

Colibrì.

The essential bench-top plasma: cleaning, activation and surface modification in one simple, versatile instrument with outstanding value for money.



200 W

Signal power

50 kHz

LF frequency

2 litres

Chamber volume

16 kg

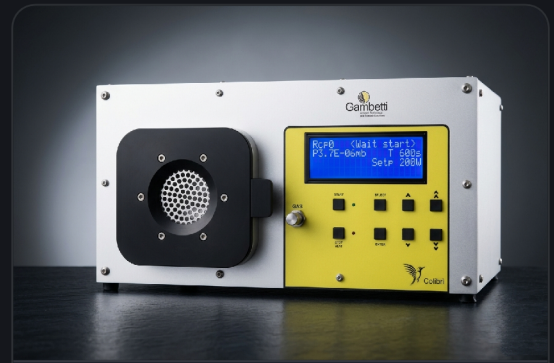
Weight, ultra-compact

Bench-top plasma, essential and versatile

The **Colibri** is a bench-top plasma system designed for the cleaning, activation and modification of surfaces. It works on many materials: metals, plastics, ceramics, paper and much more, with a low-frequency signal at 50 kHz and power up to 200 W.

The 2-litre cylindrical chamber is made entirely of aluminium. The electrodes are flat and parallel, with the exclusive **Dark-Shield** technology that concentrates ion energy directly onto the sample, the same solution that equips the Tucano family of systems.

Control is handled by a microcontroller with a panel display and keypad: a **simple and intuitive** interface. A treatment is started by running one of the **9 user-editable recipes**. A versatile solution, ideal for Research & Development and for small production runs.



Control panel with display, keypad and chamber with Dark-Shield electrode.

Simple to use

Microcontroller with display and keypad: ready to use, with no learning curve.

Up to 9 recipes

Storable, editable processes for consistently stable and repeatable results.

Great value for money

All the performance of bench-top plasma at a contained investment.

Quality components

Components from leading manufacturers, for maximum reliability.



EXCLUSIVE TECHNOLOGY

Dark-Shield electrode

The Colibri too features the **Dark-Shield** electrode: ion energy is directed precisely straight onto the sample, reducing process losses and dispersion. The grounded shield creates an asymmetric field that steers the ions onto the surface to be treated.

The result is a plasma-substrate coupling superior to standard-electrode systems: more uniform treatments, greater efficiency and professional-grade repeatability, in a compact and affordable format.

*Less dispersion. More control.
More repeatability.*

One instrument, many surfaces

The Colibri works on metals, plastics, ceramics, glass and paper, from lab development to small-scale production.

Research & Development

The ideal instrument for laboratories and research centres: rapid set-up of plasma processes, trials of cleaning, activation and surface modification, adhesion and wettability studies on samples of every kind. An immediate interface and editable recipes to experiment in full freedom.

Small production

Stable, repeatable processes thanks to stored recipes, for those treating small batches with constant quality: pre-treatment before bonding or printing, polymer activation, fine cleaning of components, surface preparation for coatings and finishes.

Surface cleaning

Removal of organic contaminants and residues before bonding, welding or analysis.

Activation & adhesion

Increased surface energy to improve wettability, bonding and painting.

Plastics industry

Activation and surface modification of polymers before printing, decoration or assembly.

Biomedical

Hydrophilisation and preparation of devices, substrates and materials for cell culture.

Optics

Fine cleaning and pre-treatment of lenses and components before functional coatings.

Microscopy & analysis

Sample preparation and cleaning, removal of ultrathin organic layers.

Textiles & paper

Hydrophilisation of natural and synthetic fibres, treatment of paper and cellulose supports.

Electronics

Cleaning and activation of circuits and contacts before bonding, encapsulation or coating.

Specifications

DIMENSIONS

Footprint	450×370×180 mm
Net weight	16 kg

CHAMBER

Material	Aluminium
Maximum volume	2 litres
Dimensions	Ø102 × L256 mm

ELECTRODES

Configuration	Parallel plates + Dark Shield
Tray area	83 × 250 mm
Working gap	34 mm
Material	Aluminium

SIGNAL

Max power	200 W
Frequency	50 kHz

PROCESS GAS

Regulation	Stainless microregulator
Max number of gases	1

CONTROL

Interface	Microcontroller
Commands	Display and keypad
Storable recipes	9 recipes

UTILITIES

Power supply	220/240 or 115/120 VAC
Gas inlet	6 mm OD, compression
Gas pressure	0.8–1 bar
Purge gas	N ₂ , Air
Exhaust	NW16 ISO-KF

COMPLIANCE

Certification	CE Marked
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Publications

A selection of peer-reviewed articles, published by international universities and research centres, citing Gambetti plasma systems. APA-style citations, grouped by topic.

BIOMEDICAL & IMPLANTS

Canullo, L., Cassinelli, C., Götz, W., & Tarnow, D. (2013). Plasma of argon accelerates murine fibroblast adhesion on titanium disk. *International Journal of Oral & Maxillofacial Implants*, 28(4), 957–962.

Polini, A., Pagliara, S., Camposeo, A., et al. (2011). Biosilica electrically-insulating layers by soft lithography-assisted biomineralisation. *Advanced Materials*, 23(40), 4674–4678.

MATERIALS & SURFACES

Mandolfino, C., Lertora, E., Gambaro, C., & Bruno, M. (2014). Improving adhesion performance of polyethylene surfaces by cold plasma treatment. *Meccanica*, 49(10), 2299–2306.

Scaffaro, R., Maio, A., Agnello, S., & Glisenti, A. (2012). Plasma functionalization of multiwalled carbon nanotubes. *Plasma Processes and Polymers*, 9(5), 503–512.

MICRO & NANOTECHNOLOGY

De Caro, L., Altamura, D., Arciniegas, M., et al. (2016). Ptychographic imaging of branched colloidal nanocrystals in polystyrene films. *Scientific Reports*, 6, 19397.

Angeli, E., Manneschi, C., Repetto, L., Firpo, G., & Valbusa, U. (2011). DNA manipulation with elastomeric nanostructures fabricated by soft-moulding. *Lab on a Chip*, 11(15), 2625–2629.

ELECTRONICS & CATALYSIS

Pastor-Pérez, L., et al. (2018). CO₂ valorisation via Fischer-Tropsch catalysis over plasma-treated supports. *Applied Catalysis B: Environmental*.

Greco, F., Zucca, A., Taccola, S., et al. (2013). Patterned free-standing conductive nanofilms for ultraconformable circuits. *ACS Applied Materials & Interfaces*, 5(19), 9461–9469.



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