



## Let nature clean your spa or whirlpool

Ozone is one of nature's most powerful oxidizers and can safely provide an additional level of sanitation to your bathing environment.

The amount of ozone generated by the HydroAir ozonators is suited especially for whirlpools and spas.

**An efficient sanitizer**  
Ozone is a very effective sanitizer and can reduce the use of harsh chemicals significantly. Ozone makes the water look clearer and destroys oils

and thereby eliminates the greasy edge often left at water level.

**Health and safety**  
Ozone kills bacteria, mould, mildew, fungi and viruses such as Legionella. Ozone reverts to oxygen when its job is done, leaving no by-products in the water. Furthermore it does not affect the pH balance in the water like traditional chemicals.

**A natural phenomenon**  
You may recognize the fresh scent of ozone after a thunder-

shower in summer time. A pleasant odour is created when lightning strikes as a natural phenomenon.

**Approvals**  
Our whirlpool and spa ozonators are RoHS compliant. The whirlpool ozonator is additionally approved according to EN 60335-1 and EN60335-2-60 as well as EMC approved.

Natural sanitation

IPx5

Reduce use of chemicals

Compact design

Easy to install

Long lifetime for spa applications

Low power consumption

## Model Overview

Article no.	Description
20-5130	Whirlpool ozonator 50 mg/h, 230V/50Hz, Incl. transformer, cable 0.5 m., 1.5 m 6 mm I.D. tube, check valve and clamp. With Corona Discharge Chip - lifetime 500 hours Recommended airflow: 2 -10 l/min.
21-5134	Spa ozonator 178 mg/h, 230V/50Hz, Incl. transformer, cable 0,5 m., 1.5 m 6 mm I.D. tube and check valve. With UV lamp - lifetime 20,000 hours Recommended airflow: 1.4 l/min.



21-2650



30-2662

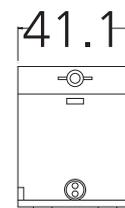
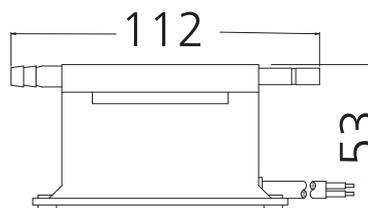


We recommend water jet 21-2650 and front 30-2662 for ozone installation.

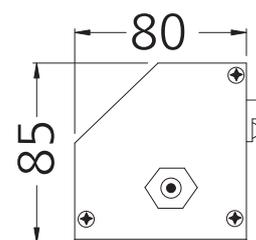
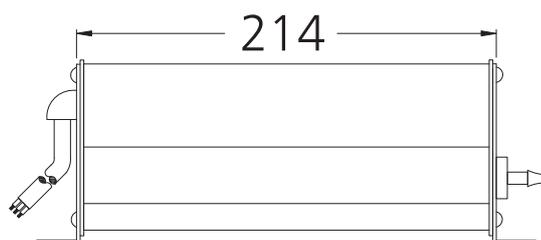
See [www.hydroair.dk](http://www.hydroair.dk) for other front options (Mini jet 2).

## Measurement Drawings

20-5130



20-5134

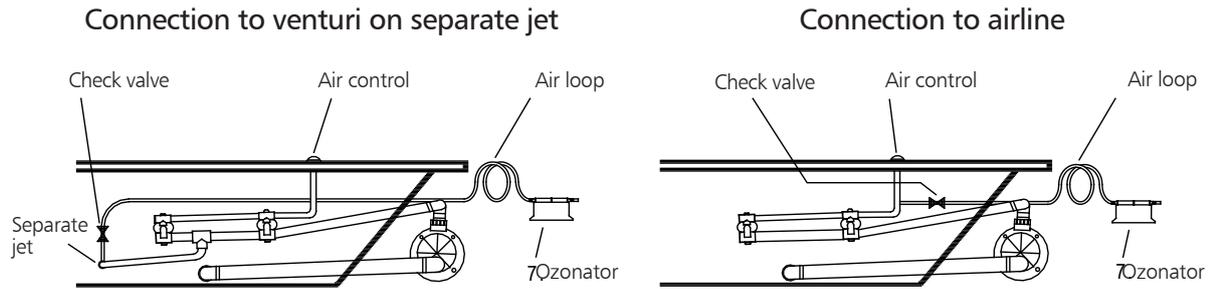


Dimensions in mm.

# Ozonators

## How does it work?

Ozonators work by converting oxygen into ozone. When an air stream passes a corona discharge (CD) chip or an UV lamp – ozone is created. The airflow is created through a small tube mounted on the ozonator and on the airline of the whirlpool. See recommended airflow on page 2. The flow created by the whirlpool pump creates a venturi suction, which draws oxygen through the ozonator. The oxygen is then transformed into ozone and added to the water, where it dissolves. See principle drawings for more details.



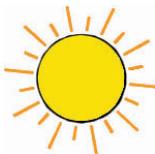
It is recommendable to activate the ozonator together with a therapy pump in a whirlpool or together with a filtration pump on a spa.

For optimal sanitizing effect ozone must be added as deep as possible in the tub. The venturi airspeed is optimal for creating ozone. Higher airspeed will reduce the lifetime of the ozonator and eliminate the effect.

Ozone improves both the water quality in your whirlpool and also helps chemical sanitizers work more efficiently.

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## Ozone production technologies



### Ultraviolet (UV) Light - light energy

This is how ozone is produced in the upper atmosphere via UV rays of the sun.

#### UV ozonators:

- Use a UV lamp to produce ozone

A special UV lamp gives off a specific frequency instantly converting oxygen ( $O_2$ ) molecules into ozone ( $O_3$ - active oxygen molecules) inside the ozonator.



### Corona Discharge Chip (CD) - electrical energy

This is how ozone is produced in the lower atmosphere via lightning.

#### CD ozonators:

- Use a CD electrode to produce ozone

Oxygen ( $O_2$ ) passes through an air gap between a high voltage electrode and a stainless steel grounding electrode. The "energy field of electrons" created by the high voltage electrode instantly converts oxygen ( $O_2$ ) molecules into ozone ( $O_3$ ).

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## Ozone features and benefits in whirlpools and spas

People are often insecure about using ozone to purify the water in whirlpools, spas or swimming pools, because of stories about harmful ozone smog in the air. Installing an ozonator yourself, instead of using strong chlorine chemicals, is safe, natural and not related to ozone smog from cars.

- Ozone is the most powerful oxidizer and disinfectant which can safely be used in whirlpools and spas.
- Ozone is the alternative water sanitizer to traditional chemicals such as chlorine and bromine.
- Ozone kills bacteria 3,000+ times faster than chlorine and bromine.
- Ozone will not burn eyes or leave them red and irritated.
- Ozone will not irritate or dry out skin.
- Ozone will not leave a chemical film on material or skin.
- Ozone will not discolour or damage hair or clothing.
- Ozone eliminates disease-causing micro-organisms.
- Ozone does not have to be purchased or stored. Ozone is generated on-site and is introduced into the water automatically.
- Ozone does not affect the pH balance in the water, thus minimizing pH adjustments.
- Ozone eliminates much of the routine maintenance because it does such an effective job of keeping the water clean. It does so by oxidizing oils and other oxidizable substances (e.g. bathing oils, lotions), which helps prevent the greasy edge around the whirlpool and spa forming. It actually removes particles from the water (moving it closer to its natural state) without having to add more chemicals.
- Ozone makes chlorine work more effeciently.
- In the quantities needed for water purification, ozone does not irritate humans or equipment.
- Ozone leaves no by-products. In contrast, chlorine leaves a chemical by-product called hypochloric acid and additional salts in water applications.
- Ozone and chlorine work perfectly together: Ozone is a constant oxidizer that destroys organics and microorganisms very effectively, but only when in contact with water. You will still need to keep a very low residual level of chlorine in the water.

