

Harrick Plasma is a leading supplier of plasma equipment to the research community.

We have been providing quality, compact, benchtop plasma cleaners specifically designed for laboratory and R&D use for over 30 years.



BENEFITS OF PLASMA

ADVANTAGES OF PLASMA

Plasma can be used to control surface properties through nanoscale cleaning and modifying surface chemistry without altering bulk material properties. The plasma is at near-ambient temperature, minimizing the risk of damage to heat-sensitive materials.

VERSATILITY OF PLASMA

Plasma treatment may be applied to a variety of materials as well as complex surface geometries, including glass and silicon substrates, polymer fibers and fibrous scaffolds, metal films, and porous membranes.

VALIDATED EXPERIENCE

Our plasma products have been cited in over 4,000 peer-reviewed technical articles and over 200 patents in a broad range of research areas.

PLASMA SURFACE TREATMENT USES

Plasma Cleaning

- Remove nanoscale organic contamination
- Enhance adhesion to other surfaces

Plasma Activation

- Render surfaces hydrophilic or hydrophobic
- Alter surface wetting properties

Plasma Modification

- Introduce functional groups on surfaces

Plasma Sterilization

- Remove microbial contaminants
- Remove biomolecules (peptides and pyrogens)

Plasma Polymerization

- Deposit polymer with functional end groups
- Graft polymers onto plasma-activated surfaces

RESEARCH AREAS

Materials Science

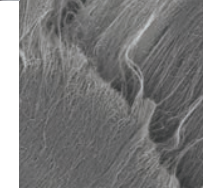
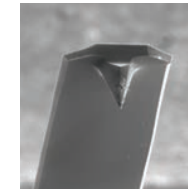
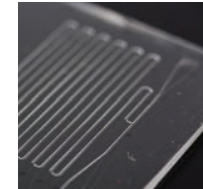
Microfluidic Devices

Biomaterials

Biomedical Engineering

Microscopy

Optics



PLASMA CLEANER FEATURES

Compact, benchtop units • Inductively coupled plasma • Valve assembly to control gas flow
Hinged door with viewing window • Active fan cooling • Quick setup and easy to use



BASIC PLASMA CLEANER

PDC-32G (115V) | PDC-32G-2 (230V)

A compact, inexpensive benchtop plasma instrument with a redesigned hinged door and viewing window, active fan cooling and improved metering valve, suitable for nanoscale surface cleaning and activation of small samples.

3" Dia. x 6.5" L Chamber
18 W Maximum RF Power
13 Lbs., 9" H x 10" W x 8" D



EXPANDED PLASMA CLEANER

PDC-001 (115V) | PDC-002 (230V)

Our Expanded Plasma Cleaner is a larger benchtop plasma instrument with four times the capacity of the Basic Plasma Cleaner, extensively used for nanoscale surface cleaning and surface activation.

6" Dia. x 6.5" L Chamber
30 W Maximum RF Power
37 Lbs., 11" H x 18" W x 9" D



HIGH POWER EXPANDED PLASMA CLEANER

PDC-001-HP (115V) | PDC-002-HP (230V)

With twice the cleaning rate as the Expanded Plasma Cleaner, the High Power Expanded Plasma Cleaner is a versatile instrument, suitable for etching organic thin films (10-100 nm) as well as surface activation and modification.

6" Dia. x 6.5" L Chamber
45 W Maximum RF Power
37 Lbs., 11" H x 18" W x 9" D



REQUIREMENTS & ACCESSORIES

MINIMAL REQUIREMENTS

- Gas-compatible vacuum pump with 23 L/min minimum pump speed and ≤ 200 mTorr ultimate total pressure

OPTIONAL ACCESSORIES

- Quartz Chambers
- Quartz and Pyrex Sample Trays
- PlasmaFlo Gas Flow Mixer
- Vacuum Gauge and Digital Meter

QUARTZ CHAMBERS

PDC-00Q | PDC-32Q

- Recommended for use with reactive and fluorinated gas (e.g. CF₄) and for applications sensitive to trace impurities in Pyrex



SAMPLE TRAYS

QUARTZ: PDC-00T | PDC-32T

PYREX: PDC-00T-P | PDC-32T-P

- Facilitates loading and unloading of small samples for batch processing

OIL-BASED VACUUM PUMPS

PDC-VP/VP-2 | PDC-VPE/VPE-2

- Use hydrocarbon pump oil
- Compatible with air and inert gases (Ar, N₂), but NOT with O₂ gas

OXYGEN SERVICE PUMPS

PDC-OPD/OPD-2 | PDC-OPE/OPE-2 | PDC-OPF/OPF-2

- Required to avoid hazardous combination of O₂ with hydrocarbon oil in oil-based pumps
- Compatible with O₂, air, and inert gases (Ar, N₂)
- Fomblin-based pump (PDC-OPF/OPF-2) uses Fomblin fluid instead of hydrocarbon oil
- Dry oxygen service pumps (PDC-OPD/OPD-2, PDC-OPE/OPE-2) use no oil or fluid
 - No risk of oil contamination into chamber
 - Beneficial even if not using O₂ but require a clean system for plasma processing

All vacuum pumps include necessary accessories (vacuum hose, pump inlet adapter, clamps and seals) to connect plasma cleaner to pump inlet



VACUUM GAUGE & DIGITAL METER

PDC-VCG/VCG-2

- Vacuum gauge and digital meter as a stand-alone accessory
- Digital meter displays pressure range of 1 mTorr to 760 Torr
- Monitoring vacuum pressure is beneficial for process repeatability and consistency

PLASMAFLO

PDC-FMG/FMG-2

- More precise, quantitative control of gas flowrate and monitoring of vacuum pressure to ensure process consistency
- Two gas inputs into flowmeters for gas mixing or independent control of two gases
- Add a second gas source without needing to manually swap gas lines
- Digital meter displays pressure range of 1 mTorr to 760 Torr

