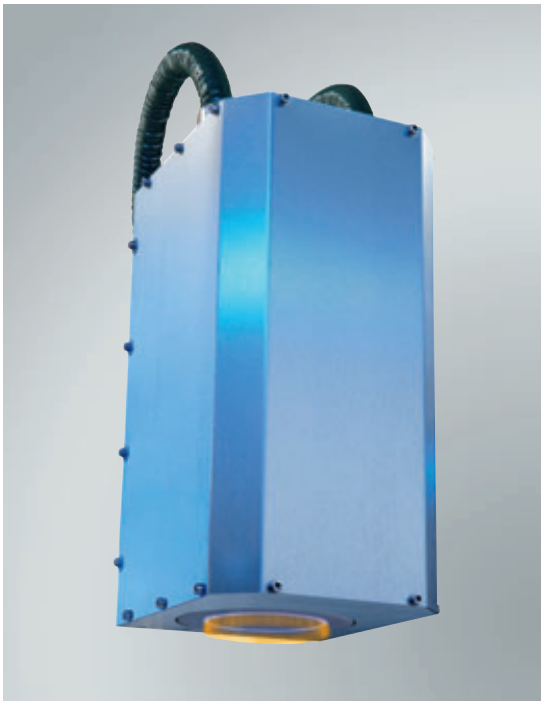
Plasma jet RD1010/1013

Rotating unit with two plasma jets.



For pre-treatment of two-dimensional components and sheets.

The plasma treatment is carried out using two individual jets, which rotate around a central axis in a circular motion. The plasma jet emerges from the rotating unit (parallel to the rotational axis) in the process. The plasma is generated by an atmospheric pressure high-voltage discharge in the jet's reaction chamber, forming a discharge that exits the jet nozzle at high velocity onto the surface of the part to be treated.
The treatment is potential-free, so the part is not exposed to high voltage. As well, both plastics and metals can be effectively pre-treated with the same system.
The RD1010 and 1013 systems are predominantly suited to sensitive and geometrically complex surfaces. The combination of chemical and physical action makes the pre-treatment extremely efficient. Modifying the areas on the surface results in the extensive elimination of organic contaminants in addition to an increase in surface wettability. The use of rotation ensures high relative speed over the component / sheet. This results in an extremely smooth pre-treatment with low thermal interference and broad processing window. Treatment speeds of up to 50m/min (special design) can be achieved with plasma nozzles RD1010 and 1013, depending on rotational speed and treatment diameter.

Applications

- Inline pre-treatment of synthetic blow molded containers prior to labelling
- Circuit board cleaning prior to printing with resistor paste. Treatment width: 130 mm
- guarantees single-sided sheets pre-treatment at highest levels (exceeding 72 m N/m)
- two dimensional cleaning of glass or mirror surfaces prior to pasting

Picture: Inline-treatment with the RD1010

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Technical data

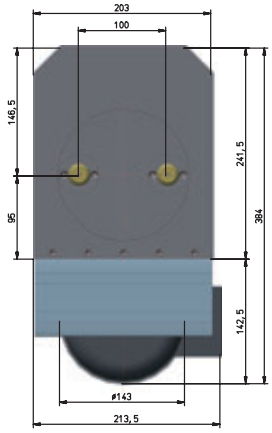
Process monitoring option

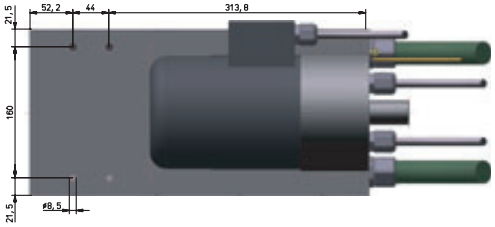
The light released by the plasma is measured in the rotating jets and monitored for the necessary intensity within the spectrum area crucial to the pre-treatment. This monitoring process is independent of the plasma generation, reliably reproducing the plasma's process parameters.

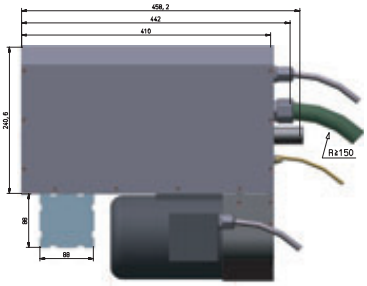
Technical data:

Treatment width	RD1010: 100 mm ; RD1013: 130 mm
Relative speed to the surface	up to 30 m/min (special design up to 50 m/min)
Effective proximity to the surface	between 5 and 20 mm
Potential difference between electrodes / plasma output	5–10kV / 500 ... 1000 W
Plasma generator, High voltage unit	Minimum FG3001; HTR22
Plasma jets power supply lead	2x EMV-screened feed lines: D = 28mm;
	L_{max}= 2.5 m to high-voltage unit
Nozzle rotation	> 1,200 U/min
Weight with/without contact voltage proofing	22 / 38 kg
Colour	VA blank
Operating gas	oil- + water-free compressed air (approx.3 m³/h)

Schematic (subject to technical alterations):







Please refer to our Data sheet "Security Information" about the use of our Openair®-Plasmatreat System.

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