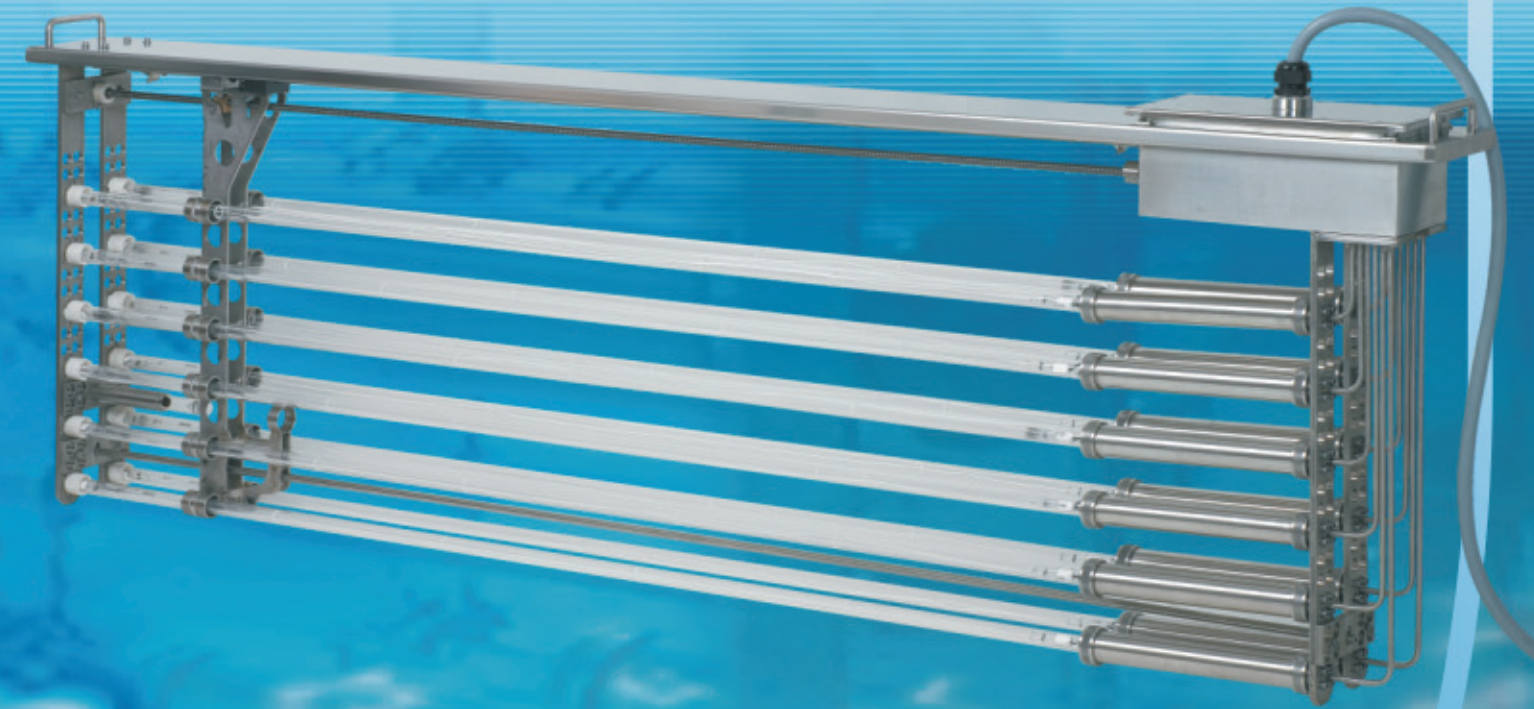


**Biotec** s.r.l.  
UV Division

From Tradition to Technological Innovation

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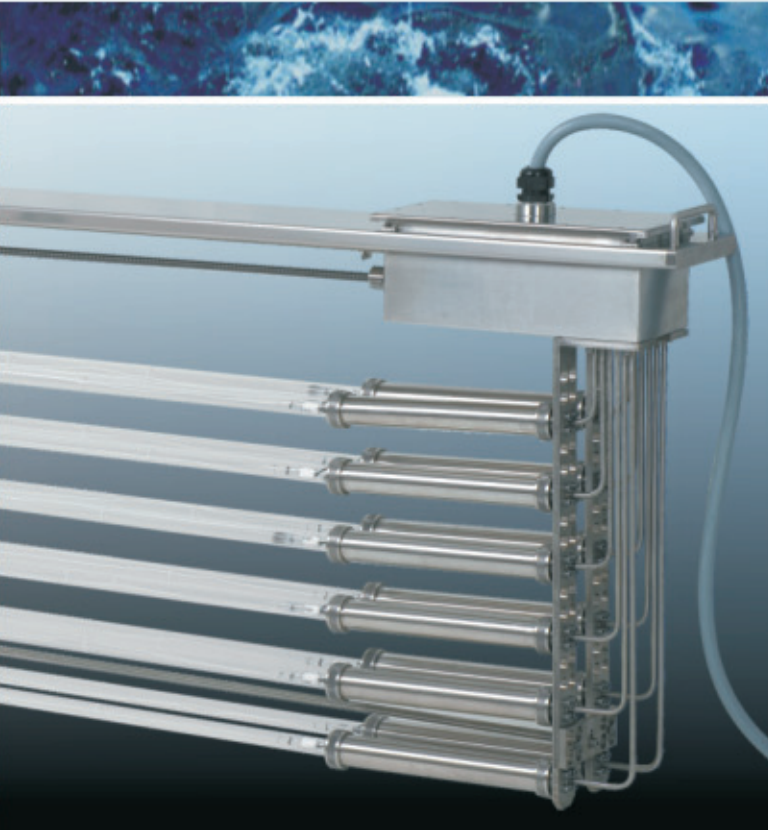


Graphic: Sergio Marini - +39 311 240035

**Box 200**

Open channel UV-C  
disinfection system  
with submerged,  
self-cooling ballast





## Technical innovation:

### Traditional system:

- **Ballast** located in the electrical cabinet. It needs to be positioned near the channel at a maximum distance of 8 metres from the lamp racks. The dissipation of the heat produced by the ballasts is achieved through the construction of an insulated and cooled room.
- **Cleaning system** driven by a hydraulic piston. It needs a compressor for its operation.
- **Teflon scraper ring** does not remove inorganic deposits; it requires periodic chemical cleaning outside the channel.
- **Uncoated lamps** that suffer from the problem of early solarization and maximum lifetime of 8,000 hours.
- **Installation made** burdensome by the great number of cables connecting each lamp to its dedicated ballast in the electrical cabinet and the other electro-mechanic equipment, like the compressor for the cleaning system.

### Innovative system:

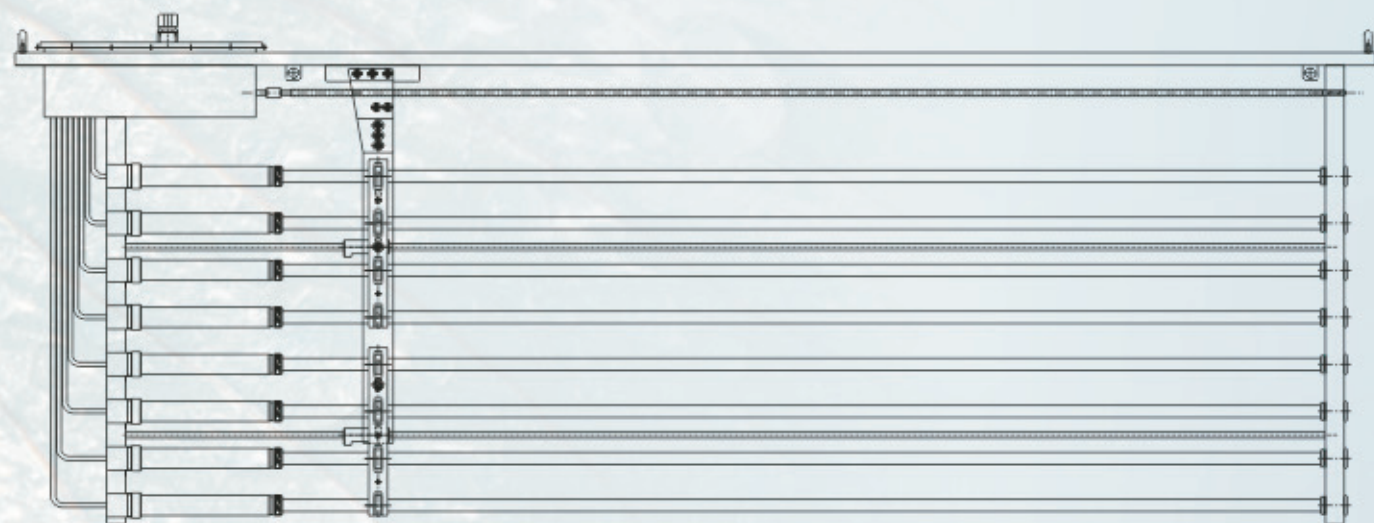
- **Ballast** submerged in the rack, cooled by the effluent.
- **Compact cleaning system:** each rack includes a small electric motor that drives the system.
- **Stainless steel scraper rings**, which allow the removal of any organic and inorganic deposit, thus avoiding chemical cleaning outside the channel.
- **Coated lamps** that do not suffer from the problem of solarization and with extended lifetime of 12,000 hours.
- **Installation** made easy by the small number of cables, due to the direct connection between lamp and ballast and to the bus communication system, supplied totally assembled.

Biotec Srl's LBX200 type, open channel UV disinfection system applies all the technological innovations and most advanced construction expedients, assuming them as its own quality standard and unmistakably distinctive features.

The LBX200 system's main components are:

- UV racks that house the submerged ballasts directly connected to the lamps, the ballasts are self-cooling by configuration and avoid further costs for the insulation and cooling of the electrical cabinets.
- Power distribution centres that can be positioned at any distance from the channel, due to the technical innovation of the submerged ballast connected to the lamp.
- Cleaning system driven by an electric motor located in the UV rack, composed by stainless steel scraper rings, free in their housings so that they can follow the quartz sleeves' contours and remove any organic or inorganic deposit.
- The LBX200 system does not need any auxiliary electromechanical equipment (compressors) and at the same time, thanks to the stainless steel scraper rings' efficiency, it eliminates the need for chemical cleaning outside the channel.

The technology applied to the LBX200 series, starting from the design stage, distinguishes itself for the extreme simplicity of its components and the linearity of its fitting out, reflecting its advantages in the subsequent stages of construction, installation, and operation.



## LBX200 System Features:

### Easy installation and start-up of the system

- It includes pre-assembled, modular components with quick connect cables.

### Innovative lamp technology

- Low pressure, high intensity lamp technology
- Rapid start configuration
- Arc length: 1641 mm

### Patented ballast technology

- High frequency electronic ballasts
- Drives one low pressure, high intensity lamp
- Eliminates the necessity for special cooling systems

### Patented automatic cleaning system

- Mechanical, with stainless steel scraper rings

### Monitors, Alarms and Indicators

- Self-diagnostic
- Single lamp status indication
- Operation time meter
- Remote signalling of alarms for low and very low UV intensity

### UV Intensity sensor

- Monitors the average UV intensity within a group of lamps
- Uses adjustable parameters for alarms of low and very low UV intensity

### Level control

- Stainless steel serpentine or balancing or motorized weir

### Incoming power options

- 240V AC, single phase, 50 Hz
- 400V AC, three phases, 50 Hz

### Power requirements

- 220 Watt per lamp, ballast included (nominal)

### Power quality

- System power factor: 0.98 minimum
- THD in conformity with IEEE 519/1992 regulations

### Operating conditions

- -10°C to 50°C
- 5% to 95% relative humidity (not condensing)

## Options

### Advanced control systems

- Optimum disinfection performance
- Full control and monitoring applications
- Dose pacing
- Flow pacing

