



BROTHERS INDUSTRIALS INC. ID.: 01895G

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H – Beam Production Line



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H-Beam Welding line Components — Front welding machine

1. Brief Introduction

H-Beam Welding Line consists of assembling machine, from welding machine, turn-over device, back welding machine and the transmission conveyors. It is used to assemble the H-Beam, 180° Turn-over and transmit, etc. The annual welding capacity is 8000 tons.





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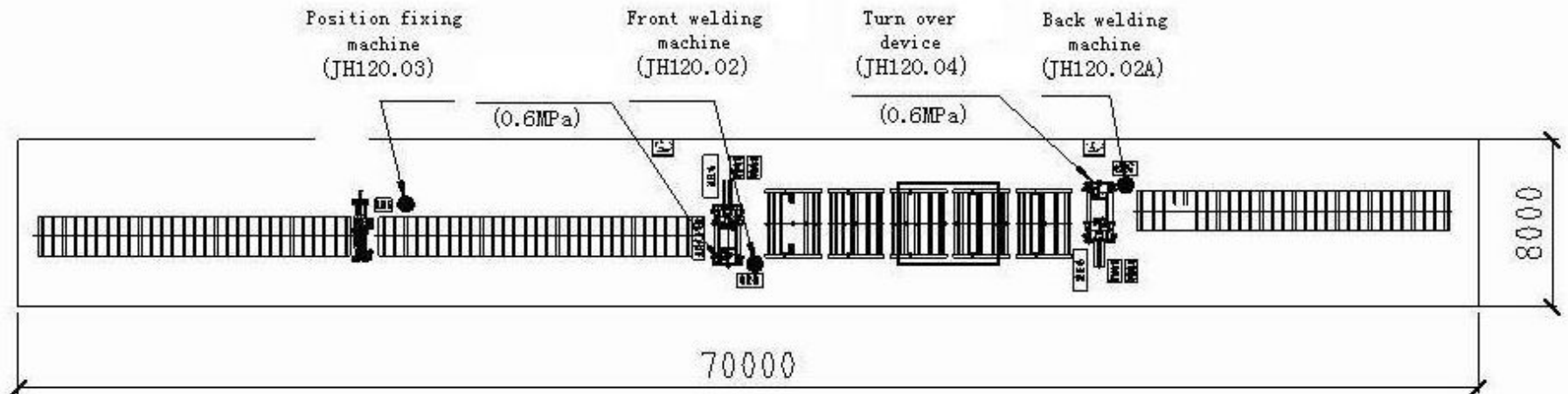
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Working piece walking direction





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2. Main parameters

H-beam specs	Web width	300–1200mm
	Web Thickness	3–8mm
	Flange width	150–500mm
	Flange thickness	5 – 16mm
H-Beam Length	2000 ~ 15000mm	
H-Beam Weight	4000Kg	
Inclination of H-Beam	≤8°	
Total Power	64KW+90KVA × 4	



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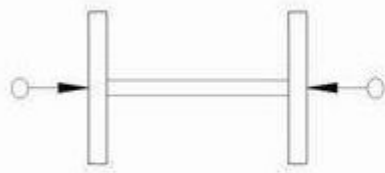
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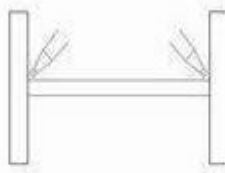
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H-Beam Welding line Components — Front welding machine

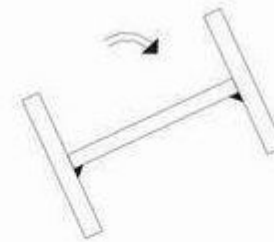
3. Working Flow



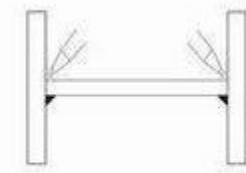
Heading Fixing



One side welding



Turn over 180°



Welding another side



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4. Main Technical Features

- 1、 It only needs to spot weld at the range of 300–500mm of the workpiece head(need not to spot weld the whole piece) when it starts position fixing. After that, go ahead to the next welding. The welding machine can weld these three steels directly and apparently improve the efficiency.
- 2、 It adopts the welding way of putting the piecework flatly(H–profile web panel flat and two flange panels upright) and moving the steels, it will weld the two welding line at the same time to reduce the distortion by heat. The year H–beam plate Capacity can reach 8000T
- 3、 It adopts Lincoln welding electrical source and can reach single arc double threads, using 1.6mm thin welding wire, the speed can reach 1.2m/min, besides it also has a good externality.
- 4、 The machine is also available for taper beam/
- 5、 As this line is much more automatic than the traditional lines, it can reduce the labour force and only needs 3–4 operators to work for the whole line.
- 6、 It can adapt to the machining of H–profile steels with variable cross–section.



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H-Beam Welding line Components — Position fixing machine

1. Brief introduction

The position fixing station is used to transport the steel plate according to requirement and position fixed them to be H profile. It can adjust the position of web and flanges slightly keeping the H-profile unchanged. The all operation steps are finished through control panel.



ion Fixing Machine



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H-Beam Welding line Components — Position fixing machine

2. Main technical features

a) It sets 2 groups of hydraulic turn over device on the conveyors, and turn over the level laying flange plate to 90 ° , and keep it in straight condition by using the magnetic, which realize the function of standing up the flange plate

b) It sets 2 groups of flange plate lifting device on the conveyors, which not only could ensure the flange plate and web plate can move forwards at the same time, and also can make the flange plate lift up and move away from conveyors and only move the web plate.

c) Adopting hydraulic clamping device to clamp the web plate, use the screw device to move the clamping device, which can realize the function of adjusting the position between flange plate and web plate.

d) It can require spot welding when position fixing, not require spot welding at the whole plate, which greatly reduce the working of fixing the plate position and improve the working efficiency.



Three plate for position fixing



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H-Beam Welding line Components — Position fixing machine

3. Main parameters

Suitable H-Beam Section Dimension	The same as total line parameters
Inclination of H-Profile steel	$\leq 8^\circ$
Web plate lifting speed	350mm/min
Web plate clamping strength	800kgf
Web plate clamping quantity	2
Transporting conveyors loading capacity	4t/15m
Transporting conveyors speed	8m/min
Transporting conveyors motor power	0.75kw
Hydraulic station power	5.5KW
Total power	7kw
Total weight of machine	4000kg



Sample of after position fixing



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H-Beam Welding line Components — Front welding machine

1. Brief introduction

Front welding machine is key part of the welding line, suitable for H-Beam automatic locating after heading position fixing, clamping and welding, Main welder is America Lincoln welding machine; adopt welding technology of single-side double-wire arc welding. It has high automatic and easy to be operated performance front welding machine



Position fixing machine



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H-Beam Welding line Components — Front welding machine

2. Main technical features

- a) It is suitable for three plate to locate after position fixing, after clamping and it can form welding.
- b) Hydraulic motor can drive the work-piece by speed reducer and drive wheel, working speed can be adjustable .
- c) Realize the function of single-side double-wire arc welding, it can weld at the both sides at the same time.
- d) Adopts hydraulic automatic arc guide device, which can effectively ensure welding gun and welding road in the right position.
- e) Adopts electric hydraulic proportion control technology.
- f) Adopts barrel package welding wire



Support plate clamp device



Lincoln



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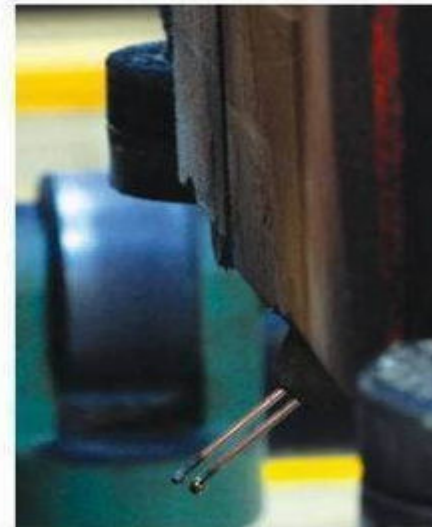
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H-Beam Welding line Components — Front welding machine

3. Main parameters

Inclination of H-profile steel	The same as total line parameters
Inclination of H-Profile steel	$\leq 8^\circ$
Suitable welding wire	$\phi 1.6\text{mm}$
Welding speed	0.5–2m/min(无级可调)
Transporting conveyors loading capacity	4t/15m
Transporting conveyors speed	8m/min
Transporting conveyors motor power	0.75kw
Conveyor motor power	18.5KW
Withdraw system power	2.2kw \times 2
Total power	25.5KW+90kVA \times 2
Air source pressure	$\geq 0.6\text{MPa}$
Total weight of machine	10000kg (4000kg)





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H-Beam in Welding



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H-Beam Welding line Components — Front welding machine



Welding withdraw machine



Electric control system



Hydraulic system



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1. Brief introduction

Suitable for the welding H-Beam to turn over 180° , which can realize the function of turn over the plate and suitable for welding another side.

2. Main technical features

a) This device is equipped 4 sets of electric crane, use crane to realize the function of the H-beam lifting and dropping.

b) 4 sets of electric crane is at the traversing position, which can realize the function of work-piece in traverse direction.



Turn over device



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H-Beam Welding line Components — Front welding machine

3. Main parameters

Suitable work-piece length	4–15m
Suitable work-piece max weight	4000kg
The max crane lifting speed	6.3m/min
The max traversing speed	2.6m/min
Total power	6kw
Total weight	1500kg





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Back welding machine is the main part of the welding line, suitable for welding another side after welding one side. The welder is America Lincoln welding machine; adopt welding technology of single-side double-wire arc welding. It has high automatic and easy to be operated performance.



Back welding machine