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中国艾科实业集团有限公司
China IKING Industrial Group Co., Ltd.
编号: IK25-SAW-250416-8

H Steel Assembly Gantry Submerged Arc Welding System

Technical Solution

中国艾科实业集团有限公司
China IKING Industrial Group Co. Ltd.

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Company Profile



We, IKING Group, are a professional manufacturer of submerged arc welding machines, electroslag welding machines and carbon arc gouging machines. We have provided tens of thousands of automatic arc welding equipment to thousands of customers in the steel structure, locomotive, pipeline, power construction, oil construction, wind power, shipbuilding, non-ferrous metal electrolysis and other industries. Our products use the most advanced design concepts and our patented technology, which are particularly suitable for the welding of H-beams and Box Girder beams. We continue to provide high-quality services to various welding customers in more than 30 countries and regions around the world.

I. Equipment: HG-2000H steel assembly machine



1. Equipment Introduction

1.1 This assembly machine is used to assemble spot-welded H-beams. The main machine consists of an upper door frame, a main body and a spot welding system (optional).

1.2 Three sets of web centering devices are installed in the upper part of the main body. One side of the device is a manual reduction gearbox linkage to position the web, and the other side is a hydraulic cylinder clamping.

1.3 Two sets of flange centering devices are installed in the lower part of the fuselage. One side of the device is a manual reduction gearbox linkage to position the flange, and the other side is a hydraulic cylinder clamping.

1.4 The upper door frame roller frame guide device adopts a three-way positioning guide. The guide method effectively ensures the stability of the roller during the assembly process. A hydraulic web straightening system is attached to the back of the door frame to prevent the tilting of the super-high work-piece during the assembly process.

1.5 In terms of power configuration, in order to meet the conveying stability of the work-piece, the main body is equipped with power rollers in front and behind. The power rollers in the main



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body and the front and rear power rollers are controlled in linkage, so that the work-piece conveying is stable during the conveying process.

2. Technical performance parameters

Applicable size: Web height: 200-2000mm

Web thickness: 6-40mm Web length: 4000-15000mm

Flange width: 200-800mm

Flange thickness: 6-60mm Flange length: 4000-15000mm

Spot welding speed: 500-800mm/min (depending on the actual welding process)

Idle travel speed: 12000mm/min (maximum)

Input roller length: 12500mm

Output roller length: 12500mm

Hydraulic system pressure: maximum 4Mpa (40Kg/CM²)

Control: AC frequency conversion speed regulation

Speed: frequency conversion speed regulation

Mechanical power: 8Kw

Welding power: 50KW (end user-provided)

Power supply: 3-phase 380VAC/50HZ

Main Frame dimensions (length × width × height): 2350mm × 3650mm × 6200mm

Note: It is recommended that customers do not use leakage protection switches in the power distribution cabinet. If used, please select a model with a rated residual operating current of not less than 200mA.

3. Scope of supply components

A: Assembly machine body including: frame, gantry, hydraulic system, etc.

B: Manipulator including: 1 set of pre-centering manipulator, etc.

C: Input roller table including: seat frame, roller, sprocket, chain, cover, etc.

D: Output roller table including: seat frame, roller, sprocket, chain, cover, etc.

E: Hydraulic system including: hydraulic pump station, pipeline system, etc.

F: Electric control assembly including: electrical cabinet, inverter, reduction motor, etc.

4. Tools and spare parts with equipment

A: Universal adjustable wrench 250mm 1 piece

B: Hexagon wrench 8-10-12mm 1 piece

C: Square roller assembly 6 sets



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5. Wearing parts (not covered by warranty):

- A: Main rolling drum
- B: Flange plate clamping wheel
- C: Upper pressure wheel
- D: Web plate clamping wheel

6. Technical documents

- A: User manual 1 copy
- B: Machine inspection report 1 copy
- C: Electrical diagram 1 copy
- D: Hydraulic schematic diagram 1 copy
- E: Packing list 1 copy
- F: Certificate of conformity 1 copy
- G: Machine basic diagram 1 copy (sent to the user when the contract confirmed)

II. Equipment: MHG-5000 H-beam automatic submerged arc welding machine

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1. Technical Performance Parameters

Item Name		Specification
Applicable H Steel Dimensions	- Width	200-800 mm
	- Height	200-2000 mm
	- Length	2000-15000 mm
Gauge		5000 mm
Rail Length		30000 mm × 2 (rails to be provided by the customer)
Welding Speed		300-600 mm/min
Travel Speed (No Load)		3000 mm/min
Welding Position		Fillet welding in the horizontal position (ship-type welding)
Applicable Welding Wire Size		3.2-5 mm
Applicable Welding Wire Spool Specifications		25-250 kg
Flux Recovery Machine		LT-100 (3 kW)

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Item Name	Specification
Drive Type	Dual-side drive (frequency conversion motor)
Travel Control Method	AC frequency conversion step-less speed regulation
Power Supply	AC 380V, 50Hz, 3-phase

Note: It is recommended that customers do not use leakage protection switches in the power distribution cabinet. If used, select a model with a rated residual operating current of no less than 200mA.

Detailed parameter table of applicable H-beam size

Web Height (mm)	Flange Width (mm)												
	200	250	300	350	400	450	500	550	600	650	700	750	800
200													
250													
300													
350													
400													
450													
500													
550													
600													
650													

The shaded area in the above table indicates that it can meet the welding requirements

2. Scope of supply components

Item	Component Name	Description
A	Frame Assembly	Gantry, traveling mechanism, transverse sliding mechanism, etc.
B	Welding Trolley	Telescopic column, motor drive mechanism, moving mechanism, and accessories (2 sets)
C	Arc Guiding Device	Welding torch, mechanical adjustment mechanism, and torch connection accessories (2 sets)
D	Flux Recovery System	100 kg flux recovery machine, separator barrel, nozzle, etc. (2 sets)
E	Electrical Control System	Control cabinet, AC frequency conversion dual-side drive



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Item	Component Name	Description
F	Pipeline System	Longitudinal suspension trolley, cables
G	Welding Machine	Welding power source (IKING 1250A), wire feeder, control box (2 sets each)
H	Wire Spool Rack	250 kg capacity (1 set)

Special notice: The welding arm adopts gear rack type lifting.

3. Random tools and spare parts

Category	Item	Quantity
A: Tools	Universal Wrench (200 mm)	1 pc
B: Spare Parts	Contact Tip (4.2 mm)	2 pcs
	Contact Tip (5.2 mm)	2 pcs
	Hose Clamp (5/4"-2")	2 pcs
	Hose Clamp (7/8"-5/4")	2 pcs

4. Wearing parts

Conductive rod, conductive nozzle, arc guide frame pressure wheel, wire feeding tube, flux recovery tube, wire feeding wheel, recovery machine bag, guide bearing, welding gun fine-tuning device, all control buttons

5. Technical documents

Item	Document Name	Quantity	Remarks
A	Packing List	1 copy	-
B	User Manual	1 copy	-
C	Inspection Report	1 copy	-
D	Certificate of Conformity	1 copy	-
E	Foundation Drawing	1 copy	(To be provided to the user upon contract)

6. Welding cable configuration:



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Welding cable 95mm² two wires in parallel, 14*0.75 control wire. Length is configured according to the 27m travel of the gantry

Contact us now to get **Quotation Sheet for H Steel Assembly System.**