

# Plasma Jet RD1004

## Single Rotary Plasma Jet



The treatment is made by a potential-free plasma flume that exits the nozzle at an angle. As the jet rotates, the plasma provides uniform treatment over a wider area than a non-rotational jet. Coverage is controlled through selection of nozzles.

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.

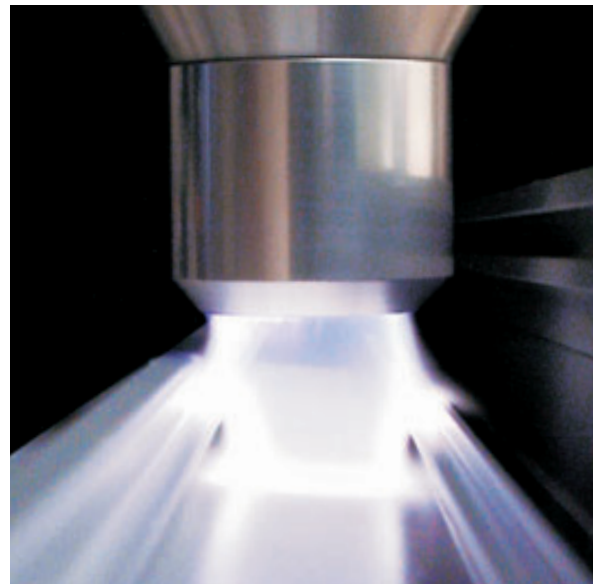
The treatment is potential-free, so the part is not exposed to high voltage. As well, both plastics and metals can be effectively pre-treated with the same system.

The system is suitable especially for thermally sensitive and geometrically complex surfaces and materials. The treatment is very efficient due to a combination of chemical and physical effects. There is, as well, removal of organic contaminants to improve surface wettability by modifying areas near the surface.

### Typical applications:

- Inline preliminary treatment of profiles made of PP before flocking and coating with slide paint.
- Preliminary treatment of additional sealing for doors made of TPE on automobile assembly-lines before bonding.
- Preliminary treatment of circuit boards before printing resp. coating.
- Preliminary treatment of PP coffee-maker cases before pad printing.
- Preliminary treatment of large bore holes; Plasma exit 90° relative to rotation axis

*Picture: Accurate outline preliminary treatment of an AL window profile. Plasma exits at 14° relative to rotation axis to enable treatment width of 25mm.*



## Technical data:

### Optional process monitoring

In the rotating jet, the light emitted by the plasma is measured and monitored for the necessary intensity in the spectral range important for pre-treatment. This monitoring is independent from

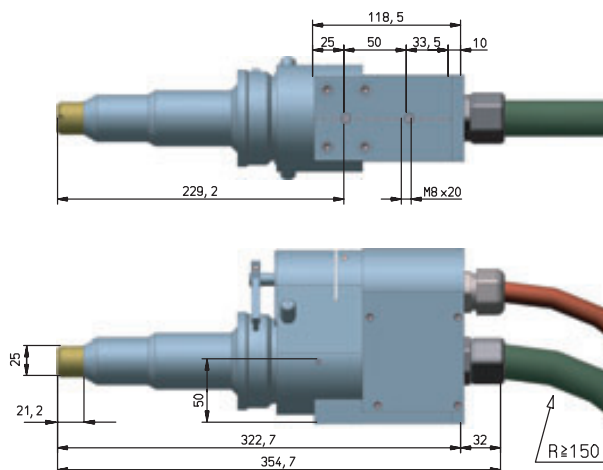
plasma generating and shows the process parameters of the plasma accurately.

### Technical data:

Working frequency	16–20 kHz
Electrode voltage	5–10 kV
Plasma generator, high voltage unit	at least FG3001 with 1 kW
Connecting cable Plasma jet	EMV-protected pipe: D = 28 mm; L <sub>max</sub> = 2,5 m to high voltage unit
Connecting cable motor	protected pipe: D = 17mm; L <sub>max</sub> = 2,5 m
Jet rotation	> 2,000 rpm
Treatment width	Up to 50 mm
Speed relative to surface	approx. 22 m/min with a treatment width of up to 40 mm
Distance to surface from jet nozzle	4 to 15 mm
Weight	4,2 kg
Working gas	oil free and water free compressed air (2 m <sup>3</sup> /h)

The non-rotating system components are almost abrasion-free. Connection to a motion-system is possible via integrated mounting plate. Safety circuit and perhaps a necessary pollutant vacuum cleaning can be ordered by the customer.

### Schematic:



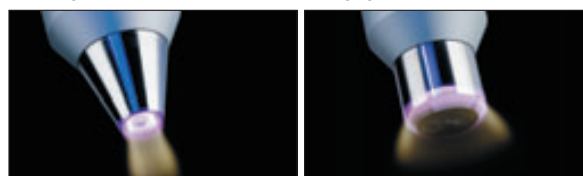
Please refer to our Data sheet "Security Information" about the use of our Openair®-Plasmatreat System.

### Different types of Plasma Jet Heads:



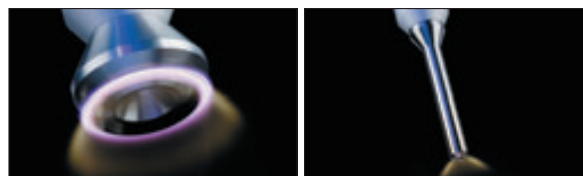
PTF 123

PTF 026



PTF 958

PTF 131



PTF 570

PTF 1218



Benelux distributor of Plasmatreat