

PRODUCTION LINE EQUIPMENT

1st part **CHEMICAL DISPENSER**

Chemical dispenser from BIG BAGS. Dispenser consists of two separate iron frames with dispensing ducts below. Both chemical ducts are joint using screws in one supply and are mixed, ground by a hammer mill and transported to joint material flow. Dispensing duct supplies chemicals using the screw. Operator may adjust the supplied quantity from the control panel. Chemical supply is connected to the sensor at the material supply and stops supply, when material is not supplied. Electric rope telfer with beam profile extended outside is used for loading and lifting BIG BAGS. Adjustable chemicals supply quantity of at least 10 to 240 kg/h.

Height: 2650 to 3000 mm;
Length: 2250 to 2750 mm;
Width: 1000 to 1300 mm;
Weight: 3000 kg;
Colour: RAL 9018
Capacity: 10 to 240 kg/h;
Operating voltage: 400 V (50 Hz)
Total maximum power of power-consuming 12 kW.

2nd part **FIBRE SEPARATOR**

Automatic division of roll-pressed, baled industrial hemp into two fractions – hemp fibre and hemp shives. Fibre is prepared for further processing, hemp shives are packed in big bags.

Capacity: 1500 kg/h;
Colour: RAL 5003 and RAL 9018
Total maximum power of unit consumption 40 kW.

3rd part **PLATE CUTTER**

Plate cutter consists of 2 parts.
First part is located before furnace and performs side adjustment for 1800 mm wide sheet after forming unit. Cut material is returned for recycling.
Second part is placed after furnace and must be able to cut material at least into 4 parts.

Capacity: 1000 kg/h;
Total maximum power of unit consumption 16 kW.

4th part **FURNACE**

Equipment consists of 4 parts:

Requirements to forming: Vertical air formation chamber laying material in uniform layer before heating in furnace. Material from forming chamber is supplied to furnace using conveyor with adjustable condensation belt.

Requirements to furnace: Special heating furnace for waste paper, hemp and other fibres. Operates with natural gas and electric power

Product thickness: adjustable 20 to 100 mm;
Product weight: 800 g/m² to 8000 g/m²;
Capacity: 750 kg/h;
Product width: 1800 mm.

Product width: 1800 mm;
Product thickness: 2 to 10 cm;
Density: 40 to 100 kg/m³;
Operating temperature adjustment: 30 to 220 °C;
Capacity: 750 kg/h.

Requirements to cooling: Cooling system has 3 positions. Cooling takes place immediately after furnace by air ventilation. Air ventilation is followed by shafts filled with cold water. Final cooling also by air ventilation.

Requirements to calibration: Calibration takes place in cooling part with cold water shafts, where final material sized is formed by decreasing shaft size.

Product thickness: 20 to 100 mm;

Product width: 1800 mm;

Total maximum power of unit consumption 150 kW.

5th part MIXING BUNKER

Mixing bunker is intended for mixing different fibres into one mass. Cyclone is located above dispensing bunker ensuring free material flow to bunker, driving away the excess air. Equipment consists of 3 parts:

1. Material storage part.
2. Material feeding part.
3. Material mixing and supplying part.

Capacity: 750 kg/h;

Mixing speed: 50 to 70 rpm;

Total maximum power of unit consumption 30 kW.

6th part LOADING CONVEYOR

Equipment consists of 3 sets:

Material supply conveyor consists of 2 parts. First part is intended for material loading and sorting. Conveyor will be in horizontal position. Conveyor type - chain conveyor with veneer deck able to jointly withstand loading weight of at least 1.5 t. First conveyor is followed by second conveyor supplying up the sorted material. Conveyor is intended for dispensing the material to grinder from the top. Conveyor type - rubber conveyor.

CONVEYOR NO. 1

Width: 1250 mm;

Length: 5000 mm;

Height: adjustable 600 to 800 mm;

Support board height: 1000 to 1200 mm;

Operating voltage: 400 V 50 Hz;

Supply speed: adjustable 0.01 to 0.2 m/s;

Conveyor type: chain conveyor with veneer deck;

Colour: RAL 5003

CONVEYOR NO. 2

Width: 1250 mm;

Length: 9400 to 10000 mm;

Height: 100 to 2800 mm;

Board height: 500 to 600 mm;

Operating voltage: 400 V 50 Hz;

Speed: adjustable 0.2 to 0.7 m/s;

Conveyor type: rubber conveyor;

Colour: RAL 5003;

Total maximum power of each unit consumption 5 kW.

7th DISPENSING BUNKER

Equipment consists of 3 sets:

Dispensing bunker must provide for accumulation of material and uniform production flow. Below the bunker are two mixers keeping the material in motion and directing it to the dispensing exit in the bottom. Bunker sides in the bottom part are rounded, pressing against material mixers. Cyclone is located above dispensing bunker ensuring free material flow to bunker, driving away the excess air.

REQUIREMENTS TO CYCLONES:

Width: 1300 mm;

Height: 3200 mm;

Input/output: 400 mm;

Colour: RAL 9018

Total maximum power of unit consumption 12 kW.

REQUIREMENTS TO DISPENSING BUNKERS:

Length: 2200 mm;
Width: 2700 mm;
Height: 3400 mm;
Operating voltage: 400/50 V/Hz;
Bunker volume: 12 m³;
Dispensing exit size: 850 x 1700 mm;
Colour: RAL 5003;
Metal thickness: 4 mm.
Total maximum power of unit consumption 12 kW.

8th part DISPENSER

Dispenser is located under dispensing bunker and its purpose is dispensing material in necessary quantity on collection transport conveyor. Dispensed material speed adjustable. Material is not supplied if level in bunker is below the sensor mark.

Gate size: 850 x 1700 mm;
Spindle diameter: 120 mm;
Capacity: adjustable 20 to 1500 kg/h;
Metal thickness: 4mm.
Total maximum power of unit consumption 4 kW.

9th part PACKER

Packer consists of 2 parts. Packing must provide for manually piling of sheets, after a signal, sheets are automatically packed in film and go through thermal tunnel tightening film around material. Material is further accumulated on roll conveyor. Second part is pallet wrapper providing for stable, straight pallet wrapping.

Sheet package size:
400 x 400 x 400 mm to 1200 x 1000 x 800 mm;
Thermal chamber temperature: adjustable 30 to 220 °C;
Packing power: 1000 kg/h;
Total maximum power of unit consumption 15 kW.

10th part DUST FILTERS

Equipment consists of 2 sets:

Dust filters must provide for purification of equipment air from dust. Dust filters must be provided with fire safety. Dust filters must provide for purification of air from mixing and dispensing bunkers. Below the dust filter must be provided screw with gate output, so that dust can be discharged without stopping plant operation. Cleaning of vibrofilters or pneumofilters of the dust filter must be ensured.

Operating voltage: 400/50 Hz;
Height: 490 to 510 mm;
Size: 1.64 x 1.64;
Filter elements: 36 pcs. special fabric;
Maximum air flow: 15000 m³/h;
Colour: RAL 9018
Total maximum power of unit consumption 1 kW.

11th part AIR SUPPLY

Equipment consists of 6 sets:

Air supply provides for material transportation from grinders to dispensing bunkers, from collection conveyor to mixing bunker and taking all dust, excess air to dust filters. Pipe diameter 315 to 400 mm. Price must also include pipes and fittings.

Operating voltage: 400 V 50 Hz;
Maximum air flow: 15000 m³/h;
Colour: RAL 9018;
Pipes: galvanized;
Total maximum power of unit consumption 15 kW.

12th part **COLLECTION TRANSPORT CONVEYOR**

Collection transport conveyor is a conveyor, on which pouring materials of 3 types are dispensed from dispenser. Conveyor must be provided with boards for holding the material. 100 to 300 kg of material will be on the conveyor simultaneously.

Length: 15000 to 17000 mm;
Width: 1250 mm;
Height from the floor: 600 to 800 mm;
Board height: 500 to 600 mm;
Operating voltage: 400 V 50 Hz;
Speed: adjustable 0.1 to 0.5 m/s;
Colour: RAL 5003;
Total maximum power of unit consumption 5 kW.

13th part **HAMMER-TYPE GRINDERS**

Equipment consists of 2 sets:

Grinder is intended for grinding waste paper and hemp fibre to a specific fraction. Hammer-type grinder must ensure simple replacement of hammers (knives) and sieve. Material loading from the top.

Capacity: 1500 kg/h;
Sieve size: 5 mm.
Total maximum power of unit consumption 100 kW.

14th part **CONTROL PANEL**

Control panel is necessary for connection of the mentioned equipment to a joint control panel and its control in the system. Control panel (HMI) allows adjusting speed and operation of individual units. Equipment control must be provided with a programmable logic controller (PLC). Control panel must have at least 14" screen.

Colour: RAL 5003