DUCT MANUFACTURE AUTO LINE V
Model: RF-V-1530

STRAIGHT-TYPE
CATALOGUE

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Duct manufacture auto line V

A、Brief introduction:

RF-V duct manufacture auto line is the technical personnel of our company sheet metal work according to domestic and international similar production line and the development of a new type automatic air pipe production line. It integrates multiple functions:

Is currently the complete functions, excellent performance, high degree of automation of a new automatic duct manufacture line, the production line running speeds of up to 9m/min, the production efficiency is greatly improved than other similar devices, from the plate material uncoiling until the last wind ruffled automation to achieve full.

B、Technical parameter

Material : G.I,
Thickness : G.I (0.5~1.2mm)
Coil width : 1530mm
Coil weight : 5000kg (each one decoiler)
Coil inside diameter : φ460~φ630mm
Coil outside diameter : φ1300mm (MAX)
Run speed : 9m/min
Max. length sheet : 4000mm
Min. length sheet : 800mm
Shearing : 9999mm
Shearing tolerance : ±1mm/2000mm
Bending tolerance : ±1mm/2000mm
Grooving Standard“V”type（Fixed type of the DIA : 210mm）
Control system : computer control
Voltage : 380V 50Hz 3相
Total power : around 26KW
Operation power : 220V 50Hz 3 phase
Hydraulic pressure : Max.14MPa
Air pressure : 0.5MPa
All Working type : left—right
Total length : around 24M
Width : Max.4.8M
C、Configuration list

Motor drive decoiler (4 coil) : 1set
AUTO LINE II : 1set
Plate conveyor frame : 1set
Pittsburg lock system : 1set
Double drive angle iron flange system : 1set
Double drive TDF flange system : 1set
Servo feeding frame : 1set
Hydraulic bending system : 1set
Hydraulic system : 2set
Electrical control system : 1set

D、The performance characteristics of the production line

This production line can work continuously long-term stability under the following conditions
- 380V(220V)±10%, 50/60Hz±10% of the three-phase alternating current
- Environmental temperature : 0〜40ºC
- Relative humidity : 55〜85%

E、The production line :

1、Electric decoiler

The decoiler can be loading four rolls of the material, one coil loading 5T. The coil shaft using 45# steel, after quenching and tempering process, with sufficient strength and rigidity. The frame and the chassis are square and channel steel welded. After aging treatment, so as to ensure the stability in the process of using, coil of material support for the adjustable structure, adjusting range of Φ460 to Φ630mm. The coiler system is equipped with a 1.5KW motor and the reducer drive, through the control circuit, to realize the automatic control of feeding, return of material and inch feeding of the material, on the sheet surface plays a very good protection effect, To avoid the damage of material feeding machine edge phenomenon. As long as the user’s refueling feeding shaft lifting the overall down from the discharge frame, into the coil material to be used in the inner core, artificial tension reel, is placed, material, simple operation, refueling ease. Put rack distributor used for a multi volume production of the occasion, the material conveying easier.
2、Main machine(AUTOLINE II)

AUTOLINE II is mainly composed of a frame, leveling system, grooving roll, notching system, shearing system.

Leveling system adopts the structure design of leveling technique be current and distinctive form, work roll of five roll leveling, material 45# steel, Quenched and tempered, the electroplating and other reasonable process, good surface properties, its rigidity, deflection, surface roughness and other mechanical properties are greatly improved, which have an important role in the surface of the plate state and flat on flat after.

Notching system portion is located behind the leveling system, can be adjusted according to the sheet width, free, on lower mould replacement is very convenient, need to shear with different angles and shapes, only need to change, on the lower die can be.Powered by the hydraulic system.

After the notching process is completed, the sheet to move to set the cut to length, beam clamp and cut the sheet. The hydraulic automatic shearing, the shearing use the blade made of Cr12MoV, cut the mouth without burr and long tool life, rapid change, adjust the shear gap is very convenient.

3、Feeding frame

Is composed of a machine frame, a conveying roller, the material clamping mechanical hand and driving part. The conveying roller with power, when the sheet according to the required length is cut off, the sheet position by the mechanical manual clamp to the lock, and then pressing sheet, as the Pittsburgh forming ready.
4、Lock forming （forming the Pittsburgh）

After the plate positioning in the machine frame, Pittsburgh system shifting cylinder action, promote the Pittsburgh system on the sheet, and sheet metal forming in their own power tail Pittsburgh system drive, then the cylinder drives the Pittsburgh system Backtracking.

5、Double drive TDF flange system

Double drive consists of two sets of the 14 group roller. Roll by GCr15 steel processing, heat treatment, CNC lathe and roller, surface hardness up to HRC58 ~ 60. Forming width is adjusted by hand wheel, the roller is driven by a motor through the transmission shaft, two sets of synchronous roll. The sheet through the conveying frame, into a roller through the guide plate at the front, forming complete of angle steel flange.
6. **Servo feeding frame**

   By the machine frame, linear guide rail, the mechanical hand and belt conveying device. Its role is to flange forming machine after forming transport into the folding machine. The manipulator clamping, controlled by a servo motor fixed length feeding.

7. **Hydraulic bending system**

   ![](image)

   Bending system using under beam fixed, under pressure to complete the upper pressing, pressing and bending by the oil cylinder to complete the action, compact structure, good folding effect. Compression bending are controlled by electrical system.

9. **Electrical control system**

   1. The hardware supporting list

      - **CPU-A6 Industrial control board**
        Configuration: Epox low-power integrated four nuclear power plant threads CPU-A6-5200 / Memory 4G / 64G high-speed solid-state drive

      - **NC08 type axis CNC cards, matching adapter plate and connecting cables**
        Configuration: used two axes, the other two axes backup, differential pulse output, emergency stop signal input

      - **PCI-IO-64eneral-purpose input and output control board supporting signal amplification adapter plate**
        Configuration: 32 inputs, 16 outputs

      - **U Disk (System self-recovery U disk)**

      - **Password dog**
2. Software main control functions:

- CNC cards via two-axis pulse output, control the servo motor for precise feed control, feed specified size, and bending mechanism;
- through common input and output ports, the device can feed, punching "V" and "U", cut processing operation pusher, folding, five discharge line duct device control;
- You can import any existing versions of AutoCAD drawings, the size and length as desired "V" and "U" bend and the position of the processing member (may be necessary to regulate and generate DXF drawing file Procedure requirements, such as: rectangles represent the total length of each material and the width of the red circle represents the big mouth and small mouth, red represents its center position, save the document to select AutoCAD 2004 DXF format option or use DXFOUT command);
- operatives have to check fingerprint password management system (the development required to provide a complete development side management methods and procedures);
- run before the system can identify whether a complete roll number, control number and quotation date information (when development is required to provide complete information about the developer meaning, control methods and procedures, format requirements, etc.);
- Working with a number cannot be changed, copy and delete functions, and this can work for more than 2:00 related information via TCP/IP network commonly reported to the management office (the development required to provide complete information about the development side meaning, management controls and procedures, format requirements, etc.);
- to be reworked after fingerprint authentication management personnel to conduct and generate new job number;
- After all the work is completed, can generate: triplicate shipment note terms, each process using KG number, serial number of everyday use roll open information, stop margin, and daily consumption per lap re-cut the amount of information (when development is required to provide complete information about the developer meaning, control methods and procedures, format requirements and calculation methods)
- can enter the number of processing-related products, and can input and record management function with the relevant information;
- use Windows 7 operating system environment control interface;
- in supporting the control dongle, a device for producing period can be set using the end-user, after the expiration of the lock-run feature automatically to match the sales work;
- Monitor Samsung or Philips brand, 24-inch 1920x1080 widescreen with touch function
- "Asia Eliot" TL-FRT610 USB fingerprint scanner,