The current situation with the pandemic coronavirus virus in the Pacific and, subsequently, in Georgia, represents us continuously disinfecting different populations and areas. Other solutions to the problem of disinfectant solution are different concentrations. Such a process needs to be implemented, a solution of nanotechnology inventory, and the ego impossible to complete without support. Such processing is a day-to-day life out of reach.

Specialist companies «Innosystems» elaborate their own vision of solutions to the problem, the loss of energy, stability, efficiency, cost savings, cost recovery, maintenance and repair.

Our company offers - disinfectant water, air, home, medical care, child care, school and other specialty lamps.

There are areas where everyone is using the ozone generator.

What type of disinfection system you have opted for, our technologies, design, constructor and engineer clear and reverse engineer

A bactericidal lamp has less harm to the human body (with proper selection and use). It was found that a flask made of uvolev glass with a special coating of titanium oxide does not transmit rays with a wavelength of less than 257 nm. So the ozone-forming line of the spectrum is filtered out (blocked) as much as possible. For the first time, this was created by Philips.

Ozone free lamp suitable for:

- disinfection of air, surfaces and objects,
- disinfection of drinking water and pools,
- processing and sterilization of medical instruments.

Often, structurally, it is a long cylindrical tube made of uvolev glass. Food is carried out from an electric network with a voltage of 220 V with an alternating current frequency of 50 Hz. They differ from each other in terms of the length of the emitted waves, the degree of radiation activity, power - depending on the model.

Scope: from production to apartment

First of all, this is a means of sanitization, especially appropriate in the season of epidemics of infectious diseases, since they successfully fight against types of airborne infections. And also indispensable in industrial enterprises.

The need for industrial use

Where bactericidal lamps are primarily required:

• at medical enterprises, in hospitals, in pharmacology, in laboratories, at blood transfusion stations, in dressing rooms and in-patient clinics and first-aid posts;

• in food production: in cold shops of meat and dairy plants, in warehouses;

• in kindergartens, in educational and development centers, schools;

• for water treatment: domestic, in public pools (complete with a pump), wastewater;

• in public buildings with a long congestion of a large number of people, especially during the peak of seasonal viral infections.

How will the antibacterial lamp in the house help:

• fight against viruses (including flu) and bacteria;

• kill mold and mildew in wet places (in the bathroom, baths, saunas, in the kitchen) and pantries;

• disinfection of storage areas for vegetables and other food products;

• Low power models (about 18 W) are appropriate for home disinfection and small offices. It is advisable to use daily during the peak period of respiratory viral infections. At other times, for prevention, it is enough to use 1-2 times a week.

Depending on the design, they are divided into:

• open type (no people should be inside the process). They carry out direct irradiation and are placed on the wall, ceiling or on a tripod;

• closed type (recirculators).

In the first case, the radiation is scattered unhindered throughout the internal volume of the room. In the second, disinfection is carried out sequentially with the help of a fan in the structure.

A closed bactericidal lamp as an air purifier at home is the most optimal option.

How to determine the sterilization time?

To determine the minimum duration T min you need to know the following indicators:

• performance (Q);

• volume of the room (V);

• time to reach the operating mode of T output (indicated by the manufacturer in the passport).

Substitute the data in the formula:

T min = V (m^3) / Q (m^3 / hour) * 60 (minutes) + T output (minutes).

For example, for a room of 60 cubic meters. m and lamps with a capacity of 100 cubic meters. m / h and an exit time to operating mode of 10 minutes, the minimum operation interval will be:

T min = 60 cc m / 100 cu m / hour * 60 minutes + 10 = 46 minutes.

Determine the required number of lamps

For example, consider the situation: a school class or a children's playroom with a total area of 50 square meters. m and a ceiling height of 3 m. Disinfection is carried out for 15 minutes (0.25 h) in the absence of people.

It is necessary to determine: the number of open-type devices for controlling the bacteria Staphylococcus aureus (Staphylococcus aureus).

We use technical standards in accordance with the Guidelines for the use of radiation for air disinfection (R 3.5.1904-04).

Table 1. Source data

Name and characteristic of the parameter Designation Parameter value	Designation	Parameter value
Bactericidal efficacy	Jбк, %	99,9
Volumetric dose	Hv, Дж/куб. м	385
Bactericidal flow	Фбк·л, Вт	4,5
Number of lamps in a linear fixture	Nл	1
Utilization rate of the tank. flow	kф	0,8
Safety factor	Кз	1,1
Duration of effective exposure at which a given efficiency is achieved	T, ч	0,25

Table 2. Performance standards

Category	Types of premises	The norms of microbial contamination, CFU * in 1 cubic meter. m	Staphylococcus aureus	Jбк, %,	Hv, J / m3 (reference values
		Total microflora		no less	
I	Surgical, preoperative, maternity, sterile areas of the central hospital, children's wards of maternity hospitals, wards for premature and injured children	no higher than 500	no higher than must not be	99,9	385
II	Dressing rooms, rooms for sterilization and pasteurization of breast milk, rooms and departments of immunocompromised patients, rooms of intensive care units, bacteriological and virological laboratories, blood transfusion stations, pharmaceutical workshops for the manufacture of sterile dosage forms	no higher than 1000	more than 4	99	256
III	Chambers, cabinets and other premises of medical facilities (not included in categories I and II	not standardized	not standardized	95	167
IV	Children's playrooms, school classes, domestic premises of industrial and public buildings with a large crowd of people with a long stay	not standardized	not standardized	90	130
V	Smoking rooms, public toilets and landings	not standardized	not standardized	85	105

* CFU - colony forming units

From table 2 we determine the volumetric dose for the IV category: Hv = 130 J / cu. m

Using the above data, using the formula we determine the required number of devices of the open type:

No = (h * S * Hv * C3) / (Nl * Fbk • l * kf * T * 3600) = (3 * 50 * 130 * 1.1) / (1 * 4.5 * 0.8 * 0 , 25 * 3600) = 6.6 = 7 pcs.

An example of scheduling inclusion (for kindergarten)

In preschool institutions, disinfection is especially justified during the spread of SARS. It is necessary to do it according to the schedule under the supervision of a nurse and observing the rules:

• remove children before the procedure;

• do wet cleaning;

• ventilate for 15 minutes;

• turn on exposure for 30 minutes;

• After completing the procedure, ventilate for 5 minutes.

The number of quartzing procedures 1-2 times a day.

Example of a disinfection schedule for a kindergarten

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Example of a disinfection schedule for a kindergarten

table options

Room	Time				
	7.00-7.30	11.00-11.30	14.00-14.30	16.00-16.30	17.30-18.00
The reception	+		+		
Playroom			+		+
Bedroom		+		+	

Possible installation and application errors

Improper operation does not guarantee the desired effect, but gives a deceptive impression of protection. At the same time, energy is unnecessarily consumed and device wear is in vain.

Popular bugs:

improper placement - it is necessary to take into account the flow pattern of air flows (often this is a door-window line), the location of ventilation systems and microflora emission sources;

the use of products with uncertain technical parameters or expired service life;

violation of safety precautions and decontamination schedules.

OZONE GENERATOR OZ-NR-50-900

The ozonizer is designed to generate ozone in industrial air.

Productivity: on ozone from 20 to 50 g / hour;

by air up to 900 m^3 / hour;

cultivated area, up to 1200 m3.

Weight no more than 25 kg;

dimensions: 250x600x300mm;

molasses of air900 m3 / hour,

electric power: 650W;

power supply: 220V.

Terms of Use:

ambient temperature from -20 to + 40 ºC;

humidity up to 90%.

The ozonizer does not change its parameters at temperature

-50ºC to +50 ºC.

The life of the ozonizer is at least 5 years.

Warranty period is 12 months from the date of sale.

Ozonizer Modes:

1) ventilation;

2) The minimum mode of ozonation;

3) Intensive ozonation regimen.

Appointment:

Deactivation of bacterial, viral and mold agents, allergens, micro insects;

Disinfection, deodorization and sterilization of indoor air, surfaces of technological equipment, objects and products;

Destruction of odors, pores and aerosols of toxic compounds in the air.

airborne contamination

Cleaning efficiency: from odors up to 98%; reduction of the total microbial contamination of the air environment - 95-99%.