BEN LONG

BEN LONG AUTOMATION CORPORATE PROFILE

Benlong Automation Technology Co., Ltd. was established in 2008, with automation, intelligence, robotics, sensors, Internet of Things, and MES system technology as its core, providing customers with intelligent equipment manufacturing and system integration solutions as a national high-tech enterprise. Our main products include: automated production lines for high and low voltage electrical components, automated production lines for new energy components, automated production lines for charging piles, automated assembly production lines for lithium batteries, automated welding equipment, etc. Our products are exported to various parts of the country and are also exported to more than 30 countries and regions such as Southeast Asia, the Middle East, and North Africa.








2008 Benlong Entrepreneurship	**80+** technical attache	**3+** Strategic Partners	**2+** Research Institutions	**30+** Business covers countries and regions
20+ foreign enterprise	**28+** Listed company cooperation	**1200+** Cooperative companies	**265+** intellectual property	**2+** Qualifications

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BENLONG AUTOMATION

HIGH-END INTELLIGENT EQUIPMENT OVERALL SOLUTIONS

National High tech Enterprise, Zhejiang Provincial Science and Technology Progress Award, Outstanding Contribution Award for Scientific and Technological Personnel, Patent Demonstration Enterprise

DC CHARGING PILE AUTOMATIC ASSEMBLY AND TESTING FLEXIBLE PRODUCTION LINE

DC CHARGING PILE AUTOMATIC ASSEMBLY AND TESTING FLEXIBLE PRODUCTION LINE

TECHNICAL DESCRIPTION OF THE FLOW LINE

1、The whole production line is mainly divided into three sections, which are assembly area, inspection area and testing area. The three sections are controlled independently, using chain plate line transmission, with adjustable speed in each section and adjustment range from 1m to 10m/min; the line stops gradually and slowly, and the product flow is in line with the production process, with high automation.

2、The up and down line adopts the power-assisted mechanical arm, and the pile body is gripped by vacuum adsorption, with an adsorption capacity of more than 200kg;

3、The pile body is transported by automatic trolley when transporting down the line, and the transport can be controlled automatically according to the designed route;

4、Description of the assembly area: the stations are set up at 2m intervals, each station is equipped with a control indicator, a process sign, an emergency stop button, a tool box, two sets of two-hole and three-hole sockets, an operating pedal, and a start/stop control button for line transmission and a station completion indicator at the first station. When the assembly work at this station is completed, the indicator light is lit by manual control. When all the control indicators at the station are lit, the indicator light for the completion of work at the first station is lit. The conveyor line stops and the assembly of the next process continues.

5、To be inspected area description: the turning place is changed to a jacking rotary roller line, the product enters from the first assembly line to the roller line, then the cylinder is jacked up, rotated 90° and then sinks, transported by the roller to the second to be inspected line, the bottom of the product must be flat. Taking into account the control of the articulation at the turn, it is ensured that when the pile passes through the assembly area to the waiting area or through the waiting area to the inspection area, the direction of operation of the pile remains unchanged and the direction of opening the door is the inside of the assembly line, while fully guaranteeing the convenience and safety during the turn. Two stations are set up in the inspection area, each station is equipped with a process sign, start/stop button, tool box, two sets of two-hole and three-hole sockets and an operating pedal. After the charging pile has completed its operation in the assembly area, it will arrive at the inspection area through the turning area, where the general inspection of the charging pile will be completed, mainly through manual inspection;

6、Description of the inspection area: workstations are set up at 4m intervals, each workstation is equipped with a workbench (for placing the operating computer), process hangtag, start/stop push button, tool box, two sets of two-hole and three-hole sockets and operating pedal. The charging pile is directly connected to the inspection equipment through the charging gun during the inspection, and the control transmission is off-line after the inspection is completed. To avoid wiring and inserting the gun causing the pile to shake.

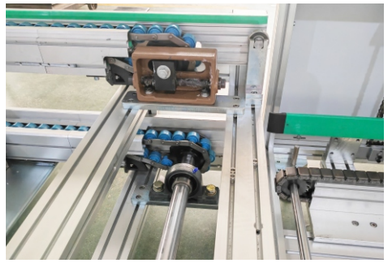
7、Automated trolley: responsible for the transportation of the pile when going up and down the line, capable of automatic transmission in accordance with the specified route.

8、The overall design of the line is beautiful, safe, reliable and highly automated, and the bearing capacity of the line is fully considered.

9、The system adopts Mitsubishi (or Omron) PLC to realize the whole line control, configure the human-machine operator interface to execute equipment configuration, operation, monitoring and abnormal maintenance guidance functions, and reserve the MES interface.

10、Line system configuration: pneumatic components (domestic quality), motor reducer (city state); electrical main control unit (Mitsubishi or OMRON, etc.).

Using multi-specification mixed production, automation, information technology, modularity, flexibility, customisation, visualisation, one-click switching, remote maintenance design, early warning notification,assessment reports, data collection and processing, global inspection management, full lifecycle management of equipment, etc.



BASIC REQUIREMENTS FOR FLOW LINES

Applicable assembly: DC charging post, AC charging post, single-headed charging post, multi-headed charging post, floor-mounted charging post, wall-mounted charging post

Equipment functions: automatic conveying system, workstation assistance - lighting fan air chute hooks sockets air source interface process display etc., material call system, sweeping storage system etc.

Area division: assembly area, testing area, ageing area, testing area, hermeticity testing, special protection testing, packaging and palletizing areaProduction site requirements: production areas, material storage areas, logistics channels, finished product storage areas, office areas and special facilities installation and placement areas

BASIC PARAMETERS OF FLOW LINE

A. Charging pile assembly line production capacity, beat: 50 units/8h; production basic beat: 1 unit/ min, production time: 8h/shift, 330 days/year.

B. Total length of charging pile assembly line: 33.55m for assembly line; 5m for assembly line to be inspected, 18.5m for inspection line

C. Charging pile assembly line Maximum weight of pile body: 200kg

D. Maximum dimension of pile body: 1000X1000X2000 (mm)

E. Charging pile assembly line line height: 400mm.

F. Total air consumption: compressed air pressure of 7kgf/cm2, flow rate not exceeding 0.5m3/min (without air consumption of pneumatic tools and pneumatic assisted manipulator).

G. Total electricity consumption: the whole set of assembly line shall not exceed 30KVA.

H. Noise of the charging pile assembly line: the noise of the whole line is less than 75dB (tested at 1m from the noise source).

I. Advanced and reasonable design of the conveying line and each special machine of the charging pile assembly line, with a high degree of automation, logistics in line with the requirements of the process route, the production line will not be crowded and blocked; the line structure is solid and stable, and the appearance is uniform.

J. The charging pile assembly line has sufficient stability and strength under normal working conditions.

K. The overhead line body of the charging pile assembly line must be of sufficient strength, rigidity and stability not to threaten the safety of personnel; there are corresponding protective devices and safety warning signs for special machines and equipment where personal safety may be at risk.