



# RENA™ Water Treatment Solutions

A COMPLETE RANGE OF TURN-KEY SYSTEMS FOR ANY NEED

 **ozonotech.**

# CUTTING EDGE WATER TREATMENT SYSTEMS



The Ozonotech RENA range offers capacity to cover all treatment and disinfection needs. Every system is delivered to produce ozonated water in a turn-key design.

# EASY TO BUY, INSTALL AND MANAGE. DOING THE JOB AT ALMOST NO COST.

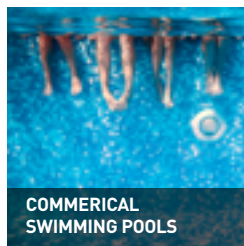
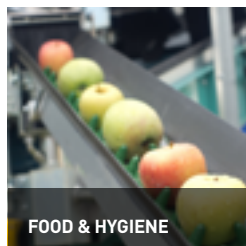
Ozonetech offers a complete range of ozone based systems for wastewater treatment and disinfection needs. Growing environmental challenges require reliable solutions to mitigate energy demand, water use, chemical use and solve dire sanitation needs - locally, regionally and globally.

Our innovative water treatment RENA systems provide efficient operation with seamless integration in a multitude of industries and applications world-wide.

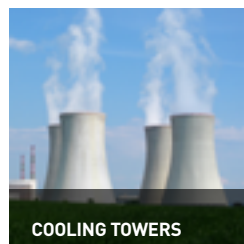
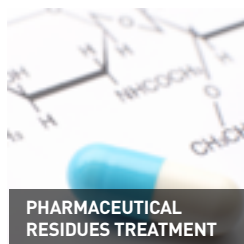
Ozonetech's high-performance RENA systems are implemented to help secure high quality process water, improve disinfection processes, treat complex industrial wastewater and improve product shelf-life in the food & hygiene sector, process manufacturing, commercial pools and many other enterprises.

Ozone water treatment brings advantages compared to chemicals and hot water. Ozone is produced on-site from air - a raw material free of cost. No purchases, no transports, no handling, no storage, no refills. Ozone decomposes to oxygen after use. No waste, no residues. In all, minimal operating cost and environmental impact.

## INDUSTRIES



## APPLICATION AREAS



# SOPHISTICATED FEATURES INTELLIGENTLY INTEGRATED

Understanding ozone treatment is all about understanding processes - and making all components work as one. That's why we design, manufacture

and test all RENA systems before delivery to ensure efficient, reliable and cost-effective operation. We wouldn't have it any other way.



## HIGH PERFORMANCE OZONE GENERATORS

Our solutions always utilize oxygen fed and liquid cooled ozone generators in order to achieve high output concentrations. This optimizes life time, reduces maintenance, minimizes energy consumption and gives sustained performance over time. Our compact design enables a small overall system footprint down to one EUR-pallet.

## INTEGRATED INJECTION MECHANISM

RENA includes a built-in gas-liquid transfer mechanism. The systems are designed to deliver minimum 95% ozone transfer efficiency for highest possible performance. Through advanced active controls optimal flow, pressure and ozone-liquid mixing are ensured.



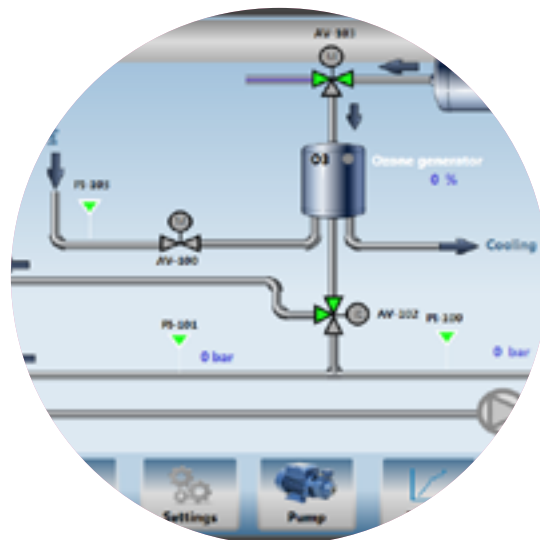
## CONTINUOUS OZONE CONTROL

Continuous monitoring and control of dissolved ozone concentration are of utmost importance for treatment results. All RENA water treatment systems continuously operate against ozone concentration set-points using oxidation potential or ozone sensors. This guarantees optimal results at lowest operating cost.

## STATE-OF-THE-ART CONTROL SYSTEM

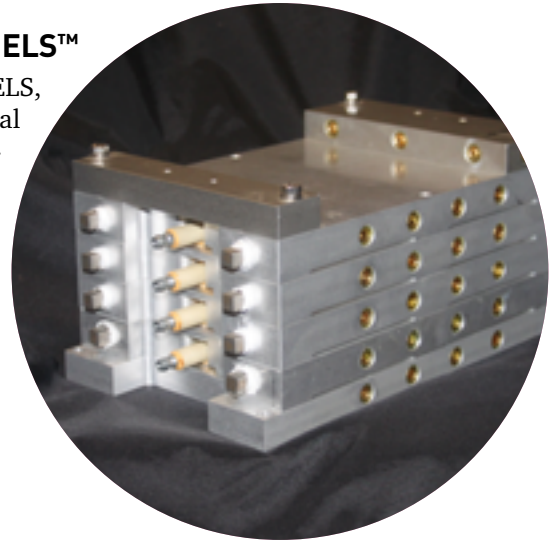
Our advanced control system incorporates an intuitive human-machine-interface (HMI) with touch panel. The control system features:

- Complete overview of operational parameters
- Programmable pressure and flow modes
- Historic trends
- Preparation for external control and SCADA
- Automatic control of ozone production



## UNIQUE ELECTRODE-FREE TECHNOLOGY, HELS™

Our ozone generators produce stable ozone output using HELS, our High Efficiency Lateral Structure technology. It gives several benefits. The ozone concentration is up to 30% higher compared to traditional Corona Discharge (CD) techniques. The heat dissipation from the ozone elements becomes very effective which increases cooling efficiency. The high ozone concentration of up to 20% enables superior gas-liquid transfer, compact design and simple system upgrade.



## DEGASSING AND OZONE DESTRUCTION

The unique full system design incorporates a carefully controlled degassing mechanism to eliminate residual ozone gas. This feature is an integral part of our safe use principles. Any residual ozone is neutralized in a built-in, catalytic ozone destructor. Degassing and ozone destruction is connected to a contact tank.

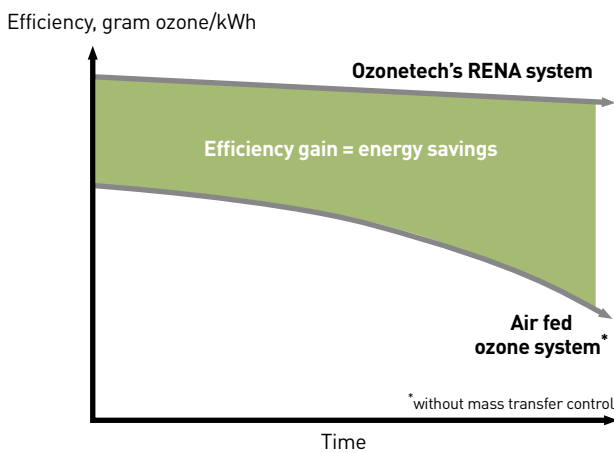


## SAFE USE

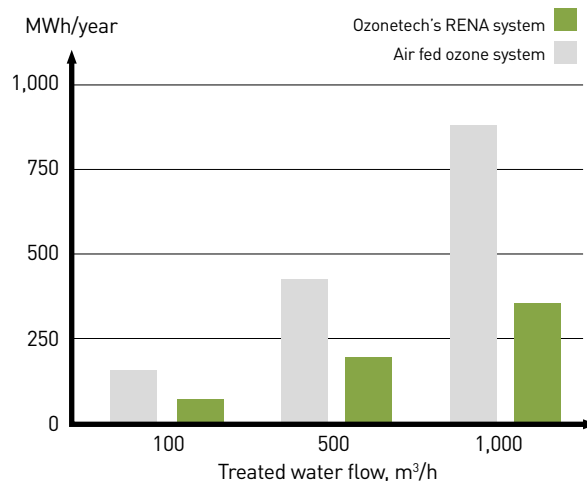
During operation the system monitors ambient ozone levels to ensure safe use at all times. Any elevated levels of ambient ozone triggers system shut-down.



## SUSTAINED EFFICIENCY MEANS HIGH ENERGY SAVINGS



The RENA system range ensures sustained overall efficiency of minimum 25 grams dissolved ozone/kWh.



Using our oxygen fed RENA water treatment systems leads to substantial energy savings compared to using air fed ozone generators.

# RENA VIVO - TURN KEY SERIES

## RENA Vivo A-series

The RENA Vivo A-series is a highly efficient system, tailored for smaller food & beverage facilities, craft breweries and treatment of smaller waste streams in various industries for Clean-in-Place (CIP) and water treatment. It effectively produces ozonated water in a compact design, 120x80x180 cm. Power input is very low at maximum 900W during operation.



## RENA Vivo B-series

The B-series is Ozonetech's wide range capacity system designed to cover most needs in disinfection and treatment in versatile environments and industries such as large breweries, pharmaceutical production and process manufacturing.

## RENA Vivo C-series

The C-series is our highest capacity ozone system of the Vivo range, designed to solve complex treatment challenges such as break-down of pharmaceutical residues and complex substances. It is a perfect solution for ensuring large flows and volumes of high quality process water with an integrated oxygen generator or external oxygen supply.



## CAPACITY AND GENERAL SPECIFICATIONS FOR RENA VIVO A-, B- AND C-SERIES

RENA Vivo model	Flow at 1 ppm (m <sup>3</sup> /h)	Size LxWxH (mm)	Contact and de-gassing tank (L)	Input power (kW)	Control system touch panel
A-series	4-30	1200x800x1800	50	0.8-1	7"
B-series	4-100	1200x800x2500	150	1-2	9"
C-series	8-200	1600x1240x2625	300 or 500	3-6	9"

# RENA VITRO - ADVANCED OXIDATION PROCESS

Using the RENA Vivo range as the strongest possible base, Ozonetech provides complete Advanced Oxidation Processes (AOP) for complex wastewater treatment. Our patented catalytic ozone-AOP systems, RENA Vitro, are a series of high capacity turn-key systems suitable for eliminating highly stable organic substances. RENA Vitro is delivered with a fully integrated AOP module which enhances the high level of radical formation our ozone solutions provide.



# RENA TELLUS

## - LARGE SCALE CUSTOMIZED TREATMENT



The RENA Tellus range is characterized by its highly customizable design for large scale treatment needs. It can treat anything from drinking water to wastewater containing high concentrations of COD and BOD. We also engineer our solutions to achieve complete removal or reduction of other critical parameters such as turbidity, TOC, specific substances and micro-pollutants. We also supply customized reaction and contact tanks for allowing proper reaction kinetics based on the characteristics of the wastewater streams.

### RENA Tellus X-series

Our tailored large scale high-capacity ozone system including advanced features for highest level of operating stability and efficiency.

### RENA Tellus Y-series

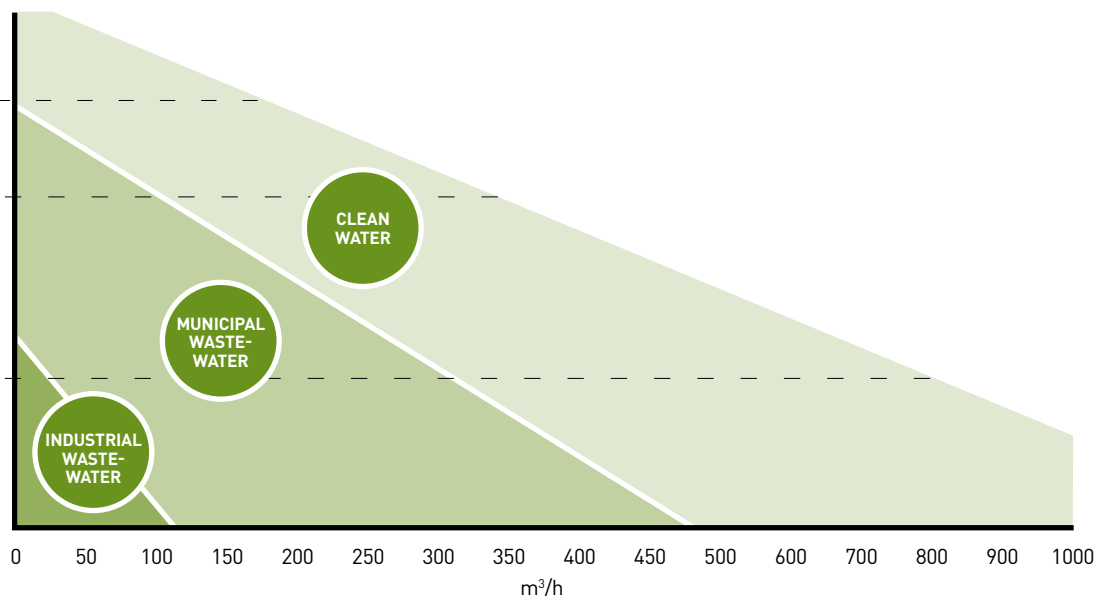
The Y-series incorporates AOP for the most challenging wastewater treatment tasks, based on the X-series design and capacity.

### SYSTEM SELECTION GUIDE

Our system range covers all needs. The selection guide indicates the choice of RENA system for your application - based on your treated water volumes and water quality.

#### RENA System

- Vivo A1-A2
- Vivo A3-A4
- Vivo B3-B4
- Vivo B5-B6
- Vivo C4-C6
- Vivo C6-C8
- Vivo C8-C10
- Vivo C10-C12
- Tellus X400-X600
- Tellus X600-X1000
- > Tellus X1000



## About Ozonotech

Ozonotech is an award-winning cleantech company that has offered premium products for air and water treatment since 1993.

Our unique technology and extensive expertise has made us a rapidly growing global company with installations on six continents. All development and manufacturing is located in Sweden. In addition, we have in-house specialists for consultation, planning, installation and service.

As a Center of Excellence within air and water treatment, we also collaborate in international efforts to develop global standards for purification solutions.

At Ozonotech, we have a strong incentive to reduce energy consumption, health risks and the impact on the environment. Our current solutions provide a multitude of benefits in the processing and food industry, real estate, commercial kitchens as well as in the retail market.

For additional information, visit our website at [www.ozonotech.com](http://www.ozonotech.com)

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