

Steel Truss Girders Welding Line

GHJ350ZH-01

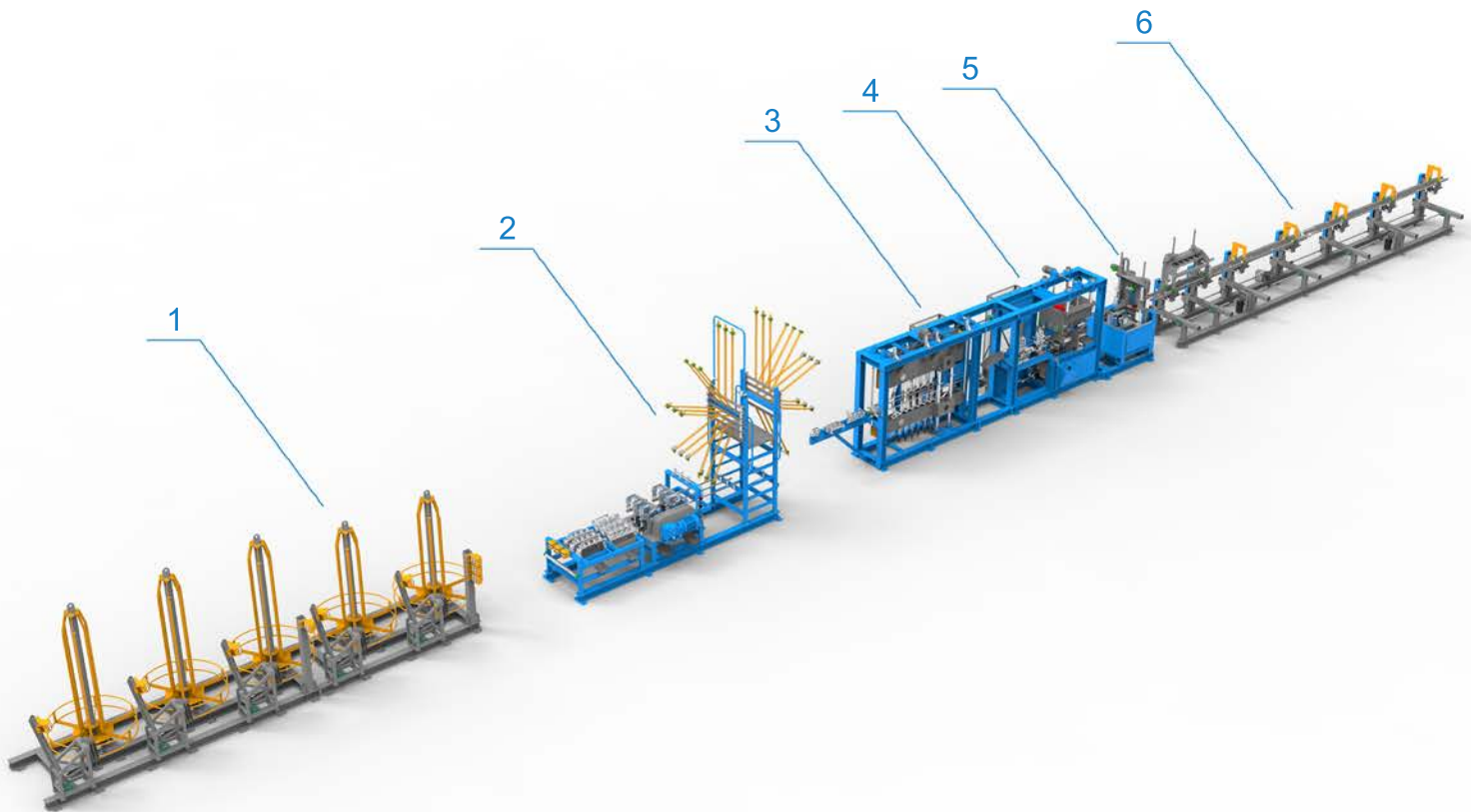
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Layout

1.wire payoff 2. Line wire straightening and balancing loop 3.Diagonal wire forming device 4. feeding and welding device 5. girder bending and shearing device 6. automatic stacking unit

Main Characteristics

This line is use for 3D lattic girder production,which is fully automatic . The max speed can reach 16m/min. The workable range is 6.0-12.0mm. The whole process includes wire decoiling, automatic bending, diagonal wire bending automatic welding, Bottom wire bending,automatic cutting , and automatic stacking

- 1) The main frame is welded with thicker steel plates and profiles, which makes the main structure stronger and more compact
- 2) Line wire feeding device includes balancing loop, testing device and straightening system ,with more automation.
- 3) Diagonal wire bending device is our advanced technology, and up and down bending□feeding power is one motor, with more precise size.
- 4) The welding parts adopts modular structure with pneumatic system, which will ensure good welding quality.
- 5) Control panel adopst CNC system,which will make the operation more simple .

technical parameters

Longitudinal wire diameter (upper)	6 – 12 [mm]
Longitudinal wire diameter (lower)	6 – 12 [mm]
Diagonal wire diameter	4 – 8 [mm]
Girder height	70 – 300[mm]
Longitudinal wire diameter feeding	From coil automatically
Diagonal wire diameter	From coil automatically
Pressure mode	Pneumatic system
Mesh output	Automatic stacking
Control system	CNC system
Cutting length	2-12m
Distance of diagonal wire	190-210mm
Line wire width	60-80mm
Production rate	Max 16 [m/min]
Air operational pressure	≥ 0.8 [Mpa]
transformer power - welding	2x250 [KVA]

Working Condition

Power	380V,50HZ,3phase distance away from main controler ≤50m
Control voltage	DC24V
Single phase area of power line	Cooper cable 240mm ²
Working condition	The temperature of 5 to 40 degrees Celsius, the relative humidity of the air (20 DEG C) ≤90%
Water cooling system	Clean, neutral to slightly alkaline (PH=7 ~ 8) of water, flow 2m ³ /h, inlet temperature of 25 to 30 DEG C, inlet pressure of 0.15 ~ 0.3MPa, cooling capacity of 20KW



COMPONENT PARTS

No.	Components	Quantity
1	wire payoff	5 sets
2	Line wire straightening and balancing loop	1set
3	Diagonal wire forming device	1set
4	feeding and welding device	1set
5	girder bending and shearing device	1set
6	automatic stacking unit	1set
7	Control system	1set
8	Standard spare parts	1set
9	User manual	1set
10	Industrial chiller	1set
11	Air compressor	1set

Payoff

The device is composed of pay-off reel and tension detection. This is the first step of the whole production process.

The pay-off reel adopts active rotation mode, with brake and tension detection. Then the pay-off process is stable and controllable.

The top of the pay-off reel can be adjusted according to the inner diameter of the reel, which is convenient and easy to operate.





Line wire straightening and balancing loop

The wire will enter this device from payoff . It includes straightening part, feeding and balancing part.

2 sets of straightening rollers for 1 wire will ensure the straightness.

2 sets of feeding devices for 1 wire will ensure the feeding length more precise

The balancing keeps the line wire feeding smooth and continuous.



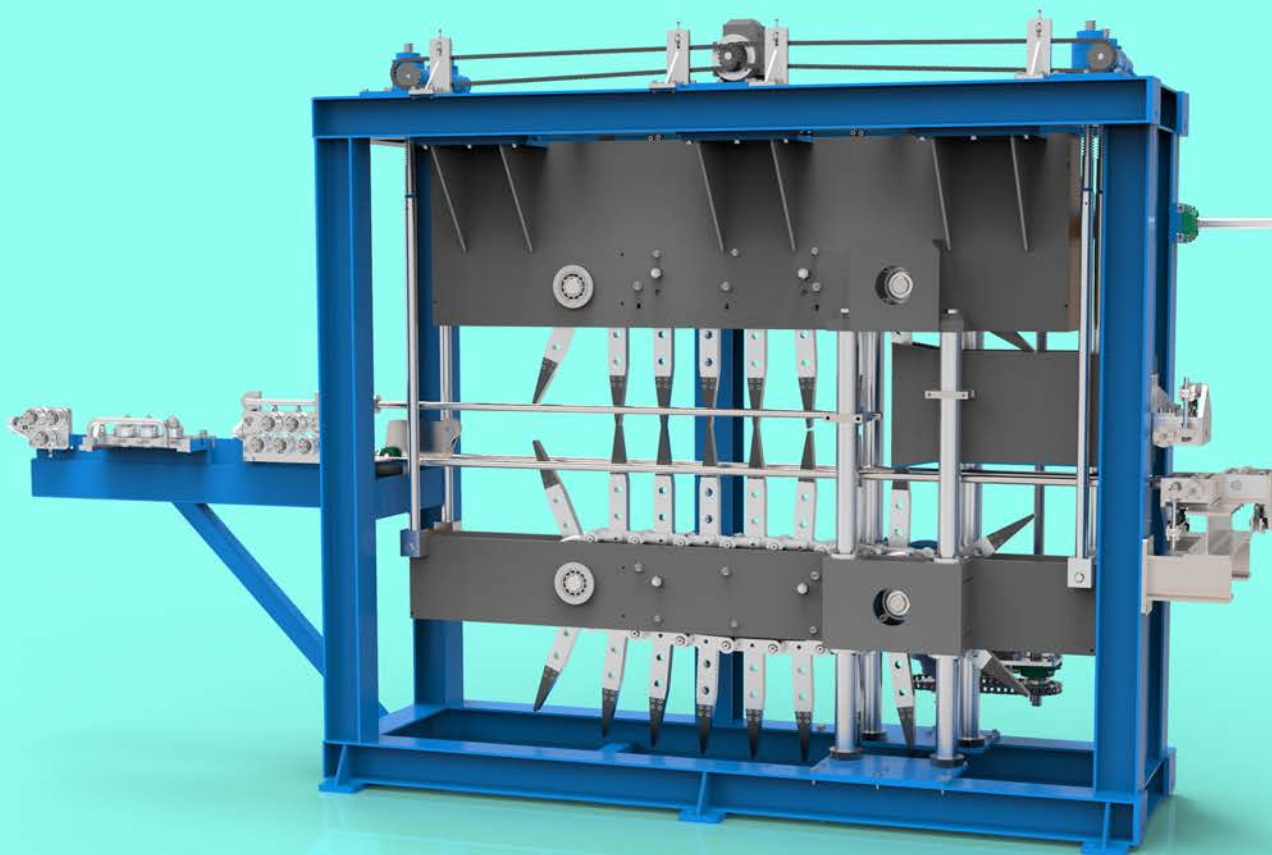
Diagonal wire forming device

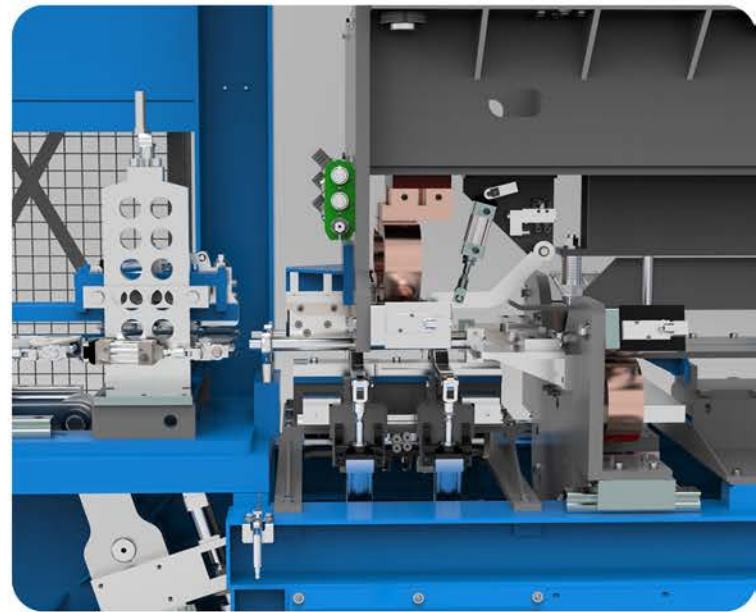
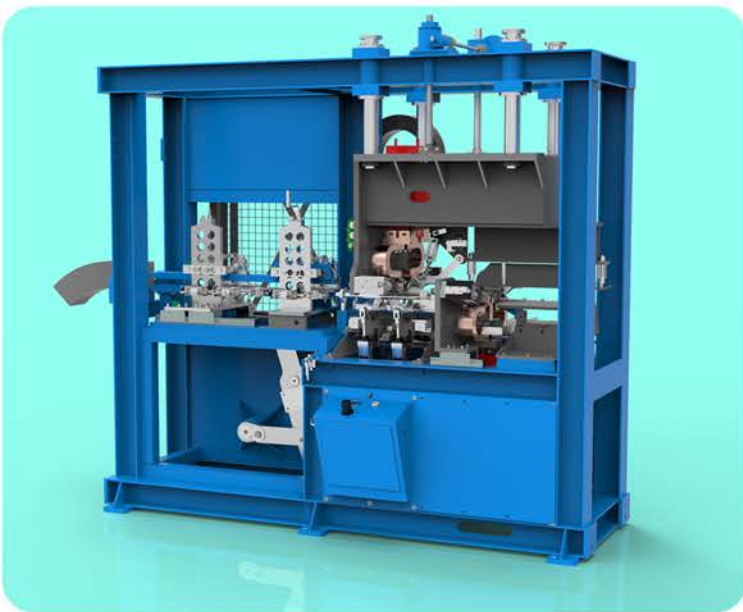
This device is for diagonal wire forming.

It mainly includes up and down bending system and elevating structure
Elevating structure includes 4 lifter ,which ensures the down bending lifting process smooth . Height adjustment is easy and convenient. The height of girder is at 70-300mm .

The elevating structure is operated manually when the size is adjusted.

The bending structure adopts sprocket and chain drive, and power is from a frequency conversion speed regulating three-phase asynchronous motor, which has fast bending speed and high precision





Feeding and Welding device

The wire feeding structure has two sets of grabbing mechanisms (mobile and fixed grabbing) to ensure wire feeding accuracy.

The feeding and bending power is from the same motor, which ensures stable cooperation between the bending and wire feeding work.

The welding electrode adopts CuCrZr with hardness $HRB \geq 78$ and conductivity $\geq 50MS/m$. The electrode holder and electrical-grade wires are made of T2 copper with conductivity $\geq 56MS/m$ to ensure welding quality.

The upper and lower electrodes and transformers are equipped with cooling water circulation to extend the service life of the electrodes and transformers.

Adopt cylinder pneumatic system to ensure uniform and stable welding pressure.

The elevator is to lift the upper electrode to meet different height girders production.



bending and shearing device

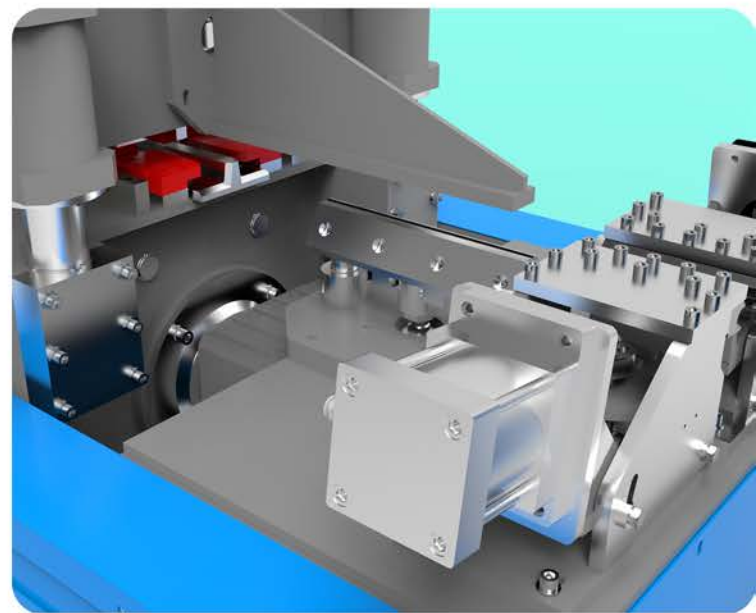
The bending and shearing device is composed of a bending mechanism, a shearing mechanism, and an adjusting mechanism.

The bending mechanism is pressurized by a cylinder and connected with wear-resistant materials to ensure bending accuracy and service life.

Upper and lower mesh shearing structures are equipped with their own independent power systems, with timely response and accurate mesh cutting.

The lifting structure is manually operated when changing mesh specifications, and the lifting mechanism is locked when the machine is working normally.

The adjustment mechanism is used to adjust the position of the module when the mesh specifications are changed.





automatic stacking unit

After the girder is cut, this unit will stack it automatically, which guarantee the continuous production and improve the capacity.

Equip lifting device, which ensure the mesh falling smoothly.





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