

Subject: GM 125 COMPAC TANDEM Regeneration Line



Note: Footage Images. The machines may be different from those shown.

Description of the scope of delivery

Pos. 1 Conveyor belt with metal detector

- Conveyor belt automatically managed by ECOTRONIC software, to optimize the feeding of material to the Shredder;
- Metal detector equipped with acoustic and visual alarm and "automatic U-turn";

Pos. 2 GM 125 AF/T shredder

- Extraction and feeding screw driven by an electric motor with frequency control. This screw pulls the material out of the cutting unit and pushes it into the extruder screw; the screw is automatically operated with the ECOTRONIC software which allows the extruder to be fed constantly and to obtain the maximum capacity of the system;
- Shredder is automatically managed by the ECOTRONIC software that controls the motor rpm through frequency control, this allows the working temperature to be kept constant, without the use of water, saving up to 40% of electricity and avoiding thermal shock of the material;
- **Shredder plate with blade increase.**
- **By-pass installed on pressing screw and flanges on compac for any granule/regrind dosers.**

Pos. 3 Single-screw extruder GM 125/28D

- Screw diameter 125mm. The screw is automatically managed by the ECOTRONIC software that controls the engine rpm through frequency control in order to reduce electricity consumption and keep the production of the line constant;
- L/D ratio 28 : 1;
- **Nitrided steel cylinder, with a bimetal alloy coating to increase resistance to wear and abrasion;**
- **Nitrided steel screw with Stellite grade 12 coating;**
- Extruder cylinder heated by electric resistances;
- Cylinder of the extruder air cooled, made by means of electric fans;
- Extruder revolutions managed by inverter controlled by ECOTRONIC software;

Pos.4 Compac GM 125 line dosers

- 1 Master DPM 15/50 doser
- 1 GM125 Feeders
- 1 DPM 2V SPC CaCo3 Dispensers

Pos. 5 RAS 500 FIMIC

FIMIC screen changer purchased by the customer will be supplied on consignment to Gamma Meccanica.

The screen changer will be installed and tested on the Gamma Meccanica line, becoming an integral part of the recovery process,

Pos. 6 Vacuum chamber connection neck

- Flanged neck at the outlet of the automatic filter, connects the melted and filtered material to the vacuum chamber of the degassing;
- The neck is completely heated and insulated with special mattresses;
- To control the temperature, special thermocouples are installed;

Pos. 7 Vacuum Chamber for High Performance of the Degassing System

- The chamber consists of an entrance area, heated with candle resistors, to keep the melt at temperature;
- A die is placed to laminate the melt, creating a number of spaghetti that allow to increase by 11 times, the surface area of exposure of the material to the action of the vacuum, which is created in the lower part of the chamber;
- The chamber is equipped with temperature, pressure and level sensors, to ensure the correct operation and safety of the machinery;
- The spaghetti falls by gravity on the screw of the secondary extruder;

Pos. 8 Secondary Extruder GM 140/18D

- Screw diameter 140mm. The screw is automatically managed by the Line software, the variation of the extruder revolutions is a function of the speed of the Primary extruder and a ratio that binds them, all always with a view to correct energy consumption;
- L/D ratio 18 : 1;
- Nitrided steel cylinder
- Nitrided steel screw
- Extruder cylinder heated by electric resistances;
- Cylinder of the extruder cooled by fans

Pos. 9 Degassing tank

Degassing tank with closed-loop heat exchanger

Pos. 9.1 GM 125/200 MF Oledynamic Screen Changer

It consists of a thick steel plate, where two filter holder impressions are obtained, with a diameter of 200 mm.

The lateral displacement is achieved by means of a hydraulic cylinder controlled by the solenoid valve.

Flange connecting to the extruder and the connection flange to the granulator.

Heating is carried out by means of armoured aluminium and candle heating elements controlled by its own thermoregulation instrument.

Pressure gauge with scale 0-700 bar with double contact:

1° to indicate that the filter is clogged, it activates a warning light and an acoustic signal; 2° emergency, stops the extruder motor when the set value is exceeded;

Electrical equipment and temperature controllers are normally installed in the main switchboard

Pos. 9.1 Installation of BD Plast screen changer on tandem extruder 125-140 tandem

Pos. 10 Liquid Ring Cutting GM/TDA 6.0 CPV in TNT

- Tube heating and die heating resistors;
- Completely self-adjusting and self-aligning cutting unit, controlled by an electric motor with speed regulation by inverter and indication of the absorption of the cutting motor;
- Water collection tank with sloping bottom to facilitate cleaning operations, in stainless steel,

- with dust filters and water pump;
- Inspectable centrifugal separator with vertical axis, built entirely in stainless steel controlled by an electric motor complete with steam and humidity fan;

Pos. 11 Vibrating separator VB 2000

- Vibrated separator screen made of painted carbon steel, with 3 discharge ports (compliant material, non-compliant material "twins" and powder), with perforated filtering nets in AISI 304;

Pos. 12 In-line weigher for production control 4.0 model UCP 20

Pos. 13 Electrical system for the entire TANDEM Line

- Touch screen and Siemens PLC for fully automatic control
- The Touch screen panel can be viewed at any time, on other devices, with the Team Viewer software
- PLC data can be shared via an Ethernet connection with a CSV file
- Heat exchanger for the control cabinet
- Automatic and manual selector switch with visual warning light during manual operation
- Main switch
- On-board machine components
- Provision for Internet connection for after-sales service
- Frequency control for all main motors
- ECOTRONIC software
- Speaker cables to connect the switchboard to the line components
- Signal cables to connect the switchgear to the line components

Standard technical data

This technical data is valid unless otherwise specified.

Electrical part

Main power supply 400 AC+G

Control voltage 110V AC Max.

voltage fluctuations +/-10% Mains

frequency 50 Hz

Max. frequency fluctuations +/- 2% Simultaneity factor approximately. 0,8

Grounding electrical protection without neutral

Insulation control class IP 54 switchgear and AC motors

Cooling water

Real working pressure 2 bar

Max. permissible pressure fluctuations + 1.5 bar Max. water

temperature 25 ° C

Water temperature max. 10°C per heat exchanger Total

hardness dH 18°F

Alkalinity (pH value) 6.5 to 8.5

Carbonate-free

Suspended and installed max. 10 30 mg/l solids Grain size

max. 100 µ

Compressed air

Clean compressed air without water and oil

Supply pressure at the point of use: 6 bar +/- 5% Discharge

temperature: 30 °C

Dew point: + 4 °C