



纵览全局  
共赢未来

德州红鑫机床有限公司

Dezhou Hongxin Machine Tool Co.Ltd.



德州红鑫机床有限公司

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德州红鑫机床有限公司已通过“ISO 9001国际质量管理体系认证”

Dezhou Hongxin Machine Co., Ltd. has passed ISO9001 international quality management system certification

深孔钻削镗削  
产品应用指南



## 公司简介 | COMPANY PROFILE

红鑫机床有限公司位于具有“九达天衢”之称的山东省德州市，是一家以设计、制造、销售为一体的综合性生产企业。公司成立于2003年7月，现有固定资产2500多万元，公司占地60多亩，员工200余人，拥有国内机床行业学科带头人为主的科研开发团队和国内机床行业一流的数字化机加装配车间，具有专业的机床设计制造能力和雄厚的技术实力。

红鑫机床有限公司已通过ISO9001国际质量管理体系认证、获得中国机床检验中心产品质量检验证书、深孔高效刮镗滚光机床专利证书，被评为山东省科技创新型明星企业。

公司主营产品有TGK型、ZGK型数控深孔刮镗滚光机床、数控螺杆铣床、深孔钻镗床（T2120/T2125/T2135/T2150系列）、重型深孔钻镗床（T2180/T21100系列）、单轴数控深孔钻床（ZK2102/ZK2103系列）、双轴（四轴）数控深孔钻床（ZK2102/ZK2103系列）、数控深孔强力珩磨机床（2MK2125/2MK2150/2MK2180系列）、风电主轴加工专机、石油钻铤加工专用深孔钻床、重型/特型深孔钻镗床、深孔套料机床等。加工直径自 $\Phi 1.5\text{mm}$ 至 $\Phi 1250\text{mm}$ ，长度规格齐全，加工孔深度最长可达16m。我公司的深孔类产品在国内一枝独秀，填补了多项国内空白，技术水平和市场占有率居国内领先地位，公司配套生产销售各种深孔加工刀具及辅具能适应各种应用场合所需要，标准系列有BTA型机夹可转位深孔钻头、外排屑枪钻钻头、深孔镗头、深孔滚压头、深孔珩磨头、镗滚组合头（TGG、TTG）及德式（韩式）深孔刮削滚光刀具等，并承接非标准深孔刀具、特型孔加工刀具的设计制造业务。

公司本着以“以市场为导向，精诚互信，服务第一，质量至上”作为企业经营的经营理念，坚持以“销售”为中心，以“研发”和“生产”为保障，将“合作共赢的营销原则，市场认可的研发原则，质量优先的生产原则”作为企业经营的基本原则。通过创新不断改进经营模式，通过自我超越不断提升部门业绩，追求卓越、和谐发展、争创一流公司。“诚信经营做百年企业，树国际名牌”。真诚希望与各界朋友诚挚合作、互利共赢、共谋发展。

Hongxin Machine Co. Ltd is located in a "nine Tianqu" of the Shandong city of Dezhou Province, is a design, manufacturing and sales of integrated production enterprises. The company was founded in July 2003, the existing fixed assets of about 25000000 yuan, the company covers an area of more than 60 acres, more than 200 employees, with academic leaders of domestic machine tool industry oriented research and development team and the domestic first-class digital machine tool industry and assembly workshop, with the professional machine design and manufacturing capability and strong technical strength.

Hongxin Machine Co. Ltd has passed ISO9001 international quality management system certification, product quality inspection center China machine inspection certificate, deep hole boring and rolling, scraping light machine patent certificate, was named Shandong province science and technology innovation star enterprise.

The company's main products are TGK type, ZGK type CNC deep hole scraping machine, CNC boring and rolling light screw milling machine, deep hole drilling (T2120/T2125/T2135/T2150 Series), heavy machine deep hole drilling (T2180/T21100 Series), single axis CNC deep hole drilling machine (ZK2102/ZK2103 Series) and double (four axis) CNC deep hole drilling machine, CNC deep hole (ZK2102/ZK2103 Series) strong honing machine (2MK2125/2MK2150/2MK2180 Series), wind power machines, machining spindle oil drill collar, drill hole processing special heavy / special deep hole drilling, deep hole trepanning machine etc.. Processing diameter from 1.5mm to 1250mm, length specification is complete, processing hole length up to 16m. My company's products in the domestic deep hole thriving, to fill a number of gaps, the level of technology and market share in the domestic leading position, the company supporting the production and sales of various deep processing tools and auxiliary tools can adapt to various applications required, standard series BTA type mechanical clamping indexable drill, cutting gun drill the drill head, deep hole, deep hole boring rolling head, deep hole honing, boring and rolling combined head (TGG, TTG) and German (Korean) deep hole roller scraping tool, and to undertake non-standard design of deep hole cutter, special drilling tool manufacturing business.

The company in line with "market oriented, sincere mutual trust, service first, quality first" as the core business philosophy, adhere to the "sales" as the center, with "development" and "production" for the protection of "cooperation and win-win principles of marketing, R & D market recognition principle, production principle" quality first as the basic principle of business. Through innovation, constantly improve the business model, through self transcendence, continuously improve the performance of the Department, the pursuit of excellence, harmonious development, striving for first-class companies. "Good faith management" to do a hundred years of enterprise, tree international brand". Sincerely hope to cooperate with friends from all walks of life, mutual benefit and win-win, and seek common development.

### 公司资质荣誉



通过 ISO9001:2008 国际质量管理管理体系认证



出口检验检疫登记证书



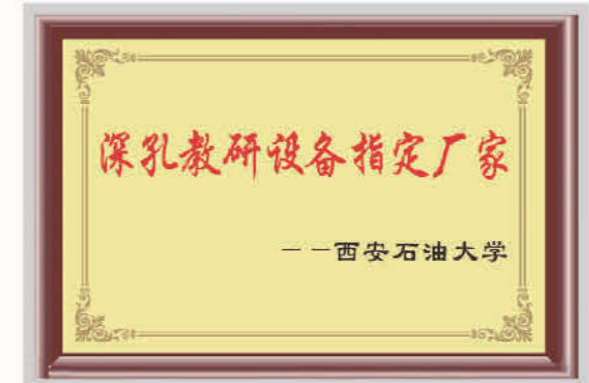
山东科技创新型明星企业



高新技术企业



重合同守信用企业



深孔教研设备厂家



出口质量合格证



出口产品质量许可证



数控深孔刮削滚光机床专利证书



校企合作



出口检验



商标注册证



机床检验报告



通过国家机床检验

车 间



## TGK-Z 全自动数控深孔刮削滚光机床

TGK-Z Fully automatic CNC deep hole skiving and polishing machine

单旋转



双旋转



我公司依据国内外深孔加工机床先进设计理念，自主研发设计而成的 TGK-Z 系列数控深孔刮削滚光机床，已获得实用新型专利证书，该机床具有加工效率高（深孔刮削效率是普通深孔和珩磨的 10-20 倍），智能化操作。它把普通深孔用 2-5 次工序才能完成的工作，一次性完成。将粗镗与精镗溶于一体，利用推镗一次完成粗精镗，镗完后利用退刀的时机同时完成滚压这道工序。使工件粗糙度达 Ra0.4um。可以替代普通深孔粗、精镗和珩磨的加工工艺，该机床的主要特点就是加工效率高，性能稳定，智能化操作等特点。

TGK25 型数控深孔刮镗滚光机床采用工件固定，刀具旋转进给的加工方式。该机床配备了 KND 数控系统，镗杆箱采用交流伺服主轴电机驱动。主轴轴承采用高精度轴承，回转精度高。进给箱采用伺服电机，无级调速。配备高精度的滚珠丝杠，实现了主轴箱高精度稳定进给。床身采用铸造床体加线性导轨，导轨宽度 650mm。线性导轨保证了机床整体刚性和导向精度。专用的液压自定心夹具保证了在高速加工过程中工件的稳定。机床配有自动排屑装置，冷却液过滤方式采用三级过滤，它是专业制造液压油缸的加工设备，这是深孔技术上的又一重大突破。该机床配备（德国、韩国、国产）高效率自动张缩刮滚刀具，采用粗镗-刮削-滚光的加工工序，机床配有专用的液压退刀系统，液压系统推动芯杆使刮滚刀和滚柱直径尺寸变小，刀具退回到授油器，液压系统拉动芯杆使刀具回到原始尺寸。该机床特别适用各种液压油缸、汽缸等精密管件的大批量加工。

Our company is based on domestic and foreign advanced design concept of deep hole drilling machine, TGK-Z series CNC deep hole independently designed scraping roller burnishing has been obtained, the utility model patent certificate, the machine has high machining efficiency (deep hole scraping efficiency is 10-20 times of ordinary and deep hole honing), intelligent operation. It uses ordinary deep hole with 2-5 steps to complete the work, one-time completion. The rough boring and fine boring are dissolved into one body, and the boring and finishing are completed by using the push boring method. After the boring, the rolling process is finished by using the time of returning the knife. The roughness of the workpiece reaches Ra0.4um. It can replace the ordinary deep hole rough, fine boring and honing processing technology, the main characteristics of the machine tool is high processing efficiency, stable performance, intelligent operation and so on. TGK25 CNC deep hole scraping, boring and rolling machine adopts the method of workpiece fixation and tool rotation feed.

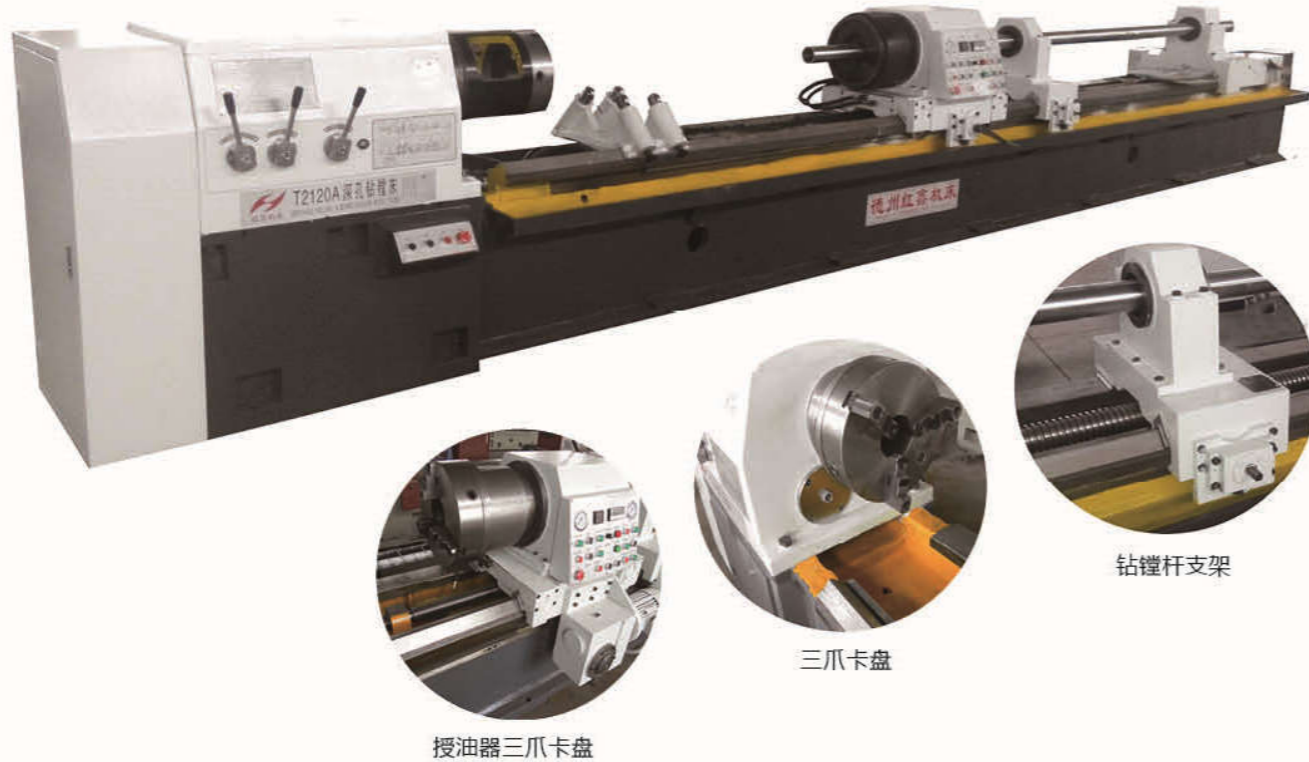
The machine tool is equipped with KND CNC system, and the boring bar box is driven by AC servo spindle motor. High precision bearings are used in spindle bearings, and the rotary accuracy is high. The feeding box adopts servo motor and stepless speed regulation. Equipped with high precision ball screw, high precision and stable feed of spindle box is realized. The bed adopts casting bed and linear guide rail, the width of guide rail is 650mm. The linear guide ensures the overall rigidity and steering accuracy of the machine tool. The special hydraulic self centering fixture ensures the stability of the workpiece in the high-speed machining process. The machine tool is equipped with automatic chip removal device, and the coolant filtration mode adopts three stage filtration. It is a processing equipment for hydraulic cylinder manufacture, which is another important breakthrough in deep hole technology. The machine is equipped with (Germany, South Korea, China) high efficiency automatic expansion scraping rolling tool machining process, the rough boring - scraping rolling light, machine equipped with a special hydraulic cutter system, hydraulic system to promote the core rod scraping hob and the diameter of the roller size tool back to the delegated oil, pull rod hydraulic core the system enables the tool back to the original size. The machine is especially suitable for mass processing of various hydraulic cylinders, cylinders and other precision pipe fittings.

### 技术参数 Technical parameters

技术规格 SPECIFICATION		参数 TECHNICAL DATE		
		TGK25	TGK35	
工作范围 CAPACITY	镗孔最大直径	Boring diameter	Φ250mm	Φ350mm
	镗孔最大深度	Max.boring depth	1-12m (每1米一个规格)	
	工件夹持直径范围	Workpiece clamped dia.range	Φ100mm-Φ300mm	Φ100mm-Φ350mm
主轴 SPINDLE	主轴中心高	Height from spindle center to bed	400mm	450mm
	镗杆箱主轴孔径	Spindle bord diameter	Φ65mm	
	主轴前端锥孔	Taper of spindle bore	85mm 1:20	
	主轴变速范围	Range of spindle bore	40-1000r/min (两档无级)	
进给 FEEDS	进给速度范围(无级)	Feed speed range(infinte)	5-1000mm/min	
	拖板快速移动速度	Carriage rapid-moving speed	3.5m/min	
电机 MOTORS	主电机功率	Main motor poser	45KW/60KW	
	液压泵电机功率	Hydraulic pump motor power	2.2KW	
	进给电机功率	Feed motor power	7.5KW 交流伺服	
	冷却泵电机功率	Cool pump motor power	7.5KWx2	
其他 OTHERS	冷却系统额定压力	Rated prdssure for cooling system	2.5Mpa (齿轮泵)	
	冷却系统流量	Flow of cooling system	200L/min 两组 或 300L/min 两组	
	液压系统额定工作压力	Rated working pressure for hydraulic system	6.3Mpa	
	授油器承受最大轴向力	Max.axial force for carriage support	68KN	
	授油器对工件的最大预紧力	Max.clamping force exalted by carriage on workpiece	20KN	
数控系统	标配北京 KND 数控系统，可选配西门子数控系统或 FANUC 数控系统			

## T2120A T2120 深孔钻镗床系列

T2120A T2120 deep hole boring and boring machine series



授油器三爪卡盘

三爪卡盘

钻镗杆支架

该机床是专门加工圆柱形深孔工件的设备，如加工机床的主轴孔，各种机械液压油缸、汽缸圆柱形通孔、盲孔及阶梯孔等。其加工孔径精度可达 IT7 ~ IT8 级或以上，表面粗糙度可达到 Ra0.4 $\mu$ m。机床不但可以承担钻削、镗削，而且还可以进行滚压加工，钻削时采用内排屑法。机床床身刚性强，精度保持性好。主轴转速范围广，进给系统由交流伺服电机驱动，能适应各种深孔加工工艺的需要。授油器紧固和工件顶紧采用液压装置，仪表显示，安全、稳定可靠。工件精度高，废品率低，效率高，质量优。调节速度简易快捷，电机功率小，成本低，投资少可替代专机功能。

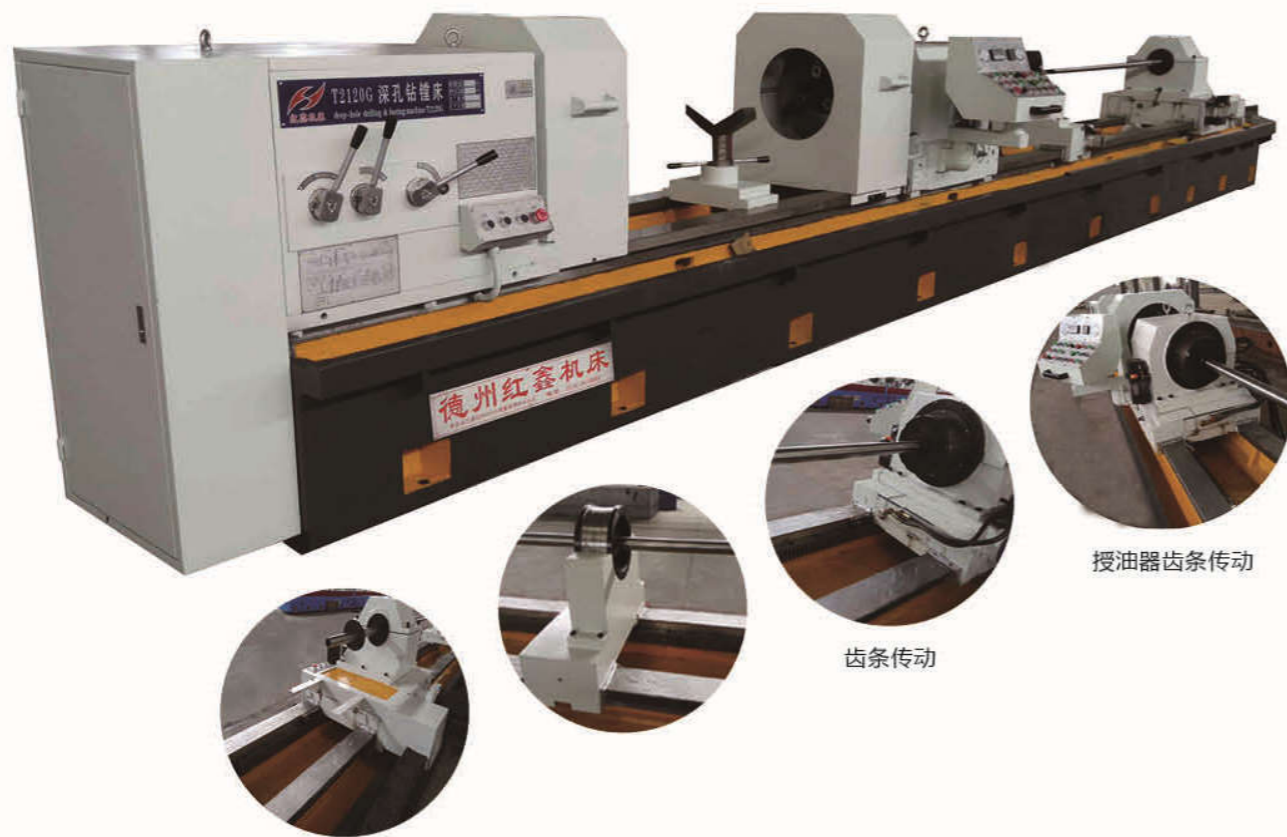
The machine tool is a special equipment for machining cylindrical deep hole workpieces, such as the spindle hole of machining machine, all kinds of mechanical hydraulic cylinder, cylinder through hole, blind hole and ladder hole, etc.. The machining aperture accuracy can reach IT7 to IT8 or above, and the surface roughness can reach Ra0.4  $\mu$ m. The machine tool not only can bear drilling, boring, but also can be rolling processing, drilling using internal chip removal method. The machine tool bed has strong rigidity and good precision retention. The spindle speed range is wide, the feed system is driven by AC servo motor, and can adapt to the needs of various deep hole processing technology. The hydraulic device is used for fastening the oil supply device and tightening the workpiece. The instrument is safe, stable and reliable. The workpiece has the advantages of high precision, low reject rate, fast efficiency and excellent quality. The regulating speed is simple and quick, the power of the motor is small, the cost is low, and the investment is small, which can replace the function of the special plane.

## 技术参数 Technical parameters

技术规格 SPECIFICATION			参数 TECHNICAL DATE	
			T2120A	T2120
工作范围 CAPACITY	镗孔最大直径 Maximum diameter of bore	Boring diameter	Φ180mm	Φ200mm
	钻孔直径范围 Drilling diameter range	Max drilling depth	Φ40mm-Φ80mm	Φ40mm-Φ80mm
	镗孔最大深度 Maximum depth of bore	Max.boring depth	1000-5000mm	1000-10000mm
	工件夹持直径范围 Workpiece holding diameter range	Workpiece clamped dia.range	Φ60mm -Φ260mm	Φ60mm -Φ300mm
主轴 SPINDLE	主轴中心高 Spindle center height	Height from spindle center to bed	320mm	350mm
	床头箱主轴孔径 Headstock spindle bore	Spindle bore diameter	Φ75mm	Φ75mm
	主轴前端锥孔 The front end of the spindle taper	Taper of spindle bore	85mm 1:20	85mm 1:20
	主轴变速范围 Spindle speed range	Range of spindle bore	61-1000r/min 12级	61-1000r/min 12级
进给 FEEDS	进给速度范围(无极) Feed speed range (Wu Ji)	Feed speed range(infinite)	5-720mm/min	5-600mm/min
	托板快速移动速度 Pallet quick moving speed	Carriage rapid-moving speed	1m/min	2m/min
电机 MOTORS	主电机功率 Main motor power	Main motor power	15KW	22KW
	液压泵电机功率 Hydraulic pump motor power	Hydraulic pump motor power	1.5KW	1.5KW
	进给电机功率 Feed motor power	Feed motor power	3.7KW 交流伺服	3.7KW 交流伺服
	冷却泵电机功率 Motor power of cooling pump	Cool pump motor power	4KW	5.5KW
其他 OTHERS	冷却系统额定压力 Rated pressure of cooling system	Rated pressure for cooling system	0.36Mpa	0.36Mpa
	冷却系统流量 Cooling system flow	Flow of cooling system	200L/min	300L/min
	液压系统额定工作压力 Rated operating pressure of hydraulic system	Rated working pressure for hydraulic system	6.3Mpa	6.3Mpa
	授油器承受最大轴向力 The oil pump bears the maximum axial force	Max.axial force for carriage support	68KN	68KN
	授油器对工件的最大预紧力 The maximum pre tightening force of the oil distributor on the workpiece	Max.clamping force exerted by carriage on workpiece	20KN	20KN

## T2120G T2120G/1 深孔钻镗床系列

T2120G T2120G/1 Deep hole drilling machine



该机床是专门加工圆柱形深孔工件的设备，如加工机床的主轴孔，各种机械液压油缸、汽缸圆柱形通孔、盲孔及阶梯孔等。其加工孔径精度可达IT7 ~ IT8 级或以上，表面粗糙度可达到Ra0.4 μm。机床不但可以承担钻削、镗削，而且还可以进行滚压加工，镗孔时采用授油器供油，通过切削区，把切屑排向床头的排屑斗。钻孔时采用内排屑方式（BTA方式），即授油器供油，通过切削区，把切屑由钻杆内部排向床身后部的排屑斗。机床采用PLC控制或数控，授油器和进给拖板往复运动均采用伺服电机控制，能适应各种深孔加工工艺的需要。机床采用双矩形导轨齿条传动方式，保证了超长运动中进给传动的精度和刚性的要求。床体两侧安装防护罩，采用地上油箱，改善了操作环境。

该机床是一种操作方便、高效、环保的机床。

The machine is a special equipment for processing cylindrical deep bore workpieces, such as the spindle holes of machining machines, all kinds of mechanical hydraulic cylinders, cylinders, through holes, blind holes and stepped holes. Its processing aperture accuracy can reach IT7 ~ IT8 class or more, and the surface roughness can reach Ra0.4 μm. The machine tool not only can bear drilling, boring, but also can be used for rolling processing. When the boring is done, the oil supply is supplied by the oil feeder, and the chip is arranged in the cutting area to the chip bucket of the head of the bed. When drilling, the inner chip removing method (BTA way) is adopted, that is, the oil supply is supplied by the oil pump, and the chip is arranged from the inside of the drill pipe to the chip discharge bucket at the back of the bed. The machine tool adopts PLC control or numerical control, and the servomotor and feeding carriage reciprocating motion are controlled by servo motor, which can meet the needs of all kinds of deep hole processing technology. The machine adopts double rectangular rail and rack drive mode, which guarantees the accuracy and rigidity of the feed drive in the super long motion. The protective cover is arranged on both sides of the bed body, and the ground oil tank is adopted to improve the operating environment. This machine tool is a kind of machine tool with convenient operation, high efficiency and environmental protection.

## 技术参数 Technical parameters

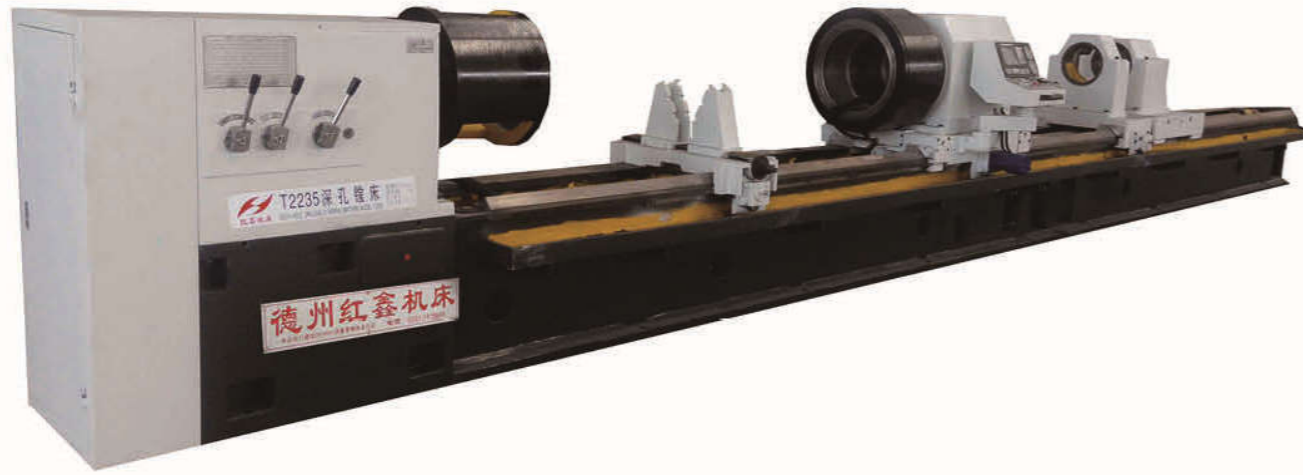
技术规格 SPECIFICATION		参数 TECHNICAL DATE
		T2120G、T2120G/1
钻孔直径范围	The range of drilling diameter	Φ40 ~ 80mm
镗孔直径范围	The range of boring diameter	Φ60 ~ 200mm
镗孔最大深度	The range of boring depth	1000-15000mm
主轴中心高	Height from spindle center to bed	400mm
中心架夹持直径范围	Workpiece clamped dia.range	Φ60-Φ300mm
卡盘直径	The diameter of chucks	Φ400
主轴转速范围、级数	Range and kinds of spindle speed	60-1000r/min 12级
主电机功率	The power of main motor	N=22KW
进给速度范围（无级）	Range of feeding speed	5-2000mm/min
进给电机功率	Feed motor power	N=5KW 交流伺服
冷却泵电机功率	Cool pump motor power	N=7.5KW
液压系统额定工作压力	Rated working pressure for hydraulic system	2.5Mpa
冷却系统流量	The Flow of cooling system	200L/min 两组

## T2120G 外形尺寸及重量 T2120G shape, size and weight

长度	1000mm	2000mm	3000mm	4000mm	5000mm	6000mm	7000mm	8000mm
占地空间 (长×宽×高)	6948x2873 x1550	8948x2873 x1550	10948x2873 x1550	12948x2873 x1550	14948x2873 x1550	16948x2873 x1550	18948x2873 x1550	20948x2873 x1550
净重约 (t)	11.2	13.9	15.7	18.5	20.3	22.4	24.2	27
毛重约 (t)	11.8	14.7	16.5	19.7	21.5	23.6	25.5	28.3

## T2125(T2225)/T2135(T2235) 深孔钻镗床系列

T2125 T2225 deep hole boring and boring machine series



龙门中心架



数控系统



授油器



T21 系列钻杆箱

该机床是专门加工圆柱形深孔工件的设备，如加工机床的主轴孔，各种机械液压油缸、汽缸圆柱形通孔、盲孔及阶梯孔等。其加工孔径精度可达IT7 ~ IT8级或以上，表面粗糙度可达到Ra0.4μm。机床不但可以承担钻削、镗削，而且还可以进行滚压加工，钻削时采用内排屑法。机床床身刚性强，精度保持性好。主轴转速范围广，进给系统由交流伺服电机驱动，能适应各种深孔加工工艺的需要。授油器紧固和工件顶紧采用液压装置，仪表显示，安全可靠。

该机床为系列产品，还可按用户需要提供各种变形产品。

The machine is a special equipment for processing cylindrical deep bore workpieces, such as the spindle holes of machining machines, all kinds of mechanical hydraulic cylinders, cylinders, through holes, blind holes and stepped holes. Its processing aperture accuracy can reach IT7 ~ IT8 class or more, and the surface roughness can reach Ra0.4 μm. The machine tool not only can bear drilling and boring, but also can be used for rolling process, and the inner chip removing method is used when drilling. The rigidity of the machine bed is strong, and the accuracy is good. The spindle speed range is wide, the feed system is driven by AC servo motor, and can meet the needs of various deep hole processing technology. The oil supply device is fastened and the workpiece is tightly pressed with a hydraulic device, and the meter is safe and reliable. The machine tool for a series of products, but also according to user needs to provide a variety of deformation products.

## 技术参数 Technical parameters

技术规格 SPECIFICATION		参数 TECHNICAL DATE		
		T2125	T2135	
工作范围 CAPACITY	镗孔最大直径	Boring diameter	Φ250mm	Φ350mm
	钻孔最大直径	Max drilling depth	Φ100mm	Φ100mm
	镗孔最大深度	Max.boring depth	1000-15000mm	1000-15000mm
	工件夹持直径范围	Workpiece clamped dia.range	Φ60-Φ330mm	Φ200-Φ450mm
主轴 SPINDLE	主轴中心高	Height from spindle center to bed	350mm	450mm
	床头箱主轴孔径	Spindle bord diameter	Φ75mm	Φ75mm
	主轴前端锥孔	Taper of spindle bore	85mm 1:20	85mm 1:20
	主轴变速范围	Range of spindle bore	61-1000r/min 12级	40-500r/min 11级
进给 FEEDS	进给速度范围(无级)	Feed speed range(infinte)	5-600mm/min	5-600mm/min
	拖板快速移动速度	Carriage rapid-moving speed	2m/min	2m/min
电机 MOTORS	主电机功率	Main motor poser	22KW	30KW
	液压泵电机功率	Hydraulic pump motor power	1.5KW	1.5KW
	拖板快速电机功率	Carriage fapid motor power	3KW	4KW
	进给电机功率	Feed motor power	3.7KW 交流伺服	5.5KW 交流伺服
	冷却泵电机功率	Cool pump motor power	5.5KW	5.5KW
其他 OTHERS	冷却系统额定压力	Rated prdssure for cooling system	0.36Mpa	0.36Mpa
	冷却系统流量	Flow of cooling system	300L/min	300L/min
	液压系统额定工作压力	Rated working pressure for hydraulic system	6.3Mpa	6.3Mpa
	授油器承受最大轴向力	Max.axial force for carriage support	68KN	68KN
	授油器对工件的最大预紧力	Max.clamping force exalted by carriage on workpiece	20KN	20KN

## T2125 外形尺寸及重量 T2125 shape, size and weight

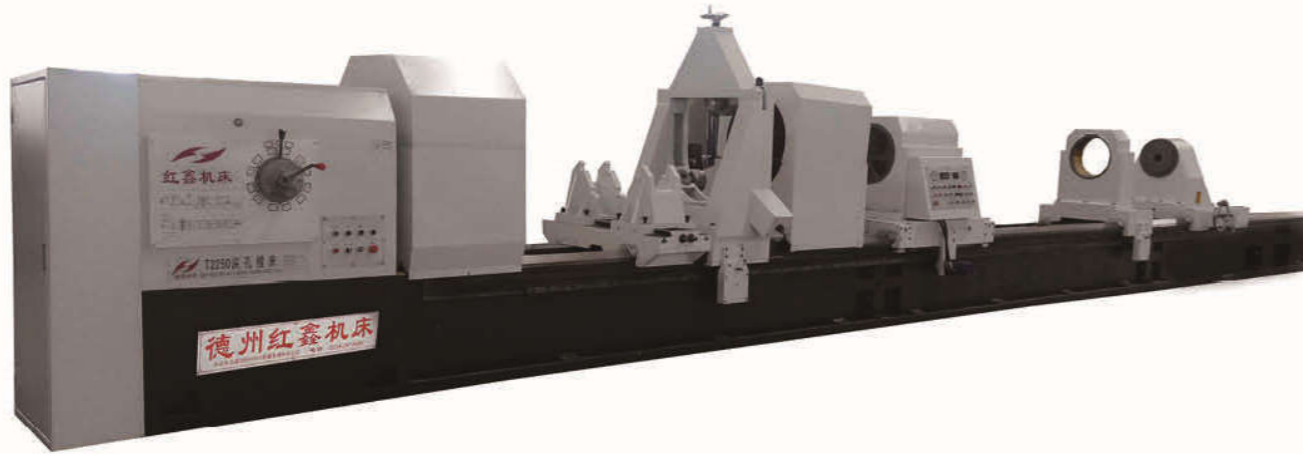
长度 (mm)	1000	2000	3000	4000	5000	6000	7000	8000
占地空间 长x宽x高	7948x3150 x1550	9948x3150 x1550	11948x3150 x1550	13948x3150 x1550	15948x3150 x1550	17948x3150 x1550	19948x3150 x1550	21948x3150 x1550
净重 (t)	12	14.5	16.3	18.8	20.6	22.5	24.5	26.2
毛重 (t)	13	15	17	20	22	23	25	28

## T2235 外形尺寸及重量 T2235 shape, size and weight

长度 (mm)	1000	2000	3000	4000	5000	6000	7000	8000
占地空间 长x宽x高	7980x3500 x1850	9980x3500 x1850	11980x3500 x1850	13980x3500 x1850	15980x3500 x1850	17980x3500 x1850	19980x3500 x1850	21980x3500 X1850
净重 (t)	12.7	15.1	16.8	19.1	21.1	22.5	24.2	26.4
毛重 (t)	13.6	16.4	18.2	20.7	22.5	24.4	26.2	29.6

## T2150 T2250 深孔钻镗床系列

T2150 T2250 deep hole boring and boring machine series



T2150 深孔钻镗床根据工件的长短,该产品选用两种加工工艺:短工件采用授油器授油并液压顶紧;长工件采用由镗杆尾部授油,四爪卡盘夹紧。授油器采用创新的主轴式结构形式,承重性能有很大提高,旋转精度更高。床身导轨采用适宜深孔加工机床的双矩形导轨,承载能力大,导向精度高;导轨经过了淬火处理,耐磨性较高。适用于机床制造、船舶、煤机、液压、动力机械、风动机械等行业的镗削、滚压加工,使工件粗糙度达 0.4-0.8 $\mu$ m。本系列深孔镗床根据工件情况,可选择下列几种工作形式:1、工件旋转、刀具旋转和往复进给运动;2、工件旋转、刀具不旋转只作往复进给运动;3、工件不旋转、刀具旋转和往复进给运动。机床的基本工艺性能:

- (1) 在该机床可完成内孔的钻、镗、扩、滚压加工。
- (2) 加工时,工件旋转、刀具进给,切削液通过授油器进入切削区,冷却、润滑切削区并带走切屑。
- (3) 钻孔时采用 BTA 内排屑的工艺方式。镗孔时采用镗杆内供切削液向前(床头端)排切削液、排切屑的工艺方式。
- (4) 根据加工工艺的需要,可安装钻、镗杆箱,刀具旋转。降低工件转速,提高加工效率,保证加工质量。
- (5) 机床的加工精度:

粗镗时:孔径精度 IT9-10。表面粗糙度: Ra6.3。

精镗时:孔径精度 IT8-9。表面粗糙度: Ra3.2。

滚压时:孔径精度 IT8-9。表面粗糙度: Ra0.2。

加工孔的直线度:小于 0.15/1000mm。

加工孔的出口偏斜:小于 0.5/1000mm。

- (6) 机床的加工效率:

切削速度:根据刀具结构、材料和工件材质确定,一般在 50-100m/min。

进给速度:根据加工情况确定,一般在 20-100mm/min。

镗孔时最大加工余量:根据刀具结构、材料和工件情况确定,一般不大于 30mm。

T2150 deep hole boring and boring machine, according to the length of the workpiece, the product selects two kinds of processing technology: short workpiece using oil transfer device, oil and hydraulic tight; long workpiece by boring rod tail oil, four jaw chuck clamping. The oil transfer device adopts an innovative spindle type structure, and the bearing capacity is greatly improved, and the rotation accuracy is higher. The machine bed rail adopts the double rectangle guide rail suitable for deep hole processing machine tools. The utility model has the advantages of large carrying capacity and good guiding precision, and the guide rail is subjected to quenching treatment and has high abrasion resistance. It is suitable for boring, rolling and processing of machine tools, ships, coal, hydraulic, power machinery, pneumatic machinery and so on, so that the workpiece roughness reaches 0.4-0.8  $\mu$  m. This series of deep hole boring machine according to the workpiece, can choose the following several forms of work: 1, the rotation of the workpiece and tool rotation and feed movement; 2, the rotation of the workpiece, the tool not only for rotary feed motion; 3, the workpiece is not rotating, rotating and reciprocating feed motion. The basic properties of machine process:

- (1) in the machine can be completed in hole drilling, boring, reaming, rolling processing.
- (2) when machining the workpiece rotation, cutting tool, cutting fluid through delegated oil into the cutting zone, cooling,

lubrication cutting area and cutting away.

(3) drilling technology using chip BTA. When boring, the boring rod is used for cutting liquid ( front end ) for cutting liquid and cutting chip.

(4) according to the needs of processing, installation, drilling boring bar box, tool rotation. Reduce the workpiece speed, improve machining efficiency, and ensure machining quality.

(5) precision machine tool:

Coarse boring: aperture accuracy IT9-10. Surface roughness: Ra6.3.

Precision boring: aperture accuracy IT8-9. Surface roughness: Ra3.2.

Roll: aperture accuracy IT8-9. Surface roughness: Ra0.2.

Hole straightness: is less than 0.15/1000mm.

Export processing: hole deviation less than 0.5/1000mm.

(6) the processing efficiency machine:

Cutting speed: according to the tool structure, material and workpiece material to determine, generally in 50-100m/min.

Feed speed: according to the processing conditions to determine, generally in 20-100mm/min.

Maximum processing allowance during boring: according to tool structure, material and workpiece condition, generally less than 30mm.

### 技术参数

Technical parameters

技术规格 SPECIFICATION			参数 TECHNICAL DATE
			T2150
工作范围 CAPACITY	镗孔直径范围	Boring diameter	$\Phi$ 250mm- $\Phi$ 500mm
	钻孔直径范围	Max drilling depth	$\Phi$ 60mm- $\Phi$ 120mm
	镗孔最大深度	Max.boring depth	1000-15000mm
	工件夹持直径范围	Workpiece clamped dia.range	$\Phi$ 300- $\Phi$ 650mm
主轴 SPINDLE	主轴中心高	Height from spindle center to bed	625mm
	床头箱主轴孔径	Spindle bord diameter	$\Phi$ 130mm
	主轴前端锥孔	Taper of spindle bore	公制 140#
	主轴变速范围	Range of spindle bore	3.15-315r/min ( 21 级 )
进给 FEEDS	进给速度范围(无级)	Feed speed range(infinite)	5-1000mm/min
	拖板快速移动速度	Carriage rapid-moving speed	2m/min
电机 MOTORS	主电机功率	Main motor poser	30KW,n=960 r/min
	液压泵电机功率	Hydraulic pump motor power	1.5KW ,n=1440 r/min
	拖板快速电机功率	Carriage fapid motor power	5.5KW
	进给电机功率	Feed motor power	7.5KW 交流伺服
	冷却泵电机功率	Cool pump motor power	5.5KW 3组
其他 OTHERS	冷却系统额定压力	Rated prdssure for cooling system	0.36Mpa
	冷却系统流量	Flow of cooling system	300 600 900L/min

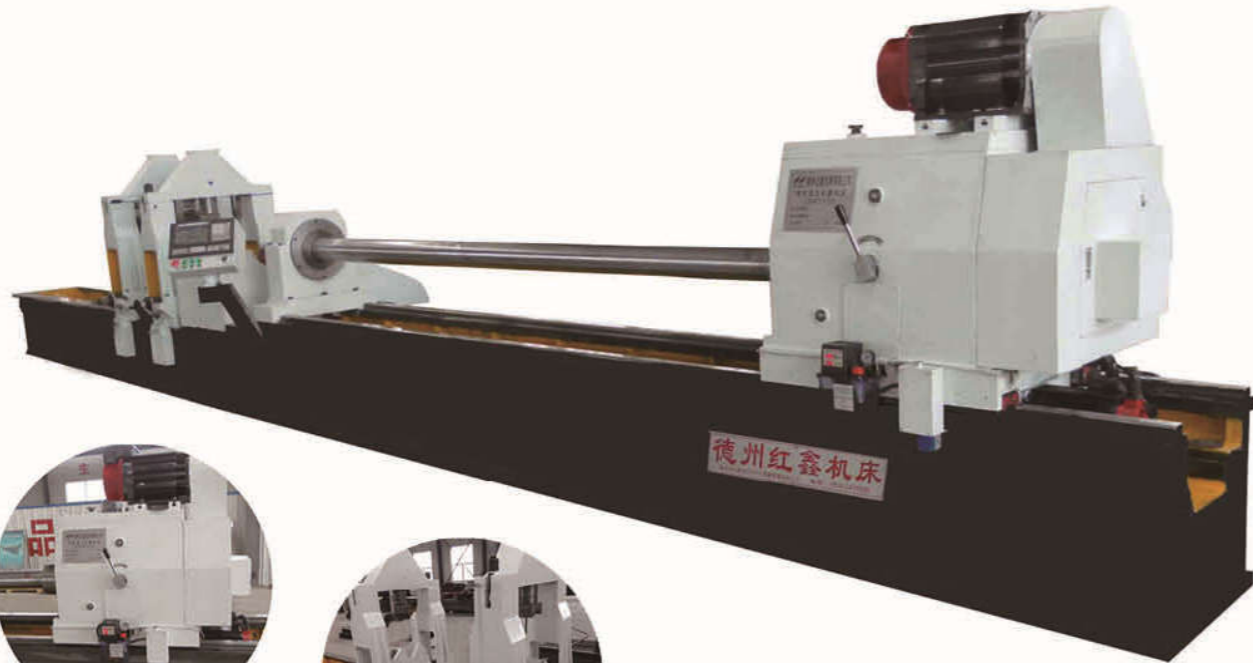
### T2250 外形尺寸及重量

T2250 shape, size and weight

长度	1000mm	2000mm	3000mm	4000mm	5000mm	6000mm	7000mm	8000mm
占地空间 (长x宽x高)	9500x3800 X1900	11500x3800 x1850	13500x3800 x1900	15500x3800 x1900	17500x3800 x1900	19500x3800 x1900	23500x3800 X1900	25500x3800 x1900
净重约(t)	18	20	22	24	26	28	30	32

## 2MK/TMK 系列重型、轻型 数控深孔强力珩磨 / 镗磨机床

2MK/TMK series heavy and light CNC deep hole powerful honing / boring machine



磨杆箱



珩磨杆支架

数控深孔强力珩磨机床适用圆柱形深孔工件的珩磨及抛光加工，例如：各种液压油缸、汽缸等精密管件、液压油缸修复缸及抛光加工。其加工孔径精度可达 IT7 ~ IT8 级或以上，表面粗糙度可达到 Ra0.2-0.4 $\mu$ m。采用局部珩磨，可修正被加工件的锥度、椭圆度及局部孔径误差。对于一些冷拔钢管，可以直接进行强力珩磨。2MK 系列珩磨机是一种高精度、高效率的理想设备。

该机床配备交流伺服电机，磨杆箱采用无级调速。机床进给采用齿轮齿条方式，可以精确的控制珩磨的位置。同时采用双直线导轨，具有较高的使用寿命和较高的精度。珩磨头采用液压定压扩张，砂条的珩磨力稳定不变，以保证工件的圆度和圆柱度。珩磨压力可以根据需要调整，并设置高低压控制，在操纵台上就可以轻松实现粗珩、精珩的转换。

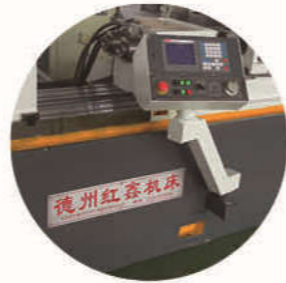
CNC deep hole honing machine is suitable for honing and polishing of cylindrical deep hole workpieces. For example, all kinds of hydraulic cylinder, cylinder and other precision pipe fittings, hydraulic cylinder repair cylinder and polishing processing. Its processing aperture accuracy can reach IT7 ~ IT8 class or more, and the surface roughness can reach Ra0.2-0.4  $\mu$  m. The local honing can be used to correct the taper, ellipticity and local aperture error of the machined parts. For some cold drawn steel tubes, they can be directly honed. 2MK series honing machine is an ideal equipment with high precision and high efficiency. The machine is equipped with AC servo motor, and the grinding rod box adopts stepless speed regulation. The machine tool feed adopts the rack and pinion way, which can control the honing position accurately. At the same time, the double linear guide rail has higher service life and higher precision. Honing head adopts hydraulic constant pressure expansion, and the honing force of the sand strip is stable and stable, so as to ensure the roundness and cylindricity of the workpiece. Honing pressure can be adjusted according to requirements, and set high and low pressure control, and easy to realize rough honing, fine honing conversion on the control platform.

## 技术参数 Technical parameters

技术规格 SPECIFICATION	参数 TECHNICAL DATE	
	2MK2135	2MK2150
珩磨孔直径范围 Honing hole diameter range	$\Phi$ 80mm- $\Phi$ 350mm	$\Phi$ 100- $\Phi$ 500mm
工件夹持直径范围 Workpiece holding diameter range	$\Phi$ 100- $\Phi$ 450mm	$\Phi$ 200- $\Phi$ 650mm
主轴中心高 Spindle center height	450mm	500mm
珩磨孔最大深度 Maximum depth of honing hole	1000-12000mm	1000-12000mm
磨杆箱主轴转速范围 Spindle speed range of grinding box	25—280r/min (无级调速)	10 ~ 200r/min (无级)
往复运动速度范围 Speed range of reciprocating motion	4-18m/min (无级调速)	4-18m/min 无级
珩磨头扩张系统压力 Honing head; expansion system; pressure	0.3-4Mpa	0.3-4MPa
磨杆箱电机功率 Power of grinding box motor	11KW	15KW
往复交流伺服电机 Reciprocating AC servo motor	5KW	5KW
冷却泵电机 Cooling pump motor	250WX2	250WX2
冷却系统流量 The cooling system flow	200L/min	200L/min
磨头扩张油泵电机 Grinding head expansion oil pump motor	1.5KW	1.5KW

## ZK2102A×2 双轴数控深孔钻床

ZK2102A×2 Double axis CNC deep hole drilling machine



本机床是一种高效、高精度、高自动化的专用深孔钻床,采用外排屑钻削法(枪钻法),通过一次连续钻削即可代替一般需要钻、扩、铰工序才能达到的加工精度和表面粗糙度。其加工孔径精度可达IT7~IT10级,表面粗糙度可达到Ra1.6-3.2 $\mu$ m。本机床采用数字控制系统控制,不但有单动功能,它还具有自动循环的功能。因此,它适合于小批量的加工,特别适合大批量生产的加工要求。它既能钻削通孔,也能加工盲孔或阶梯孔。本机床广泛地用于汽车、摩托车行业、模具行业、军工行业、航天工业等零件的小深孔的加工。

产品特点:

- 1、进给运动由交流伺服电机驱动,滚珠丝杠传动。
- 2、钻杆箱主轴由交流伺服电机通过同步带轮驱动,无级变速。
- 3、主轴轴承及导轨面等采用自动间歇润滑。
- 4、采用自动排屑机
- 5、高压冷却液采用两个双驱电机驱动柱塞泵获得。

The machine is a kind of high efficiency, high precision and high automation for deep hole drilling machine, the drilling method (gun) outside crumbs, through a continuous drilling can replace generally need to drilling, expanding and reaming process can achieve the machining accuracy and surface roughness. The precision of machining aperture can reach the level of IT7~IT10, and the surface roughness can reach Ra1.6-3.2 $\mu$ m. This machine adopts digital control system control, not only has the single action function, it also has the function of automatic circulation. Therefore, it is suitable for small batch processing, especially suitable for mass production processing requirements. It can be used to drill holes or to process blind holes or staircases. The machine is widely used in the processing of small holes in automobile, motorcycle industry, mould industry, military industry, aerospace industry and other parts.

Product features:

- 1、Feed motion is driven by AC servo motor, ball screw drive.
- 2、The main shaft of the drill pipe box is driven by an AC servo motor through a synchronous belt pulley, and continuously variable speed.
- 3、spindle bearings and rail surface, such as automatic intermittent lubrication.
- 4、using automatic chip removal machine
- 5、high pressure cooling liquid is driven by two double drive motors.

## 技术参数 Technical parameters

技术规格 SPECIFICATION	参数 TECHNICAL DATE	
	ZK2102Ax2 双轴	
工作范围 CAPACITY	钻孔直径范围 Drilling diameter range	$\Phi 3 \sim \Phi 20\text{mm}$
	最大钻孔深度 Maximum hole depth	250mm-1500mm
	滑台导轨面至主轴中心高度 Sliding table guide surface to main shaft center height	90mm
	工作台面至主轴中心高度 Height of work table to central axis	240mm
主轴 SPINDLE	主轴头数 The spindle capita	双头
	钻杆箱主轴转速(无级) Spindle speed (no stage)	800 ~ 7000r/min
	床头箱主轴转速(选配) Spindle speed of headstock (optional)	350r/min
进给 FEEDS	进给速度范围 Feed the speed range	10 ~ 350mm/min
	进给快速 Feed fast	3000mm/min
	进给电机扭矩 Feed torque to motor	12Nm
电机 MOTORS	钻杆箱电机功率 Motor power of drill pipe box	5.5KW
	床头箱电机功率 Power of the head of the bed box	1.5KW
冷却系统 The cooling system	冷却系统压力范围 Cooling system pressure range	1 ~ 10Mpa
	冷却系统的流量范围 The flow range of the cooling system	6 ~ 60L/minx2 两组
	切削冷却液的过滤精度 The filtering precision of the cutting coolant	30 $\mu$ m
数控系统 Numerical control system	北京 KND 数控系统或西门子数控系统 Beijing KND CNC system or SIEMENS CNC system	

## ZK2102A×4 四轴数控深孔钻床

ZK2102A×4 Four axis CNC deep hole drilling machine



ZK2102×4 四轴数控深孔钻床是一种高效、高精度、高自动化的专用深孔钻床，采用外排屑钻削法（枪钻法），通过一次连续钻削即可代替一般需要钻、扩、铰工序才能达到的加工精度和表面粗糙度。本机床采用数字控制系统控制，不但有单动功能，它还具有自动循环的功能。因此，它能适合于小批量的加工，特别适合大批量生产的加工要求。它既能钻削通孔，也能加工盲孔或阶梯孔。本机床广泛地用于汽车、摩托车行业、模具行业、军工行业、航天工业等零件的小深孔的加工。

产品特点：

- 1、进给运动由交流伺服电机驱动，滚珠丝杠传动。
- 2、钻杆箱主轴由交流伺服电机通过同步带轮驱动，无级变速。
- 3、主轴轴承及导轨面等采用自动间歇润滑。
- 4、采用自动排屑机。
- 5、高压冷却液采用两个双驱电机驱动柱塞泵获得。
- 6、机床可配备全封闭防护罩。

ZK2102 x 4 four axis CNC deep hole drilling machine is a kind of high efficiency, high precision and high automation for deep hole drilling machine, the drilling drilling method (gun) outside crumbs, through a continuous drilling can replace generally need to drilling, expanding and reaming process can achieve the machining accuracy and surface roughness. This machine adopts digital control system control, not only has the single action function, it also has the function of automatic circulation. Therefore, it is suitable for small batch processing, especially suitable for mass production processing requirements. It can be used to drill holes or to process blind holes or staircases. The machine is widely used in the processing of small holes in automobile, motorcycle industry, mould industry, military industry, aerospace industry and other parts.

Product features:

1. Feed motion is driven by ac servo motor and ball screw drive.
2. The main shaft of the drill pipe box is driven by ac frequency conversion motor with synchronous belt and synchronous belt wheel.
3. The main shaft bearing and guide surface are used for automatic intermittent lubrication.
4. Automatic chip removal machine
5. High pressure coolant adopts two dual drive motor drive gear pump.
6. The machine can be equipped with a fully enclosed protective cover

## 技术参数 Technical parameters

技术规格 SPECIFICATION		参数 TECHNICAL DATE
		ZK2102x4 四轴
工作范围 CAPACITY	钻孔直径范围	Φ3 ~ Φ20mm
	最大钻孔深度	150mm/450mm/900mm/1200mm
	滑台导轨面至主轴中心高度	110mm
	工作台面至主轴中心高度	210mm
主轴 SPINDLE	主轴头数	4头
	钻杆箱主轴转速(无级)	800-6000r/min
	床头箱主轴转速	350r/min
进给 FEEDS	进给速度范围	10-500mm/min
	进给快速	5000mm/min
	进给电机扭矩	15Nm
电机 MOTORS	钻杆箱电机功率	5.5kW×2
	床头箱电机功率	2.2kW×2
冷却系统 The cooling system	冷却系统压力范围	1-10Mpa
	冷却系统的流量范围	6-100L/minx2 两组
	切削冷却液的过滤精度	30μm
机床外形及重量 Machine shape and weight	机床外形尺寸(长×宽×高)	4050mmX4350mmx2050mm
	机床重量(约)	6T(450mm 规格)
数控系统 Numerical control system	北京 KND 数控系统或西门子数控系统 Beijing KND CNC system or SIEMENS CNC system	

## T2160 深孔套料钻床

T2160 Deep hole material drilling machine



加工后的工件



加工孔



T2160 套料深孔钻床是重型深孔综合加工设备,最大套孔直径  $\phi 600\text{mm}$ ,可完成内孔套料加工,加工时采用内排屑工艺方法,刀具旋转,进给,也可以采用刀具及工件同时旋转,套出棒料。机床床身刚性强、精度保持性好、主轴转速范围广。进给系统由交流伺服电机驱动,能适应各种深孔套料工艺的需要。授油器紧固和工件顶紧采用液压装置仪表显示。该设备特别适用于轧辊行业。

(1) 床体部分:床体采用两矩形导轨、床体导轨宽度 1250mm,工件床体为 T 形槽工作台,材质采用 HT300 优质铸铁,人工时效。

(2) 镗杆箱部分:转速范围 16 ~ 26r/min,箱体采用 HT300 优质铸铁,人工时效。

(3) 进给部分:交流伺服电机 + 减速机 + Tr100X16 丝杠,5 ~ 300mm/min 无级调速。

(4) 切削液供应系统:2 套泵组,可分别提供 300L/min、600L/min 两种流量,具有冷却过滤功能。

(5) 套料杆支架:为上下两半瓦结构,便于套料杆更换。材质为 HT200,人工时效。

(6) 电器控制系统:由电气控制柜、交流伺服驱动装置及电气控制系统组成。

T2160 nesting deep hole drilling machine is a heavy-duty deep-hole comprehensive processing equipment, the largest set of hole diameter of 600 mm, inner hole can be completed set of material processing, processing when the method of internal chip removal technology, cutting tool rotation, feed, also can be used in a cutting tool and the workpiece rotate at the same time, set the bar. The machine tool is rigid, the precision is good, the spindle speed range is wide. The feed system is driven by ac servo motor and can adapt to the needs of various kinds of deep hole cover. The oil feeder is fastened and the top of the workpiece is mounted on the hydraulic device. This equipment is especially suitable for roller industry.

(1) part of the bed body: the bed body adopts two rectangular guide rails, the bed body guide rail width of 1250mm, the workpiece bed body is the t-shaped slot table, the material USES HT300 high quality cast iron, the artificial aging time.

(2) part of the boring bar: the speed range is 16 ~ 26r/min, and the box body adopts HT300 high quality cast iron, artificial aging.

(3) feeding part: ac servo motor + decelerator + Tr100X16 silk bar, 5-300mm/min stepless speed adjustment.

(4) cutting fluid supply system: 2 sets of pumps can provide two kinds of flow rate of 300L/min and 600L/min respectively, with cooling filtration function.

(5) set rod bracket: for the upper and lower two-and-a-half tile structure, it is easy to replace the rod. The material is HT200, artificial aging.

(6) electrical control system: composed of electrical control cabinet, ac servo actuator and electrical control system.

### 技术参数 Technical parameters

技术规格 SPECIFICATION		参数 TECHNICAL DATE
		T2160
套孔直径范围	Sets of diameter	$\Phi 300 \sim \Phi 600\text{mm}$
套孔最大深度	Sets the maximum depth of holes	6000mm
中心高度 (从平导轨至主轴中心)	Height from spindle center to bed	650mm
镗杆箱主轴孔径	Spindle diameter drill pipe box	$\Phi 120\text{mm}$
主轴转速范围、级数	Range of spindle bore	16 ~ 26r/min(3 级)
主轴前端锥孔	Taper of spindle bore	140mm, 1 : 20
进给速度范围、级数	Feed speed range(infinite)	5 ~ 300mm/min(无级)
工件夹持直径范围	Workpiece clamped dia.range	$\Phi 600 \sim \Phi 1200\text{mm}$
托板快速移动速度	Carriage rapid-moving speed	2m/min
冷却系统额定压力	Rated prdssure for cooling system	0.36Mpa
主电机功率	Main motor poser	45KW,n=1440r/ min
进给电机功率	Feed motor power	5.5KW 交流伺服
拖板快速电机功率	Carriage fapid motor power	7.5KW
镗杆箱电机功率	Drill motor power box	45Kw
冷却泵电机	Cool pump motor power	7.5KWX2 n=960r/min
冷却系统流量	Flow of cooling system	300、600L/min

## T2180 T21100 深孔钻镗床

T2180 T21100 deep hole drilling and boring machine



钻杆支架



工件托架

T2180 T21100 深孔钻镗床是加工圆柱形深孔的专用机床，适用于圆柱形深孔工件的钻、镗削加工，还可以满足套料、滚压等各个功能，可实现台阶孔、阶梯孔的加工。其加工孔径精度可达 IT7 ~ IT8 级，表面粗糙度可达到 Ra0.8-0.4 $\mu$ m。同时发挥我公司刀具、辅具设计制造的优势，与机床匹配，可满足各种用户的深孔加工需要。本机床主要面向水利油缸、大型管模、海上钻井平台、大型电机主轴孔加工等各个行业的大型深孔加工。

机床的基本工艺性能：

- (1) 在该机床可完成内孔的钻、镗、扩、滚压及套料加工功能。
- (2) 加工时，工件旋转、刀具进给，切削液通过授油器进入切削区，冷却、润滑切削区并带走切屑。
- (3) 钻孔时采用 BTA 内排屑的工艺方式。镗孔时采用钻杆内供切削液向前（床头端）排切削液、排切屑的工艺方式。
- (4) 根据用户的需求，机床可带钻（镗）杆箱，工件可低速旋转，刀具高速旋转，提高加工效率。

(5) 机床的加工精度：

粗镗时：孔径精度 IT9-10。表面粗糙度：Ra6.3。

精镗时：孔径精度 IT8-9。表面粗糙度：Ra3.2。

滚压时：孔径精度 IT8-9。表面粗糙度：Ra0.2。

加工孔的直线度：小于 0.15/1000mm。

加工孔的出口偏斜：小于 0.5/1000mm。

(7) 机床的加工效率：

切削速度：根据刀具结构、材料和工件材质确定，一般在 50-100m/min。

进给速度：根据加工工件情况和工艺情况确定，一般在 10-100mm/min。

镗孔时最大加工余量：根据刀具结构、材料和工件情况确定，一般不大于 30mm

T2180 T21100 deep hole drilling and boring machine is a special machine tools, machining cylindrical deep hole is suitable for the cylinder of deep hole machining of drilling, boring, you can also meet the nesting, rolling, and other functions, can realize hole, the ladder hole processing steps. Its machining aperture can reach the level of IT7 ~ IT8, and the surface roughness can reach ra0.8-0.4  $\mu$  m. At the same time, the advantages of our company's cutting tools and accessories design and manufacturing, matching with machine tools can meet the needs of deep hole processing of various users. This machine is mainly for large deep hole processing in various industries, such as hydraulic cylinder, large pipe die, offshore drilling platform and main shaft hole processing of large motor.

Basic process performance of machine tool:

- (1) the machine can complete the drilling, boring, expanding, rolling pressure and nesting of the inner hole.
- (2) when machining, the workpiece is rotated and the cutting tool is in, and the cutting fluid enters the cutting zone by

the oil feeder, cooling and lubricating the cutting area and taking away the chip.

(3) the process of using BTA internal chip cuttings in drilling. The process of cutting the cutting fluid and cutting cuttings in the boring bar is used for the cutting fluid.

(4) according to the user's requirements, the machine can be drilled (boring) rod box, the workpiece can rotate at low speed, the tool can rotate rapidly, and improve the machining efficiency.

(5) machining accuracy of machine tools:

Rough boring: the aperture accuracy it9-10. Surface roughness: Ra6.3.

Fine boring time: the aperture accuracy it8-9. Surface roughness: Ra3.2.

Roll pressure: aperture accuracy it8-9. Surface roughness: Ra0.2.

Straightness of processing hole: less than 0.15/1000mm.

Exit deviation of processing hole: less than 0.5/1000mm.

(7) machining efficiency of machine tool:

Cutting speed: according to the tool structure, material and workpiece material, generally 50-100m/min.

Feed speed: according to the machining workpiece situation and process condition, normally at 10-100mm/min.

Maximum machining allowance of boring hole: according to the tool structure, material and workpiece, it is generally not greater than 30mm

### 技术参数 Technical parameters

技术规格 SPECIFICATION	参数 TECHNICAL DATE	
	T2180	T21100
镗孔最大直径	Φ800mm	Φ1000mm
钻孔最大直径	Φ120mm	Φ120mm
工件夹持直径范围	Φ400-Φ1200mm	Φ600-Φ1600 mm
主轴中心高	800mm	1200mm
镗孔最大深度	1000-15000mm	1000-15000mm
床头箱主轴孔径	Φ100mm	Φ100mm
主轴前端锥孔	120mm	120mm
主轴变速范围	3 ~ 120r/min 三档无级	10 ~ 190r/min (无级调速)
进给速度范围(无极)	0.5-450mm/min	5 ~ 300mm/min(交流伺服无级调速)
托板快速移动速度	2m/min	2m/min
主电机功率	55KW(直流)	75kW(直流)/60KW(伺服)
钻杆箱主轴转速范围、级数	16 ~ 270r/min 12级	
钻杆箱主轴孔径	Φ100mm	
钻杆箱主轴前端锥孔	Φ120mm, 1:20.	
钻杆箱电机	11KW	
液压泵电机功率	1.5KW n=1440r/min	
托板快速电机功率	11KW	
进给电机功率	7.5KW(交流伺服)	
冷却泵电机功率	7.5KW 3组	
冷却系统额定压力	0.36Mpa	
冷却系统流量	300、600、900l/min	
液压系统额定工作压力	6.3Mpa	

### 刮削滚光镗头

刮削滚光镗头适用于前推刮削后滚压的加工工艺，加工油缸时将镗头在同一工序中同步加工，一次成型。该刀具是我公司自主研发的最新一代高效的深孔加工刀具。刀具内部装有一小气缸，自动控制刮削刀片的伸缩，刮削直径精密可调，最小微调量为 0.005mm；滚压过盈量精密可调，最小微调量为 0.005mm，加工余量单边 ≤ 0.5mm，加工直径 40-400mm，该刀具在深孔刮削滚光机床上使用，加工冷拔管的效率高，是珩磨加工的 20 倍，进给速度可达到 2m/min，滚压粗糙度为 Ra ≤ 0.2um 特别适合调质非调质的精拔钢管的精密深加工。



### G 型深孔滚压头

该滚压头采用圆锥滚子，直径可微调，适用于深孔的光整加工，具有操作使用方便，加工效率高特点。

单位: mm			
镗压头规格	配用刀杆	镗压头规格	配用刀杆
40 42	35	90 95 100 105	80
45	40	110 115 120	100
		125 130 135	130
50 55 60	43	140 150	160
		160 170	160
63 65 70	56	180 190 200	210
75	65	>200-300	
80 85	70	>300-500	



### T 型深孔粗镗头

该刀具为单刃机夹可转位结构，适用于深孔的粗、半精镗削加工。

单位: mm			
镗头规格	配用刀杆	镗头规格	配用刀杆
50-60	43	108-137	100
61-72	56	138-177	130
73-77	65	178-300	160
78-87	70	>300-500	220
88-107	80		



### JT 型深孔精镗头

该镗头采用矩形浮动镗刀块结构，适用于深孔的精镗削加工。

单位: mm			
镗头规格	配用刀杆	镗头规格	配用刀杆
40 42	35	80 85	70
45	40	90 95 100 105	80
50 55 60	43	110 115 120 125 130 135	100
63 65 70	56	140 150 160 170	130
75	65	180 190 200	160



### TGG 镗滚组合头

该组合头采用一精镗、两次滚压的加工方式，将镗削和滚压合为一次走刀完成，即可保证加工质量，又大大提高了效率。

单位: mm	
镗头规格	配用刀杆
63 70	56
80	70
100	80
110 125	100
140 160	130
180 250	160
360 380	210



### ZJ 型机夹可转位 BTA 深孔钻头

该钻头采用瑞典山特维克可转为涂层刀片，具有加工效率高、转换刀片方便、刀体可长期使用、刀具消耗费用低等多种特点可加工碳素钢、高强度合金钢、不锈钢等多种材料。

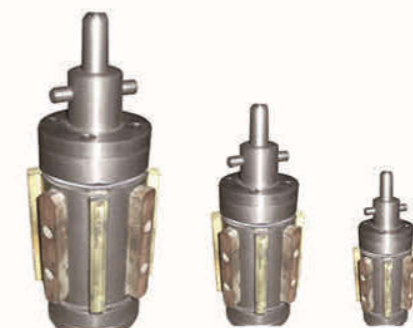
单位: mm			
镗头规格	配用刀杆	镗头规格	配用刀杆
Φ27-29.99	25	Φ55	48
Φ30-31.95	27	Φ60	52
Φ34.5-35	30	Φ65	56
Φ38-40	35	Φ70	61
Φ45	40	Φ75	65
Φ50	43	Φ80	70



### MS 型深孔珩磨头

该珩磨头适用于深孔的精光整加工。

单位: mm	
珩磨头规格	配用珩磨杆
40-50	35
> 50-100	40
> 100-125	80
> 250-500	100



### 深孔套料刀

深孔套料刀是深孔机床的一种专用刀具，它可以降低在产品生产中的费用，可以在需要加工的工件中成功套出一根可以再利用的棒料，使原来用钻头加工时的铁屑变成现在可以再利用的成品。套料时切削力由四块刀片分担，切削很平稳，分屑效果好，切削效率高。采用它可一次完成直径为最小 100mm、深度在 50 ~ 100 倍孔径的深孔套料加工。

