

TECHNICAL DATA SHEET

Low Temperature Plasma Jet Generator Series

Jet-type atmospheric low-temperature plasma surface-treatment equipment



ACS Material low-temperature plasma jet generator

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SECTION I

Product Overview

The jet-type atmospheric low-temperature plasma jet generator produces a neutral (electrically non-charged) plasma with ion and electron energies in the range of 6–10 eV. Because the ejected plasma flow is non-charged, it can be used for surface modification, cleaning, and etching of metals, semiconductors, and non-metallic materials — including polymers, rubber, and PCBs — without a vacuum chamber, and installs directly on a production line.

Product Features

- Non-conductive plasma — processes virtually any material or product, including metals and items with electronic components.
- Low temperature — suitable for products with temperature-sensitive surface materials.
- No enclosure required — installs directly on a production line, with no vacuum chamber.
- Consumes only air and electricity — low operating cost and safer operation.
- No ozone generation and no chemical pollutants emitted — compliant with environmental regulations.

SECTION II

Specifications

Standard models

Power-adjustable models

Specification	PG-1000ZD/P15MM	PG-1000ZD	PG-1000ZE	PG-1000ZH
SKU #	EPG1ZDN1	EPG1ZD01	EPG1ZE01	EPG1ZH01
Plasma jet width	2–7 mm	10 mm	10 mm	15 mm
Treatment speed	10–300 mm/s	10–300 mm/s	10–300 mm/s	300–500 mm/s
Gas flow rate	10–20 L/min	30–35 L/min	30–35 L/min	60–80 L/min
Rated power	100–300 VA	400–800 VA	400–800 VA	1000–1500 VA
Gas supply & pressure	External air compressor, 4–6 atm	External air compressor, 4–6 atm	External rotary air compressor (vortex booster station), 1.05 atm	External air compressor, 4–6 atm

Wide-width models

Specification	PG-1000Z/F	PG-1000Z/G	PG-1000Z/FK
SKU #	EPG1ZF01	EPG1ZG01	EPG1ZFK1
Plasma jet width	20–40 mm	20–40 mm	50–90 mm (adj.)
Treatment speed	10–160 mm/s	10–160 mm/s	10–300 mm/s
Gas flow rate	30–50 L/min	30–50 L/min	50–90 L/min
Rated power	500–800 VA	500–800 VA	1000–1500 VA
Gas supply & pressure	External air compressor, 4–6 atm	Supplied by FP-290 vortex booster station	External clean gas source, 4–6 atm

Overall treatment speed range: 10–500 mm/s, depending on the model, material, and treatment process.

Common specifications (all standard models)

Parameter	Value	Parameter	Value
Input power	AC 220 V	Frequency	22 kHz
Unit dimensions	180 (W) × 450 (D) × 220 (H) mm	Weight	~12 kg
Operating temp.	-10 °C to 50 °C	Relative humidity	<93%
Atmospheric pressure	86–106 kPa	Storage temp.	-25 °C to 25 °C
Material handled	Polymer or metal		

Vortex booster station

Product	SKU #	Model	Features
Jet Plasma Specialized Vortex Booster Station	EPJFP290	FP-290	Supplies clean, oil-free, water-free gas to 1 or 2 plasma jets

Smart wide-width models

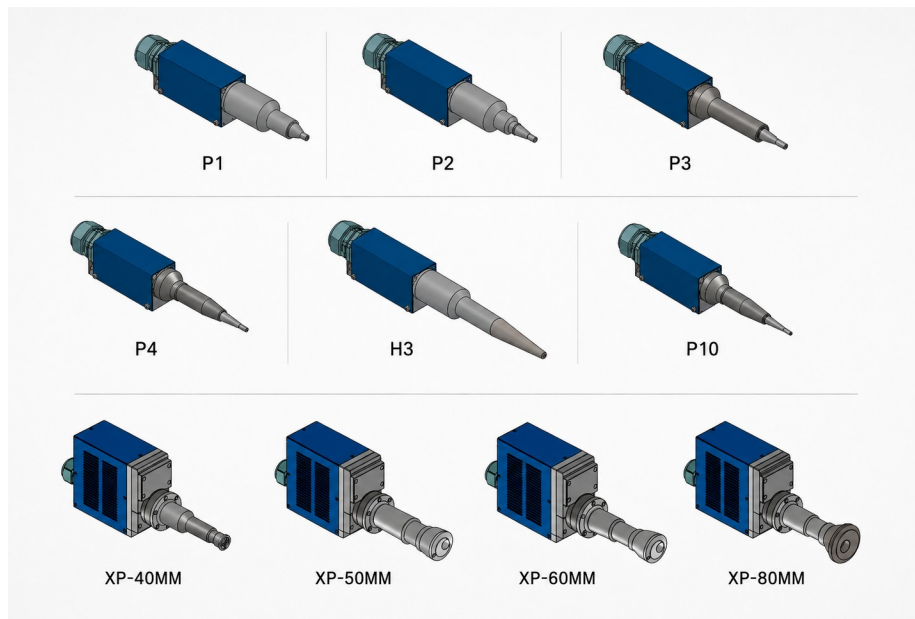
Specification	PTS-2000D	PTS-X000D
SKU #	EPPTS2D1	EPPTSX2D
Model	PTS-2000D	PTS-X000D
Plasma jet width	2–90 mm (adjustable)	2–90 mm (adjustable)
Treatment speed	10–500 mm/s (process-dependent)	10–500 mm/s (process-dependent)
Plasma jets supported	Connects 1–2 plasma jets	Connects 1–4 plasma jets
Output power	Adjustable	Adjustable
Gas supply & pressure	External clean, oil-free, water-free gas, 4–6 atm	External clean, oil-free, water-free gas, 4–6 atm
Application	Polymers or metals	Polymers or metals

Smart models add full monitoring and data feedback — plasma state, energy/power, rotation speed, gas-source status, and consumable-replacement tracking and reminders — with data exchange, predictive warning, and fail-safe design.

SECTION III

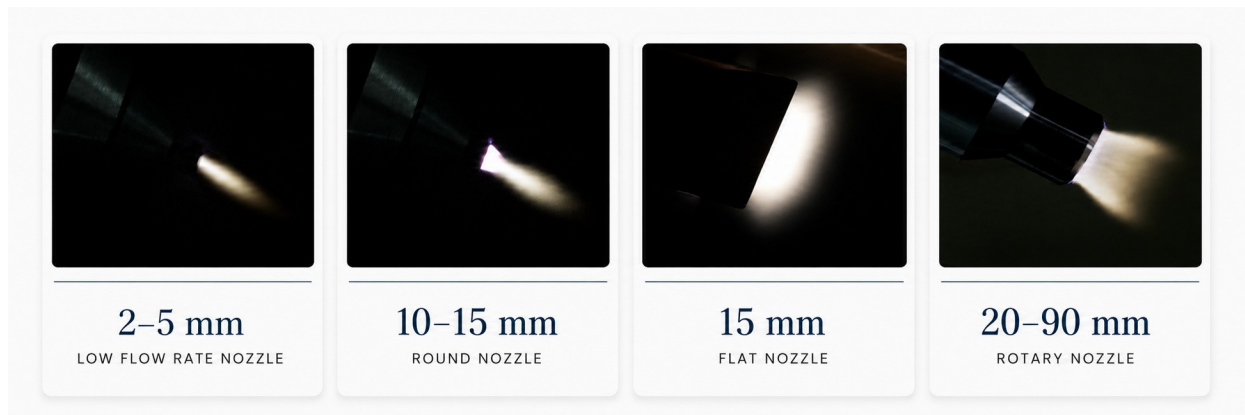
Plasma Gun Options

All models use a direct-jet plasma gun. The gun family covers a range of nozzle geometries — from fine, low-flow-rate tips for precision work through round and flat nozzles to wide rotary nozzles — so the plasma footprint can be matched to the part being treated.



Direct-jet plasma gun options across the jet-type plasma series

Different nozzle geometries produce different plasma footprints, from a narrow low-flow jet to a wide rotary plume:



Plasma flame by nozzle type: low-flow-rate (2–5 mm), round (10–15 mm), flat (15 mm), and rotary (20–90 mm)

SECTION IV

Applications

Low-temperature plasma pre-treatment improves cleaning, activation, and adhesion across a wide range of industries:

- Automotive Manufacturing
- Plastics & Rubber
- Electronics, Optoelectronics & Medical
- Metal & Coating
- Synthetic Fiber & Textile
- Printing & Coding
- Box Manufacturing

Custom equipment

Beyond the standard generators, ACS Material builds custom low-temperature plasma treatment systems — integrated benchtop and inline stations engineered around a specific part, throughput, or automation requirement, including multi-head and sealing-strip configurations.



Examples of ACS Material custom low-temperature plasma treatment equipment

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