ACRO ENGINEERING

MACHINE: XYZ
ATMOSPHERIC PLASMA TREATMENT

DATE:2023

Atmospheric Plasma Treatment Machine Specs

Introduction

The Atmospheric Plasma Systems uses a nozzle-type plasma generator to clean and activate surfaces for bonding or printing. It can treat a large range of materials, such as plastic, metal, glass, carton, semiconductors, and other materials. The use of atmospheric pressure plasma process can activate the parts that need to be glued, from non-polar to tension enhanced surface, improving the adhesion performance of the sealant, for example a surface made of polypropylene (PP) or polycarbonate (PC) is very smooth, and the sealant is difficult to adhere firmly for a long time, so it must be pre-treated before bonding.

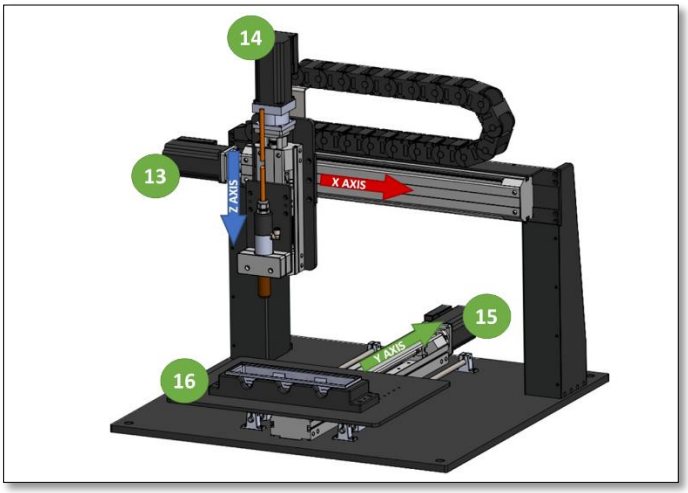
The Atmospheric Plasma Nozzle and XYZ system is installed into a chamber to protect the operator from the plasma flame and the process temperature, the bed is capable to move on X and Y and the plasma head is capable to move up down (Z), all these movements can be programable through an HMI interface using different recipes, allowing to process different products with the same equipment only changing the fixturing and the recipe, also, the system can be upgrade with a robot to achieve complex forms such as; circles, diagonals and undefine shapes.

Features

- Plasma Treatment Machine and Atmospheric Plasma System in an integrated package.
- Control with HMI and PLC, and communication with Plasma System.
- Operates at 220VAC with a connector NEMA L6-20.
- Current: 9.1 A.
- Power: 2.08 KW.
- Pressure: 90 psi.
- Control modes:
    - Automatic Mode:
        - Use recipes to different shapes of cases.
    - Manual Mode:
        - For maintenance.
        - To configure recipes.
        - To test equipment components, such as motors, plasma system, and the mechanism of the door.
- Communications:
    - Ethernet/IP or Ethercat industrial networking.
- Other Features:
    - HMI for user control and settings.
    - Password-protected user, the user has privileges for editing and creating recipes and configuration changes.
    - Possibility to install up to two nests for simultaneous curing of both units in one cycle.

- Possibility to run more than one cycle of the sequence to the same unit on a single load.

Movements Capabilities



Item	Description	Travel Distance mm
13	X Axis Motor	360
14	Z Axis Motor	60
15	Y Axis Motor	360
16	Tray and product nest	N/A

Facilities Requirements

- Air supply with 99 psi pressure.
- Power supply with 220VAC and socket NEMA L6-30.
- Calibration Fixture. (Included).
- Air extractor outlet (Air extractor not included).

Dimensions

In the next figure is shown the dimensions of the equipment.

L: 1,05m W:1,06m H:2,04m

Total Weight: 242 Kg