MAGMA MACCHINE srl

Distributer:
PU Consulting AB
info@puconsulting.se
+46 (0)722 344 202
+46 (0)722 344 237
+46 (0)727 344 205

OFFER FOR:

MR C01

GRANULES AGGLOMERATE PRODUCTION PLANT

INCLUDED OF:

Structure
Weighing system
Piping
Dosing of resin
Water line
Control panel

DESCRIPTION

Operating cycle description:

1. Empty the grinded rejects from your silos to the box by the suitable valve and then switch on the conveyor (cyclone)
2. Filling of mixer controlled by the weighing system. The loading cells record the quantity poured out into the mixer and stop automatically the reject load when the weight set for the production is reached.

Mixing procedure:

3. The polymer pump doses the rejects calculating about the 10-20% of total weight of them based on your experience.
4. The spraying resin head apply the liquid quantity necessary for the grinded material aggregation into the mixer while it turns for 15' depending from the quantity set in recipe.
5. Then a second spray gun adds the catalyst + water solution, always with continuous mixing, in order to activate the polymerization; also in this case with setting in the suitable recipe.
6. After 10' of mixer rotation, an acoustic and visual signal will advise the operation that will open the door to pour the content of the mixer into the underlying box.
7. The box is manually displaced further along the machine where a press will give the wised pressure to the material block. With little pressure, it will result a material with low density (but always higher than the grinded material density put in). Increasing the pressure, it will result a material with a higher density and more compact. Starting from a well-defined and fixed density flock for the different pressing, it will be possible to have a block density controlled by the pressing managed by an encoder that controls the cover descent.
8. At this stage of process, block the mould cover by suitable pins, rise the press and the mould can be placed in a suitable place for the time necessary to the reaction.
9. The machine is ready for another cycle.
10. After a changeable polymerization time depending for the polymer specification, the mould can be placed under the press, remove the pins and the cover and extract the block from the mould.
11. To avoid the boxes get dirty with the reagent, it advices to put inside them a polythene or paper film before filling. This machine includes n° 1 mould with cover and removable sides.

Support plant structure

PLANT FRAME

The plant is made of painted carbon steel. The support mixer frame is composed of an upper storey for the sticky distributor maintenance that houses all the plant components exception made for the control panel.
The compact mixer structure includes:

- Motorized mixer Kw 7,5
- Opening for movement of polymer distribution head
- Upper inspection door
- Lower door with safety bloc
- Flange coupling for grinded material loading and closing valve
- Protection for belts
- Motorized press
- N° 1 mould with removable sides 210x160x150
- N° 1 cover with locking pins on the box
- Supporting structure complete with stair case for the press and mixer
- Perimetric protection only on sides

Max mixer capacity 8000 litres

Weighing System

The system is composed by 4 loading cells on which is mechanically fixed the mixer.
The product weight is checked by the suitable electronic equipment (i.e. a digital weighing machine) that sends and receives the commands by the plant PLC. The weighing accuracy is on the order of kilograms of material to be processed. On the operator's panel there are some recipes that store the production pro-cess data in order to work with a completely automatic cycle. The manual inter-val is considered only for the mixer discharge and for the mould displacement under the press.

Resin hoses

The assembled pipes are of high pressure, insulated and sheathing type. The electrical connection and the probe connection are necessary to uniformly heat the material. The temperature is controlled by a digital thermoregulator. The hoses are of PTFE of ½" with steel protection on sending and return. The hoses is composed by a sending and recycling way up to the distribution head in order to have the product steady in movement optimizing the resin temperature.

Dosing of resin

The pumping group is assembled on a painted steel frame.

The component pumping/dosing system is made of a volumetric gear pump at medium pressure of 4cc/rev. with a high performance that is driven by an electric motor of kW 0,75 controlled by inverter to permit the continuous revolution changing.
The resin line pump has a treatment of the inner parts in movement to improve the mechanical features.
The product is continuously pumped in the department tank to keep the temperature steady.
A filter with silica gel is installed on the tank to filter the moisture of the entry air.
Max delivery kg/min 5,5 (depending from the product viscosity).
The dosing system uses a pressure switch for the component pressure detection with a safety contact that blocs the machine in case of overpressure. In order to avoid possible lodgement, the instrument has an inox steel membrane that touches the product and a scale bottom of 60 bars.
The operating cycle forecasts to operate by recycle with a product deviation by a three-way pneumatic actuator controlled by a time set on a timer that, in this way, decides the quantity of the resin.
The adhesive distribution is made by a coming and going pneumatic system with mobile chain for materials/air cable and pipes.

Water line and possible catalyst

The water and catalyst plant is composed by an 18 lt. inox steel tank with visual level from a nylon sending hose and the relevant actuator with the spraying nozzles.
The tank has the loading mouth at fast tripping; it is pressurized at 6 bar max and it is equipped with visual level, pressure regulator, max pressure safety valve, adduction line to the mixer, and pressurization line with relevant non-return valve. The cycle forecast the adhesive activation with the sending water in pressure to the nozzles with a distribution time controlled by the control panel.

Control Panel

Control panel

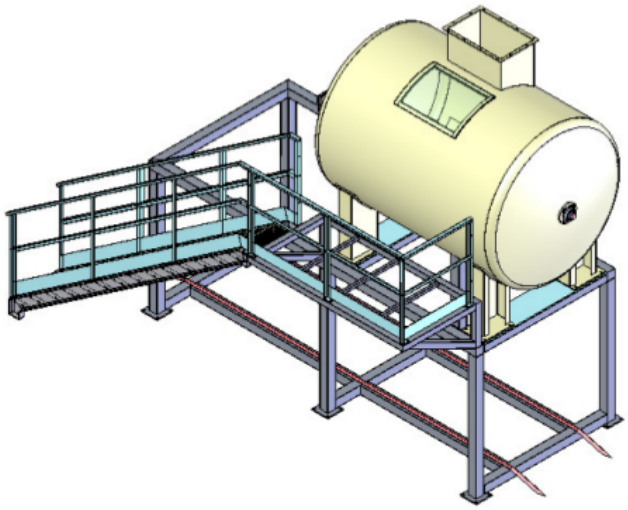
The control panel includes all the electrical devices to stop the operation cycle in case of anomaly protecting the machine and the operator.
The control pulpit has an Omron PLC and the relevant cards and the touch screen 5” operator’s panel.
The operator has the possibility to manage all the production functions directly operating on the operator’s panel with the total production control.
The sequences of the distribution cycle controlled by PLC have the following parameters:

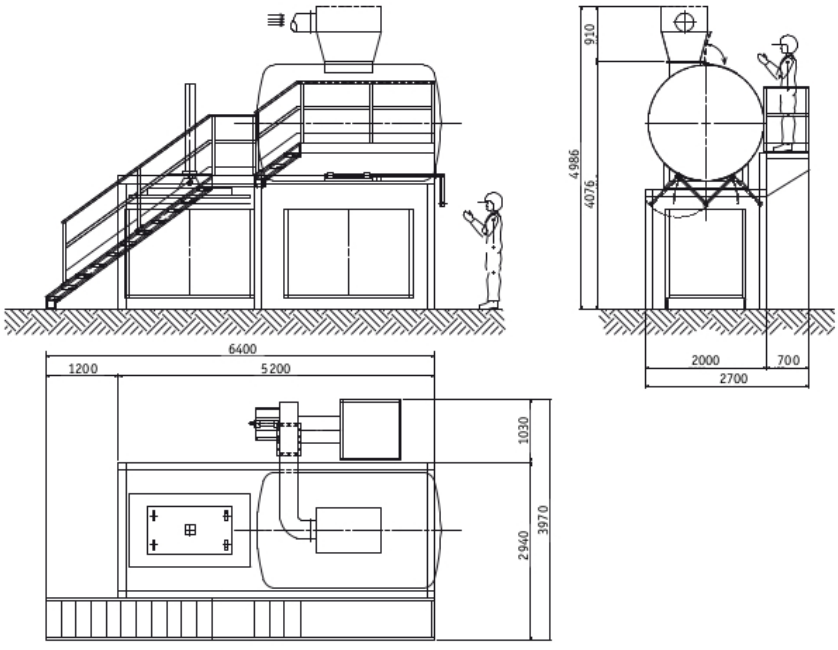
- Recipe for bloc production with all the controls
- Weight in kg of the grinded material
- Weight of the adhesive to distribute in percentage
- Weight of water + catalyst
- Mixing time for every sequence
- Plant alarms and their visualisations
- Start/stop selector of the resin pump
- Delivery pump regulation
- Opening/closing of distribution head
- Command for flock loading with sucker
- Movement for rising-descent of the press cover for the position control

On the control panel, there are also the following controls managed by the operator:

- Main switch
- Light of tension presence
- Digital thermoregulator for resin temperature
- On/off resin warm-up light
- Manual-automatic regulation cycle selector
- Emergency button

Block dimensions *Dimensioni blocco* *Dimensions bloc*	Block max height *Altezza massima del blocco* *Hauter max du bloc*	Filling box dimensions *Dimensioni cassa riempimento* *Dimensions boîte de remplissage*	Stirrer max capacity *Capacità max miscelatore* *Capacité max du mélangeur*
cm 200 x 120/150	cm 120	cm 100 x 100 x 80	8000 lt




910
4986
4076
6400
1200
5200
2000
700
2700
1030
2940
3970