GOODWILL

M215A 内圆磨床 Internal Grinder

机床的主要特点 Main Characteristics

◆机床导轨采用双V型预加负荷，高精度十字交叉滚柱滚动导轨，精度高，刚性好。

◆机床采用高速大功率电动砂轮轴，由静止变频器供电，能耗低，噪音小。

◆进给机构采用三滚轮系统、液压控制、精度高。

◆ High precision preloaded dual-V cross rolling guideways are used to provide high accuracy and good rigidity.

◆ Equipped with high speed and high power electric spindle powered by static frequency convertor, featuring low energy consumption and low noise.

◆ 3-roller system is used in feed mechanism which is controlled hydraulically, thus providing high accuracy.

GOODWILL

M215A 内圆磨床 Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			M215A
磨削孔径	Bore dia ground	(mm)	ϕ3 ~ ϕ50
磨孔最大深度	Max.depth of bore to be ground	(mm)	80
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ180
	罩外 Without guard	(mm)	ϕ220
床头箱回转角度	Swivel angle of workhead	(°)	30°
工作转速	Work speed	(r/min)	280, 400, 560, 800
砂轮转速	Wheel speed	(r/min)	24000, 60000
机床总功率	Machine total power	(kw)	≈ 10
工件电机功率	Work motor	(kw)	0.45 / 0.75
砂轮电机变频器功率	Wheel motor power inverter	(kw)	8
机床外形尺寸	Overall dimension	(mm)	1580 × 1300 × 1400
机床重量	Weight of machine	(kg)	1600

机床工作精度 Grinding Accuracies

机床型号		M215A
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4

GOODWILL

MD215A 内圆磨床 Internal Grinder

机床的主要特点 Main Characteristics

◆机床导轨采用双V型预加负荷，高精度十字交叉滚柱滚动导轨，精度高，刚性好。

◆机床采用高速大功率电动砂轮轴，由静止变频器供电，能耗低，噪音小。

◆进给机构采用三滚轮系统、液压控制、精度高。

◆ MD215A机床带有端磨装置，一次装夹可完成内孔及端面磨削，保证工件端面与内孔的垂直度。

◆ High precision preloaded dual-V cross rolling guideways are used to provide high accuracy and good rigidity.

◆ Equipped with high speed and high power electric spindle powered by static frequency convertor, featuring low energy consumption and low noise.

◆ 3-roller system is used in feed mechanism which is controlled hyd raulically. thus providing high accuracy.

◆ Model MD215A Internal Grinders are also equipped with the endface grinding attachment, so that inner bore and endface grinding can be performed, thus guaranting perpendicula rity of work endface to bore.

GOODWILL

MD215A 内圆磨床 Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MD215A
磨削孔径	Bore dia ground	(mm)	ϕ3 ~ ϕ50
磨孔最大深度	Max.depth of bore to be ground	(mm)	80
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ180
	罩外 Without guard	(mm)	ϕ220
床头箱回转角度	Swivel angle of workhead	(°)	30°
工作转速	Work speed	(r/min)	280, 400, 560, 800
砂轮转速	Wheel speed	(r/min)	24000, 60000
机床总功率	Machine total power	(kw)	≈ 10
工件电机功率	Work motor	(kw)	0.45 / 0.75
砂轮电机变频器功率	Wheel motor power inverter	(kw)	8
机床外形尺寸	Overall dimension	(mm)	1580 × 1300 × 1700
机床重量	Weight of machine	(kg)	1800
端磨 Face grinding attacment	端磨外径 Max. OD of end face grinding	(mm)	ϕ60
	砂轮速度 Wheel speed	(r/min)	8000

机床工作精度 Grinding Accuracies

机床型号		MD215A
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4
端面平面度(平或凹) Flatness of endface (tlat or concave)	(mm)	0.002
端面粗糙度 Surface roughness of endface	(μm)	Ra0.8

GOODWILL

MK215A、MDK215A 数控内圆磨床
CNC Internal Grinder

机床的主要特点 Main Characteristics

◆机床导轨采用双V型预加负荷，高精度十字交叉滚柱滚动导轨，精度高、刚性好。
◆机床采用高速大功率电动砂轮轴，由静止变频器供电，能耗低，噪音小。
◆进给机构采用伺服电机控制滚珠丝杆进行进给及修整补偿。电器控制系统采用进口原器件。
◆机床磨削参数可通过触摸屏输进输出，操作简单方便。
◆机床伺服系统控制的进给具有精度高、误差小、速度快的特点。
◆机床可配置端面磨削装置，一次装夹可完成内孔及端面磨削，保证工件端面与内孔的垂直度。型号为MDK215A。

◆Machine Tool double V-pre-load, high-precision cross roller rail rolling, high accuracy and good rigidity.
◆Equipped with high speed and high power electric spindle powered by static frequency convertor featuring low energy consumption and low noise.
◆Feeding & d ressing comp can be performed by the feed mechanism through the servo motor viaball leadscrew. adopts imported components.
◆Machine tool grinding parameters can be entered through the touch-screen output, for simple and onvenient operation.
◆Servo-controlled machine tool feed system with high precision,small error and speed characteristics.
◆Face grinding machine can be configured device,the fist fixture to be completed by end-hole and grinding to ensure that the workpiece and the end of the vertical hole.

GOODWILL

MK215A、MDK215A 数控内圆磨床
CNC Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MK215A	MDK215A
磨削孔径	Bore dia ground	(mm)	ϕ3 ~ ϕ50	ϕ3 ~ ϕ50
磨孔最大深度	Max.depth of bore to be ground	(mm)	80	80
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ180	ϕ180
	罩外 Without guard	(mm)	ϕ220	ϕ220
床头箱回转角度	Swivel angle of workhead	(°)	30°	30°
工作转速	Work speed	(r/min)	280, 400, 500, 800	280, 400, 500, 800
砂轮转速	Wheel speed	(r/min)	24000, 60000	24000, 60000
工件电机功率	Work motor	(kw)	0.45 / 0.75	0.45 / 0.75
砂轮电机功率	Wheel motor	(kw)	4	4
油泵电机功率	Oil pump motor	(kw)	0.55	0.55
静止变频器功率	Static frequericy converter power	(kw)	8	8
机床外形尺寸	Overall dimension	(mm)	1580 × 1450 × 1600	1580 × 1450 × 1600
机床重量	Weight of machine	(kg)	1600	1800
端磨 Face grinding attacment	端磨外径 Max. OD of end face grinding	(mm)	–	ϕ60
	砂轮速度 Wheel speed	(r/min)	–	8000

机床工作精度 Grinding Accuracies

机床型号		MK215A	MDK215A
内孔圆度 Bore roundness	(mm)	0.002	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003	0.003
内孔尺寸分散 Size deviation of bore	(mm)	0.012	0.012
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4	Ra0.4
端面平面度（平或凹） Flatness of endface (flat or concave)	(mm)	-	0.002
端面粗糙度 Surface roughness of endface	(μm)	-	Ra0.8

GOODWILL

MK215B、MK215C 数控内圆磨床
CNC Internal Grinder

机床的主要特点 Main Characteristics

◆MK215B为一轴数控，MK215C为二轴数控。
◆本机型为一轴数控全封闭罩壳带背包电箱形式的机床。
◆机床导轨采用双V型预加负荷，高精度十字交叉滚柱导轨，精度高，刚性好。
◆机床采用高速大功率电动砂轮轴，由静止变频器供电，能耗低，噪音小。
◆进给机构采用伺服电机控制滚珠丝杆进行进给及修整补偿。电气控制系统采用日本三菱产品。
◆机床磨削参数可通过触摸屏输进输出，可实现人机对话，操作简单方便。
◆机床伺服系统控制的进给具有精度高、误差小、速度快的特点。

◆One-axis CNC for MK215B & two-axes CNC for MK215C is adopted.
◆One-axis CNC machine is totally enclosed with guards.
◆Dual-V preloaded & high precision crossed roller rolling guideway is adopted,thus providing high accuracy and good rigidity.
◆High speed & high power electric grinding wheel spindle is driven by the static freq. Inverter with the features of lower consumption & noise.
◆The feed mechanism is driven by the servo motor through ball screw to perform feed d ressing compensation. The Mitsubishi electric control system is used.
◆The touch screen can be used for convenient operation.
◆The servo system can be sued to control the feeding amout, featuring high precision,and small error and fast speed.

GOODWILL

MK215B、MK215C 数控内圆磨床
CNC Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MK215B / MK215C
磨削孔径	Bore dia ground	(mm)	ϕ3 ~ ϕ50
磨孔最大深度	Max.depth of bore to be ground	(mm)	80
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ180
	罩外 Without guard	(mm)	ϕ220
床头箱回转角度	Swivel angle of workhead	(°)	30°
工作转速	Work speed	(r/min)	280, 400, 560, 800
砂轮转速	Wheel speed	(r/min)	24000, 60000
工件电机功率	Work motor	(kw)	0.45 / 0.75
砂轮电机功率	Wheel motor	(kw)	4
油泵电机功率	Oil pump motor	(kw)	0.55
静止变频器功率	Static frequericy converter power	(kw)	8
机床外形尺寸	Overall dimension	(mm)	1800 × 1450 × 1700
机床重量	Weight of machine	(kg)	≈ 2000

机床工作精度 Grinding Accuracies

机床型号		MK215B / MK215C
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003
内孔尺寸分散 Size deviation of bore	(mm)	0.01
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4

GOODWILL

MK215D 数控内圆磨床 CNC Internal Grinder

机床的主要特点 Main Characteristics

◆MK215D为二轴不带全封闭罩壳数控内圆磨床。
◆本机型为独立式电器箱布局。
◆机床导轨采用双V型预加负荷，高精度十字交叉滚柱导轨，精度高，刚性好。
◆机床采用高速电动砂轮轴，由静止变频器供电，能耗低，噪音小。
◆进给机构采用伺服电机控制滚珠丝杆进行进给及修整补偿。电气控制系统采用广数系统产品。
◆机床磨削参数可通过触摸屏输进输出，可实现人机对话，操作简单方便。
◆机床伺服系统控制的进给具有精度高、误差小、速度快的特点。

◆Model MK215D Two-axis CNC Internal Grider is adopted which is not totally endosed with guards.
◆Independent electrical is used.
◆Dual-V preloaded & high precision crossed roller rolling guideway is adopted, thus providing high accuracy and good rigidity.
◆High speed & high power electric grinding wheel spindle is driven by the static freq. Inverter with the features oflower consumption & noise.
◆The feed mechanism is driven by the servo motor through ball screw to perform feed dressing compensation. The Mitsubishi electric contril system is used.
◆The touch screen can be used for convenient operation.
◆The servo system can be sued to control the feeding amout, featuring high precision, and small error and fast speed.

GOODWILL

MK215D 数控内圆磨床 CNC Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MK215D
磨削孔径	Bore dia ground	(mm)	ϕ3 ~ ϕ50
磨孔最大深度	Max.depth of bore to be ground	(mm)	80
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ180
	罩外 Without guard	(mm)	ϕ220
床头箱回转角度	Swivel angle of workhead	(°)	30°
工作转速	Work speed	(r/min)	280, 400, 560 800
砂轮转速	Wheel speed	(r/min)	24000, 60000
工件电机功率	Work motor	(kw)	0.45 / 0.75
砂轮电机功率	Wheel motor	(kw)	4
油泵电机功率	Oil pump motor	(kw)	0.55
静止变频器功率	Static frequericy converter power	(kw)	8
机床外形尺寸	Overall dimension	(mm)	1800 × 1450 × 1700
机床重量	Weight of machine	(kg)	≈ 2000
Z轴分辨率	Resolution of Z axis	(mm)	0.001
X轴分辨率	Resolution of X axis	(mm)	0.001

机床工作精度 Grinding Accuracies

机床型号		MK215D
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003
内孔尺寸分散 Size deviation of bore	(mm)	0.01
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4

GOODWILL

MBK215A 数控内圆磨床 CNC Internal Grinder

机床的主要特点 Main Characteristics

- ♦机床导轨采用双V型预加负荷，高精度十字交叉滚柱滚动导轨，精度高、刚性好。
- ♦机床采用高速大功率电动砂轮轴，由静止变频器供电，能耗低，噪音小。
- ♦进给机构采用伺服电机控制滚珠丝杆进行进给及修整补偿。电器控制系统采用进口原器件。
- ♦机床磨削参数可通过触摸屏输进输出，操作简单方便。
- ♦机床伺服系统控制的进给具有精度高、误差小、速度快的特点。
- ♦机床夹具采用液压斜锲式快速夹具，具有高效可靠的特点。如用户特殊需要，可设计液压弹性薄膜夹具。
- ♦机床可配置端面磨削装置，一次装夹可完成内孔及端面磨削，保证工件端面与内孔的垂直度。

- ◆High-precision p reloaded dual-V cross rolling guideways are used to p rovide good rigidity & high accuracy.
- ◆High speed and high power electric spindle powered by static frequency convertor,featuring is used,thus low energy consumption and low noise.
- ◆The feeding & dressing comp of feed mechanism can be performed by driving the servo motor through the ball lead screw Grinding parameters can be entered throught the touch-screen, operation is simple and convenient. Electrical control system adopts imported components.
- ◆Machine feed with high accuracy, small error & fast speed.
- ◆Hyd.wedge-type fixture is use,featuring high efficiency and high reliability. The hyd.elastic diaphragm fixtu re can also be designed for special order.
- ◆With the endface grinding attachment, bore & face grinding can be performed after one set-up, thus guaranting perpendicularity of work endface to bore.

GOODWILL

MBK215A 数控内圆磨床 CNC Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MBK215A
磨削孔径	Bore dia ground	(mm)	ϕ3 ~ ϕ50
磨孔最大深度	Max.depth of bore to be ground	(mm)	80
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ150
	罩外 Without guard	(mm)	ϕ250
床头箱回转角度	Swivel angle of workhead	(°)	30°
工作转速	Work speed	(r/min)	285, 400, 565, 790
砂轮转速	Wheel speed	(r/min)	24000, 60000
工件电机功率	Work motor	(kw)	0.45 / 0.75
砂轮电机功率	Wheel motor	(kw)	4
油泵电机功率	Oil pump motor	(kw)	0.55
静止变频器功率	Static frequericy converter power	(kw)	8
机床外形尺寸	Overall dimension	(mm)	2000 × 1500 × 1700
机床重量	Weight of machine	(kg)	≈ 2500

机床工作精度 Grinding Accuracies

机床型号		MBK215A
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003
内孔尺寸分散 Size deviation of bore	(mm)	0.012
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4

GOODWILL

MBDK215A 数控内圆磨床 CNC Internal Grinder

机床的主要特点 Main Characteristics

◆机床导轨采用双V型预加负荷，高精度十字交叉滚柱滚动导轨，精度高、刚性好。

◆机床采用高速大功率电动砂轮轴，由静止变频器供电，能耗低，噪音小。

◆进给机构采用伺服电机控制滚珠丝杆进行进给及修整补偿。电器控制系统采用进口原器件。

◆机床磨削参数可通过触摸屏输进输出，操作简单方便。

◆机床伺服系统控制的进给具有精度高、误差小、速度快的特点。

◆机床夹具采用液压斜锲式快速夹具，具有高效可靠的特点。如用户特殊需要，可设计液压弹性薄膜夹具。

◆本机床配置端面磨削装置，一次装夹完成内孔及端面磨削，保证工件端面与内孔的垂直度。

◆High-precision p reloaded dual-V cross rolling guideways are used to p rovide good rigidity & high accuracy.

◆High speed and high power electric spindle powered by static frequency convertor,featuring is used,thus low energy consumption and low noise.

◆The feeding & dressing comp of feed mechanism can be performed by driving the servo motor through the ball lead screw Grinding parameters can be entered throught the touch-screen, operation is simple and convenient. Electrical control system adopts imported components.

◆Machine feed with high accuracy, small error & fast speed.

◆Hyd.wedge-type fixture is use,featuring high efficiency and high reliability. The hyd.elastic diaphragm fixtu re can also be designed for special order.

◆With the endface grinding attachment, bore & face grinding can be performed after one set-up, thus guaranting perpendicularity of work endface to bore.

GOODWILL

MBDK215A 数控内圆磨床 CNC Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MBDK215A
磨削孔径	Bore dia ground	(mm)	ϕ3 ~ ϕ50
磨孔最大深度	Max.depth of bore to be ground	(mm)	80
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ150
	罩外 Without guard	(mm)	ϕ220
床头箱回转角度	Swivel angle of workhead	(°)	30°
工作转速	Work speed	(r/min)	285, 400, 565, 790
砂轮转速	Wheel speed	(r/min)	24000, 60000
工件电机功率	Work motor	(kw)	0.45 / 0.75
砂轮电机功率	Wheel motor	(kw)	4
油泵电机功率	Oil pump motor	(kw)	0.55
静止变频器功率	Static frequericy converter power	(kw)	8
机床外形尺寸	Overall dimension	(mm)	2000 × 1500 × 1700
机床重量	Weight of machine	(kg)	≈ 2500
端磨 Face grinding attacment	端磨外径 Max. OD of end face grinding	(mm)	ϕ60
	砂轮速度 Wheel speed	(r/min)	8000

机床工作精度 Grinding Accuracies

机床型号		MBDK215A
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003
内孔尺寸分散 Size deviation of bore	(mm)	0.012
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4
端面平面度（平或凹） Flatness of endface (flat or concave)	(mm)	0.002
端面粗糙度 Surface roughness of endface	(μm)	Ra0.8

GOODWILL

MBK215B 数控内圆磨床 CNC Internal Grinder

机床的主要特点 Main Characteristics

◆本机型为二轴数控带独立电箱形式的机床，

◆机床导轨采用双V型预加负荷，高精度十字交叉滚柱滚动导轨，精度高、刚性好。

◆机床采用高速大功率电动砂轮轴，由静止变频器供电，能耗低，噪音小。

◆进给机构采用伺服电机控制滚珠丝杆进行进给及修整补偿。电器控制系统采用进口原器件。

◆机床磨削参数可通过触摸屏输入输出，可实现人机对话，操作简单方便。

◆机床伺服系统控制的进给具有精度高、误差小、速度快的特点。

◆机床夹具备有液压动力源，选配液压夹具后，零件装夹可实现自动夹紧、松开。

◆机床可配置端面磨削装置，一次装夹可完成内孔及端面磨削，保证工件端面与内孔的垂直度。

◆With the independent electrical cabinet, two axes CNC machine is used.

◆Dual-V preloaded & high precision crossed roller rolling guideway is adopted, thus providing high accuracy and rigidity.

◆High speed & high power electric grinding wheel spindle is driven by the static freq. inverter with the features of lower consumption & noise.

◆The feed mechanism is driven by the servo motor through the ball leadscrew to perform feed &dressing compensation. The imported electric control system is used.

◆The touch screen can be used to perform man-machine dialogue for convenient operation.

◆The servo system can be used to control the feeding amount, thus featuring high precision, small error and fast speed.

◆The hydraulic fixture driven by the hydraulic system is adopted for achieving automatic clamping &loosening.

◆Equipped with endface grinding device, inner bore & endface grinding can be achieved so that perpendicula rity of the endface to the bore after grinding can be guaranteed.

GOODWILL

MBK215B 数控内圆磨床 CNC Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MBK215B
磨削孔径	Bore dia ground	(mm)	ϕ3 ~ ϕ50
磨孔最大深度	Max.depth of bore to be ground	(mm)	80
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ180
	罩外 Without guard	(mm)	ϕ220
床头箱回转角度	Swivel angle of workhead	(°)	30°
工作转速	Work speed	(r/min)	285, 400, 500, 800
砂轮转速	Wheel speed	(r/min)	24000, 60000
工件电机功率	Work motor	(kw)	0.45 / 0.75
砂轮电机功率	Wheel motor	(kw)	4
油泵电机功率	Oil pump motor	(kw)	0.55
静止变频器功率	Static frequericy converter power	(kw)	8
机床外形尺寸	Overall dimension	(mm)	2000 × 1500 × 1600
机床重量	Weight of machine	(kg)	≈ 2000

机床工作精度 Grinding Accuracies

机床型号		MBK215B
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003
内孔尺寸分散 Size deviation of bore	(mm)	0.012
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4

GOODWILL

M2110C、MD2110C 内圆磨床 Internal Grinder

机床的主要特点 Main Characteristics

◆机床的进给及补偿，由两个互不干涉的传动机构执行，进给可采用手动或液动二种进给方式。
◆机床设有跳进、跳出机构，因此退出砂轮进行测量或修整后不必重新手动对刀。
◆工作台快退设有中停装置，快退距离可按需调整，以减少辅助时间。
◆工作台启动手把设有安全联锁装置，确保装卸和测量工件时的安全性。
◆机床砂轮轴最高转速为21000转/分，可提高磨削小孔时的质量。
◆用户特殊订货，机械磨头可改装电主轴变频调速，以适应磨削小直径内孔。
◆机床配端面磨削装置，一次装夹可完成内孔和端面磨削，保证工作端面和内孔的垂直度，型号为MD2110C

◆Feed and compensation are carried out by independent driving systems. Manual feed or hydraulic feed is adopted.
◆The machine is equipped with jumping device,therefore, it is unnecessary to manually reset the machine after measuring or dressing.
◆A desirable stop device is provided for worktable rapid withdrawal so that withdrawal stroke can be adjusted according to requirement ro reduce auxi time.
◆A safety interlock device is provided for the worktable motivation handle to ensure safety during unloading and measuring.
◆The machine is equipped with a grinding spindle of 2lOOOr/min, to improve the quality of small bores to be ground.
◆The electric spindle can also be used for special order, which its speed regulation can be perfomed by freginverter for grinding inner bore with small diameter.
◆Equipped with endface grinding device, inner bore & endface grinding can be achieved so that perpendicularity of the endface to the bore after grinding can be guaranteed.

GOODWILL

M2110C、MD2110C 内圆磨床 Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			M2110C	MD2110C
磨削孔径	Bore dia ground	(mm)	ϕ6 ~ ϕ100	ϕ6 ~ ϕ100
磨孔长度 Grinding depth	ϕ6	(mm)	9	9
	ϕ100	(mm)	150	150
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ260	ϕ260
	罩外 Without guard	(mm)	ϕ480	ϕ300
工作台最大行程	Max. travel of worktable	(r/min)	550	550
床头箱回转角度	Swivel angle of workhead	(°)	30°	30°
工作转速	Work speed	(r/min)	180 ~ 500, 4级(steps)	180 ~ 500, 4级(steps)
砂轮转速	Wheel speed	(r/min)	10000, 18000, 21000	10000, 18000, 21000
工作台运动速度(工作、修整)	Table speed (grind dressing)	(mm)	1.5 ~ 6, 0.1 ~ 1	1.5 ~ 6, 0.1 ~ 1
进给分辨率	Feed resolution	(mm)	0.002	0.002
机床总功率	Machine total power	(kw)	≈ 4	≈ 4
机床外形尺寸	Overall dimension	(mm)	2363 × 1260 × 1310	2363 × 1260 × 1550
机床重量	Weight of machine	(kg)	1800	2000
端磨 Face grinding attacment	端磨外径 Max. OD of end face grinding	(mm)	–	ϕ60
	砂轮速度 Wheel speed	(r/min)	–	8000

机床工作精度 Grinding Accuracies

机床型号		M2110C	MD2110C
内孔圆度 Bore roundness	(mm)	0.002	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003	0.003
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4	Ra0.4
端面平面度（平或凹） Flatness of endface (flat or concave)	(mm)	-	0.002
端面粗糙度 Surface roughness of endface	(μm)	-	Ra0.8

GOODWILL

MBK2110 数控内圆磨床 CNC Internal Grinder

机床的主要特点 Main Characteristics

♦机床机身采用浇铸件，刚性好，变形小。
♦机床导轨采用平-V型导轨，刚性强，滑动性能好。
♦机床进给机构导轨采用十字交叉滚动导轨，具有刚性强，滑动阻力小等特点。
♦机床进给机构传动采用伺服电机控制滚珠丝杆进行进给及自动修整补偿。
♦电气控制系统采用进口原器件。机床磨削参数可通过触摸屏输入输出，操作简单方便。电气箱置床身上。
♦机床伺服系统控制的进给具有精度高、误差小、速度快的特点。
♦机床夹具可有用户作多种选择。由三爪卡盘、液压动力卡盘及液压薄膜模式夹紧夹具。
♦机床砂轮主轴也有两种形式可选择：一种是机械式砂轮轴，另一种是电动砂轮轴。电动砂轮轴由静止式变频器作无级调速。

◆The machine bed adopts the casting piece with the features of good rigidity and small deformation.
◆Flat-V guide way is adopted,featu ring good rigidity & sliding performance.
◆Crossing rolling guide way is used for feed mechanism, featuring good rigidity and small sliding friction.
◆The feeding of feed mechanism and auto wheel dressing comp can be performed by driving the servo motor through ball lead screw.
◆Electrical control system adopts imported components,Grinding parameters can be entered through the touch-screen, and operation is simple and convenient.
◆The serro sytem can be used to control the feeding amount, thus featuring high accuracy, small error and fsat speed.
◆Machine feed with high accuracy, small error & fast speed. Three-pawl chuck and hydraulic power chuck as well as hydraulic disphragm fixture are used.
◆There are two kings of wheel spindle,one is mechanical wheel spindle and the other is electric speed-regulation for electric spindle can be carried out by freq inverter.

GOODWILL

MBK2110 数控内圆磨床 CNC Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MBK2110
磨削孔径	Bore dia ground	(mm)	ϕ6 ~ ϕ100
磨孔长度 Grinding depth	ϕ6	(mm)	9
	ϕ100	(mm)	150
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ260
	罩外 Without guard	(mm)	ϕ480
工作台最大行程	Max. travel of worktable	(mm)	550
工作台往复速度	Reci speed of table	(m/min)	0.1 ~ 6, 无级调速(stepiess speed regulation)
床头箱回转角度	Swivel angle of workhead	(°)	20°
工作转速	Work speed	(r/min)	180 ~ 500, 4级(steps)
砂轮转速 Wheel speed	机械磨具 Mechanical	(r/min)	10000, 18000, 21000
	电动模具 Electric	(r/min)	18000 ~ 24000
机床总功率 Machine total power	机械磨具 Mechanical	(kw)	4
	电动模具 Electric	(kw)	10
机床外形尺寸	Overall dimension	(mm)	2500 × 1300 × 1310
机床重量	Weight of machine	(kg)	2000

机床工作精度 Grinding Accuracies

机床型号		MBK2110
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003
内孔尺寸分散 Size deviation of bore	(mm)	0.012
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4

GOODWILL

MBDK2110 数控内圆磨床 CNC Internal Grinder

机床的主要特点 Main Characteristics

◆机床床身采用浇铸件，刚性好，变形小。
◆机床导轨采用平-V型导轨，刚性强，滑动性能好。
◆机床进给机构导轨采用十字交叉滚动导轨，具有刚性强，滑动阻力小等特点。
◆进给机构传动采用伺服电机控制滚珠丝杆进行进给及砂轮自动修整补偿。
◆电气控制系统采用进口原器件。机床磨削参数可通过触摸屏进行输进输出。操作简单方便。
◆机床伺服系统控制的进给具有精度高、误差小、速度快等特点。
◆机床夹具可有用户作多种选择。有三爪卡盘、液压动力卡盘及液压薄膜式夹紧夹具。
◆机床砂轮主轴也有两种形式可选择：一种是机械式砂轮轴，另一种是电动砂轮轴。电动砂轮轴有静止式变频器作无极调速。
◆本机床配置端面磨削装置，一次装夹可完成内孔及端面磨削，保证工件端面与内孔的垂直度。
◆机床电箱为独立式电箱。

◆The machine bed adopts the casting piece with the featu res of good rigidity and small deformation.
◆Flat-V guide way is adopted,featuring good rigidity& sliding performance.
◆Crossing rolling guide way is used for feed mechanism.featuring good rigidity and small sliding friction.
◆The feeding of feed mechanism and auto wheel dressing comp can be performed by driving the servo motor through ball lead screw,
◆Electrical control system adopts imported components, Grinding parameters can be entered through the touch-screenr, and operation is sim ple and convenient.
◆The serro system is used to cortrol the feeding amount, thus featihng high accaracy, small emor and fast speed
◆Three-pawl chuck and hydraulic power chuck as well as hydraulic diaphragm fixture are used.
◆There are two kinds of wheel spindle,one is mechanical wheel spindle and the other is electric spindle which it speed regulation can be carried out by freq inverter
◆Equipped with grindying device, inter bore and endface grinding can be carried out after one setup, thus providing perpendicularty between work endface and inner bore.
◆Independent electrical cabbinet is also adopted.

GOODWILL

MBDK2110 数控内圆磨床 CNC Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MBDK2110
磨削孔径	Bore dia ground	(mm)	ϕ6 ~ ϕ100
磨孔长度 Grinding depth	ϕ6	(mm)	9
	ϕ100	(mm)	150
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ260
	罩外 Without guard	(mm)	ϕ480
工作台最大行程	Max. travel of worktable	(mm)	550
端磨工作台最大行程	Max. travel of face grind	(mm)	100
工作台往复速度	Reci speed of table	(m/min)	0.1 ~ 6, 无级调速(stepiess speed regulation)
床头箱回转角度	Swivel angle of workhead	(°)	20°
工作转速	Work speed	(r/min)	180 ~ 500, 4级(steps)
砂轮转速 Wheel speed	机械磨具 Mechanical	(r/min)	10000, 18000, 21000
	电动模具 Electric	(r/min)	18000 ~ 24000
机床总功率 Machine total power	机械磨具 Mechanical	(kw)	4
	电动模具 Electric	(kw)	10
机床外形尺寸	Overall dimension	(mm)	2363 × 1260 × 1550
机床重量	Weight of machine	(kg)	2200
端磨 Face grinding attacment	端磨外径 Max. OD of end face grinding	(mm)	ϕ600
	砂轮速度 Wheel speed	(r/min)	8000

机床工作精度 Grinding Accuracies

机床型号		MBDK2110
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003
内孔尺寸分散 Size deviation of bore	(mm)	0.012
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4
端面平面度(平或凹) Flatness of endface (tlat or concave)	(mm)	0.002
端面粗糙度 Surface roughness of endface	(μm)	Ra0.8

GOODWILL

MBK2110A/B 数控内圆磨床 CNC Internal Grinder

机床的主要特点 Main Characteristics

◆机床进给导轨采用双V型预加负荷，高精度十字交叉滚柱滚动导轨，精度高、刚性好。
◆机床采用高速大功率电动砂轮轴，由静止变频器供电，能耗低，噪音小。
◆进给机构采用伺服电机控制滚珠丝杆进行进给及修整补偿。电器控制系统采用进口原器件。
◆机床的磨削参数可通过显示屏输进、输出，操作简单方便。
◆机床伺服系统控制的进给具有精度高、误差小、速度快的特点。
◆机床夹具采用液压斜锲式快速夹具，具有高效可靠的特点。如用户特殊需要，可设计液压弹性薄膜夹具。
◆MBK2110A为一轴数控内圆磨床
◆MBK2110B为两轴数控内圆磨床

◆Dual-V preloaded & high precision crossed roller rolling guideway is adopted, thus providing high accuracy and good rigidity.
◆High speed & high power electric grinding wheel spindle is driven by the static freq. inverter with the features of lower consumption & noise.
◆The feed mechanism is driven by the servo motor through the ball leadscrew to perform feed & dressing compensation.
◆The imported electric control system is used. The touch screen can be used for convenient operation.
◆The servo system can be used to control the feeding amount, thus featuring high precision, small error and fast speed.
◆Hydraulic wedge-type fixture is used, thus ensuring high efficiency and high reliability. The hyd. elastic diaphragm fixture can also be designed for special order.
◆Model MBK2110A one-axis CNC Internal Grinderis used.
◆Model MBK2110B two-axes CNC Internal Grinderis adopted.

GOODWILL

MBK2110A/B 数控内圆磨床 CNC Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MBK2110A/B
磨削孔径	Bore dia ground	(mm)	ϕ6 ~ ϕ100
最大磨削长度	Max. gringding length	(mm)	150
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ260
	罩外 Without guard	(mm)	ϕ480
床头箱回转角度	Swivel angle of workhead	(°)	20°
工作转速（无级调速）	Work speed(stepiess speed regulation)	(r/min)	Max.750
砂轮转速	Wheel speed	(r/min)	24000
机床总功率	Machine total power	(kw)	4
电动磨头功率	Electric gri. wheel spindle	(kw)	≈ 1.8
机床外形尺寸	Overall dimension	(mm)	2500 × 1550 × 2000
机床重量	Weight of machine	(kg)	≈ 3500

机床工作精度 Grinding Accuracies

机床型号		MBK2110A/B
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003
内孔尺寸分散 Size deviation of bore	(mm)	0.012
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4

GOODWILL

MK2110A 数控内圆磨床 CNC Internal Grinder

机床的主要特点 Main Characteristics

◆机床采用德国西门子828D SL或发那科Oi-TD系统，伺服电机均由数字量控制，有很强的编程功能，可实现插补和联动功能。

◆二轴均由伺服电机驱动滚珠丝杠，传动链简单可靠，可实现无间隙、高灵敏度运动。

◆机床可配置液压薄膜夹具，液压动力卡盘等，夹持精度高，装卸工件方便。

◆工件箱采用高精度套筒主轴结构，精度高，便于维修，工件主轴驱动由交流变频电机经过多楔带作无极调速。

◆砂轮主轴采用大功率、高刚性电动砂轮轴，由静止变频器驱动。

◆机床电箱为独立式电箱。

◆Siemens 828D or Fanuc Oi-c system is used,the servo motor controlled numerically has good programming capacity for interpolation and linkage motion of axes.

◆Gri wheel feel & reci movement can be achieved by the serro motor through ball leadscew, thus ensuring gap elimination movement.

◆Either hyd diaphragm chuck or hydraulically-operated chuck is available, thus ensufing high clamping accuracy & convenient loading.

◆Cartridge-type workspindle is driver by AC freq conversion motor though poly-vkelt which its stepless speed-regulation can be performed by the freq inverter.

◆High power & high rigidity electric gri wheel spindle is driven by a static frequency inverter.

◆Independent electrical cabinet is used.

GOODWILL

MK2110A 数控内圆磨床 CNC Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MK2110A
磨削孔径	Bore dia ground	(mm)	ϕ10 ~ ϕ150
最大磨削长度	Max. gringding length	(mm)	200
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ400
	罩外 Without guard	(mm)	ϕ600
床头箱回转角度	Swivel angle of workhead	(°)	30°
工作台最大行程	Max. travel of worktable	(mm)	500
砂轮架最大行程	Max. wheelhead travel	(mm)	200
工作台（Z轴）运动速度	Speed of worktable movement (Z axis)	(m/min)	0 ~ 10
砂轮架（X轴）运动速度	Speed of wheelhead movement (X axis)	(m/min)	0 ~ 5
Z轴分辨率	Resolution of Z axis	(mm)	0.001
X轴分辨率	Resolution of X axis	(mm)	0.001
工作转速（无级调速）	Work speed (stepiess speed regulation)	(r/min)	30 ~ 600
砂轮转速（根据具体零件选）	Wheel speed (as per part)	(r/min)	12000 ~ 51000
机床总功率	Machine total power	(kw)	28
机床外形尺寸	Overall dimension	(mm)	3100 × 1680 × 1900
机床重量	Weight of machine	(kg)	4500

机床工作精度 Grinding Accuracies

机床型号		MK2110A
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.004
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4
端面对内孔垂直度 Squareness of face to ID	(mm)	0.012
端面粗糙度 Surface roughness of endface	(μm)	Ra0.8
夹持接圆对内孔跳动(针对齿轮类零件) Runout of pitch circle to be held in relation to ID(for gears)	(mm)	0.04

GOODWILL

MK2110B 数控内圆磨床 CNC Internal Grinder

机床的主要特点 Main Characteristics

- ◆机床床身采用优质铸件浇铸，刚性好，结构稳，变形小；
- ◆机床采用床头箱固定在进给滑板上工件进给，砂轮作往复结构布局；
- ◆工件进给滑板及砂轮工作台滑板采用高刚度十字交叉滚珠导轨；
- ◆工件进给由伺服电机经联轴器带动高精度滚珠丝杆副来实现，进给和补偿为同一传动链，结构紧凑，精度高；
- ◆砂轮工作台采用模块化设计，油缸驱动快趋、快进往复，磨削为砂轮高频率机械振荡，振荡速度变频调速，提高磨削效率。
- ◆工件主轴采用整体套筒式主轴，刚性好，主轴轴承采用高精度成对轴承，回转精度高，稳定性好，主轴回转变采用频无级调速；
- ◆采用超宽的工作台和进给滑板结构，提高机床的整体刚性；
- ◆机床配有防水全封闭罩壳，观察窗保证长期观察清晰，耐油污并保证砂轮破碎后不飞溅伤人；
- ◆机床采用后置电器箱和前置回转式操作台以及独立的循环启动按钮。电箱带热交换器，以及确保在高温期间正常运行；
- ◆机床可据加工零件设计制作专用夹具；
- ◆机床采用日本三菱PLC控制系统、伺服单元及主要电器控制元件，用户如有特殊要求可选用其他控制系统；
- ◆机床磨削冷却和电主轴冷却分别采用冷却系统；电主轴冷却功能带断水保护。
- ◆数控内圆磨床MK2110B是模块系列产品，可据用户需要制成：

单轴：数控进给+液压快趋+机械振荡往复
机床型号：MK2110B/1
双轴：数控进给+数控往复　机床型号：MK2110B

- ◆The machine bed adopts the casting piece with the features of good rigidity and small deformation.
- ◆The headstock is fixed on the feed slide for achieving work feed. The gri. wheel reciprocation is also used.
- ◆Work feed guideway and gri. wheel worktable guidaway adopt the crossed roller type.
- ◆Work feed can be performed by the servo motor through the coupling via high-precision ball leadscrew pair.
- ◆The oil cylinder is used to drive the worktable to achieve gap elimination and rapid advance reciprocation of workpiece.
- ◆Table reciprocation movement can be achieved by mechanical oscillation which its reci. speed is adjusted by the freq.-conversion speed regulator.
- ◆Cartridge-type work spindle is used. The high-precision matched spindle bearing is adopted with the features of high rotating accuracy and good reliability.
- ◆Super-wide worktable and feed slide are used, thus improving good rigidity.
- ◆It's totally enclosed with guards to prevent swarfs from splashing.
- ◆The rear-mounted electrical cabinet and front-mounted control cabinet are also used. The heat-exchanger in the electrical cabinet is also provided.
- ◆The special fixture can also be designed according to the machined workparts.
- ◆Mitsubishi PLC control system a& servo unit is adopted. Other control system can also be selected for special order.
- ◆The grinding cooling system is adopted. Independent coolant tank can be used for cooling the electric spindle with water-break protection.
- ◆According to requirements of user, this machine can be designed as below:

One-axis CNC feed + hyd. gap elm. + mechanical osci. reciprocation Machine model: MK2110B/1
Two-axis CNC feed + CNC reciprocation Machine model: MK2110B

GOODWILL

MK2110B 数控内圆磨床 CNC Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MK2110B
磨削孔径	Bore dia ground	(mm)	ϕ10 ~ ϕ100
磨孔最大深度	Max.depth of bore to be ground	(mm)	80
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ220
	罩外 Without guard	(mm)	ϕ300
床头箱回转角度	Swivel angle of workhead	(°)	−1° ~ 30°
工作转速(电机变频调速)	Work speed (Motor variable frequency speed regulation)	(r/min)	84 ~ 2000
砂轮转速	Wheel speed	(r/min)	24000
工件电机功率	Work motor power	(kw)	0.45 / 0.75
砂轮电机功率	Wheel motor power	(kw)	4
油泵电机功率	Oil pump motor power	(kw)	0.55
静止变频器功率	Static frequericy converter power	(kw)	15
机床外形尺寸	Overall dimension	(mm)	2100 × 1650 × 1900
机床重量	Weight of machine	(kg)	3000

机床工作精度 Grinding Accuracies

机床型号		MK2110B
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003
内孔尺寸分散 Size deviation of bore	(mm)	0.012
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4

GOODWILL

MKD2110 多功能数控内圆磨床
CNC Multifunction Internal Grinder

机床的主要特点 Main Characteristics

◆本机床为双磨头结构的三轴全封闭数控多功能磨床。

◆双磨头一次装夹分别可以磨削内孔和端面，内孔和外圆，及多个台阶孔等功能。

◆结构布局为：工件（X轴）作进给运动，砂轴（Z1、Z2轴）作往复直线运动。

◆三轴运动均有伺服电机控制。

◆机床电气控制系统采用日本三菱或其他国外品牌。

◆机床电气箱为背包式，电气操纵箱里机床罩壳上，并可带一定角度旋转

◆The dual gri. wheelhead & three axes CNC grinder is adopted, which is totally enclosed with guards.

◆Dual grinding wheelhead can be used to grind inner bore and endface, I.D. and O.D. and multiple stepped holes after one set-up.

◆Feed movement of workhead spindle(x axis) and reci. linear movement for gri. wheel spindle(Z1 & Z2axis) are adopted.

◆The servo motor is used to perform three axes movement.

◆Mitsubishi electrical control system is also used.

◆The backpack type electrical cabinet is available. The control cabinet mounted on the machine housing can be swiveled over an angle.

GOODWILL

MKD2110 多功能数控内圆磨床
CNC Multifunction Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号				MKD2110
加工范围 Maching scope	磨削孔径	Bore dia ground	(mm)	ϕ10 ~ ϕ100
	磨孔最大深度	Max.depth of bore to be ground	(mm)	100
	磨孔最大外径	Max. grinding outer dianter	(mm)	ϕ180
	外圆磨削最大长度	Max. grinding length of O.D.	(mm)	100
工件最大旋径 Max.swing diameter	罩内	Within guard	(mm)	ϕ200
	罩外	Without guard	(mm)	ϕ400
进给机构最大行程	Max.stoke feed of mecnanism		(mm)	400
工作台往复最大行程	Max. reci stroke of table		(mm)	350
工作台最大承载重量	Max. loading weight of table		(kg)	50
工作转速	Work speed		(r/min)	无级调速stepless speed regulation
工件电机功率	Work motor power		(kw)	1.5
X轴伺服电机功率	X-axis servo moter power		(kw)	2
Z1轴伺服电机功率	Z1-axis servo moter power		(kw)	1.5
Z2轴伺服电机功率	Z2-axis servo moter power		(kw)	1.5
X轴伺服电机分辨率	Resolution of X-axis gri servo moter		(mm)	0.001
Z1轴伺服电机分辨率	Resolution of Z1-axis gri servo moter		(mm)	0.001
Z2轴伺服电机分辨率	Resolution of Z2-axis gri servo moter		(mm)	0.001
冷却泵流量	Flow rate of coolant pump		(L/min)	50
额定功率	Ratrd power		(kw)	10 ~ 17
机床外形尺寸	Overall dimension		(mm)	2100 × 1700 × 2000
机床重量	Weight of machine		(kg)	3100

机床工作精度 Grinding Accuracies

机床型号		MKD2110
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.003
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4
外圆圆度 O.D roundness	(mm)	0.0025
外圆粗糙度 O.D roundness	(μm)	Ra0.63
端面平整度 Endface flatness	(mm)	0.003
端面对内孔的垂直度 Parpendicularity of endface to I.D center line	(mm)	0.01

GOODWILL

M2120A 内圆磨床 Internal Grinder

机床的主要特点 Main Characteristics

◆机床的进给及修整，由二个互不干涉的传动机构执行，进给可采用手动或液动二种进给方式。

◆机床设有跳进、跳出机构，因此退出砂轮进行测量或修整后不必重新手动对刀。

◆工作台启动有液压开关阀，确保装卸和测量工件时的安全性。

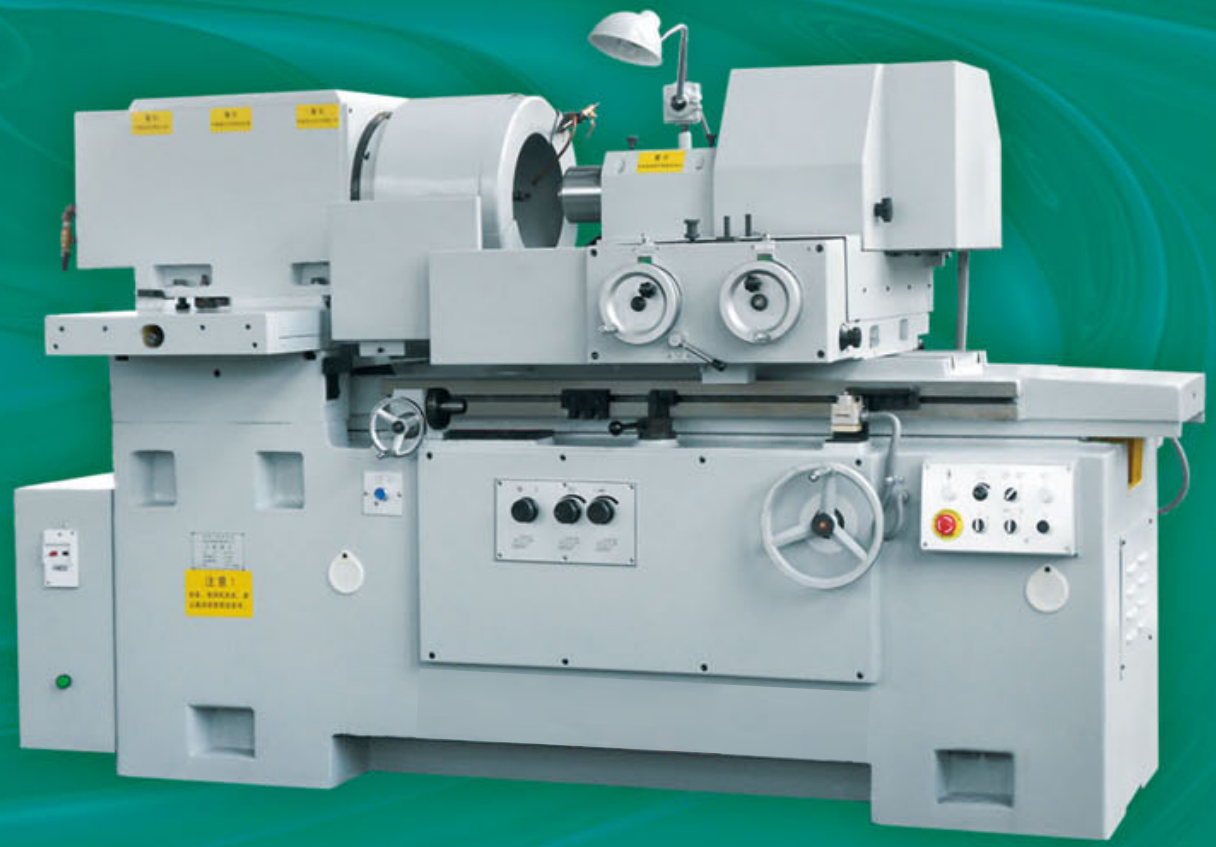
◆机床在特殊订货，可配高速砂轮轴为18000转/分，以适宜20-50mm孔的磨削。

◆The feed and dressing movement are controlled by two independent systems. Manual and hydraulic feed movement can be used.

◆The machine is equipped with a jumping device,therefore,it is unnecessary to be reset the machine after measuring or dressing.

◆The table is equipped with a hyd raulic switch valve to ensure safety during loading workpieces.

◆TFie machine is provided with a grinding spindle of 1800r/min which is capable of grinding bore diameter ranging bore diameter ranging from 20 t0 50mm.



GOODWILL

M2120A 内圆磨床 Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			M2120A
磨削孔径	Bore dia ground	(mm)	ϕ20 ~ ϕ200
磨孔长度 Grinding depth	ϕ50	(mm)	70
	ϕ200	(mm)	200
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ400
	罩外 Without guard	(mm)	ϕ600
床头箱回转角度	Swivel angle of workhead	(°)	30°
工作转速	Work speed	(r/min)	100 ~ 500, 无级(stepless)
砂轮转速	Wheel speed	(r/min)	4000, 5000, 6000, 8000, 11000
工作台最大行程	Max. travel of worktable	(mm)	600
工作台运动速度	Worktable moving speed	(m/min)	0.1 ~ 6
工作台修整速度	Worktable dressingng speed	(m/min)	0.1 ~ 2
进给分辨率	Feed resolution	(mm)	0.002
机床总功率	Machine total power	(kw)	≈ 9
机床外形尺寸	Overall dimension	(mm)	2100 × 2120 × 1700
机床重量	Weight of machine	(kg)	3600

机床工作精度 Grinding Accuracies

机床型号		M2120A
圆度 Bore roundness	(mm)	0.003
圆柱度 Cylindricity of bore	(mm)	0.005
粗糙度 Surface roughness of bore	(μm)	Ra0.4

GOODWILL

MD2120A 内圆磨床 Internal Grinder

机床的主要特点 Main Characteristics

◆机床的进给及修整，由二个互不干涉的传动机构执行，进给可采用手动或液动二种进给方式。

◆机床设有跳进、跳出机构，因此退出砂轮进行测量或修整后不必重新手动对刀。

◆工作台启动有液压开关阀，确保装卸和测量工件时的安全性。

◆机床在特殊订货，可配高速砂轮轴为18000转/分，以适宜20-50mm孔的磨削。

◆MD2120A在床头箱顶部设有端磨装置，并且端磨回转与工作台纵向运动有可靠的液压连锁。

◆The feed and dressing movement are controlled by two independent systems. Manual and hydraulic feed movement can be used.

◆The machine is equipped with a jumping device,therefore,it is unnecessary to reset the machine after measuring or dressing.

◆The table is equipped with a hydraulic switch valve to ensure safely during loading and unloading and unloading wo rkpieces.

◆The machine is provided with a grinding spindle of 1800rmin which is capable of grinding bore diameter ranging bore diameter ranging from 20 t0 50mm

◆An endface grinding device is provided on the top of the workhead. The is a hydraulic interlock system between the swivel of the endface grinding device and the longitudinal movement of the worktable.

GOODWILL

MD2120A 内圆磨床 Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MD2120A
磨削孔径	Bore dia ground	(mm)	ϕ20 ~ ϕ200
磨孔长度 Grinding depth	ϕ50	(mm)	70
	ϕ200	(mm)	200
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ400
	罩外 Without guard	(mm)	ϕ600
床头箱回转角度	Swivel angle of workhead	(°)	30°
工作转速	Work speed	(r/min)	100 ~ 500, 无级(stepless)
砂轮转速	Wheel speed	(r/min)	4000, 5000, 6000, 8000, 11000
端磨转速	Face wheel speed	(r/min)	4650
工作台最大行程	Max. travel of worktable	(mm)	600
工作台运动速度	Worktable moving speed	(m/min)	0.1~6
工作台修整速度	Worktable dressingng speed	(m/min)	0.1~2
进给分辨率	Feed resolution	(mm)	0.002
机床总功率	Machine total power	(kw)	≈ 9
机床外形尺寸	Overall dimension	(mm)	2100 × 2120 × 1950
机床重量	Weight of machine	(kg)	3800

机床工作精度 Grinding Accuracies

机床型号		MD2120A
圆度 Bore roundness	(mm)	0.003
圆柱度 Cylindricity of bore	(mm)	0.005
内孔粗糙度 Surface roughness of bore	(μm)	Ra0.4
端面粗糙度 Surface roughness of endface	(μm)	Ra0.8

GOODWILL

MK2120A 数控内圆磨床 CNC Internal Grinder

机床的主要特点 Main Characteristics

◆机床采用德国西门子828D SL或发那科Oi-TD系统，伺服电机均由数字量控制，有很强的编程功能，可实现插补和联动功能。

◆二轴均由伺服电机驱动滚珠丝杠，传动链简单可靠，可实现无间隙、高灵敏度运动。

◆机床可配置液压薄膜夹具，液压动力卡盘等，夹持精度高，装卸工件方便。

◆工件箱采用高精度套筒主轴结构，精度高，便于维修，工件主轴驱动由交流变频电机经过多楔带作无极调速。

◆砂轮主轴采用大功率、高刚性电动砂轮轴，由静止变频器驱动。

◆机床电箱为独立电箱。

◆Siemens 828D or Fanuc Oi-c system is used.the servo motor controlled numerically has good programming capacity forinterpolation and linkage motion of axes.

◆Gri wheel feel & reci.movement can be achieved by the serro motor through ball leadscew, thus ensuring gap elimination movement.

◆Either hyd diaphragm chuck or hydraulically-operated chuck is available, thus ensufing high clamping accuracy & convenient loading.

◆Cartridge-type workspindle is driver by AC freq conversion motor though poly-vkelt which its stepless speed-regulation can be performed by the freq inver

◆High power & high rigidity electric gri wheel spindle is driven by a static frequency inverter.

◆Independent electrical cabinet is used.

GOODWILL

MK2120A 数控内圆磨床 CNC Internal Grinder

主要技术参数 Main Technical Specifcations

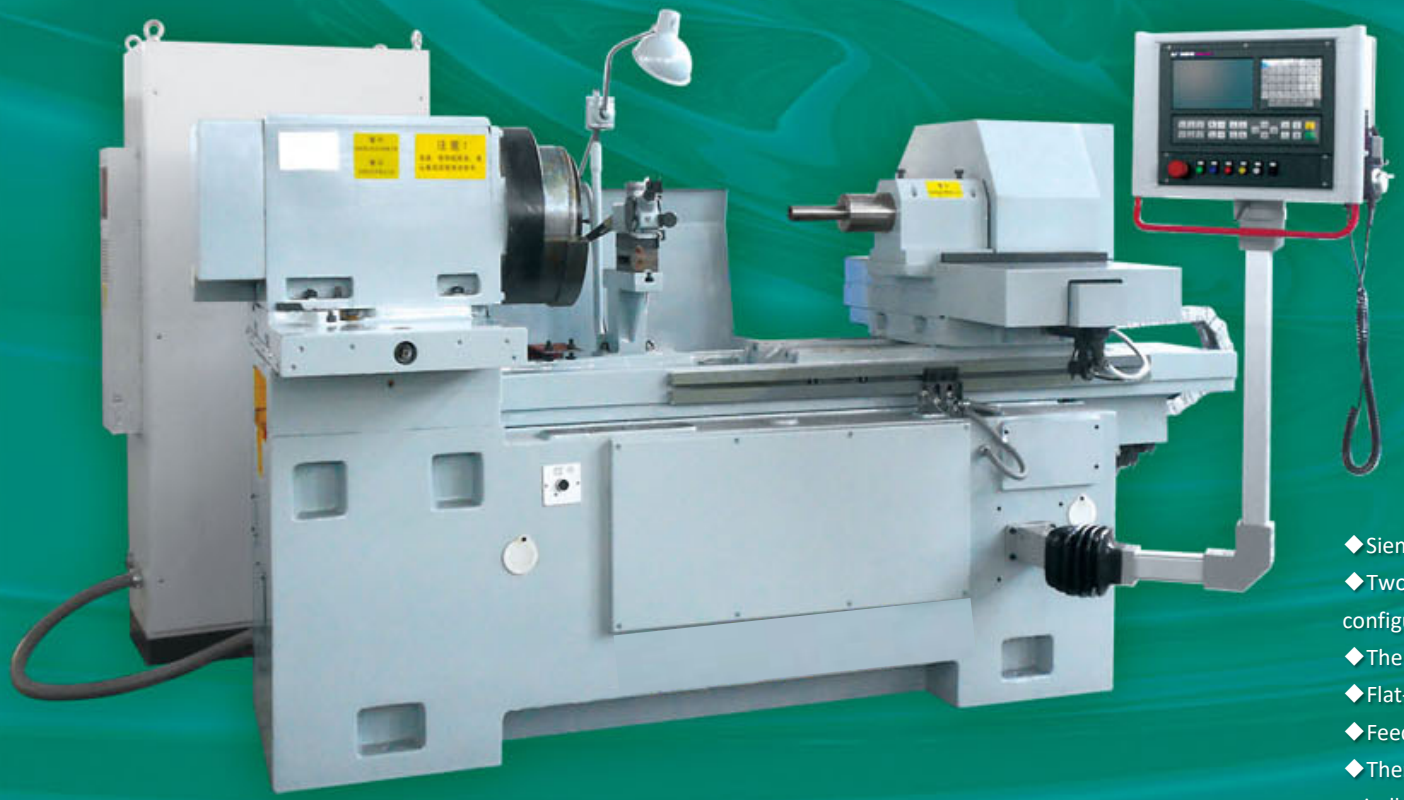
机床型号			MK2120A
磨削孔径	Bore dia ground	(mm)	ϕ20 ~ ϕ200
磨孔长度	Grinding depth	(mm)	200
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ460
	罩外 Without guard	(mm)	ϕ600
床头箱回转角度	Swivel angle of workhead	(°)	30°
床头箱横向移动量	Cross movement of workhead	(mm)	150
工作台最大行程	Max. travel of worktable	(mm)	500
砂轮架最大行程	Max. travel of wheelhead	(mm)	250
工作台（Z轴）运动速度	Speed of worktable movenment (Z axis)	(m/min)	0 ~ 10
砂轮架（X轴）运动速度	Speed of wheelhead movenment (X axis)	(m/min)	0 ~ 5
Z轴分辨率	Resolution of Z axis	(mm)	0.001
X轴分辨率	Resolution of X axis	(mm)	0.001
工作转速	Work speed	(r/min)	30 ~ 600, 无级(stepless)
砂轮转速（根据具体零件选）	Wheel speed (as per part)	(r/min)	24000
机床总功率	Machine total power	(kw)	28
机床外形尺寸	Overall dimension	(mm)	3100 × 1680 × 1900
机床重量	Weight of machine	(kg)	4500

机床工作精度 Grinding Accuracies

机床型号		MK2120A
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.004
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4
内孔尺寸分散 Size deviation of bore	(mm)	0.015
端面对内孔垂直度 Parpendicularity of endface to I.D center line	(mm)	0.012
端面粗糙度 Surface roughness of endface	(μm)	Ra0.8
夹持接圆对内孔跳动(针对齿轮类零件) Runout of pitch circle to be held relation to I.D(for gears)	(mm)	0.04

GOODWILL

MK2120B 数控内圆磨床 CNC Internal Grinder



机床的主要特点 Main Characteristics

◆机床采用德国西门子公司的808D两轴联动数控系统，内装PLC液晶显示。
◆二轴均由伺服电机驱动滚珠丝杠，传动链简单可靠。往复轴配置无间减速器，以增强扭矩。
◆机床床身采用整体浇铸，刚性好、变形小。
◆机床床身导轨及工作台导轨采用平-V型贴塑导轨，刚性强，滑动性能好。
◆进给机构导轨采用燕尾型滚针导轨。
◆机床砂轮轴有两种形式可选择：一种是机械式砂轮轴，另一种是电动砂轮轴。电动砂轮轴由静止式变频作无级调速。
◆机床夹具可由用户多种选择：有三爪卡盘、液压动力卡盘及液压薄膜式夹紧夹具。
◆机床电箱为独立电箱。

◆Siemens 808D two-axis linkage CNC system is dopted with PLC system.
◆Two-axis ball screw driven by servo motors, drive train is simple and reliable. Reciprocating shaft configuration seamless reducer to increase torque.
◆The machine bed adopts the casting piece with the features of good rigidity and small deformation.
◆Flat-V guide way is adopted, feataring good rigidity & sliding performance.
◆Feed mechanism guide rail adopts dovetail guide roller.
◆There are two kings of wheel spindle: one is mechanical wheel spindle and electric gri wheel spindle whick its stepless speed regulation is carried out by freq inverter.
◆Three pawl chuck and hydraulic power as well as hydraulic diaphragm fixture are used.
◆Independent electrical cabinet is used.

GOODWILL

MK2120B 数控内圆磨床 CNC Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MK2120B
磨削孔径	Bore dia ground	(mm)	ϕ20 ~ ϕ200
磨孔长度	Grinding depth	(mm)	200
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ460
	罩外 Without guard	(mm)	ϕ600
床头箱回转角度	Swivel angle of workhead	(°)	30°
床头箱横向移动量	Cross movement of workhead	(mm)	150
工作台最大行程	Max. travel of worktable	(mm)	600
砂轮架最大行程	Max. travel of wheelhead	(mm)	150
工作台（Z轴）运动速度	Speed of worktable movenment (Z axis)	(m/min)	0 ~ 10
砂轮架（X轴）运动速度	Speed of wheelhead movenment (X axis)	(m/min)	0 ~ 5
Z轴分辨率	Resolution of Z axis	(mm)	0.001
X轴分辨率	Resolution of X axis	(mm)	0.001
工作转速	Work speed	(r/min)	30 ~ 600, 无级(stepless)
砂轮转速	Wheel speed (as per part)	(r/min)	根据具体零件选
机床总功率	Machine total power	(kw)	28
机床外形尺寸	Overall dimension	(mm)	3100 × 1680 × 1900
机床重量	Weight of machine	(kg)	4500

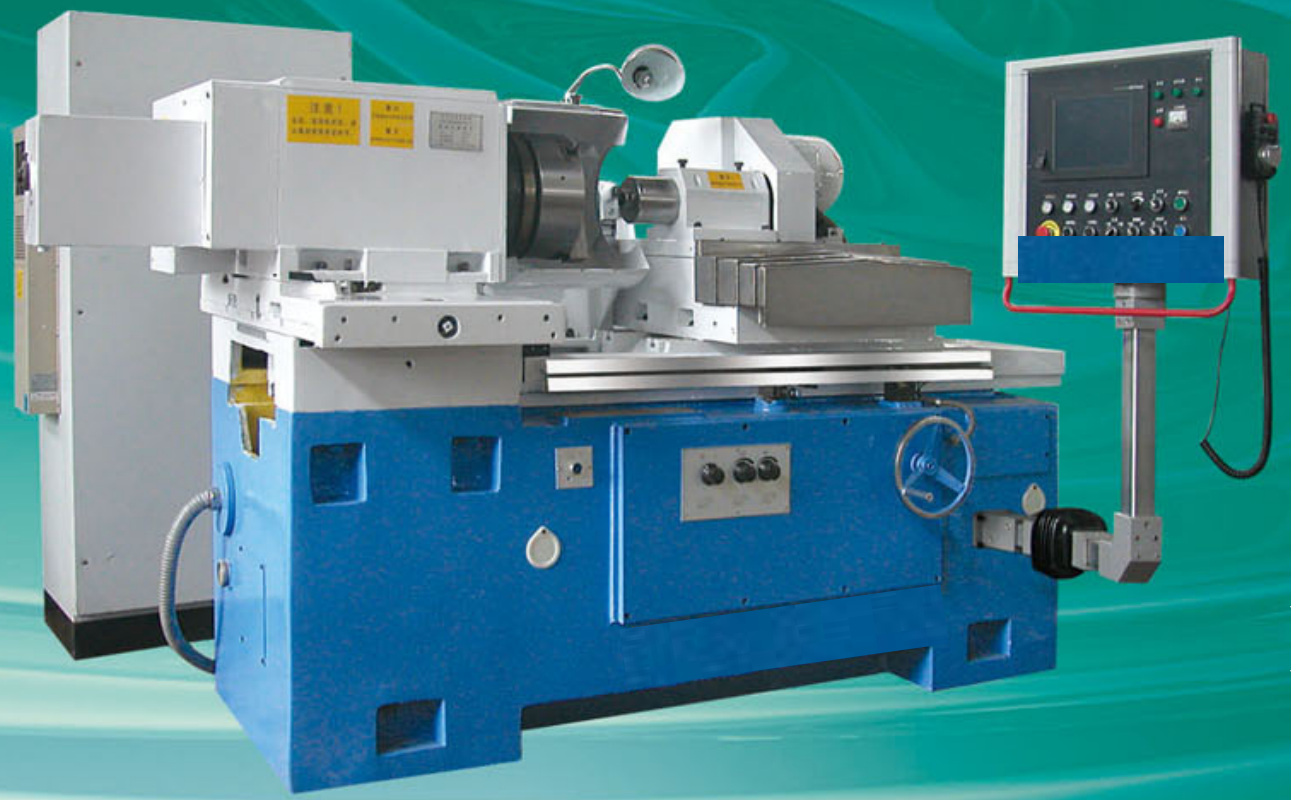
机床工作精度 Grinding Accuracies

机床型号		MK2120B
内孔圆度 Bore roundness	(mm)	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.004
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4
内孔尺寸分散 Size deviation of bore	(mm)	0.015
端面对内孔垂直度 Parpendicularity of endface to I.D center line	(mm)	0.012
端面粗糙度 Surface roughness of endface	(μm)	Ra0.8
夹持接圆对内孔跳动(针对齿轮类零件) Runout of pitch circle to be held relation to I.D(for gears)	(mm)	0.04

GOODWILL

MBK2120、MBDK2120 数控内圆磨床

CNC Internal Grinder



机床的主要特点 Main Characteristics

◆机床床身采用整体浇铸，刚性好，变形小。
◆机床导轨采用平-V型导轨，刚性强，滑动性能好。
◆机床进给机构导轨采用直线滚动导轨，具有刚性强，滑动阻力小等特点。
◆机床进给机构传动采用伺服电机控制滚珠丝杆进行进给及砂轮自动修整补偿。
◆电气控制系统采用日本三菱控制系统。机床磨削参数可通过触摸屏输进输出，操作简单方便。
◆机床伺服系统控制的进给具有精度高、误差小、速度快的特点。机床夹具可有用户作多种选择。由三爪卡盘、液压动力卡盘及液压薄膜式夹紧夹具。
◆机床砂轮主轴也有两种形式可选择：一种是机械式砂轮轴，另一种是电动砂轮轴。电动砂轮轴由静止式变频器作无级调速。
◆机床可配置端面磨削装置，一次装夹可完成内孔及端面磨削，保证工件端面与内孔的垂直度。型号为MBDK2120。

◆The machine tool adopts the casting piece with the features of good rigidity and small deformation.
◆Flat-V guide way is adopted, featuring good rigidity & sliding performance.
◆Linear rolling guide way is used for feed mechanism, featuring good rigidity and small sliding friction.
◆The feeding of feed mechanism and auto wheel dressing comp can be performed by driving the servo motor through ball lead screw.
◆Mitsubish etectrical control system is used, Grinding parameters can be entered through the touch-screen, featuring simple and convenient operatior.
◆Machine feed with high accuracy, small error & fast speed. Three-pawl chuck and hydraulic power as well as hydraulic disphragm fixture are used.
◆There are two kings of wheel spindle.one is mechanical wheel spindle and the electric gri wheel spindle which its stepless speed-regulation is carried out by freq inverter.
◆Equipped with endface grinding device, inner bore and endface grinding can be carried out after one setup, thus ersuring perpendicuarity betwween work endface and inner bore.

GOODWILL

MBK2120、MBDK2120 数控内圆磨床

CNC Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MBK2120	MBDK2120
磨削孔径	Bore dia ground	(mm)	ϕ20 ~ ϕ200	ϕ20 ~ ϕ200
磨孔长度 Grinding depth	ϕ6	(mm)	70	70
	ϕ100	(mm)	200	200
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ400	ϕ400
	罩外 Without guard	(mm)	ϕ600	ϕ600
床头箱回转角度	Swivel angle of workhead	(°)	30°	30°
工作转速	Work speed	(r/min)	0 ~ 500无级(stepless)	0 ~ 500无级(stepless)
砂轮转速	Wheel speed	(r/min)	4000, 6000, 11000	4000, 6000, 11000
端磨转速	Face wheel speed	(r/min)	–	4650
工作台最大行程	Max. travel of worktable	(mm)	600	600
工作台运动速度	Worktable moving speed	(m/min)	0.1 ~ 6	0.1 ~ 6
工作台修整速度	Worktable dressingng speed	(m/min)	0.1 ~ 2	0.1 ~ 2
进给分辨率	Feed resolution	(mm)	0.001	0.001
机床总功率	Machine total power	(kw)	≈ 9	≈ 9
机床外形尺寸	Overall dimension	(mm)	2100 × 2120 × 1700	2100 × 2120 × 1950
机床重量	Weight of machine	(kg)	3400	3700

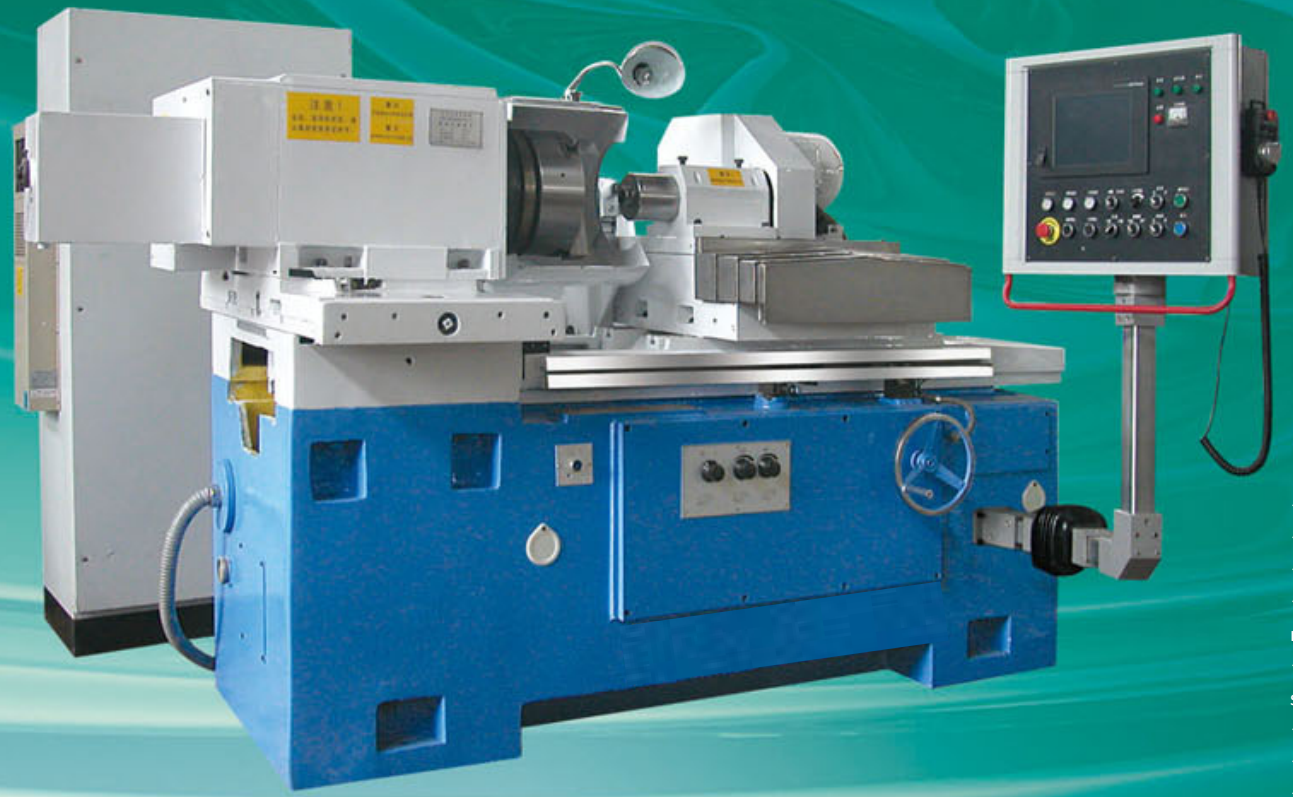
机床工作精度 Grinding Accuracies

机床型号		MBK2120	MBDK2120
内孔圆度 Bore roundness	(mm)	0.002	0.002
内孔圆柱度 Cylindricity of bore	(mm)	0.004	0.004
端面对内孔垂直度 Squareness of face to LD	(mm)	-	0.015
内孔尺寸分散 Size deviation of bore	(mm)	0.015	0.015
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.4	Ra0.4
端面粗糙度 Surface roughness of endface	(μm)	-	Ra0.8

GOODWILL

MGK2120、MGDK2120高精度数控内圆磨床

CNC High Accuracy Internal Grinder



机床的主要特点 Main Characteristics

◆机床导轨采用浇铸件，刚性好，变形小。
◆机床导轨采用平-V型贴塑导轨，具有刚性强，滑动性能好。
◆机床进给机构导轨采用直线滚动导轨，具有刚性强，滑动阻力小等特点。
◆机床进给机构传动采用伺服电机控制高精度滚珠丝杆进行进给及砂轮自动修整补偿。具有精度高、误差小、速度快等特点。
◆电气控制系统采用日本三菱控制系统。机床磨削参数可通过触摸屏输进输出，操作简单方便。
◆机床床头箱采用套筒主轴结构方式，该结构形式具有精度高、刚性强等特点。
◆机床夹具可有用户作多种选择。有三爪卡盘、液压动力卡盘及液压薄膜式夹紧夹具。
◆机床砂轮主轴采用高精度、高刚性结构形式，它也有两种形式可选择：一种是机械式砂轮轴，另一种是电动砂轮轴。电动砂轮轴由静止式变器作无级调速。
◆机床可配置端面磨削装置，型号为MGDK2120。该机床一次装夹可完成内孔及端面磨削，保证工件端面与内孔的垂直度。

◆The machine tool adopts the casting piece with the features of good rigidity and small deformation.
◆Flat-V guide way is adopted. featuring good rigidity & sliding performance.
◆Linear rolling guide way is used for feed mechanism, featuring good rigidity and small sliding friction.
◆The feeding of feed mechanism and auto wheel dressing comp can be performed by driving the servo motorthrough ball lead screw.
◆Mitsubishi electrical control system is used, Grinding parameters can be entered through the touch-screen,featuring simple and convenient operatior.
◆Machine feed with high accuracy. small error & fast speed.
◆Three-pawl chuck and hydraulic power as well as hydraulic disphragm fixture are used.
◆There are two types of wheel spindle,one is mechanical wheel spindle and the other is electric gri,wheel spindle which its stepless speed-i iS carried out by the freq inverter.
◆Equipped with endface grinding device,inner bore and endface grinding can be performed after one setup,thus ensuring perpendiculacil work endface and inner bore.

GOODWILL

MGK2120、MGDK2120高精度数控内圆磨床

CNC High Accuracy Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			MGK2120	MGDK2120
磨削孔径	Bore dia ground	(mm)	ϕ20 ~ ϕ200	ϕ20 ~ ϕ200
磨孔长度 Grinding depth	ϕ6	(mm)	70	70
	ϕ100	(mm)	200	200
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ400	ϕ400
	罩外 Without guard	(mm)	ϕ600	ϕ600
床头箱回转角度	Swivel angle of workhead	(°)	30°	30°
工作转速	Work speed	(r/min)	0 ~ 500无级(stepless)	0 ~ 500无级(stepless)
砂轮转速	Wheel speed	(r/min)	4000, 6000, 11000	4000, 6000, 11000
端磨转速	Face wheel speed	(r/min)	–	4650
工作台最大行程	Max. travel of worktable	(mm)	600	600
工作台运动速度	Worktable moving speed	(m/min)	0.1 ~ 6	0.1 ~ 6
工作台修整速度	Worktable dressingng speed	(m/min)	0.1 ~ 2	0.1 ~ 2
进给分辨率	Feed resolution	(mm)	0.001	0.001
机床总功率	Machine total power	(kw)	≈ 9	≈ 9
机床外形尺寸	Overall dimension	(mm)	2100 × 2120 × 1520	2100 × 2120 × 1950
机床重量	Weight of machine	(kg)	3400	3600

机床工作精度 Grinding Accuracies

机床型号		MGK2120	MGDK2120
内孔圆度 Bore roundness	(mm)	0.001	0.001
内孔圆柱度 Cylindricity of bore	(mm)	0.003	0.003
内孔尺寸分散 Size deviation of bore	(mm)	0.015	0.015
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.16	Ra0.16
端面粗糙度 Surface roughness of endface	(μm)	-	Ra0.4

GOODWILL

M250A 内圆磨床 Internal Grinder

机床的主要特点
Main Characteristics

◆M250A型内圆磨床可磨削直径150-500mm的圆柱孔及椎体不大的圆锥孔。最大磨削深度为450mm，

◆特殊订货时，机床可磨削60-150mm内孔。

◆Model M250A internal grinder is capable of grinding straight bore ranging from 150 t0 500mm in diameter and tapered bore with small taper. The maximum depth to be ground is 450mm.

◆For special order,the machine can be also used for grinding inner bores within 60-150mm.

M250A 内圆磨床 Internal Grinder

主要技术参数 Main Technical Specifcations

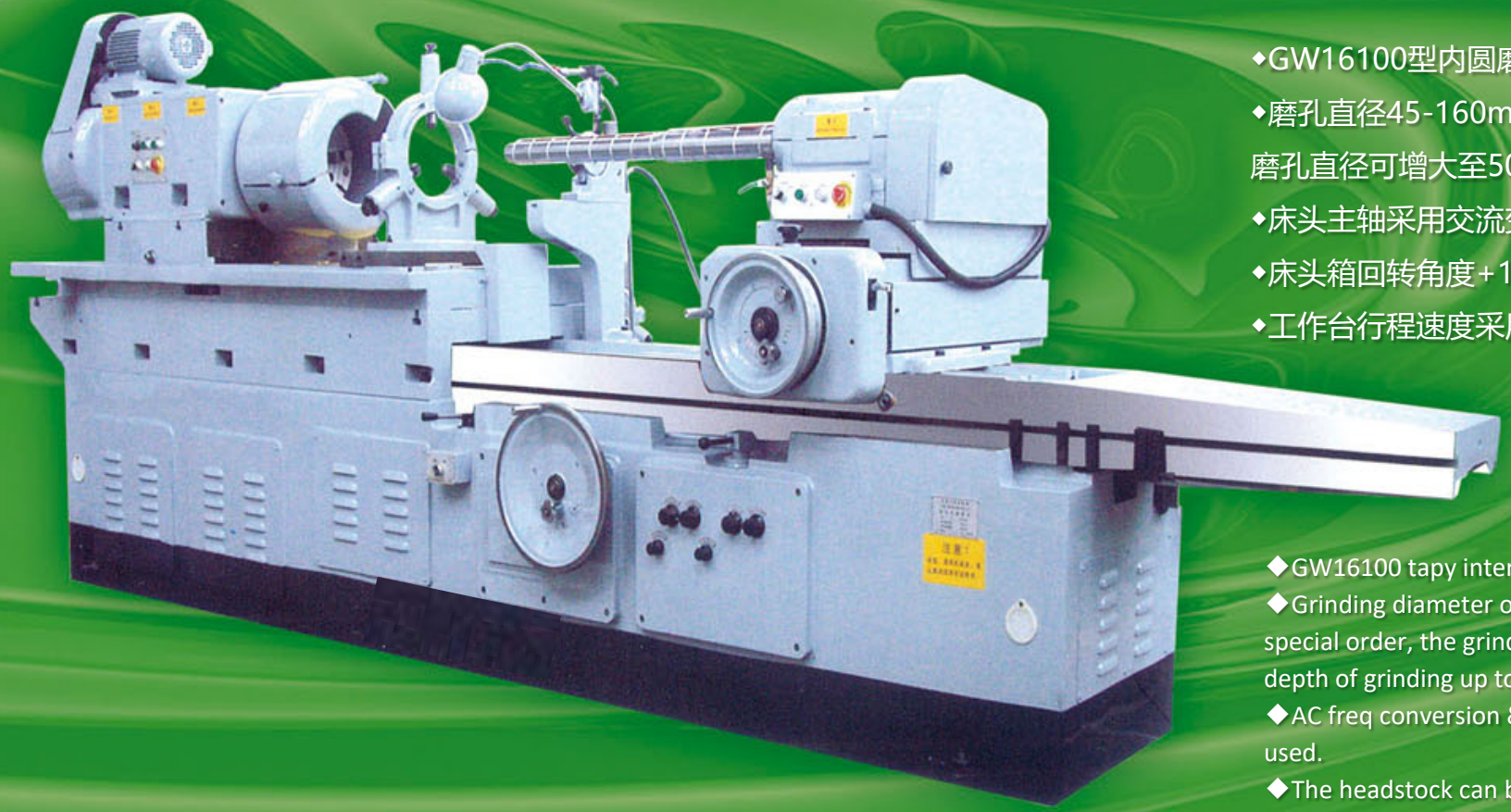
机床型号			M250A
磨削孔径	Bore dia ground	(mm)	ϕ150 ~ ϕ500
磨孔最大深度	Max.depth of bore to be ground	(mm)	450
工件最大旋径 Max.swing diameter	罩内 Within guard	(mm)	ϕ510
	罩外 Without guard	(mm)	ϕ720
工作台最大行程	Max. travel of worktable	(mm)	725
床头箱回转角度	Swivel angle of workhead	(°)	15°
机床中心高	Center height of machine	(mm)	1200
工作转速	Work speed	(r/min)	38, 57, 128, 160, 212, 320
砂轮转速	Wheel speed	(r/min)	2450, 4200
机床总功率	Machine total power	(kw)	≈ 9
机床外形尺寸	Overall dimension	(mm)	3760 × 1650 × 1830
机床重量	Weight of machine	(kg)	4500

机床工作精度 Grinding Accuracies

机床型号		M250A
内孔圆度 Bore roundness	(mm)	0.005
内孔圆柱度 Cylindricity of bore	(mm)	0.008
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.8

GOODWILL

GW16100 内圆磨床 Internal Grinder



机床的主要特点 Main Characteristics

◆GW16100型内圆磨床主要用于磨削深孔。

◆磨孔直径45-160mm，最大磨削深度1000mm。(经特殊订货磨孔直径可增大至500mm，最大磨削深度可至1200mm)。

◆床头主轴采用交流变频无极调速。

◆床头箱回转角度+10°（可磨削锥孔）。

◆工作台行程速度采用液压无级调速。

◆GW16100 tapy internal grinder is mainly used to grind the deep hole.

◆Grinding diameter of 45-160mm, max. grinding depth of 1000mm. (For special order, the grinding diameter can be enlarged to 500mm, maximum depth of grinding up to 1200mm)

◆AC freq conversion & stepless speed-regulation for workhead spindle is used.

◆The headstock can be swivelled over an angle of +10° (for taper hole).

◆Hyd system can be used to perform stepless speed-regulation of table.

GOODWILL

GW16100 内圆磨床 Internal Grinder

主要技术参数 Main Technical Specifcations

机床型号			GW16100
磨削孔径	Bore dia ground	(mm)	ϕ45 ~ ϕ160
磨孔最大深度	Max. depth of bore o be ground	(mm)	1000 / 1200 特殊订货 Optoonal
工件最大旋径	Max.swing diameter of part	(mm)	ϕ500 / ϕ600 特殊订货 Optoonal
工作台最大行程	Max. travel of worktable	(mm)	1200 / 1400 特殊订货 Optoonal
床头箱回转角度	Swivel angle of workhead	(°)	+10°
机床总功率	Machine total power	(kw)	10
机床外形尺寸	Overall dimension	(mm)	5500 × 1650 × 1830
机床重量	Weight of machine	(kg)	8500

机床工作精度 Grinding Accuracies

机床型号		GW16100
内孔圆度 Bore roundness	(mm)	0.005
内孔圆柱度 Cylindricity of bore	(mm)	0.01
内孔表面粗糙度 Surface roughness of bore	(μm)	Ra0.8