

CP390-6L



One door plasma system

- **Power Generator: 5 KW, 40 KHz**
- **1 mass flow controller**
- **PC-control with commercial software**
- **Sample holder assembly with 6 racks and electrodes**
- **Water chiller unit**
- **12 product trays**
- **Oxygen concentrator**



310 Bagot St., Kingston, ON, K7K 3B5, Canada

www.coldplasmagroup.ca

hello@coldplasmagroup.ca

Version 004 24/05/21

1. Machine Overview

Description		
External dimensions	W x H x D (mm)	1 300 x 2 300 x 1 600
Internal dimensions of the vacuum chamber	W x H x D (mm)	720 x 720 x 730
Chamber volume	(l)	390
Total weight	(Kg)	1 000
Materials used	Vacuum chamber	Stainless steel
	Door	Aluminum
	Inspection window	Borosilicate glass
	Cladding	Painted aluminium
	Frame	Painted sheet metal
	Electrodes	Aluminium, Cu 6.5 mm connection
Material carrier	Levels	6
	Material	Stainless steel
Plasma generator	AC	
	Max. power (W)	5 000
	Nominal power (W)	< 5 000
Vacuum pump	Type	Dual Stage
	Dry	
Plasma working pressure	Range (mbar)	0.1 – 1.0
Process gas	Number of gas inlets	1
	Upstream pressure (bar)	< 2
	Connection	6 mm compression fitting
Control unit	PLC	Siemens LOGO!
	Software	PA390 Logo
	Version	V8.1c.28 / V8.1.26c
Electrical supply	Voltage (V)	400 or 480
	Preliminary fuse (A)	32
	Control voltage (V)	24



310 Bagot St., Kingston, ON, K7K 3B5, Canada

www.coldplasmagroup.ca

hello@coldplasmagroup.ca

Version 004 24/05/21

2. Positioning of the Plasma System and Floor Space

The assembled machine has the following dimensions:

Dimensions	(mm)
Height	2 300
Depth	1 600
Width	1 300

The complete plasma machine comes with:

- a source of process gasses, i.e., an oxygen concentrator which concentrates ambient air to 96% oxygen.
- an external water-cooling unit to provide a consistent supply of chilled water for the vacuum pump and the power generator.

Recommended floor space for the plasma system:

Category	Specifications	Values
Space requirements during operation	W x H x D (mm)	2 300 x 2 500 x 2 600
Distance from other machines, equipment, systems, paths, walls	On each side (mm)	Min. 800 Ideally 1 000

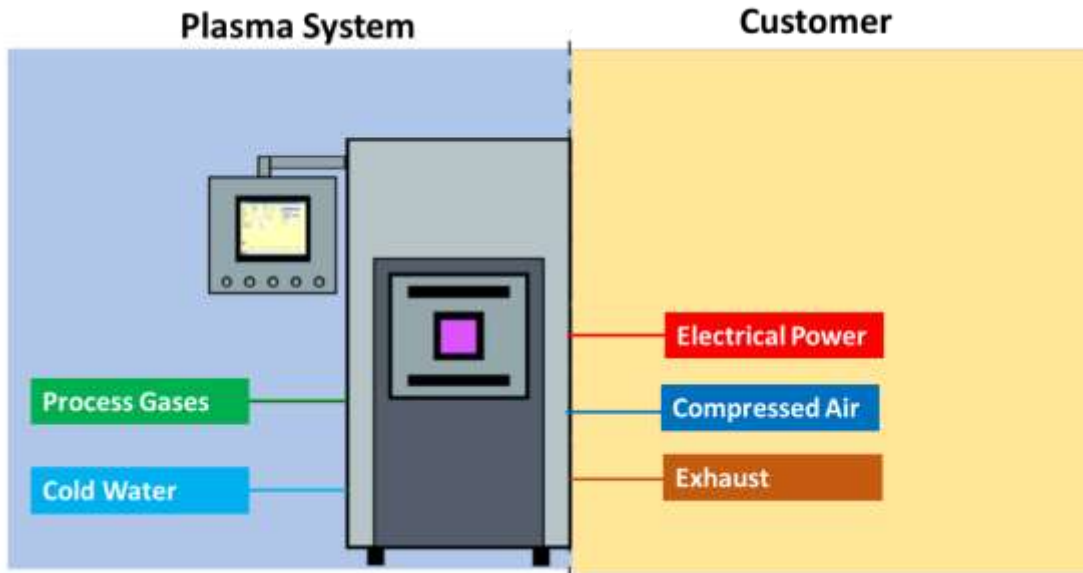
3. Ambient Conditions during Operation and Storage

Recommended ambient conditions during operation and storage of the plasma system:

Category	Specifications	Values
Ambient temperature	During operation (°C)	15 - 30
	During storage (°C)	12 - 40
Relative humidity		10 – 95 % @ 40 °C, no condensate

4. Machine Installation

The Schematic Diagram for the machine installation is shown below.



The customer is responsible for providing the electrical power, compressed air, and the exhaust for the plasma system.

Category	Specifications	Values
Electrical	Voltage (V)	400 or 480
	Preliminary fuse (A)	32
	Control voltage (V)	24
Compressed air supply	Pressure	6 – 10 bar
	Oil	< 0.1 ppm
	Dust	< 1 µm
	Pressure dew point	< -22 °C
	Flow rate	≥ 10 l/min
Cooling water	Distilled or deionized	
	pH value	6.5 - 8
	Turbidity	< 20 mg/l
	Alkalinity (CaCO ₃)	< 75 mg/ml
	Hardness (CaCO ₃)	< 1.2 mmol/l (“soft” approx. 7.3 ° dH)
Evaporation residue (TSD)	< 250 mg/l	



310 Bagot St., Kingston, ON, K7K 3B5, Canada

www.coldplasmagroup.ca

hello@coldplasmagroup.ca

Version 004 24/05/21

	Cl-	
	Fe ³⁺	< 80 mg/l
	Mn ²⁺	< 0.3 mg/l
	Spec. resistance	< 0.2 mg/l
	TDS is estimated as follows	> 2 500 Ω/cm at 25 °C TDS = 640 000 / spec. resistance
	Fresh tap water can be used if it fits criteria above. The freshwater quality indicators can sometimes be found on the website of the local water supply company.	