Automatic spraying machine Singletech 300 SBC

The machine has been designed to spray paints, primers and finishes onto all smooth or shaped surfaces.

Infeed conveyor

A 1.220 mm long roller conveyor is provided at the sprayer infeed. Speed adjustable by means of inverter.

Paper conveyor system

The conveyor system consists of a PVC belt which is protected by a paper tape (protective films made of synthetic materials can be used).
Two trapezoidal guides are vulcanised to the PVC belt on the two lower side ends, thereby ensuring its centring.
Paper is unwound from the infeed reel and wound at the outfeed by a drive unit, which ensures that the protective tape is perfectly stretched. The protective tape is 1.700 mm wide.
The conveyor unit has been conceived in such a way as to easily replace the tape.
The conveyor system with a PVC belt protected by a paper tape guarantees total lack of paint overspray in the lower part of the panels and flawless edge painting.

Outfeed conveyor

A 1,220 mm long roller conveyor is provided at the sprayer outfeed. Speed adjustable by means of inverter.

Application unit

The "Singletech" spraying technology is guaranteed by a central reciprocating unit, installed on a recirculating ball guide which guarantees high stability and reliability and is designed to accommodate up to four guns. The use of the oscillating arm guarantees a homogeneous application on all surfaces of the support to be painted and allows to control the overspray in an efficient and effective way, thanks to the possibility of concentrating the spraying towards the piece in transit and to the excellent system of balancing of air flows.
Movement is obtained by means of toothed synthetic belt, reinforced by steel strands and driven by a brushless motor, which guarantees proper control of speed, acceleration and deceleration.

The power supply unit for the paint product is designed to accommodate max. 2 circuits. The paint recirculation system includes the return circuit, to allow quick washing and a reduced quantity of washing liquid being used (guns and pumps excluded). The spray parameters are independent for each gun.

General description

The spraying area consists of carbon steel profiles and pre-painted sheet metal panels.
Air is taken from the environment by means of an electric fan and is filtered and evenly distributed into the spraying booth.
The air distribution plenum box ensures efficient air flow, thus reducing the paint overspray.
Two large filter boxes are positioned sideways of the conveyor belt, each equipped with two honeycomb paper filter capacitors, for paint overspray to be captured.
These filter boxes are equipped with a filter support grid and have been designed to ensure excellent air outflow.
Atex compliant lighting of the spraying room

Technical specifications
* Maximum useful working width: 1.300 mm.
* Reciprocator speed (adjustable): from 0 to 120 m/min.
* Sprayer room air supply volume: 9,000 m^3/h.
* Exhaust air volume: 9,000 m^3/h.
* Compressed air consumption: 100 Nl/min (the consumption of the product feed pump and of the guns must be added, which varies according to the type and number of guns installed).
* Sprayer room power supply fan capacity: 1 x 0.75 kW (adjustable with inverter).
* Sprayer room exhaust fan capacity: 4 kW.
* Infeed roller conveyor motor power: 0.18 kW.
* Main conveyor motor power: 0.37 kW.
* Paper winder motor power: 0.37 kW.
* Outfeed roller motor power: 0.18 kW.
* Total installed electricity capacity: 6 kW.
* Atex 3G compliant motors.
* Machine overall dimensions: 5060 x 4410 x 2650 mm.
* Adjustable worktop height: 900 +/- 30 mm.
* Standard colours: Frame made of grey Ral 7035.

Electronic control unit with 'touch-screen' keyboard
The machine is controlled y a Schneider PLC. The HMI is an industrial, password-protected, 7" full colour touch screen, which is used to control all the machine's functions and display the alarms.
The touch-screen keyboard also contains the machine's basic program, and the operator can save the working programs already tested, to be recalled if necessary (up to 50).
At the entrance to the spraying area, a dimensional reading device of the workpieces to be painted is installed in order to optimise the painting step and reduce the painting product consumption. The management software processes the received data and transmits it to the guns in the form of ON/OFF signals.

Operational functions
The following can be adjusted on the control panel:
* Conveyor speed;
* Reciprocator speed;
* Adjustment of the gun action area based on the panels size (LXW);
* The guns can be switched on individually and independently spray in a concordant, discordant and concordant-discordant way.

"Statistics" functions and operating data storage
The main statistical data that can be viewed and stored in the machine is the following:
* Time of the first machine start-up in the morning;
* Shutdown time in the evening;
* Transit time of the first panel;
* Transit time of the last panel;
* How many minutes each single gun sprayed;
* Total time the machine was turned on.
All data is stored for 1 month.

Diagnostic function
* Any alarm that should occur on the machine is displayed in the alarm banner at the bottom of each page and on the alarms page.
* There is a history log of the occurring alarms, in order to check their repetition and prevent their causes.