MINNUO

COMPANY PROFILES

MASTER CORE TECHNOLOGY

MINNUO

Company/
Jiangsu Minnuo Group Co.,Ltd

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CONTEN

CONTINUOUS

ABOUT US

BECOME THE WORLD'S LARGEST ONE-STOP TRADE SERVICE COMPLEX

Minnuo Special Equipment Co., Ltd. was established in 1987 as a liquefied petroleum gas cylinder factory. Minnuo people provide people with high-quality products and excellent services, strictly control quality, reduce costs, and thus establish a stable customer base.

150+
Exported to more than 150 countries

50+
Invention patents and utility model patents

2003 YEAR
Established R&D center

OUR STORY

BECOME THE WORLD'S LARGEST ONE-STOP TRADE SERVICE COMPLEX

Jiangsu Minnuo Group Co., Ltd. is a high-tech enterprise integrating product design, R&D, manufacturing and sales. It mainly produces and operates more than a dozen series of products such as CNC lathes, gantry milling machines, gantry machining centers, horizontal machining centers, vertical machining centers, engraving and milling machines, etc. The company covers an area of 100,000 square meters and has fixed assets of more than 200 million yuan. It has more than 70 middle and senior technical personnel and more than 380 engineering and technical personnel of various types. Using advanced 3D CAD methods, finite element analysis of parts is carried out to make the machine tool structure more reasonable, and motion simulation of design results is carried out to analyze expected results, shorten product development and manufacturing cycle, and improve resource utilization.

1987 Yrs
Minnuo Special Equipment Co., Ltd was established

2017 Yrs
Minnuo Group was established

3.299 Billion
Total sales in 2023

Jiangsu Minnuo Group Co.,Ltd

SMART MANUFACTURING

FACTORY INTERIOR SCENE AND MACHINE PICTURES

Strive to "create greater value" for our customers and build a CNC machine tool industry chain group company

First-class enterprise / First-class products / First-class service / First-class benefits

01

PROFESSIONAL WORKSHOP

Create Greater Value

02

CONVENT AND FAST

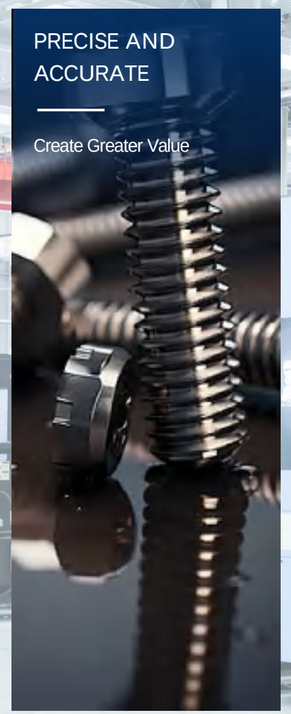
Create Greater Value

03

INTELLIGENT AND EFFICIENT

Create Greater Value

04



PRECISE AND ACCURATE

Create Greater Value

ISO90001

International quality system

Provide customers with high-quality professional products and the best services.

ISO14001

Environmental quality system certification

Our company has formed long-term and stable strategic cooperative relations with many well-known companies in the world

AAA

Corporate credit rating

All employees adhere to the concept of "reasonable price, efficient production time and good after-sales service"

PERSONALIZATION

Automation solutions
advanced processes

Intelligent design

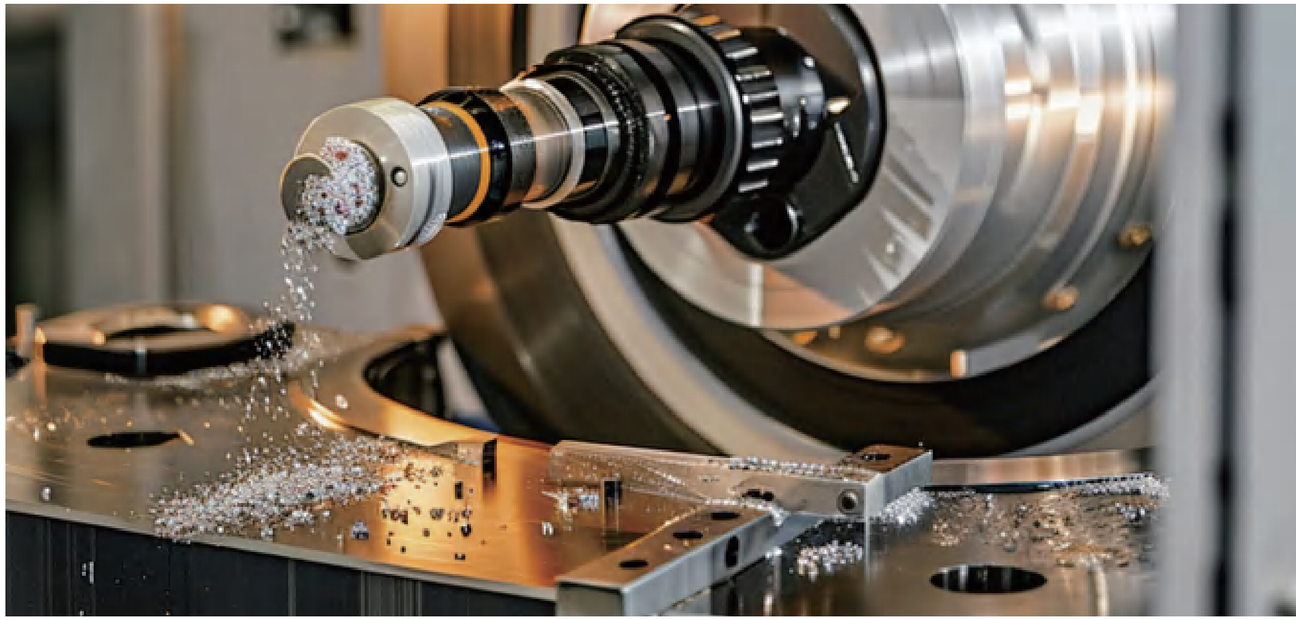
Multiple high-end machine tools are connected online and equipped with robots to form a flexible processing production line; deep customization, flexible wiring, intensive procedures, and multiple processes in series can greatly improve production efficiency, save human resources, enhance the company's market competitiveness, and enhance the corporate image.

Integrated (truss) automation

The integrated optimized design and integration of the logistics host is suitable for one-time processing from rough to finished products with few people, easy to move and small footprint High rigidity and greater stability

Integrated (joint) automation

According to the workpiece, multiple lathes can be connected and equipped with articulated robots to form a flexible processing production line. This can greatly improve production efficiency, save human resources, and enhance the company's market competitiveness and corporate image.



Four Major Advantages

01

MST Function

When the operator performs actions such as spindle test run and tool change, there is no need to switch to MDI mode to enter the operation program.

02

Integrated lathe

Using multi-channel technology, two channels of a CNC system control the machine tool and the truss robot at the same time

03

CNC Cloud

CNC Cloud is a CNC machine tool big data platform based on mobile phones and PC platforms, mainly used for users to manage CNC machine tools.

04

Automatic chip breaking

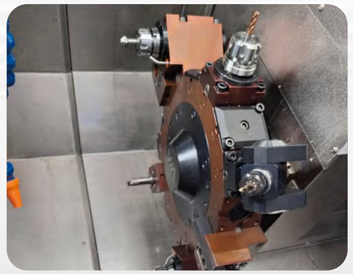
The chip breaking fun ction can also be used in thread processing. Such as linear thread, tapered thread, external hread, internal hole thread, end face thread, etc.

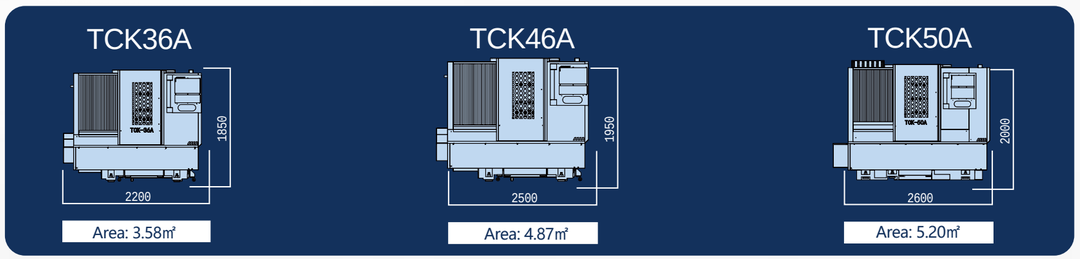
MINNUO

TCK36A/TCK46A/TCK50A

Slant bed and linear guide way CNC lathe

High Speed/High Precision/High Reliability





USAGE

The machine is suitable to process all kinds of small and middle-sized shaf and plate work piece, and could also turn various threads, circle arc,ircular cone, inside and oulside surace of revolved body. This machine is widely used in sanilary,valve, eleclirical appliance, inslrumenl, avtomo.bile, motorcycle, bearings and so on.

Specifications	unit	TCK36A	TCK46A	TCK50A
Max. swing dia. over bed	mm	360	460	560
Max. swing dia. over slide	mm	140	260	300
Max. work piece length	mm	300	350	300/500/800/1500
IVax. bar capacity	mm	38/44	44	55/75
Max. processing diameter (plate)	mm	360	440/360	440/360
Spindle nose	GB59001	A2-5	A2-5	A2-6/8
spindle bore	Φ/mm	48/56	56	66/66/86
Spindle speed	r/mm	50-4000	50-3500	50-3000
Spindle shift mode		Stepless speed regulation	Stepless speed regulation	Stepless speed regulation
Spindle motor power	KW	5.5	7.5	11/11/15
Chuck type		Hydraulic chuck	Hydraulic chuck	Hydraulic chuck
Chuck size	Inch	6	8	10
X axis rapid traverse	m/min	24	24	24
Z axis rapid traverse	m/min	24	24	24
X axis servo motor torque	N.m	6	7.5	10/15
Z axis servo motor torque	N.m	6	7.5	10/15
X axis travel	mm	185	240	240
Z axis travel	mm	350	400	400/540/860/1560
Guide way type		Linear Guides	Linear Guides	Linear Guides
turret type		Horizontal 8/12 stations	Horizontal 8/12 stations	Horizontal 8/12 stations
tool shank size	mm	20X20/Ø25	20X25/Ø32	25X25/Ø32
Tail stock type		Hydraulic	Hydraulic	Hydraulic
Tail stock quill dia	Φ/mm	65	70	70/90
Tail stock quill travel	mm	60	80	80
Tail stock quill taper		MT4#	MT5#	MT5#
Total rated power	KW	9	11	14/18/22
Total rated current	A	19	23	30
Net weight	kg	2500	3000	3100/3300/4000/5000
Machine dimension(LxWxH)	(mm)	2200x1636x1850	2500x1950x1950	2600/2700/3300/ 4000X2000X2000

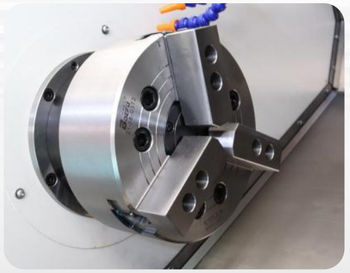
A VARIET OF MODELS MULTIPLE OPTIONS

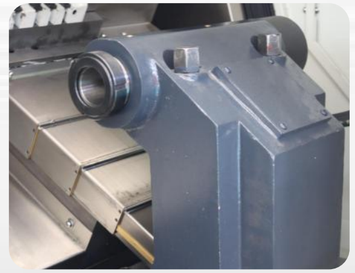
MINNUO

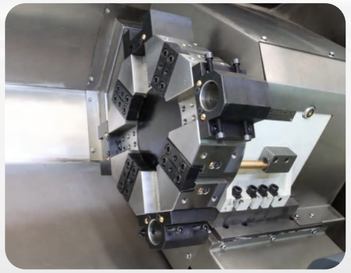
235LANCEN

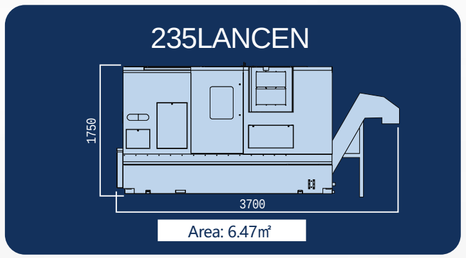
High Speed Slant Bed CNC lathe

High Rigidity/High Precision/High Efficiency









Specifications	unit	235LANCEN
Max. swing dia. over bed	mm	460
Max. swing dia. over slide	mm	260
Max. work piece length	mm	550
Max. bar capacity	mm	50
Max. processing diameter (plate)	mm	320
Spindle nose	GB59001	A2-6
spindle bore	Φ/mm	65
Spindle speed	r/mm	4000
Spindle shift mode		Stepless speed regulation
Spindle motor power	KW	15
Chuck type		Hydraulic chuck
Chuck size	Inch	8
X axis rapid traverse	m/min	30
Z axis rapid traverse	m/min	36
X axis servo motor torque	N.m	12
Z axis servo motor torque	N.m	12
X axis travel	mm	200
Z axis travel	mm	580
Guide way type		Linear Guides
Turet type		Horizontal 12 stations
Tool shank size	mm	25X25/Ø40
Tail stock type		Hydraulic
Tail stock quill dia	Φ/mm	65
Tail stock quill travel	mm	80
Tail stock quill taper		MT4#
Total rated power	KW	20
Net weight	kg	2600
Machine dimension(LxWxH)	(mm)	3700x1750x1750

USAGE

The machine is suitable to process all kinds of smalland middle-sized shaft and plate work piece, and could also urn various threadscircle arc, circular cone, inside and outside surface of revolved body.This machine is widely used in sanitary, valve, electrical appliance,instrument, automobile, motorcycle, bearings and so on.

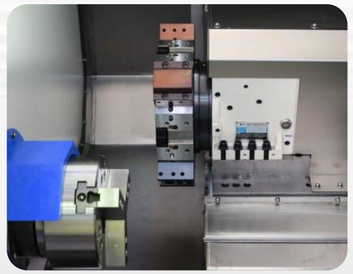
A VARIET OF MODELS MULTIPLE OPTIONS

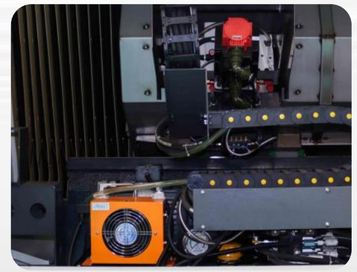
MINNUO

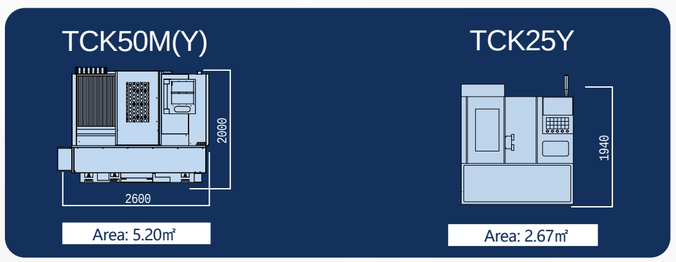
TCK50M(Y)/TCK25Y

High speed turning milling compound machine tool

High Rigidity/High Precision/High Efficiency







USAGE

The machine is suitable to process all kinds of smalland middle-sized shaft and plate work piece, and could also turn various threadscircle arc, circular cone, inside and outside surface of revolved body.This machine is widely used in sanitary, valve, electrical appliance,instrument, automobile, motorcycle, bearings and so on.

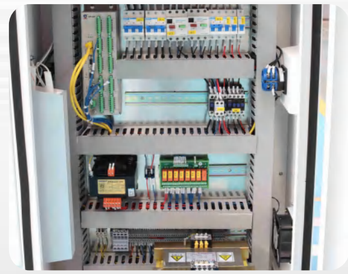
Specifications	unit	TCK50M	TCK50Y	TCK25Y
Max. swing dia. over bed	mm	560	640	510
Max. swing dia. over slide	mm	300	380	150
Max. work piece length	mm	400/700/1500	400/700/1500	235
Max. bar capacity	mm	55/75	55/75	44
Max. processing diameter (plate)	mm	300/350	300/450/450	250
Spindle nose	GB59001	A2-6/8	A2-6/8	A2-5
spindle bore	Φ/mm	66/86/86	66/86/86	56
Spindle speed	r/mm	50-3000	50-3000	50-4500
Spindle shift mode		Stepless speed regulation	Stepless speed regulation	Stepless speed regulation
Spindle motor power	KW	11/15/15	11/15/15	7.5/5.5
Chuck type		Hydraulic chuck	Hydraulic chuck	Hydraulic chuck
Chuck size	Inch	10	10	6
Power turet model no		SHD16L/ TCSD80-12T-330	TCSDY80H -12Y-330	BW70-Y-35-BMT40-12T-4L
X axis rapid traverse	m/min	18	18	24
Z axis ra pid traverse	m/min	18	18	24
X axis servo motor torque	N.m	15	15	10
Z axis servo motor torque	N.m	15	15	10
X axis travel	mm	240/260/260	240/260/260	135
Y axis travel	mm		±45	±30
Z axis travel	mm	500/800/1500	500/800/1500	370
Guide way type		Hydraulic	Hydraulic	Hydraulic
live tool holder		BMT45	BMT45	BMT40
Tool shank size	mm	25X25/Ø32	25X25/Ø32	20X20/Ø25
Tail stock type		Hydraulic	Hydraulic	
Tail stock quill dia	Φ/mm	70/90	70/90	
Tail stock quill travel	mm	80	80	
Total rated power	KW	24	24	18
Net weight	kg	3300/4000/5000	3400/4100/5100	2500
Machine dimension(LxWxH)	(mm)	2600/3370/4100 x2000x2000	2600/3370/4100 x2000x2100	1810x1480x1940

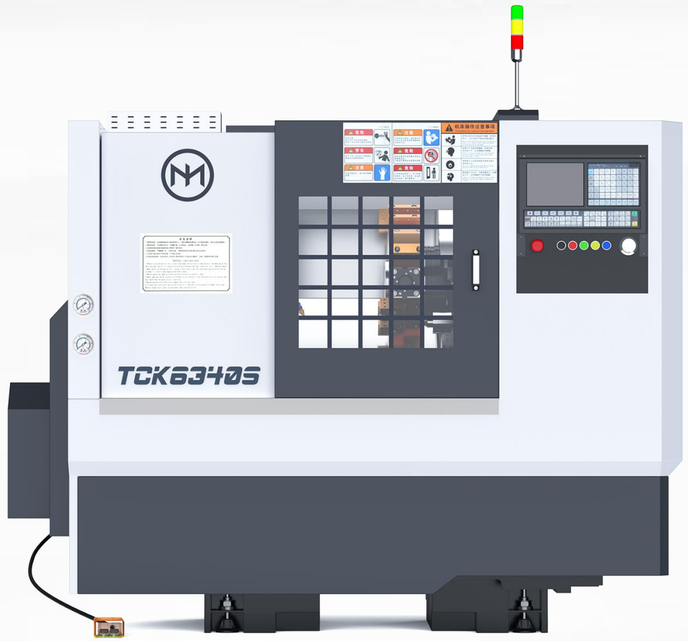
MINNUO

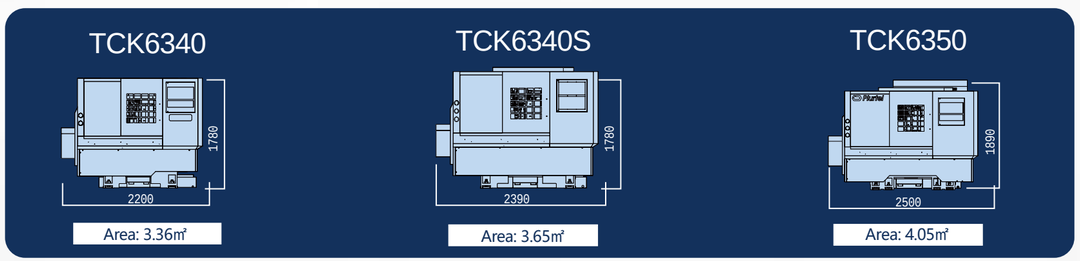
TCK6340/TCK6340S/TCK6350

Flat bed/slant bed linear guide way CNC lathe

High Speed/High Precision/High Reliability







USAGE

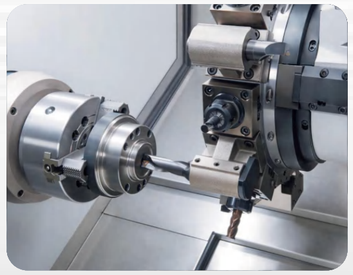
This machine is mainly used for processing various shaft, disk parts,turning canbe all kinds of screw thread, arc, cone and plane of internal and externasurface,

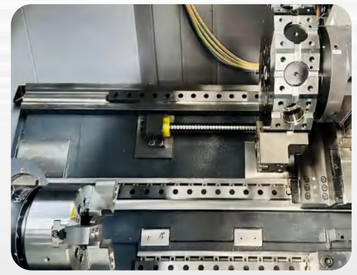
Specifications	unit	TCK6340	TCK6340S	TCK6350
Max. swing dia. over bed	mm	400	400	520
Max. swing dia. over slide	mm	140	140	220
Max. processing length	mm	180 (Row knife)	390(Row knife)/ 300(Turret 8 stations)	410(Row knife)/ 330(Turret 8 stations)
Max. bar capacity	mm	39/44	39/44	44/54
Max. processing diameter (plate)	mm	400	400(Row knife)/ 380(Turret 8 stations)	500(Row knife)/ 340(Turret 8 stations)
Spindle nose	GB59001	A2-5	A2-5	A2-6
spindle bore	Φ/mm	49/56	49/56	66
Spindle speed	r/min	50-3500	50-3500	50-3000
Spindle shift mode		Stepless speed regulation	Stepless speed regulation	Stepless speed regulation
Spindle motor power	KW	5.5	5.5	7.5
Chuck type		Hydraulic chuck /chuck	Hydraulic chuck /chuck	Hydraulic chuck
Chuck size	Inch	6/8	6/8	10
X axis rapid traverse	m/min	18	12	12
Z axis rapid traverse	m/min	18	12	12
X axis servo motor torque	N.m	6	6	7.5
Z axis servo motor torque	N.m	6	6	7.5
X axis travel	mm	400	400	500
Z axis travel	mm	300	400	500
Guide way type		Linear Guides	Linear Guides	Linear Guides
Tool post type		Row knife	Row knife (Optional turret)	Row knife (Optional turret)
Tool shank size	mm	20X20/Ø25	20X25/Ø25	25X25/Ø32
Total rated power	KW	10	12	13
Total rated current	W	21	26	28
Net weight	kg	2300	2600	3000
Machine dimension(LxWxH)	(mm)	2200x1530x1780	2390x1530x1780	2500x1620x1890

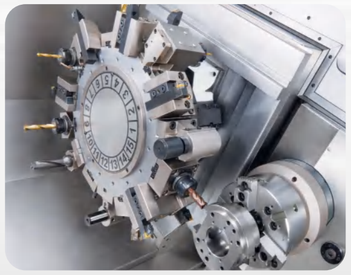
CTX200S

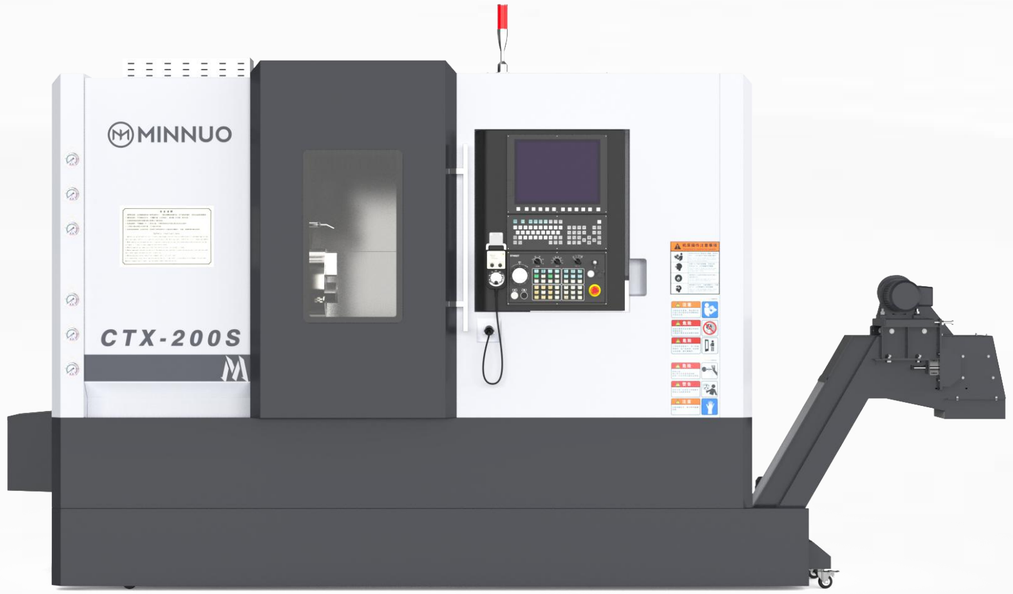
High Speed dual-spindle turning center

High Rigidity/High Precision/High Efficiency

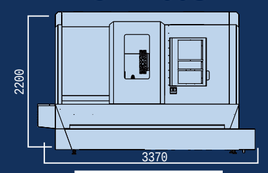








CTX200S



Area: 6.47㎡

USAGE

The workpiece clamped one time could finish all processing steps.This machine tool has the high speed, the high precision, and the strong composite processing abilityIt can process various large and long workpieces.

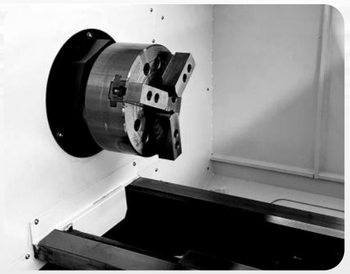
Specifications	unit	CTX200S
Max. swing dia. over bed	mm	700
Max. swing dia. over slide	mm	350
Max. work piece length	mm	450
Max. bar capacity	mm	50
Max. processing diameter (plate)	mm	280
Spindle nose	GB59001	A2-6
spindle bore	Φ/mm	65
Spindle speed	r/mm	500-3000
Spindle shift mode		Stepless speed regulation
Spindle motor power	KW	11
Chuck type		Hydraulic chuck
Chuck size	Inch	8
X axis rapid traverse	m/min	18
Y axis rapid traverse	m/min	6
Z axis rapid traverse	m/min	18
X axis servo motor torque	N.m	15
Y axis servo motor torque	N.m	6
Z axis servo motor torque	N.m	15
X axis travel	mm	200
Y axis travel	mm	±45
Z axis travel	mm	550
Guide way type		Linear Guides
Turret type		Horizontal 12 stations
Tool shank size	mm	25X25/040
sub-spindle nose		A2-6
sub-spindle bore	Φ/mm	65
sub-spindle speed	r/min	50-3500
Total rated power	KW	32
Net weight	kg	4250
Machine dimension(LxWxH)	(mm)	3370x2000x2200

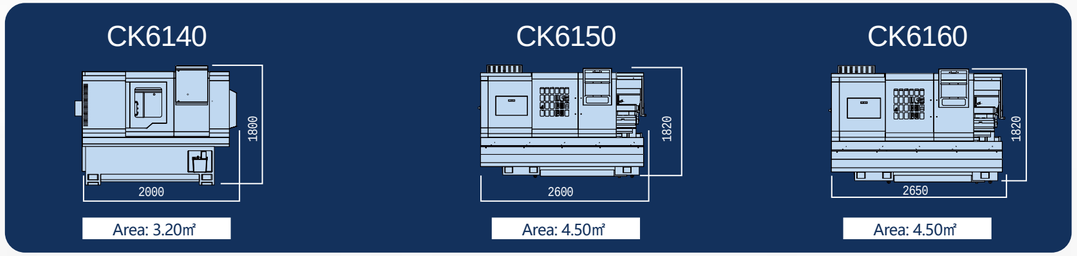
MINNUO

CK6140/CK6150/CK6160

Box guide way CNC lathe

Overall bed/Independent spindle/High stability





USAGE

Machine tool can automatically process the inside and outside cylinder surface,cone surface, circular arc sur face, end face, such as processing, and also can process the single and muliple threads in metric, inch and othelstandards.

Specifications	unit	CK6140	CK6150	CK6160
Max. swing dia. over bed	mm	400	500	600
Max. swing dia. over slide	mm	240	250	395
Maximum turning diameter (disc)	mm	400	500	600
Max. work piece length	mm	550/750	1000/1500/2000	1000/1500/2000
Maximum turning length	mm	420/620	850/1350/1850	850/1350/1850
Spindle nose		A2-6/A2-8	A2-8/A2-11	A2-8/A2-11
spindle bore	Φ/mm	48/82	82/130	82/130
Spindle taper	Φ/mm	Chuck/Metric 90	Metric 90/Metric 140	Metric 90/Metric 140
Spindle speed	r/min	150-2500/ 150-1800	150-1800/ 150-800	150-1800/ 150-800
Spindle type		Stepless speed regulation	Stepless speed regulation	Stepless speed regulation
Spindle motor power	KW	5.5/7.5	7.5/11	7.5/11
Chuck type		Manual chuck	Manual chuck	Manual chuck
Chuck size	mm	200/250	250/320/380	250/320/380
X axis rapid traverse	m/min	6	6	6
Z axis rapid traverse	m/min	8	8	8
X axis servo motor torque	N.m	4	5/7.5	5/7.5
Z axis servo motor torque	N.m	6	7.5/10/15	7.5/10/15
X axis travel	mm	280	280	325
Z axis travel	mm	550/750	1000/1500/2000	1000/1500/2000
Guide way type		Hard rail	Hard rail	Hard rail
Capacity of tool post		4	4	4
Tool shank size	mmxmm	20x20	25x25	25x25
Tail stock quill dia	Φ/mm	60	75	75
Tail stock quill travel	mm	100	150	150
Tail stock quill taper		MT4#	MT5#	MT5#
Total rated power	KW	8/10	11/12/13	11/12/13
Total rated current	A	17/21	23/26/29	23/26/29
Net weight	kg	1900/2200	2700/3100/3500	2800/3200/3400
Machine dimension(LxWxH)	LxWxH（mm）	2000/2200x 1600x1800	2650/3250/3750x 1700x1820	2650/3250/3750x 1700x1820

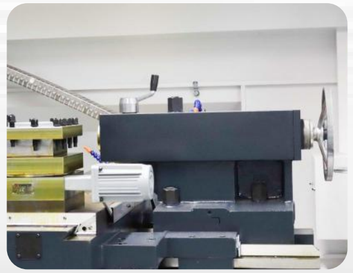
A VARIET OF MODELS MULTIPLE OPTIONS

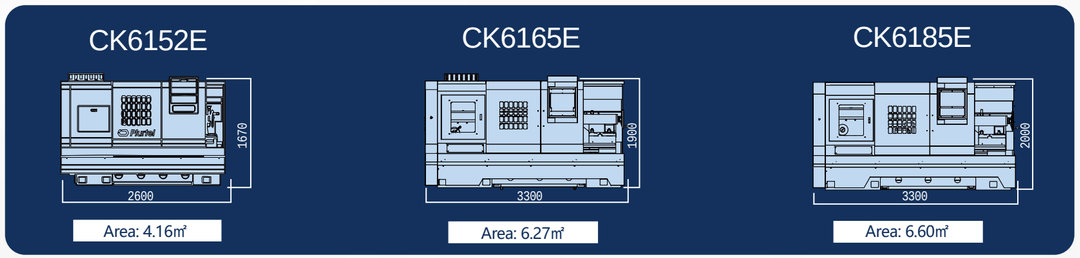
MINNUO

CK6152E/CK6165E/CK6185E

One-piece casting bed and box way CNC lathe

High precision/High torque/Overall bed





USAGE

Controued by CNC system, this machine could process different inner bore, ex-circle, circular conicasurface and screw thread, especially suitable for the small and middle-sized shaft and plate work piecefrom rough processing to finish processing in batch. It has advantages like higher automaticity, simplerprogramming and higher accuracy.

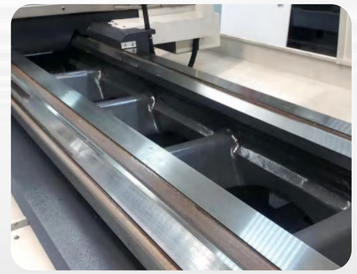
Specifications	unit	CK6152E	CK6165	CK6185E
Max. swing dia. over bed	mm	530	650	850
Max. swing dia. over slide	mm	280	375	500
Maximum turning diameter (disc)	mm	520	650	850
Max. work piece length	mm	1000/1500/ 2000/3000	1000/1500/ 2000/3000	1000/1500/2000/ 3000/4000
Maximum turning length	mm	825/1325/ 1825/2825	1000/1500/ 2000/3000	900/1400/1900/ 2900/3900
Spindle nose		A2-8	C11	C11
spindle bore	Φ/mm	90	105	105
Spindle taper	Φ/mm	Metric 100/1:20	Metric 120/1:20	Metric 120/1:20
Spindle speed	r/min	30-150,90-450, 315-1600	10-85,40-350, 100-850	10-85,40-350, 100-850
Spindle shift mode				
Spindle motor power	KW	7.5	11	11
Chuck type		Manual chuck	Manual chuck	Manual chuck
Chuck size	mm	250	320	400
X axis rapid traverse	m/min	6	4	4
Z axis rapid traverse	m/min	8	5	5
X axis servo motor torque	N.m	7.5	10	10
Z axis servo motor torque	N.m	10/15/22	15/22/30	15/22/30
X axis travel	mm	300	400	450
Z axis travel	mm	1000/1500/ 2000/3000	1100/1600/ 2100/3100	1100/1600/2100/ 3100/4100
Guide way type		Hard rail	Hard rail	Hard rail
Capacity of tool post		4	4	4
Tool shank size	mmxmm	25x25	32x32	32x32
Tail stock quill dia	Φ/mm	75	100	100
Tail stock quill travel	mm	150	250	250
Tail stock quill taper		MT5#	MT6#	MT6#
Total rated power	KW	12/12/13	16/18/20	16/18/20
Total rated current	A	26/26/28	36/40/42	36/38/42
Net weight	kg	2900/3150/3500/4300	4400/4800/5400/6200	4800/5200/5800/6600
Machine dimension(LxWxH)	LxWxH (mm)	2600/3100/3600/ 4800x1600x1670	3500/4000/4500/ 5500x1900x1900	3500/4000/4500/ 5500x2000x2000

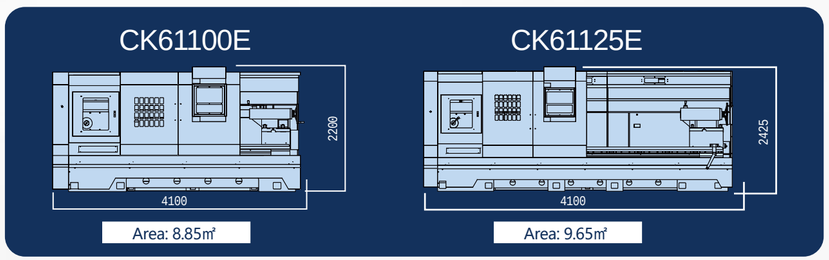
MINNUO

CK61100E/CK61125E

One-piece casting bed and box way CNC lathe

High spindle torque/High rigidity/Stable performance





USAGE

This machine tool is suitable to process the middle and large size work piece in steelcast iron, non-ferrous metal material.With the feature of big power and high rigidity,this machine is applied to heavy-cut the inner circle, ex-circle,end surface and thread in both metric and English system, and could drill and bore the holes.

Specifications	unit	CK61100E	CK61125E
Max. swing dia. over bed	mm	1000	1250
Max. swing dia. over slide	mm	650	850
Maximum turning diameter (disc)	mm	1000	1250
Max. work piece length	mm	1500/2000/ 3000/5000	1500/2000/ 3000/5000
Maximum turning length	mm	1400/1900/2900	1350/1850/2850
Spindle nose		A2-15	A2-15
spindle bore	Φ/mm	130	130
Spindle taper	Φ/mm	Metric 140/1:20	Metric 140/1:20
Spindle speed	r/min	10-60,40-240.100-600	10-50.40-120.100-400
Spindle shift mode			
Spindle motor power	KW	15	22
Chuck type		Manual chuck	Manual chuck
Chuck size	mm	500	630
X axis rapid traverse	m/min	4	4
Z axis rapid traverse	m/min	5	5
X axis servo motor torque	N.m	10	15
Z axis servo motor torque	N.m	15/22/30	18/22/30
X axis travel	mm	530	650
Z axis travel	mm	1500/2000/3000	1350/1850/2850
Guide way type		Hard rail	Hard rail
Capacity of tool post		4	4
Tool shank size	mmxmm	40x40	40x40
Tail stock quill dia	Φ/mm	140	160
Tail stock quill travel	mm	250	250
Tail stock quill taper		MT6#	MT6#
Total rated power	KW	22/23/25	29/30/30
Total rated current	A	47/50/54	62/65/65
Net weight	kg	5400/6000/6800	8500/9000/10600
Machine dimension(LxWxH)	LxWxH（mm）	4100/4600/5600x 2160x2200	4100/4600/5600x 2355x2425

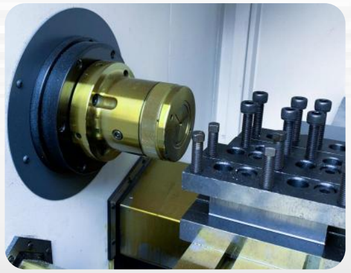
A VARIET OF MODELS MULTIPLE OPTIONS

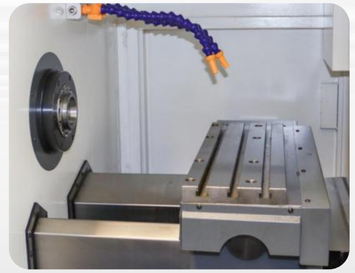
MINNUO

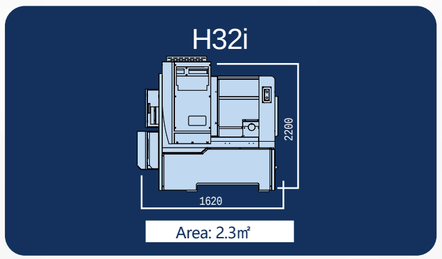
H32i

Slant bed and linear guide way CNC lathe

High Speed/High Precision/High Reliability







Specifications	unit	H32i
Max. swing dia. over bed	mm	320
Max. swing dia. over slide	mm	70
Max. processing length	mm	280
Max. bar capacity	mm	39
Max. processing diameter (plate)	mm	320
Spindle nose	GB59001	A2-5
spindle bore	Φ/mm	48
Spindle speed	r/mm	50-4000
Spindle shift mode		Stepless speed regulation
Spindle motor power	KW	3.7
Chuck type		Hydraulic chuck/ chuck
Chuck size	Inch	6
X axis rapid traverse	m/min	6
Z axis rapid traverse	m/min	24
X axis servo motor torque	N.m	4
Z axis servo motor torque	N.m	4
X axis travel	mm	280
Z axis travel	mm	330
Guide way type		Linear Guides
Tool post type		Row knife
Tool shank size	mm	20X20/Ø25
Total rated power		6
Total rated current	Φ/mm	13
Net weight	mm	1400
Machine dimension(LxWxH)		1620x1420x1700

USAGE

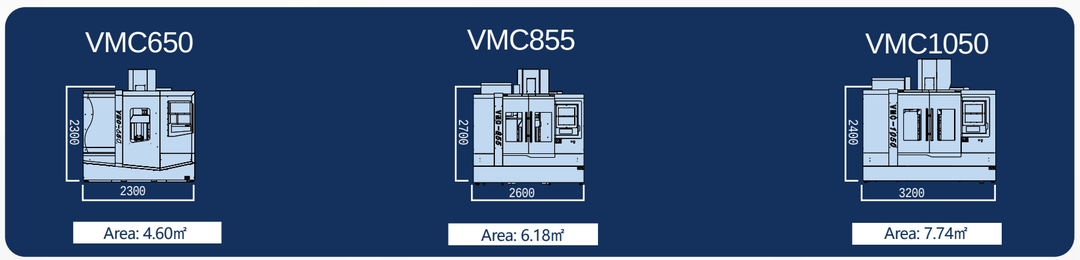
This machine is mainly used for processing various shaft, disk parts,turning canbe all kinds of screw thread, arc, cone and plane of internal and externasurface,

MINNUO

VMC650/VMC855/VMC1050

Vertical machining center

High Speed/High Precision/High Reliability



Specifications	unit	VMC650	VMC855	VMC1050
Table size	mm	900x400	1000x550	1000x530
Table maximum load	kg	350	500	600
X//Z axis travel	mm	650x400x500	800x550x550	1000x500x600
Distance between spindle centerand column	mm	476	590	580
Distance between spindle endface and worktable surface	mm	100-600	120-670	140-740
X/Y/Z Max. feed speed	mm/min	10000	10000	10000
X/Y/Z Max. Rapid traverse	m/min	32/32/30	32/32/30	32/32/24
Spindle speed	r/min	8000	8000	8000
Spindle taper	type	BT40	BT40	BT40
Spindle motor power	KW	5.5/7.5	7.5/11	7.5/11
X/Y/Z axis servo motor power	KW	2.6/2.6/2.8	3.9/3.9/3.6	3.9/3.9/3.6
X/Y/Z motor connection		Direct connection	Manual chuck	Manual chuck
X/Y/Z Guide way type		Linear guide	250/320/380	250/320/380
T slot	mm	3-18x125	5-18x90	5-18x90
Repeat positioning accuracy	mm	±0.004	±0.004	±0.004
Tool magazine		Cone-hat style/ disc style	disc style	disc style
Tool capacity		16T/16T	24T	24T
Maximum tool weight	kg	7	8	8
Max. tool length	mm	250/300	300	250/300
Electric capacity	KVA	10	15	15
Machine dimension(LxWxH)	mm	2300x2000x2300	2600x2380x2700	3200x2420x2400
Net. weight (about)	kg	4500	5000	6000

USAGE

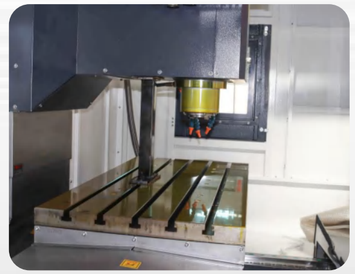
VMC is suitable for the mechanical processing and mold making.And it can adapt to the processing require ment from rough machining to finish machiningIt can also finish many working procedures like milling, drilli ng, tapping, boring etc.

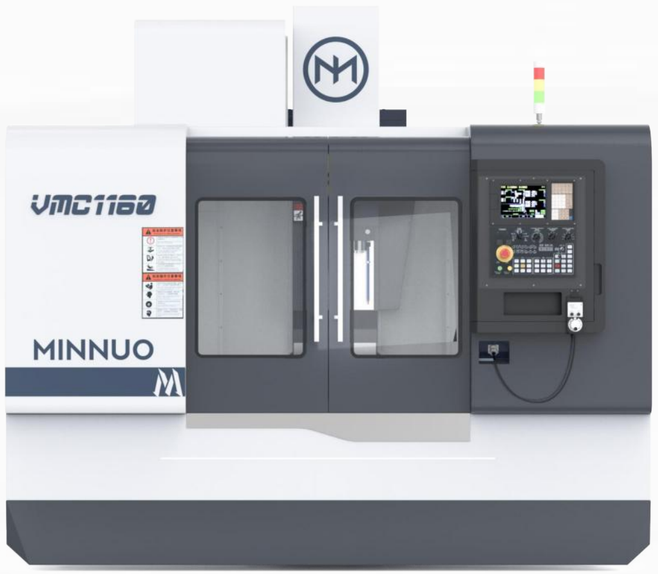
MINNUO

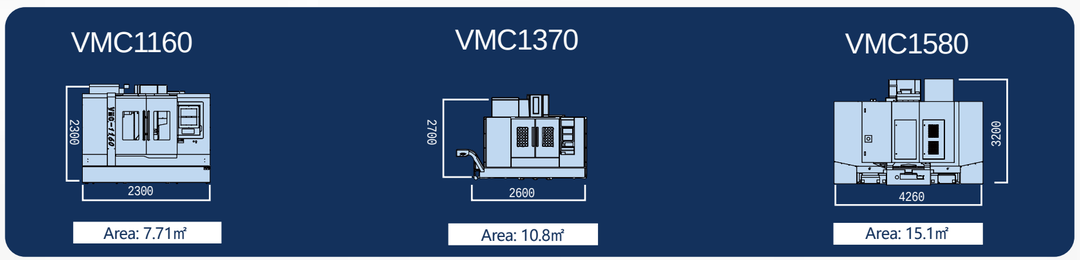
VMC1160/VMC1370/VMC1580

Vertical machining center

Overall bed/Independent spindle/High stability







Specifications	unit	VMC1160	VMC1370	VMC1580
Table size	mm	1200x600	1500x700	1700x800
Table maximum load	kg	1000	900	1500
X//Z axis travel	mm	1100x600x600	7300x700x700	1500x800x700
Distance between spindle centerand column	mm	650	752	871
Distance between spindle endface and worktable surface	mm	120-720	150-850	150-900
X/Y/Z Max. feed speed	mm/min	10000	8000	10000
X/Y/Z Max. Rapid traverse	m/min	32/32/30	20/20/15	20/20/16
Spindle speed	r/min	8000	8000	6000
Spindle taper	type	BT40	BT40	BT50
Spindle motor power	KW	11/15	11/15	15/18
X/Y/Z axis servo motor power	KW	4/4/5	4/4/5	4.5/4.5/4.5
X/Y/Z motor connection		Direct connection	Direct connection	Direct connection
X/Y/Z Guide way type		Linear guide	250/320/380	250/320/380
T slot	mm	5-18x100	5-18x145	5-18x145
Repeat positioning accuracy	mm	±0.005	±0.005	±0.005
Tool magazine		disc style	disc style	disc style
Tool capacity		24T	24T	24T
Maximum tool weight	kg	8	8	15
Max. tool length	mm	300	300	300
Electric capacity	KVA	18	22	30
Machine dimension(LxWxH)	mm	3100x2490x2380	3600x3000x2700	4260x3545x3200
Net. weight (about)	kg	7000	11000	12000

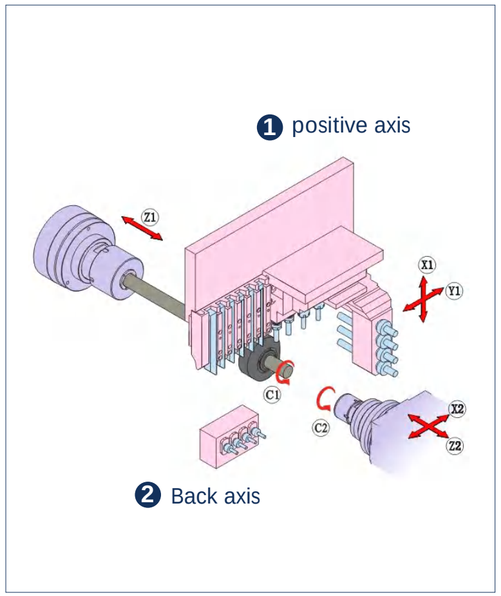
USAGE

VMC is suitable for the mechanical processing and mold making.And it can adapt to the processing require ment from rough machining to finish machiningIt can also finish many working procedures like milling, drilli ng, tapping, boring etc.

A VARIET OF MODELS MULTIPLE OPTIONS

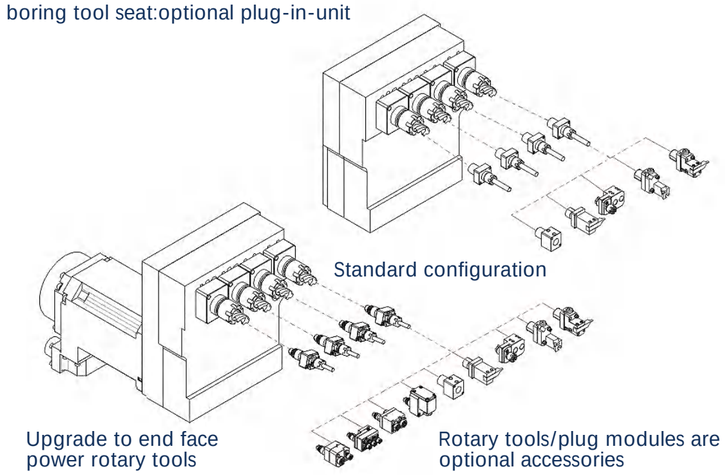
MINNUO

FR25-5



. Main and sub spindle C axis standardconfiguration, complete functions,
· Excellent performance multi types of tools coordinate reasonably,multi tool frame reasonably option
· rotary guide sleeve、no guide bush freely option,save material high benefit

Sub spindle tool arrangement diagram



Backside tool position
4 tools

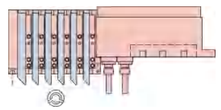
(Stationary tool)
4 tools

(Power-driven tool)
4tools

Drilling hole depth
95mm

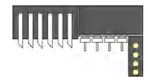
3 position variable tooling layouts units

1 Main Spindle



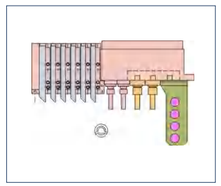
- Turning tool
- Power-driven tools(2-spindles)designed for cross drling
- Cartridge-type(3Pos)
- Miling unit/Front drilling unit
- Front/rear power-diven tools
- Sleeve holder
- Front/rear stafionary tools

5-Spindle
cross drilling unit

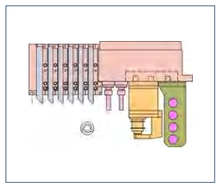


Turming tool(12mm)	5
Turming tool(16mm)	1
Front-end working tool	4
Rear-end working tool	4
power-driven tool	4

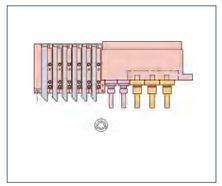
Combination 01



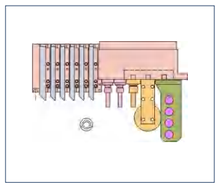
Combination 02



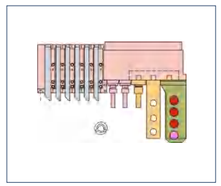
Combination 03



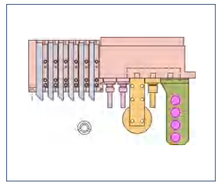
Combination 04



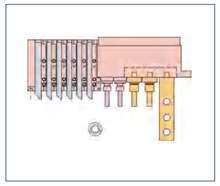
Combination 05



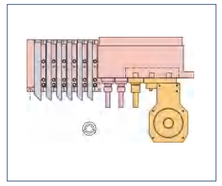
Combination 06



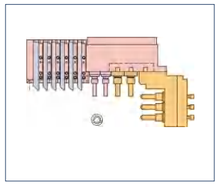
Combination 07



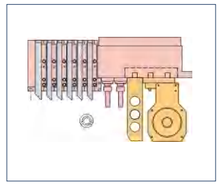
Combination 08



Combination 09



Combination 10



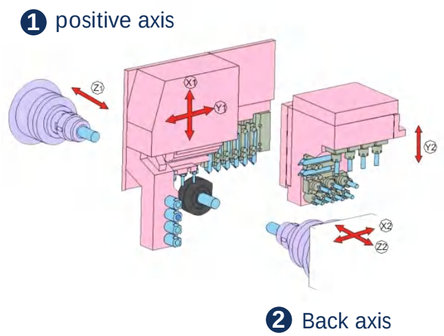
Specification

			FR20-5 Ⅱ	FR25-5 Ⅱ
Max.machining diameter			Φ20mm	Φ25mm
Max.headstock stroke	With guide bush		200mm	
	Without guide bush		1:2.5D	
Fixedboring tool	Max.drilling capability		10mm	
	Max.tapping capability		M8	
Power-driven attachment	Max.drilling capability		Φ8mm	
	Max.tapping capability		M6	
	Spindle speed	ER 16	max.6.000min^{-1}	
		ER 11	max.1.0000min^{-1}	
	Driven motor		1.0kw	
Sub spindle tools	Max.drilling capability		Φ8mm	
	Max.tapping capability		M6	
	Driven motor		1.0kw	
Rapid feed rate			X_1:24m/min $Z_1Y_1X_2Z_2$:32m/min	
Main spindle speed			max.10000min^{-1}	
Main spindle motor			2.2kw(continuous)/3.7kw(10min./25%ED)	
Sub spindle Max.travel distance			265mm	
Machine weight			3050kg	

A VARIET OF MODELS MULTIPLE OPTIONS

MINNUO

FR25-6

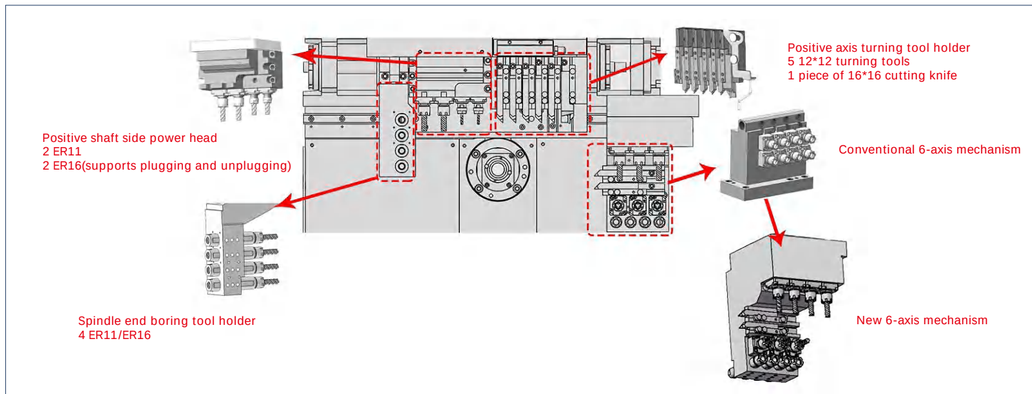


· The C-axis of the main and auxiliary axes is standard, with complete functions and excellent performance
· Reasonable matching of various types of cutting tools and reasonable selection of various tool holders
· Free selection of movable guide bushing and non-guide bushing, saving material and high profit

Specification

			FR20-6S	FR25-6S
Max.machining diameter			Φ20mm	Φ25mm
Max.headstock stroke	With guide bush		200mm	
	Without guide bush		1:2.5D	
Fixedboring tool	Max.drilling capability		10mm	
	Max.tapping capability		M8	
Power-drivenattachment	Max.drilling capability		Φ8mm	
	Max.tapping capability		M6	
	Spindle speed	ER 16	max.6.000min-1	
		ER 11	max.1.0000min-1	
	Driven motor		1.0/1.0kw	
Sub spindle tools	Max.drilling capability		Φ8mm	
	Max.tapping capability		M6	
	Driven motor		1.1kw	
Rapid feed rate			Y_2X_1:24m/min $Z_1Y_1X_2Z_2$:32m/min	
Main spindle speed			max.10000min-1	
Main spindle motor			2.2kw(continuous)/3.7kw(10min./25%ED)	
Sub spindle Max.travel distance			367mm	
Machine weight			3600kg	

Tool layout diagram

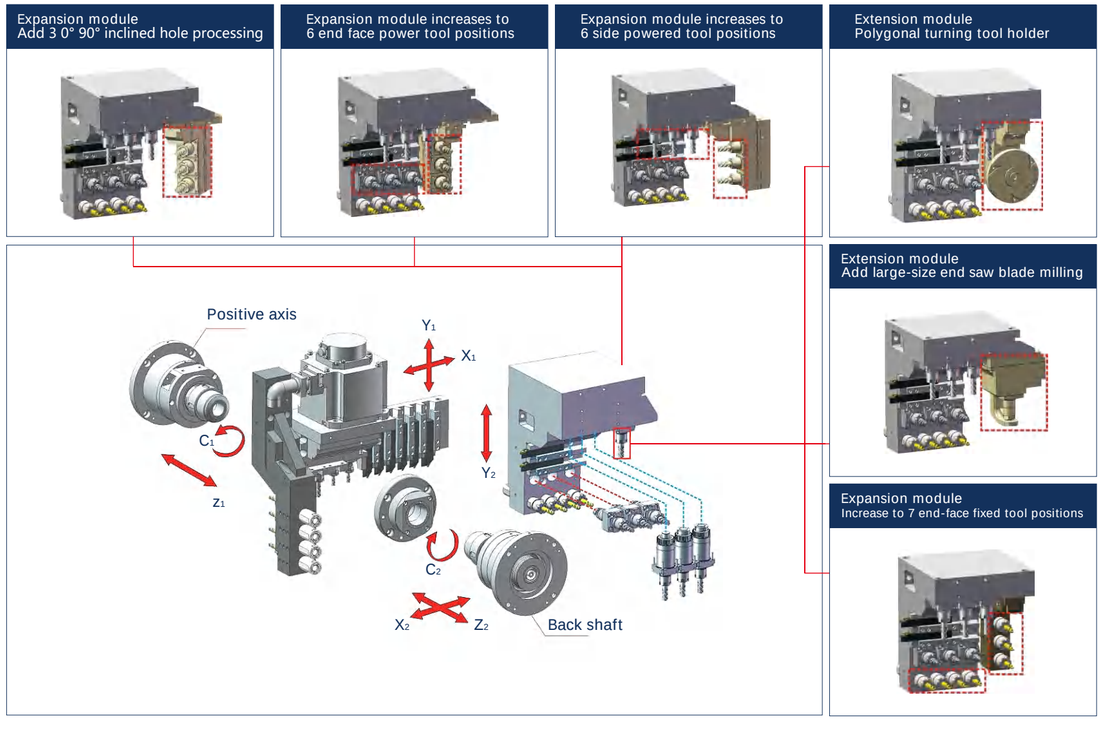


Comparison of standard tool holders for six-axis mechanisms

	Conventional 6-axis	New 6-axis
End face power tool position	4 PCS	3 PCS
End fixing seat	4 PCS	4 PCS
Side power tool position	not have	4 PCS
Turning tool	not have	2 PCS

NEW PATENTED STRUCTURE / HIGH MODULARITY

COMPREHENSIVELY IMPROVE MACHINE TOOL FLEXIBILITY

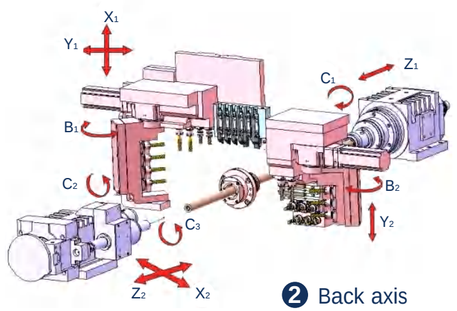


A VARIET OF MODELS MULTIPLE OPTIONS

MINNUO

FR25-6S

1 positive axis



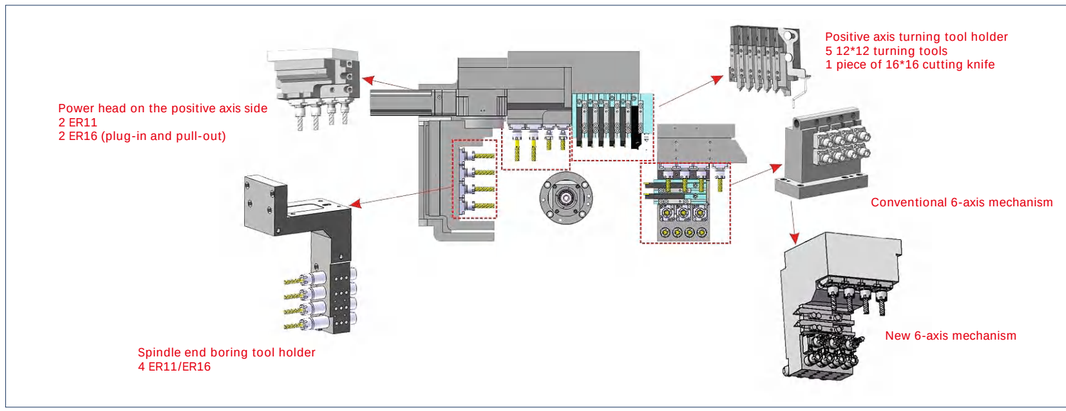
2 Back axis

· Main and secondary axes are standard, with complete functions and excellent performance.
· Reasonable matching of various tools and reasonable selection of various tool holders.
· Free selection of movable guide sleeves and no guide sleeves, saving materials and high returns.

Specification

			FR20-6SP	FR25-6SP
Max.machining diameter			Φ20mm	Φ25mm
Max.headstock stroke	With guide bush		200mm	
	Without guide bush		1:2.5D	
Fixedboring tool	Max.drilling capability		10mm	
	Max.tapping capability		M8	
Power-drivenattachment	Max.drilling capability		Φ8mm	
	Max.tapping capability		M6	
	Spindle speed	ER 16	max.6.000min-1	
		ER 11	max.1.0000min-1	
	Driven motor		1.0/1.0kw	
Sub spindle tools	Max.drilling capability		Φ8mm	
	Max.tapping capability		M6	
	Driven motor		1.1kw	
Rapid feed rate			Y_2X_1:24m/min $Z_1Y_1X_2Z_2$:32m/min	
Main spindle speed			max.10000min-1	
Main spindle motor			2.2kw(continuous)/3.7kw(10min./25%ED)	
Sub spindle Max.travel distance			367mm	
Machine weight			3600kg	

Tool layout diagram



Comparison of standard tool holders for six-axis mechanisms

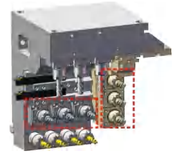
	Conventional 6-axis	New 6-axis
End face power tool position	4 PCS	3 PCS
End fixing seat	4 PCS	4 PCS
Side power tool position	not have	4 PCS
Turning tool	not have	2 PCS

NEW PATENTED STRUCTURE / HIGH MODULARITY

COMPREHENSIVELY IMPROVE MACHINE TOOL FLEXIBILITY

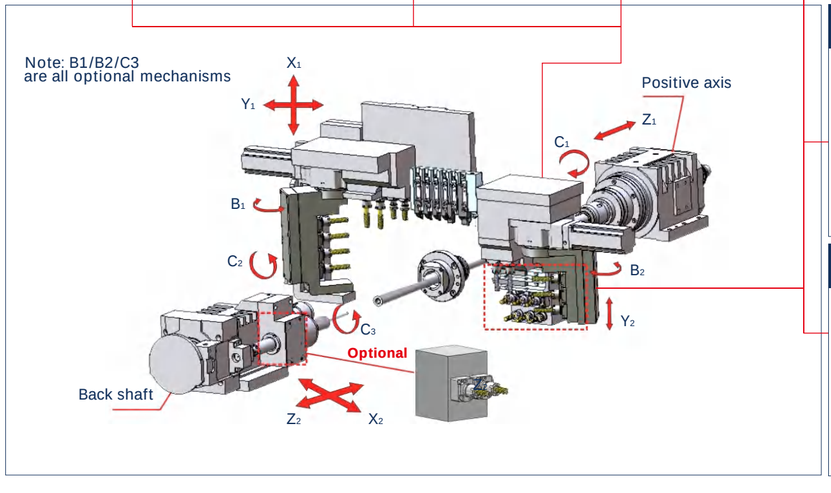
Extension module
Add 3 0° -90° inclined hole processing

Expansion module: Increase to
6 side powered tool positions



Expansion module: Increase to 6
side powered tool positions

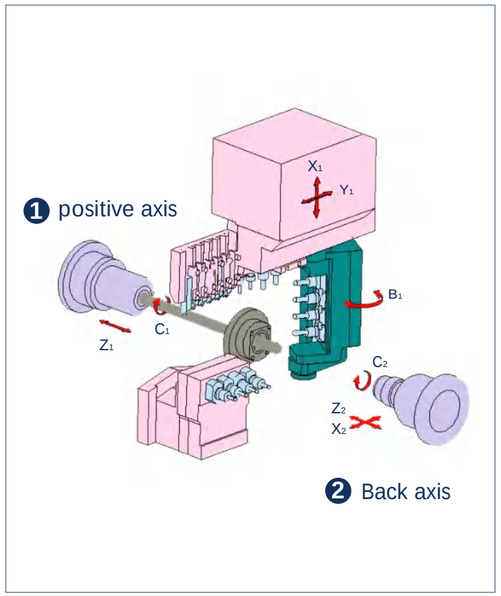
Extension module
Add large-size end saw blade milling



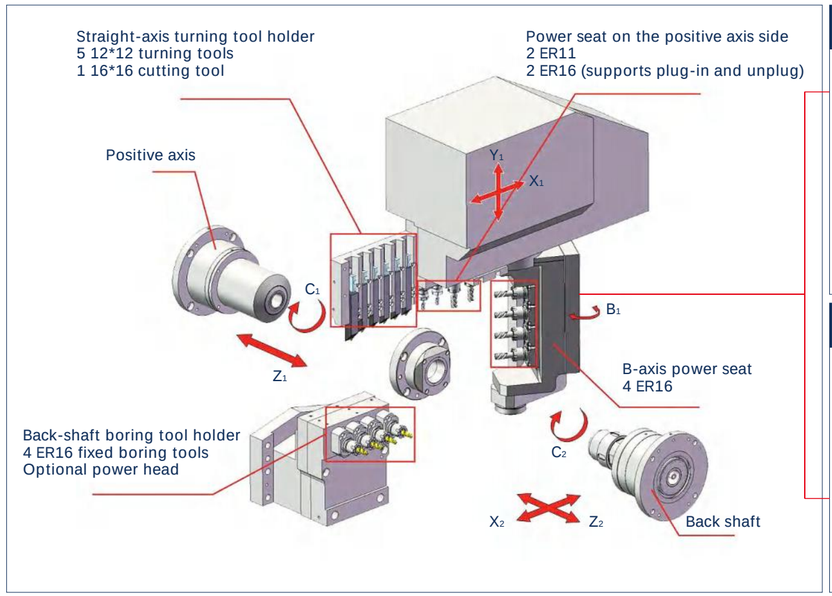
Expansion module
Increase to 7 end-face fixed tool positions

Conventional six-axis seat assembly

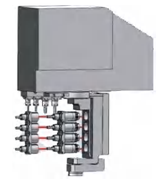
FR25-5B



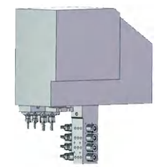
NEW PATENTED STRUCTURE / HIGH MODULARITY COMPREHENSIVELY IMPROVE MACHINE TOOL FLEXIBILITY



Modular B-axis tool positions
Quickly change fixed tool holders

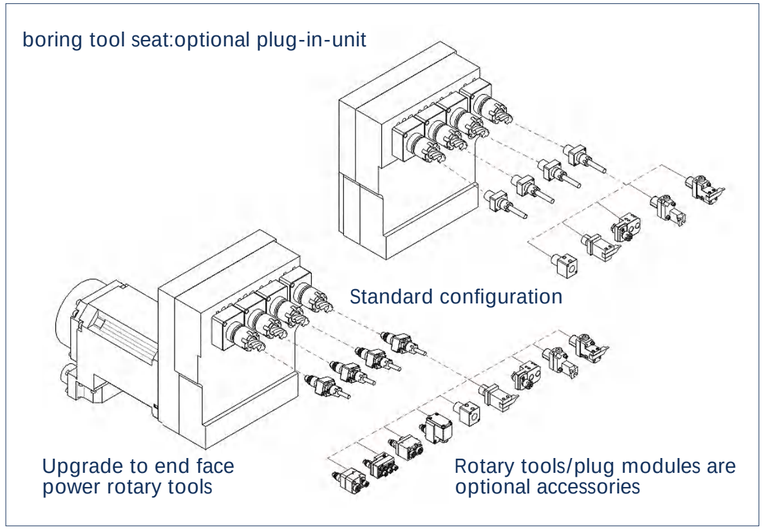


Supports fixed tool holder replacement



. Main and auxiliary C-axis are standard, with complete functions and excellent performance
· Reasonable matching of various tools and reasonable selection of various tool holders
· Free selection of movable guide sleeves and no guide sleeves, saving materials and high returns

Sub-spindle tool layout



Backside tool position
4 tools

(Stationary tool)
4 tools

(Power-driven tool)
4tools

Drilling hole depth
95mm

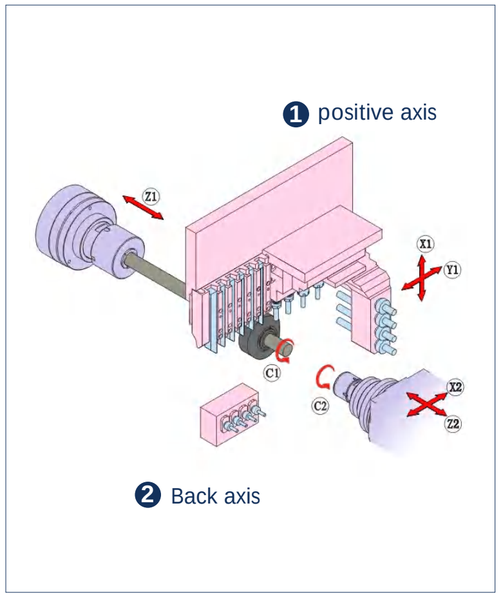
Specification

			FR20-5B	FR25-5B
Max.machining diameter			Φ20mm	Φ25mm
Max.headstock stroke	With guide bush		200mm	
	Without guide bush		1:2.5D	
Fixedboring tool	Max.drilling capability		10mm	
	Max.tapping capability		M8	
Power-driven attachment	Max.drilling capability		Φ8mm	
	Max.tapping capability		M6	
	Power tool rotation numberv	ER 16	max.6.000min-1	
	Spindle speed	ER 11	max.1.0000min-1	
	Driven motor		1.0/1.1kw	
Sub spindle tools	Max.drilling capability		Φ8mm	
	Max.tapping capability		M6	
	Driven motor		1.0kw	
Rapid feed rate			X1:24m/min Z1Y1X2Z2:32m/min	
Main spindle speed			max.10000min-1	
Main spindle motor			2.2kw(continuous)/3.7kw(10min./25%ED)	
Sub spindle Max.travel distance			265mm	
Machine weight			3200kg	

A VARIET OF MODELS MULTIPLE OPTIONS

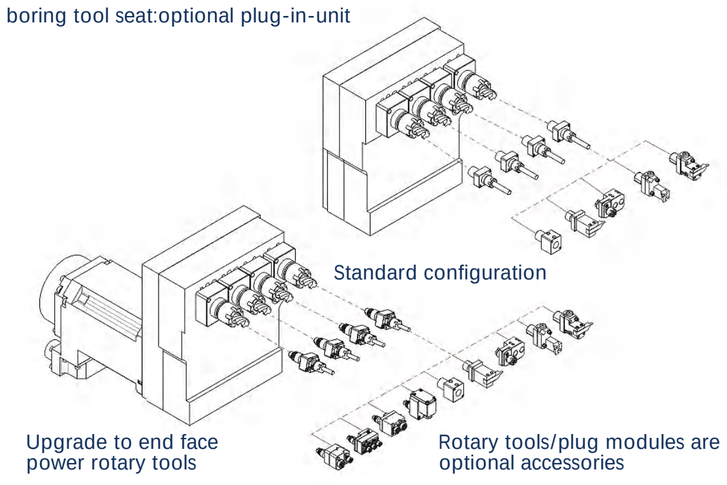
MINNUO

FR12-5



· Main and auxiliary C-axis are standard, with complete functions and excellent performance
· Reasonable matching of various tools and reasonable selection of various tool holders
· Free selection of movable guide sleeves and no guide sleeves, saving materials and high returns

Sub spindle tool arrangement diagram



Backside tool position
4 tools

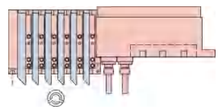
(Stationary tool)
4 tools

(Power-driven tool)
4tools

Drilling hole depth
80mm

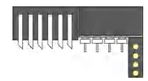
3 position variable tooling layouts units

1 Main Spindle



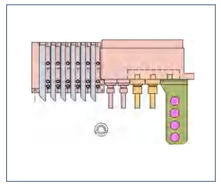
Turning tool
Power-driven tools(2-spindles)designed for cross drling
Cartridge-type(3Pos)
Miling unit/Front drilling unit
Front/rear power-diven tools
Sleeve holder
Front/rear stafionary tools

5-Spindle
cross drilling unit

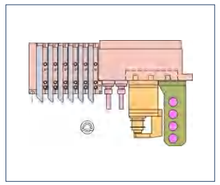


Turming tool(10mm)	6
Front-end working tool	4
Rear-end working tool	4
power-driven tool	4

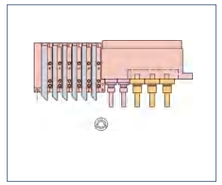
Combination 01



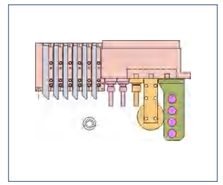
Combination 02



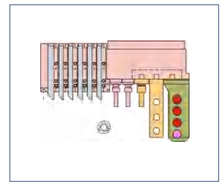
Combination 03



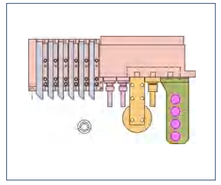
Combination 04



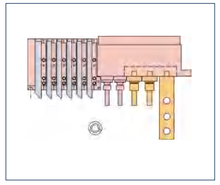
Combination 05



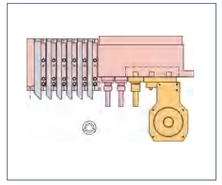
Combination 06



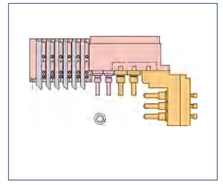
Combination 07



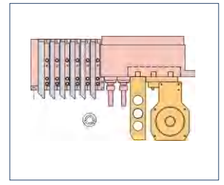
Combination 08



Combination 09



Combination 10



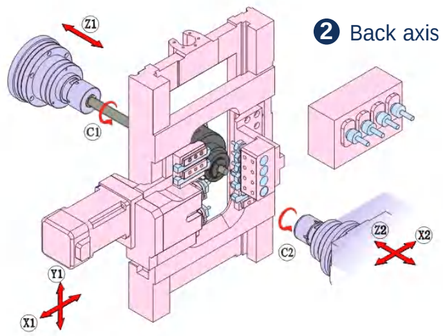
Specification

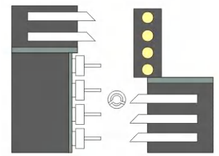
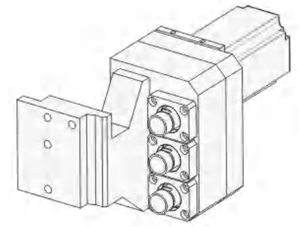
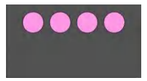
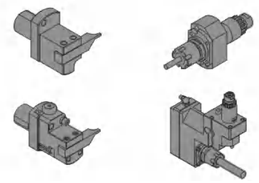
			FR12-5
Max.machining diameter			Φ12mm
Max.headstock stroke	With guide bush		135mm
	Without guide bush		1:2.5D
Fixedboring tool	Max.drilling capability		Φ8mm
	Max.tapping capability		M6
Power-driven attachment	Max.drilling capability		Φ5mm
	Max.tapping capability		M4
	Power tool rotation number	ER 16	max.9.000min^{-1}
	Spindle speed	ER 11	max.9.000min^{-1}
	Driven motor		0.9kw
Sub spindle tools	Max.drilling capability		Φ5mm
	Max.tapping capability		M4
	Driven motor		0.9kw
Rapid feed rate			X_1:24m/min $Z_1Y_1X_2Z_2$:32m/min
Main spindle speed			max.10000min^{-1}
Main spindle motor			2.2kw(continuous)/3.7kw(10min./25%ED)
Sub spindle Max.travel distance			265mm
Machine weight			1900kg

A VARIET OF MODELS MULTIPLE OPTIONS

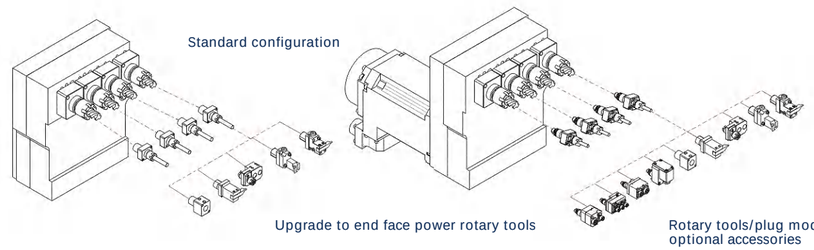
MINNUO

ZFR20-5



Tool post	Tooling	Interchangeable parts
1 Main Spindle 	Turning tool 5 tools	
	Front-end working tool 4 tools	
	Rear-end working tool 4 tools	
	Power-driven tool 4 tools	
2 Sub Spindle  With power seat device	Backside tool position 4 tools	
	(Stationary tool) 4 tools	
	(Power-driven tool) 4 tools	

boring tool seat: optional plug-in-unit



- Imported NSK bearings and THK linear guide screws are used, with high precision and long life.
- Full oil-cooled electric spindle, no dead angle cooling at high speed.
- This machine adopts absolute operation, and the machine does not need to return to the origin when turned on and off, saving time, trouble and labor.

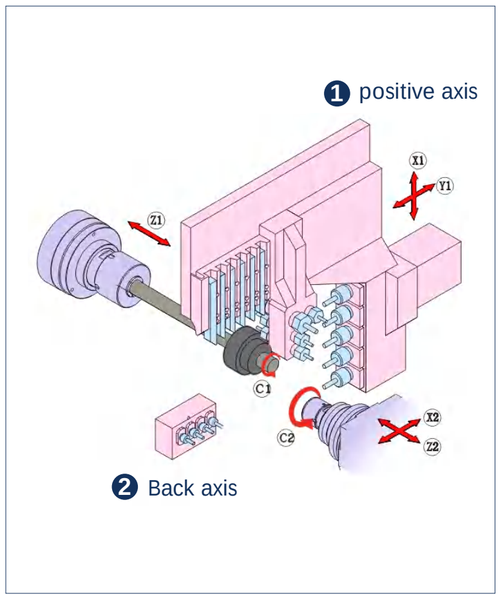
Specification

		ZFR20-5
Max.machining diameter		Φ20mm
Max.headstock stroke	With guide bush	90mm
	Without guide bush	1:2.5D
Fixedboring tool	Max.drilling capability	Φ10mm
	Max.tapping capability	M8
Power-drivenattachment	Max.drilling capability	Φ8mm
	Max.tapping capability	M6
	Spindle speed	max.6000min^{-1}
	Driven motor	0.75KW
Main spindle speed		max.10000min^{-1}
Main spindle motor		2.2kw(continuous)/3.5kw(10min./25%ED)
Rapid feed rate		24m/min^{-1}
Machine weight		2540kg

Backworking Attachment

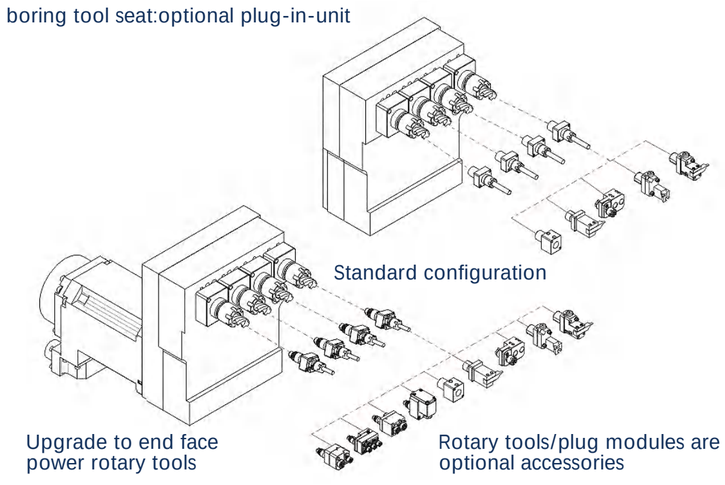
		ZFR20-5
Max.chucking diameter		Φ20mm
Max.drilling hole depth		80mm
Sub-spindle 4 tool positions	Max. drilling capability	Φ8mm
	Max.tapping capability	M6
	Spindle speed	max.6.000min^{-1}
	Driven motor	0.75KW
Sub spindle speed		max.10000min^{-1}
Sub spindle motor		2.2kw(continuous)/3.5kw(10min./25%ED)

MFR32-5



· Main and auxiliary C-axis are standard, with complete functions and excellent performance
· Reasonable matching of various tools and reasonable selection of various tool holders
· Free selection of movable guide sleeves and no guide sleeves, saving materials and high returns

Sub spindle tool arrangement diagram

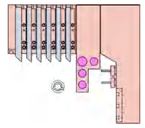


2 Back axis

With power seat structure
(Y2 optional with Y2 Standard)

Backside tool position 8 tools
(Stationary tool) 8 tools
(Power-driven tool) 8 tools
Drilling hole depth 95mm

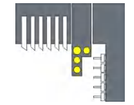
3 position variable tooling layouts units



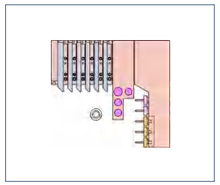
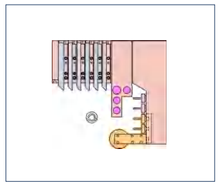
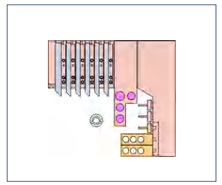
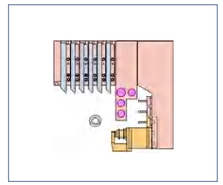
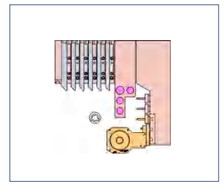
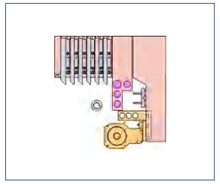
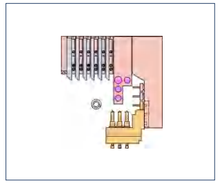
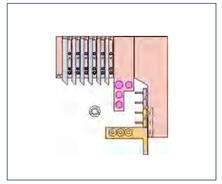
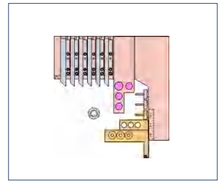
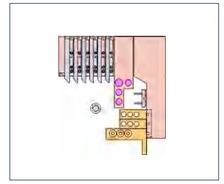
1 Positive axis

Turning tool
Power-driven tools(2-spindles)designed for cross drling
Cartridge-type(3Pos)
Miling unit/Front drilling unit
Front/rear power-diven tools
Sleeve holder
Front/rear stafionary tools

5-Spindle cross drilling unit



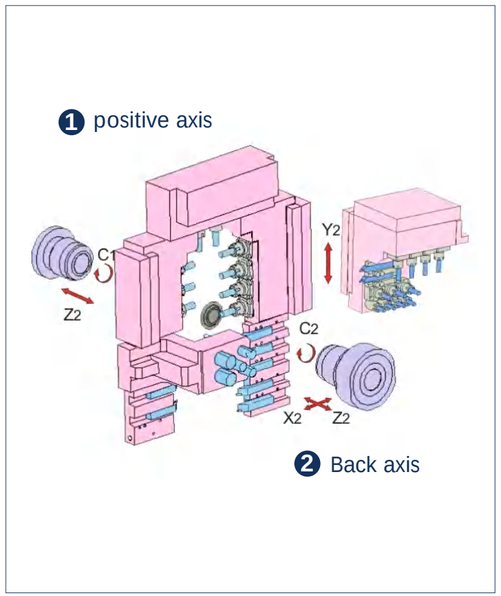
Turming tool(16mm)	6
Front-end working tool	4
Rear-end working tool	4
power-driven tool	4

Combination 01	Combination 02	Combination 03	Combination 04	Combination 05
				
Combination 06	**Combination 07**	**Combination 08**	**Combination 09**	**Combination 10**
				

Specification

			MFR32-5
Max.clamping diameter			Φ32mm
Max.headstock stroke	With guide bush		190mm
	Without guide bush		1:2.5D
Fixedboring tool	Max.drilling capability	ER 20	Φ13mm
		ER 16	Φ10mm
		ER 11	Φ7mm
	Max.tapping capability	ER 20	M12
		ER 16	M8
		ER 11	M6
Power-driven attachment	Max.drilling capability	ER 16	Φ10mm
		ER 11	Φ7mm
	Max.tapping capability	ER 16	M8
		ER 11	M6
	Spindle speed	ER 16	max.5.000min-1
		ER 11	max.5.000min-1
	Driven motor		1.7kw
Rapid feed rate			24m/min
Main spindle speed			max.6.000min-1
Main spindle motor			3.5kw(continuous)/6.0kw(10min./25%ED)
Sub spindle Max.travel distance			270mm
Machine weight			3880kg

DFR38-6

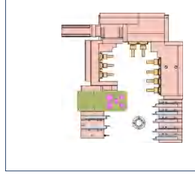
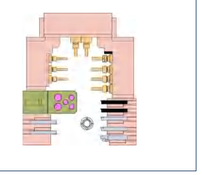
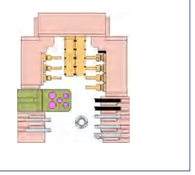


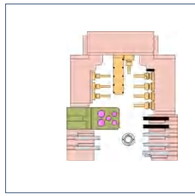
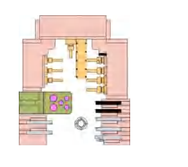
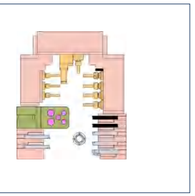
- Adopt imported NSK bearings and THK linear guide screws, high precision and long life
- Fully oil-cooled electric spindle, no dead angle cooling at high speed
- This machine adopts absolute operation, no need to return to the origin when turning on and off, saving time, trouble and labor

Specification

		DFR38-6
Max.machining diameter		Φ38mm
Max.headstock stroke	With guide bush	230mm
	Without guide bush	1:2.5D
Fixedboring tool	Max.drilling capability	Φ23mm
	Max.tapping capability	M16
Power-drivenattachment	Max.drilling capability	Φ13mm
	Max.tapping capability	M10
	Spindle speed	max.6000min^{-1}
	Driven motor	3.1KW
Main spindle speed		max.6000min^{-1}
Main spindle motor		11kw(continuous)/15kw(10min./25%ED)
Rapid feeding rate		30m/min^{-1}
Machine weight		About 4200kg

Principal axis variable tooling layouts units

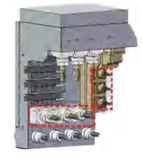
Combination 01	Combination 02	Combination 03	Number of positive axis tools	
			Turning tool(16mm)	7
			Front-end working tool	5
			Side Power-driven tool	10

Combination 04	Combination 05	Combination 06	Number of back-shaft tools	
			Turning tool(16mm)	2
			Side Power-driven tool	4
			End face Power-driven tool	3
			End face working tool	4

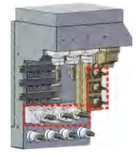
NEW PATENTED STRUCTURE / HIGH MODULARITY
COMPREHENSIVELY IMPROVE MACHINE TOOL FLEXIBILITY

Extension module
Add 3 0° -90° inclined hole processing

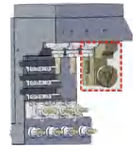
Expansion module: Increase to
6 end face power tool positions

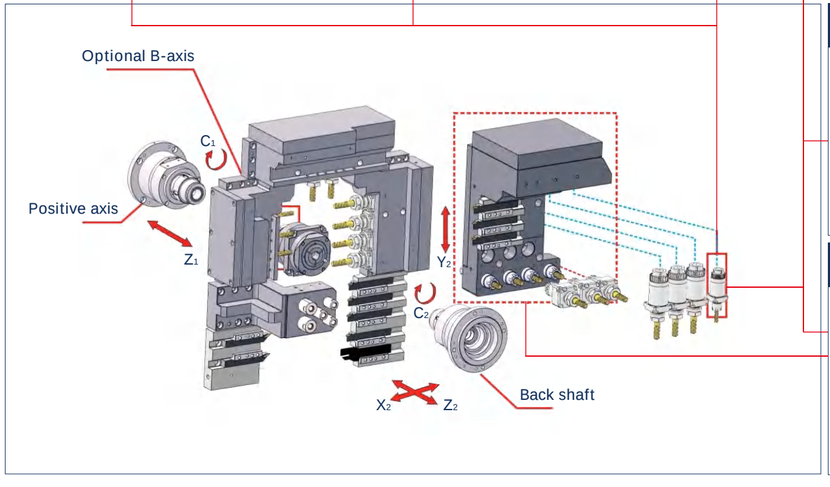


Expansion module: Increase to
6 side powered tool positions



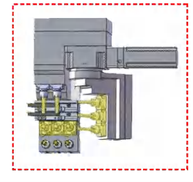
Extension module
polygonal turning tool holder





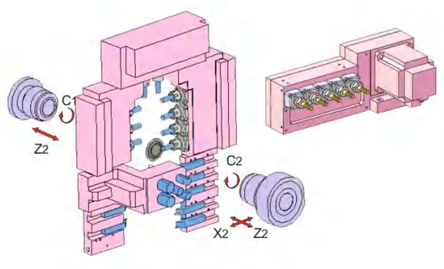
Extension module
Add large-size end saw blade milling

BSB axis six-axis seat assembly



DFR38-5

❶ positive axis

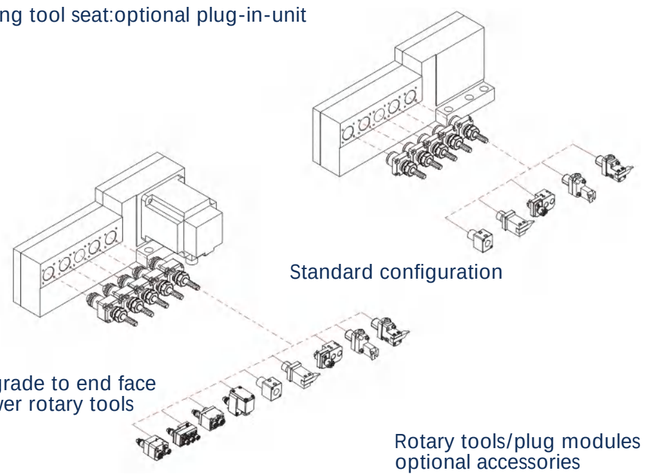


❷ Back axis

· Adopt imported NSK bearings and THK linear guide screws, high precision and long life
· Fully oil-cooled electric spindle, no dead angle cooling at high speed
· This machine adopts absolute operation, no need to return to the origin when turning on and off, saving time, trouble and labor

Sub spindle tool arrangement diagram

boring tool seat:optional plug-in-unit



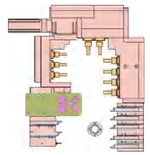
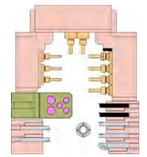
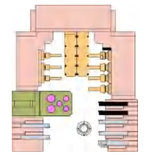
Standard configuration

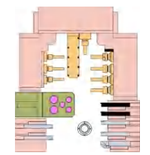
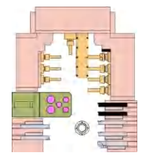
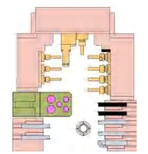
Upgrade to end face power rotary tools

Rotary tools/plug modules are optional accessories

Backside tool position 5 tools
(Stationary tool) 5 tools
(Power-driven tool) 5 tools
Drilling hole depth 95 mm

Principal axis variable tooling layouts units

Combination 01	Combination 02	Combination 03	Number of positive axis tools	
			Turning tool(16mm)	7
			Front-end working tool	5
			Side Power-driven tool	10

Combination 04	Combination 05	Combination 06	Number of back-shaft tools	
			Turning tool(16mm)	2
			Side Power-driven tool	4
			End face Power-driven tool	3
			End face working tool	4

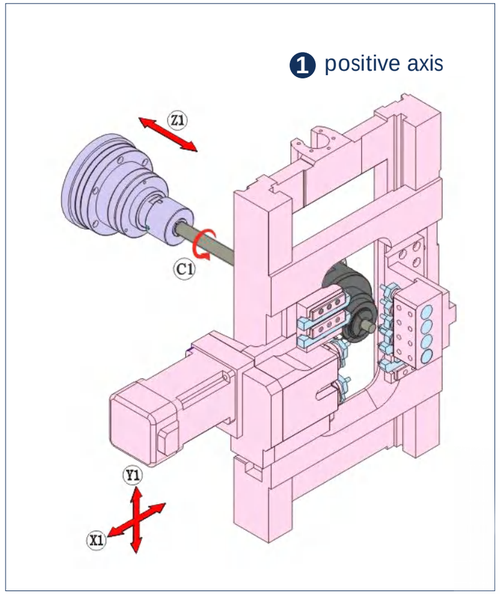
Specification

		DFR38-5
Max.machining diameter		Φ38mm
Max.headstock stroke	With guide bush	230mm
	Without guide bush	1:2.5D
Fixedboring tool	Max.drilling capability	Φ23mm
	Max.tapping capability	M16
Power-drivenattachment	Max.drilling capability	Φ13mm
	Max.tapping capability	M10
	Spindle speed	max.6000min^{-1}
	Driven motor	3.1KW
Main spindle speed		max.6000min^{-1}
Main spindle motor		11kw(continuous)/15kw(10min./25%ED)
Rapid feeding rate		30m/min^{-1}
Machine weight		About 4200kg

A VARIET OF MODELS MULTIPLE OPTIONS

MINNUO

ZFR20-3

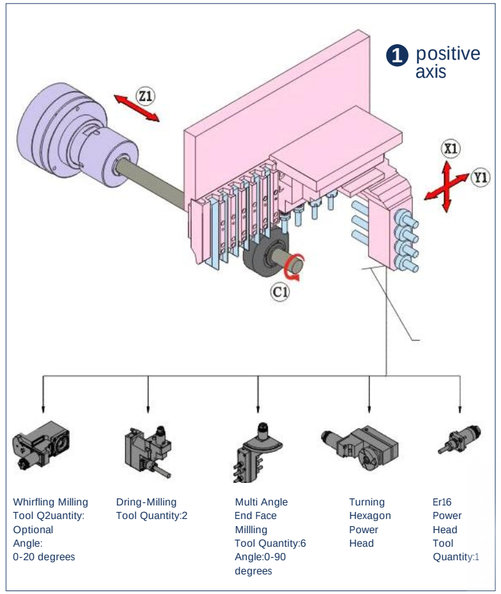


·Adopt imported NSK bearings and THK linear guide screws, high precision and long life
·Fully oil-cooled electric spindle, no dead angle cooling at high speed
·This machine adopts absolute operation, no need to return to the origin when turning on and off, saving time, trouble and labor

Specification

		ZFR20-3
Max.machining diameter		Φ20mm
Max.headstock stroke	With guide bush	90mm
	Without guide bush	1:2.5D
Fixedboring tool	Max.drilling capability	Φ10mm
	Max.tapping capability	M8
Power-drivenattachment	Max.drilling capability	Φ8mm
	Max.tapping capability	M6
	Spindle speed	max.6000min^{-1}
	Driven motor	0.75KW
Main spindle speed		max.10000min^{-1}
Main spindle motor		2.2kw(continuous)/3.5kw(10min./15%ED)
Rapid feeding rate		24m/min^{-1}
Machine weight		1785kg

ZFR25-3



·Adopt imported NSK bearings and THK linear guide screws, high precision and long life
·Fully oil-cooled electric spindle, no dead angle cooling at high speed
·This machine adopts absolute operation, no need to return to the origin when turning on and off, saving time, trouble and labor

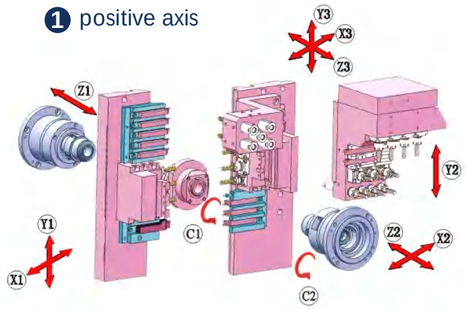
Specification

			ZFR20-3	ZFR25-3
Max.machining diameter			Φ20mm	Φ25mm
Max.headstock stroke	With guide bush		195mm	
	Without guide bush		1:2.5D	
Fixedboring tool	Max.drilling capability		10mm	
	Max.tapping capability		M8	
Power-driven attachment	Max.drilling capability		Φ8	
	Max.tapping capability		M6	
	Spindle speed	ER 16	max.6.000min^{-1}	
		ER 11	max.10000min^{-1}	
	Driven motor		0.75/1.1kw	
Rapid feed rate			32m/min	
Main spindle speed			max.10000min^{-1}	
Main spindle motor			2.5kw(continuous)	
Machine weight			1980kg	

A VARIET OF MODELS MULTIPLE OPTIONS

MINNUO

FR25-9S



· The two side tool rows are independently installed facing each other and processed simultaneously (milling + drilling and milling, etc.), which can reduce the processing time exponentially and improve efficiency.
· The secondary axis Y2 can be controlled to achieve synchronous processing of the main/secondary axis.
· Imported linear rails and screws ensure high precision and high stability.

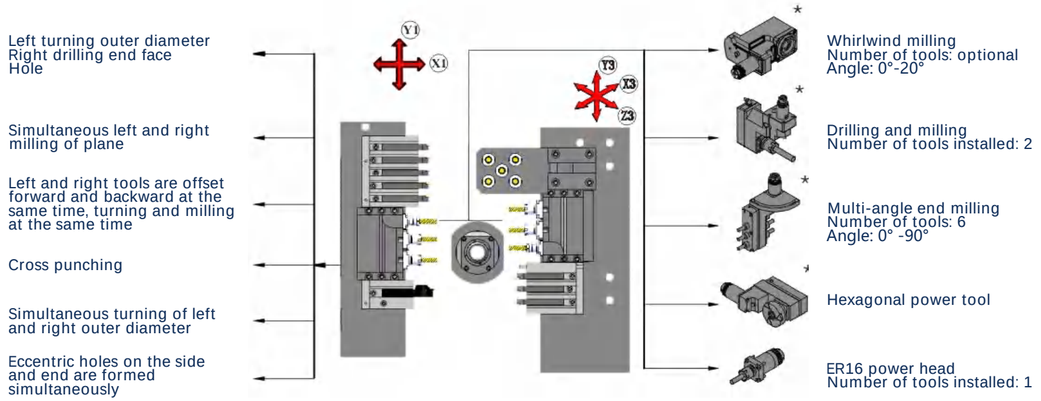
Specifications

ZFR20-3		
Max.machining diameter		Φ25mm
Max.headstock stroke	With guide bush	260mm
	Without guide bush	1:2.5D
Fixedboring tool	Max.drilling capability	Φ10mm
	Max.tapping capability	M8
Power-drivenattachment	Max.drilling capability	Φ8mm
	Max.tapping capability	M6
	Spindle speed	max.6000min-1
	Driven motor	1.0KW
Main spindle speed		max.10000min-1
Main spindle motor		2.2kw(continuous) 3.5kw(10min./25%ED)
Rapid feeding rate		32m/min-1
Machine weight		3900kg

Backworking Attachment

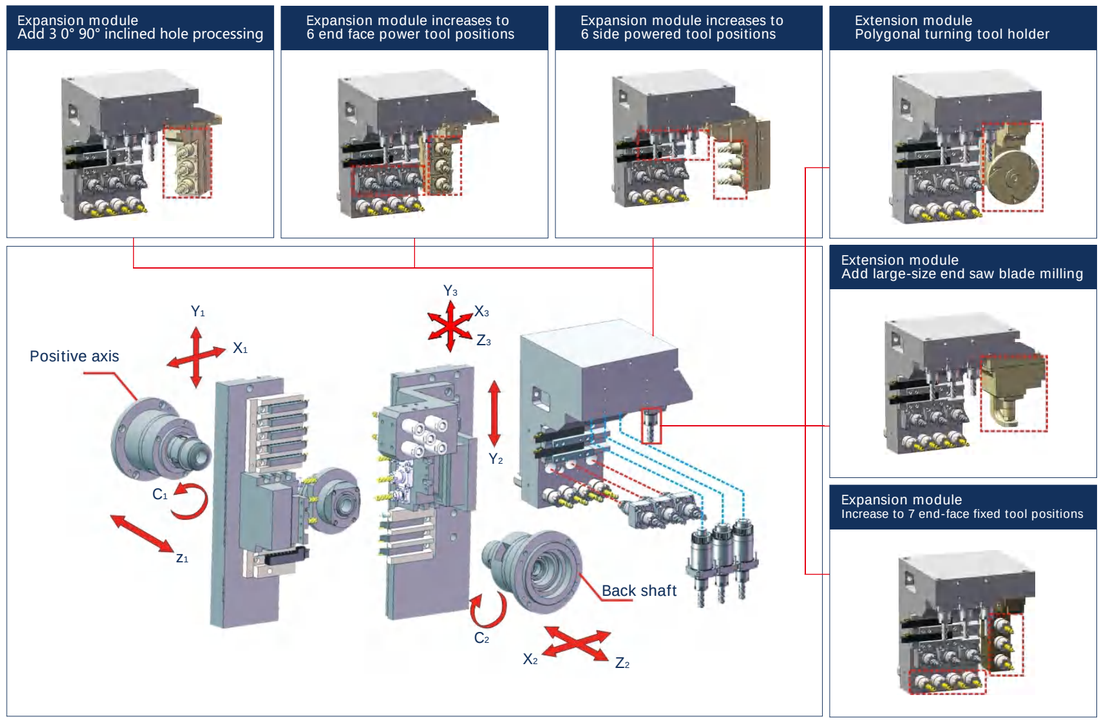
ZFR20-3			
Max.chucking diameter			Φ25mm
Max.travel distance			305mm
Max.driling hole depth			80mm
Sub spindle 8 tool positio	Max.drilling capability	Stationary tool	Φ8mm
		Power-driven tool	Φ8mm
	Max.Tapping capability	Stationary tool	M6
		Power-driven tool	M6
	Spindle speed		max.6000min-1
	Driven motor		1.1KW
Sub spindle indexing angle			C2-axis control
Sub spindle speed			max.10000min-1
Sub spindle motor			2.2kw(continuous) 3.5kw(10min./25%ED)

Tool layout diagram



NEW PATENTED STRUCTURE / HIGH MODULARITY

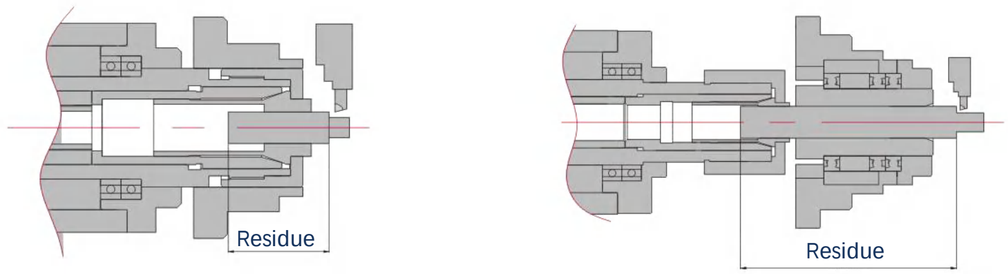
COMPREHENSIVELY IMPROVE MACHINE TOOL FLEXIBILITY



A VARIET OF MODELS MULTIPLE OPTIONS

MINNUO

Guide bush structural optimization



No guide bushing mode　　With guide sleeve mode

· Switch between guide sleeve and no guide sleeve, flexible and convenient, save materials and high efficiency
· No guide sleeve structure is economical and practical, short tail material makes the maximum use of materials
· High precision and high precision of guide sleeve structure, appropriate tail material, ensure the precision of slender parts

	Without guide bushing	With guide sleeve
ZFR20 tail length	50MM	200MM
FR25 tail length	50MM	180MM

The following parts are formed at one time,no need second processing


Electrical accessories


Medical Industry


Medical Industry


Electrical accessories


Military products


Aviation accessories


Smoking accessories


Dice


Water heater flow adjustment

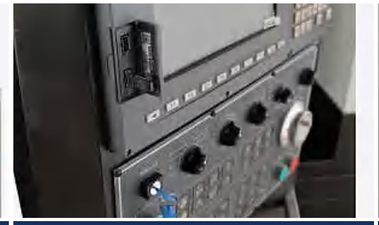

Hydraulic valve


Musical instrument accessories


Car model transmission rod

PURSUING PERFECT OPERABILITY AND EFFICIENT ACCESSORY SELECTION FUNCTION

Cutting room folding door
The folding door saves space at the rear of the equipment, achieves a large opening, and is equipped with an oil return pan to prevent oil from splashing on operators, thereby improving operating performance and comfort.



Nc program input and output function
The NC program input and output functions can be realized through a USB storage card or memory card.

Centralized lubrication device
Centralized lubrication of all screw shafts eliminates the need to add lubricating oil manually, greatly improving the previous conservative operation.

Workpiece conveyor belt
The workpiece conveyor can automatically and quickly transport the workpiece to the outside of the machine tool without opening the door to take out the workpiece. It is convenient to collect the workpiece and easy to use.

Short workpiece collection box
It is used to collect the short workpieces clamped by the back shaft into the conveyor belt or the receiving box for product recovery.

Long workpiece collection box
For longer workpieces, after processing, they are collected and used after passing through the back axis.

Chip collection box
The chip collection box has a large opening and a spacious and simple recycling port, which makes cleaning easier.

Cutting oil tank
The large-capacity cutting oil tank is equipped with multiple detachable filter gates for easy cleaning.

High pressure oil pump (optional)
Reduce or eliminate machining chips, improve workpiece processing quality, and increase tool life.

Automatic chip conveyor (optional)
The hinged chip conveyor is a device that smoothly discharges the cuttings out of the machine tool. It is a necessary accessory for long-term unmanned operation. However, it is not suitable for some cutting materials. Please consult in advance.

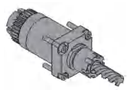
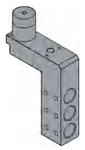
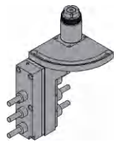
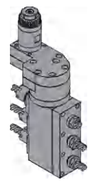
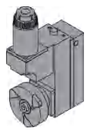
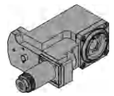
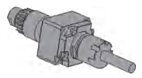
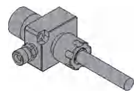
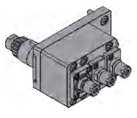
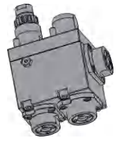
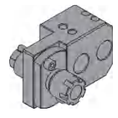
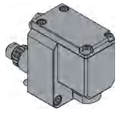
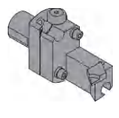
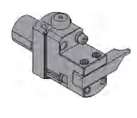
Automatic feeder (optional)
This is a must-have device when processing bar materials without human intervention for a long period of time.

Oil mist collector (optional)
It can collect oil mist and steam generated during wet processing and improve the working environment of the processing workshop.

A VARIET OF MODELS MULTIPLE OPTIONS

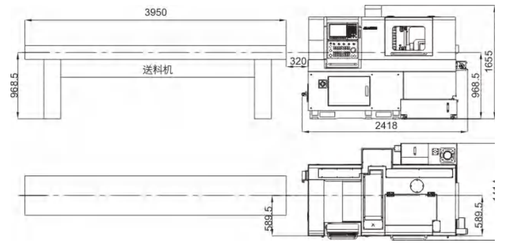
MINNUO

Different kinds of tools option

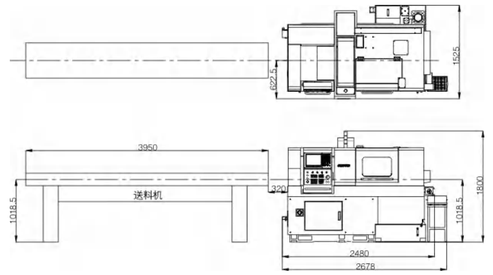
	Side rotary tools Max speed: 6000RPM Collet size: ER16		Main spindle drilling tool holder Hole size: Φ22		in 1 rotary tools holder Max speed: 6000RPM Collet size: ER16
	90°Angle rotary tool holder Speed ratio:1/1 Max speed: 6000RPM Angle range:0°~90° Collet type: Main spindle ER16 Sub spindle ER11		360°Ange rotay tool holder Speed ratio:1/1 Max speed: 6000RPM Angle range:0°~360° Collet type: Main spindle ER16 Sub spindle ER11		Polygonal milling tool holder Speed ratio:1/1 Max speed: 3000RPM Knife insert size: Φ95
	Whirling milling Speed ratio:1/1 Max speed: 6000RPM Tapping max size: M10 Angle range:±15		Sub spindle end face rotaty tools Max speed: 6000RPM Collet size:ER16		Sub spindle drling tool Support central oil cooling
	Sub spindle tools extension base peed ratio:1/1 Max speed: 6000RPM Rotary toos: ER11×1 plece Fixed tools: ER11×2 pcs		Sub spindle tools extension base Speed ratio:1/1 Max speed: 6000RPM		Sub spindle double holes rotary tools base Er11×2
	Sub spindle vertical rotary milling tool Max speed: 4000RPM Collet size:ER11		Sub spindle turing toolholder Use carbide inserts		Sub spindle turning tool holde Tool shank size: 10*10mmr

Lathe area occupation view

FR25-5



FR25-6



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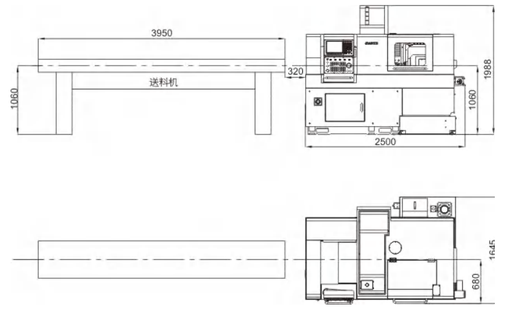

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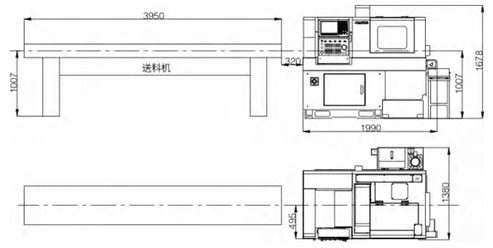
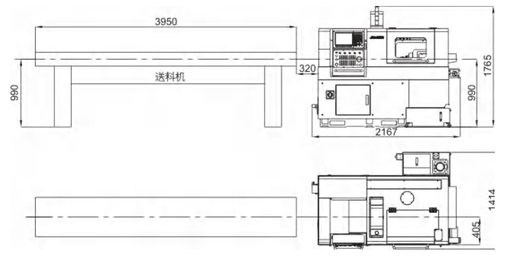
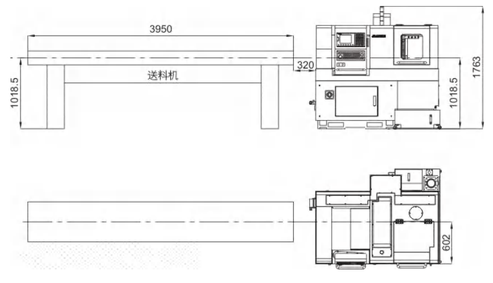


ZFR20-5



FR25-3



Small gantry machining center

Standard Configuration

- FANUC Oi MF system
- 24 tool magazines
- Double spiral chip conveyor
- Chain plate chip conveyor

Select Configuration

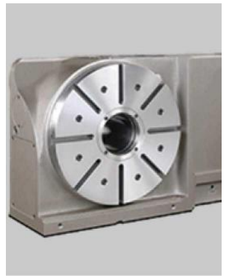
- Siemens 828D system
- Mitsubishi M80 system
- New generation 22MA system
- KND2000 System
- Guangshu 25i system
- 30-tool robot magazine
- Fully enclosed protective cover
- Spindle oil cooler

Imported speed gearbox

Spindle center water outlet

Manual right angle milling head

Vertical and horizontal double output milling head



CNC rotary table

Chain tool magazine

Project		Unit	XH2014	XH2514	XH2519	XH3019
Workbench	Workbench width	MM	1200		1500	
	Workbench length	MM	2000	2500	2500	3000
	Workbench load-bearing	KG	5000	6000	7000	8000
	T-slot width/ spacing/quantity		22 x 140 x 7		22 x 160 x 9	
Processing range	X-axis travel	MM	2100	2600	2600	3100
	Y-axis travel	MM	1400		1900	
	Z-axis travel	MM	800		900	
	Distance from spindle end to worktable	MM	150-950		150-1050	
	Distance between gantry columns	MM	1400		1900	
Spindle	Spindle specifications		BT50-190		BT50-190	
	Spindle motor power	KW	15/18.5		15/18.5	
	Spindle speed	RPM	6000		6000	
	Number of tools	T	24		24	
XYZ axis feed speed		MM/MIN	1-8000		1-8000	
XYZ axis fast moving speed		M/MIN	12/12/10		12/12/10	
Positioning accuracy (semi-closed loop)	X-axis positioning accuracy	MM	0.016	0.018	0.018	0.020
	Y-axis positioning accuracy	MM	0.015	0.015	0.015	0.015
	Z-axis positioning accuracy	MM	0.015	0.015	0.015	0.015
Repeat positioning accuracy (semi-closed loop)	X-axis repeatability	MM	0.012	0.012	0.012	0.012
	Y-axis repeatability	MM	0.010	0.010	0.010	0.010
	Z-axis repeatability	MM	0.010	0.010	0.010	0.010
Dimensions (approx.)		MM	6300x3800x4700	7300x3800x4700	7300x4300x4900	8300x4300x4900
Overall weight of machine tool (approx.)		T	15	17.5	20	23

Gantry machining center 1

Standard Configuration

- FANUC Oi MF System
- 24 tool magazines
- Double spiral chip conveyor
- Chain plate chip conveyor

Select Configuration

- Siemens 828D system
- Mitsubishi M80 system
- New generation 22MA system
- KND2000 System
- Guangshu 25i system
- Square ram
- Spindle gearbox
- Spindle oil cooler
- Spindle center water outlet
- 30-tool robot magazine

Center water outlet

Imported speed gearbox

Square ram

CNC rotary table

Fully automatic right angle milling head

Vertical and horizontal double output milling head

Universal angle milling head

Chain tool magazine

Project		Unit	XH3022	XH4022	XH6022	XH3030	XH4030	XH6030	XH8030
Workbench	Workbench width	MM	1800			2200			
	Workbench length	MM	3000	4000	6000	3000	4000	6000	8000
	Workbench load-bearing	KG	10000	12000	15000	10000	15000	22000	30000
	T-slot width/ spacing/quantity		22 x 180 x 9			28 x 200 x 11			
Processing range	X-axis travel	MM	3200	4200	6200	3200	4200	6200	8200
	Y-axis travel	MM	2500			3150			
	Z-axis travel	MM	1000			1000			
	Distance from spindle end to worktable	MM	200-1200			250-1250			
	Distance between gantry columns	MM	2200			3000			
Spindle	Spindle specifications		BT50-190			BT50-190			
	Spindle motor power	KW	15/18.5/22-26			22-26			
	Spindle speed	RPM	6000			6000			
	Number of tools	T	24			24			
XYZ axis feed speed		MM/MIN	1-8000			1-8000			
XYZ axis fast moving speed		M/MIN	12/12/10			10/12/10			
Positioning accuracy (semi-closed loop)	X-axis positioning accuracy	MM	0.020	0.025	0.040	0.020	0.025	0.040	0.050
	Y-axis positioning accuracy	MM	0.020	0.020	0.020	0.020	0.020	0.020	0.020
	Z-axis positioning accuracy	MM	0.018	0.018	0.018	0.020	0.020	0.020	0.020
Repeat positioning accuracy (semi-closed loop)	X-axis repeatability	MM	0.012	0.016	0.026	0.013	0.016	0.025	0.035
	Y-axis repeatability	MM	0.012	0.012	0.012	0.014	0.014	0.014	0.014
	Z-axis repeatability	MM	0.012	0.012	0.012	0.013	0.013	0.013	0.013
Dimensions (approx.)		MM	8300x5200x5300	10200x5200x5300	14200x5200x5300	8300x5800x5600	10300x5800x5600	14500x5800x5600	19000x5800x5600
Overall weight of machine tool (approx.)		T	31	35	44	38	45	57	71

MINNUO

Gantry machining center 2

Standard Configuration

- FANUC Oi MF System
- 24 tool magazines
- Double spiral chip conveyor
- Chain plate chip conveyor

Select Configuration

- Siemens 828D system
- Mitsubishi M80 system
- New generation 22MA system
- KND2000 System
- Guangshu 25i system
- Square ram
- Spindle gearbox
- Spindle oil cooler
- Spindle center water outlet
- 30-tool robot magazine

Center water outlet

Imported speed gearbox

Square ram

CNC rotary table

Fully automatic right angle milling head

Vertical and horizontal double output milling head

Universal angle milling head

Chain tool magazine

Project		Unit	XH4032	XH5032	XH6032	XH8032	XH6038	XH8038
Workbench	Workbench width	MM	2500				3000	
	Workbench length	MM	4000	5000	6000	8000	6000	8000
	Workbench load-bearing	KG	22000	26000	30000	38000	35000	40000
	T-slot width/ spacing/quantity		28 x 200 x 11				28 x 200 x 15	
Processing range	X-axis travel	MM	4200	5200	6200	8200	6200	8200
	Y-axis travel	MM	3400				4200	
	Z-axis travel	MM	1200				1200	
	Distance from spindle end to worktable	MM	250-1450				250-1450	
	Distance between gantry columns	MM	3000				3800	
Spindle	Spindle specifications		BT50-190				BT50-190	
	Spindle motor power	KW	22/26				22/26	
	Spindle speed	RPM	6000				6000	
	Number of tools	T	24				24	
XYZ axis feed speed		MM/MIN	1-8000				1-8000	
XYZ axis fast moving speed		M/MIN	10/12/10				10/12/10	
Positioning accuracy (semi-closed loop)	X-axis positioning accuracy	MM	0.025	0.035	0.040	0.050	0.040	0.050
	Y-axis positioning accuracy	MM	0.025	0.025	0.025	0.025	0.030	0.030
	Z-axis positioning accuracy	MM	0.020	0.020	0.020	0.020	0.020	0.020
Repeat positioning accuracy (semi-closed loop)	X-axis repeatability	MM	0.016	0.025	0.030	0.035	0.030	0.035
	Y-axis repeatability	MM	0.018	0.018	0.018	0.018	0.025	0.025
	Z-axis repeatability	MM	0.014	0.014	0.014	0.014	0.014	0.014
Dimensions (approx.)		MM	11000x6300x5400	13000x6300x5400	15000x6300x5400	20000x6300x5400	15000x7600x6200	20000x7600x6200
Overall weight of machine tool (approx.)		T	52	59	68	85	70	90

Composite multi-axis gantry

Standard Configuration
KND 2000MF
Double spiral chip conveyor
Chain plate chip conveyor
Select Configuration
Imported speed gearbox
Spindle oil cooler
Manual right angle milling head

Imported speed gearbox

Manual right angle milling head

. This machine is modularly designed, and can realize the combination mode of one stand with two sides, one stand with one side, and one stand with one side with tool magazine according to customer requirements.
. The workpiece can be clamped once, and the top and both sides can be processed at the same time, with high processing efficiency and good precision. The processing efficiency can be increased by 2-3 times compared with the conventional CNC gantry machining center.
. It is widely used in the rough and fine processing of the top and sides of various structural parts, valves, bed bodies, boxes and other complex parts, and can perform milling, boring, drilling, rigid tapping, reaming, abalone holes and other multi-process processing.

Project		Unit	XH2014-CX2	XH2416-CX2	XH4030-CX2	XH6030-CX2
Workbench	Workbench width	MM	1200	1600	2200	
	Workbench length	MM	2000	4000	4000	6000
	Workbench load-bearing	KG	5000	10000	15000	22000
	T-slot width*spacing* number of slots		22 x 140 x 7	22 x 180 x 9	28 x 200 x 11	
Travel range	X-axis travel	MM	2100	4100	4200	6200
	Y-axis travel	MM	1400	2200	3150	
	Z-axis travel	MM	800	1000	1000	
	W1W2 stroke (side milling head up and down)	MM	600	800	850	
	V1V2 travel (side milling head left and right)	MM	300	400	450	
	Distance between gantry columns	MM	1400	2100	3000	
Spindle parameters	Distance from spindle end to worktable	MM	150-950	200-1200	250-1250	
	Spindle specifications		BT50	BT50	BT50-190	
	Spindle power	KW	15-18.5/22-26		22/26	
	Spindle speed	RPM	6000	6000	6000	
Side milling head parameters	Distance from side milling head spindle axis to worktable	MM	30-630	100-900	100-900	
	Side milling head spindle specifications		BT40 (short nose)	BT40	BT50	
	Side milling head spindle power	KW	11/15	11/15	11/15	
	Side milling head spindle speed range	RPM	6000	6000	6000	
	Distance between the nose ends of the milling heads on both sides	MM	700-1300	1300-2100	2100-3000	
X, Y, Z axis feed speed		MM/MIN	1-8000	1-8000	1-8000	
X, Y, Z axis fast moving speed		M/MIN	12/12/10	12/12/10	10/12/10	
W/V axis speed (stepless)		MM/MIN	1-6000	1-6000	1-6000	
Positioning accuracy (semi-closed loop)	X-axis positioning accuracy	MM	0.016	0.025	0.016	0.025
	Y-axis positioning accuracy	MM	0.015	0.02	0.015	0.02
	Z-axis positioning accuracy	MM	0.015	0.020	0.015	0.020
	W-axis positioning accuracy	MM	0.015	0.015	0.015	0.015
	V-axis positioning accuracy	MM	0.015	0.015	0.015	0.015
Repeatability (semi-closed loop)	X-axis repeatability	MM	0.012	0.016	0.016	0.025
	Y-axis repeatability	MM	0.010	0.014	0.014	0.014
	Z-axis repeatability	MM	0.010	0.014	0.014	0.014
	W-axis repeatability	MM	0.012	0.012	0.012	0.012
	V-axis repeatability	MM	0.012	0.012	0.012	0.012
Maximum dimensions of the machine tool (approx.)		MM	6200x4500x4200	10000x5100x4800	10300x6200x5600	15000x6200x5600
Overall weight of machine tool (approx.)		T	17	34	50	62

Double head gantry

Standard Configuration
KND 2000MF
Double spiral chip conveyor
Chain plate chip conveyor

Imported speed gearbox

Select Configuration
Imported speed gearbox
Spindle oil cooler
Manual right angle milling head

Manual right angle milling head

Project		Unit	XH6032	XH8032	XH6038	XH8038
Workbench	Workbench width	MM	2500		3000	
	Workbench length	MM	6000	8000	6000	8000
	Workbench load-bearing	KG	30000	38000	35000	40000
	T-slot width/ spacing/quantity		28 x 200 x 11		28 x 200 x 15	
Processing range	X-axis travel	MM	6200	8200	6200	8200
	Y1/Y2 axis travel	MM	3500/3500		4400/4400	
	Z1/Z2 axis travel	MM	1200/1200		1200/1200	
	Distance from spindle end to worktable	MM	250-1450 250-1450		250-1450	
	Distance between gantry columns	MM	3200		3800	
Spindle	Spindle specifications		BT50-190		BT50-190	
	Spindle motor power	KW	22/26			
	Spindle speed	RPM	3000/6000		3000/6000	
XYZ axis feed speed		MM/MIN	1-8000		1-8000	
XYZ axis fast moving speed		M/MIN	10/12/10		10/12/10	
Positioning accuracy (semi-closed loop)	X-axis positioning accuracy	MM	0.040	0.050	0.040	0.050
	Y-axis positioning accuracy	MM	0.030	0.030	0.035	0.035
	Z-axis positioning accuracy	MM	0.020	0.020	0.020	0.020
Repeat positioning accuracy (semi-closed loop)	X-axis repeatability	MM	0.030	0.035	0.035	0.035
	Y-axis repeatability	MM	0.020	0.020	0.020	0.020
	Z-axis repeatability	MM	0.014	0.014	0.014	0.014
Dimensions (approx.)		MM	15000x6900x5400	20000x6900x5400	15000x9200x6200	20000x9200x6200
Overall weight of machine tool (approx.)		T	82	100	86	110

PRODUCT QUALITY ASSURANCE

HIGH-END ADVANCED NUMERICAL CONTROL SYSTEM

GSK 988 TA bus type lathe CNC system

GSK988TA turning center CNC system adopts GSKLink industrial Ethernet bus technology and is compatible with GR-L series servo devices

Technical features

Support remote monitoring and fault diagnosis

Based on the Ethernet LAN interface, remote monitoring, fault diagnosis, and reliability data collection and analysis of CNC machine tools can be achieved.

High-speed and high-precision control

It adopts GSKLink industrial Ethernet bus, has a maximum operating speed of 1 00m/min, and supports nano-interpolation.

Support turning and milling composite processing

The system can be configured with 8 feed axes and 4 spindles, and all spindles can be controlled as Cs axes. It can complete multiple processing such as turning, milling, drilling, tapping, etc. in one clamping.

New generation technology lathe CNC system

GSK988TA turning center CNC system adopts GSKLink industrial Ethernet bus technology and is compatible with GR-L series servo devices

Technical features

Break point return function

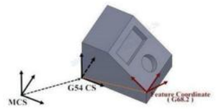
Accurate action: Intelligent cutting line selection, Ensure accurate breakpoint coordinates
Simple setting: Pr3851=999901

New version of tool life management

The screen is simple, tool information is clear at a glance. It has complete functions, supporting life timer, count, sister tool, multi-axis group life count

Power off tapping retraction function

The abnormal power failure caused the tool to jam and the problem can be handled by supporting different S or F independent variables to meet the speed requirements when rolling back.



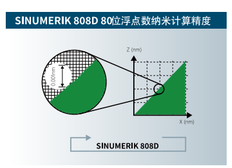
SINUMERIK 808D lathe CNC system

SINUMERIK 808D provides the latest CNC technology for popular lathes and milling machines

Technical features

Maximum accuracy

Nano-level precision
Keyboard design optimized for different processes
Mechanical buttons covered with protective filmSerial interface RS232C



Computerized document processing

Easier and faster file management
Long-lasting battery
Front panel protection level reaches IP65
Design of CNC system based on panel

Intelligent JOG function

Measuring and cutting cycles are fully graphical
Fanless
No hard disk
LED tool number real-time display

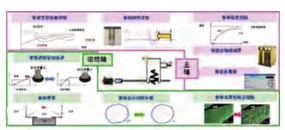
FANUC 0i-F Plus Lathe CNC System

FANUC Oi-F PluS is a nano CNC system with high reliability and high cost performance developed based on the 30i-B series system.

Technical features

Intelligent servo control

Intelligent servo control refers to a group of servo control functions that can self-op timize and adjust in real time as machine tool conditions such as load and tempera ture change.

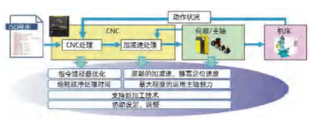


Surface fine treatment technology

Surface finishing technology is a general term for CNC and servo technologies used to achie ve high-quality processing.

Efficient processing technology

By accelerating and decelerating according to the action state and making the most of the spindle capacity, the sequence processing time of external signals is shortened, and the cycle time of the machining program is reduced.

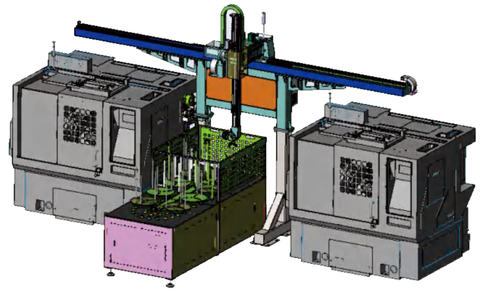


AUTOMATION SOLUTIONS/ ADVANCED PROCESSES

AUTOMATION SOLUTIONS

Integrated (truss) automation

Multiple high-end machine tools are connected online and equipped with robots to form a flexible processing production line; deep customization, flexible wiring, intensive procedures, and multiple processes in series can greatly improve production efficiency, save human resources, enhance the company's market competitiveness, and improve the corporate image.



Integrated (truss) automation

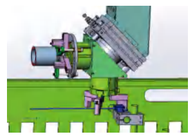
The integrated optimized design and integration of the logistics host is suitable for one-time, less-manpowered processing from rough parts to finished products. It is easy to move the machine and occupies a small area. It has high rigidity and greater stability, improves production efficiency, effectively reduces the growing cost pressure, and has a short investment return period.

Integrated (joint) automation

According to the workpiece, multiple Pruett lathes can be connected online and equipped with articulated robots to form a flexible processing production line.It can greatly improve production efficiency, save human resources, improve the market competitiveness of enterprises, and enhance the corporate image.

Automation options

Shaft Gripper

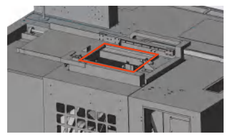


Disc Gripper

U-turn mechanism

Exchange silo

Plate Silo



Automatic sunroof

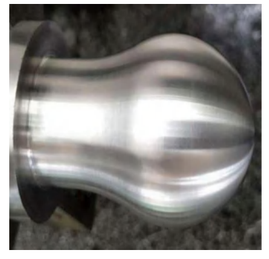
ADVANCED PROCESSES

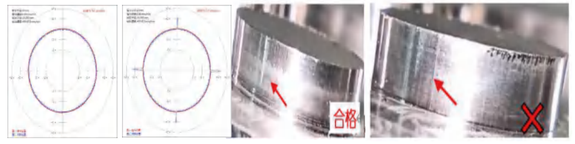
MST Function

When the operator performs actions such as spindle test run and tool change, there is no need to switch to MDI mode to enter the operation program. Instead, the operator only needs to enter the required value in the data box of the "Manual MST" shortcut interface to directly adjust the spindle, tool, etc. This greatly simplifies the operation steps and improves the efficiency and convenience of operation.

Friction Compensation Technology

Due to the influence of factors such as nonlinear friction, when the moving axis reverses, the servo motor and machinery lag, and tool marks are generated in the processing arc quadrant. The quadrant jump compensation function is to suppress quadrant errors and eliminate tool marks in the quadrant. Quadrant jump compensation improves the surface quality of curved surface machining and is widely used in consumer electronics, molds, and five-axis linkage machining.





SSV spindle speed floating shock absorption function

During the turning process of slender shafts, the workpiece and the tool are prone to resonance.The SSV spindle speed floating shock absorption function can effectively solve the problem of tool vibration and improve the processing quality.

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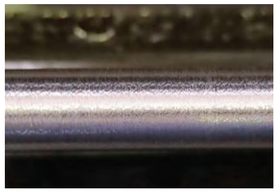

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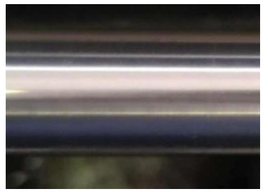

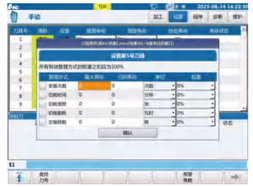

Intelligent tool life management

Monitor and manage the status of machine tool tools to ensure the machining accuracy and quality of machine tool parts, reduce downtime and improve machine tool output.

integrated lathe/ truss function

Using multi-channel technology, two channels of a CNC system can control the machine tool and the truss robot at the same time