



DiaClean® is a compact and modular concept for effective water treatment by diamond electrodes to restore and protect domestic as industrial water quality



Description and specifications

Innovative technology for water treatment without chemicals

LMP-i Sarl has developed the electrochemical module DiaClean®, to work under the best conditions BDD/Si Electrodes (Boron Doped Diamond Electrodes on Silicon substrate). Depending on their configuration, such powerful devices allow direct electrolysis for different kinds of water treatment applications, especially disinfection and clarification.

BDD electrodes

Typical features

- Current density: up to 1 A/cm²
- Monopolar electrodes (single-sided BDD)
- Bipolar electrodes (double-sided BDD)

Materials

<u>Substrate</u>	
Material	p-silicon, 100 mΩ.cm, 2 mm thick
External diameter	100 mm
Electrode surface	70 cm ²
<u>Diamond coating</u>	
Thickness	1 to 3 µm
Resistivity	100 to 150 mΩ.cm
Dopant	Boron

Connections

- Two male fittings for rigid tube mounting (20mm) by screwing
- Two electrical connections: 4mm²

Configuration

- 1 to 4 compartments (max. 3 bipolar BDD/Si electrodes)
- 1 to 10 mm gap between electrodes, depending on needs

Specifications

Maximum Service Pressure	<0,5bar in aqueous solutions
Flow rate [min/max]	150/400 l/h per compartment (1 mm gap) 700/900 l/h per compartment (10 mm gap)
Pressure drop 18°C [min/max]	<0.3 bar
Temperature range [min/max]	5 / 45°C
Prefiltration (recommended)	50 µm

Optional power supply DiaClean® -PS

Main AC voltage	230 V ± 10%, 50 Hz or 120V, 60 Hz
Output DC voltage	up to 48 V
Output DC current	3 A – 10 A – 20 A – 30 A
Polarity reversal frequency	1 to 90 minutes

Applications

Generation of oxidants for disinfection

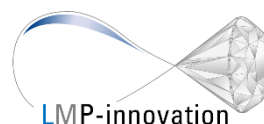
- Swimming pool and potable water
- Legionella inactivation: cooling tower, hot water

Destruction of organics for wastewater treatment

- Industrial effluent
- Organic matter oxidation, COD removal
- Inorganic matter oxidation: cyanides, hypo-phosphites, chrome bath regeneration

Synthesis

- Peroxo-sulfate generation
- Organic synthesis



Rue Saint-Randoald 18, 2800 DELEMONT, SUISSE

Diamond serves Water