

HACCP. MODERN DISINFECTION TECHNOLOGIES



DISINFECTION SYSTEMS FOR DRY BREAKFAST CEREALS, SPICES, NUTS, AND OTHER PRODUCTS

BOZON

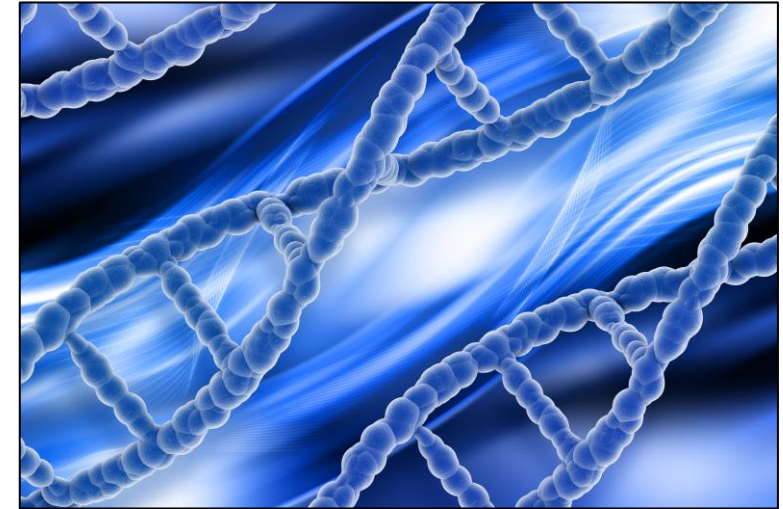
CATALOG - 2027

- The BOZON-M decontamination system is designed for the cold decontamination of dry breakfast foods and other food products, such as: nuts, coffee, cocoa beans, sesame seeds; dry mixes for baby food; paprika, coriander, cinnamon; dried fruits, snacks, and others.
- The BOZON-M disinfection system is used to disinfect dried seafood (TM “Morski”), herbs and spices (“Mareven Food Ukraine,” “Dom Pryanostei” (Belarus)), nuts and dried fruits (“SPICE EXPERT” (Uzbekistan)), baby and dietary foods (“LEOVIT”), and mixes for baked goods (“OSNOVY VKUSA”), among others.
- The BOZON-M disinfection system is a new and effective way to provide people with high-quality and safe food.



WHY OZONE AND UV RADIATION

- *Ozone is a powerful and environmentally friendly disinfectant.*
- *Ozone (CAS No. 10028-15-6) is recognized as a food additive. It can be safely used during the handling, storage, and processing of food products.*
- *UV irradiation is approved for food decontamination by the Food and Drug Administration (FDA, 21 CFR 173.368).*
- *The combined use of ozone and UV radiation provides a synergistic effect in disinfection, making it possible to effectively treat food products at room temperature without altering their composition or physical state.*



- <https://www.waterlight.pro/uf-i-ozonovi-tehnologiyi/uf-oprominennya/>
- <https://www.waterlight.pro/uf-i-ozonovi-tehnologiyi/ozonuvannya/>



UV DISINFECTION MECHANISM

- *One of the most effective methods of food decontamination is a method based on the combined effect of ozone and UV (ultraviolet) radiation on food products.*
- *Under the influence of UV rays, microorganisms on the surface of the food are destroyed, including E. coli, staphylococci, streptococci, bacteria of the genera Pseudomonas and Clostridium, fungi, yeasts, and other microorganisms.*

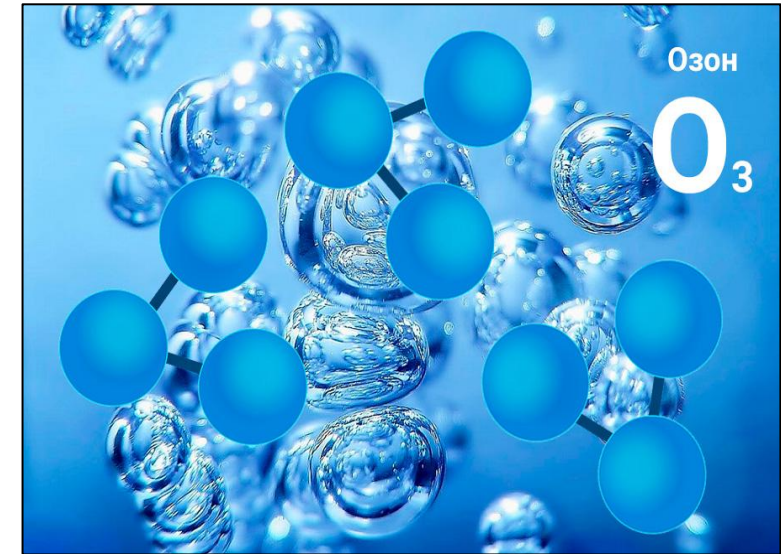


<https://www.waterlight.pro/cold-disinfection-in-the-food-industry/>



OZONIZATION

- *Ozone is a powerful and environmentally friendly disinfectant.*
- *Ozone (CAS No. 10028-15-6) is recognized as a food additive. It can be safely used during the handling, storage, and processing of food products (FDA, 21 CFR 173.368).*
- *By penetrating the product, ozone destroys the cellular structure of microorganisms and ensures the necessary level of disinfection.*
- *High concentrations of ozone neutralize toxins and mycotoxins that form in food products.*
- *The combined use of ozone and UV radiation results in a synergistic effect of the disinfection agents, making it possible to effectively treat food products at room temperature without altering their composition or physical state.*
- *Ozone is produced from oxygen using ozone generators, which are part of the BOZON-M disinfection system.*



<https://www.waterlight.pro/uf-i-ozonovi-tehnologiyi/ozonuvannya/>



BOZON - M DISINFECTION SYSTEM

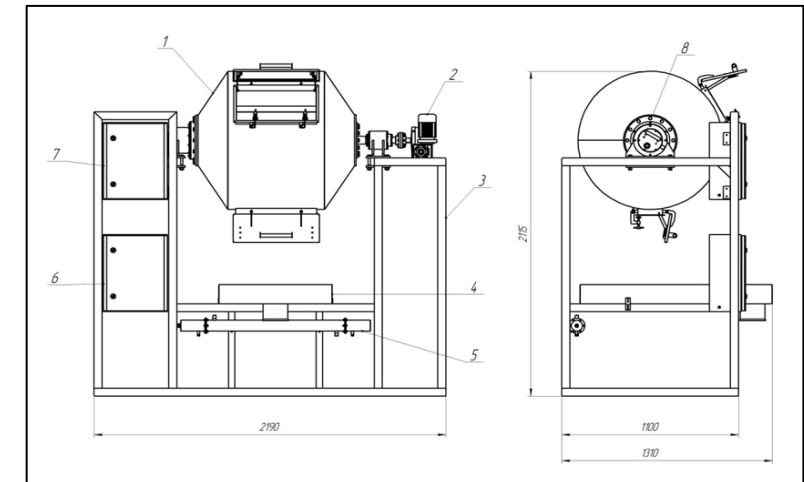
The BOZON-M disinfection system provides:

- The ability to disinfect dry bulk products without heating, which helps preserve their vitamin and amino acid content as much as possible.*
- The effectiveness of decontamination depends solely on the ozone concentration in the decontamination chamber, the power of the installed UV lamps, and the duration of the treatment cycle.*
- Extending the treatment time significantly improves the sanitary indicators of the decontaminated products without altering their taste or nutritional qualities.*
- The specific energy consumption required for food disinfection is many times lower than that required for thermal disinfection methods.*



<https://www.waterlight.pro/cold-disinfection-in-the-food-industry/de-contamination-of-dry-breakfast-foods-nuts-and-spices/>

- The units consist of a cylindrical disinfection chamber (1), an electric drive for the rotating disinfection chamber (2), a frame (3), a chute for unloading treated products (4), an ozone generator (5), control panels (6, 7), hatches for loading and unloading products, and an ultraviolet radiation source (irradiator).
- The disinfection chamber housing and the chute are made of stainless steel.
- The design of the disinfection chamber allows it to be washed with hot water.
- The disinfection chamber can be loaded using a screw conveyor.





TECHNICAL PARAMETERS

<i>Parameter</i>	<i>Unit</i>	<i>BOZON M100</i>	<i>BOZON M250</i>	<i>BOZON M750</i>	<i>BOZON M1250</i>	<i>BOZON M1750</i>	<i>BOZON M2500</i>
<i>Load capacity</i>	<i>dm³</i>	25	50	150	250	350	500
<i>Capacity</i>	<i>kg/h</i>	10 ... 15	20 ... 35	50 ... 100	100 ... 185	185 ... 375	375 ... 600
<i>Power</i>	<i>kW</i>	0,25	0,35	0,75	1,35	1,5	2,0
<i>Time required for decontamination</i>	<i>h</i>	0,45 ... 1,5	0,45 ... 1,5	0,45 ... 1,5	0,45 ... 1,5	0,45 ... 1,5	0,45 ... 1,5
<i>Dimensions</i>	<i>m</i>	1,6x1,0x1,7	2,0x1,3x2,1	2,5x1,5x2,1	3,4x1,5x2,3	3,4x1,8x2,5	3,4x2,1x2,6



TECHNOLOGY

- *The products to be disinfected are loaded into the disinfection chamber, where they are treated with ozone and exposed to germicidal UV radiation.*
- *To ensure uniform treatment, the products are gently agitated inside the disinfection chamber, which rotates around its axis.*
- *To minimize mechanical damage to the products, the disinfection chamber operates in a low-speed, reverse-rotation mode.*



VIDEO: <https://www.youtube.com/watch?v=UfB6xqtHmyl&t=48s>



SL Screw Loader

- The SL screw loader is designed to lift dry bulk products to heights (depending on the model) of 1.65 m, 2.15 m, and 2.5 m. The loader's rated capacity is 5 metric tons per hour. The screw diameter is 120 mm.
- It is used to load spices, grains, cereals, dried fruits, and other products into the UV disinfection chamber of BOZON rotary-type UV units. It can also be used to load other process equipment.
- The screw loader is made of stainless steel and has an electric drive. The loader is controlled via a control unit with which it is equipped.

No	Parameter	Unit	SL120.165ss	SL120.215ss	SL120.250ss
1	Lifting Height	m	1,65	2,15	2,5
2	Power	kW	0,75	1,1	2,2
3	Base Dimensions	m	1,5x0,7	1,5x0,7	2,0x0,7
4	Weight	kg	140	165	245



SL screw loader SL120.165ss
(<https://www.waterlight.pro/cold-disinfection-in-the-food-industry/stainless-steel-screw-conveyor/>)



ADVANTAGES

- *Ability to disinfect dry food products without heating them or changing their physical state.*
- *Cost-effective; specific electricity consumption does not exceed 10 kWh/t.*
- *Operating staff: 1 person.*
- *The BOZON-M decontamination system is equipped with modern UV lamps housed in protective tubes made of clear quartz glass.*
- *Simple and reliable operation.*
- *The disinfection process takes place at room temperature and atmospheric pressure.*
- *The cost of disinfecting 1 metric ton of product does not exceed 10.5 EUR.*





ECONOMIC EFFICIENCY

The disinfection systems developed by our company are based on the use of environmentally friendly and safe disinfection methods—UV irradiation and ozonation.

This makes it possible to:

- achieve significant savings in the energy resources used for disinfecting (pasteurizing) products, ensuring a return on investment within 1–2 years;*
- reduce the amount of preservatives and improve the quality of food products;*
- extend the shelf life of products with short shelf lives.*

We are confident that the disinfection technologies presented here will help provide you and your children with high-quality products, reduce the use of chemical preservatives, and increase your company's profitability.



WHAT WE DO TODAY SHAPES OUR FUTURE



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