

Special Purpose CNC Grinder (For Slabs of the Railway Table Board)



Machine efficiency
Under normal condition, the allowance of slab is 2mm, the machine can finish machining 10 - 100 pc slabs per 20 working hours.

Item	Unit	Specification
Machining Range	mm	6500 x 2550 x 1200
X Axis Travel	mm	8700
L/R Grinding head cross travel	mm	From the center line of the machine +1800 or -1800
Z1/Z2 Axis Travel	mm	1200
Distance between gantry	mm	6300
A1/A2 Rotating Range		-3o ~ 93o
C1/C2 Rotating Range		-3o ~ 183o
Grinding wheel size (OD x ID x W)	mm	525 x 305 x 200
Grinding wheel speed	rpm/min	500 - 3000
Grinding wheel motor power (Continuous/intermittent)	kW	103/124
Grinding wheel torque (Continuous/intermittent)	Nm	820/1110
X/Y2/Y1 Axis Moving speed	m/min	0 - 20
Z1/Z2 Axis moving speed	m/min	0 - 6
Coolant flow rate	L/min	750
Linear positioning accuracy		0.020/1000; full length 0.07mm
X / Z1 / Z2 Axis motor		8.17kW, 48Nm
Y1/Y2/A1//A2/C2/C1 Axis motor		3.3kW, 16Nm
Engrave spindle motor power	kW	5
Engrave spindle speed	rpm/min	max. 9000
Total Power	kW	350
Machine Weight	ton	70



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Conventional / CNC



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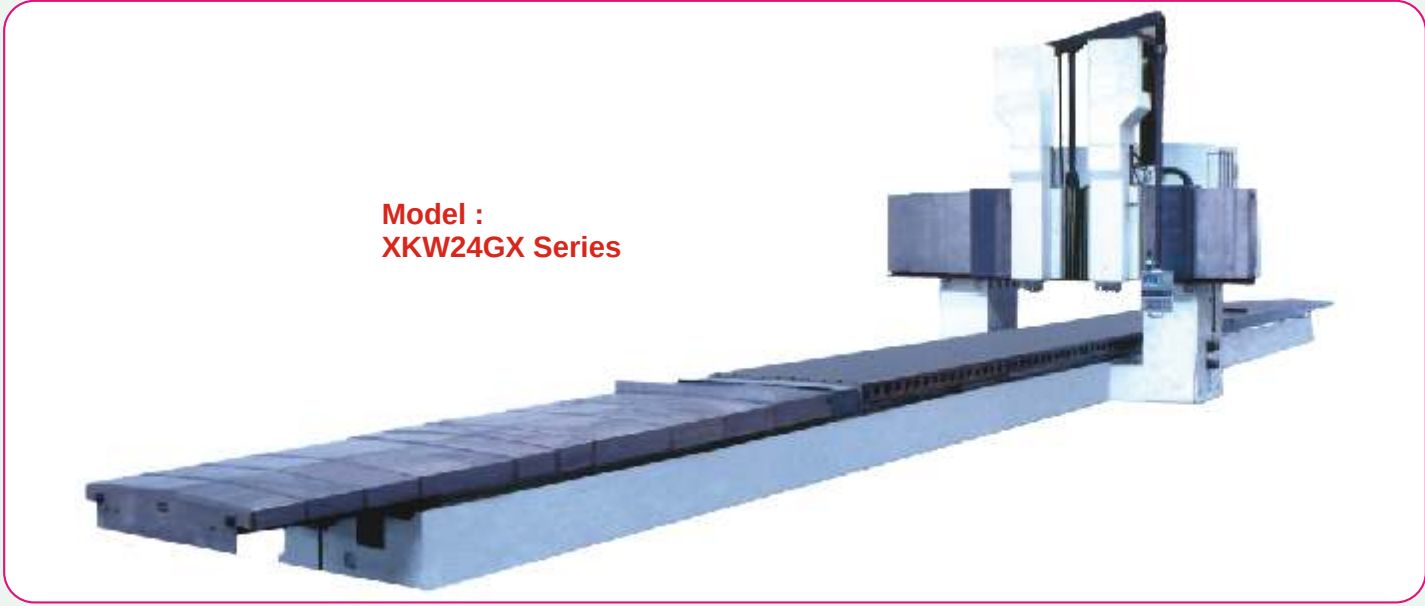
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CNC Gantry Boring & Milling Machine with Fixed Beam & Moving Gantry

Fixed-Beam Gantry Railway Milling Machine



Technical Specifications

Item	Unit	XKW2730	XKW2735	XKW2740	XKW2745	XKW2750
Table Size Width Length	mm	3000	3500	4000	4500	5000
	mm	8000 - 50000				
Machining Travel Width Length Height	mm	5000	5500	6000	6500	7000
	mm	8500 - 55000				
	mm	1250				
Gantry width	mm	4300	4800	5300	5800	6300
Spindle nose to table center	mm	200 - 1450				
Max. Loading	t/m2	20	20	25	25	25
Spindle Power	kW	Standard vertical spindle: FANUC30/37 (SIEMENS30/41) Optional vertical spindle: FANUC22/26; 37/45; 45/55; 60/75 (SIEMENS 22/30; 37/51; 40/66; 60/84)				
Speed	r/min	Standard: 10 - 3000; Optional: 20 - 1500 or 10 - 6000				
Torque	Nm	Standard: 1245 (1050); Optional: FANUC:560-4151 (SIEMENS: 840-4580)				
Taper		Standard: BT50; Optional: BT60				
Speed Ratio		Standard: 1: 1/1: 5; Optional: 1: 1/1: 4 or 1: 2.5/1: 10				
Feed						
Working feed	mm/min	1000 - 5000				
Rapid feed	mm/min	10000				
CNC Control System		Standard: FANUC18i-MB; Optional: SIEMENS840D				
Position and Repeatability		ISO8636-1: 2002				

Technical Specifications

Item	Unit	XKW2412GX 60	XKW2412GX 90	XKW2412GX 120	XKW2412GX 140	XKW2420GX 120	XKW2420GXB 140
Worktable width	mm	1250	1250	1250	1250	2000	2000
Worktable length	mm	6000	9000	12000	14000	12000	14000
Worktable loading capacity	t/m ²	4	4	4	4	6	6
Distance between columns	mm	1750	1750	1750	1750	2600	2600
Spindle nose to worktable surface	mm	750	750	750	750	750	750
Worktable travel	mm	6500	9500	12500	14500	12500	14500
Spindle cross moving travel	mm	2050	2050	2050	2050	± 535 / ± 1300	± 535 / ± 1300
Spindle vertical moving travel	mm	600	600	600	600	600	600
Spindle quantity	set	1	1	1	1	2	2
Spindle power	kW	60	60	60	60	60x2	60x2
Spindle speed	r/min	5-1000	5-1000	5-1000	5-1000	5-1000	5-1000
Spindle torque	Nm	4580	4580	4580	4580	4580	4580
Spindle taper	BT	BT60	BT60	BT60	BT60	BT60	BT60
Spindle ram section	mm	500x500	500x500	500x500	500x500	500x500	500x500
Worktable moving speed	mm/min	0-10000	0-10000	0-10000	0-10000	0-10000	0-10000
Spindle cross moving speed	mm/min	0-10000	0-10000	0-10000	0-10000	0-10000	0-10000
Spindle vertical moving speed	mm/min	0-6000	0-6000	0-6000	0-6000	0-6000	0-6000
Control System		SIEMENS 840D or FANUC 18I-MB					

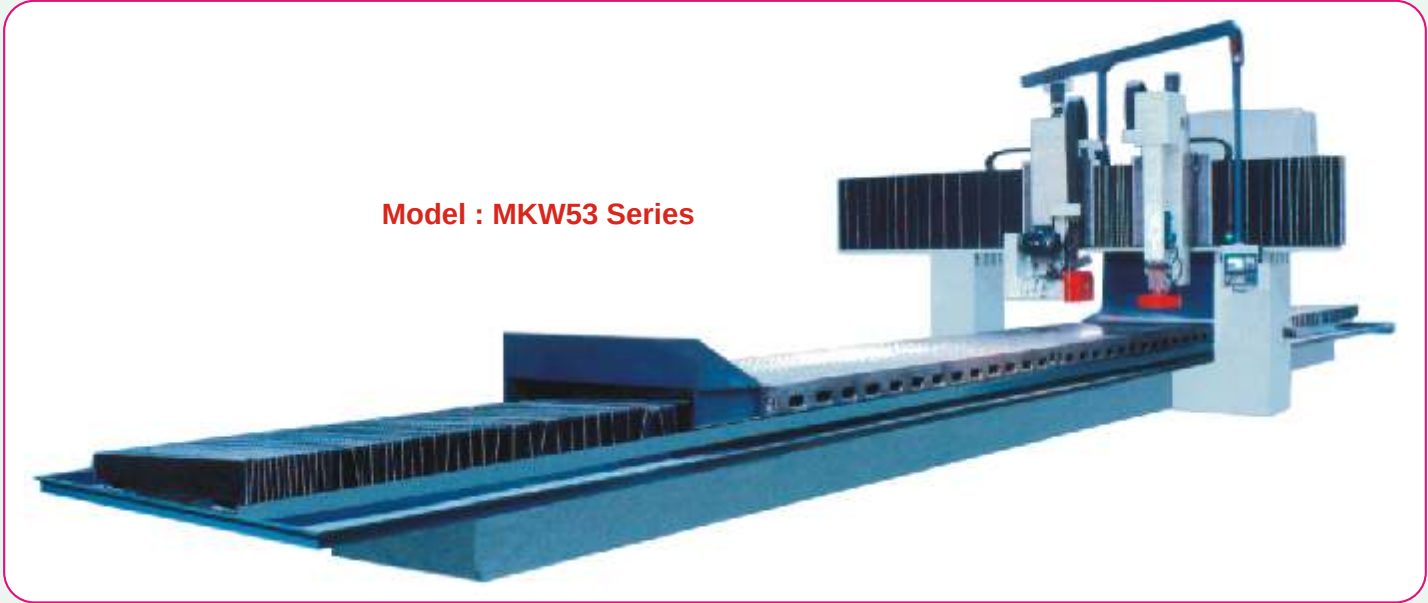
Column-moving Gantry Railway Milling Machine



Technical Specifications

Item	Unit	XKW2714GX 120	XKW2714GX 140	XKW2720GX 140	XKW2720GX 250	XKW2720GX 400	XKW2720GXB 520
Worktable width	mm	1400	1400	2000	2000	2000	2000
Worktable length	mm	12000	14000	14000	25000	40000	52000
Worktable loading capacity	t/m²	6	6	6	6	6	6
Distance between columns	mm	2600	2600	3200	3200	3200	3200
Spindle nose to worktable surface	mm	750	750	750	750	750	750
Worktable travel	mm	12500	14500	14500	25500	40500	47000
Spindle cross moving travel	mm	3100	3100	± 535 / ± 2100	± 535 / ± 2100	± 535 / ± 2100	± 535 / ± 2100
Spindle vertical moving travel	mm	600	600	600	600	600	600
Spindle quantity	set	1	1	2	2	2	2
Gantry quantity	set	1	1	1	1	1	2
Spindle power	kW	60	60	60x2	60x2	60x2	60x2
Spindle speed	r/min	5-1000	5-1000	5-1000	5-1000	5-1000	5-1000
Spindle torque	Nm	4580	4580	4580	4580	4580	4580
Spindle taper	BT	BT60	BT60	BT60	BT60	BT60	BT60
Spindle ram section	mm	500x500	500x500	500x500	500x500	500x500	500x500
Worktable moving speed	mm/min	0-10000	0-10000	0-10000	0-10000	0-10000	0-10000
Spindle cross moving speed	mm/min	0-10000	0-10000	0-10000	0-10000	0-10000	0-10000
Spindle vertical moving speed	mm/min	0-6000	0-6000	0-6000	0-6000	0-6000	0-6000
Control System	SIEMENS 840D or FANUC 18I-MB						

CNC Gantry Surface Grinding Machine



Technical Specifications

Item	Unit	MKW5312A MKW5312	MKW5316A MKW5316	MKW5320A MKW5320	MKW5325A MKW5325
Table Size					
Width	mm	1250	1600	2000	2500
Length	mm	2000 - 4500	2500 - 8000	3500 - 16000	4500 - 16000
Machine Capability					
Width	mm	1400	2000	2400	3000
Length	mm	2000 - 4500	2500 - 8000	3500 - 16000	4500 - 16000
Height	mm	800	1000	1200	1200
Gantry Width	mm	1600	2200	2600	3200
Horizontal Spindle motor	kW	22	22	22	22
Spindle Speed	rpm	1300	1300	1300	1300
Min. Feed	mm	0.005	0.005	0.005	0.005
Wheel size	mm	F 500 x 100 x F 203	F 500 x 100 x F 203	F 500 x 100 x F 203	F 500 x 100 x F 203
Vertical Spindle Motor	kW	11	11	11	11
Spindle speed	rpm	1450/2970	1450/2970	1450/2970	1450/2970
Min. Feed	mm	0.005	0.005	0.005	0.005
Wheel size	mm	F 400 x 50 x F 127	F 400 x 50 x F 127	F 400 x 50 x F 127	F 400 x 50 x F 127
Swivel of grinding head		± 110°	± 110°	± 110°	± 110°
Control system		SIEMENS 840D	SIEMENS 840D	SIEMENS 840D	SIEMENS 840D

Note: "A" Series is guideway grinder with Vertical spindle, without "A" series is surface grinder, No Vertical Spindle.



Technical Specifications

Item	Unit	VTC 16	VTC 20	VTC 25	VTC 32	VTC 40
Table diameter	mm	1250	1600	2000	2500	3000
Max. turning diameter	mm	1600	2000	2500	3200	4000
Clearance between columns	mm	1400	1800	2300	3000	3800
Max. machining height	mm	1600	2000	2500	2500	3500
Max. workpiece weight	ton	15	20	25	32	50
Main motor power	kW	120	120	120	120	120
Table speed turning	rpm	1 - 300	0.78 - 250	0.62 - 200	0.5 - 160	0.5 - 125
Table speed milling (C)	rpm	0 - 8	0 - 7	0 - 6	0 - 5	0 - 4
Max. table torque	kNm	32	40	50	63	100
Ram cross section	mm	240x280	280x320	280x320	280x320	280x320
Max. ram travel (Z-axis)	mm	1400	1400	2000	2000	2000
Rapid traverse ram (X,Z-axis)	mm/min	10000	10000	10000	16000	16000
Feed rate ram (X,Z-axis)	mm/min	0.1-2000	0.1-2000	0.1-2000	0.1-2000	0.1-2000
Max. cutting force, turning	kN	50	50	50	63	63
Boring and Milling speed	rpm	2.5 - 1600	2.5 - 1600	2.5 - 1600	2.5 - 2500	2.5 - 2500
Boring and Milling torque	Nm	2200	2200	2200	2200	2200
Boring and Milling power	kW	52	52	52	52	52
Max. cutting force, milling	kN	25	25	25	25	32
Milling spindle taper bore	ISO	50	50	50	50	50
Vertical travel crossrail	mm	1000	1400	1900	1900	2500
Rapid traverse crossrail	mm/min	2000	2000	2000	2000	2000
Tool magazine positions	number	28	28	28	28	20
Head changer positions	number	6	6	6	6	6
Portal travel (Y-axis)	mm	± 800	± 1000	± 1250	± 1600	± 2000
Rapid traverse portal	mm/min	8000	8000	8000	8000	8000
Positioning accuracy	mm/m	0.010	0.010	0.010	0.012	0.012
Positioning repeatability	mm	0.005	0.005	0.005	0.006	0.006
Positioning accuracy (C-axis)	sec	± 3	± 3	± 3	± 3	± 3
CNC Control		SIEMENS 840D				

All specifications are subject to change without prior notice.

XK21 SERIES GANTRY TYPE CNC BORING & MILLING MACHINE
XH21 SERIES GANTRY TYPE MACHINING CENTRE

The structure of XK21 Series machines and XH21 Series machining centers features a movable table, a robust gantry frame with a crossrail moving up and down and a main milling head left and right horizontally traveling on the crossrail. The ram moves up and down along the saddle,

Main Structure and Features

- The gantry frame and crossrail of the machine are of fabricated steel structure. Bed, table, saddle, and ram are made of resin-sand moulded quality castings.
- X, Y axes are hydrostatic guideways, and Z axis is of roller linear and slide guideway.
- All the driving axes use either precise dual pinion-rack device without backlash or high precision ball screws.
- Dual shaft driving and synchronization compensation technology for lifting of the crossrail.
- The position feedback of each axis uses optical scales to realize a completely closed loop feedback of position,
- The main milling head is designed with a concept of separating ram from reducer box in which there is an automatic speed change mechanism for getting large torque at low speed and constant power at high speed,
- Ram milling head and crossrail are both counter-balanced by hydraulic cylinders for stable motion.
- Automatic tool magazine, automatic attachment change device and milling attachments with automatic indexing are at customer's request.
- CNC system: SIEMENS, FANUC, FIDIA, NUM or FAGOR system.



• XK2145 gantry type CNC boring & milling machine with movable crossrail, table travelling



• XH2130 gantry type machining center with movable crossrail, table travelling



• A chain type tool magazine of cap. 60 pcs



• A chain type tool magazine of cap. 50 pcs



• Machining a diesel engine block



• Automatic Attachment Change Device



• XH2120 gantry type machining center with movable crossrail, table travelling



• XK2140 gantry type CNC boring & milling machine with movable crossrail, table travelling

XK21 SERIES GANTRY TYPE CNC BORING & MILLING MACHINE WITH MOVEABLE CROSSRAIL, TABLE TRAVELLING
XH21 SERIES GANTRY TYPE MACHINING CENTRE WITH MOVEABLE CROSSRAIL, TABLE TRAVELLING
MAIN TECHNICAL SPECIFICATIONS

Technical specifications	Model	XK2120	XK2125	XK2130	XK2136	XK2140	XK2145	XK2150
		XH2120	XH2125	XH2130	XH2136	XH2140	XH2145	XH2150
Area of table(W×L)	(mm)	2000 × 6000	2500 × 8000	3000 × 10000	3600 × 12000	4000 × 12000	4500 × 14000	5000 × 16000
Distance between columns	(mm)	2600	3100	3600	4200	4600	5600	
Max. load of table per meter	(kg/m)	10000			15000		20000	
Longitudinal stroke of table(X axis)	(mm)	6500	8500	10500	12500		14500	16500
Transversal stroke of saddle(Y axis)	(mm)	3600	4100	4600	5500	5600	6500	6600
Vertical stroke of milling head ram(Z axis)	(mm)	1250			1500			
Vertical stroke of crossrail(W axis)	(mm)	1500		1500 ~ 3000	2000 ~ 3500			
Max. distance from spindle end to table surface	(mm)	2000	2000 / 2500	3000	4000			5000
Taper of spindle bore		ISO NO.50	ISO NO.60					
Speed range of spindle	(rpm)	5 ~ 3200		5 ~ 2000		5 ~ 1200		
Power of main motor	(kw)	30、40		40、60		60、100		
Feed rate of X, Y, and Z axes	(mm/min.)	5 ~ 5000						
Feed rate of W axis	(mm/min.)	5 ~ 2000						
Rapid speed of X axis	(mm/min.)	10000						
Rapid speed of Y axis	(mm/min.)	10000					8000	
Rapid speed of Z axis	(mm/min.)	6000						
Rapid speed of W axis	(mm/min.)	2000						
Capacity of chain-type tool magazine(XH21 series)	(pcs.)	40、50、60、80、120 (at customer's request)						
Overall dimension (L×W×H)	(mm)	19800 × 10400 × 7340	23800 × 10900 × 7340	27800 × 11400 × 8340	28400 × 12000 × 9590	31800 × 12400 × 9590	36000 × 12400 × 10100	39800 × 13400 × 10590
Total weight	(kg)	100000	125000	180000	250000	400000	450000	600000
Optional milling attachments		extension head , universal head, right angle head and other milling attachments etc.						

Remarks: 1. The length of table in the above is of basic type, which can be increased or decreased by increment of 1000mm.
2. Milling attachments, chip conveyor, and cooling device are available on customer's request.
3. Stroke length of Y axis in the above is the data of XK21 series. If XH21 series is chosen, tool change stroke of tool magazine shall be added to stroke length of Y axis.

XK24 SERIES GANTRY TYPE CNC BORING & MILLING MACHINE XH24 SERIES GANTRY TYPE MACHINING CENTER

The structure of XK 24 Series machines and XH24 Series machining center features a moveable table, a gantry frame with a fixed crossrail and a main milling head left and right horizontally traveling on the crossrail. The ram moves up and down along the saddle on the crossrail.



• XK2411 gantry type CNC boring & milling machine with fixed crossrail, table travelling



• A chain type tool magazine of cap. 40 pcs



• Automatic Attachment Change device



• XH2420A gantry type machining center with fixed crossrail, table travelling

Main Structure and Features

- Large parts of the machines are of fabricated steel structure or iron castings.
- The guideways of X and Y axes adopt super heavy linear motion or hardened steel guideways with embedded roller bearing blocks. X axis for heavy-duty machines adopts hydrostatic guideways.
- The guideway of Y axis is of a step type design, which ensures the machining accuracy.
- All the 3 driving axes use either high precision preloaded ball screws or dual pinion-rack devices.
- The position feedback of the 3 axes uses photo-electric encoder to realize a semi-loop feedback. It can also use optical scales to realize a completely closed loop feedback at customer's request.
- The main milling head is designed with a concept of separating ram from reducer box in which there is an automatic speed change mechanism for getting large torque at low speed and constant power at high speed.
- Ram milling head is counter-balanced by hydraulic cylinders for stable motion.
- Automatic attachment change device and automatic indexing milling attachment at customer's request.
- CNC system: SIEMENS, FANUC, FIDIA, NUM or FAGOR system.



• XH2418 gantry type machining center with fixed crossrail, table travelling



• A disk type tool magazine of cap. 24 pcs



• Right-angle milling head



• Universal milling head



• Extension milling head



• Attachment Attachment Change cart



• XK2440 gantry type CNC boring & milling machine with fixed crossrail, table travelling

XK24 SERIES GANTRY TYPE CNC BORING & MILLING MACHINE WITH FIXED CROSSRAIL, TABLE TRAVELLING
XH24 SERIES GANTRY TYPE MACHINING CENTER WITH FIXED CROSSRAIL, TABLE TRAVELLING
MAIN TECHNICAL SPECIFICATIONS

Technical specifications	Model	XK2411	XK2414	XK2416	XK2418	XK2420	XK2425	XK2430	XK2440
		XH2411	XH2414	XH2416	XH2418	XH2420	XH2425	XH2430	XH2440
Area of table(W × L)	(mm)	1100 × 4000	1400 × 4000	1600 × 4000	1800 × 4000	2000 × 4000	2500 × 5000	3000 × 6000	4000 × 8000
Distance between columns	(mm)	1500	1800	2000	2200	2600	3100	3600	4600
Max. load of table per meter	(kg/m)	3000			5000		8000	15000	
Number of T and width slot on table	(pcs./mm)	7 × 22	9 × 22	9 × 28		10 × 28	11 × 36	13 × 36	17 × 36
Longitudinal stroke of table(X axis)	(mm)	4500					5500	6500	8500
Transversal stroke of saddle(Y axis)	(mm)	2450	2900	3000	3150	3300	4000	4700	5800
Vertical stroke of milling head ram(Z axis)	(mm)	700 / 950		950 / 1250			1250 / 1500		1500
Max. distance from spindle end to table surface	(mm)	1000 / 1350		1350 / 1650			1650 / 2000		2500
Taper of spindle bore		ISO NO.50						ISO NO. 60	
Speed range of spindle	(rpm)	5 ~ 3200						5 ~ 2000	5 ~ 2000 (1200)
Power of main motor	(kw)	20、30				30、40	40	40、60	60、100
Feed rate of X, Y, and Z axes	(mm/min.)	5 ~ 3000							
Rapid speed of X axis	(mm/min.)	8000							
Rapid speed of Y axis	(mm/min.)	8000							
Rapid speed of Z axis	(mm/min.)	6000							
Capacity of tool magazine(XH24 series)	(pcs.)	20、24 (disk-type tool magazine)				32、40、50、60、80 (chain-type tool magazine)			
Overall dimension (L × W × H)	(mm)	11000 × 4200 × 5200(5350)	11000 × 4800 × 5200(5350)	11000 × 5300 × 5400(5700)	11000 × 5600 × 5400 (5700)	11000 × 6000 × 5400 (5700)	14000 × 8100 × 6750 (7000)	18000 × 8500 × 6950 (7200)	21000 × 11000 × 8600
Total weight	(kg)	35000	40000	45000	48000	52000	70000	145000	217000
Optional milling attachments		extension head , universal head, right angle head and other milling attachments etc.							

Remarks: 1. The length of table in the above is of basic type, which can be increased or decreased by increment of 1000mm.
 2. Milling head attachments, chip conveyor, cooling device and protection devices are optional on customer's request.

XKS24 SERIES GANTRY TYPE CNC HIGH SPEED BORING & MILLING MACHINE
XHS24 SERIES GANTRY TYPE CNC HIGH SPEED MACHINING CENTER

The structure of XKS24 Series machines and XHS24 Series machining centers features a moveable table and a gantry frame with a fixed crossrail and a main milling head left and right horizontally traveling on the crossrail. The ram moves up and down along the saddle on the crossrail.



• XHS2420 gantry type high-speed machining center with fixed crossrail, table travelling

Main Structure and Features

- Large parts of the machines are of fabricated steel structure or iron castings.
- X and Y axes adopt linear motion guideways. Z axis adopts plastic compound or linear motion guideways.
- A high-speed ram milling head and ZF reducer are adopted. Max. speed of spindle is 6000 rpm. The main milling head is separated with gear reducer.
- Ram milling head is counter-balanced by double hydraulic cylinders.
- The feedback of X, Y and Z axes adopts optical scales to realize a completely closed loop position feedback.
- Disk type tool magazine with 20 tools or 24 tools and chain type tool magazine with 32, 40, 50, or 60 tools are available at customers' requirement.
- CNC system: SIEMENS, FANUC, FIDIA, NUM or FAGOR system.

XKS24 SERIES GANTRY TYPE CNC HIGH SPEED BORING & MILLING MACHINE WITH FIXED CROSSRAIL, TABLE TRAVELLING
XHS24 SERIES GANTRY TYPE CNC HIGH SPEED MACHINING CENTER WITH FIXED CROSSRAIL, TABLE TRAVELLING
MAIN TECHNICAL SPECIFICATIONS

Model	XKS2411	XKS2414	XKS2416	XKS2418	XKS2420	XKS2425	
	XHS2411	XHS2414	XHS2416	XHS2418	XHS2420	XHS2425	
Area of table(W × L)	(mm)	1100 × 3000	1400 × 3000	1600 × 4000	1800 × 4000	2000 × 4000	2500 × 5000
Max. load of table per meter	(kg/m)	3000		4000		5000	
Number of T and width slot on table	(pcs./mm)	7 × 22	9 × 22	9 × 28	9 × 28	10 × 28	11 × 36
Distance between columns	(mm)	1500	1800	2000	2200	2600 (2800)	3100
Longitudinal stroke of table(X axis)	(mm)	3500		4500		5500	
Transversal stroke of saddle(Y axis)	(mm)	2450	2950	3100	3150	3300	3850
Vertical stroke of milling head ram(Z axis)	(mm)	700 / 950		950 / 1250		1250	
Min. distance from spindle end to table surface	(mm)	200, 400					250
Taper of spindle bore		ISO NO.50					
Speed range of spindle	(rpm)	5 ~ 6000					
Power of main motor	(kw)	22, 30		22, 28, 30, 27			
Feed rate of X, Y, and Z axes	(mm/min.)	8000					
Rapid speed of X, Y and Z axes	(mm/min.)	10000					
Capacity of tool magazine(XKS24 series)	(pcs.)	20, 24 (disk-type tool magazine)			32, 40, 50, 60 (chain-type tool magazine)		
Overall dimension (L × W × H)	(mm)	9000 × 4900 × 5200(5350)	9000 × 5100 × 5200(5350)	11000 × 5300 × 5400(5700)	11000 × 5600 × 5400(5700)	11000 × 6000 × 5400(5700)	12800 × 6100 × 6700
Total weight	(kg)	32000	38000	45000	52000	58000	72000
Optional milling attachments		extension head , universal head, right angle head and other milling attachments etc.					

Remarks: 1. The length of table in the above is of basic type, which can be increased or decreased by increment of 1000mm.
 2. Milling attachments, tool presetting device, chip conveyor, cooling device, and lube oil recovering device and splash guards are optional on customer's request.

XSV24 SERIES GANTRY TYPE 5-AXIS HIGH SPEED BORING & MILLING MACHINE

XHSV24 SERIES GANTRY TYPE 5-AXIS HIGH SPEED MACHINING CENTER

The structure of XSV24 Series machines and XHSV24 Series machining centers features a fixed bed, a table moving longitudinally along the bed guideway (X axis), a saddle moving transversally along crossrail guideway (Y axis), and a ram milling head moving vertically along saddle guideway (Z axis). 5-axis milling attachments can rotate in the horizontal plane (C axis rotating around Z axis) or swing in the vertical plane (B axis rotating around Y axis when C axis is at Zero Position).

Main Structure and Features

- Bed, table, crossrail, column, saddle and ram are made of resin sand iron castings and fabricated steel plates.
- X, Y and Z axes adopt linear motion guideways.
- X, Y and Z axes adopt optical scales to realize a completely closed loop control. B and C axes adopt angle encoders with high precision to realize a completely closed loop control.
- X, Y and Z axes use either high precision preloaded ball screws or dual pinion-rack devices.
- Harmonic gearing units are adopted to drive B and C axes, which are equipped with hydraulic clamping mechanism, respectively.
- Electric spindle adopts high-speed ceramic ball bearings and separate oil-pneumatic lubricating system.
- Each moveable part of the machine is equipped with adjustable, timing and rationing oil lubrication device. B and C axes adopt grease lubrication.
- Mini-lubrication system for tools sprays atomized liquid to tools together with compressed air through nozzle installed on the milling head to cool lubricated points of tool without any contaminates.
- Ram milling head is counter-balanced by hydraulic cylinders for stable motion.
- CNC system: SIEMENS system.

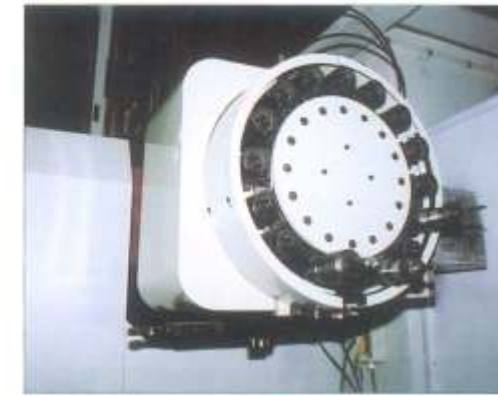
- Machining a pump blade with dual swivelling milling head



- XSV2420 gantry type 5-axis high-speed boring & milling machine with fixed crossrail, table travelling

XSV24 Series Gantry Type 5-Axis High Speed Boring & Milling Machine

XHSV24 Series Gantry Type 5-Axis High Speed Machining Center



- A disk type tool magazine of cap. 16 pcs



- XHSV2420 gantry type 5-axis high-speed machining center with fixed crossrail, table travelling

XSV24 SERIES GANTRY TYPE 5-AXIS HIGH SPEED BORING & MILLING MACHINE WITH FIXED TABLE, XHSV24 SERIES GANTRY TYPE 5-AXIS HIGH SPEED MACHINING CENTER

MAIN TECHNICAL SPECIFICATIONS

Technical specifications		Model	XSV2411	XSV2414	XSV2416	XSV2418	XSV2420	XSV2425
		XHSV2411	XHSV2414	XHSV2416	XHSV2418	XHSV2420	XHSV2425	
Area of table (W × L)	(mm)		1100 × 4000	1400 × 4000	1600 × 4000	1800 × 4000	2000 × 4000	2500 × 5000
Distance between columns	(mm)		1500	2000	2000	2200	2600	3100
Longitudinal stroke of table (X axis)	(mm)		4500					5500
Transversal stroke of saddle (Y axis)	(mm)		2500			3050	3300	3600
Vertical stroke of milling head ram(Z axis)	(mm)		950, 1250					
Distance from spindle end to table surface	(mm)		250					
Max. load of table per meter	(kg/m)		2500			3000	4000	
Feed rate of X, Y, and Z axes	(mm/min.)		10 ~ 20000					
Rapid speed of X, Y and Z axes	(mm/min.)		20000					
Rotary angle of B axis	(degree)		± 110°					
Rotary angle of C axis	(degree)		± 200°					
Rotation speed of B and C axes	(rpm)		0 ~ 8					
Rapid rotation speed of B and C axes	(rpm)		8					
Double rotary swinging milling head	Model		VX30 / 17		VX30 / 23		VX40 / 23	
	Motor power of spindle (S6/S1) (kw)		40 / 30		34.5 / 30		91 / 40	
	Taper of spindle bore		HSK-A63		HSK-A63		HSK-A63	
	Max. speed of spindle (rpm)		24000		18000		24000	
	Torque (S6/S1) (N.m)		38.7 / 29.1		82.4 / 71.1		93.2 / 71.1	
Capacity of tool magazine (XHSV24 series) (pcs.)			16, 20, 24, 40, 60 (at customer's request)					
CNC system			SIEMENS 840D or other CNC system					
Overall dimension (L × W × H)	(mm)		12000 × 4200 × 6200	12000 × 4800 × 6200	12000 × 5300 × 6400	12000 × 5600 × 6400	12000 × 6000 × 6400	14000 × 8100 × 6800
Total weight	(kg)		38000	42000	47000	52000	60000	72000
Remark: 1. When double rotary swinging milling head is used and B axis is in vertical position, distance between spindle end and table surface can be altered on customer's request. 2. Milling attachments, tool presetting device, chip conveyor, cooling device, and lube oil recovering device and splash guards are available on customer's request.								

XSV25 SERIES OVERHEAD TYPE 5-AXIS HIGH SPEED BORING & MILLING MACHINE

XHSV25 SERIES OVERHEAD TYPE 5-AXIS HIGH SPEED MACHINING CENTER

The structure of XSV25 Series machines and XHSV25 Series machining centers features a floor-type table, overhead beds fixed on both side of the table, a crossrail mounted on the sliding plates moving longitudinally along bed (X axis), a saddle moving transversally along the crossrail guideway (Y axis), and a ram moving vertically up and down along saddle (Z axis).



• Linear Motor, Model 1FN3 900

• Machining a typical part of aluminium alloy used for aerospace industry



• XHSV2525 overhead type 5-axis high speed machining center

XSV25 Series Overhead Type 5-Axis High Speed Boring & Milling Machine

XHSV25 Series Overhead Type 5-Axis High Speed Machining Center

Main Structure and Features

- Large parts of the machines are of fabricated steel structure or iron castings.
- X, Y and Z axes adopt linear motion guideways.
- X, Y and Z axes use either high precision preloaded ball screws or dual pinion-rack devices.
- The ram milling head is counter-balanced by hydraulic cylinders.
- Harmonic gearing units are adopted to drive B and C axes.
- X, Y and Z axes adopt optical scales, and B and C axes adopt angle encoder with high precision.
- Electric spindle adopts high-speed ceramic ball bearings and is equipped with spindle cooling system.
- With mini-lubrication system for tools sprays atomized liquid to tools together with compressed air through nozzle installed on the milling head.
- Tool presetting device, online measuring probe and remote diagnosis function, a tool magazine with a capacity of 20, 40, 60 or 80 tools and automatic tool change (ATC) device are available at customer's request.
- CNC system: SIEMENS system.



• A disk type tool magazine of cap. 20 pcs

XSV25 SERIES OVERHEAD TYPE 5-AXIS HIGH SPEED BORING & MILLING MACHINE

XHSV25 SERIES OVERHEAD TYPE 5-AXIS HIGH SPEED MACHINING CENTER

MAIN TECHNICAL SPECIFICATIONS

MAIN TECHNICAL SPECIFICATIONS							
Model		XSV2515	XSV2520	XSV2525	XSV2530	XSV2535	XSV2540
		XHSV2515	XHSV2520	XHSV2525	XHSV2530	XHSV2535	XHSV2540
Technical specifications							
Area of table (W × L)	(mm)	1500	2000	2500	3000	3500	4000
Distance between two overhead beds	(mm)	2400	2900	4100	4600	5100	5600
Max. load of table per meter	(kg/m)	5000					
Longitudinal stroke of crossrail (X axis)	(mm)	4000 – 12000	6000 – 20000	6000 – 20000	6000 – 30000	6000 – 30000	6000 – 30000
Transversal stroke of saddle (Y axis)	(mm)	1700	2200	3100	3600	4100	4600
Vertical stroke of milling head ram (Z axis)	(mm)	800	950	950/1250	1250	1250	1250/1500
Rotary angle of B axis	(degree)	± 110°					
Rotary angle of C axis	(degree)	± 200°					
Distance from spindle end to table surface	(mm)	250 ~ 1050	250 – 1200/1500		250 ~ 1500/1750		
Feed rate of X, Y, and Z axes	(mm/min.)	10 ~ 20000					
Rapid speed of X, Y and Z axes	(mm/min.)	20000					
Rotation speed of B and C axes	(rpm)	0 ~ 8					
Rapid rotation speed of B and C axes	(rpm)	8					
Double rotary swinging milling head	Model	VX30/17		VX30/23		VX40/23	
	Motor power of electric spindle (S6/S1) (kw)	40/30		34.5/30		91/40	
	Taper of spindle bore	HSK-A 63		HSK-A 63		HSK-A 63	
	Max. speed of spindle (rpm)	24000		17000/18000		24000	
	Torque of spindle (S6/S1) (N.m)	38.7/29.1		82.4/71.1		93.2/71.1	
Capacity of tool magazine (XHSV24 series) (pcs.)		(pcs.) 16, 20, 24, 40, 60 (at customer's request)					
CNC system		SIEMENS 840D or other CNC system					
Drive unit		SIEMENS 611D					
Remarks: When double rotary swinging milling head is used and B axis is in vertical position, distance between spindle end and table surface can be altered on customer's request.							

XK27 SERIES GANTRY TYPE CNC BORING & MILLING MACHINE XH27 SERIES GANTRY TYPE CNC MACHINING CENTER

The structure XK27 Series machine and XH27 Series machining centers features a fixed table and a moveable gantry with a fixed crossrail and a main milling head left and right horizontally traveling on the crossrail. The ram moves up and down along the saddle on the crossrail.

Main Structure and Features

- The gantry is of fabricated steel structure. table, saddle and ram are of resin sand quality iron castings.
- X and Y axes adopt heavy linear motion guideways or hardened steel guideways with embedded roller bearing blocks. And The guideways of X and Y axes hydrostatic guideways at customer's request.
- The crossrail guideway of Y axis adopts a step type design, which ensures accuracy and stability.
- 3-axis drive adopts either high precision ball screw or dual rack-pinion driving units.
- The position feedback of 3 axes uses photo-electric encoder to realize a semi-loop feedback. It can also use optical scales to realize a completely closed loop feedback at customer's request.
- The main milling head is of separating ram from gear reducer.
- Ram milling head is counter-balanced by double hydraulic cylinders.
- Automatic attachment change device and automatic indexing milling attachment at customer's request.
- A disk type tool magazine with 20 or 24 tools, or a chain type tool magazine with 50, 60, 80, or 120 tools are available at customer's request.
- CNC system: SIEMENS or other systems.



• A disk type tool magazine of cap. 24 pcs

• XH2718 gantry type machining center with fixed crossrail, gantry travelling



• A chain type tool magazine of cap. 50 pcs



• XH2720 gantry type machining center with fixed crossrail, gantry travelling



• XK2745 gantry type CNC boring & milling machine with fixed crossrail, gantry travelling



• XK2740 gantry type CNC boring & milling machine with fixed crossrail, gantry travelling

XK27 SERIES GANTRY TYPE CNC BORING & MILLING MACHINE WITH FIXED CROSSRAIL
XH27 SERIES GANTRY TYPE MACHINING CENTER WITH FIXED CROSSRAIL
MAIN TECHNICAL SPECIFICATIONS

Model	XK2718	XK2720	XK2725	XK2730	XK2740	XK2745	XK2750
	XH2718	XH2720	XH2725	XH2730	XH2740	XH2745	XH2750
Area of table(W × L) (mm)	1800 × 8000	2000 × 6000	2500 × 6000	3000 × 6000	4000 × 8000	4500 × 8000	5000 × 10000
Distance between columns (mm)	2200	2600	3100	4000	5000	5750	6000
Max. load of table per meter (kg/m)	4000		5000		8000	10000	
Longitudinal stroke of gantry(X axis) (mm)	8500	6500			8500		10500
Transversal stroke of saddle(Y axis) (mm)	2750 / 3200	3150	4000	4700	5200 / 5800	5800	6200
Vertical stroke of milling head ram(Z axis) (mm)	950 / 1250		1250 / 1500		1500		
Max. distance from spindle end to table surface (mm)	1350 / 1650		1650 / 2000		2000		
Taper of spindle bore	ISO NO.50				ISO NO.60		
Speed of spindle (rpm)	5 ~ 3200			5 ~ 2000	5 ~ 2000 / 1200		
Motor power of spindle (kw)	22, 30	30	30, 40	40, 60	60, 100		
Feed rate of X, Y, and Z axes (mm/min.)	5 ~ 10000	5 ~ 5000		5 ~ 3000			
Rapid speed of X, Y and Z axes (mm/min.)	10000			6000			
Capacity of tool magazine(XH27 series) (pcs.)	20, 24 (disk type, optional)			50, 60, 80, 120 (chain type, optional)			
Overall dimension (L × W × H) (mm)	13560 × 6040 × 4600	10300 × 6500 × 5900	10800 × 9100 × 5960	11500 × 9800 × 6700	13500 × 10000 × 8500	14500 × 10500 × 8800	16500 × 11000 × 8800
Total weight (kg)	60000	62000	78000	90000	110000	125000	140000
Optional milling head attachment.	extended, universal and right angle milling head						

Remarks: 1. The length of working table in the above is of basic type, which can be increased or decreased on customer's request.
2. Milling attachments, automatic attachment change device, cooling device, and splash guards are available on customer's request.

XKV27 SERIES GANTRY TYPE 5-AXIS BORING & MILLING MACHINE



• Mechanical type dual swivelling milling head with large torque

The structure of XKV27 Series machine features a fixed bed and table, a gantry frame moving longitudinally along bed guideway (X axis), a ram on the saddle moving transversally along the crossrail guideway (Y axis) and moving vertically up and down along the saddle guideway (Z axis). The 5-axis milling head can rotate in the horizontal plane (C axis, rotating around Z axis) and swing in vertical plane (B axis, rotating around Y axis when C axis is at Zero Position). This series is equipped with mechanical type spindle with large torque.



• XKV2745 gantry type 5-axis CNC boring & milling machine with fixed crossrail, gantry travelling

Main Structure and Features

- Large parts of the machine are of fabricated steel structure or iron castings.
- Linear axis adopts linear motion guideways, and rotary axis adopts YRT radial and axial combined gearing.
- Linear axis adopts dual pinion-rack and preloaded dual nut ball screw drive. B axis is driven by AC servo motor through gear reducer driving. The motor of C axis is decelerated through harmonic gear reducer and driven by drive output gear.
- B and C axes are equipped with brake sleeve type hydraulic clamping mechanism.
- Ram milling head is counter-balanced by hydraulic cylinders.
- X, Y and Z adopts optical scales to realize completely closed loop control, B and C axes adopts angle encoder with high precision to realize completely closed loop control.
- CNC system :SIEMENS system.



• Operation panel

XKV27 SERIES GANTRY TYPE 5-AXIS BORING & MILLING MACHINE WITH FIXED CROSSRAIL
MAIN TECHNICAL SPECIFICATIONS

Technical specifications		Model	XKV2725	XKV2730	XKV2735	XKV2740	XKV2745	XKV2750
Area of table (W × L)		(mm)	2500 × 6000	3000 × 6000	3500 × 8000	4000 × 8000	4500 × 8000	5000 × 10000
Distance between columns		(mm)	3500	4000	4500	5000	5750	6000
Max. load of table per meter		(kg/m)	10000				15000	
Longitudinal stroke of gantry (X axis)		(mm)	6500	6500	8500	8500	8500	10500
Transversal stroke of saddle (Y axis)		(mm)	3700	4200	4700	5200	5800	6200
Vertical stroke of milling head ram (Z axis)		(mm)	1250 / 1500				1500	
Distance from spindle end to table surface		(mm)	1600 / 2000				2000	
Feed rate of X, Y, and Z axes		(mm/min.)	5 ~ 3000					
Rapid speed of X, Y and Z axes		(mm/min.)	6000					
Mechanical double rotary swinging milling head (model: SVX60)	Rotary angle of B axis	(degree)	± 95°					
	Rotary angle of C axis	(degree)	N × 360°					
	Rotation speed of B axis	(mm/min.)	0 ~ 6					
	Rotation speed of C axis	(mm/min.)	0 ~ 5					
	Taper of spindle bore		ISO NO.50					
	Motor power of spindle (S6/S1)	(kw)	60 / 71					
	Max. speed of spindle	(rpm)	10 ~ 600 (2000)					
	Torque of spindle (S6/S1)	(N·m)	2000					
Overall dimensions (L × W × H)		(mm)	11500 × 8500 × 8500	11500 × 9000 × 8500	13500 × 9500 × 8500	13500 × 10000 × 8500	14500 × 10500 × 8800	16500 × 11000 × 8800
Total weight		(kg)	78000	90000	100500	110500	125000	140000

Remarks: 1. The length of working table in the above is of basic type, which can be increased or decreased on customer's request.
2. Cooling device, chip conveyor, and splash guards are available on customer's request.
3. When B axis is in vertical position, distance between spindle end and table surface can be altered on customer's request.

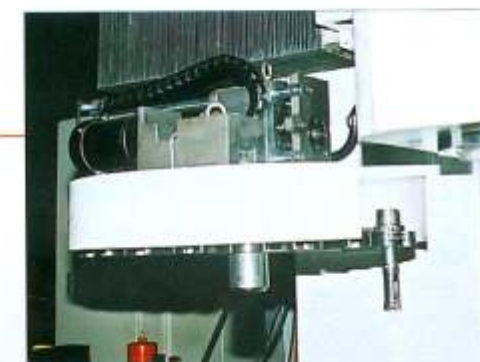
XSV27 SERIES GANTRY TYPE 5-AXIS HIGH SPEED MILLING MACHINE XHSV27 SERIES GANTRY TYPE 5-AXIS HIGH SPEED MACHINING CENTER

The structure of XSV27 Series 5-axis machine and XHSV27 Series 5-axis machining centers features a fixed bed and table, a gantry frame moving longitudinally along bed guideway (X axis), a saddle moving transversally along crossrail guideway (Y axis), and a ram moving vertically up and down along saddle guideway (Z axis). The double rotary swinging milling head can rotate in the horizontal plane (C axis rotating around Z axis) and swing in the vertical plane (B axis rotating around Y axis when C axis is at Zero Position).

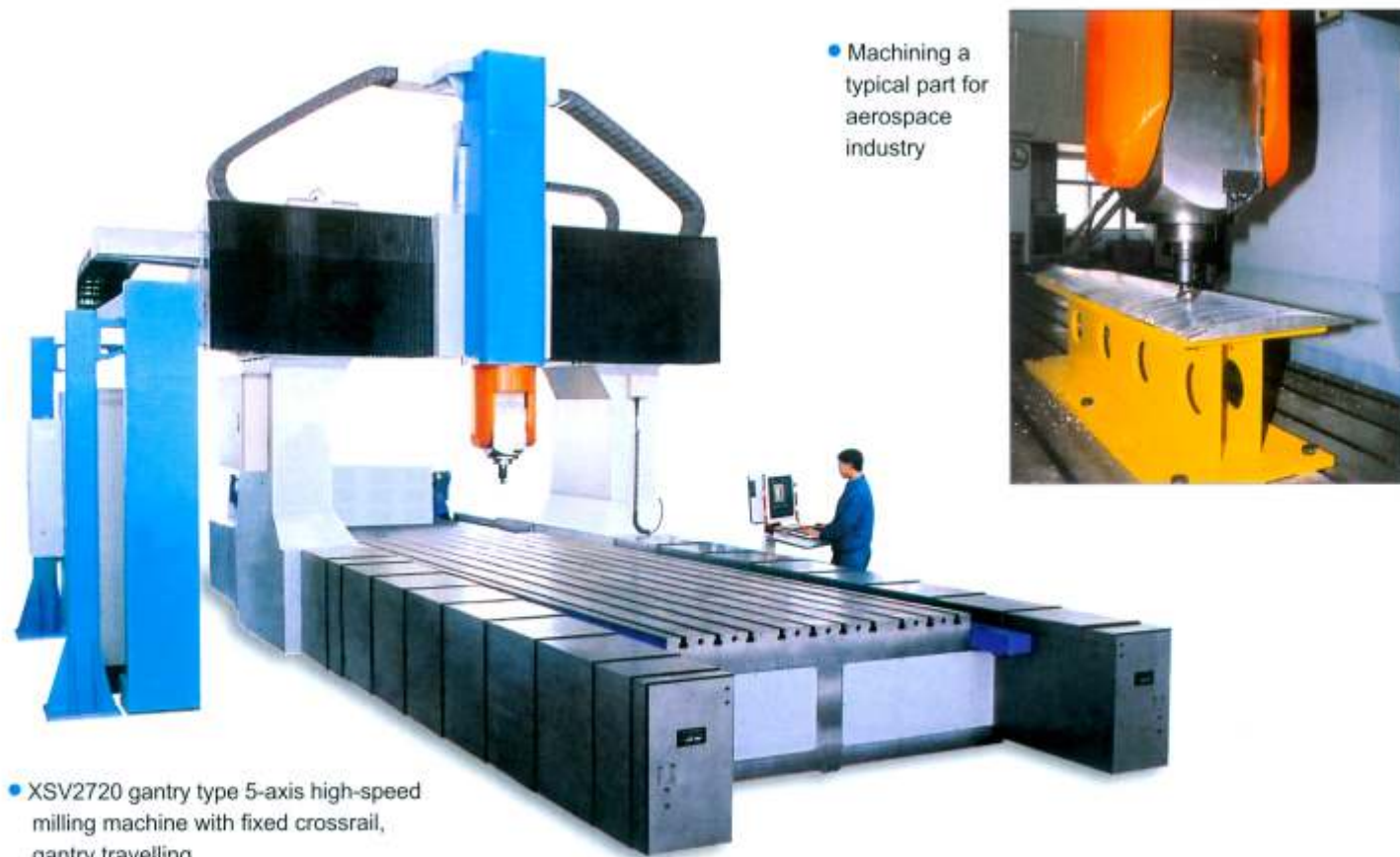
Main Structure and Features

- X, Y and Z axes adopt linear motion guideway. B and C axes adopt high precision roller center/thrust bearings.
- X axis is driven by dual pinion-rack gearbox in two sides. Y and Z axes adopt ball screw drive.
- B and C axes are driven through harmonic gearing reducer.
- X, Y and Z axes adopt optical scales to realize a completely closed loop control. B and C axes adopt angle encoder with high precision to realize a completely closed loop position feedback.
- Electric spindle adopts high-speed ceramic ball bearings and separate oil-pneumatic lubricating system.
- A mini-lubrication system for tools sprays atomized liquid to tools together with compressed air through nozzle installed on the milling head.
- Tool presetting device, online measuring probe and remote diagnosis function automatic tool magazine, automatic attachment change device and milling attachments are available with the machines at customer's requirement.
- CNC system: SIEMENS system.

• A disk type tool magazine of cap. 20 pcs



• XHSV2735 gantry type 5-axis high-speed machining center with fixed crossrail, gantry travelling



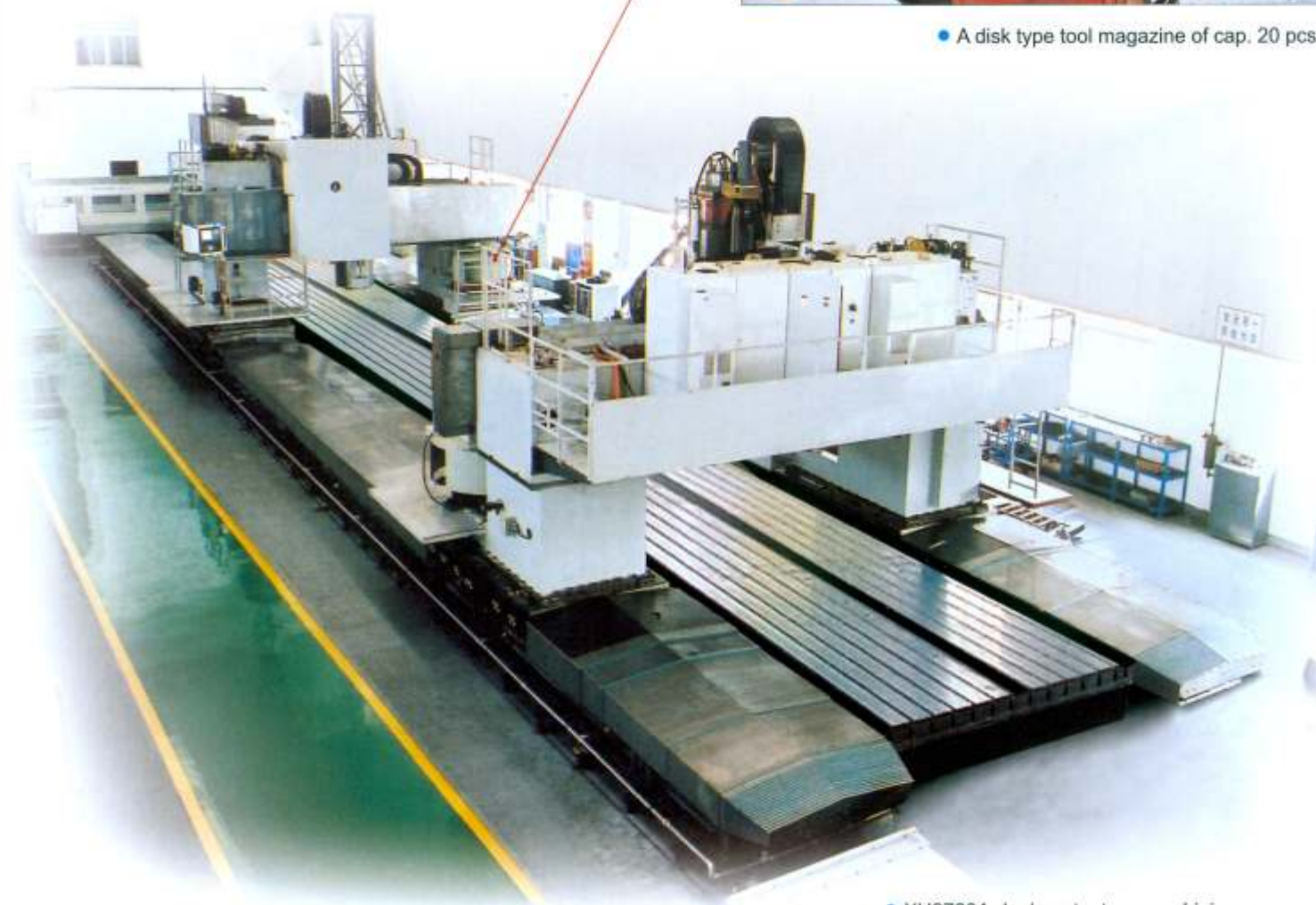
XSV27 SERIES GANTRY TYPE 5-AXIS HIGH SPEED MILLING MACHINE
XHSV27 SERIES GANTRY TYPE 5-AXIS HIGH SPEED MACHINING CENTER
MAIN TECHNICAL SPECIFICATIONS

Technical specifications		Model	XSV2715	XSV2720	XSV2725	XSV2730	XSV2735	XSV2740
		XHSV2715	XHSV2720	XHSV2725	XHSV2730	XHSV2735	XHSV2740	
Area of table (W × L)	(mm)	1500	2000	2500	3000	3500	4000	
Distance between columns	(mm)	2000	2600	3100	3600	4100	4600	
Max. load of table per meter	(kg/m)	5000		8000		10000		
Longitudinal stroke of gantry (X axis)	(mm)	4000～12000	6000～20000	6000～20000	8000～30000	8000～30000	8000～30000	
Transversal stroke of saddle (Y axis)	(mm)	2100	2600	3100	3600	4100	4500	
Vertical stroke of milling head ram (Z axis)	(mm)	800	950	950	1250	1250	1250	
Rotary angle of B axis	(degree)	± 110°						
Rotary angle of C axis	(degree)	± 200°						
Distance from spindle end to table surface	(mm)	50～850	50～1000		150～1400			
Feed rate of X, Y, and Z axes	(mm/min.)	10～20000						
Rapid speed of X, Y and Z axes	(mm/min.)	20000						
Rotation speed of B and C axes	(rpm)	0～8						
Rapid rotation speed of B and C axes	(rpm)	8						
Double rotary swinging milling head	Model	VX30 / 17		VX30 / 23		VX40 / 23		VX30、VX40 / 25
	Motor power of electric spindle (S6/S1) (kw)	40 / 30		34.5 / 30		91 / 40		38 / 30、56.8 / 40
	Taper of spindle bore	HSK—A 63		HSK—A 63		HSK—A 63		HSK—A 100
	Max. speed of spindle (rpm)	24000		18000 / 17000		24000		10000 / 15000
	Torque of spindle (S6/S1) (N.m)	38.7 / 29.1		82.4 / 71.1		93.2 / 71.1		303 / 213 / 150
Capacity of tool magazine	(pcs.)	20, 40(disk type) , 40, 60, 80 (chain type)						
CNC system		SIEMENS 840D or other CNC system						
Drive unit		SIEMENS 611D						

Remarks: When double rotary swinging milling head is used and B axis is in vertical position, distance between spindle end and table surface can be altered on customer's request.

XK27A SERIES DOUBLE GANTRY CNC BORING & MILLING MACHINE XH27A SERIES DOUBLE GANTRY MACHINING CENTER

The structure of XK27A Series machines and XH27A Series machining centers are super heavy CNC machines which features a fixed floor table, beds fixed on both sides of the table, two sets of gantry frames moving longitudinally along bed guideways (X axis), on each of which there is a ram milling head, a saddle moving transversally along the crossrail guideway (Y axis) and a ram moving vertically up and down along saddle guideway (Z axis).



Main Structure and Features

- Two sets of gantry frames are of fabricated parts. Table, saddle and ram are made of resin sand quality iron castings.
- X axis adopts linear motion guideways or hydrostatic and preloaded dual pinion-rack drive units which are mounted on two bilateral sides. Y and Z axes adopt high precision preloaded ball screws.
- The main milling head is of separating ram from gear reducer to improve its accuracy.
- Ram type milling head is counterbalanced by hydraulic cylinders.
- X, Y and Z axes adopt optical scales to realize a completely closed loop feedback control. X axis can also use absolute encoder to realize a semi-loop feedback.
- A disk type tool magazine with 20 or 24 tools, or a chain type tool magazine with 50, 60, 80, or 120 tools are available at customer's request.
- Automatic attachment change device and various milling attachments are at customer's request.
- CNC system: SIEMENS, FANUC, FIDIA, NUM or FAGOR system.



• Right-angle milling head



• Automatic Attachment Change device



• Operation panel

XK27A SERIES DOUBLE GANTRY TYPE CNC BORING & MILLING MACHINE WITH FIXED CROSSRAIL
XH27A SERIES DOUBLE GANTRY TYPE MACHINING CENTER WITH FIXED CROSSRAIL
MAIN TECHNICAL SPECIFICATIONS

Model	XK2720A	XK2725A	XK2730A	XK2740A	XK2745A	XK2750A
Technical specifications	XH2720A	XH2725A	XH2730A	XH2740A	XH2745A	XH2750A
Area of table(W×L)	(mm)	2000 × 25000	2500 × 20000	3000 × 20000	4000 × 20000	4500 × 20000
Distance between columns	(mm)	4000	4500	5500	6000	6500
Max. load of table per meter	(kg/m)	4000	10000	15000	20000	
Longitudinal stroke of each gantry(X axis)	(mm)	23000		18000		
Transversal stroke of saddle(Y axis)	(mm)	3500	4000	4500	5500	5800
Vertical stroke of milling head ram(Z axis)	(mm)			950, 1250, 1500		
Max. distance from spindle end to table surface	(mm)			200, 400		
Taper of spindle bore				ISO NO.60		
Speed of spindle	(rpm)			5-2000 / 1200		
Motor power of spindle	(kw)			60, 100		
Feed rate of X, Y, and Z axes	(mm/min.)			5-5000		
Rapid speed of X, Y and Z axes	(mm/min.)			10000		
Capacity of tool magazine(XH27 series)	(pcs.)		20, 24 (disk type)	50, 60, 80, 120 (chain type)		
Optional milling head attachment,				extended, universal and right angle milling head		
CNC system				SIEMENS 840D or other CNC systems		
Overall dimension (L × W × H)	(mm)	37000 × 8200 × 6000	32000 × 9100 × 6200	32000 × 9600 × 6200	32000 × 10500 × 6500	32000 × 11000 × 8000
Total weight	(kg)	320000	350000	380000	480000	540000

Remarks: 1. The length of working table in the above is of basic type, which can be increased or decreased on customer's request.
2. Milling attachments, automatic attachment change device, and cooling device are available on customer's request.

GIMAX SERIES FLOOR TYPE CNC BORING & MILLING MACHINE

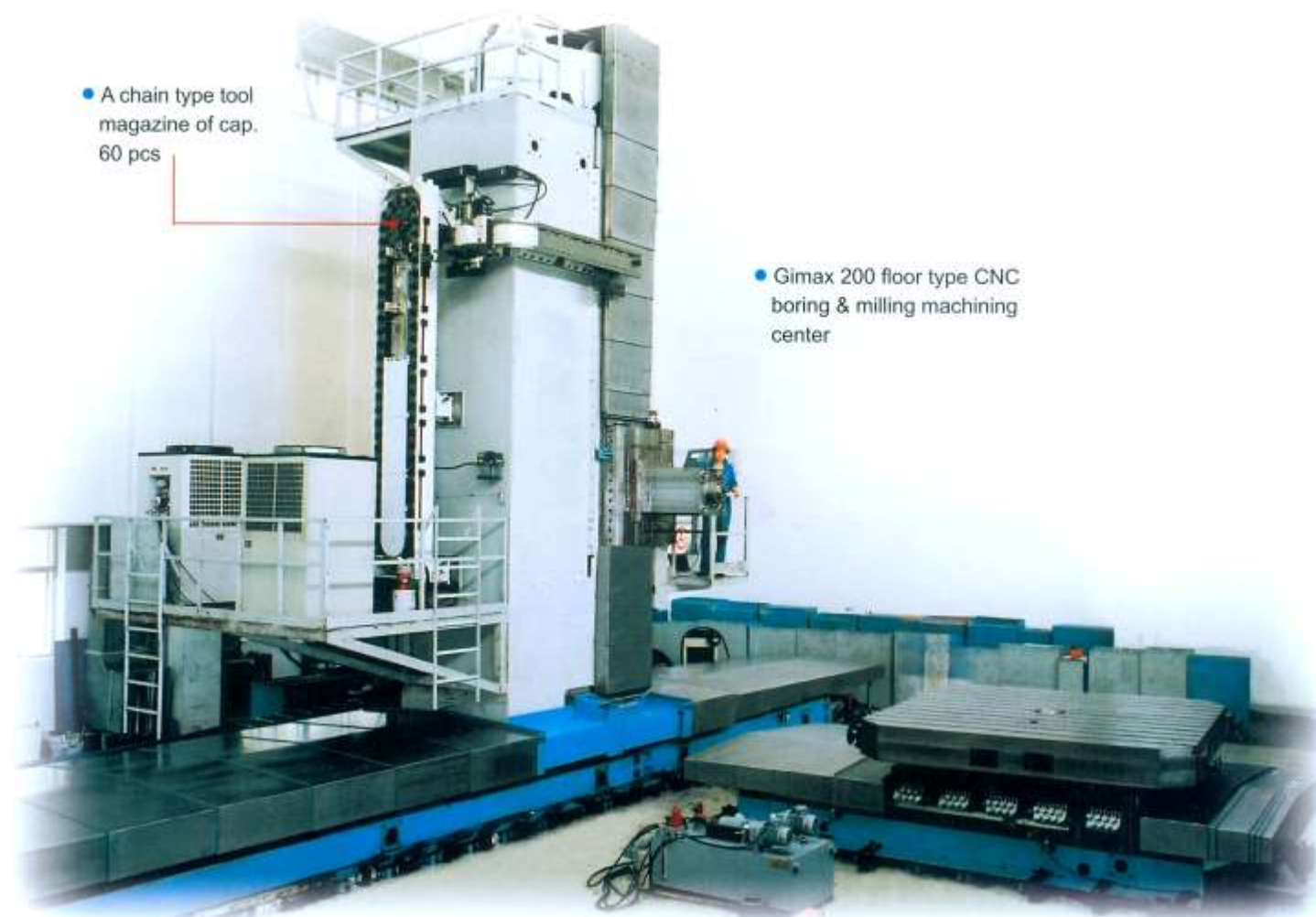
The main structure of GIMAX Series Floor-type CNC Boring & Milling Machine features a column, bed, saddle and headstock. Headstock includes boring spindle and milling quill, in which milling quill is mounted in the square ram to rotate boring spindle. a ram moving within headstock (W axis), spindle moving within ram (Z axis), headstock moving up and down along column (Y axis), and column moving longitudinally along bed (X axis). Rotary table can rotate 360° (B axis) and move in linear motion (V axis).

Main Structure and Features

- Column, saddle, and headstock of the machine are of fabricated steel structure. Bed, ram, floor table, rotary table and its bed are made of resin sand quality iron castings..
- Spindle of the machine adopts hydrostatic bearings.
- With counter balance and dual (numeral control and hydraulic) ram-spindle sagging compensation system.
- X, Y, Z, V, W, and B axes adopt hydrostatic guideways.
- Precise dual pinion-rack or precise preloaded ball screws for driving axis
- Optical scales for a completely closed loop position feedback or photo-electric encoder realize a semi-loop position feedback.
- Tools are pulled tight by disk type spring and released hydraulically.
- A chain type tool magazine with 50, 60, 80, or 120 tools are available at customer's request.
- CNC system: SIEMENS, FANUC, NUM or FAGOR system.



• Gimax 200 floor type CNC boring & milling machine



• A chain type tool magazine of cap. 60 pcs

• Gimax 200 floor type CNC boring & milling machining center



• Universal milling head



• Right-angle milling head



• Facing head



• Headstock of Gimax 180 machine



• Square ram of Gimax 160 machine



• CNC rotary table with linear motion

GIMAX SERIES FLOOR TYPE CNC BORING & MILLING MACHINE MAIN TECHNICAL SPECIFICATIONS

Technical specifications	Model	GIMAX160	GIMAX180	GIMAX200	GIMAX250
Diameter of spindle	(mm)	Φ 160	Φ 180	Φ 200	Φ 250
Section of ram	(mm)	480 × 480	550 × 550	600 × 600	600 × 600
Taper of spindle bore		ISO NO.50		ISO NO.60	
Speed of spindle	(rpm)	0 ~ 2000	0 ~ 1500	0 ~ 1250	0 ~ 1250
Power of spindle motor	(kw)	40 / 60	60 / 90	90 / 100	105
Horizontal travel of column (X axis)	(mm)	8000 ~ 13000			
Vertical travel of headstock (Y axis)	(mm)	3000 ~ 4000	3000 ~ 5000	4000 ~ 6000	4000 ~ 7000
Travel of spindle (Z axis)	(mm)	800	1000	1250	1500
Travel of ram (W axis)	(mm)	1000 / 1250		1250	1500
Feed rate of X, Y, Z and W axes	(mm/min)	5 ~ 3000			
Rapid speed of X and Y axes	(mm/min)	6000			
Rapid speed of Z and W axes	(mm/min)	5000			
Capacity of tool magazine (chain type)	(pcs.)	40, 50, 60, 80, 120 (at customer's request)			
CNC system		SIEMENS 840D or other CNC systems			
Drive unit		SIEMENS 611D			
Rotary table	Table size (L × W)	(mm)	2500 × 2500	3000 × 3000	3500 × 4000
	Max. load	(kg)	30000	45000	55000
	Linear motion of V axis	(mm)	1500		
	Feed rate of V axis	(mm/min)	0 ~ 2000		
	Rotation angle of B axis	(degree)	N × 360°		

Remarks: 1. Stroke of X axis can be increased by the increment of 1000mm on customer's request. Stroke of Y axis can be increased by the increment of 500mm, but max. recommended value cannot exceed the max. value specified in the table.

2. Stroke of W and Z axis are cumulative.

3. Milling head attachments can be picked up automatically. When replacing attachment, it occupies 1 meter stroke of X axis.

MILLING ATTACHMENTS OF GIMAX SERIES FLOOR TYPE CNC BORING & MILLING MACHINE MAIN TECHNICAL SPECIFICATIONS

Model of Machine		GIMAX160	GIMAX180	GIMAX200	GIMAX250
Right-angle milling head	Model	FTJ30	FTJ60	FTJ75	
	Power	(kw)	30	60	75
	Speed	(rpm)	2000	1500	1250
	Taper of spindle		ISO NO.50	ISO NO.50	ISO NO.60
Universal milling head	Model	FTW25	FTW45	FTW60	
	Power	(kw)	25	45	60
	Speed	(rpm)	2000	1500	1250
	Taper of spindle		ISO NO.50	ISO NO.50	ISO NO.50
Facing head	Model	U-T5.500 S	U-T5.630 S	U-T8.800 S	
	O.D.	(mm)	Φ 500	Φ 630	Φ 800
	Max. Dia. of machining	(mm)	Φ 1000	Φ 1250	Φ 1600
	Feed rate	(mm/r)	1 ~ 400	1 ~ 400	1 ~ 500
	Max. speed	(rpm)	315	250	200
Model of connecting sleeve		UL480	UL550	UL600	
Model of boring spindle rest		FTT160	FTT180	FTT200	FTT250

Remarks: Other special milling attachments are available on customer's request.

TK 69 SERIES FLOOR TYPE CNC BORING & MILLING MACHINE

The structure of TK69 Series Floor-type CNC Boring & Milling Machine is an up-to-date product which features a column, bed, saddle and headstock. Headstock includes boring spindle and milling quill, in which milling quill is mounted in the square ram to rotate boring spindle. The spindle can move axially inside the milling quill (Z axis), the square ram moves forward and backward along headstock (W axis), headstock moves up and down along column (Y axis), and the column moves transversally along bed (X axis).

This series is widely used in electric power equipment, combustion engine, automobile, ship-building, heavy mining machinery, machine tool, forging equipment and general-purpose machinery for rough and finish machining of various heavy and large sophisticated parts. It can do boring, milling, drilling, tapping and countersinking operations at one setup and carry out 5-surface machining if equipped with milling attachments.



• Ram and milling attachment



• Headstock



• TK6916 floor type CNC boring & milling machine

Main Structure and Features

- Column, saddle, and headstock of the machine are of fabricated steel structure or resin sand quality iron castings. Bed, ram, floor table, rotary table and its bed are made of resin sand quality iron castings.
- All moving axes of the machine adopt hydrostatic guideways. Moving guideways are embedded with anti-wearing gibs.
- The machine adopts the technology of ram deadweight deformation compensation and attachment weight compensation to ensure the accuracy.
- Hydrostatic system adopts one pump for multi-chamber through throttle valves with constant pressure.
- High precise bearings are used for the spindle to ensure the accuracy.
- Main drive of the machine adopts dual pinion-rack without clearance.
- Accuracy compensation of the machine adopts digital electro-hydraulic proportional valve to ensure the accuracy of spindle. Compensation method includes using counter weight to balance the headstock, compensate attachment weight and ram deformation.
- X, Y, W and V axes adopt optical scales to realize a completely closed loop control. B axis adopts angle encoder with high precision to realize a completely closed loop feedback. Z axis adopts encoder to realize semi-loop feedback.
- CNC system: SIEMENS SIEMENS, FANUC, NUM or FAGOR system.

Rotary Tables

The CNC rotary table consists of table, saddle and bed. All large parts are of castings. Guideways are hydrostatic. Table rotates on the saddle (B axis). Table and saddle can move linearly along the bed (V axis). Rotary table can rotate within 360°. Combined with the main machine for boring and milling of workpieces, it enlarges the machining range of TK69 series.



• CNC rotary table with linear motion

TK 69 SERIES FLOOR TYPE CNC BORING & MILLING MACHINE
MAIN TECHNICAL SPECIFICATIONS

Technical specifications		Model	TK6916	TK6920	TK6926
Diameter of spindle		(mm)	φ 160	φ 200	Φ 260
Section of ram		(mm)	500 × 550		600 × 740
Diameter of milling sleeve		(mm)	φ 320		φ 400
Taper of spindle			ISO NO.50	ISO NO.60	
Speed of spindle		(rpm)	0 – 800		0 – 600
Power of spindle motor		(kw)	55	71	71/100 100
Max. torque of milling sleeve		(N.m)	12000	11000	15000
Horizontal travel of column (X axis)		(mm)	8000 – 12000		
Vertical travel of headstock (Y axis)		(mm)	3000 – 5000		
Travel of spindle (Z axis)		(mm)	1200	1500	
Travel of Ram (W axis)		(mm)	1200	1500	
Feed rate of X,Y, Z and W axes		(mm/min)	5 – 3000		
Rapid speed of X and Y axes		(mm/min)	6000		
Rapid speed of Z and W axes		(mm/min)	3000		
CNC system			SIEMENS 840D or other CNC systems		
Optional milling attachments			extended, universal, right angle milling head and facing head		
Rotary table	Table size (L × W)	(mm)	2500 × 2500	3000 × 3000	3500 × 4000
	Max. load capacity	(kg)	30000	45000	55000
	Linear motion of V axis	(mm)	1500		
	Feed rate of V axis	(mm/min)	0 – 2000		
	Rotation angle of B axis	(degree)	N × 360°		

Remarks: 1. Stroke of X axis can be increased by the increment of 2000mm on customer's request. We can provide stroke of X axis exceeding the max. value specified in the table.
2. Stroke of W and Z axis are cumulative
3. TK 69 series floor-type CNC boring-milling machine can also be equipped with tool magazine on customer's request to realize Automatic Tool Change.