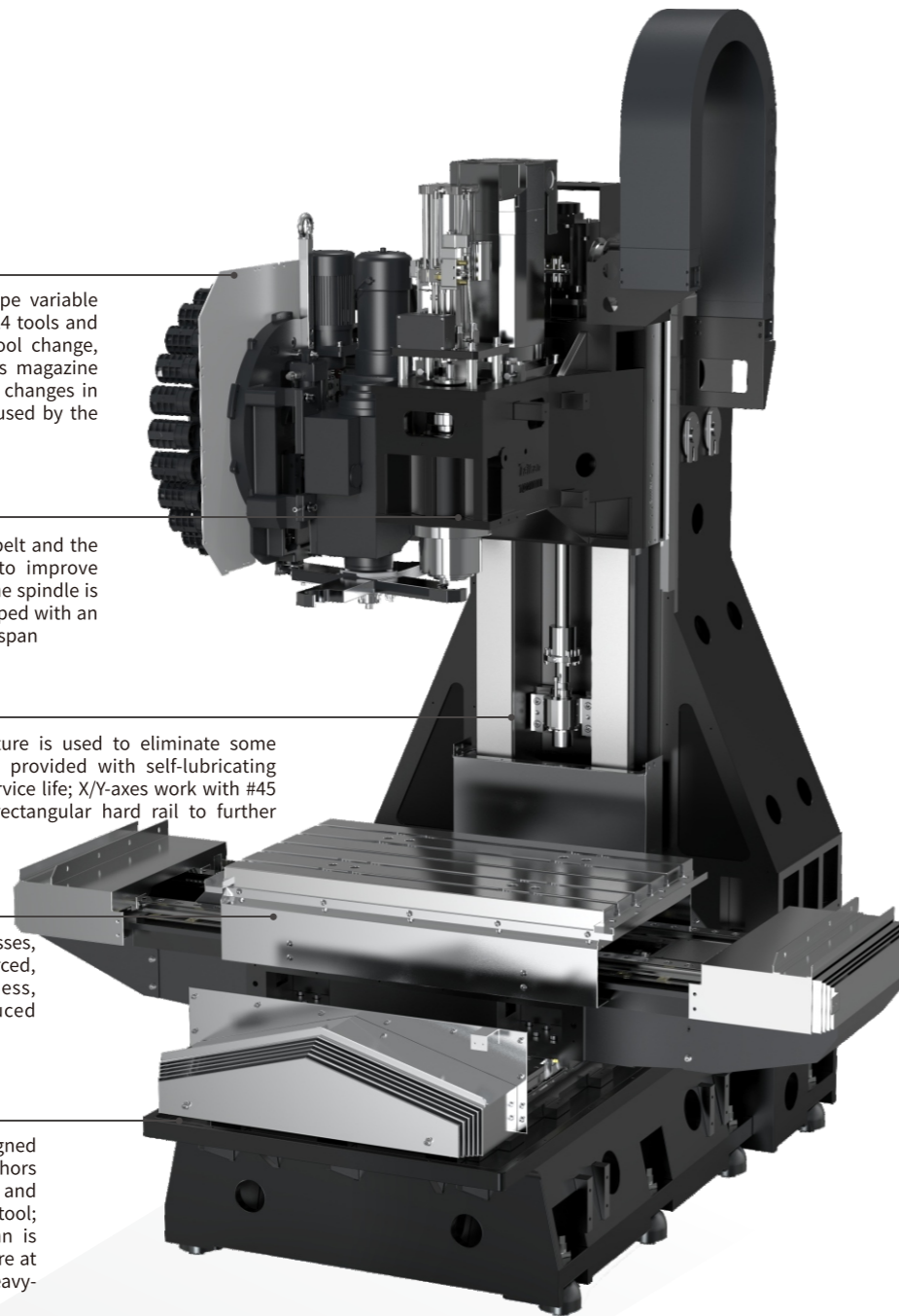
C3-grade screw with a pre-tensioning structure is used to eliminate some thermal expansion; the screw bearings are provided with self-lubricating capabilities to ensure a prolonged bearing service life; X/Y-axes work with #45 roller guide rails while Z-axis employs a rectangular hard rail to further improve the load-bearing capacity and rigidity

■ Worktable

Through quenching and strengthening processes, the worktable surface is remarkably reinforced, which brings about higher surface hardness, increased resistance to impact, and reduced susceptibility to deformation

■ Foundation structure

The massive and robust base structure designed for the machine is furnished with 8 built-in anchors to reduce the height of the center of gravity and improve the overall stability of the machine tool; the large-span high-rigidity H-shaped column is furnished with a double-layered panel structure at the bottom to avoid deformation during heavy-duty cutting operations



High-speed and high-rigidity vertical machining center

T-850LM T-1165LM

High rigidity and high stability
A masterpiece for heavy-duty cutting operations



▶ **PARAMETER TABLE**

Items	Units	T-V850M	T-V1165M
Stroke	Strokes of the three axes (X/Y/Z)	mm	850/550/550
	Distance from spindle nose to table	mm	150 ~ 700
Worktable	Worktable size	mm	1000*550
	Maximum load bearing capability of the worktable	kg	600
	T-slot of worktable (number of slots - slot width × spacing)	mm	5-18*100
Spindle	Maximum rotational speed of spindle	rpm	50~8000 (belt)
	Spindle taper	#	BT40
	Motor power (rated/short-time)	Kw	11/15
	Motor torque (rated/short-time)	N.m	52.5/118
Tools	Tool magazine capacity	Slot	24
	Maximum diameter (full magazine/vacant adjacent slot)	mm	Φ75/Φ150
	Tool length	mm	250
	Tool weight	kg	7
Feed	Rapid feedrate	m/min	36/36/30

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▶ **CONFIGURATION**

(● Standard configuration ○ Optional configuration △ Not supported)

Items	T-V850M	T-V1165M
Bt40 belt type 8000 RPM	●	●
BT40 belt type 10,000 RPM	○	○
BT40 direct type 12,000 RPM	○	○
BT40 direct type 15,000 RPM	○	○
HSK-A63 motorized spindle 20,000 RPM	○	○
CTS 2MPa/3MPa/5MPa/7MPa	○	○
Mitsubishi M80VA	○	○
Mitsubishi M80VB	●	●
FANUC Oi-MF(3B)	○	○
Siemens 828D	○	○
Four-axis	○	○
Five-axis turntable (4.5)	○	○
Roller linear guide rail	●	●
Screw hollow cooling	○	○
24T disc-type tool magazine Bt40	●	●
30T disc-type tool magazine Bt40	○	○
Water-cooled spindle	●	●
Oil-cooled spindle	○	○
Tool setter	○	○
Oil-water separator	○	○
Rear chain chip conveyor	○	○
Safety lock	○	○
Automatic door	○	○
Water gun	○	○
Grating scale	○	○
Electric cabinet air conditioner/heat exchanger	○	○

▶ **PARAMETER TABLE**

Items	Units	T-850LM	T-1165LM
Stroke	Strokes of the three axes (X/Y/Z)	mm	850/520/550
	Distance from spindle nose to table	mm	150 ~ 700
Worktable	Worktable size	mm	1000*550
	Maximum load bearing capability of the worktable	kg	600
	T-slot of worktable (number of slots - slot width × spacing)	mm	5-18*100
Spindle	Maximum rotational speed of spindle	rpm	50~8000 (belt)
	Spindle taper	#	BT40
	Motor power (rated/short-time)	Kw	11/15
	Motor torque (rated/short-time)	N.m	52.5/118
Tools	Tool magazine capacity	Slot	24
	Maximum diameter (full magazine/vacant adjacent slot)	mm	Φ75/Φ150
	Tool length	mm	250
	Tool weight	kg	7
Feed	X/Y/Z-axis rapid movement rate	m/min	30/30/20

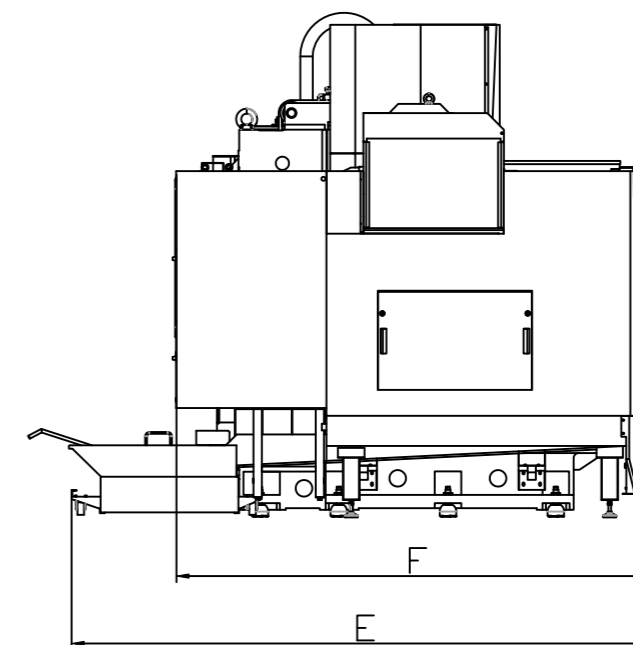
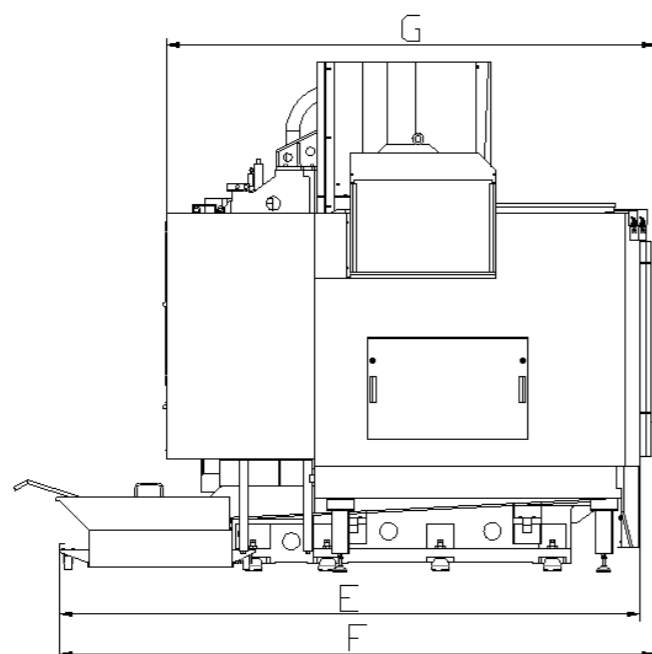
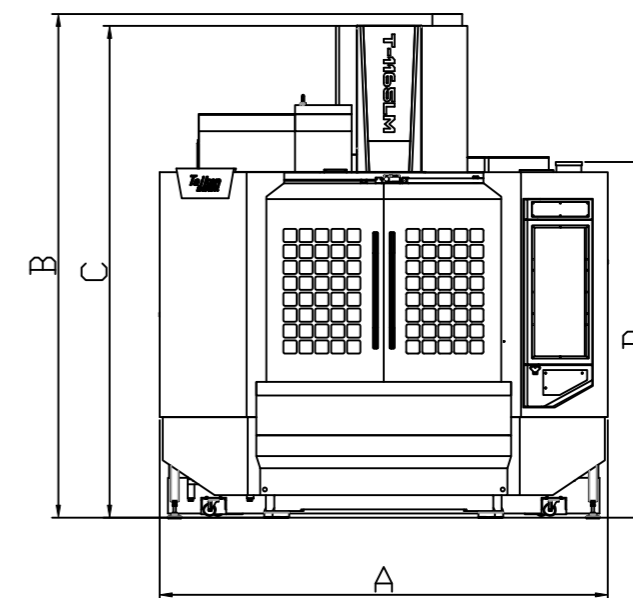
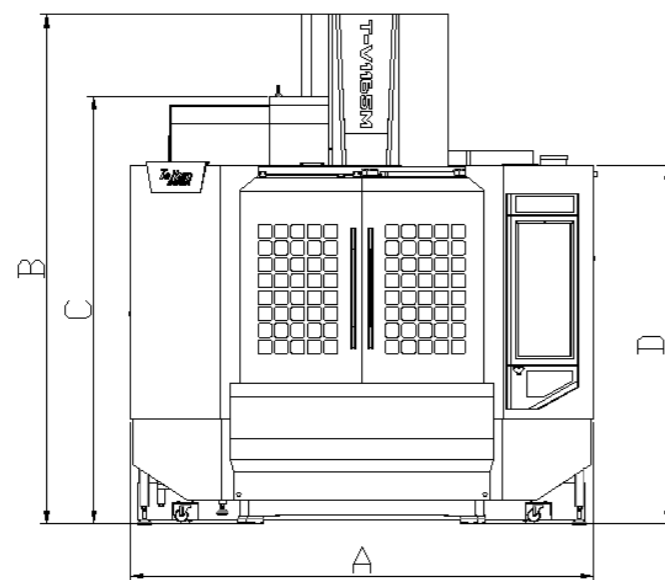
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▶ **CONFIGURATION**

(● Standard configuration ○ Optional configuration △ Not supported)

Items	T-850LM	T-1165LM
Bt40 belt type 8000 RPM	●	●
BT40 belt type 10,000 RPM	○	○
BT40 direct type 12,000 RPM	○	○
BT40 direct type 15,000 RPM	△	△
HSK-A63 motorized spindle 20,000 RPM	△	△
CTS 2MPa/3MPa/5MPa/7MPa	○	○
Mitsubishi M80VA	○	○
Mitsubishi M80VB	●	●
FANUC Oi-MF(3B)	○	○
Siemens 828D	○	○
Four-axis	○	○
Five-axis turntable (4.5)	○	○
Screw hollow cooling	○	○
24T disc-type tool magazine BT40	●	●
30T disc-type tool magazine BT40	○	○
Water-cooled spindle	●	●
Oil-cooled spindle	○	○
Tool setter	○	○
Oil-water separator	○	○
Rear chain chip conveyor	○	○
Safety lock	○	○
Automatic door	○	○
Water gun	○	○
Grating scale	○	○
Electric cabinet air conditioner/heat exchanger	○	○

OVERALL LAYOUT DIAGRAM



		Overall size					
Type	Size	A	B	C	D	E	F
T-V850M		2245	3223	2935	2451	3987	2896
T-V1165M		2700	2963	2488	2082	3378	2844

		Overall size					
Type	Size	A	B	C	D	E	F
T-850LM		2250	2977	2858	2042	3170	2638
T-1165LM		2700	3036	2963	2144	3543	2911

W Wheel hub machining series

High-speed, high-efficiency and specialized—A specialized masterpiece

- In comparison to conventional machining methods, the wheel hub machine boasts enhanced efficiency and broader adaptability. It delivers the required machining precision for wheel hubs and other high-precision components
- Customers have the flexibility to choose from a range of operating systems, transmission modes, as well as various speeds, powers, and core component brands, allowing for a comprehensive satisfaction of their specific needs
- The wheel hub machine offers a wide range of functionalities, including machining, chip removal, positioning, and material handling. Its versatility allows for the processing of wheel hubs across different sizes

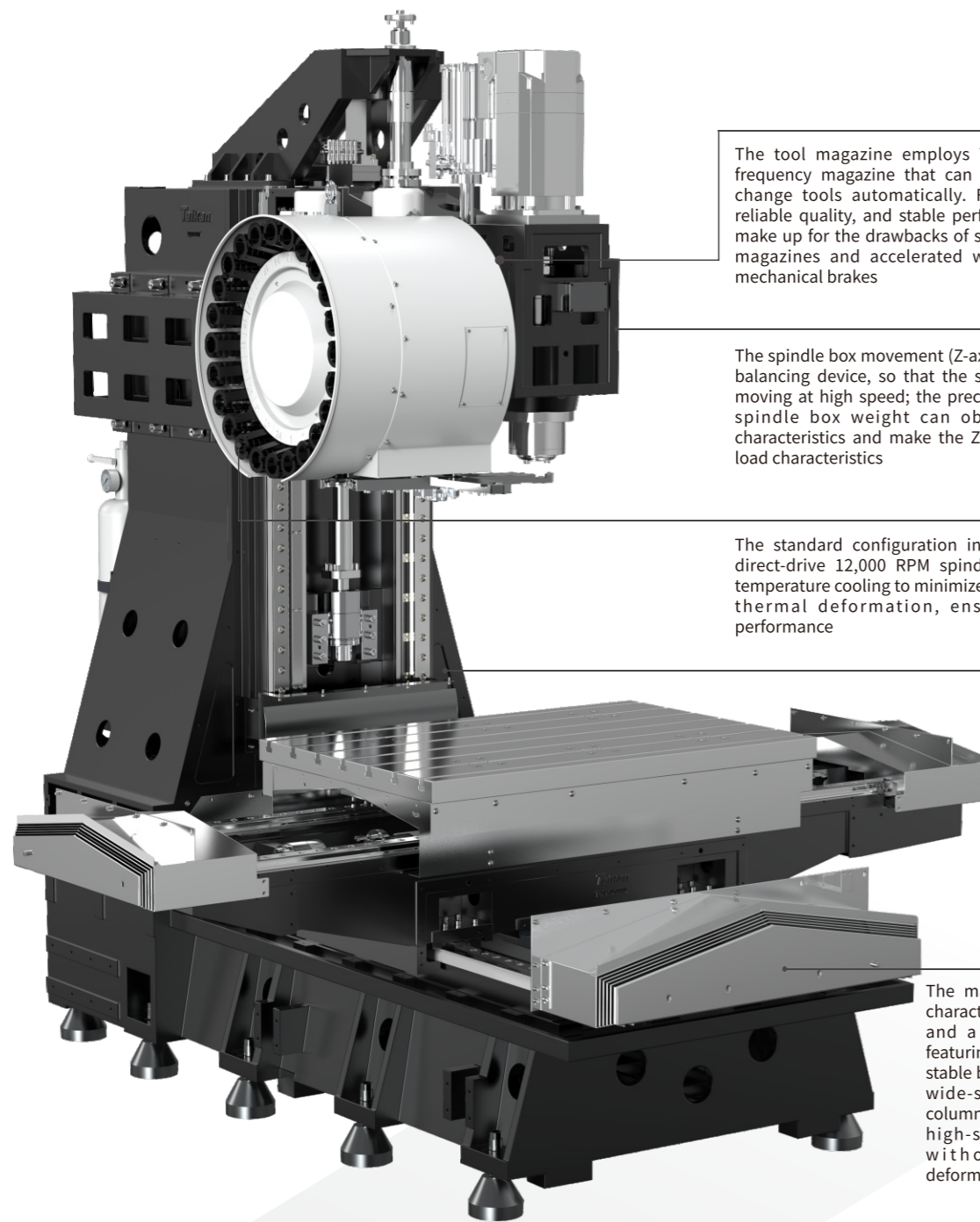
High-precision and high-efficiency wheel hub machining center

T-V870W T-V1285W



Designed with careful consideration for processing automotive wheel hubs measuring 26 inches and below, this machine offers a broad processing range, high machining speed, exceptional rigidity, and superior machining precision

PRODUCT STRUCTURE



Tool magazine ■

The tool magazine employs Taikan's arm type variable frequency magazine that can accommodate 24 tools and change tools automatically. Featuring fast tool change, reliable quality, and stable performance, this magazine can make up for the drawbacks of slow tool changes in ordinary magazines and accelerated wear caused by the use of mechanical brakes

Spindle box ■

The spindle box movement (Z-axis) is equipped with nitrogen balancing device, so that the stability is higher even when moving at high speed; the precise ratio of counterweight to spindle box weight can obtain the best machining characteristics and make the Z-axis drive motor have good load characteristics

Spindle ■

The standard configuration includes a high-rigidity BT40 direct-drive 12,000 RPM spindle designed with constant-temperature cooling to minimize temperature rise and reduce thermal deformation, ensuring stable machining performance

Guide rail ■

The three axes of the machine work with #45 roller guide rails (#55 rail for T-V1285W), and the Z-axis is designed with 6 sliders to ensure exceptional rigidity and superior vibration damping, and to fulfill the requirements for precision mold surface machining with fine finishing tools

Structure ■

The machine's overall structure is characterized by a stationary design and a cross-slide configuration; featuring an exceptionally large and stable base, as well as a high-rigidity wide-span inverted "T" shaped column, the machine frame enables high-speed cutting operations without any vibrations or deformations

WORKPIECES DISPLAY

With each clamping cycle, it is capable of performing various machining operations such as milling, drilling, boring, broaching, reaming, countersinking, and tapping of workpiece. The Y-axis with large travel range is suitable for processing square or circular workpieces, thus being extensively applicable to the machining of NEV wheel hubs of less than 26 inches in diameter in the casting-forging process and the semi-solid die forging process.



▶ PARAMETER TABLE

Items	Units	T-V870W	T-V1285W	
Stroke	Strokes of the three axes (X/Y/Z)	mm	850/720/650	1200/850/700
	Distance from spindle nose to table	mm	200 ~ 850	80~780
Worktable	Worktable size	mm	1000*650	1300*850
	T-slot of worktable (number of slots - slot width × spacing)	mm	5-18*125	7-18×125
	Maximum load bearing capability of the worktable	kg	500	1000
Spindle	Maximum rotational speed of spindle	rpm	50~12000	12000 (straight coupling)
	Spindle taper	#	BT40	BT40
	Motor power (rated/short-time)	Kw	7.5/11	11/15
	Motor torque (rated/short-time)	N.m	35.8/95.5	52.5/118
Tools	Tool magazine capacity	Slot	24	24
	Maximum diameter (full magazine/vacant adjacent slot)	mm	Φ75/Φ150	Φ75/Φ150
	Tool length	mm	250	250
	Tool weight	kg	7	7
Feed	Rapid feedrate	m/min	36/36/30	24/24/16

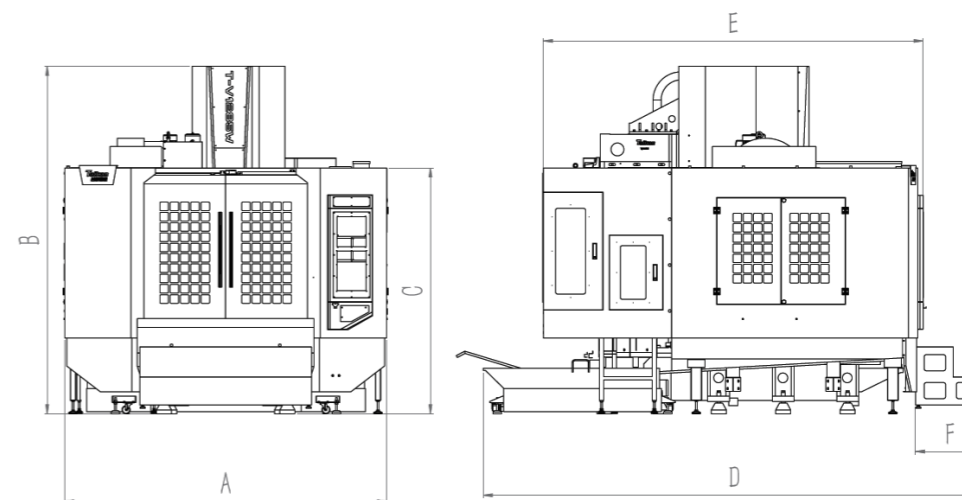
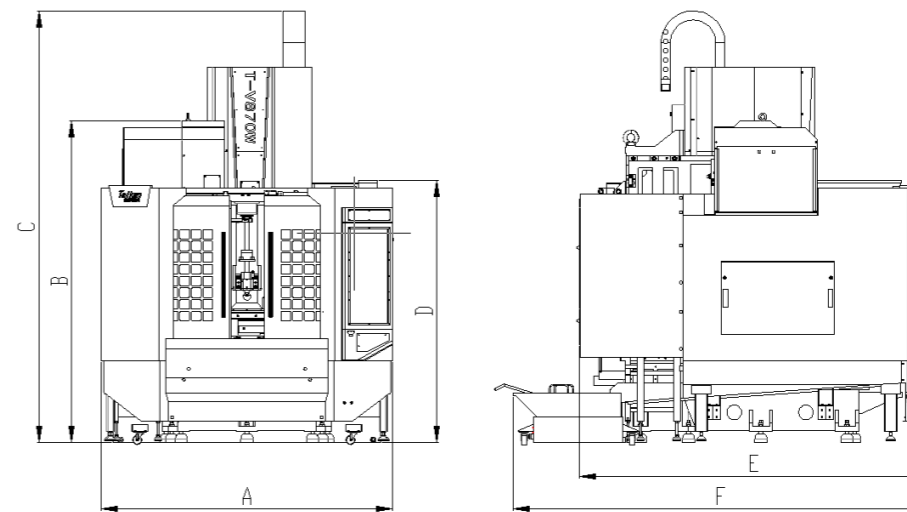
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▶ CONFIGURATION

● Standard configuration ○ Optional configuration △ Not supported)

Items	T-V870W	Items	T-V1285W
Bt40 belt type 8000 RPM	○	Bt40 motorized spindle - 15,000 RPM	○
BT40 direct type 12,000 RPM	●	BT40 direct type - 12,000 RPM	●
CTS (2MPa/3MPa/5MPa/7MPa)	○	FANUC-0i-MF (3B)	●
Mitsubishi M80VB	●	Mitsubishi M80VB	○
Mitsubishi M80VA	○	Siemens 828D	○
FANUC-0i-MF (5/3/1)	○	Worktable quenching	○
Four-axis	○	Water-cooled spindle	●
Five-axis turntable (4.5 axes)	○	Oil-cooled spindle	○
Roller linear guide rail	●	Four-axis	○
24T disc-type tool magazine BT40	●	Five axes (4.5 axes)	○
Water-cooled spindle	●	24T disc-type tool magazine BT40	●
Oil-cooled spindle	○	30T disc-type tool magazine BT40	○
Tool setter	○	Dual-screw row-type front chip removal	○
Oil-water separator	○	Front chain chip conveyor	○
Rear chain chip conveyor	○	Oil-water separator	○
Automatic door	○	Oil mist collector	○
Water gun	○	CTS 2MPa/3MPa/5MPa/7MPa	○
Grating scale	○		
Electric cabinet air conditioner/heat exchanger	○		
Built-in dual screw row	○		

OVERALL LAYOUT DIAGRAM



		Overall size					
Type	Size	A	B	C	D	E	F
T-V870W		2400	2649	3550	2156	2874	3418
T-V1285W		3000	3240	2292	4680	3540	650

T-V Light Cutting Series

High speed and light & fast cutting - A masterpiece of high efficiency

- The directly coupled drive and high output allow for substantial improvements in high-speed and high-efficiency machining operations
- The specification of X-axis ranges from 600 mm to 2000 mm, ensuring versatility across multiple machine models to cater to a wide range of requirements
- The 24T tool arm magazine improves tool handling capabilities and facilitates process consolidation

Vertical machining center for light and fast cutting

T-V6 T-V16 T-V18 T-V20



► Superior static and dynamic rigidity, resistance to vibration, and thermal stability

PRODUCT STRUCTURE

■ Foundation parts

The foundation parts are made of high-quality resin sand molding and high-strength cast iron material, which ensures the excellent processing stability

■ Spindle

By employing direct-drive technology for the spindle motor and spindle, the machine gains the ability to exert high output force during high-speed and high-efficiency machining operations. Additionally, the adoption of ceramic ball bearings significantly prolongs the spindle lifespan

■ Screw/guide rail

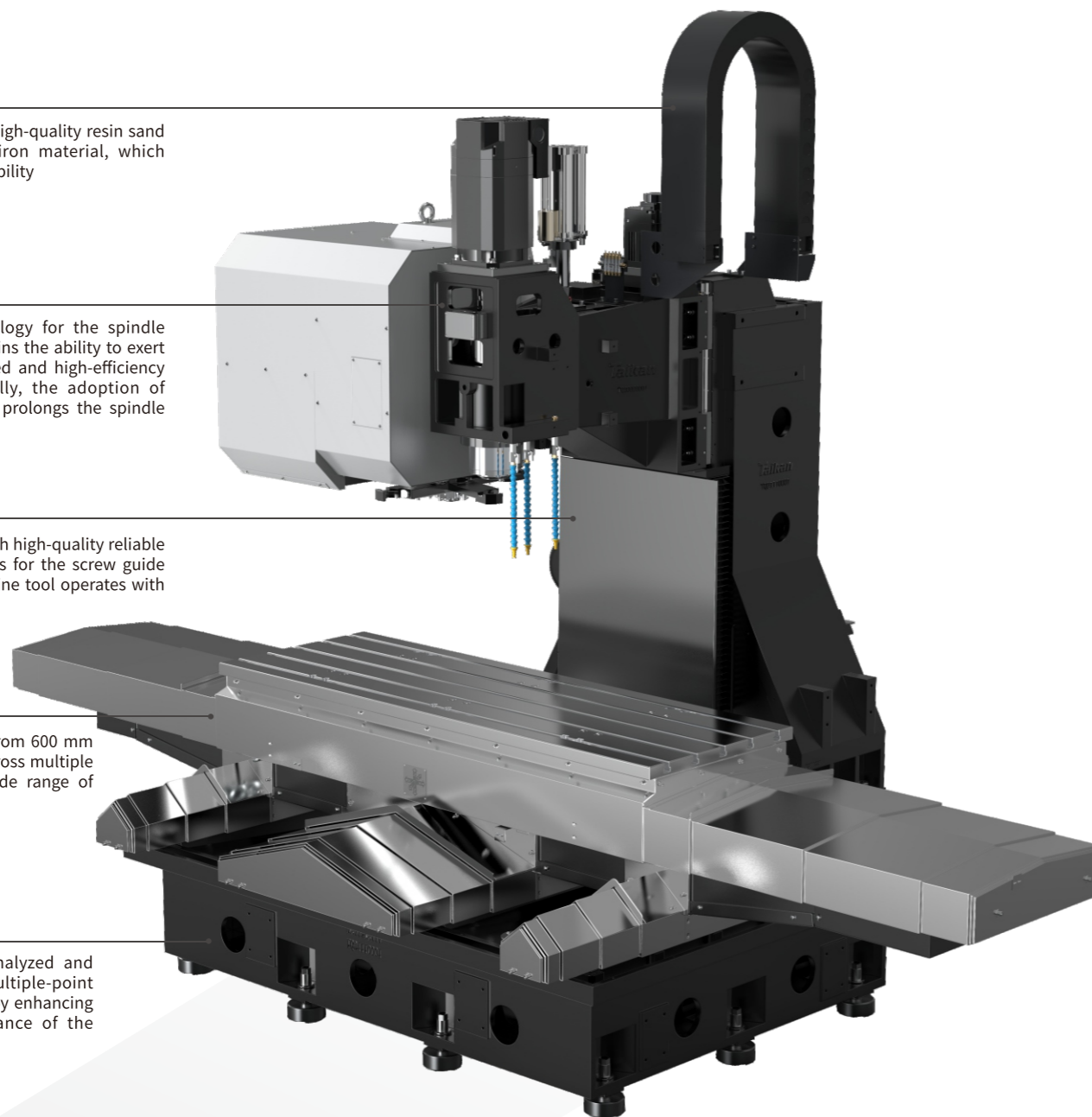
The X, Y, and Z axes are outfitted with high-quality reliable components from renowned brands for the screw guide rails to effectively ensure the machine tool operates with high precision and high speed

■ X-axis stroke

The specification of X-axis ranges from 600 mm to 2000 mm, ensuring versatility across multiple machine models to cater to a wide range of customer requirements

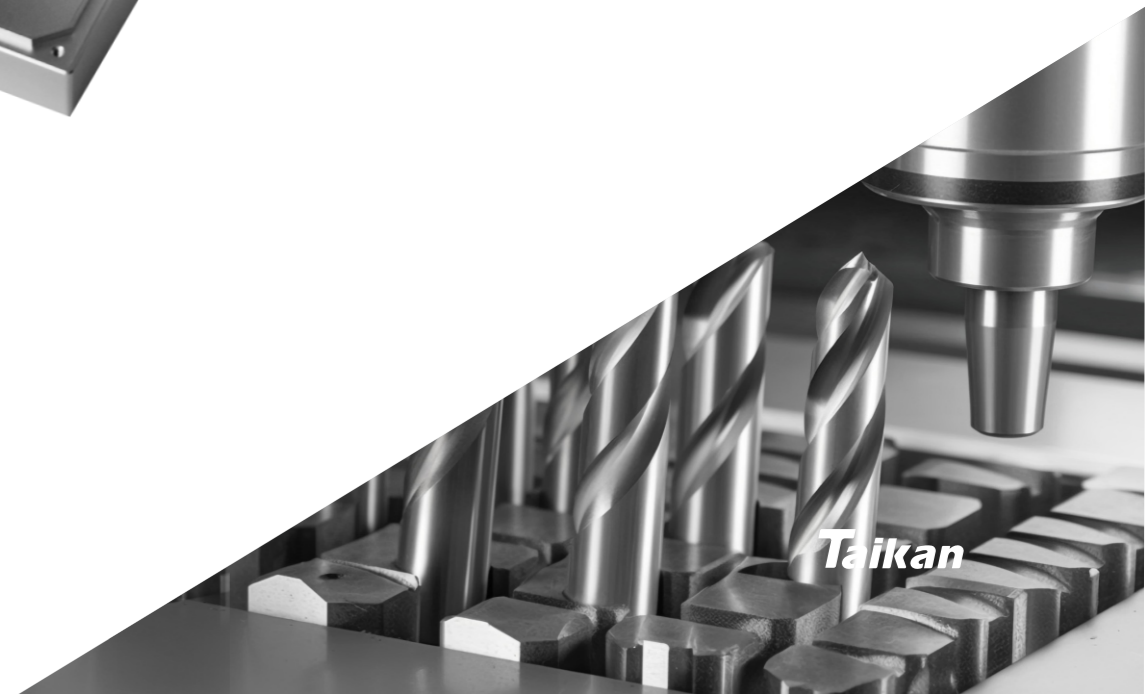
■ Base

The base structure is digitally analyzed and specially designed to provide multiple-point support for extra-large span, thereby enhancing the rigidity and vibration resistance of the machine



WORKPIECES DISPLAY

Incorporating drilling, tapping, and milling features, this machine is characterized by high precision, high rigidity and high stability. It principally finds applications in light-duty machining of boxes (cabinets), frames, plates (panels, boards), disk-shaped parts, profiles, and casings (housings) for general industries like new energy and 5G, etc.



▶ **PARAMETER TABLE**

Items	Units	T-V6	T-V16	T-V18	T-V20	
Stroke	Strokes of the three axes (X/Y/Z)	mm	600/390/450	1600/650/590	1800/650/590	2000/650/590
	Distance from spindle nose to table	mm	140~590	100~690	100~690	100~575
Worktable	Worktable size	mm	700*400	1700*650	1900*650	2000*650
	Maximum load bearing capability of the worktable	kg	/	/	/	/
	T-slot of worktable (number of slots × slot width × spacing)	mm	3-18*125	5-18*125	5-18*125	5-18*125
Spindle	Maximum rotational speed of spindle	rpm	20~12000	20~12000	20~12000	20~12000
	Spindle taper	#	BT40	BT40	BT40	BT40
	Motor power (rated/short-time)	Kw	/	/	/	/
	Motor torque (rated/short-time)	N.m	/	/	/	/
Tools	Tool magazine capacity	位	24	24	24	24
	Maximum diameter (full magazine/vacant adjacent slot)	mm	/	/	/	/
	Tool length	mm	250	250	250	250
	Tool weight	kg	7	7	7	7
Feed	Rapid feedrate	m/min	48/48/48	30/36/36	30/36/36	30/36/36

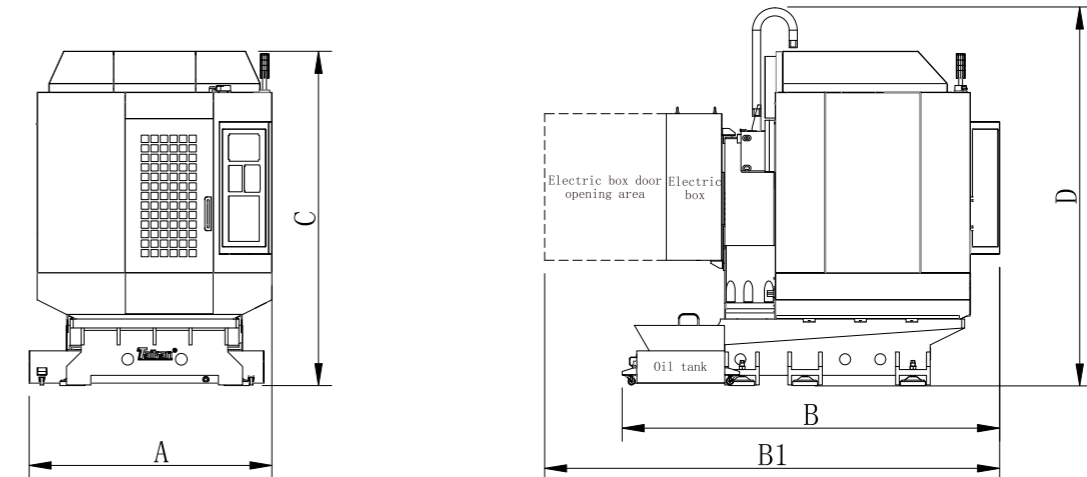
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▶ **CONFIGURATION**

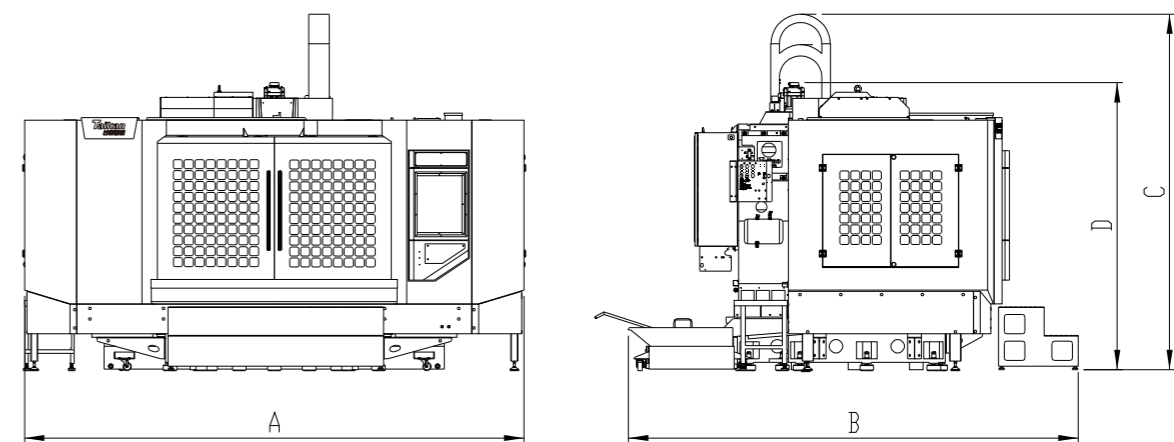
(● Standard configuration ○ Optional configuration △ Not supported)

Items	T-V6	T-V16	T-V18	T-V20
BT40 directly connected spindle with a maximum speed of 12,000 rpm/120 mm in diameter	●	△	△	△
BT40 directly connected spindle with a maximum speed of 12,000 rpm/150 mm in diameter	○	●	●	●
BT40 belt type 8000 RPM	△	○	○	○
CTS 2MPa/3MPa/5MPa/7MPa	○	○	○	○
Mitsubishi M80VA	○	○	○	○
Mitsubishi M80VB	●	●	●	●
FANUC-0i-MF (3/1)	○	○	○	○
Siemens 828D	○	○	○	○
Four-axis	○	○	○	○
Huazhong Numerical Control	○	○	○	○
24T disc-type tool magazine BT40	●	●	●	●
Rear chain chip conveyor	○	○	○	○
Tool setter	○	○	○	○
Oil-water separator	○	○	○	○
Water-cooled spindle	●	●	●	●
Oil-cooled spindle	○	○	○	○

OVERALL LAYOUT DIAGRAM



		Overall size				
Type	Size	A	B	B1	C	D
T-V6		2100	2580	2700	2670	2520



		Overall size			
Type	Size	A	B	C	D
T-V16		4150	3900	3150	2550
T-V18		4400	3900	3150	2550
T-V20		4800	3900	3150	2550

CORE COMPONENTS



Spindle: Superior cooling efficacy complemented by a built-in air curtain protection

The constant-temperature cooling system that comes standard with a water cooler fully exploits the high specific heat capacity of the water cooling medium (dedicated water-based mixture) to dissipate more heat for better cooling performance. In this way, the spindle temperature rise during machining is minimized, leading to excellent control of thermal deformation in spindle, improvements in machining precision, and extension of bearing lifespan



Screws: Imported high-precision and high-rigidity screws of renowned foreign brands

The large-diameter 40C3-grade screws from Taiwan Hiwin/PMI is used to improve machining accuracy and stability of machine tools



24-slot arm-type tool magazine: Reliable quality and stable performance

The use of a frequency converter to control the automatic tool changer (ATC) enables faster tool changes compared to conventional tool magazines, reducing the tool-to-tool time to just 1.2 seconds; with a fully enclosed design, the tool magazine shroud enhances processing stability and improves processing efficiency



Bearings: Self-lubrication prolongs the lifespan

The bearings are imported from Japan-based NSK/Germany-based FAG. The bearings are self-lubricating, featuring long lifespan, high maximum speed, high load resistance, low noise to the operating environment, and easy maintenance



Linear guide rails: High-rigidity, low-friction and low-noise roller linear guide rail

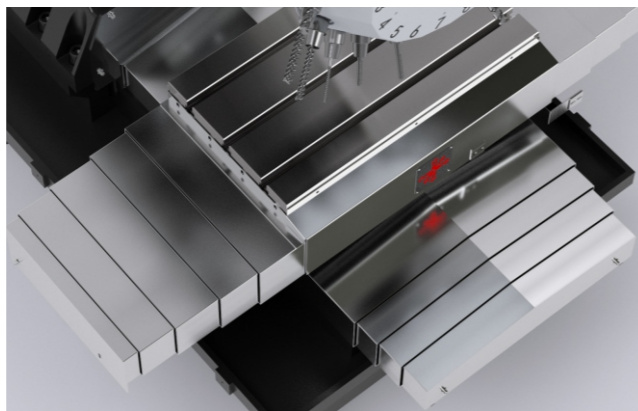
The three-axis linear guide rail is roller linear guide rail, featuring high rigidity, reduced friction and low noise. It ensures no crawling during low-speed feed and exhibits exceptional precision stability

OPTIONAL CONFIGURATION



Concealed motorized spindle

The concealed spindle is either BBT40-15000rpm or HSKA63-18000rpm dual-face fitting spindle. The spindle offers superior cutting rigidity and outstanding stability, effectively reducing vibrations during high-speed rotation; It demonstrates outstanding performance when manufacturing high precision products such as molds



Quenched worktable

The worktable surface undergoes quenching treatment, thereby enhancing overall strength, increasing surface hardness, improving wear resistance, increasing impact resistance, and reducing the likelihood of deformation



CTS

1. Avoiding the entanglement of iron debris on parts and cutting tools, leading to a more seamless cutting experience
2. Improving the feed rate and cutting speed, increasing the bite, and enhancing the productivity
3. Minimizing the wear and tear of cutting tools, especially remarkably reducing the risk of tool breakage
4. Reducing the localized temperature rise during processing to enhance the longevity of cutting tools
5. Reducing the frequency of tool changes and the tool consumption, thereby minimizing the production cost
6. Enhancing the surface finish of component and improving the part quality, thereby enhancing the competitiveness



Grease lubrication

Grease possesses a greater load-bearing capacity and superior damping and shock absorption capabilities. Grease can form a grease ring with a certain sealing effect that prevents the invasion of solid or fluid contaminants. This feature makes it particularly advantageous for use in damp and highly dusty environments