



2020



PRODUCT CATALOGUE 2020

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ABOUT US

Plasma Parylene Systems GmbH, located in Rosenheim with more than 15 years of experience in the field of coating and more than 25 years of experience in the sector of plasma equipment construction, are your specialists for surface treatment and equipment construction all around plasma.

The service spectrum of Plasma Parylene Systems GmbH includes:

Research projects in the field of surface treatment

New developments in the coating technology

Coating service for every kind of Parylene and substrates (C, D, N, F, AF4)

Production and the distribution of plasma and coating equipment

What we offer you

We at [PPS GmbH](#) are always in development of new coating technologies and research new ways to make it as efficient and economical as it can possibly be. We are the first company worldwide combining plasma treatment and parylene coating [in one system.](#)

What we're offering are not only custom-built systems for parylene-coating and plasma treatment but also assistance in developing your very own coating process, tailored just to fulfill the needs and conditions of your substrates.

We will attend to your processes from first consultation up to production stage. Use our long-standing expertise and experience for the benefits of your products!

Plasma ⚡

Is a state of matter in which **ionised gas** becomes highly electrically conductive. Plasma finds usage in a massive spectrum of applications in the field of professional surface treatment, for example cleaning and activation of metal substrates before coating. Even a pinhole-free coating can be achieved by glow discharge polymerization.



Are a series of **different polymers**, used to create conformal, extremely thin coatings commonly used in the b2b sectors. The unique properties offer a safe and clean coating solution for almost all substrates under the harshest conditions.

PARYLENE COATING™

Preparation & Coating
in one machine



Scan me

THE FUTURE OF CHEMISTRY - PROFESSIONALISM FOR MODERN COATINGS

Parylene Coating™ premium-grade coating systems

Sustainable and clean with available optimisation for processes under cleanroom conditions.

We are very proud of our high-precision and long-living labcoaters (some of them in permanent use for over 10 years!) and are always keen on improving those even further with new technologies, features and extras. Simplicity in operation is key at our machines and we designed the operating software to be the most easy-to-use and clear of cluttering digits, so usage by everyone after a quick introduction is granted. In terms of layer-thickness, our machines can apply a layer ranging from 0.2 up to 100 um per run.

Custom-built coating systems for your enterprise

PPS offers a wide variety of custom-built labcoaters with optional equipment and add-ons to ensure a successful, clean and smooth coating.

Almost all our systems provide:

- ⬢ Individual chamber dimensions
- ⬢ Availability with plasma source
- ⬢ Cooling system and integrated pump system



Parylene system with Glovebox

Coating solutions for B2B-Application

Did you know? A majority of industries already discovered the benefits of conformal and inert coatings with parylene and your business should be next! It's properties have a wide range of applications on products, like:

- ◊ Sensors in harsh environments (abrasion protection)
 - ◊ Medical technologies like catheters (lubricity)
 - ◊ Enhancement of all kinds of plastic & metals
 - ◊ Transparent protection for LEDs
 - ◊ Dielectric coatings on inductors, cores and magnets
-



Showcase: 3000 series



This is the **Parylene System 3000 LV300**. It is a modular system, divided into two parts:

Chamber module and the **Evaporator module**.

Many of our machines are built in this manner to ensure a setup that allows us to modify almost any given part in the system on request.

While 3000 stands for the Series, the LV300 is an indicator for the chamber size of our machines which depends on the size and quantity of substrates you need to coat in one run. We offer chamber sizes up to a volume of **1000 litres**. This system also comes with a plasma source and we also offer options for a turning table or heating/cooling tables and up to 3 mass flow controllers for different gas inlets.

Also available as cleanroom version!

An integrated pump stand minimizes the particulate outlet and thus, making it a overall cleaner and more compact alternative for the strictest conditions in your cleanrooms.

This system is already in use by countless cleanroom facilities and universities worldwide and the number is still rising!





Labcoater series 100

A good-value system with exchangeable process chamber

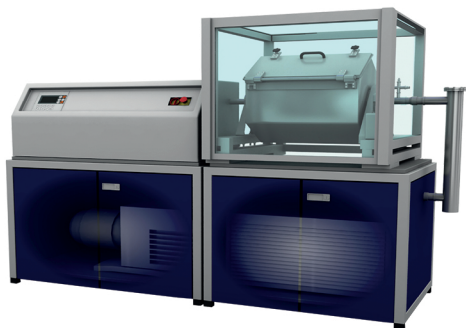
- ⬢ **Process chamber:** 300mm Ø H: 300mm
- ⬢ **Dimensions:** D: 850mm W: 900mm H: 1600mm
- ⬢ **Cooling system:** 4 litre electromechanical cool-trap
- ⬢ **Pump system:** 10m³/h



Labcoater series 300

Versatile system, optimized for laboratory work with built-in plasma source for surface pre-treatment

- ⬢ **Process chamber:** up to 450mm Ø H: 500mm
- ⬢ **Dimensions:** D: 1050mm W: 1220mm H: 1920mm
- ⬢ **Plasma source:** 2.45 GHz, up to 600 W
- ⬢ **Cooling system:** 4 litre electromechanical cool-trap
- ⬢ **Pump system:** up to 50m³/h



Series 2000 rotary drum

Rotary drum system for even Parylene distribution. Works best with smaller substrates. (Plasma source on demand)

- ⬢ **Process chamber:** 400mm Ø H: 600mm
- ⬢ **Dimensions:** D: 960mm W: 2600mm H: 1460mm
- ⬢ **Cooling system:** 8 litre electromechanical cool-trap
- ⬢ **Pump system:** 10m³/h



Series 3000 standard system

Made for industrial usage. A thoroughly tested system that can meet large and demanding production volumes

- ⬢ **Process chamber:** up to 700mm Ø H: 800mm
- ⬢ **Dimensions:** L: 2095mm W: 800mm H: 1450mm
- ⬢ **Plasma source:** 2.45 GHz, up to 1200 W
- ⬢ **Cooling system:** 8 litre electromechanical cool-trap
- ⬢ **Pump system:** 75m³/h



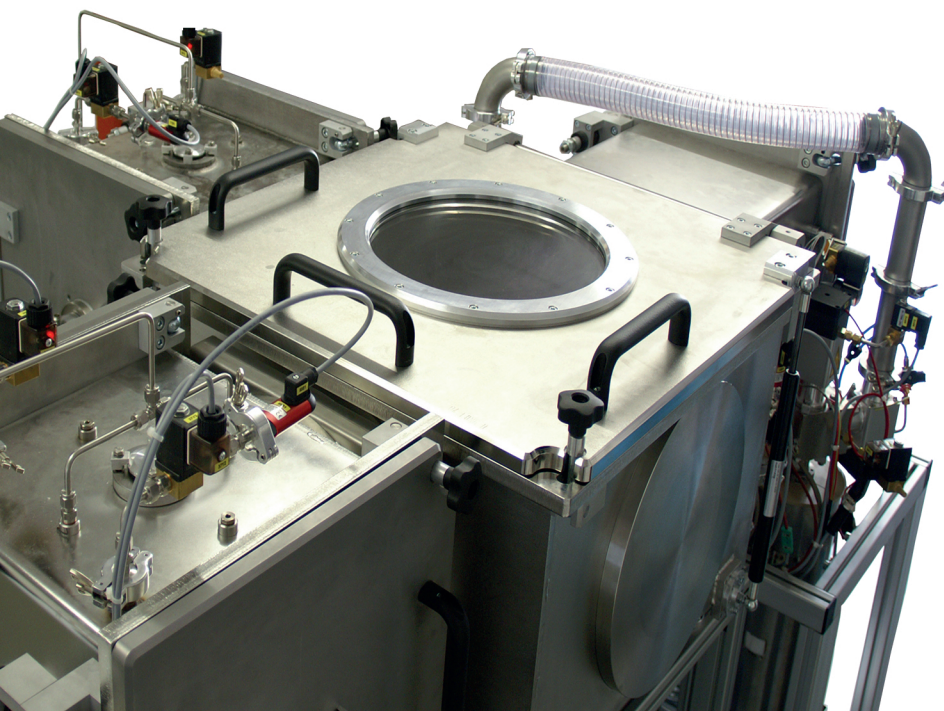
Series 3000 cleanroom system

Designed for continuous operation inside certified cleanrooms with a strict particulate outlet

- ⬢ **Process chamber:** up to 700mm Ø H: 800mm
- ⬢ **Dimensions:** L: 2095mm W: 800mm H: 1450mm
- ⬢ **Plasma source:** 2.45 GHz, up to 1200 W
- ⬢ **Cooling system:** 8 litre electromechanical cool-trap
- ⬢ **Pump system:** 75m³/h

Parylene Sandwich-coating system

A robotic-powered, multi-chamber system for the most complex coating processes in a low-pressure environment



- ⬢ **Volume:** 30 litre per chamber
- ⬢ **Air lock:** 50 litre
- ⬢ **3 x Process chamber:**
L: 300mm W: 300mm H: 300mm
- ⬢ **Plasma source:** 2.45 GHz / 1200 W
& 13.56 MHz / 600 W
- ⬢ **Cooling system:** 8 litres; electromech.
- ⬢ **3 x Pump system:** 40m³/h

This system also includes:

- ⬢ 3 x 3 Gas channels
- ⬢ Air lock robot
- ⬢ Example substrate holder

A photograph of the Alpha Plasma experiment module attached to the International Space Station. The module is a large, cylindrical structure with a metallic, reflective surface. It features a Russian flag and the word "СОЮЗ" (Soyuz) in red Cyrillic letters. The module is connected to the station's structure by various cables and hoses. The background shows the Earth's surface from space, with a purple gradient overlay.

*Breaking boundaries
with
Alpha Plasma*

ALPHA PLASMA™

Cleaning of metals, plastic and all vacuum suitable materials



Scan me

NATURE AS MODEL - YOUR CHOICE FOR LOW PRESSURE PLASMA

Alpha Plasma™ professional plasma equipment

Versatile machinery with many possibilities, especially for surface treatment before coating.

Plasma is not an invention of humanity, it is formed in the trails of comets for example. Even though the technologies were already described in the last century, it was only an exotic niche. Because of the further understanding of the processes in and around plasma, this technology finds its way into a rising number of laboratories and production facilities. Plasma Parylene Systems GmbH provides **high-quality** low-pressure plasma equipment for all your surface treatment needs with over **35 years of expertise** in working with the fourth element.

High-quality plasma systems for your enterprise



PPS also offers a wide variety of **custom-built plasma equipment** with many additional options for maximizing the effectiveness of your plasma process.

Our systems provide the following options:

- ⬡ Variable chamber sizes for substrates
- ⬡ Multiple gas inlets for different processes
- ⬡ Easy-to-use interface
- ⬡ Two frequencies for polymerization (MHz & GHz)

Plasma for your products

The full range of applications in plasma treatment is truly amazing. It is by far the best solution, if you want to clean substrates of any organic pollution, activate surfaces for pre-treatment or create whole layers with different properties for enhancing your product even further.

Some possibilities in working with our systems:

- ◊ Cleaning and activation of surfaces
- ◊ Plasma polymerization
- ◊ Photo resist ashing on wafers
- ◊ Plasma etching for fabricating circuits
- ◊ Chip packaging (including 3Dx3D)

...and many more



Showcase: AL 76



This is the **AL 76 compact plasma system** is equipped with an **aluminium chamber** of **76 litres** in volume.

It is the ideal system for smaller semi-conductor production facilities or any kind of laboratory and the compact design allows it to fit in smaller spaces. The strengths of this system lie in activation of plastic and metal surfaces prior to bonding, gluing or printing.

Micro cleaning of many surfaces and substrates like glass, metals, ceramics or any other vacuum –suitable materials is possible too.

Also available as table top model!

And we thought: Can we make this system any smaller? And we did! The **AL 76** can also be ordered as the **substantially smaller** table top version. When space really is scarce, this is the system you need.

Both versions are **cleanroom-approved**, **thoroughly tested** and already in use by hundreds of facilities around the world!



Plasma Equipment AL-Series

The ideal equipment for cleaning & activation, chip packaging and polymerization

AL18 table top
our smallest AL-system.



- Process chamber: D: 290mm W: 250mm H: 250mm (Al)
- Dimensions: D: 600mm W: 530mm H: 550mm
- Plasma source: 2.45 GHz , up to 1200 W
- Pump system: 15-65 m³/h

AL18 rack

A 19 inch rack with two frequencies for polymerization.



- Process chamber: D: 290mm W: 250mm H: 250mm (Al)
- Dimensions: D: 600mm W: 530mm H: 1800mm
- Plasma source: 2.45 GHz , up to 1200 W / 13.56 MHz, 600W
- Pump system: 15-65 m³/h (integrated)

AL36 table top

Slightly bigger version of the AL18 with more options and load capacity.



- Process chamber: D: 350mm W: 320mm H: 320mm (Al)
- Dimensions: D: 680mm W: 630mm H: 650mm
- Plasma source: 2.45 GHz , up to 1200 W
- Pump system: up to 15-65 m³/h

AL76 compact/tabletop

A space-saving system designed for smaller production facilities and laboratories. Available as compact or tabletop.



- Process chamber: D: 480mm W: 400mm H: 550mm (Al)
- Dimensions (c): D: 800mm W: 1050mm H: 1800mm
- Dimensions (t): D: 780mm W: 770mm H: 780mm
- Plasma source: 2.45 GHz , up to 1200 W
- Pump system: up to 250 m³/h (integrated)

AL100 compact

Perfect for medium-sized substrates or PCB-Boards.

- ⬡ **Process chamber:** D: 480mm W: 400mm H: 520mm (Al)
- ⬡ **Dimensions:** D: 800mm W: 1050mm H: 1800mm
- ⬡ **Plasma source:** 2.45 GHz ; up to 1200 W
- ⬡ **Pump system:** 250 m³/h



AL235

With automated door and adjustable work height for easier loading.

- ⬡ **Process chamber:** D: 650mm W: 650mm H: 550mm (Al)
- ⬡ **Dimensions:** D: 1200mm W: 1200mm H: 1600mm
- ⬡ **Plasma source:** 2.45 GHz ; up to 1200 W
- ⬡ **Pump system:** 500 m³/h



AL140 / 160 / 300 compact

Offers 3 options for chamber size, depending on the size of substrates or process speed needed.

- ⬡ **Process chamber:** customized, up to 300l volume (Al)
- ⬡ **Dimensions:** D: 900mm W: 1200mm H: 1800mm
- ⬡ **Plasma source:** 2.45 GHz ; up to 1200 W
- ⬡ **Pump system:** 500 m³/h



AL800 compact

The absolute biggest AL-system we have to offer.
For the largest substrates and quantities.

- ✧ **Process chamber:** D: 920mm W: 900mm H: 900mm (Al)
- ✧ **Dimensions:** D: 1050mm W: 1200mm H: 1800mm
- ✧ **Plasma source:** 2.45 GHz ; up to 1200 W
- ✧ **Pump system:** 500 m³/h



Plasma Equipment Q-Series

Works best for ultra-clean processes, etching, photo resist ashing and MEMS fabrication



Q150

Easy to operate and simple to load. Our Q-series provides fast and reliable plasma processing.

Process chamber: 145mm Ø, D: 260mm (FQ)

Dimensions: D: 500mm W: 550mm H: 370mm

Plasma source: 2.45 GHz , up to 1200 W

Pump system: up to 40 m³/h oil **or** 35m³/h dry



Q240 S

A system with the diameter of our Q240 but with reduced chamber depth for the sake of saving space.

Process chamber: 240mm Ø, D: 260mm (FQ)

Dimensions: D: 550mm W: 620mm H: 500mm

Plasma source: 2.45 GHz , up to 1200 W

Pump system: up to 65 m³/h oil **or** 35m³/h dry



Q240

The biggest system in our Q-series. Perfect for multiple Wafers with sizes up to 200mm diameter.

Process chamber: 240mm Ø, D:440mm (FQ)

Dimensions: D: 775mm W: 760mm H: 775mm

Plasma source: 2.45 GHz , up to 1200 W

Pump system: up to 120 m³/h oil **or** 65 m³/h dry

Optional Accessories

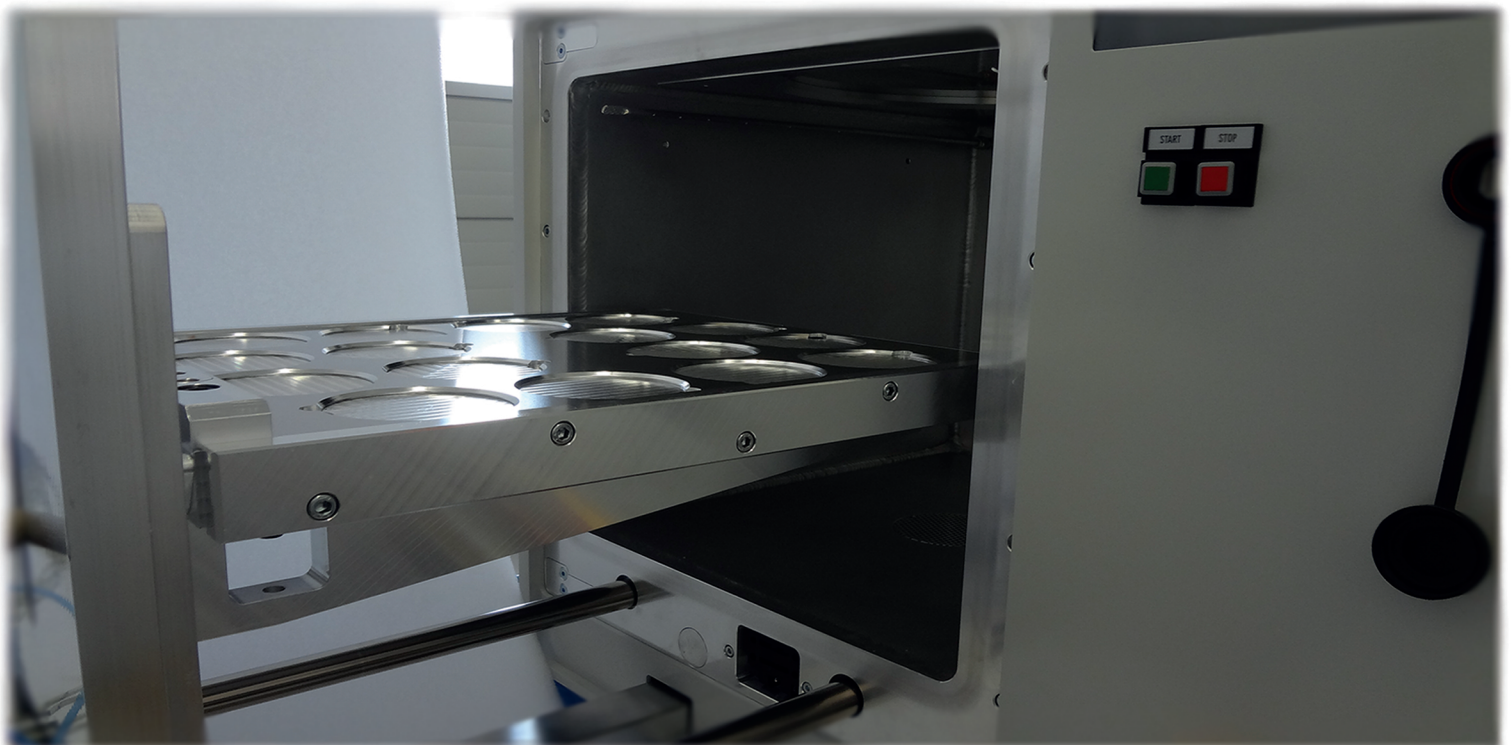
SPECIAL EQUIPMENT - FOR THE MOST DEMANDING SUBSTRATES

Customizable features for advanced processes

Fully tested and approved by PPS™, these add-ons provide different properties for your process.

Some materials just need special attention when it comes to Plasma treatment and Parylene coatings. If your substrates got special temperature boundaries or there is need for concentrated surface treatment in low-pressure processes, we got you covered with extras for all kinds of challenging processes. Almost all of our extras can be added to Plasma and Parylene systems alike.

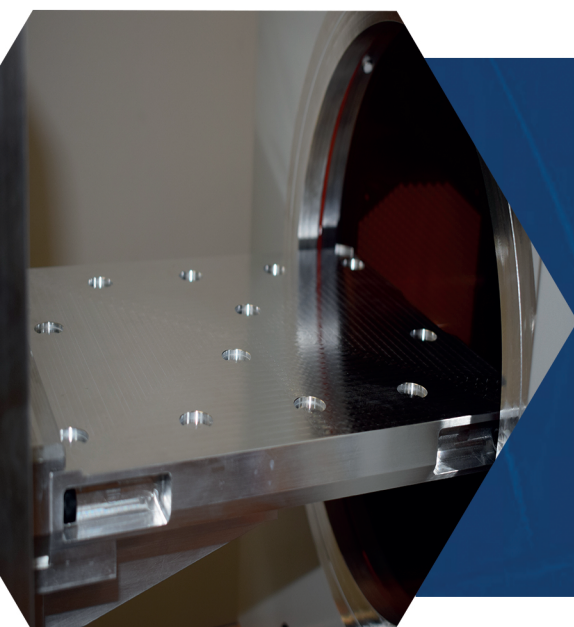
Custom-built coating systems for your enterprise





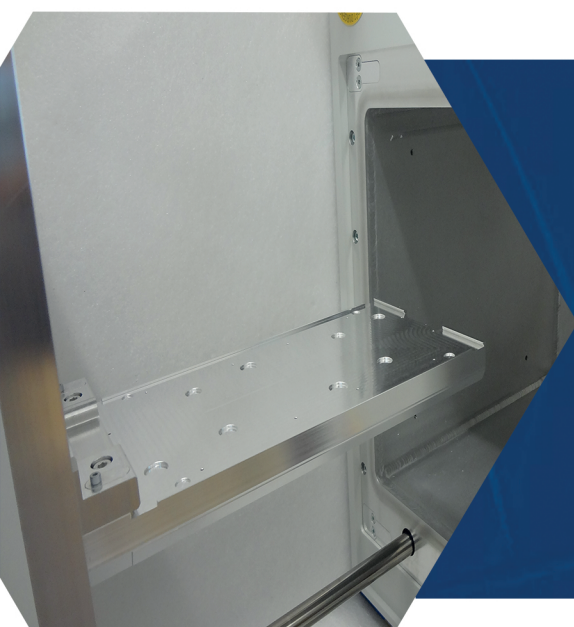
ECR-Frame (Electron cyclotron resonance)

This frame offers two things: a concentrated, more effective surface treatment and plasma generation in places that would be hard to reach for etching, cleaning and oxide reduction processes.



Heating table

An appliance for a simple, yet helpful feat. This tablet allows the substrates that get placed onto it, to stay above a certain temperature level while coating or plasma treatment. Can be combined with different sizes of wafer holders.



Cooling table

Similar to the heating table above, this extra allows substrates to keep a cool temperature if needed and stay below a certain temperature level while treatment. More commonly used in etching processes involving special varnishes.

Wafer holders



For a multitude of wafer sizes

We offer different sizes of wafer holders that can be placed on top of our heating/cooling tables to keep the wafers in place while ultra-cleaning or analysing.

The holders are available in the diameters 51mm (2 inch) up to 200mm (8 inch).

A 10.4" display on a Series 300 Labcoater



A 15" display on a Series 3000 CR



Upgrade

Bigger Screens!

Almost all of our systems can be bought with the bigger screen option to get the next greater touchscreen of their default. 7" monitors can be upgraded to a 10.4" and respectively, 10.4" screens have the option of a 15" display.



7" screen on a AL18 tabletop

Upgrade



A 10.4" monitor on a Q240S



Extras chart - Parylene systems

		Precursor silo & primer injection	Rotary drum	Rotary table	Cooling table - AF4 / HT	Bigger screen	GHz & gas channels
	Series 100			✓	✓		
	Series 300	✓	✓	✓	✓	✓	✓
	Series 2000	✓	✓	✓		✓	
	Series 3000	✓	✓	✓	✓	✓	✓
	Series 3000 CR	✓	✓	✓	✓	✓	✓
	Multi-chamber	✓		✓	✓	✓	✓

Extras chart - Plasma systems

		ECR - Frame	Heating / Cooling table	GHz	Rotay drum	Rotary table	Large Screen	KHz / MHz	Faraday Cage
	AL18 table			✓		✓	✓		✓
	AL18 rack					✓		✓	✓
	AL36 table	✓		✓	✓	✓			✓
	AL76 comp. / tab. AL100 comp.	✓	✓	✓	✓	✓	✓	✓	✓
	AL235			✓		✓	✓	✓	✓
	AL140/160/300	✓	✓	✓			✓	✓	✓
	AL800 compact	✓	✓	✓	✓	✓	✓	✓	✓

Extras chart - Plasma systems

		ECR - Frame	Heating / Cooling table	GHz	Rotay drum	Rotary table	Large Screen	KHz / MHz	Faraday Cage
	Q150	✓		✓	✓		✓		✓
	Q240 / Q240S	✓	✓	✓	✓		✓	✓	✓

MHz / KHz only available with affiliated Frame

The frame for all frequencies.

Our Q-systems can be constructed with a frame for all frequencies apart of GHz.

Whether it is a KHz-, or MHz you need for your special process. We got the solution for offering a system with all the frequencies you need.

Many possibilities and ways of surface treatment in one system!





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Notes:

MADE IN GERMANY