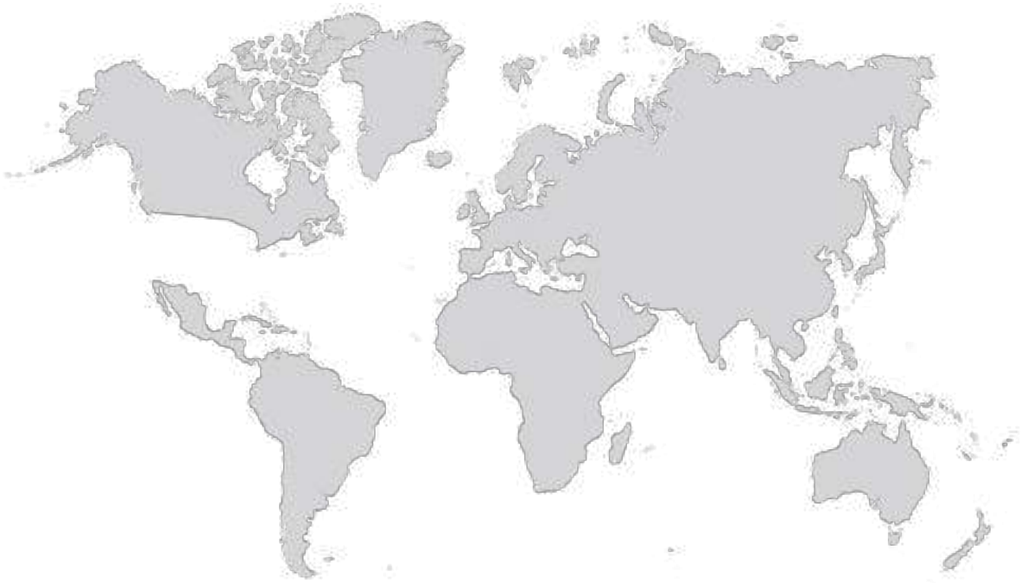
ORION
MACHINES

JIAFINE 喬鋒®



INTELLIGENT
PROCESSING SOLUTIONS

ORION
MACHINES

(11) 97103-0464

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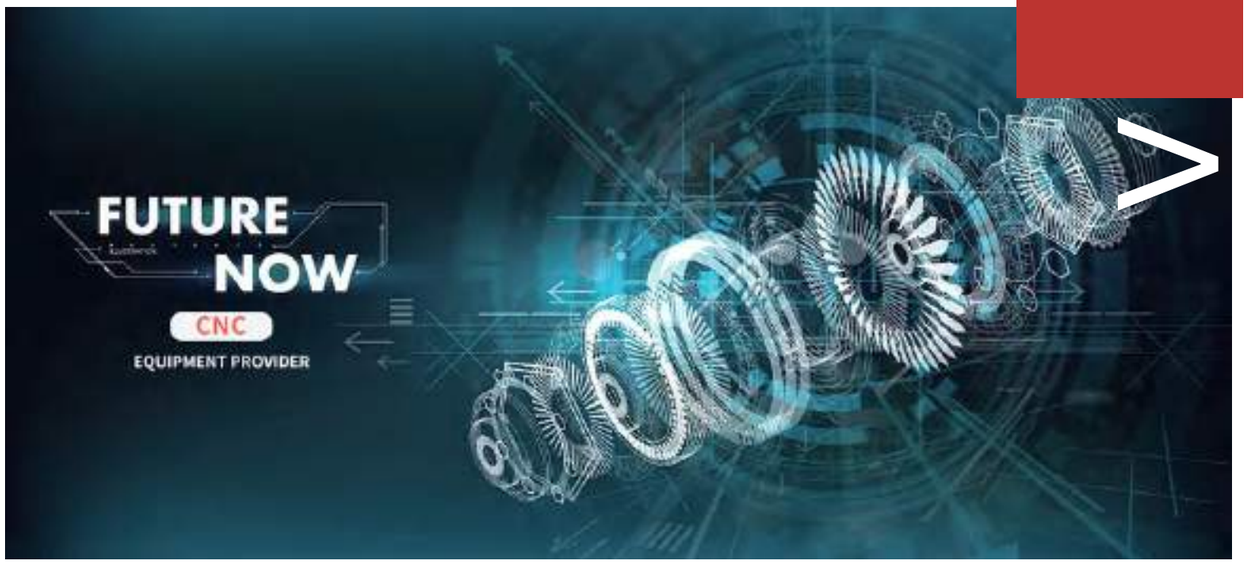
Atendimento em todo o Brasil



Dongguan headquarters

Nanjing R&D bases

Ningxia R&D bases

Company profile

>>>>>

Jirfine Intelligent Equipment Co., Ltd., established in 2009, is a national-level specialized and innovative "Little Giant" enterprise engaged in the design, research and development, production, sales, and service of mid-to-high-end CNC machine tools, Jirfine successfully listed on the GEM Board of Shenzhen Stock Exchange in 2024. Our products are widely used in strategic industries such as aerospace, marine engineering, rail transit, automotive, semiconductors, and consumer electronics. Jirfine is committed to the mission of "making manufacturing more stable, precise, efficient, and intelligent," and aims to be a leading provider of CNC equipment with the vision of "building a century-old enterprise." The company supports the high quality development of China's manufacturing industry and contributes to the upgrade of "Made in China" to "Intelligent Manufacturing in China," helping the country transition from a major manufacturing power to a strong manufacturing power.

1700+ Employees	3 R&D Bases	200+ Patent
10000+ Customer service	10 Categories	20 Series

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T-5C

High speed drilling and milling center

T-7C with same appearance

PERFORMANCE
POWER

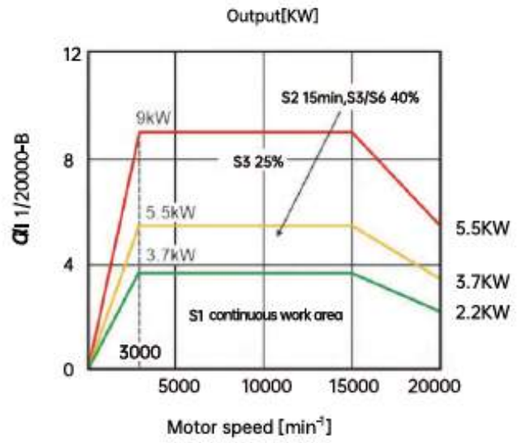
Features

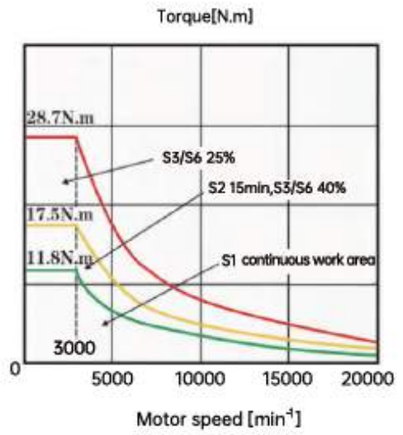
>>>>>

- HT300 cast iron material is selected, which has low melting point, small shrinkage during solidification, compressive strength and hardness close to carbon steel, and good vibration resistance.
- The castings are treated by annealing and natural aging to eliminate internal stress, so that the castings remain stable and do not deform for a long time.
- The main structure is optimized through finite element analysis, combined with reality, to improve the rigidity and natural frequency of the machine tool. While exerting high processing capabilities, it also reduces the impact of external vibration on the quality of the processed surface.

Spindle motor characteristic curve

>>>>>





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T-5C/T-7C Model details display

High-speed servo tool changing system
Reduce tool change time and improve processing efficiency

DETONATE PRODUCTIVITY

1

The spindle bearing adopts imported high-precision ceramic ball bearings, which have high spindle precision and small temperature rise.

The spindle has a special structural design, and the spindle is strong in overall rigidity and has small thermal elongation.

The spindle has a special structural design, and the spindle is strong in overall rigidity and has small thermal elongation.

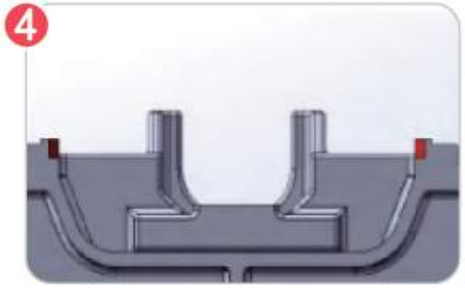
2

Z-axis large-pitch slider designUse extended slider to improve the rigidity of the spindle box.

3

The three-axis moving parts adopt a lightweight design concept, the machine tool has better dynamic performance, meets the needs of high-speed processing, and improves efficiency.

4



The base and column are designed in a round shape to improve the machine's torsion resistance.

5

The saddle slide block has a locking design to improve the rigidity of the saddle, When the workbench is heavily loaded, the saddle is not easily deformed, which improves the precision and stability.

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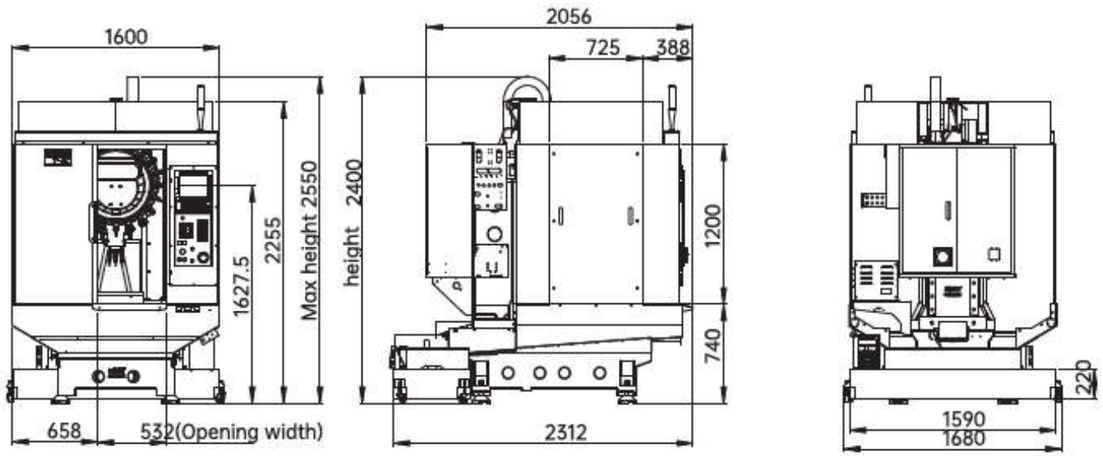
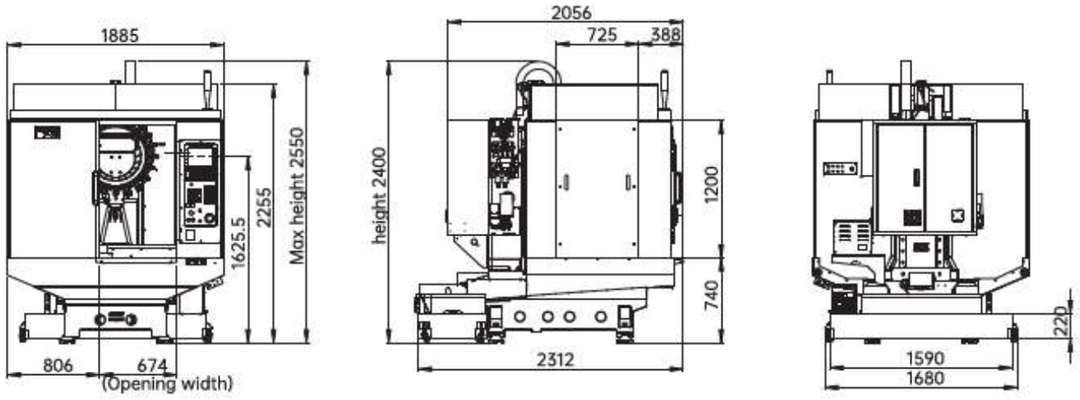
Appearance drawing

>>>>>



T-5C

Appearance drawing



T-7C

Appearance drawing

System configuration

>>>>>

The newly launched 0I MF plus system has high processing performance, high operation rate, and high operating performance. It adopts the latest processing technology to achieve outstanding accuracy, speed, and smoothness. The processing capacity of small line segments is twice the original. The elastic deformation of the ball screw is optimally compensated to improve the shape accuracy. FSSB high-speed rigid tapping can effectively shorten the cycle time. The high-speed performance of PMC, the ladder diagram operation speed reaches 1.5 times.

Standard FANUC Oi MF PLus

Axis name	Motor model	Motor power	Max. torque
X	αiS 8/4000	2.5KW	32N.m
Y	αiS 8/4000	2.5KW	32N.m
Z	αiS 12/4000-B	2.7KW	46N.m
SP	αil 2/20000-B	3.7/9KW	28.7N.m
SP(OPT)	αil 3/12000-B	3.7/13KW	82.8N.m

Heavy cutting

>>>>>

Tool: D12 end mill
Material: 6061 aluminum

Deep cut: 30mm
Tool spacing: 3mm
Speed: 8000r/min
Feed: 3000mm/min

Large thread tapping

>>>>>

Material: 45# steel

Tapping limit: M16*2.0
Cutting depth: 30mm
Speed: 400r/min
Feed: 800mm/min

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TH-85

High speed drilling and milling center

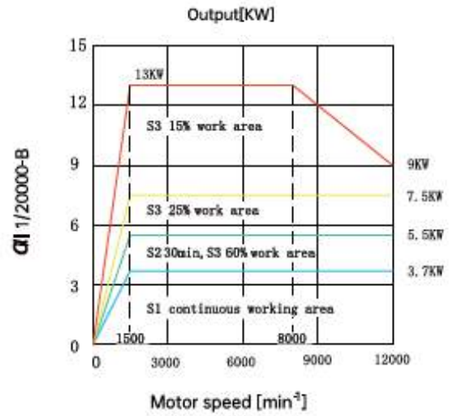
Features

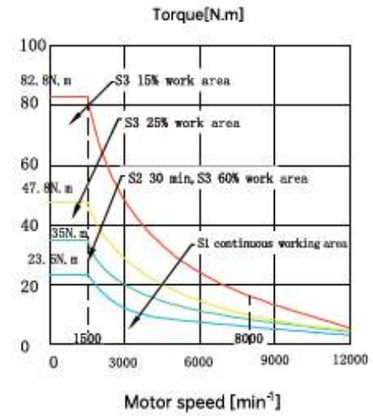
>>>>>

- HT300 cast iron material is selected, which has a low melting point, small shrinkage during solidification, compressive strength and hardness close to carbon steel, and good vibration resistance.
- The casting eliminates internal stress through annealing and natural aging treatment, and the casting remains stable and does not deform for a long time.
- The main structure is optimized through finite element analysis, combined with reality, to improve the rigidity and inherent frequency of the machine tool. While exerting high processing capabilities, it also reduces the impact of external vibration on the quality of the processed surface.

Spindle motor characteristic curve

>>>>>





Application field

>>>>>

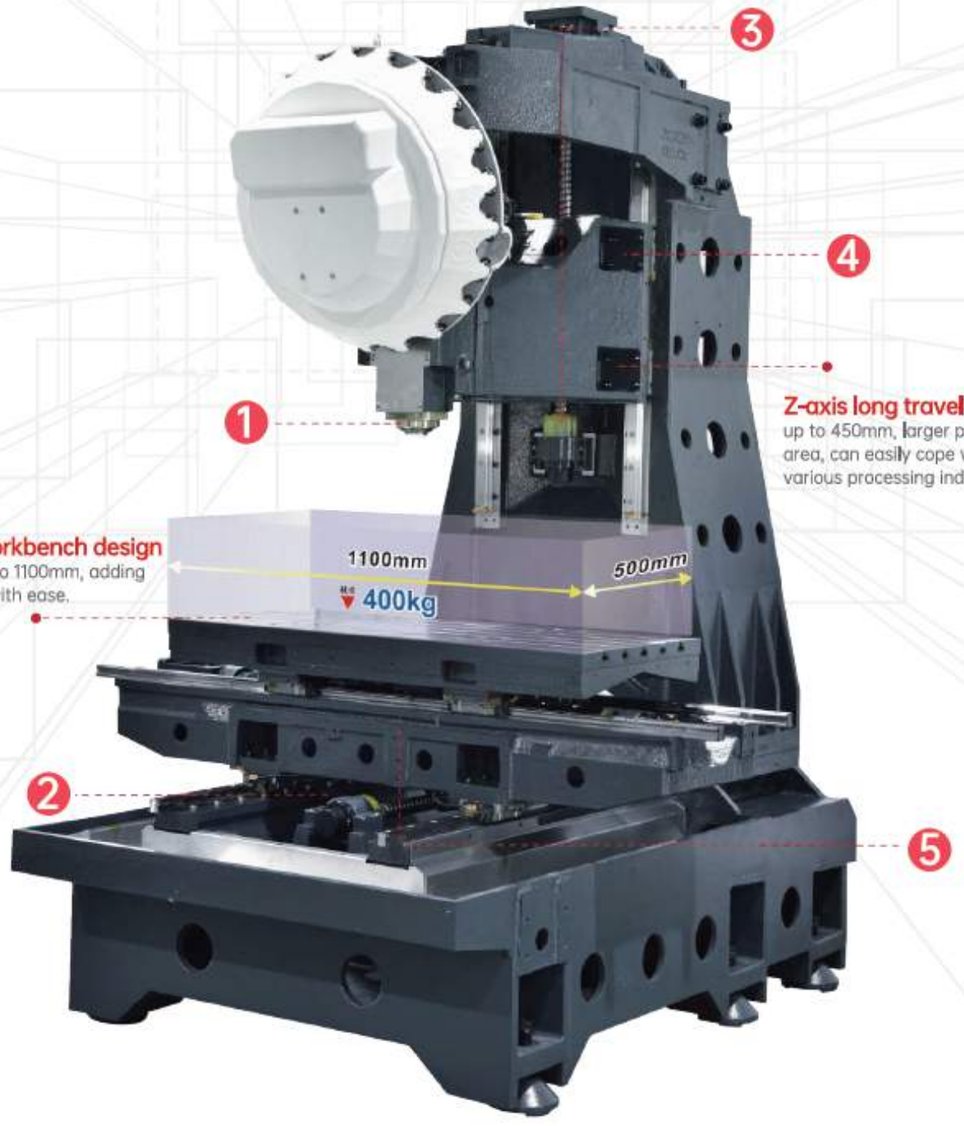
New energy

Automation

5G communications

Consumer electronics

TH-85 Model details display



Z-axis long travel design
up to 450mm, larger processing area, can easily cope with various processing industries.

Large workbench design
Length up to 1100mm, adding four axes with ease.

PERFORMANCE
POWER

1

The spindle bearing adopts imported high-precision ceramic ball bearings, which have high spindle precision and small temperature rise.

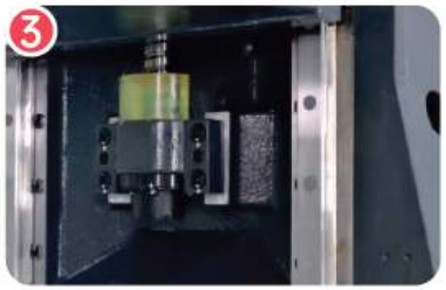
The spindle has a special structural design, and the spindle is strong in overall rigidity and has small thermal elongation.

The spindle has a special structural design, and the spindle is strong in overall rigidity and has small thermal elongation.

2

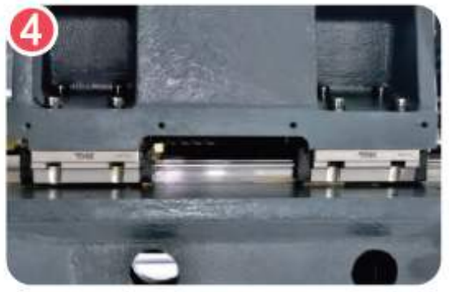
All three axes use pre-tensioned rods to effectively suppress thermal elongation of the three axes, with better precision and stability.

3



The Z-axis adopts pre-tensioning structure, which can not only suppress the thermal elongation of the lead screw but also offset the thermal elongation of the spindle, so as to further improve the accuracy and stability of the Z-axis.capabilities.

4



The closed spindle box structure, internal reinforcement ribs, large-pitch slider design and reinforced sliders have strong anti-bending and anti-torsion capabilities.

5

The three-axis moving parts adopt a lightweight design concept, the machine tool has better dynamic performance, meets the needs of high-speed processing, and improves efficiency.

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T-10
High speed drilling and milling center
T-13 with same appearance

PERFORMANCE
POWER

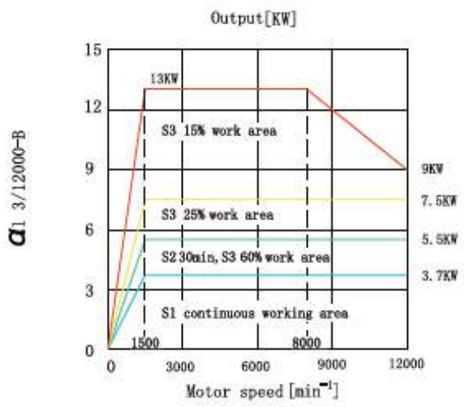
Features

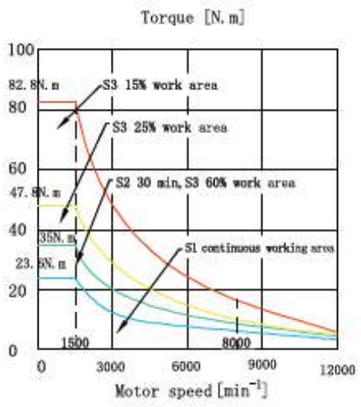
>>>>>

- Golden ratio span design, high-speed and high-precision machining is more guaranteed.
- Spindle direct drive design, directly output speed from the motor axis to obtain high-quality tapping effect.
- Super large X/Y-axis travel breaks through the dilemma that traditional drilling and tapping machines cannot process large workpieces.

SPINDLE MOTOR CHARACTERISTIC CURVE

>>>>>





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System configuration

>>>>>

The newly launched 0I MF plus system has high processing performance, high operation rate, and high operating performance. It adopts the latest processing technology to achieve outstanding accuracy, speed, and smoothness. The processing capacity of small line segments is twice the original. The elastic deformation of the ball screw is optimally compensated to improve the shape accuracy. FSSB high-speed rigid tapping can effectively shorten the cycle time. The high-speed performance of PMC, the ladder diagram operation speed reaches 1.5 times.

Standard FANUC Oi MF PLus

Axis name	Motor model	Motor Power	Maximum torque
X	αiS 12/4000	2.7KW	46N.m
Y	αiS 12/4000	2.7KW	46N.m
Z	βiS 22/3000-B	3KW	45N.m
SP	αil 3/12000	3.7/13KW	82.8N.m
SP(OTP)	αil 2/20000-B	3.7/9KW	28.7N.m

Appearance drawing

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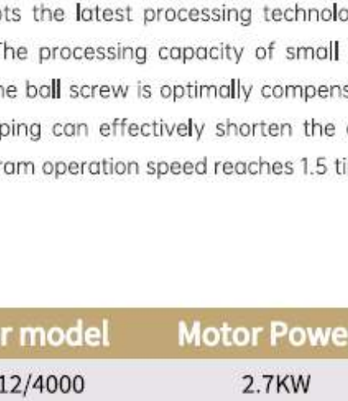

TH-85 Appearance drawing

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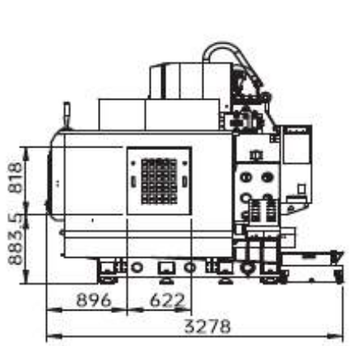

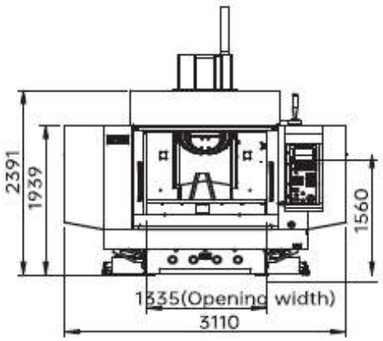

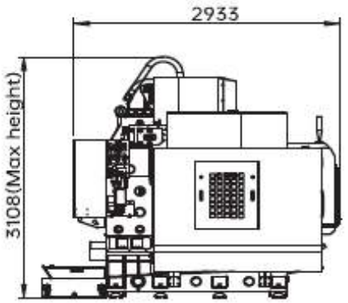

TH-1370 Appearance drawing

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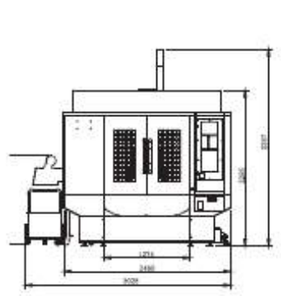
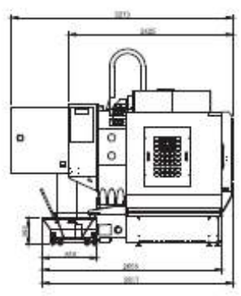
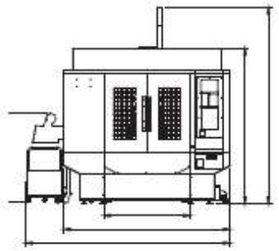
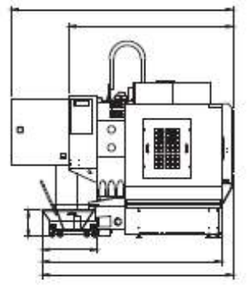






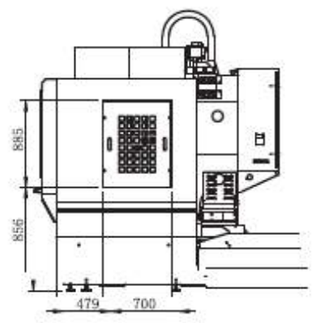


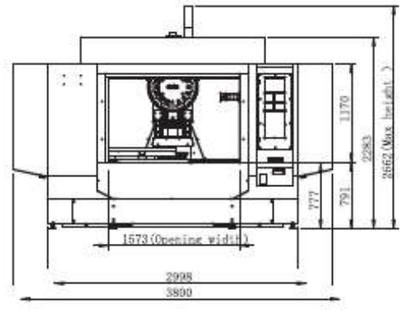
T-10 Appearance drawing

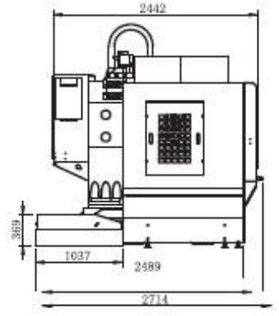
>>>>>

T-13 Appearance drawing

>>>>>







T-16 Appearance drawing

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PERFORMANCE
POWER

Mechanical specifications

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Item		T-5C	T-5H	T-7C	TH-85
Travel					
X axis travel	mm	500	500	700	800
Y axis travel	mm	400	400	400	500
Z axis travel	mm	350	300	350	450
Distance from spindle nose to worktable	mm	180-530	155-455	150-500	180-630
Distance from spindle center to column	mm	411	415	411	555
Workbench					
Workbench size	mm	650x400	650x400	850x400	1100x500
T-slot (sizexslot no.xspace)	mm	14X3X125	14x3x125	14x3x125	14x5x80
Maximum load of workbench	kg	250	250	350	400
Spindle					
Speed	rpm	20000	20000	20000	12000(OPT20000)
Spindle taper	#	BT30			
Transfer method	#	Direct drive			
Feed					
Three-axis cutting feed	mm/min	1-10000			
Three-axis rapid feed	m/min	48/48/48			
Precision		GB/T20957.4-2007			
Positioning precision	mm	0.005/0.005/0.005	0.005/0.005/0.005	0.007/0.005/0.005	0.008/0.005/0.005
Repeatability	mm	0.003/0.003/0.003	0.003/0.003/0.003	0.004/0.003/0.003	0.005/0.003/0.003
Tool changing system					
Number of tools	pcs	21			
Max tool weight	kg	3			
Max tool length	mm	250			
Tool diameter (full tool/neighbor empty tool)	mm	100/140			
Tool magazine form	#	Jaw type (servo)			
CNC system					
Control system	#	FANUC Oi MF PLus			
Spindle motor power	kw	3.7/9			3.7/13
Three-axis motor power	kw	2.5/2.5/2.7			2.7/2.7/3.0
Others					
Required air pressure	kgf/cm3	⩾6			
Electricity demand	KVA	15			20
Dimensions (LxWxH)	mm	1686x2312x2550	1686x2270x2520	1890x2312x2550	2250x2792x2807

Item		T-10	T-13	TH-1370	T-16
Travel					
X axis travel	mm	1000	1300	1300	1600
Y axis travel	mm	500		700	420
Z axis travel	mm	300		450	300
Distance from spindle nose to worktable	mm	180-480	150-450	150-600	150-450
Distance from spindle center to column	mm	538		755	519
Workbench					
Workbench size	mm	1100x500	1400x500	1400x700	1720x500
T-slot (sizexslot no.xspace)	mm	14x5x80		14x5x125	14x5x80
Maximum load of workbench	kg	400	450	600	500
Spindle					
Speed	rpm	20000			
Spindle taper	#	BT30			
Transfer method	#	Direct drive			
Feed					
Three-axis cutting feed	mm/min	1-10000			
Three-axis rapid feed	m/min	48/48/48			36/36/48
Precision		GB/T20957.4-2007			
Positioning precision	mm	0.008/0.005/0.005	0.010/0.005/0.005	0.010/0.007/0.005	0.010/0.005/0.005
Repeatability	mm	0.005/0.003/0.003	0.005/0.003/0.003	0.006/0.004/0.003	0.006/0.003/0.003
Tool changing system					
Number of tools	pcs	21			
Max tool weight	kg	3			
Max tool length	mm	250			
Tool diameter (full tool/neighbor empty tool)	mm	100/140			
Tool magazine form	#	Jaw type (servo)			
CNC system					
Control system	#	FANUC 0I-MF		MITSUBISHI M80	FANUC 0I-MF
Spindle motor power	kw	3.7/9		3.7/5.5	3.7/9
Three-axis motor power	kw	2.7/2.7/3.0	3.0/3.0/3.0		
Others					
Required air pressure	kgf/cm3	⩾6			
Electricity demand	KVA	20			
Dimensions (LxWxH)	mm	2460x2835x2670	3120x2860x2670	3110x3280x3110	3800x2665x2670

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