

HBQ-908 绞线&单线插端加工中心

产品简介

HBQ-908 是海昌智能研制的具有知识产权的高集成度的线束智能制造系统，主要用于机动车辆、通讯设备、IT 设备、家用电器等电线束的生产。本制造系统采用伺服控制系统，将送线、切线、双线送线绞合、压接、穿栓、双绞线和单线混合加工及穿入护套等进行智能化集成，实现定长送线、双线绞合、剥绝缘皮、压接端子、端子穿入护套等多种复杂加工工艺一体化的智能自动化加工设备。

产品特征

- 柔性扩展：设备采用模块化平台，可根据需求选择绞线长度及穿栓压接工位数量；采用工控机控制，方便接入 MES，进行多种功能扩展；
- 高度智能：只需人工上单线线材、护套、端子，其余加工（包括双线绞合加工）全部由设备自动完成；双绞线采用双线同时进线，完成切断预绞后与单线共用剥皮、穿栓、压接及检测模块，通过程序灵活控制完成单线和绞线复杂工艺的混合插接；
- 操作简捷：形象直观的参数设置界面，可方便灵活的进行工艺参数设置；
- 控制精准：剥皮、插端、线材转运均采用伺服马达精确控制位移精度；
- 在线检测：装有精密测力装置，可动态显示插入力和拔出力的大小并进行数据保存；
- 品质稳定：装有压力管理装置和不良品管理装置，防止不良品流入下一工位。

产品参数

型号	HBQ-908
线径范围	0.22~2.5mm <sup>2</sup>
长度范围	A:双绞线插护套 400~4000mm（可定制） B:单线双端插护套 700~4000mm（存线工艺） C:单线双端插护套 300~4000mm（双端同时插接工艺） D:单端插护套 80~2000mm（一端只切断不加工）
剥皮长度	0.2~25mm
开口长度	45~90mm
长度精度	$L < 500\text{mm}; \pm 1\text{mm}; L \geq 0.2 \pm (1 + 0.2\% * L) \text{ mm}$
加工线束根数	单线≤48 根，双绞线≤48 根（原材料单线数量）
压接力	20KN
压接行程	30mm 或 40mm
送线速度	3.0m/s
CT	2~2.5S/孔（不同工艺，效率不同）
电源	AC380V/50Hz

气源	5~6Bar
外形尺寸	L9600×W5500×H2100mm（可定制）
重量	7500kg

## HBQ-908 Twisting Connector Insertion Processing Center

### INTRODUCTION

HBQ-908 is a highly integrated wire harness intelligent manufacturing system developed by Hacint with intellectual property rights. It is mainly used for the production of wire harnesses in motor vehicles, communication equipment, IT equipment, household appliances, etc. This manufacturing system adopts a servo control system, which intelligently integrates wire feeding, wire cutting, double-wire feeding and twisting, crimping, loading, mixed processing of twisting and single wires, and inserting into the connector, etc. It realizes an intelligent and automated processing equipment that integrates multiple complex processing techniques such as fixed-length wire feeding, double-wire twisting, insulation stripping, terminal crimping, and terminal insertion into the connector.

### FEATURES

- Flexible expansion: The equipment adopts a modular platform, allowing the selection of the length of the twisting wire and the number of loading and crimping workstations according to requirements. It is controlled by an industrial computer, which facilitates connection to the MES and enables various functional expansions.
- Highly intelligent: Only manual loading of single-wire materials, connector, and terminals is required, and all other processing (including double-wire twisting processing) is automatically completed by the equipment. For twisting wires, two wires are fed simultaneously. After cutting and pre-twisting, they share the stripping, loading, crimping, and detection modules with single wires. Through flexible program control, the complex process of mixed insertion of single and twisting wires is completed.
- Simple operation: The intuitive parameter-setting interface allows for convenient and flexible setting of process parameters.
- Precise control: Servo motors are used for precise control of displacement accuracy in insulation stripping, terminal insertion, and wire transfer.
- On-line detection: It is equipped with a precise force-measuring device that can dynamically display the magnitude of the insertion force and extraction force and save the data.
- Stable quality: It is equipped with a pressure management device and a defective product management device to prevent defective products from flowing to the next workstation.

### SPECIFICATIONS

Type	HBQ-908
Wire Diameter Range	0.22-2.5mm <sup>2</sup>
Length Range	<p>A: Dual twisting wire insert into housings: 400-4000mm (the processing range of the existing equipment, can be customized according to requirements)</p> <p>B: Single-wire inserted into housings at both ends: 700-4000mm (wire-storage process)</p> <p>C: Single-wire inserted into housings at both ends: 300-4000mm (simultaneous insertion process at both ends)</p> <p>D: Single-end insert into housings: 80-2000mm (only cut at one end without processing)</p>
Stripping Length	0.2-25mm
Opening Length	45-90mm
Length Accuracy	<p>When <math>L &lt; 500\text{mm}</math>: <math>\pm 1\text{mm}</math>;</p> <p>When <math>L \geq 500\text{mm}</math>: <math>+0.2 \pm (1 + 0.2\% * L) \text{ mm}</math></p>
Number of Processed Wire Harnesses	Single-wire $\leq 48$ pieces, dual twisting wire $\leq 48$ pieces (quantity of single-wire raw materials)
Crimping Force	20KN
Crimping Stroke	30mm or 40mm
Power Supply	AC380V/50Hz
Air Supply	5-6Bar
Wire Feeding Speed	3.0m/s
CT	2-2.5/hole (different processes, different efficiencies)
Overall Dimensions	L9600*W5500*H100mm (10-station with wire feeding device, optional)
Weight	7500kg