



# **HJ-2000×2000 Column & Boom**

## **Operation Instruction**

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## **APPLICATION**

This machine is automatic welding equipment which is coupled with automatic welding machine. It can works together with the turning rolls and applies in the industry of boiler, pressure vessel, petroleum, chemical and machinery. With advanced structure, full function and convenient operation, it can realize inside and outside longitudinal and girth seam welding on round objects.

## **TECHNICAL PARAMETERS**

Model	HJ-2000×2000
Column height (mm)	3000
Boom length (mm)	2600
Boom lifting (mm)	2000
Boom travelling (mm)	2000
Lifting speed (m/min)	1
Travel speed (m/min)	0.12-1.2
Base dimension (mm)	830×581
Input voltage (V)	3×380

## **CONSTRUCTION PRINCIPLE**

It is composed of column, beam, lifting structure, and swivel structure and control box. The column is rectangle ones with twin rails and be fixed on the swivel base. The lifting structure lies on the top of the column and driving by a motor which is through chain. One end of the chain is linked to boom guide set while the other end is fixed on balanced iron which is inside the column in order to keep boom stable. There are 8 sets pulley base in four directions. With a partial axis structure, it can keep travel stable and flexible in horizontal and vertical direction. There is a swivel uphold between column and trolley that can make column swivels  $\pm 180^\circ$ . Boom travel applies the AC stepless frequency conversion control and can be adjust the welding speed if needed. The control box can start and stop the manipulator and can also control the boom lifting and move. Remote controller can also apply.

## **INSTALLATION INSTRUCTION**

- 1、 The column need to be fixed at swivel uphold.
- 2、 The boom installation must be put in horizontal position and the  
Travel  $\leq$  5mm.
- 3、 After column and boom installation, 8 sets pulley need to be adjusted  
in order to make boom lifting and move stably.
- 4、 Keep enough travel and lifting space when cable installation.
- 5、 Put the boom in the highest position when install the connection  
between chain and boom balanced iron. It needs certain space between  
the balanced iron and base. When boom in the lowest position, retains  
space needed between balanced iron and top board.
- 6、 The capacity of the boom end should  $\leq$  80Kg.

## **TEST OPERATION**

- 1、 Turn the power on and choose close control or remote control.
- 2、 Close control has follow functions: Beam lifting. There is position limited switch in the boom, cut off the power if it is in improper position. Before maintenances, keep power off.
- 3、 Remote control has follow functions: Except the same function with the close control, it can also realize the linkage control against the boom travel. The move speed of the boom can also controlled through the welding speed button on the control box. Before welding, put the welding-no-load switch on the no-load position, then press the forward or backward switch and adjust the welding speed meanwhile. It can be reestablished before welding, and put the welding-no-load switch on the welding position, then start the welding power source, welding starts.
- 4、 The boom's movement is controlled by AC stepless frequency conversion motor, press the extend or shrink button. Change the direction by adjust the potentiometer to position "0"
- 5、 If there exists any shock, stop and abnormal sound during the process of the welding, stop the machine and have a check.
- 6、 Read the welding machine manual when experimenting on kinds of seam welding.
- 7、 After usage, put the boom on the bottom and keep it in balance, cut off the power

## **MAINTENANCE**

- 1、 Every equipment should be GND for safety
- 2、 If there is any fault arise, cut off the power and have a check.
- 3、 Inspect the gear box, gear, rack and chain at intervals, add lube
- 4、 Check the lube of the chain wheel, chain, gear and manual adjusted structure before use.
- 5、 If there exists any shock, stop and abnormal sound on transmission parts during the process of the welding, stop the machine and have a check.
- 6、 No people under boom when welding for avoiding accident.
- 7、 Check the reducer, motor, chain wheel, chain and their connectors every month
- 8、 When repairing lifting structure, pad the balanced iron and boom guide base in order to safe repairmen.