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Oct. 2017



PLAMILL-GV 钻切加工中心 CNC MACHINING & BEVEL PLASMA COMBINED MACHINE



梅塞尔手机网站



梅塞尔微信公众号

产品特征

Product Features

- 高精度等离子坡口切割、钻孔、攻丝、铣削、划线在同一设备上完成
- 高运行速度、高产能
- 高强度双梁构造、可扩展高精度轨道；标准切割长度6米(可扩展到30米)
- 高速度与精度的X轴加工能力
- 最大螺旋钻孔250mm，切割宽度可达3米
- 具有无限回转功能的等离子高质量坡口切割
- 可进行8件刀具自动更换的刀库装置
- 可靠的激光传感器，操作安全方便
- 工作台上的铜柱有助减少格栅损耗、提高加工性能与延长使用寿命
- 4个气动压爪有助于减少工作振动与加强工作稳定性
- 达到最佳工作性能的CNC数控系统；操作简便，自动套料软件
- 用于安全防护与便捷操作的高性能激光传感器
- 使用者维护界面便于故障诊断与维护保养
- High definition bevel plasm cutting & Drilling, Tapping, Milling at once
- High Traverse speed, Maximization of productivity
- High rigid dual gantry, Extendable high definition rail
- Fast and precise machining by Slave X axis
- Max. ~250mm helical drilling by Slave X axis
- High-quality cutting by the bevel plasma head with infinite rotation function
- Auto Tool Changer for automatic changing of 8 machining tools and for additional manual changing of 12 machining tools
- Reliable laser sensor for safe and convenient operation
- Less grating damage, more performance of machining tools, and longer lifespan due to using copper pin
- Low vibration, Stable machining process due to pneumatic pressers
- CNC controller to implement the best performance
- Easy-to-use, automatic nesting CAM SOFTWARE
- Easy diagnosis and maintenance due to user maintenance screen

龙门尺寸 General Gantry Size

龙门宽度	龙门长度	龙门高度
Gantry total width	Gantry total width	Gantry total height
5960mm	2880mm	2710mm



双边纵向驱动系统

Track For Double-Sided Longitudinal Drive System

- 更高的定位速度 • 36米/分钟，通过控制面板控制
- 运行平稳 • 交流伺服电机 + 齿条齿轮传动
- 高动态响应 • 高生产率
- For higher positioning speeds • 36 m/min, with stationary control panel
- AC servo motors • Drives with rack and pinion transmission
- High dynamic response • For high productivity

等离子坡口切割头 Bevel Plasma Head

- 伺服电机：博世力士乐*3ea
 - 整体结构：专利设计
 - 电动切割与划线调高
 - 模拟PLC控制Z轴
 - 独立于控制系统的智能Z轴能够做到无需初始定位的短距离切割，以节省时间
 - 等离子切割易损件消耗自动补偿的弧压控制
 - PZ驱动类型：滚珠丝杠和2个导轨
 - 升降行程：250mm
 - 速度：250mm/秒（15米/分钟）
 - 负荷（最大）：95kg
 - 旋转驱动式：2直齿轮和减速器
 - 旋转：无限旋转
 - 最大速度：1转/秒
 - 摆角驱动类型：滚珠丝杠，同步带，皮带轮
 - 倾斜角度：-45°~+45°
 - 倾斜最大速度：250°/秒
- Servo motor : Rexroth Bosch * 3ea
 - Full structure : Patent design
 - For motorised height adjustment of cutting and marking tools
 - Z-axis with analogue PLC control
 - Intelligent Z axis independent of the control permits time-saving cycles between short distance piercing without additional initial height sensing (skip-initial height sensing)
 - Arc voltage control to compensate automatically for consumable wear with plasma cutting
 - PZ driven type : Ballscrew & 2 LM Guide
 - Lift stroke : 250mm
 - Speed : 250mm/s (15 m/min.)
 - Load (max.) : 95kg
 - Rotation driven type : 2 Spur Gear and reducer
 - Rotation : Unlimited
 - Rotation Max speed : 1 rotation / 1sec
 - Tilting driven type : Ballscrew, Belt, Pulley
 - Tilting Angle : -45° ~ +45°
 - Tilting Max Speed : 250°/sec



数控加工单元 CNC Machining Unit

- 主轴电机：博世力士乐
 - 主轴转矩：90nm在3000rpm（Max 29.2kw）
 - 主轴最大速度：6000rpm
 - 主轴规格：BT40
 - 主轴冷却单元：油冷却器
 - 最大钻孔\攻丝直径：Φ35 M24
 - 螺旋钻：最大Φ250
 - 最大厚度：50mm
 - 内冷却液：油雾
 - 外冷却液：水溶性切削油低
 - 低碳钢钻孔、丝锥参数数据库
 - 手动刀具长度测量
 - 轴Z轴行程：300mm
 - DZ类型：滚珠丝杠、2LM导轨、伺服电机
 - DZ伺服电机额定扭矩：12nm
 - DZ伺服电机最大转速：5000rpm
 - DZ最大移动速度：25m/min
- Spindle Motor : Rexroth Bosch Built-in Spindle motor
 - Spindle Torque : 90Nm at 3000rpm (Max 29.2kW)
 - Spindle Max speed : 6000 rpm
 - Spindle Unit Size : BT40
 - Spindle cooling unit : Oil cooler (Maker : Hansung Lubtech)
 - Max drill, Tap : Φ35 , M24
 - Max helical drill size : Φ250
 - Max thickness : 50mm
 - Inner-coolant : Mist oil (Maker : Unist)
 - Outer-coolant Water-soluble cutting oil
 - Database of drill, tap parameters for mild steel
 - Manual drill length measurement
 - Spindle Z stroke : 300mm
 - DZ driven type : Ballscrew & 2 LM Guide, Servo motor
 - DZ servo motor rated torque : 12Nm at 2500rpm (Max 3.14kW)
 - DZ servo motor max speed : 5000rpm
 - DZ max. feedrate : 25m/min

8刀位自动换刀 Tool Magazine For 8 Tools

- 自动换刀
- 刀库位于设备里侧
- 适用于最大直径35mm的钻削刀具
- 刀库通过气缸变换位置

- For Automatic tool change
- The station is fastened to machine column
- Station for drilling and drill out tools up to max. 35mm diameter
- Station moves to change position by pneumatic cylinder

换刀顺序描述 (CNC程序)

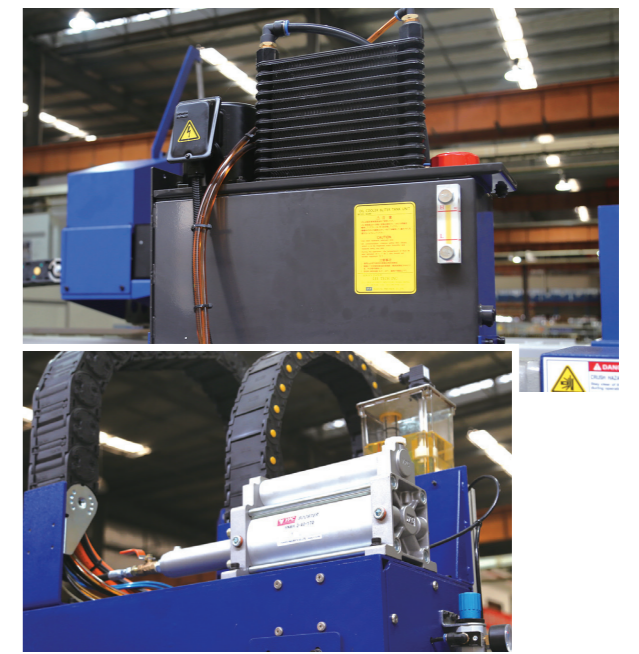
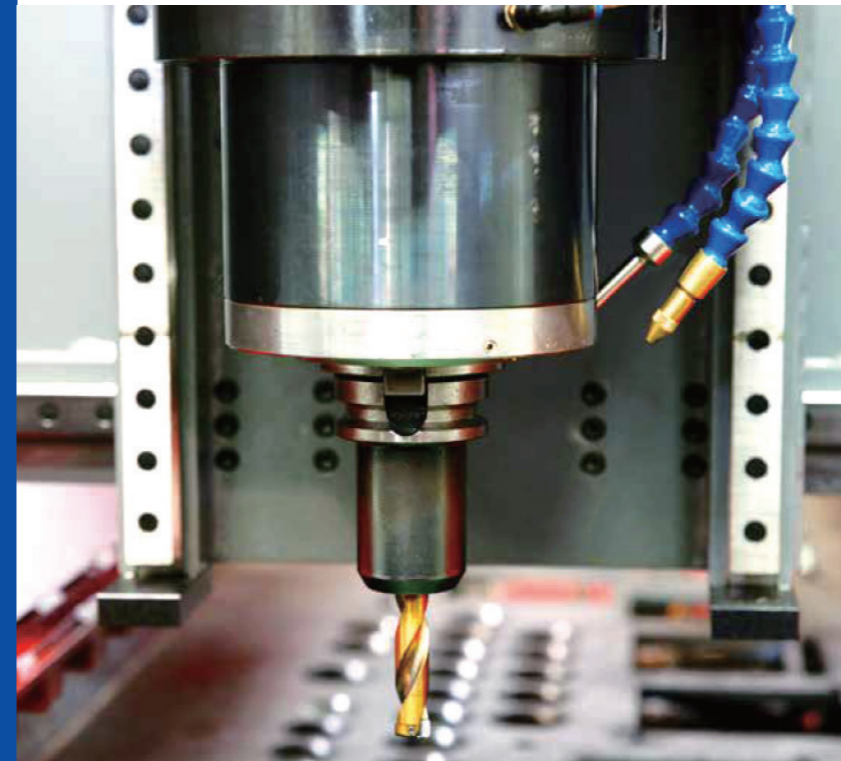
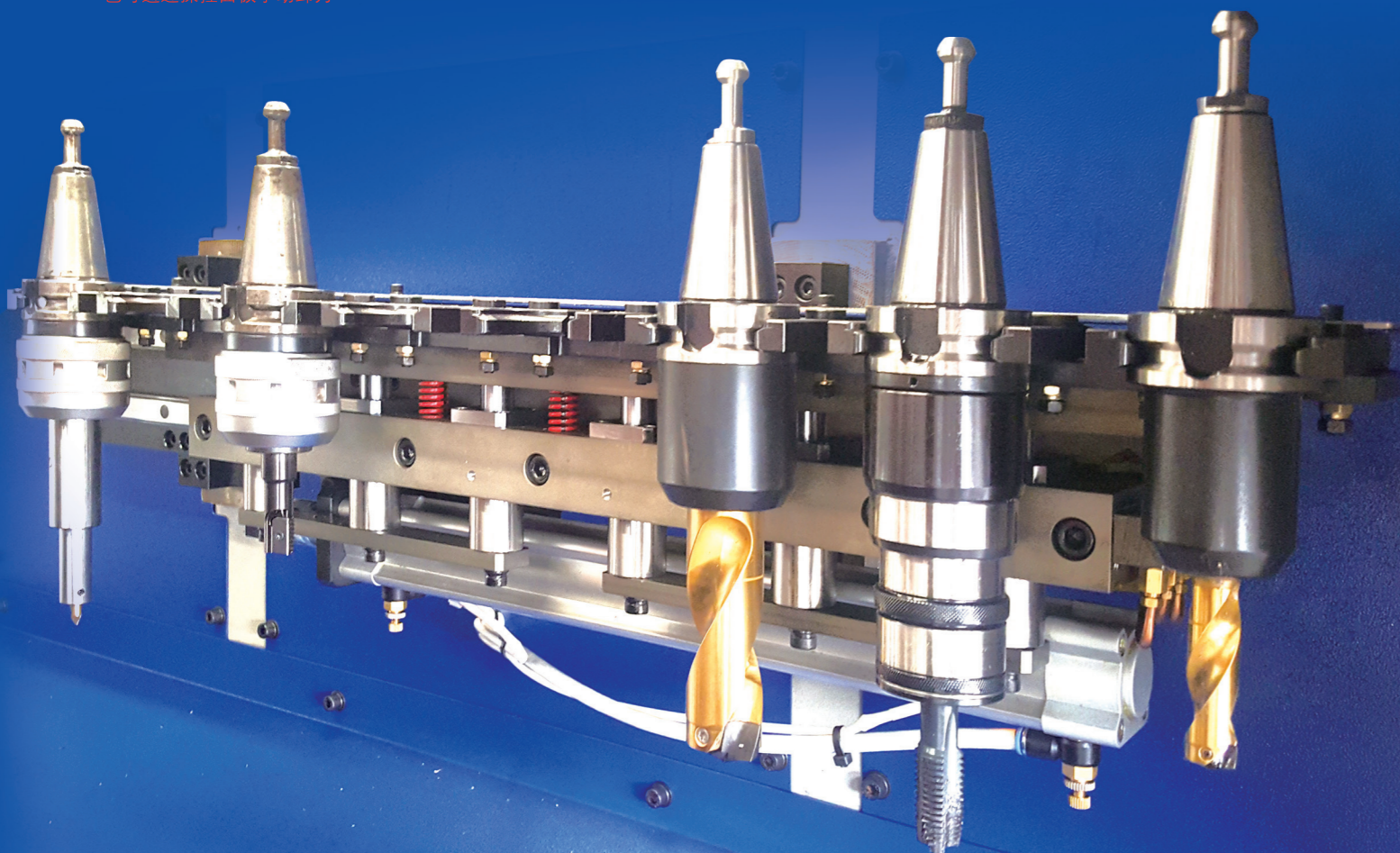
- 主轴定位到待命位置
- 刀库移到左边或右边准备换刀
- 主轴移动到原刀位，松开刀具
- 主轴移动到待机位置
- 刀库移动到左边或右边换刀
- 主轴移动到目标刀位夹紧刀具
- 主轴移动到待机位置

Description of operational tool changing sequence (CNC program)

- Spindle positions to standby position
- Station move to left or right side for changing
- Spindle move to blank station slot and unclamp tool
- Spindle move to standby position
- Station move to left or right side for changing
- Spindle move to next station slot and clamp tool
- Spindle move to standby position

*激光感应器检查刀具是否在位
也可通过操控面板手动卸刀

* Laser sensor check tool existence whether or not
Ejection from the tool holder can also occur manually with the switches mounted on OP

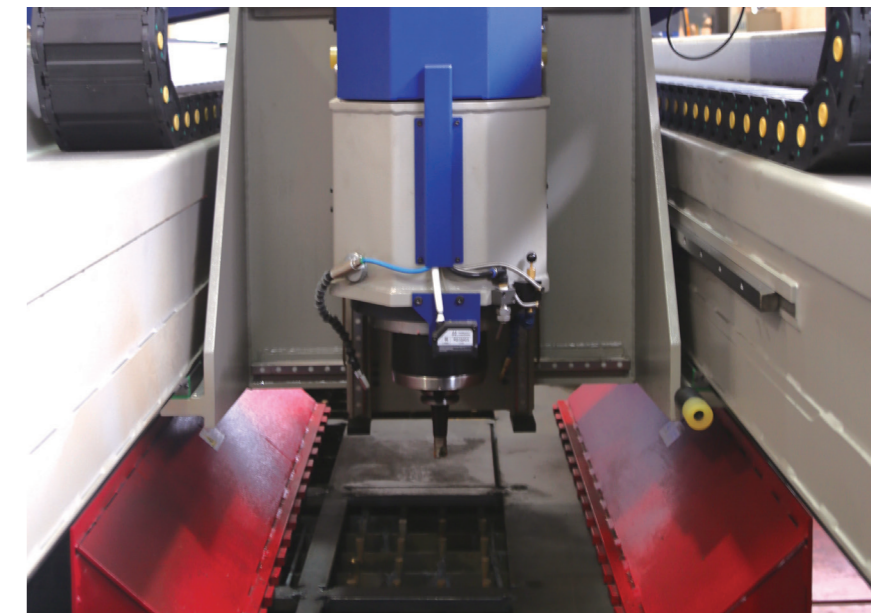


钻切头 Spindle

- 内 / 外切削油孔
- 防碰撞与故障激光传感器
- 独立主轴冷却器
- BT40主轴规格
- 高加工性能的无害油雾
- Outer / Inner cutting oil hole
- Anti-crash and anti-malfunction laser sensor
- Independent oil cooler for spindle
- BT40 Spindle Specification
- High machinable harmless mist oil

气动压紧装置 Plate Hold Down Device

- 切割边界外侧的强力压板
- 4个独立控制气缸
- NC程序控制
- 可调压力
- Strong big foot press plate on outside of cutting boundary
- 4 big foot independently controlled pneumatic cylinder
- Controlled by NC program
- Adjustable pressure



CNC控制单元 Operating Controller



操控技术

- 高可靠性
- 博世力士乐VEP 15.6GA
- 现代完全网络兼容的PC控制单元
- 清晰直观的操作界面
- 上下文相关的键盘布局 and 用户界面
- 易于维护的屏幕
- 根据标准工业级的强大组件
- 优化的程序

技术数据

- 操作系统Windows Embedded Standard7
- 1.9 GHz双核CPU
- 32 GB闪存存储
- 3个USB端口
- TFT宽屏触摸屏15.6", 1366x768分辨率
- 虚拟键盘 (触摸屏)
- 2 x集成以太网TCP/IP
- 整体防护等级: IP20
- 前面板防护等级: IP65
- 操作温度: 0°C ~ 50°C

Operating Controller

- Advanced technology - high reliability
- Rexroth Bosch VEP 15.6GA
- Modern fully network compatible PC-based control unit
- Clear and intuitive operator interface with Windows
- Context dependant keyboard layout and user interface
- Easy maintenance screen
- Robust components according to standard industry level
- Optimised processes

Technical data

- Operating system Windows Embedded Standard 7
- 1,9 GHz
- 32 GB CFast Flash
- 3 USB Port
- TFT widescreen touch screen 15.6", 1366 X 768 resolution
- Virtual keyboard (touch screen) for input
- 2 x Integrated Ethernet TCP/IP
- Overall protection category : IP20
- Category at front : IP65
- Operation Temperature : 0° C ~50° C

功能列表

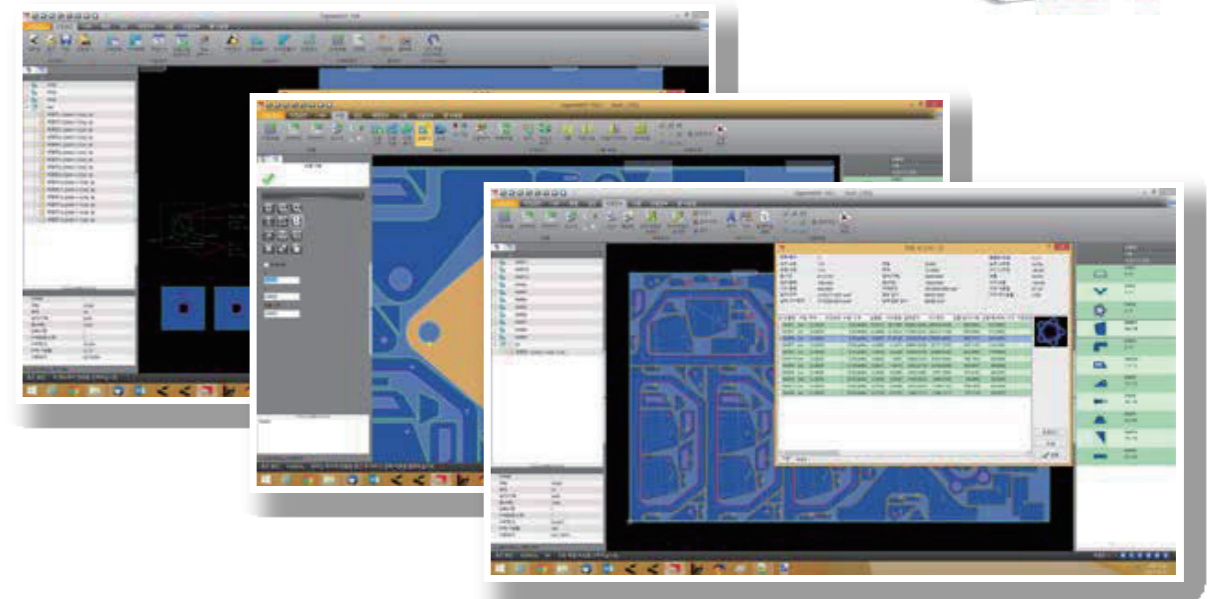
- 自动故障显示
- 工件对齐补偿零件程序
- 自动旋转后实际板位的自动建立
- DIN / EIA输入格式
- 跳转程序 (行号)

Extract of the function list

- Automatic fault display
- Plate alignment compensation
- Automatic rotation of the part-program after
- DIN/EIA input format
- Jump in program with/without movement (line number)

软件系统 Software

Easy handling, powerful library CAM SOFTWARE!



- | | | | |
|----------|-------------------------|---------------|----------------------------------|
| · CAD 功能 | · CAD function | · 手动套料 | · Manual Nest |
| · 标准样件图库 | · Standard Part Library | · 自动套料 | · Auto Nest |
| · 用户报告 | · User Report Sheet | · 余料套料 (选配) | · Remnant Nest (Optional) |
| · NC 模拟 | · NC simulation | · 桥切 (选配) | · Bridge Cutting (Optional) |
| · 全兼容性 | · Full compatibility | · 预穿孔 (选配) | · Pre-piercing (Optional) |
| · 真实形状套料 | · True Shape Nest | · 普通直线切割 (选配) | · Common Line Cutting (Optional) |

技术参数 Technical Data

Plamill机床			Plamill Machine		
机台重量		6吨	Gantry weight		6 ton
机床类型	轴运动	双横梁结构	Machine type	Axis	Dual gantry structure
	工作台	栅栏和铜销		Table	Garting & copper pin
数控系统	制造商	博世力士乐	Cnc controller	Maker	b&r
	显示器	15英寸		Display	15 inch
	运动控制	以太网 / POWERLINK		Motion control	Etherinet / powerlink
	数据通讯	LAN / USB		Data communication	Lan / usb
材料固定		4个气动压紧装置	Material clamp		4 set pneumatic presser
运行速度	最大运行速度	36m / min	Traverse speed	Rapid speed	36min
	切割速度	6m / min		Cutting speed	6m/min
伺服电机	X1 / X2轴	3.0kW / 4000rpm	Servo motor	x1 / x2 axis	3.0kw / 4000rpm
	Y轴	3.0kW / 4000rpm		y axis	3.0kw / 4000rpm
	Z轴	钻孔: 3.1kW / 4000rpm 等离子: 1.8kW / 4000rpm		z axis	Drill: 3.1kw / 4000rpm Plasma: 1.8kw / 4000rpm
功率		3P AC 380V, 50 / 60Hz, 60kW	Power		3p ac 380v.50 / 60hz.60kw

切割尺寸			Available Cutting Size		
最大厚度	加工	50mm	Thickness	Machining	50mm
	等离子	穿孔: 32mm ** 边缘切割: 64mm **		Plasma	Pierce cut: 32mm ** Edge cut: 64mm **
宽度	X轴	6000mm (最大 3000mm)	Width	x axis	6000mm (Max 3000mm)
长度	Y轴	3000mm	Length	y axis	3000mm

主加工轴			Spindel Machining Head		
主轴电机	输出功率	额定功率29.2KW	Spindle motor	Output	Rated 29.2kw
		额定扭矩 90Nm			Rated torque 90nm
		最大扭矩 200Nm			Stall torque 200nm
		额定转速 3000rpm (最大6000rpm)			Rated 3000nm (Max 6000nm)
	刀具尺寸	BT40		Tool size	bt40
自动换刀装置	刀座	8EA	Auto tool changer	Tool station	8ea
	类型	气动, XX Axis		Type	Pneumatic cylinder. XX Axis.
加工切割范围	最大钻孔直径 / 攻丝尺寸	35mm / M24	Machining cutting range	Max drilling / tapping size	35mm / M24
	最大铣孔直径	250mm		Max helicat drilling size	250mm
	最小钻孔直径/攻丝尺寸	Φ5 / M6		Min drilling / tapping size	Φ5 / M6

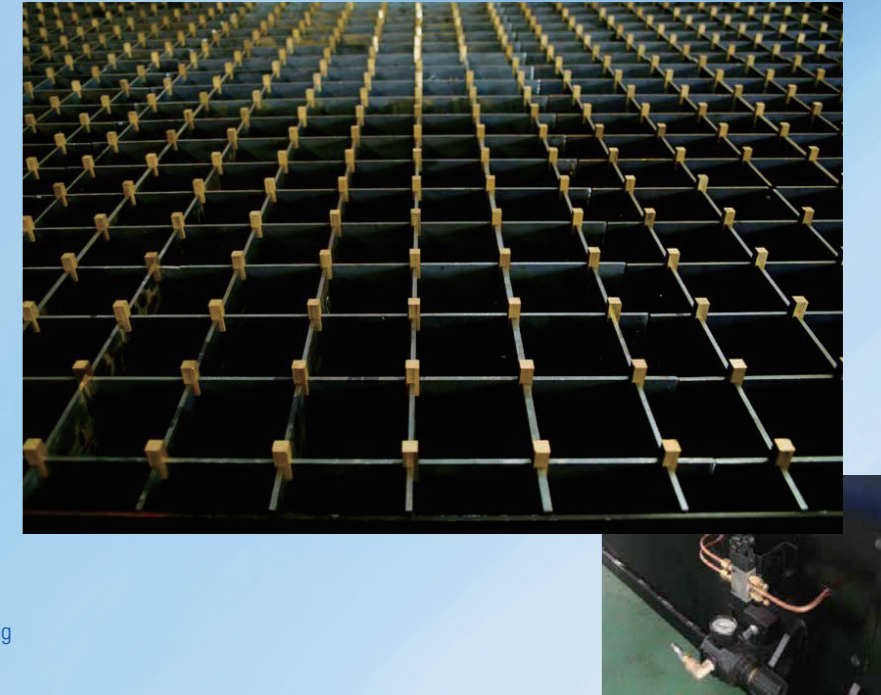
等离子坡口切割头			Plasma Bevel Head		
坡口角度	角度	-45° ~ +45° **	Bevel angle	Angle	-45° ~ +45° **
	旋转	无限		Rotation	∞
摆角电机		0.75kW / 4500RPM	Angle motion motor		0.75kW / 4500RPM
旋转电机		0.75kW / 4500RPM	Rotating motion motor		0.75kW / 4500RPM
升降电机		3.0kW / 4000RPM	Height motion motor		3.0kW / 4000RPM
割炬高度控制		弧压高度控制	Torch height control		Voltage height control
切割起始点 (PHS)		电气 / 激光检测	Material top sensing(phas)		Electric / laster distance**
防碰撞		电磁 & 传感器	Break away system		Magnetic & sensor
划线功能		切割划线自动切换	Marking function		Auto marking / cutting
功率	260A / 275A	40kW **	Power	260A / 275A	40kW **

** 数据由等离子功率决定

** Depend on plasma supply

钻切工作台 Drilling & Cutting Table

- 可插入的铜柱
- 增加可加工性
- 防止加工刀具损伤
- 增加等离子导电性
- 除烟双侧门
- 有利于烟尘收集的分隔气室
- 气缸控制气室门
- Insertable copper pin grating
- Increase machinability
- Prevent machining tool damage
- Increase plasma current conductivity
- Both side fume collecting doo
- Seperated section for increase fume collecting
- Air-cylinder collecting door



产品样品 Product Samples

