



中国通用技术集团  
China General Technology

# 数控龙门镗铣床系列

*CNC Bridge Type Boring and Milling Machines*

# 龙门镗铣加工中心系列

*Bridge Type Boring and Milling Machining Centers*



齐齐哈尔二机床(集团)有限责任公司

QIQIHAR NO.2 MACHINE TOOL (GROUP) CO., LTD.

**主要特点 MAIN FEATURES**

**组成 COMPOSITION**

机床适用于复杂形状的大型机座类零件和大型箱体类零件以及各类回转件的粗精加工，特别适合于船舶、发电、能源、交通、矿山、冶金、工程机械等行业的大型精密零件加工。

- ▲机床分龙门移动和工作台移动两种类型，每种类型又可分为横梁固定和横梁可升降两种形式，具体可根据用户要求进行确定。
- ▲用户根据加工要求机床可选用直线导轨（GM系列）或静压导轨（XK系列）。
- ▲主传动具有两档无级变速功能，可获得低速大扭矩及高速恒功率，可同时满足粗加工和精加工的不同工艺要求；
- ▲配备相应的附件能够在一次装夹中完成工件多个表面（除安装面外）的铣削、镗削、钻削（钻扩铰）攻螺纹等多种加工工序，避免了工件多次装夹定位、回零、找正、对刀等产生的误差。提高了加工精度和效率；
- ▲根据用户要求可配备多种功能不同的附件；
- ▲附件具有自动分度及自动交换的功能。还可配备刀库，实现机床的自动换刀。

These Machines are widely used for rough and fine machining of large engine-base kind components with complex shape, large box parts and various kinds of rotating components. They are especially suitable for machining large precise components in ship building, power generation, traffic, metallurgy and construction machinery industries and so on.

**FEATURES:**

- ▲ These machines can be classified into two types, travelling bridge (gantry type) and fixed bridge (portal type), and each type can be sub-classified into the ones fixed height cross-rail and the ones variable height cross-rail. The specifications of the machine can be confirmed by the customers according to their requirements.
- ▲ According to the machining requirements, these machines can be provided with linear guideways (Series GM) and hydrostatic guideways (Series XK).
- ▲ There are II shifts and infinitely variable speed function provided on the main transmission, which can provide low speed with large torque and high speed with constant power. The main transmission of the machine can satisfy various process requirements of rough machining and fine machining at the mean time.
- ▲ With the assistance of appropriate accessories, the machine are capable to complete multiple processes, such as milling, boring, drilling, enlarging, reaming, tapping, on various surfaces of the part (except contact surface against the table) after one time setup and it prevents the errors caused by the multiple clamping, positioning, resetting, correcting, tool setting etc, and eventually improve the machine accuracy and efficiency.
- ▲ Various accessories are available according to customer's requirements.
- ▲ The accessory is equipped with the automatic indexing and exchanging functions. Tool magazine is also available for automatic tool changing.

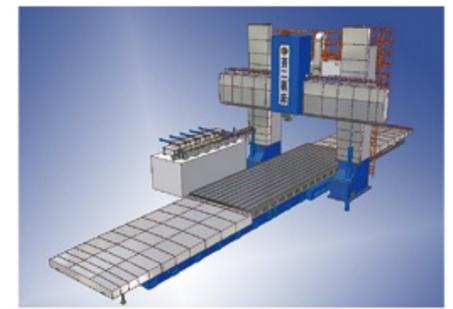
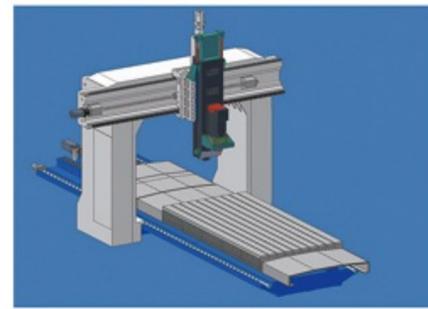
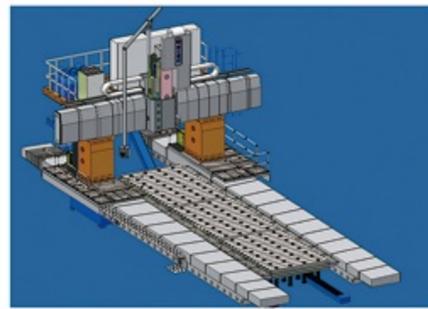


# 龙门镗铣结构图

## Classification Diagram Of Bridge Type Boring And Milling Machines

**龙门移动工作台固定**  
Travelling Bridge And Fixed Table

**龙门固定工作台移动**  
Fixed Bridge And Travelling Table



**定梁**  
Fixed Height Cross-rail

**动梁**  
Variable Height Cross-rail

**定梁**  
Fixed Height Cross-rail

**动梁**  
Variable Height Cross-rail

GM27

XK27

GM28

XK28

GM24

XK24

GM21

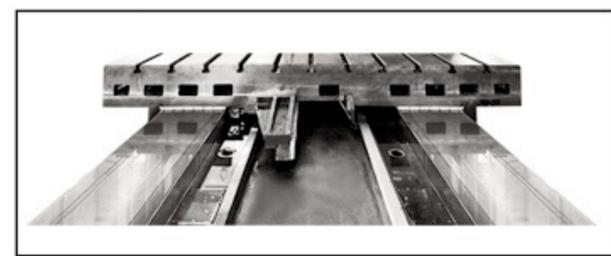
XK21



**GM直线导轨**  
Linear Guideways, Series GM



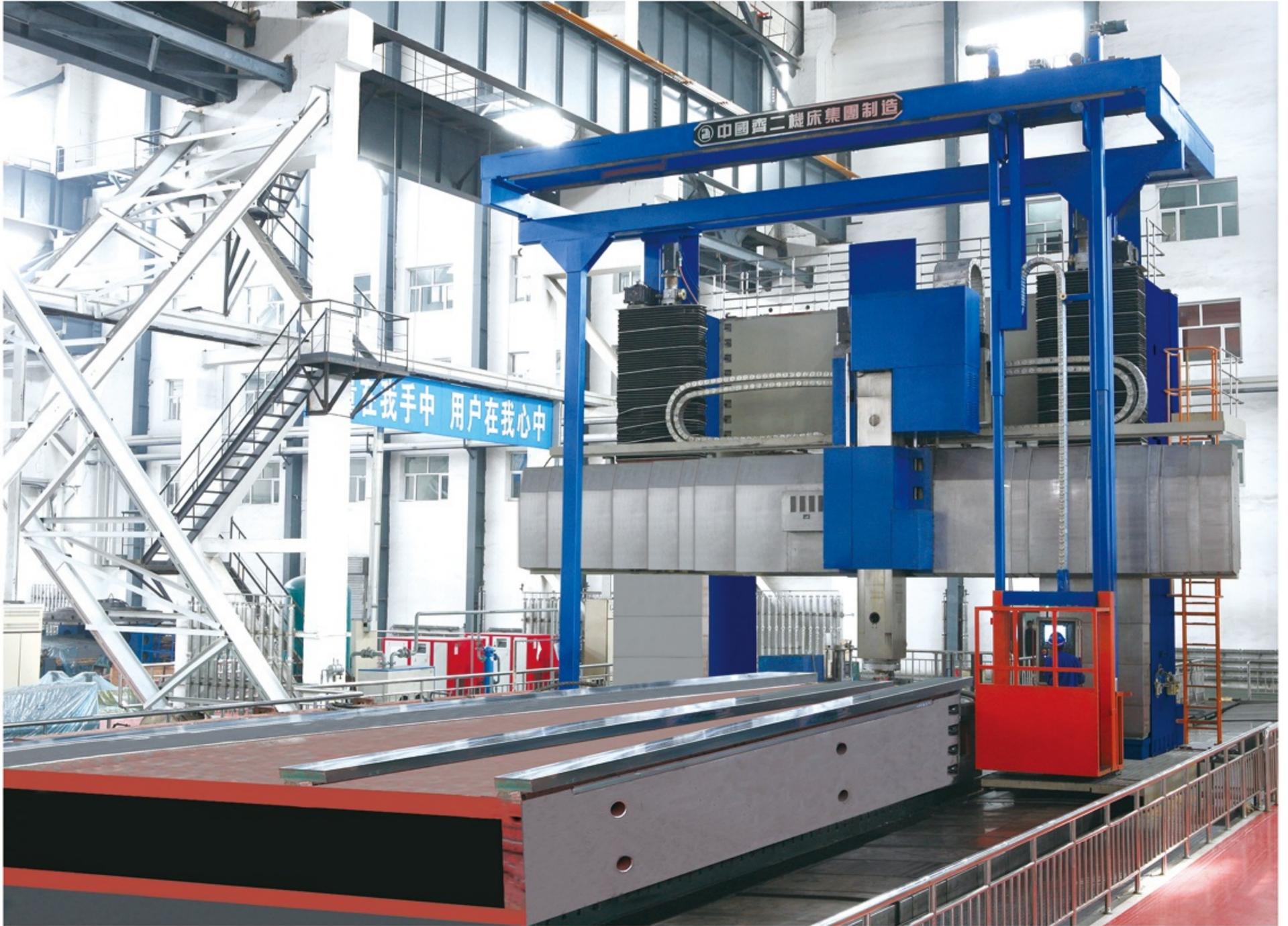
**横梁结构**  
Cross-rail Structure



**XK静压导轨**  
Hydrostatic Guideways, Series XK



可选附件 Optional Accessories.



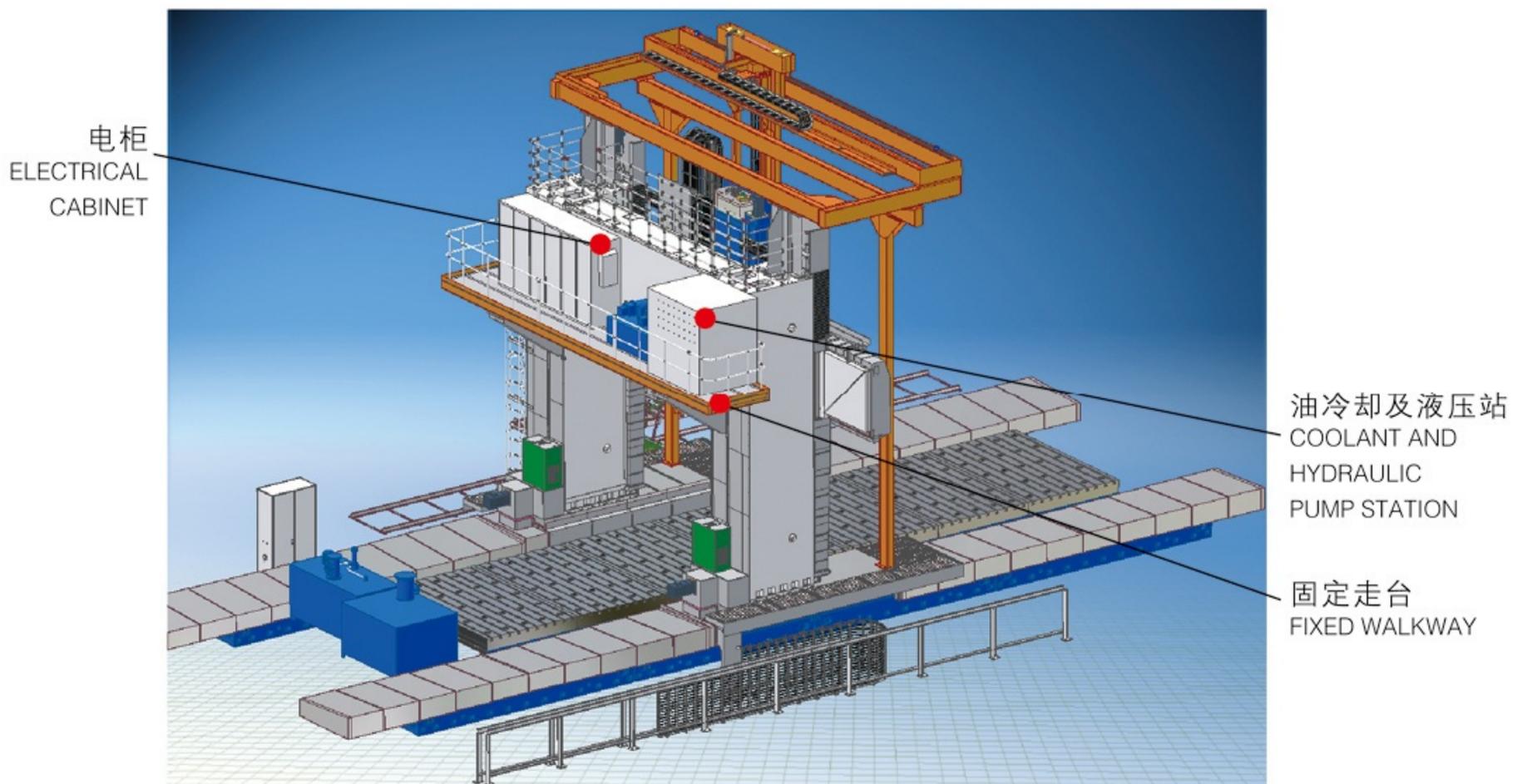
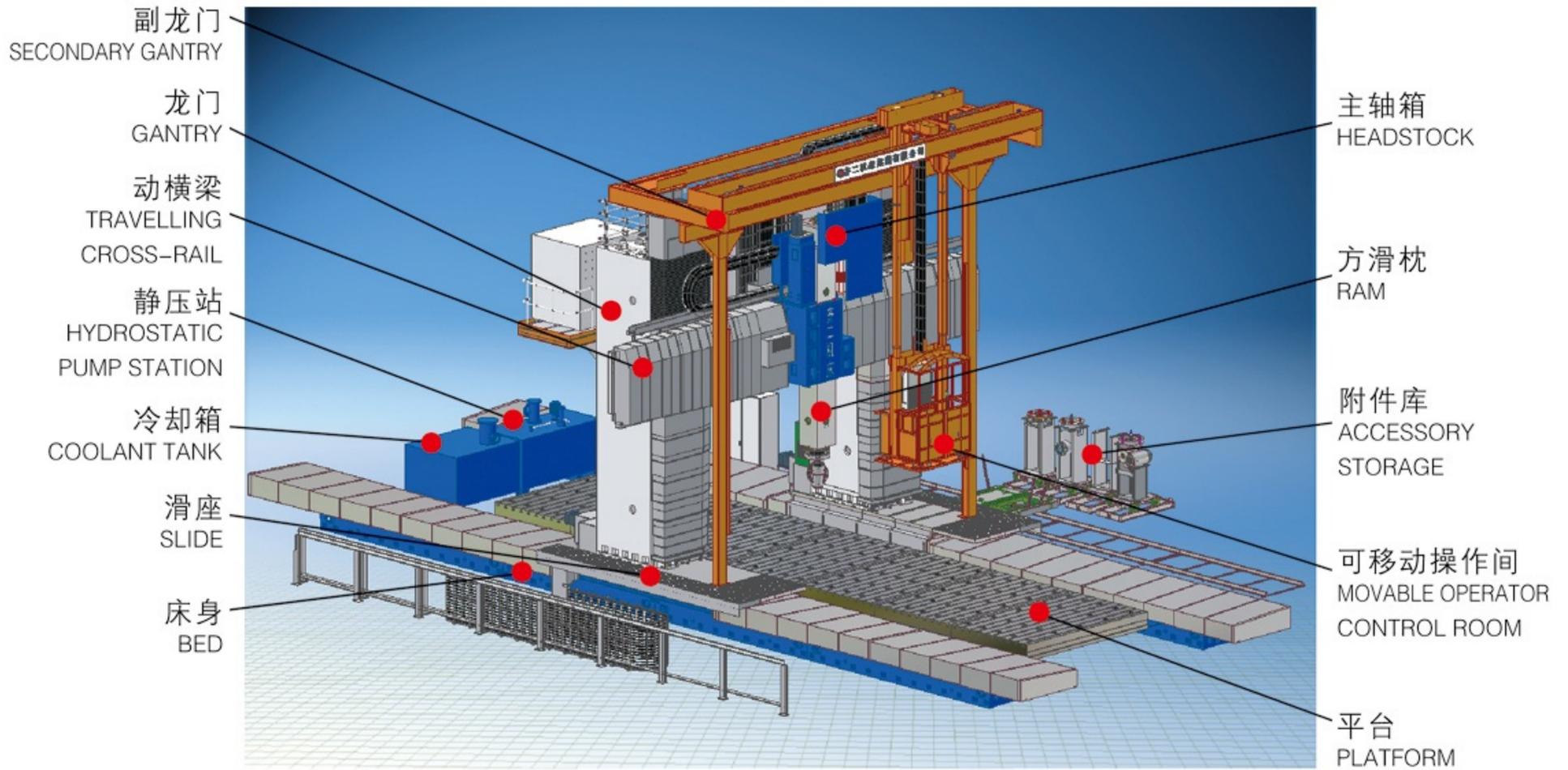
XK28/GM28

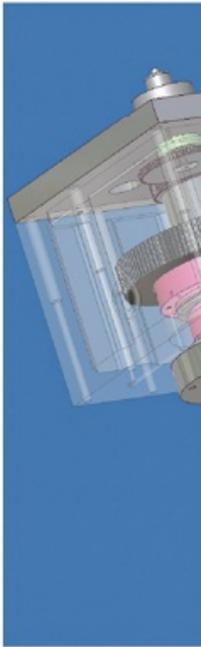
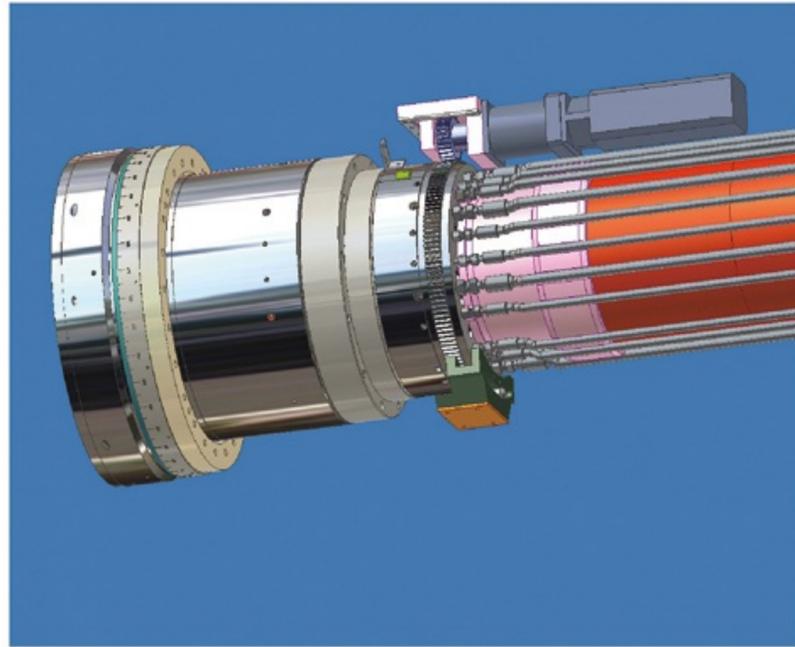
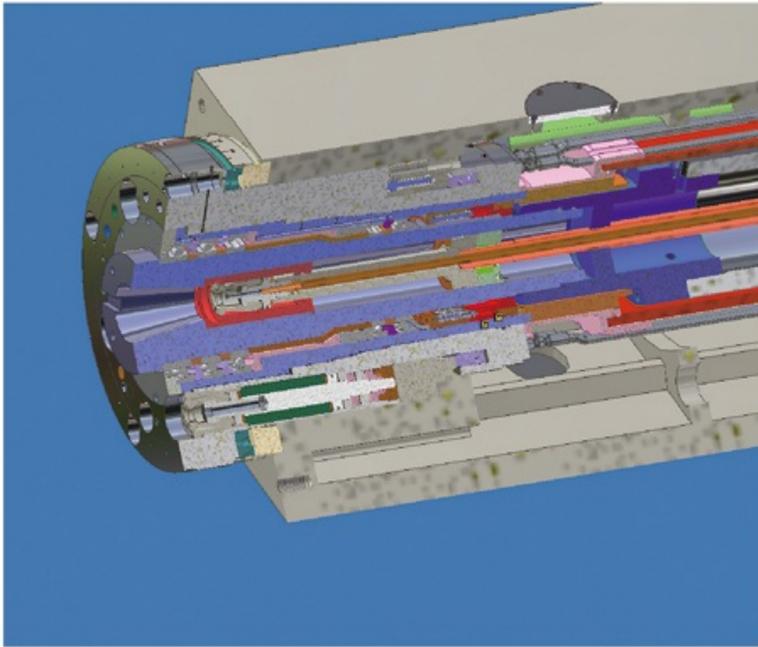




## 机床的主要组成部分及结构特点

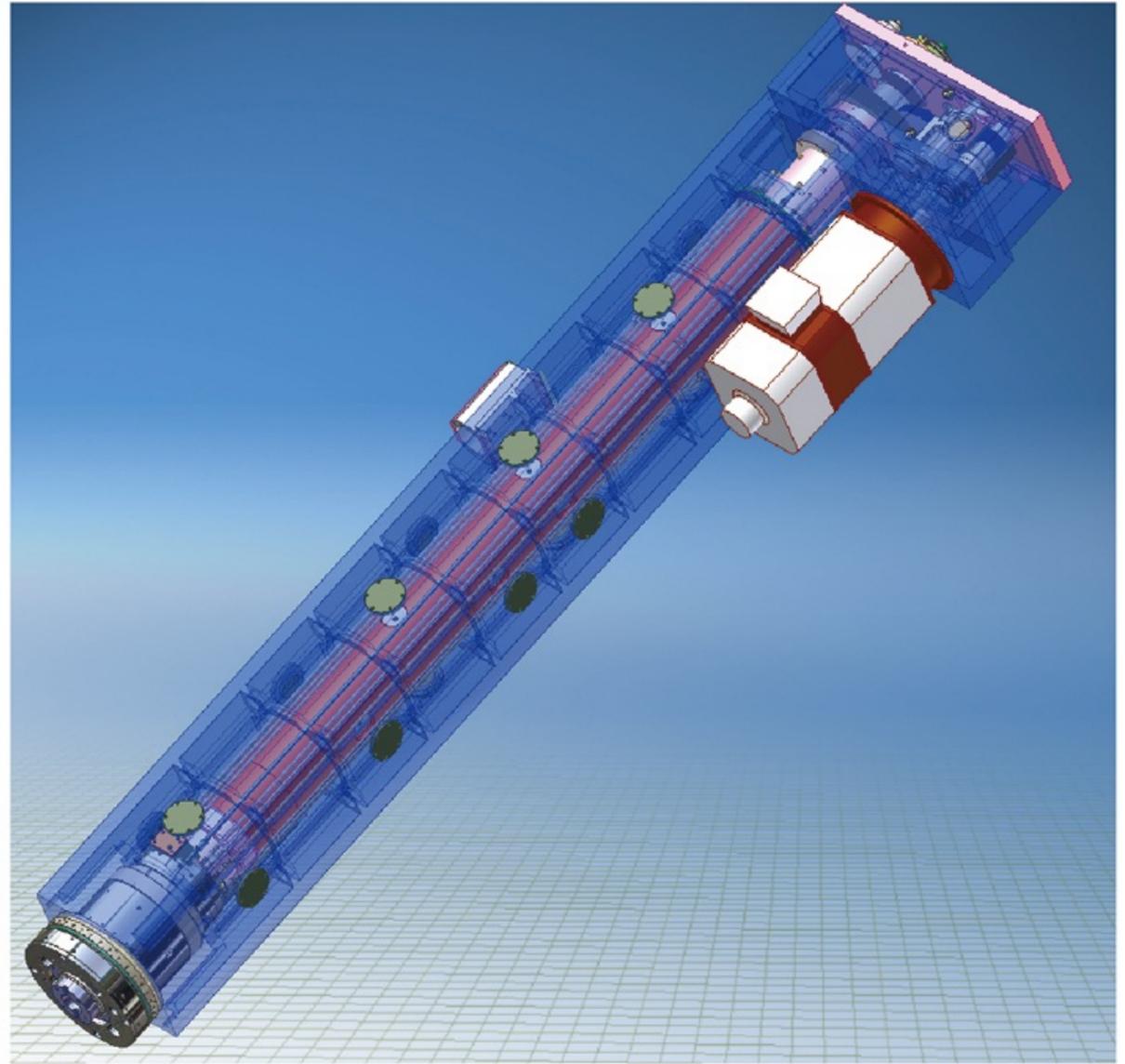
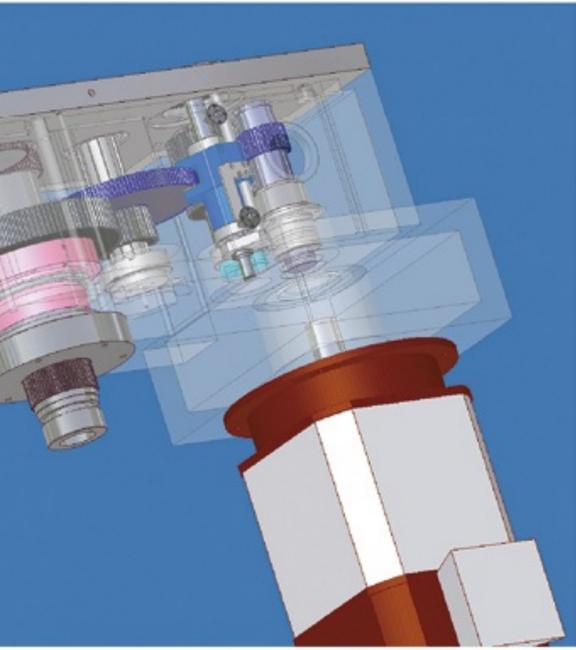
### MACHINE MAIN COMPONENTS AND STRUCTURAL FEATURES





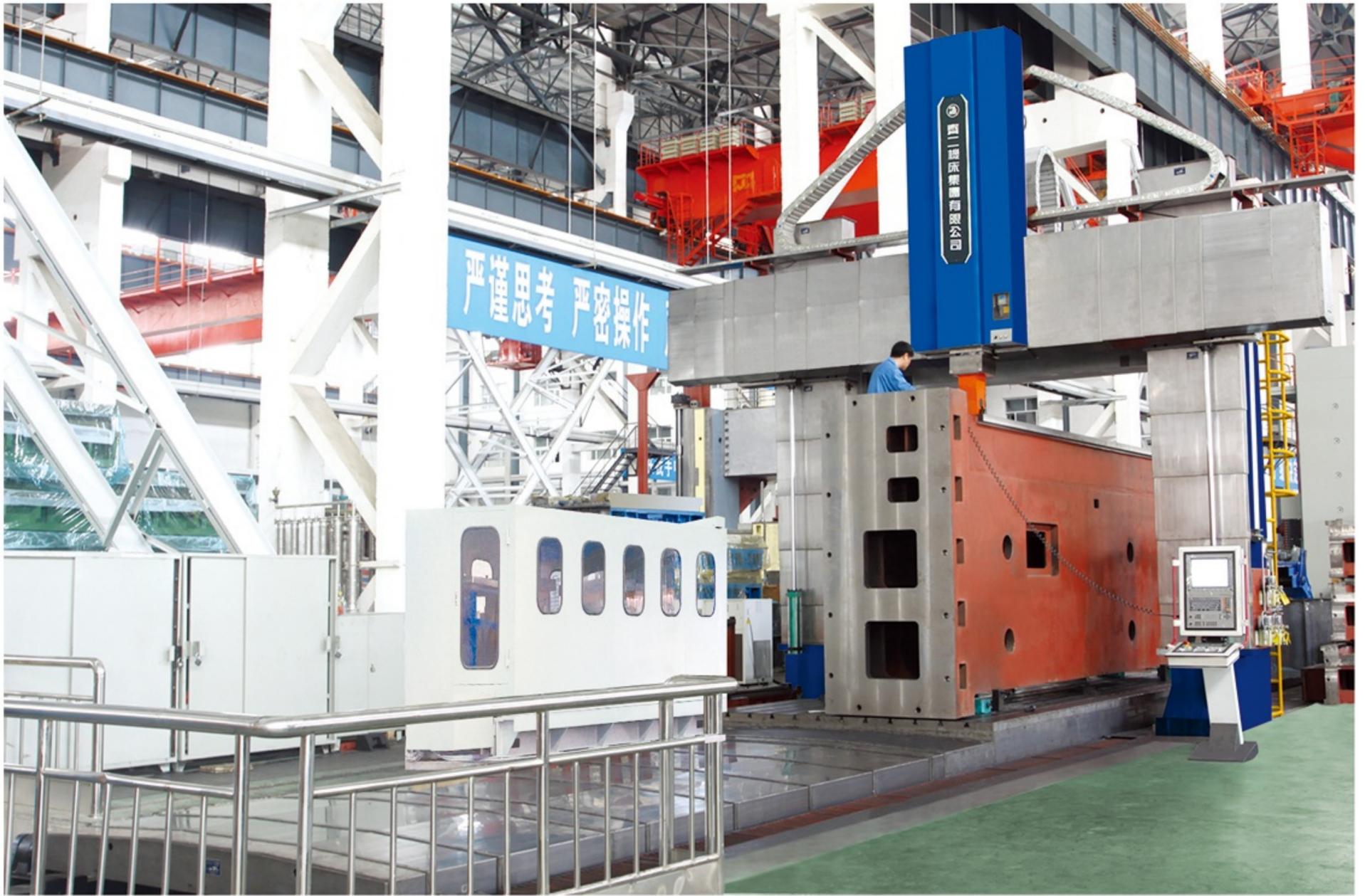
参数名称\型号	Specification/Model	单位(Unit)	GM2835/GM2735	GM2840/GM2740	GM2845/GM2745
工作台面尺寸(宽X长)	Table Surface Size (WxL)	mm	2500X8000	3000X10000	3500X12000
龙门宽度	Gantry Frame Width	mm	3500	4000	4500
工作台承重	Table Load	t/m <sup>2</sup>	8	10	10
X轴行程	Axis X Travel	mm	8500	10500	12500
Y轴行程	Axis Y Travel	mm	4500	4500	5000
Z轴行程	Axis Z Travel	mm	1250	1250	1500
W轴行程(仅对GM28系列)	Axis W Travel (Only For Series GM28)	mm	1500	1500	1500
各轴进给速度	Feed Rate Of Each Axis	mm/min	X/Y:10000	X/Y:10000	X/Y:10000
			Z :4000	Z :4000	Z :4000
			W :2000	W :2000	W :2000
滑枕截面	Ram Section	mm	500X500	500X500	500X500
C轴分度	Axis C Indexing		4X90°	4X90°	4X90°
主电机功率	Main Motor Power	kw	37	37	37
主轴转速范围	Speed Range Of Main Spindle	rpm	2-2000	2-2000	2-2000

参数名称\型号	Specification/Model	单位(Unit)	XK2835/XK2735	XK2840/XK2740
工作台面尺寸(宽X长)	Table Size (WxL)	mm	2500X8000	3000X10000
龙门架行程(X轴)	Gantry Travel (Axis X)	mm	8500	10500
工作台进给量范围(X轴)	Table Feed Range (Axis X)	mm/min	5-10000	5-10000
工作台承重	Table Load	t/m <sup>2</sup>	15	15
龙门宽度	Gantry Frame Width	mm	3600	4000
溜板箱行程(Y轴)	Slide Box Travel (Axis Y)	mm	4600	5200
溜板箱进给量范围(Y轴)	Feed Rate Of Slide Box (Axis Y)	mm/min	5-10000	5-10000
横梁行程(W轴)(仅对XK28系列)	Cross-Rail Travel (Axis W) (Only For Series XK28)	mm	2000	2000
横梁进给量范围(W轴)	Feed Rate Of Cross-Rail (Axis W)	mm/min	1-2000	1-2000
滑枕行程(Z轴)	Ram Travel (Axis Z)	mm	1250	1250
滑枕进给量范围(Z轴)	Feed Rate Of Ram (Axis Z)	mm/min	1-4000	1-4000
滑枕截面	Ram Section	mm	500X500	500X500
铣头自动分度(C轴)	Auto Indexing Of Milling Head (Axis C)		4X90°	4X90°
主轴转速范围(无级)	Speed Range Of Main Spindle(Ininitely Variable)	r/min	2-2000	2-2000
主电机功率	Main Motor Power	kw	37	37



GM2850/GM2750	GM2860/GM2760
4000X15000	5000X20000
5000	6000
10	10
16000	20500
6000	7000
1500	1500
1500	1500
X/Y:10000	X/Y:16000
Z :4000	Z :4000
W :2000	W :2000
500X500	500X500
4X90°	4X90°
60	60
2-2000	2-2000

XK2845/XK2745	XK2850/XK2750	XK2860/XK2760	XK2870/XK2770	XK2880/XK2780	XK2890	XK28100
3500X12000	4000X15000	5000X20000	6000X25000	7000X25000	8000X30000	9000X30000
12500	16000	21000	26000	26000	31000	31000
5-10000	5-8000		5-8000	5-8000	5-8000	5-8000
15	20	20	20	20	20	20
4600	5000	6000	7000	8000	9000	10000
5800	6200	7200	8200	9200	10200	110200
5-10000	5-10000	5-8000	5-8000	5-8000	5-8000	5-8000
2500	2500	3500	4000	5000	6000	6000
1-2000	1-2000	1-2000	1-1000	1-1000	1-1000	1-1000
1500	1500	1500	2500	3000	3500	4000
1-4000	1-4000	1-4000	1-3000	1-3000	1-3000	1-3000
600X600	600X600	600X600	630X680	630X680	630X680	630X680
4X90°	4X90°	4X90°	4X90°	4X90°	4X90°	4X90°
2-1500	2-1500	2-1500	2-1500	2-1200	2-1200	2-1200
60	100	100	100	100	100	100

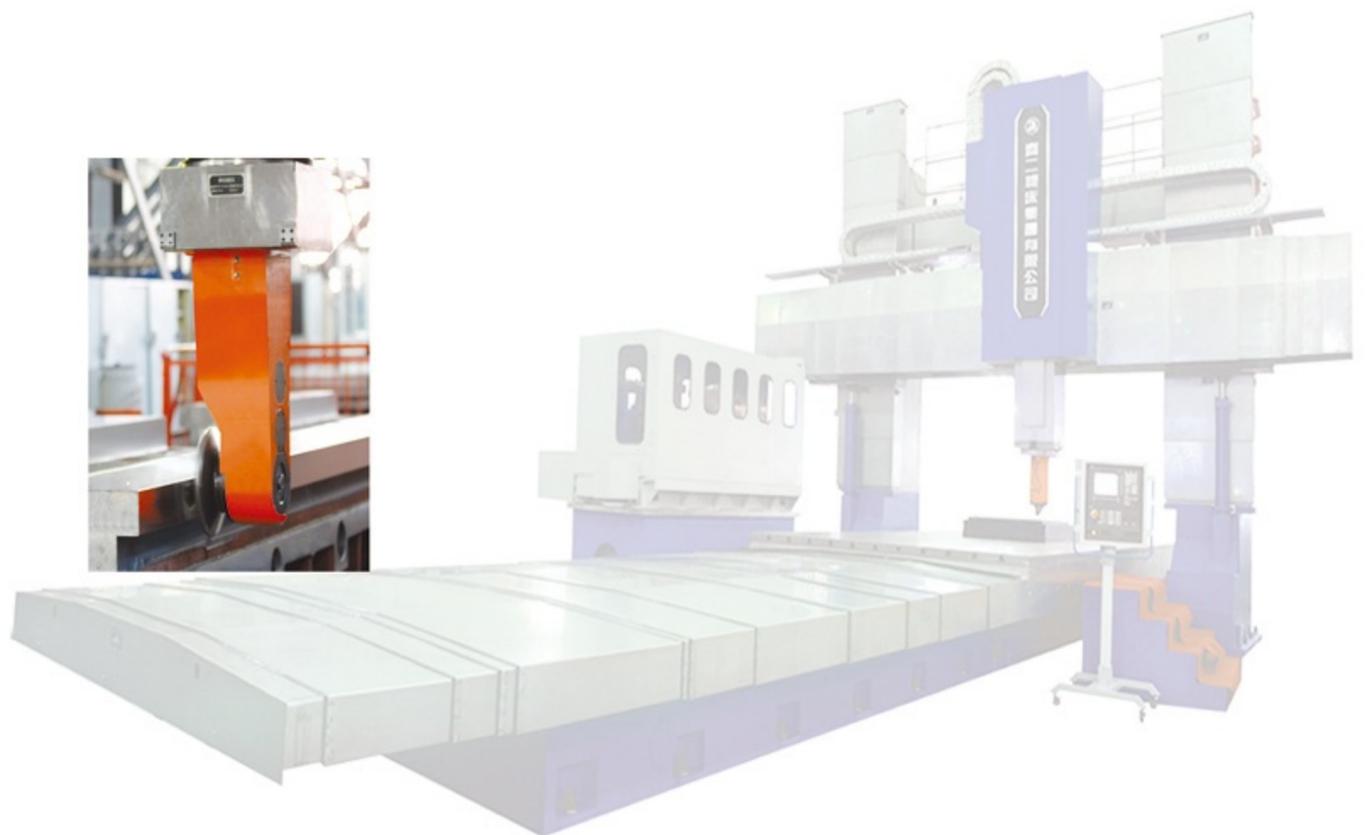


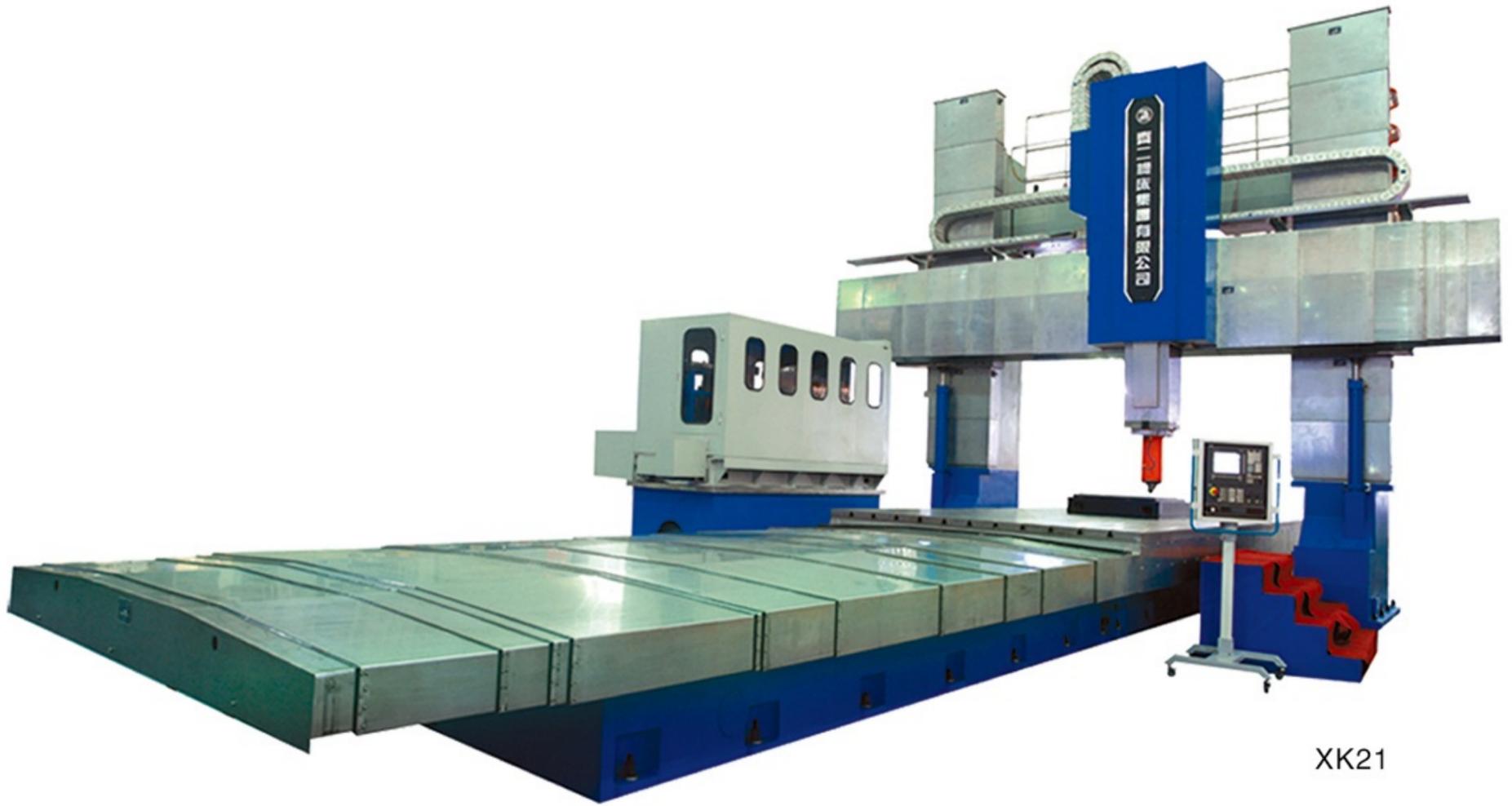
GM21

参数名称\型号	Specification/Model	单位(Unit)	GM2120	GM2125/GM2425	GM2130/GM2430	GM2135/GM2435
工作台面尺寸 (宽X长)	Table Surface Size (WxL)	mm	2000X5000	2500X6000	3000X8000	3500X10000
龙门宽度 (带防护罩)	Gantry Frame Width (With Cover)	mm	2500	3100	3600	4100
机床承载量	Machine Load	t/m <sup>2</sup>	5	5	5	5
X轴行程	Axis X Travel	mm	5200	6200	9000	10500
Y轴行程	Axis Y Travel	mm	3000	4250	4750	5100
Z轴行程	Axis Z Travel	mm	700	900	900	1500
W轴行程 (仅对GM21系列)	Axis W Travel (Only For Series GM21)	mm	800	1500	2000	2000
各轴进给速度	Feed Rate Of Each Axis	mm/min	X/Y:10000	X/Y:10000	X/Y:10000	X/Y:10000
			Z :4000	Z :4000	Z :4000	Z :4000
			W :2000	W :2000	W :2000	W :2000
滑枕截面	Ram Section	mm	350X350	380X380	380X380	500X500
C轴分度	Axis C Indexing		72X5°	72X5°	72X5°	4X90°
主电机功率	Main Motor Power	KW	22	28	28	37
主轴转速范围	Speed Range Of Main Spindle	r/min	2-2000	2-2000	2-2000	2-2000



GM2140/GM2440	GM2150/GM2450
4000X12000	5000X16000
4600	5600
8	8
12500	16500
5600	6600
1500	1500
2500	2500
X/Y:10000	X/Y:10000
Z :4000	Z :4000
W :2000	W :2000
500X500	500X500
4X90°	4X90°
60	60
2-2000	2-2000



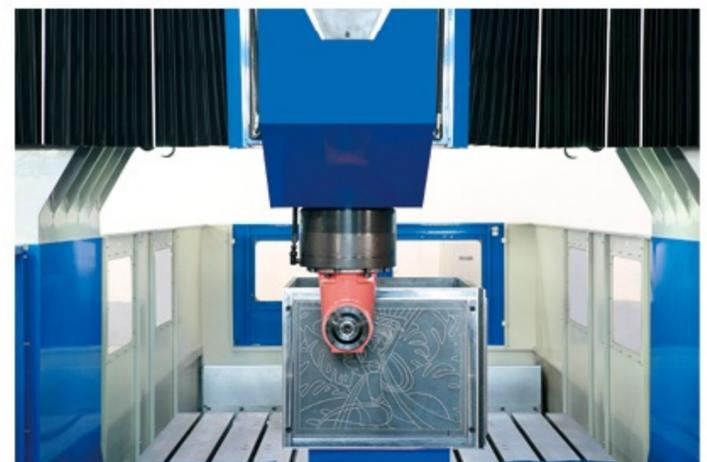


XK21

参数名称\型号	Specification/Model	单位(Unit)	XK2420	XK2130/XK2430
工作台尺寸(宽X长)	Table Size (WxL)	mm	2000X3000	3000X10000
工作台行程(X轴)	Table Travel (Axis X)	mm	3200	10500
工作台进给量范围(X轴)	Table Feed Range (Axis X)	mm/min	5-10000	5-10000
工作台承重	Table Load	t/m <sup>2</sup>	15	10
龙门宽度	Gantry Frame Width	mm	2500	3600
溜板箱行程(Y轴)	Slide Box Travel (Axis Y)	mm	3250	4600
溜板箱进给量范围(Y轴)	Feed Range Of Slide Box (Axis Y)	mm/min	5-10000	5-10000
横梁行程(W轴) (仅对XK21系列)	Travel Of Cross-Rail(Axis W) (Only For XK21 Series)	mm	-	2000
横梁进给量范围(W轴)	Feed Range Of Cross-Rail (Axis W)	mm/min	-	1-2000
滑枕行程(Z轴)	Ram Travel (Axis Z)	mm	1500	1250
滑枕进给量范围(Z轴)	Feed Range Of Ram (Axis Z)	mm/min	1-5000	1-4000
滑枕截面	Ram Section	mm	500X500	500X500
铣头自动分度(C轴)	Auto Indexing Of Milling Head (Axis C)		4X90°	4X90°
主轴转速范围(无级)	Speed Range Of Main Spindle(Ininitely Variable)	r/min	5-2000	2-2000
主电机功率	Main Motor Power	KW	60	60



XK24/GM24



XK2135/XK2435	XK2140/XK2440	XK2145/XK2445	XK2150/XK2450
3500X10000	4000X12000	4500X12000	5000X16000
10500	12500	12500	16500
5-10000	5-10000	5-10000	5-8000
10	10	10	10
4100	4600	5100	5600
5100	5800	6300	6800
5-10000	5-10000	5-10000	5-8000
2000	2500	3000	3500
1-2000	1-2000	1-2000	1-2000
1500	1500	1500	1500
1-4000	1-4000	1-4000	1-4000
500X500	600X600	600X600	600X600
4X90°	4X90°	4X90°	4X90°
2-2000	2-1500	2-1500	2-1500
60	100	100	100



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