



Food & Beverage

Maximizing
safety and benefits

Minimizing
post harvest losses



Ozone - pure nature for natural products

Ozone - totally natural & chemical free

All perishables are subject to bacterial and fungal contamination with a strong impact on their storage time and shelf life.

Ozone is a smart and chemical free method to delay fungal and microbial degradation. It does not leave any residuals and minimizes the use of preservatives.

The Food Industry is challenged by ever stricter regulations and is expected to reduce its environmental impact while at the same time conserving natural resources.

Ozone - safe & sustainable

Ozone helps to reduce waste, eliminate the use of chemicals, optimise water usage yet keeping production and packaging processes unaffected and easy to control.

Ozone is a powerful oxidant that keeps pathogens such as bacteria, viruses or fungi under control, without the risk of resistance build-up.

Ozone - applied correctly

The correct design and integration of the process is crucial to benefit from all the advantages ozone offers.

But it is not only ozone. First and foremost the correct way of dissolving ozone is the key to eliminate surface losses which is of the utmost importance, especially in the food industry.



ROTURI®

Ensuring safe production

up2e! - the better choice

Our Roturi® is uniquely designed for inline gas dissolution with the focus on efficiency and availability.

Due to its unique features the Roturi® creates small bubbles. This is the key feature for utilising ozone in the food industry. The ozone is kept in solution, thus effectively putting it to work instead of losing it to the surrounding.

- ADDED VALUE OF OZONE**
- ☑ Prolonged shelf life of perishables
 - ☑ Odour elimination
 - ☑ Protected nutritional value & sensory attributes
 - ☑ Reduced energy use
 - ☑ Ensured food safety

This allows to even use ozone in open washers.

Efficiency = savings



Less energy



Little footprint



Less product losses

- APPLICABLE FOR**
- ☑ Water & cooling water recirculation
 - ☑ Product washing & glazing
 - ☑ Hydro transportation
 - ☑ CIP - product change
 - ☑ Disinfection of packaging

The efficiency of the dissolution is the key to successful and cost saving plant operations. As a result, less energy, less gas and less footprint is needed.



High quality technology

High quality produce deserves high quality technology.

The conscious choice of high quality materials and smart design, both assure long product lifetime and durability of the equipment, thus supporting productivity and profitability.

Roturi® for fresh carrots



Traditionally processed, after 25 days stored in bag at ambient temp.

„off-the-shelf“ ozonation after 25 days stored in bag at ambient temp.

Roturi® ozonation after 25 days stored in bag at ambient temp.

Source: Ozoniq - team members in company group and with collaboration partners

Benefits at a glance

- The equipment is kept clean.
- Reduced to no biofilm formation inside heat exchangers and basins thus ensuring better performance.
- Microbiological load is reduced by at least 2 logs, yeast and mould is eliminated.
- Chlorates in the product and the water is reduced.
- Reduces oxidation time and as a consequence increases production time.

Securing food safety

Ozone is a more powerful sanitizer than UV, chlorine or other chemicals. Yet only in combination with the Roturi® for ideal ozone dissolution, our clients are assured to underline their reputation as being engaged in sustainable and sound practices.





We look ahead!

Features

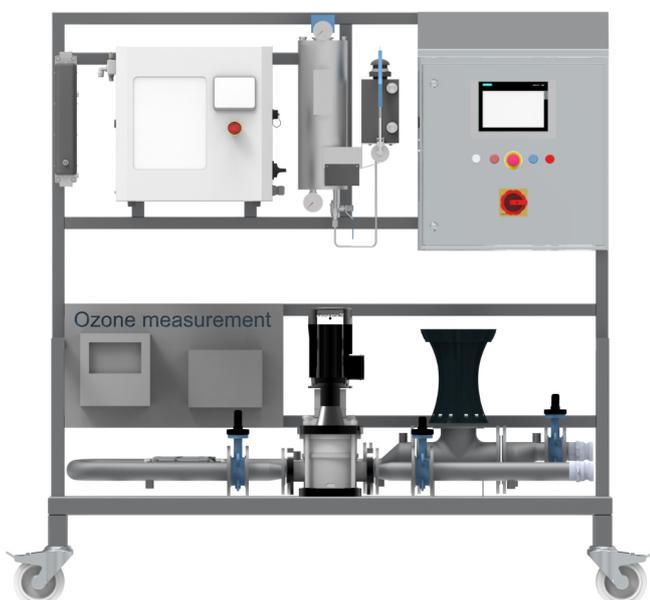
- ▷ Fully fetched
- ▷ Ready to operate
- ▷ Skid mounted
- ▷ Especially designed for food processing
- ▷ Reduction or elimination of chemicals
- ▷ Easy, quick reliable microbial control
- ▷ Lowers OPEX and food waste

Application examples

- ▷ Disinfection
- ▷ Biofilm removal & prevention
- ▷ Microbiology control
- ▷ Incoming & process water treatment

Process description

The a3op® food skid combines ozonation with a unique gas mass transfer, thus creating an advanced physico-chemical process. Our proprietary Roturi® and the process control achieve a direct and instant ozone dissolution at ambient pressure and temperature.



* Technical changes and/or modifications/errors subject to change.



Benefits

- ▷ Increased shelf-life
- ▷ Reduced process down times
- ▷ Increased heat exchanger capacity

Technical data (a3op® food skid) *

Measures (LxWxH):	150cmx50cmx180cm
Hydraulic flow**:	up to 10m³/h
Feed / Discharge	DN50/2" or DN25/1"
Power connection:	380/400V, 16A, Ceekon
Aver. power need:	6kW
Ambient temp:	10 - 35°C
pH:	4 - 12
Protection Class:	IP55 (higher if needed)
Material:	1.4571 or food grade

Main components

- ▷ Roturi® DN100 in T-piece with special hood
- ▷ Ozone generator 60 - 250gO₃/h
- ▷ Closed cooling loop for ozone generator
- ▷ Feed pump (on demand)
- ▷ Oxygen generator (on demand)
- ▷ Fittings, valves, piping
- ▷ Electrical cabinet, instrumentation, SCADA
- ▷ EI&C with various sensors (e.g. O₃, temperature, flow)
- ▷ Ambient air control

** Depending on application and gas flow