

## 高压包线圈生产线 Ignition coil production line



HFRA3240全自动绕线机(包括绕线前的自动插端子机)主要由自动插端子机和全自动绕线机二大部分组成,可集自动插端子、自动排料、自动上下料、自动绕线等功能于一体的全自动绕线机。

**自动插端子机:**线架由料斗传送至插端子部件前进行预加热(温度从室温~80℃可调),然后输送机构定位,送丝机构和穿丝机构动作将定长的端子插入线架,最后冷却后送出机台。穿丝机构针对两种产品结构可兼容(换线输送部件需调整)。

**全自动绕线机:**绕线机系四轴联动,绕线圈数精确可设定,绕线速度自动可调,主轴标准转速10,000rpm,最高转速可达15,000rpm,对于较细线径产品的绕线,可选配捻线机构,捻线股数,捻线转速及捻线圈数可调。

主轴电机采用进口高性能伺服电机,主轴轴承采用高精度,高转速进口轴承,三轴运动部件采用进口高精度丝杆及线性轴承保证了导针的重复定位精度。所有关键元器件采用国际知名品牌。控制上采用了进口的控制器和人机界面,方便参数设定。故障自动报警,并提示故障点,保证了绕线和沾锡的质量。

HFRA3240 full-automatic winding machine (including automatic terminal inserting machine before winding) is mainly composed of automatic terminal inserting machine and full-automatic winding machine, integrating the functions such as automatic terminal inserting, automatic material arranging, automatic loading and unloading, and automatic winding.

**Automatic terminal inserting machine:** the bobbin is preheated before being sent to the terminal inserting unit by the hopper (temperature: from ambient temperature to 80℃), and then positioned by the conveying mechanism. Next, the terminal with fixed length is inserted into the bobbin by wire feeder and wire drawing mechanism. Finally, the bobbin is unloaded after cooling. The wire drawing component is compatible with two kinds of product structure design (The wire replacement and conveying unit shall be adjusted).

**Full-automatic winding machine:** the winding machine has a four-spindle linkage. The number of turns can be set precisely and the winding speed is adjustable. The standard spindle speed is 13,000 rpm, while the maximum

spindle speed is 18,000 rpm. For winding of coil with small wire diameter, twisting unit with adjustable number of strands, rotating speed and number of turns is optional.

Spindle motor adopts imported servo motor with high performance, spindle bearing adopts high-precision and high-speed imported bearing, and moving parts of three spindles adopt imported and high-precision screw rod and linear bearing in order to ensure the repeated positioning accuracy of guide pin. All key components employ internationally renowned brand. Imported controller and human-computer interface are employed for control to facilitate parameter setting. Moreover, automatic fault alarm and fault point prompt ensure the winding and soldering quality.

型号 (Model)	HFRA32-40
主轴数 (Spindle number)	32
主轴转速 (Spindle speed)	标准 (Standard): 13000rpm MAX:18000rpm
主轴间距 (Spindle interval)	40mm
绕线线径 (Wire diameter)	Φ 0.03~Φ 0.07mm (依主轴间距和转速而异) (determined according to requirements of the customer)
控制系统 (Control system)	可编程控制器 (PLC) (Programmable logic controller)
控制轴数 (Number of control spindle)	4 轴 (Four spindles)
主轴电机功率 (Spindle motor power)	2.9KW
电机总功率 (Total motor power)	4.5KW
电源 (Power supply)	380V, 50Hz, 三相五线制, 中国大陆标准电网 (380V, 50Hz, three-phase five-wire, standard power grid of Mainland China)
气源 (Air supply)	0.4-0.6MPa
最大回转直径 (Max. swing diameter)	Φ 35mm
功能 (Function)	自动上料、自动插端子机、自动绕线、自动送料、自动下料、张紧力自动调节、主轴转速连续可调、绕线圈数可调。(Automatic loading, automatic terminal inserting, automatic winding, automatic feeding, automatic unloading, automatic tension adjustment, continuously adjustable spindle speed and adjustable number of turns.)