

# OZOMAT<sup>®</sup>

*Ozone oxygen  
for best chemical-free  
pool water!*



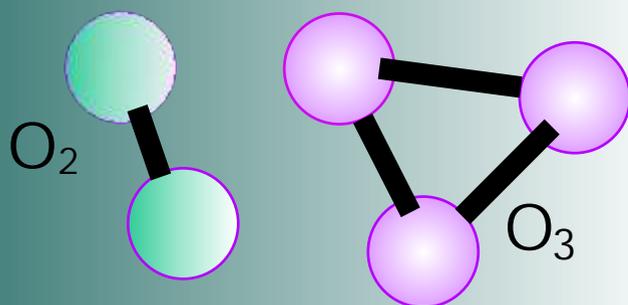
The features of the OZOMAT SB will surprise you.  
You really like to enjoy a nice pool! **YES!!**  
What else amazes us??

Drinking water in the pool **instead of CHEMISTRY!!**  
Refreshing healthy water similar to a mountain lake.  
Total control of the pool system as well as the recording  
of all water parameters at a glance.  
All functions are fully automatic - **as it should be.**

## What is ozone oxygen ?

Greek expression: ozein=to smell

It is molecule consisting of three oxygen atoms and it is the strongest natural oxidizing agent. Ozone is also called active oxygen. It is a triatomic form of oxygen. Ozone oxygen is the strongest and most environmental favourable disinfectant also present in nature.



In contrast to normal oxygen, it effectuates the function of a global germicidal power on bacteria, viruses, fungi.

In addition, it has an unusual oxidizing power on pollutants dissolved in water. Interestingly, it is often present in nature which for example can be noticed at a thunderstorm. In the event of a lightning strike, there is an immense electric discharge on oxygen molecules developing ozone.

The quite agreeable, fresh, and oxygen-rich air after it is definitely a result of this event.

Our globe is surrounded by the protective ozonosphere; because of this it is avoided that harmful ultraviolet rays constantly produced by the sun reach earth's surface.

However, mankind must be prepared that the protective shielding ozone is seriously damaged. Nature must bear the harmful effects.

**Ozone for therapy:**

The medical potentials of applications with ozone are diversified.

Conservative medical treatments without undesirable effects replace a medicinal - sometimes harmful - administration of toxic substances.

Ozone is a blessing for the sector medicine.

How is ozone technically produced and used?

There are two physical methods for the technical production of ozone molecules.

An ultraviolet irradiation of atmospheric oxygen may cause an amount of ozone produced for air purity that in particular is used for odour removal.

In order to produce an effective amount of ozone in the treatment of water, there is a need of the method of a silent electric discharge of high voltage via the corona effect in an ozone valve. The previously dried oxygen molecules are forwarded through an annular gap where an electric discharge is dissociating the molecules into atoms. The result is a triatomic oxygen molecule. In the event of contact with germs, viruses as well as organic and chemical water ingredients, such are subject to a splitting - elimination.

The processed material high in pollutant is removed from the water cycle by means of secondary filtration.

**Applications:**

An ozone molecule has a short half-life because of its chemical instability. Therefore, it is spontaneously and inevitably reduced again to diatomic oxygen.

Such characteristic results in a technical cross linking between production and application device.

The Apel - OZOMAT - Technology is the result of decades of research and developments with regard to the sector of ozone applications in water treatment. Many environmentally compatible innovations were developed for most diverse water loads.

Some examples:

- Chemical-free pool water
- Ozone therapy for medicinal baths
- Drinking water preparation
- Degermination of process water
- Sewage recycling
- Pollutant elimination
- Odour neutralization
- Coral fish farming
- Aquaculture

# OZONE

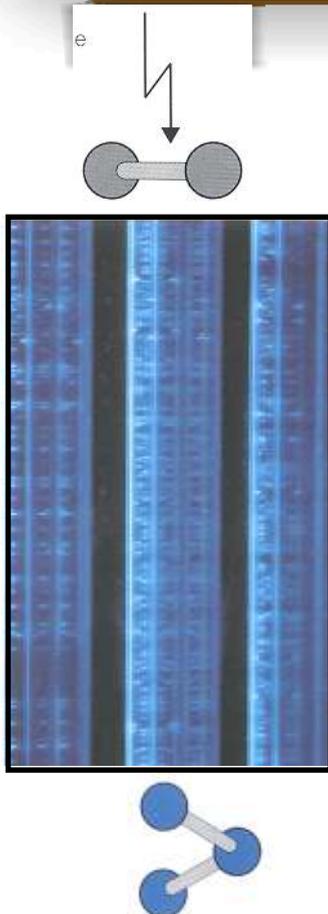
Mode of action

## Degradation with OZONE in aqueous solution.

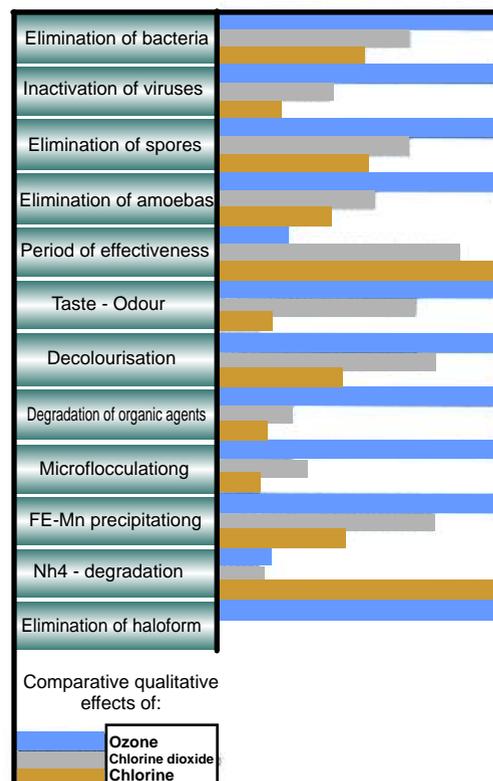
OZONE / Oxygen gas  
Ozone concentration-Dissolving power - Volume

-----  
Oxydants -- Decomposers  
Density of the ozone mixtures  
Time unit contact  
Oxidation time influence  
Contact mixture volume  
Power for pollutant splitting-Germinal elimination

Adjustment of the factors for the solution

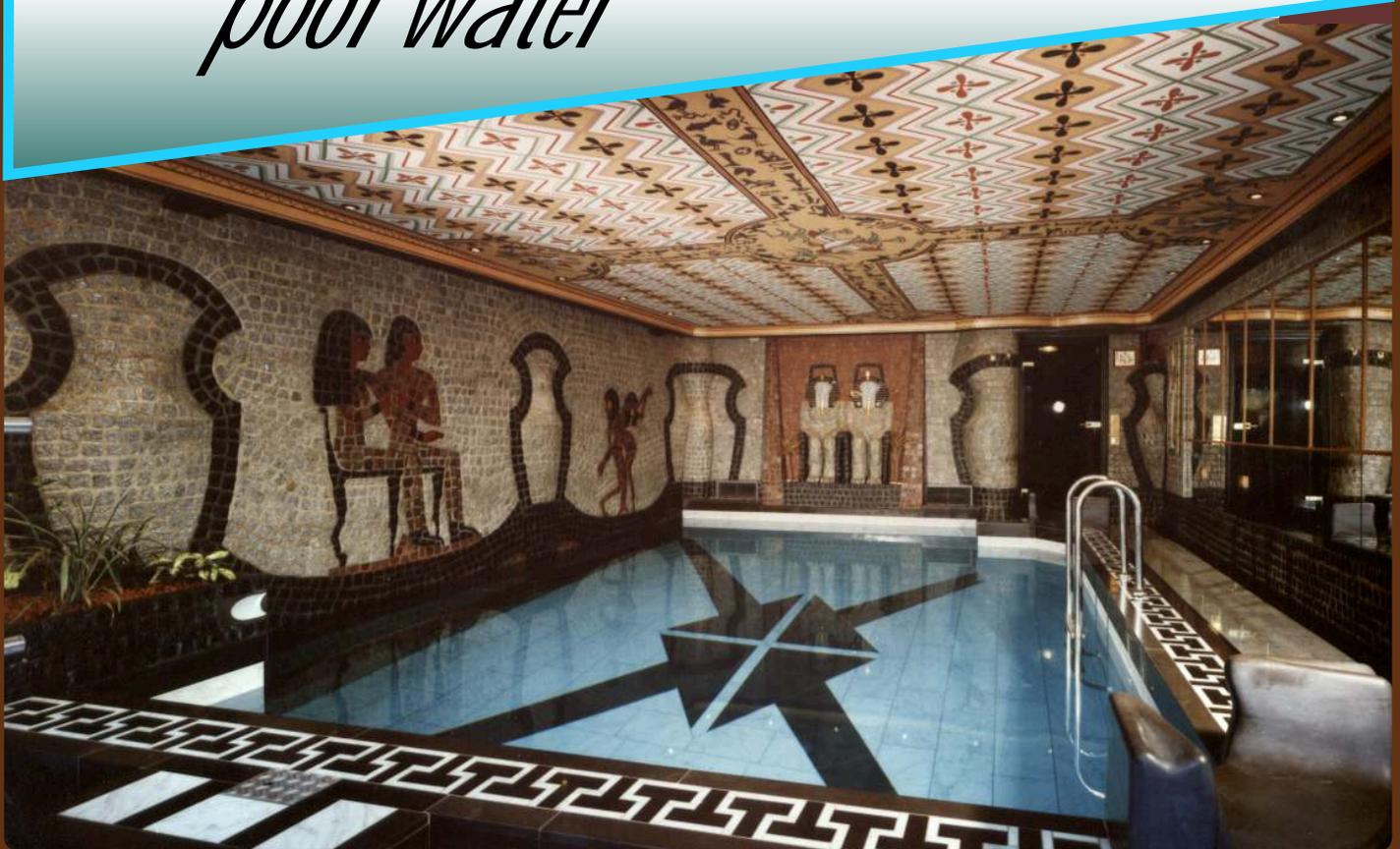


Optical view into an ozone valve in the event of an electric discharge





*Best chemical-free* OZOMAT<sup>®</sup>  
*pool water*



# 30 years OZOMAT

## *An innovation for healthy bathing*



OZOMAT-SB exclusive  
The desired exclusive innovation. Microprocess-  
-related control at its best by means of the **OZOMAT-Controller**. Controls the complete pool technology as well as the recording of all water parameters. Fully automatic  
Guarantees chemical-free bathing in the private pool up to a content of 80m<sup>3</sup>.  
**Redox power 800 Mv. at PH 7.**  
A fully automatic dehumidification provides pure ozone-oxygen.  
**Hotel complexes**  
Optional equipment



OZOMAT-SB  
Every pool owner is entitled to best healthy water quality. The **OZOMAT** fulfils such requirement. The SB is perfectly suitable for refitting in the event of already existing systems. It has the same adjustable ozone powers as before.  
**DIN 19 627** forms the basis of this technology.  
**Technical data:**  
Height: 135 cm  
Stand: 50 x 50 cm  
Performance of reaction mixer:  
8 - 10 m<sup>3</sup> / h

*The chemical-free treatment of water with Ozone-Oxygen*  
*The world-wide accepted drinking water preparation*  
*Excellent healthy bathing ways for therapeutic purposes,*  
*pools and jacuzzis*



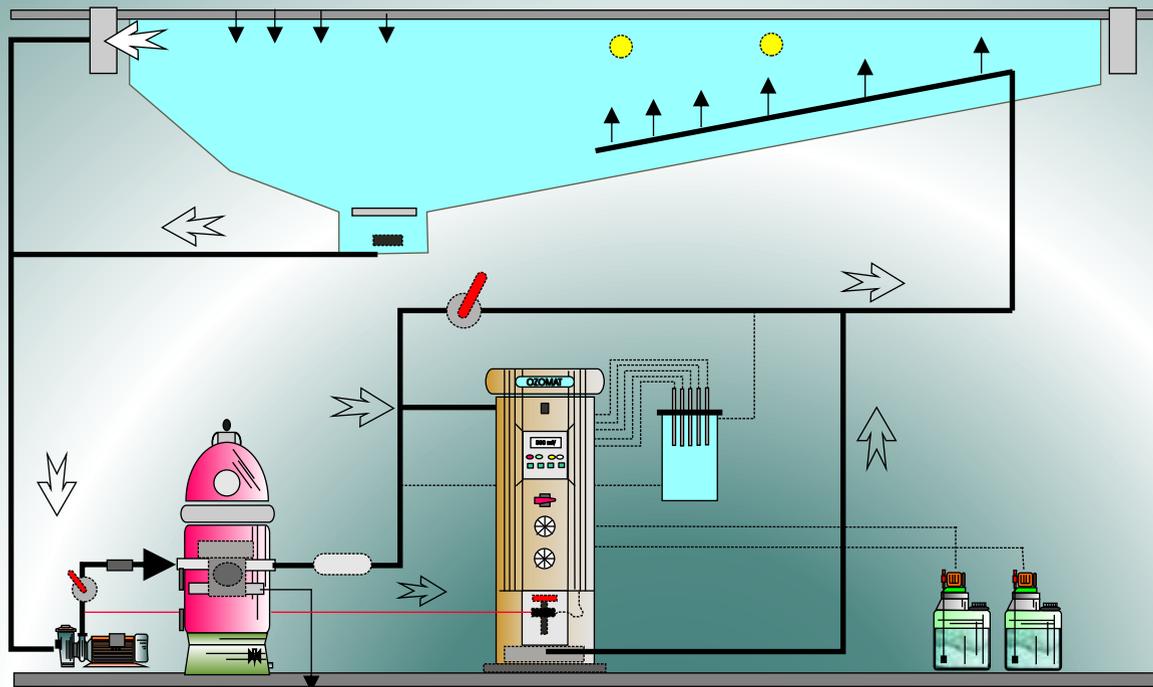
OZOMAT - WP  
**Wellness**  
in the jacuzzi-an unsurpassable pleasure.  
Healing therapy in ozone water like at a sanatorium-now available at home.  
Successful treatment of main problems.  
**Technical data:**  
For pools up to 3000 ltr.  
Trim pools up to 10 m<sup>3</sup>  
Adjusted ozone power  
Height: 95 cm  
Performance of reaction mixer: 3-4 m<sup>3</sup>/h



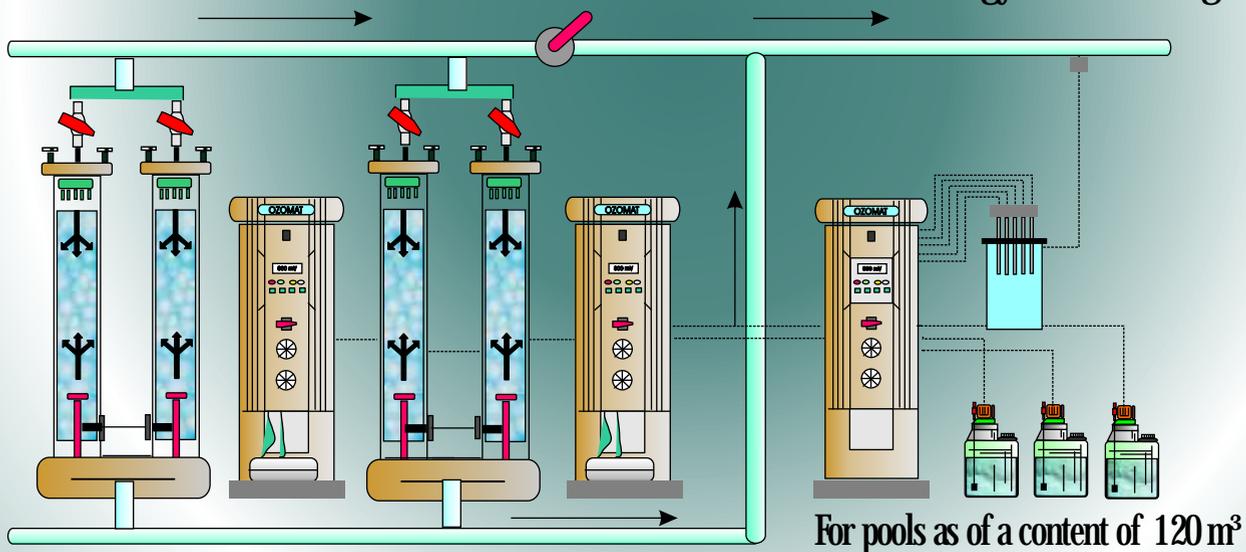
OZOMAT-III  
For large pools as of a content of 120 m<sup>3</sup>.  
Barrier system.  
Construction according to requirements.  
Mixing reactors.  
Electrolysis for a performance of 30 -60 m<sup>3</sup>/h  
Special systems according to specifications.

In principle, the installation of the Ozon-SB-System takes place after a sand filter system and heat exchanger.  
If a measurement and control system OZOMAT-CONTROLLER is used, the sensors have to be installed behind the Ozomat by means of continuous fitting.

# Installation diagram for OZOMAT-SB and CONTROLLER



Hotel technology - Module design



For pools as of a content of 120 m<sup>3</sup>

## Bathing like in a mountain lake !!

The unsurpassable pleasure to bath in water saturated with oxygen without disinfectants is incomparable. You feel the refreshing and pleasant skin friendliness. In the event that ozone is used, an extremely low depot effect of chlorine is required for a public swimming bath only by law which is hardly noticed.

The ozone produced in the OZOMAT systems is available in its purest form for such applications. In order to achieve such a quality, a fully automatic regenerating air preparation is integrated.

The ozone mixing reactor works in vacuum operation in accordance with our patented kinetics methods; only here the development of the ozone molecules performs high effectiveness on bacteria as well as organic and chemical compounds.

The ozone feeding system has such an effective operation that the needed ozone oxygen gas almost can be completely dissolved in water. Only air is left that is out-diffused by means of the nozzles or transported into the collecting vessels.

**There is no ozone in the pool water;** in fact, the only thing left is hygienically excellent water of high quality containing oxygen.

**Your specialist**  
is looking forward to your message