



TSF
MACHINERIES

Technology Solution
Factories Machines TR L.L.C
شركة حلول التقنية
لتجارة معدات المصانع ذ.م.م

AUTO DUCT LINE
MODEL: ADL-III-1300 (With 2-Coil Decoiler)



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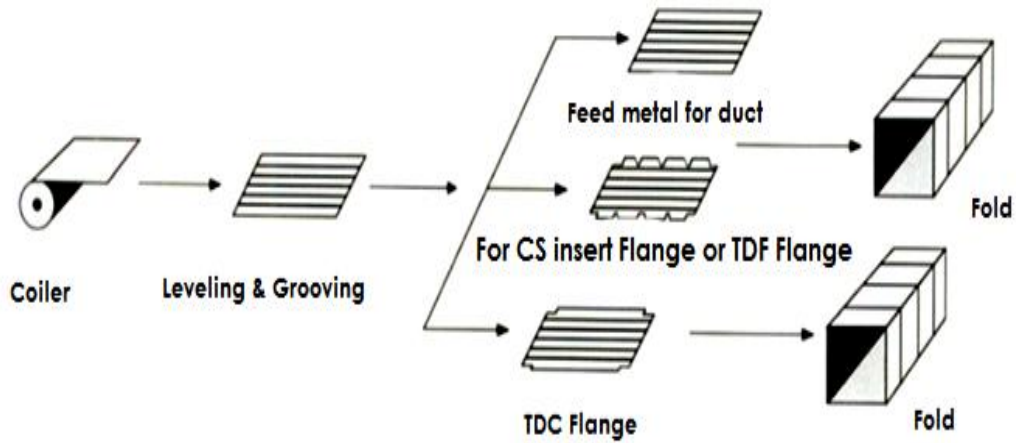
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WORKING SCHEMATIC DIAGRAM:



Leveling and Decoiling → Grooving → Punching V-shaped or square openings → fold
7mm edge → Cutting to length

SAMPLE PIECE:





TECHNICAL PARAMETER:

ADL-III AUTO DUCT MANUFACTURE LINE	
Model	: ADL-III-1300
Brand Name	: WEMA
Material	: low carbon steel sheet, galvanized sheet
Sheet thickness	: 0.5-1.2 mm (galvanized sheet)
Coil Width	: 1250mm according to req.
Coil Weight	: 6,000 kg
Inside Coil Diameter	: Ø480-610 mm
Outside Coil Diameter	: Ø1,100 mm (max)
Feeding Rate	: 15m/min (highest)
Longest single-piece sheet material for Duct Production	: 4,000mm
Shortest single-piece sheet material for Duct Production	: 400 mm
Sheet length error	: ±0.5mm
Duct Bending Error	: ±2 mm
Ribbing	: standard V- shape (slope spacing 210mm)
Control System	: fully CNC Control
Main Power Supply	: 380V, 50Hz, 3PH
Hydraulic Pressure	: 8-12 MPa (working pressure) 16 MPa (system pressure)
Atmospheric Pressure	: 0.6-0.8 MPa
Total Power	: 11.5 KW
Main Machine	: 2800*2100*1300 mm
1 rack with 3 coils	: 3300*1700*900 mm
Total Weight	: approx. 5.5 Tons
Brand New	: China



PRODUCTION LINE COMPONENTS

ADL-III AUTO DUCT LINE COMPONENTS

Decoil rack	with 2 coils.
Feeding system	1 set
Leveling device	1 set
Ribbing roller	1 set
Angle punching device	4 sets
Plate shearing device	1 set
Automatic hydraulic square folding machine	1 set
Control system	1 set
Adjustable synchronous internally tensioning feed rack cores	

DECOIL

Drive type	: motor
1.5KW-motored worm wheel and worm speed reducer, made by Guangzhou Nanyang Motors Factory	
Inside diameter of coil	: ϕ 480-610mm, internally- braced, synchronously tensioning, adjustable
Main shaft diameter	: ϕ 102mm (hot-rolled seamless)
Carrying capacity	: 6,000 kg at maximum
Coil width	: 1,300 mm
Pedestal	: 100×100 square-tube welded steel structure

FEEDING, LEVELING, RIBBING, NOTCHING, PUNCHING AND SHEARING SYSTEM

Mainframe structure	: Welded whole section steel
Servo motor	: 3KW servomotor of Yaskawa, Japan
Motor speed control	: By the servo driver
Length measuring control	: Close-loop feedback
No. of feeding rollers	: 2
No. of leveling rollers	: 3
No. of checking rollers	: 3
No. of ribbing rollers	: 2
Leveling axis material	: Premium steel 45#, quenching and tempering, finely ground, and chrome plated



Leveling axis diameter	: $\phi 100\text{mm} \times 1,300\text{mm}$
Ribbing type	: Standard V-shape
Ribbing slope spacing	: 230mm
Type of device for punching, Notching	: Hydraulic control device
Mold material	: Cr12
Mold Pedestal	: Steel 45#
Type of plate shearing machine	: Hydraulic plate-shearing machine
Cutter material	: 9CrSi
Shearing range thickness	: 0.5-2 mm

AUTOMATIC FOLDING SYSTEM

Folding type	: Blade, L-shape, U-shape, or square
Min square folded	: 220mm
Compression bending	: Hydraulic
Structure	: Welded section steel

COMPUTER CONTROL SYSTEM

For the CPU of the servo control system, the PLC of Panasonic Japan is used. For the drive device, the fully digital AC servo system of Yaskawa Japan is used. For the human-machine interface, the colored HD touch screen of Taiwan WEINTEK is used. The system screen can manage up to 7 POs, freely switching between the Continuous PO mode and the Single PO mode, to greatly increase efficiency.

The CNC control system mainly consists of the following:

Panasonic PLC	: FPG-C32T+FP0-E32T (2 sets)
True color touch screen	: WEINVIEW TK6100i (10 in.)
Servo drive unit	: Yaskawa servo system, 2 sets
Check encoder	: HES-25-2MHC

LV apparatuses: For circuit breakers and contactors, the CHINT products are used, which is a well-known brand in China. For intermediate relays, OMRON or SCHNEIDER products are used.

In addition, the electric circuit is reasonably designed, with clear and legible symbols. The overall layout looks pleasant and tidy. The earthing protection is safe and reliable. The electric alarming system and the mechanical safety device are well interlocked, to ensure safe and efficient production.



HYDRAULIC SYSTEM

Hydraulic elements	: Hydraulic valves from Beijing Huade Hydraulic Industrial Group + Blade pumps from Shanxi Yuci Hydraulic Elements Factory
Hydraulic pressure	: 8-12MPa when working
Oil pump motor	: 4KW + 5KW

GAS CIRCUIT SYSTEM

Type	: Dry compressed air, quick plug connector
Gas source	: Provided by the customer
Pressure	: 0.6-0.8MPa
Gas circuit	: Gas hose made in Taiwan + 3A connector made in South Korea