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Press feeding line



Fig.1 General view of the line

1. Designation and field of application

Press feeding line, hereinafter referred to as Equipment, is intended for straightening sheet metal curvature and feeding it with a certain step into the press-forming zone of the press-forming equipment.

2. Raw material requirements

Light-gauge galvanized steel with polymer coating
Zinc coating to range 100...275 g/m²
Yield strength 320...350 N/mm²

Coil width: 100-650 ± 5 mm;
Metal thickness – 0,5-4,0 mm.

3. Technical characteristics:

№	Description	UOM	Coil width, mm 100-250	Coil width, mm 100-450	Coil width, mm 100-650
1	Dimensions (LxWxH), approximately	mm	10000x1400x1400	10000x1900x1400	10000x2000x2000
2	Weight, no more than	kW	1300	1600	3400
3	Electricity network: a) voltage; б) frequency		a) 380V; б) 50 Hz	a) 380V; б) 50 Hz	a) 380B; б) 50 Hz
4	Installed power capacity, approximately	kW	9,5	11	13
5	Feeding speed, no more than	m/min	25	25	25
6	Line operating mode		Manual / automatic	Manual / automatic	Manual / automatic
7	Required operating personnel	persons	1 – 2	1 – 2	1 – 2

4. Configuration:

1. Decoiler;
2. Straightening machine;
3. Feeder;
4. Automatic control system (ACS);
5. Coil car (option).

5. Technical specifications:

5.1. Decoiler

№	Model	CD 001	CD 003	CD 005
1	Coil width, mm	100-250	100-450	100-650
2	Metal thickness, mm	0,5-4,0	0,5-4,0	0,5-4,0
3	Type	cantilevered	cantilevered	cantilevered
4	Feeding speed, (automatically controlled), no more than m/min	30	30	30
5	Operating mode: manual, automatic, reverser	manual, automatic, reverser	manual, automatic, reverser	manual, automatic, reverser
6	Installed power capacity, no more than, kW	2,2	2,2	4
7	Lifting capacity, no more than, kW	2000	3000	5000
8	Mandrel expansion range for coil ID 600 mm	480-620	480-620	480-620
9	Mandrel expansion	Mechanical (by handle)	Mechanical (by handle)	Mechanical (by handle)
10	Clamping unit	option	option	option
11	Motion set	option	option	option
12	Dimensions (LxWxH), no more than, mm	1300x1400x1400	1300x1900x1400	1355x1950x2000
13	Weight, no more than, kg	450	600	2000

Options:

1. Clamping module prevents coil's unwinding, pneumatic drive
2. Coil car
3. Decoiler motion set, without drive, wheels, rail length 3 m.

5.2. Straightening machine

№	Model	ST 250	ST 450	ST 650
1	Coil width, mm	100-250	100-450	100-650
2	Metal thickness, mm	0,5-4,0	0,5-4,0	0,5-4,0
3	Feeding speed, no more than, m/min	25	25	25
4	Speed control mode	programmable	programmable	programmable
5	Diameter of the straightening shafts	60	60	60
6	Quantity of the straightening shafts	7	7	7
7	Installed power capacity, no more, kW	5,5	5,5	5,5
8	Dimensions (LxWxH), no more than, mm	1000x600x1400	1100x800x1400	1100x1000x1400
9	Weight, no more than, kg	600	750	950

Options:

1. Lifting table for feeding strip with a metal thickness of more than 2 mm;
2. Guillotine;
3. Diameter and number of straightening shafts can be made in accordance with customer's technical enquiry.

5.3. Feeder

№	Model	F 250	F 450	F 650
1	Coil width, mm	100-250	100-450	100-650
2	Metal thickness, mm	0,5-4,0	0,5-4,0	0,5-4,0
3	Type	валковое	валковое	валковое
4	Diameter of the shafts	80	80	80
5	Feeding accuracy	± 0,05	± 0,05	± 0,05
6	Feeding speed, no more than m/min	25	25	25
7	Feeding step, mm	0,1-9999	0,1-9999	0,1-9999
8	Installed power capacity, no more, kW	1,8	2,9	2,9
9	Height adjustment range, mm	80-100	80-100	80-100
10	Dimensions (LxWxH), no more than, mm	500x700x1400	600x800x1400	1100x1250x1400
11	Weight, no more than, kg	250	400	500

Options:

1. Press command shaft's expansion;
2. Press control from the operator panel;
3. Press step control;
4. Control of the addition devices of the line.

5.4. Automatic control system (ACS)

№	Item	Description
1	Hardware base	Omron (Japan)
2	Controlled parameters:	- roll forming speed, quantity and length of product; - settings of technological processes pauses, - production task
3	Interface	English, User-friendly
4	Indicators	- general settings; - error and emergency alarms.
5	Dimensions (LxWxH) , no more than, mm	500x700x1100
6	Weight, no more , kg	80

5.5. Coil car

№	Model	CC
1	Dimensions (LxWxH)	800x1400x700 mm
2	Lifting capacity, no more than	5000 kg
3	Installed power capacity, no more than	1,5 + 1,1 kW
4	Working stroke (lifting)	260 mm
5	Lifting drive	hydraulic
6	Motion drive (electromechanical)	yes
7	The length of the rails (taking into account the installation for the recoiler)	3,5 m
8	Maximal coil width	1250 mm
9	Weight (including rails), no more	950 kg

6. Imported components details

Components kit	Manufacturer
- controllers; - frequency converters; - length encoders; - inductive proximity sensors - control panels - relay	Industrial automation components "OMRON" (Japan)
- shaft bearing units;	"ASKUBAL", (Germany)