

CHARACTERISTICS OF MACHINE TOOL

Z90 series gantry drilling and milling centers are mainly used for the processing of flange plates, large valves, large bearing seats, wind power generation equipment, tubesheet, rotary supports, heat exchangers and non-standard products.

Structural performance:

1. Main structure of machine tool: fixed bed, mobile workbench, left and right double columns, fixed beam.
2. The main parts of the machine tool: bed, workbench, column, beam, etc., all adopt HT250 casting process, with reasonable structure and strong applicability to ensure the long-term operation accuracy and stability of the machine tool.
3. Drive: X, Y, Z axis servo drive, ball screw line rail, main motor controlled by AC servo, running smoothly, high speed and low speed torque are the same, workbench, beam guide rail is line rail, and ram is hard rail to ensure rigidity.



GANTRY MACHINING CENTER

JMC1214 Technical Agreement

CONTENT	NAME	SPECIFICATION
Workbench	Table size	1400mm X 900mm
	Maximum bearing capacity of workbench	3T
Processing range	X axis maximum stroke	1400 mm
	Maximum stroke of Y-axis	1200 mm
	Maximum stroke of Z-axis	700 mm
	Gantry width	1250 mm
Principal axis	Speed range	8000 r/min
	Maximum power of spindle motor	11/ 15kw

CONTENT	NAME	SPECIFICATION
Principal axis	Minimum/maximum distance from spindle to table top	130-730 mm
	Spindle taper	BT40/Intermediate effluent
Servo	Torque of three-axis motor	28/18/ 18NM
		X-axis18m/min
Feed	Rapid movement	Y-axis18m/min
		Z-axis18m/min
Maximum cutting speed		6000 mm/min
		3800-2550-3100

STANDARD CONFIGURATION

NO.	STANDARD CONFIGURATION	FORM NAME	ORIGIN/BRAND
1	Control system		Beijing Kone Emperor
2	Mechanical spindle	Yand	Danquan (center outlet)/Optional
3	X-axis ball screw	Belt type BT40	Taiwan Dinghan/North German NM
4	Y-axis ball screw	RS0-1012	Taiwan Dinghan/Belgian-NMC
5	Z-axis ball screw	RS0-1012	Taiwan Dinghan/North German NMC
6	X-axis linear guide rail	RS0-1012	Dinghan, Taiwan
7	Y-axis linear guide rail	2-45 Heavy duty roller linear guide	Dinghan, Taiwan
8	Z-axis linear guide rail	2-45 Heavy duty roller linear guide	Rigid rail
9	Angular contact ball bearing		Japan/NSK
10	Screw pretension nut		Taiwan/Yingde
11	Centralized automatic lubrication system	YSR	Domestic
12	Z-axis balancing system	Volumetric	Calendar day
13	Pneumatic system	Hydraulic balance system	Taiwan/Yadeke
14	Lighting		Market purchase
15	Knife cylinder	Work lights	Taiwan/Yadeke
16	Electric control box heat circulation exchanger	Supercharged	Domestic
17	Internal protective telescopic cover		Jiingtai
18	Fully enclosed enclosure	Helmet telescopic type	Our factory
19	Sliding system	Fully enclosed (factory color)	Our factory/Optional
20	Tool magazine	One chain of double spiral cutter	24 station/Desu/Optional
21	High pressure filtering device		20 kg/Optional

※ If the above component brands are replaced, the same quality of the same grade brand shall be guaranteed.

MAIN PARAMETERS OF MACHINE TOOL

ITEM	GMB1185	GMB1214	GMB1316
X-axis travel (mm)	1100	1400	1700
Y-axis travel (mm)	850	1200	1300
Z-axis travel (mm)	600	700	700
Gantry width (mm)	850	1250	1300
Distance from spindle end face to work table (mm)	150-750	130-730	130-730
Workbench size (mm)	1200*800	1400*900	1000*1600
Maximum bearing capacity of workbench (T)	1	3	2
T-slot (slot number - slot width * spacing)	5-22*150	5-22*150	5-22*180
Spindle speed (rpm)	10000	8000	6000
Spindle type	Belt BT40 - Ø 150	Belt BT40 - Ø 150	Belt BT50 - Ø 155
Spindle motor (KW)	7.5/11KW	11/15KW	15/18.5KW
X/Y/Z axis feed motor power (NM)	X:18NM Y:15NM Z:28NM	X:18NM Y:18NM Z:28NM	X:32NM Y:32NM Z:32NM
X/Y/Z axis guide rail form	H45 rail (X)/Z-axis 35 rail	H45 line rail (X)/Z-axis hard rail	H45 rail (X)/Z-axis 45 rail
X/Y/Z axis fast moving speed (m/min)	24/24/24	18/18/18	24/24/24
Cutting feed rate (mm/min)	5000	6000	6000
ATC form	Umbrella magazine	Disc tool magazine	Disc tool magazine
Magazine capacity (PCS)	16	24	24
Maximum tool diameter (mm)	Ø90/Ø160	Ø115/Ø225	Ø115/Ø225
Maximum tool length (mm)	300	350	350
Maximum tool weight (KG)	300	15	15
Pull bolt	P40T-1(45°)	P40T-1(45°)	P50T-1(45°)
Tool change time (tool to tool) sec	2.5	2.5	2.5
Positioning accuracy (mm)	±0.005/300	±0.005/300	±0.005/300
Repetitive positioning accuracy (mm)	±0.008/±0.007/±0.005	±0.008/±0.007/±0.005	±0.008/±0.007/±0.005
Machine weight (about T)	6	11	14.5

MAIN PARAMETERS OF MACHINE TOOL

GMB2016	GMB2518	GMB3018	GMB4025
2200	2500	3050	4000
1600	1500	1800	2300
800	760	900	1000
1600	870	1200	1400
150-950	200-960	200-1050	400-1400
1400*2000	2700*1300	3100*1600	4000*1800
3.5	4	5	8
7-22*150	8*22*150	7*22*180	9*22*180
6000	6000	6000/8000	6000/8000
Belt BT50 - Ø 155	Belt BT50 - Ø 155	Belt BT50 - Ø 155	Belt BT50 - Ø 155
18.5/22KW	18.5/22KW	22KW	28KW
X:32NM Y:32NM Z:32NM	X:32NM Y:32NM Z:32NM	X:32NM Y:32NM Z:32NM	X:32NM Y:32NM Z:32NM
H45 rail (X)/Z-axis 45 rail	H45 rail (X)/Z-axis 45 rail	H45 rail (X)/Z-axis 45 rail	H45 rail (X)/Z-axis 45 rail
20/20/16	20/20/10	20/20/10	15/15/10
10000	10000	10000	10000
Disc tool magazine	Disc tool magazine	Disc tool magazine	Disc tool magazine
24	24	24	24
Ø115/Ø225	Ø115/Ø225	Ø115/Ø225	Ø115/Ø225
350	350	350	350
15	15	15	15
P50T-1(45°)	P50T-1(45°)	P50T-1(45°)	P50T-1(45°)
2.5	2.5	2.5	2.5
±0.005/300	±0.005/300	±0.005/300	±0.005/300
±0.008/±0.007/±0.005	±0.008/±0.007/±0.005	±0.008/±0.007/±0.005	±0.008/±0.007/±0.005
18	19	21	42

CHARACTERISTICS OF MACHINE TOOL

The CNC drilling machine produced by our company has the following characteristics:

1. NC sliding table drilling power head can control the hole depth and has the functions of blind hole drilling, reaming and chamfering;
2. CNC plane drilling machine automatically finds points in X and Y directions for drilling;

The CNC surface drilling machine has four processing positions and 12 hydraulic clamping plates, which can clamp four groups of workpieces, and can load and unload workpieces while drilling.

3. CNC, PLC control and CRT display of CNC surface drilling machine.
4. The programming software of CNC plane drilling machine is based on the WINDOWS platform, with CAD interface, which is fast and convenient for programming and intuitive for preview.
5. NC surface drilling machine automatically removes chips and circulates coolant.



VERTICAL MACHINING CENTER

BRAND LIST OF KEY COMPONENTS

ITEM	ITEM	BRAND
1	Controller	Kaerd
2	Principal axis	Dan Quin Taiwan, China
3	Tool magazine (including tool magazine support)	Desu China
4	Sheet metal	Shen Yi Heavy Industry China
5	Five major castings	Shen Yi Heavy Industry China
6	Five major castings processing	Shen Yi Heavy Industry China
7	XYZ axis rail	Shangyin Taiwan, China
8	XYZ axis ball screw	Shangyin Taiwan, China

ITEM	ITEM	BRAND
9	Main electrical components	Schneider Electric France
		OMRON Japan
10	Handwheel	System package System standard configuration
		NSK Japan
11	XYZ axis bearing	NTN Japan
		SKF Sweden
12	Heat exchanger or air conditioner	China
13	High pressure filtering device for central effluent	Shen Yi Heavy Industry China

MAIN PARAMETERS OF MACHINE TOOL

CNC SYSTEM SELECTION	UNIT	FANUC 01MF PLUS
Three axis stroke	X-axis stroke	mm 800
	Y-axis stroke	mm 550
	Z-axis stroke	mm 550
	Spindle nose to worktable	mm 100-700
Workbench	Table size	mm 1000-550
	T-slot width (width × Number of slots × Spacing)	mm 18x5x80
	Maximum load of workbench	kg 800(Uniform load)
Spindle center water outlet	Spindle speed	rpm 8000
	Rapid displacement (XYZ)	m/min 36x36x24
Feed	Cutting displacement speed	m/min 50-8,000
	Tool shank type	MASBT-40
Tool magazine (tool arm type)	Pulling stud type	MASPAOT-1 (45°)
	Number of tools	set 24
	Biggest knife	mm 200
	Max. cutter diameter	mm Φ200(Space separating knife)
	Tool weight	kg 7
	Tool selection mode	Arbitrary formula
	Tool change time	sec T-T: 2.5
	Spindle motor power (continuous/30 minutes)	kW (Rated) 7.5/11 (maximum)
	Output torque	NM (Rated) 70 (Maximum)
	Voltage/frequency	AC380V/50HZ
Power source required	Power consumption	kVA 20
	Pressure	working pressure MPa 0.45-0.6
Machine size and weight	Barometric source	kg/cm² 6
	height	mm 2600
	Floor area (length × Width)	mm 2800x2600
	Net weight	kg 6500
Accuracy	positioning accuracy	mm ±0.007
	Repetition accuracy	mm ±0.004

MAIN PARAMETERS OF MACHINE TOOL

ITEM	UNIT	VMC640	VMC650	VMC850
X-axis travel	mm	640	650	800
Travel Y-axis	mm	360	400	500
Z-axis travel	mm	450	500	500
Table size	mm	800x300	900x400	1000x500
Maximum bearing capacity of workbench	kg	200	400	500
T-slot (slot number X width X spacing)	mm	3x16x80	3x18x110	5x18x90
Spindle taper hole		BT40	BT40	BT40
Spindle power	KW	3.7	5.5/7.5	7.5/11
Maximum spindle speed	rpm	8000	8000	8000
Quick Move (XY)	m/min	48/48/36	48/48/36	48/48/48
Cutting feed	mm/min	1-8000	1-8000	1-8000
Distance from nose end of main shaft to work table	mm	70/520	120/620	130-630
Distance from spindle center to column guide rail surface	mm	380	481	525
Maximum tool diameter (adjacent empty tool)	mm	Φ90	Φ90	Φ78/Φ120
Maximum tool length	mm	300	300	300
Maximum tool weight	kg	5	8	8
positioning accuracy	mm	±0.008	±0.008	±0.0075
Weight positioning accuracy	mm	±0.005	±0.005	±0.005
Machine weight	kg	3000	4000	4800
Overall dimension	mm	2200x1800x2260	2300x1950x2450	2600x2300x2800

MAIN PARAMETERS OF MACHINE TOOL

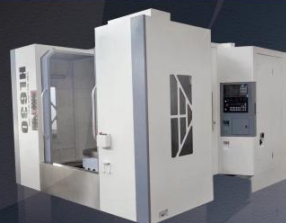
VMC855	VMC1160	VMC1165	VMC1270	VMC1370
800	1100	1100	1200	1300
550/600	600	650	700	700
550/580	600	600	600	700
1000x550	1200x600	1200x600	1300x700	1360x700
600	1000	1200	1200	1400
5x18x100	5x18x125	5x18x125	5x18x125	5x22x140
BT40	BT40	BT40	BT50/BT40	BT50/BT40
7.5/11	11/15	11/15	11/15	15/18.5
8000	8000	8000	8000	8000
48/48/48	36/36/24	24/24/20	24/24/12	24/24/12
1-8000	1-8000	1-5000	1-5000	1-5000
130-680	140-740	120-720	140-740	160-860
590	650	650	780	780
Φ78/Φ120	Φ78/Φ120	Φ78/Φ120	Φ112/Φ200	Φ112/Φ200
300	300	300	300	300
8	8	8	18	18
±0.0075	±0.0075	±0.0075	±0.0075	±0.0075
±0.005	±0.005	±0.005	±0.005	±0.005
5000	7000	7500	9500	10000
2900x2400x2800	3400x2480x2960	3680x2480x2700	3400x2480x2960	3870x3165x2920

MACHINE TOOL OVERVIEW

CNC machine tool is the abbreviation of Computer numerical control machine tool. It is an automatic machine tool equipped with a program control system. The control system can logically process the program specified by the control code or other symbolic instructions, decode it, express it with coded numbers, and input it into the numerical control device through the information carrier. After calculation and processing, the numerical control device sends out various control signals to control the action of the machine tool, and automatically processes the parts according to the shape and size required by the drawing.



HORIZONTAL MACHINING CENTER



MAIN PARAMETERS OF MACHINE TOOL

ITEM	UNIT	HMC500	HMC630	HMC1075	HMC1290	HMC1814
Working table size (length x width)	mm	500x500	630x630	1300x600	700x1360	2000x900
Left and right travel of workbench (X-axis)	mm	800	1100	1000	1200	1800
Front and rear travel of workbench (Z-axis)	mm	800	1000	600	700	900
Up-down travel of headstock (Y-axis)	mm	800	900	750	800	1280
Distance from spindle end face to workbench center	mm	220-1020	200-1200	50-650	180-880	200-1100
Distance from spindle end center to work table	mm	0-800	0-900	60-810	140-940	140-1420
Spindle taper hole dimension number	mm	ISO50	ISO50	ISO50	ISO50	ISO50
Spindle speed range	rpm	50-6000	50-6000	50-6000	50-6000	50-6000
Fast moving speed (X, Y, Z)	m/min	24/24/22	36/36/30	24/24/24	20/12/20	24/24/24
Maximum speed of turntable	mm	10	10	10	10	10
Positioning accuracy of linear motion coordinates	mm	0.012	0.012	0.005	0.005	0.005
Repetitive positioning accuracy of linear motion coordinates	mm	0.008	0.008	0.003	0.003	0.003
Magazine capacity	把	24	24	24	24	24
Tool change time	S	2.5	2.5	2.5	2.5	2.5
Maximum tool weight	kg	18	18	18	18	18
Maximum tool diameter	mm	112	112	112	112	112
Maximum tool length	mm	320	320	320	320	320
Main motor power	kw	15/18.5	15/18	7.5/11	15/18.5	15/18.5
Maximum torque of main shaft	N.m	141	141	141	141	141
Overall dimension of machine tool (length X width X height)	cm	567x538x371	380x270x275	440x350x320	440x350x320	587x464x365