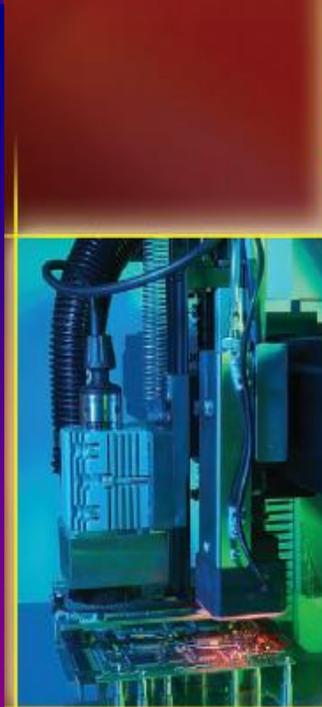
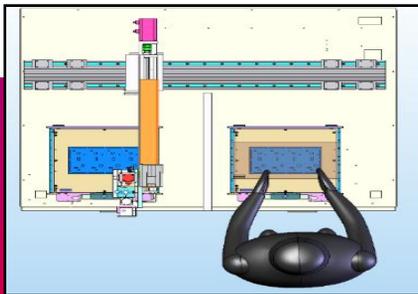


# The Semi Automatic Router

# ESR

series

半自動PCBのルーター (基板分割機) 半自动PCB切割机 Manuelles Nutzentrennsystem 반 자동 PCB 분리기



Accurate  
High Speed  
User Friendly  
Programmable

**GETECH**  
"Performance, Value, Integrity"



*Superior Routing Accuracy*

*Excellent Software Interface*

*High Throughput/ Yield*

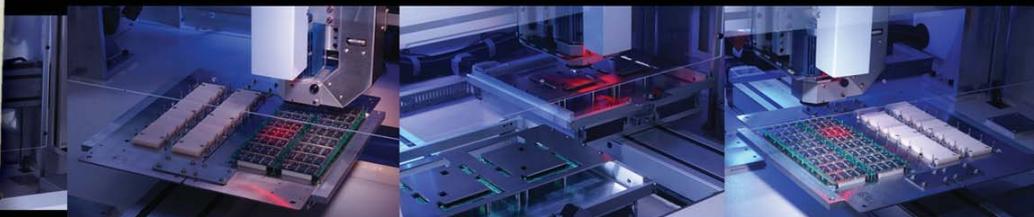
## MECHANICAL SPECIFICATION

MANIPULATOR MOTOR	3 AXIS AC BRUSHLESS SERVO MOTOR
MANIPULATOR REPEATABILITY	+/-0.02mm
RESOLUTION	+/-0.01mm
CONFIGURATION	X, Y & Z
BOARD POSITIONING	2 (DOUBLE) TABLE , SIDE BY SIDE,SEPARATED BY WITH CENTRE SHUTTLE GATE
PANEL LOCATION	DEDICATED OR MODULAR FIXTURE, LOCATED BY TOOLING HOLES OR EDGE PINS
LOADING / UNLOADING	MANUAL LOADING/UNLOADING
PANEL SIZE	WIDTH 350mm X DEPTH 350mm
PANEL THICKNESS	0.4 – 2.0mm
POWER	0.15Kw
MAX. SPEED	60,000 RPM
COOLING	AMBIENT COOLED
ROUTER BIT	SHANK SIZE 3.175mm (1/8")
TOOL CHANGE	MANUAL
VACUUM LOCATION	TOP SUCTION ON SPINDLE
VACUUM SOURCE	EXTERNAL VACUUM SYSTEM
VACUUM POWER	415V, 3 PHASE, 2.2KW, 50/60HZ
FILTRATION	DISPOSABLE FILTER BAG, 3 LAYERS FILTER SYSTEM
POWER SUPPLY	MACHINE 380-415/ 50HZ/ 10A
AIR SUPPLY	6 BAR
EXTERNAL DIMENSION	1300mm(W) x 1150mm(D) x 1600mm(H)
<b>OPERATING SYSTEM</b>	
DOOR	ANTI-STATIC
ROUTING SPEED	100 mm/s MAX DEPENDING ON MATERIAL, CUTTING QUALITY & TOOL DIAMETER
REPEATABILITY	<+/-0.1 mm STRAIGHT LINES, CURVES & INTERPOLATED PROFILES
SPINDLE BEARING	CERAMIC HYBRID AND STEEL BEARING
ROUTER BIT	100 TO 300 m CUTTING DISTANCE BEFORE NEXT TOOL CHANGE, DEPENDING ON PCB AND FIXTURE.
FILTER BAG	1000m TO 1500m BEFORE NEXT FILTER BAG CHANGE
SAFETY FEATURES	E-STOP, SPINDLE STOP, SPINDLE MOTOR OVERHEAT & SERVO OVERLOAD DETECTION
NOISE LEVELS	< 76dBa
OPERATING SYSTEM	WINDOWS
CAMERA	CCD CAMERA WITH CROSS HAIR
ON-LINE	CAMERA ASSISTED TEACHING
EDITING FUNCTION	DRY RUN VISION ASSISTED / TEST RUN MODE
TOOL FUNCTION	TOOL BIT DIAMETER COMPENSATION
	PROGRAMMEABLE TO USE ENTIRE TOOL FLUTE
ROUTER BIT	TOOL LIFE TRACKING, BOARD COUNT, TOOL BROKEN SENSOR
VACUUM FILTER BAG	FILTER CHANGE ALARM - DISTANCE ROUTED
MACHINE	MACHINE ERROR LOG
<b>OPTIONS</b>	



# GSR series

半自动PCB切割机 Semi Automatic Router



Accurate High Speed User friendly interface

高精度 高速度 友善的用户界面软件 高精度 高速度 友善的用户界面软件 高精度 高速度 友善的用户界面软件



Fixture

CCD Camera



## Features

- Copy, Paste and Offset functions
- Tool Bit Optimization to increase bit life
- Test Run mode to check routing paths
- Tool Break detection

## 性能

- 。拷贝，粘贴和平移功能
- 。提高刀具寿命的刀具优化功能
- 。检查切割轨迹的测试运行模式
- 。刀具断裂检测



## Safety

- Safety barriers to prevent operators from accessing work area.
- Spindle/Door safety interlocks to prevent any accidents.

## 安全性

- 。避免操作者进入工作区域的安全屏障
- 。避免任何意外发生的主轴和机门互锁



## Fixture

- Rigid fixturing and easy replacement
- Integrated top clamping for rigid holding of PCB
- Large and normal panel sizes available (see back for details)
- Universal and Dedicated fixtures available

## 夹具

- 。高刚度夹具和容易更换
- 。完整的PCB顶端夹紧
- 。适用于大、适中尺寸的线路板(详细见后)
- 。适用于通用和专用夹具

## Speed and Accuracy

The GSR series dual table router is capable of **speeds of up to 100mm/s** and **positioning speeds of 1000mm/s**. It allows continuous routing with no stoppages during panel loading and unloading. The superior quality axis system allows the system to have **high acceleration/deceleration**, **reducing cycle time** (increase in production output) and at the same time **maintaining high accuracy**.

## 速度和精度:

GSR系列双工作台切割机, 速度高达100毫米/秒, 定位速度1000毫米/秒。在装载和卸载期间能够无间断连续切割。

高质量的转轴系统使系统能够快速地加速和减速, 减少周期时间, 提高生产率, 同时保持高精度。

## Programming

Using a **high resolution CCD camera**, GSR user-friendly **window-based software** allows the user to program the routing paths in minutes. There are also no limitations in the number of programs stored.

## 编程:

系统使用高分辨率CCD摄像机。GSR友善的用户视窗软件允许用户在数分钟内编写好切割轨迹。存储的程序数目无限制。

## Reliable Hardware

GSR uses high quality components to ensure rigidity and high performance. The ball screw axis are protected to **keep out any dust or dirt**. This will increase the **life and performance of the axis**.

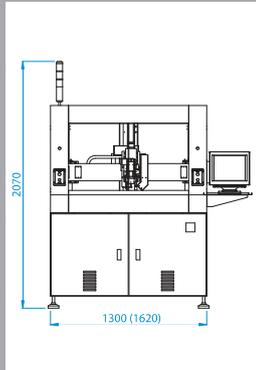
## 硬件可靠:

GSR使用高质量的硬件以保证高刚度和高性能。所有导螺杆被遮住以防止灰尘和脏物进入, 从而提高转轴的寿命和性能。

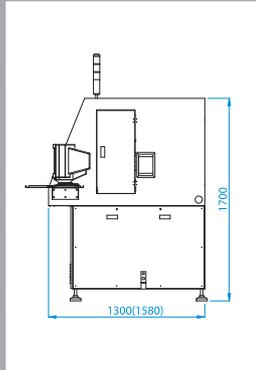


## Features and Specifications

MECHANICAL SPECIFICATIONS		OPERATING SYSTEM	
<b>Manipulator</b>		<b>Spindle speed</b>	5,000 - 50,000 rpm adjustable via frequency converter
Manipulator Motor	4 axis AC brushless servo motors	<b>Routing capability</b>	
Manipulator Repeatability	±0.02mm	Non routing speed	1000 mm/sec
Resolution	±0.010mm	Routing speed	100 mm/sec max depending on material, cutting quality & tool diameter
Configuration	X, Y1, Y2 & Z-axis	Repeatability	<0.1 mm Straight lines, curves and interpolated profiles
<b>Work station</b>		<b>Maintenance</b>	
Board Positioning	Two workstations, Side by Side each with dedicated or modular fixtures	Spindle bearing	Ceramic bearings
Panel location	Located by tooling holes or edge of PCB	Router bit	100 to 300 m cutting distance before next tool change, depending on PCB and fixture.
Loading/Unloading	Manual Loading / Unloading	Filter bag	1000mm to 1500mm before next filter bag change
Panel Size	350 x 350mm (500 x 500mm - GSR1280)	Safety features	E Stop, Spindle stop, Spindle motor overheat & Servo overload detection
Panel Thickness	0.4 - 2.0mm	Noise level	<78 dBA
<b>Spindle Motor</b>		<b>System platform</b>	Windows® based PC
Power	0.15kw	<b>Vision system</b>	High resolution video camera
Max. speed	50,000rpm	<b>Programming</b>	
Cooling	Ambient cooled	<b>On-line</b>	Vision assisted point to point manual teaching, or manual Data Input of co-ordinates
Router bit	Shank size 3,175mm (1/8")	Editing function	Dry run vision assisted / test run mode
Tool change	Manual	Variables functions	Tool bit diameter compensation, Filter change interval (distance) setting, Tool bit wear compensation
<b>Vacuum System</b>		<b>Operation monitor</b>	
Power	3 kW rotary vane blower	Router bit	Tool life tracking, PCB board count, Tool broken sensor
Filtration	3 stage disposable industrial vacuum filter bag	Vacuum	Vacuum filter change alarm
<b>Utilities</b>		Machine	Machine error history
Power supply	380-415v, 3 phase, 20 amps, 50 Hz, (options available)		
Air supply	6 bars, consumption <6 L/min		



机械特性		操作系统	
<b>驱动系统</b>		<b>主轴转速</b>	5000 ~ 50000 转/分钟, 由变频器来调节
驱动系统马达:	交流无刷伺服马达	<b>切割性能</b>	
驱动系统重复精度:	±0.02mm	非切割速度:	1000毫米/秒
分辨率:	±0.010mm	切割速度:	最大100 毫米/秒, 取决于线路板材料和切割质量
配置:	X, Y1, Y2 & Z轴	重复精度:	< 0.1 毫米, 对直线和曲线的轮廓
<b>工作台</b>		<b>维护</b>	
线路板定位:	两个工作台, 并行排列, 装有特殊或标准夹具	主轴轴承:	陶瓷轴承
线路板位置:	由线路板上的定位孔或边来定位	刀具:	切割行程100 ~ 300米后需更换, 取决于PCB和夹具
装卸方式:	人工方式	过滤袋:	切割1000 ~ 1500米后需更换
线路板尺寸:	350毫米 X 350毫米 (500毫米 X 500毫米 - GSR1280)	安全设置:	整机紧急停止开关, 主轴紧急停止开关, 主轴马达过热和伺服马达过载检测
线路板厚度:	0.4毫米-2毫米	噪声:	< 78分贝
<b>主轴马达</b>		<b>系统界面</b>	视窗系统个人计算机
功率:	0.15 千瓦	<b>视觉系统</b>	高分辨率摄像机
最大转速:	50000 转/分钟	<b>编程</b>	
冷却方式:	空冷	<b>在线:</b>	借助于视觉的点到点的人工示教或人工输入座标值
刀具:	标准刀具直径3.175mm (1/8")	<b>编辑功能:</b>	视觉系统的空载运行和切割点的空载运行
<b>真空系统</b>		<b>可变功能:</b>	刀具直径补偿, 过滤袋更换间隔设置和刀具磨损补偿
功率:	3 千瓦旋转型叶片吹风机	<b>运行监控器</b>	
过滤:	一次性使用的三级工业真空过滤袋	<b>切割点:</b>	刀具寿命跟踪, PCB计数, 刀具断裂传感器
<b>电气供应</b>		<b>真空:</b>	真空过滤袋更换警告
电源:	380 - 415伏, 3相, 20安培, 50赫兹 (可由用户要求决定)	<b>机器:</b>	机器故障记录
气源:	气压6巴, 消耗量<6 升/分钟		



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