

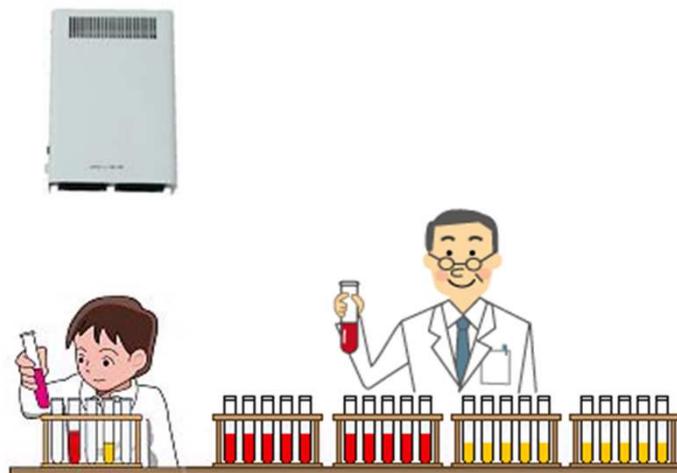
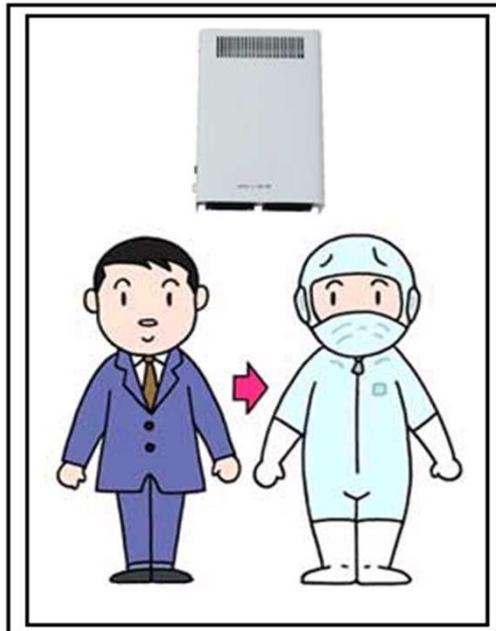
**Heat-tech**

**Leave Sterilizing and Deodorizing to  
'Ultraviolet-rays and Ozone'**

**Wall-mounted quartz lamp type ozone generator**

**OZ-10 / OZ-20**

**Sanitization  
Deodorization  
Mold Prevention**



# OZ-10/OZ-20

is sanitizes and deodorizes by ultraviolet rays and ozone.

## Sterilize ultraviolet

There is a strong effect that kills bacteria and microorganisms to ultraviolet light emitted from the UV lamp, it will 99.9% sanitization viruses and bacteria floating in the air, such as in your home or office.

Ability for sterilization data of ultraviolet rays(Kyoto Pref. Univ. Med. investigation)

The irradiance level which kills the bacillus on a culture medium 99.9% in 76 seconds.

Gram-negative bacteria	mW/cm <sup>2</sup>	Gram-Positive bacteria	mW/cm <sup>2</sup>
Proteus Vulgaris Hau.	3.8	Streptococcus hemolyticus	7.5
Shigella dysenteriae	4.3	Staphylococcus albus.	9.1
Eberthella typhosa	4.4	Staphylococcus aureus.	9.3
Escherichia coli	5.4	Mycobacterium tuberculosis.	10
Vibrio comma-Cholera.	5.5	Bac.mesentericus fascus.	18
Pseudomonas aeruginosa.	10.5	Bac.subtills Sawamura.	21.6
Mod stres	mW/cm <sup>2</sup>	Virus	mW/cm <sup>2</sup>
Mucor rocemosus	35.4	Influenza	6.6
Penicillum roqueforti	26.4	Infectios Hepititus.	8

## Mechanism of ultraviolet sterilization

1. When UV lamp lights up, the surface temperature of a lamp increased about 10 °C, the air of the lamp circumference is warmed, and an updraft occurs.
2. At this time, various germs and the virus which are floating in the air are sterilized by ultraviolet rays, and the pure air mixed with the ozone which arose from oxygen in the air simultaneously comes out from a slit on top.
3. The circulation cycle of this air is continued during ultraviolet-rays lamp lighting, and air in the room interchanges to the clean normalized air gradually.

All ultraviolet-rays sterilization cycles are performed inside a lamp cover, and ultraviolet rays do not leak into the room.

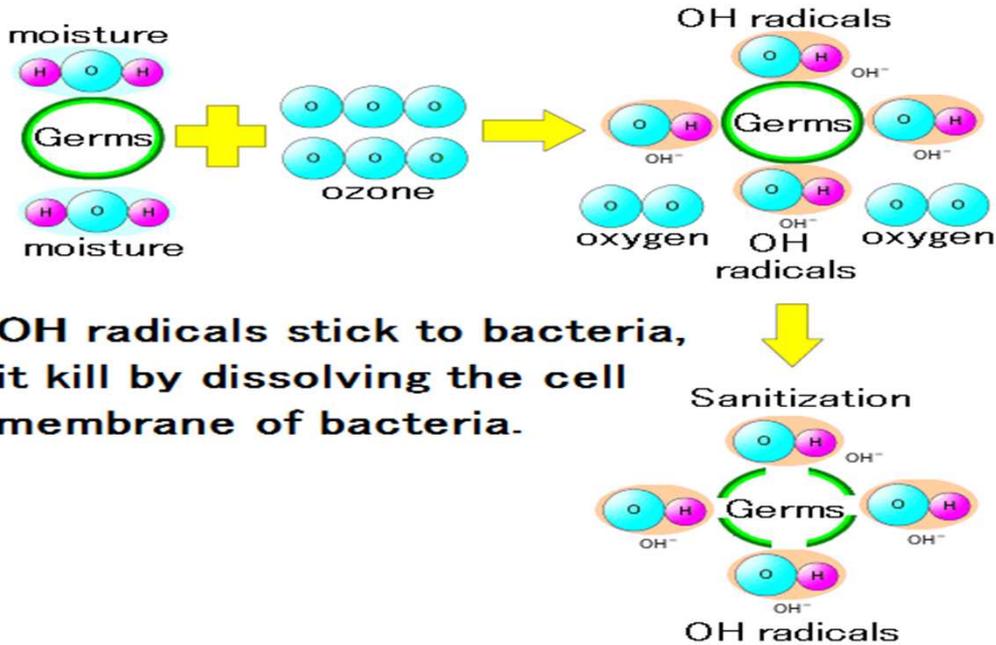
## Safety and ultraviolet intensity

The strength of the ultraviolet rays emitted from the UV lamp currently used for OZ-10 / OZ-20 is 0.2mW / cm<sup>2</sup>, and is almost the same as the natural ultraviolet rays at the cloudy morning. As long as you do not continue to look directly at the lamp from ozone convection mouth of equipment on top of the can be used with confidence. There is no problem even if you look at the reflection of blue light visible from the (gap of vertical) slit on the left and right side of the lamp cover.

### 3 power of ozone

#### 1. Sanitization Power

Ozone has a strong oxidizing power, it killed by directly destroy the cell membrane of bacteria and viruses. It is said that the bactericidal power is also 7 times the chlorine. In recent years, hospitals have introduced the ozone in the hospital infection control has also increased.

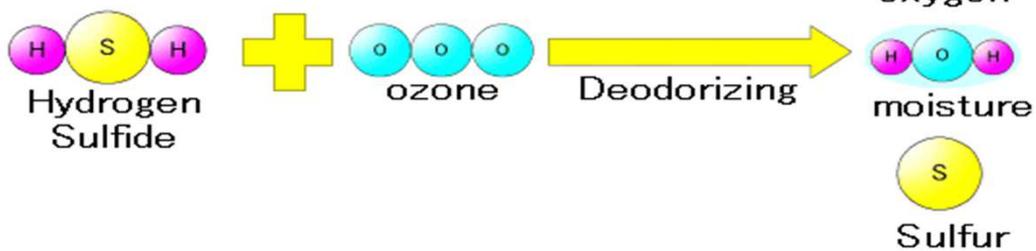


#### 2. Deodorizing Power

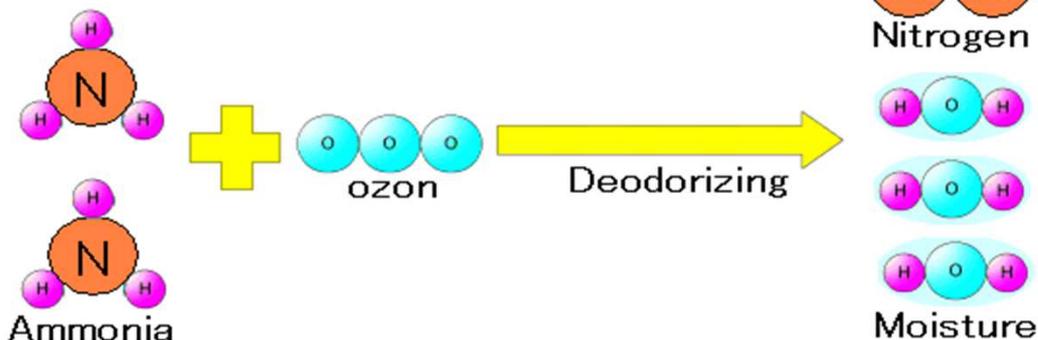
The strong oxidizing power of ozone decomposes a chemical combination of the ingredient which is the stinking one origin, and deodorizes it powerfully. For example, the amine which is the main ingredients of the fishiness of a fish can be removed almost completely. The deodorizing effect of ozone is used in broad fields, such as Institution for the aged, Hotel, and

##### Smell rotten onions

##### Smell of rotten eggs



##### Smell of toilet



## Decomposition and deodorization from the source of the odor in pure ozone

OZ-10 / OZ-20 generates rich pure ozone with high-performance ultraviolet rays lamp, and, in strong ozone of the oxidation power, the resolution deodorizes a cigarette / a body odor / a garbage restroom / the cooking smell that is the causative agent of the smell strongly. The smell is easy to be absorbed by a fabric article, and it is discharged again in a few minutes to the whole air. As for the OZ-10 / OZ-20, the resolution deodorizes the cause for an unpleasant smell to hide behind in the depths such as a mold virus floating in the air or the

## Deodorization data based on ozone (ozone yearbook 94 edition)

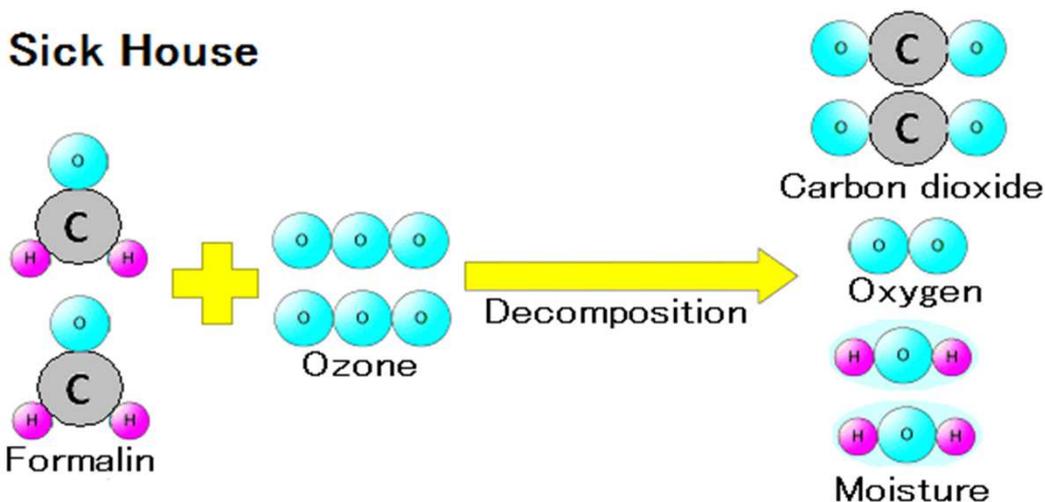
Remove the following material more than 90% at ozone density 0.1ppm.

Odorous ingredient table		Heat-tech						
		Hospital / living room	Restroom	Sanitation room	Feces and urine room	Urine smell	Stool smell	Sweat / body odor
Bad smell ingredient								
Nitrogen-based	Ammonia(An irritating odor)	●	●	●	●	●		●
	Trimethylamine(The decomposition smell of the fish)	●	●	●	●	●		
Sulfur-based	Hydrogen sulfide(The decomposition smell of the egg)	●	●	●			●	
	Methyl Mercaptane(The decomposition smell of the onion)	●	●	●			●	
Organic	Acetaldehyde(A grassy-smelling irritating odor)	●						
	Formaldehyde(An irritating odor to blur on eyes)	●						●
	Acetic acid(An irritating odor)	●						

## 3. Decomposition Power

The strong oxidizing power of ozone can decompose almost all toxic substances chemically. For example, nicotine, tar and the carcinogen which are contained in the smoke of tobacco, the formaldehyde called cause of a "new-building disease", dioxin, pollen, etc. are disassembled. Moreover, in order to also disassemble the substance used as the ingredient of the color, there is also a bleaching effect.

### Sick House



## Safety of Ozone

Ozone is a substance very unstable in the atmosphere, and although sterilizing properties are very strong, since it will decompose if it reacts to an organic matter etc. and they return to oxygen, unlike chlorine etc., there are no worries about residual toxicity.



**OZ-10**



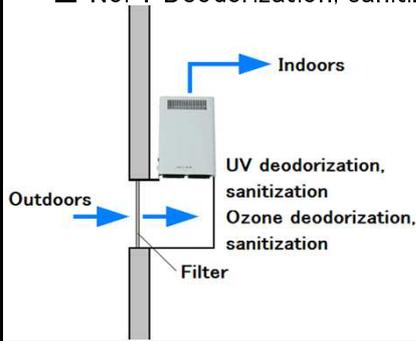
**OZ-20**

**【 Specifications 】**

Article name	OZ-10	OZ-20
●Quantity of ozone outbreak :	10mg/h	20mg/h
●Ozone gas flow quantity :	30m <sup>3</sup> /h	60m <sup>3</sup> /h
● strong driving :	Consecutive driving	
● middle driving :	Intermittent driving On7min/Off3min	
● weak driving :	Intermittent driving On6min/Off5min	
● power supply:	AC100V~240V 50/60Hz	
●Consumption electricity :	16W	26W
●Setting method :	Wall hangings type	
●Dimensions :	80mm×230mm×66mm	150mm×230mm×66mm
●Weight :	1.5kg	2.5kg
●Case materials :	SUS 430 t1.0	
●Colored painting:	AN-90(White)	

**Ultraviolet sterilization and powerful ozone deodorant Method of utilizing OZ-10, OZ-20**

■ No. 1 Deodorization, sanitization of air inlet



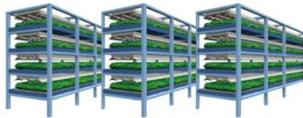
《 Problem Point 》

The micro virus which cannot be caught by the filter, it was invaded and troubled.

《 ⇒Kaizen Point 》

After sterilizing the open air by UV-clean, it put in indoors. The micro virus has been disinfected.

■ No. 2 Sterilization of plant factory



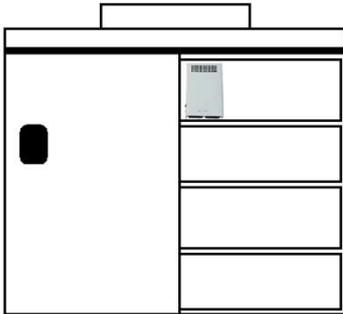
《 Problem Point 》

We were in trouble sometimes mold grows.

《 ⇒Kaizen Point 》

We have installed the OZ-20. Since the eradication with ozone and ultraviolet light Mold is no longer noticeable.

■ No. 3 Sterilization of large refrigerator



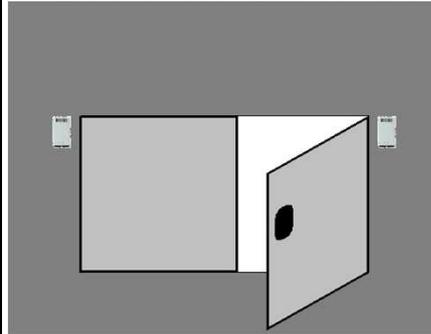
《 Problem Point 》

We were in trouble sometimes mold grows.

《 ⇒Kaizen Point 》

We have installed the OZ-20. Since the eradication with ozone and ultraviolet light Mold is no longer noticeable.

■ No. 4 Sterilization of cold storage warehouse



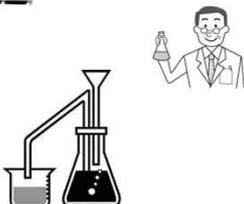
《 Problem Point 》

We were in trouble sometimes mold grows.

《 ⇒Kaizen Point 》

We have installed the OZ-20. Since the eradication with ozone and ultraviolet light Mold is no longer noticeable.

■ No. 5 Sterilization of laboratory



《 Problem Point 》

We were in trouble various germs to breed.

《 ⇒Kaizen Point 》

We have installed the OZ-20. Since the eradication with ozone and ultraviolet light Bacteria is no longer noticeable.

Ultraviolet sterilization and powerful ozone deodorant Method of utilizing OZ-10, OZ-20

■ No. 6 Sterilization of quality control room



《 Problem Point 》

We were in trouble various germs to breed.



《 ⇒Kaizen Point 》

We have installed the OZ-20.

Since the eradication with ozone and ultraviolet light Bacteria is no longer noticeable.

■ No. 7 Sterilization of the prototype chamber



《 Problem Point 》

We were in trouble sometimes mold grows.



《 ⇒Kaizen Point 》

We have installed the OZ-20.

Since the eradication with ozone and ultraviolet light Mold is no longer noticeable.



■ No. 8 Sterilization of the cooking chamber



《 Problem Point 》

We were in trouble sometimes mold grows.



《 ⇒Kaizen Point 》

We have installed the OZ-20.

Since the eradication with ozone and ultraviolet light Mold is no longer noticeable.



■ No. 9 Sterilization of the culture chamber



《 Problem Point 》

We were in trouble various germs to breed.

《 ⇒Kaizen Point 》

We have installed the OZ-20.

Since the eradication with ozone and ultraviolet light Bacteria is no longer noticeable.



■ No. 10 Eradication of miso packing room



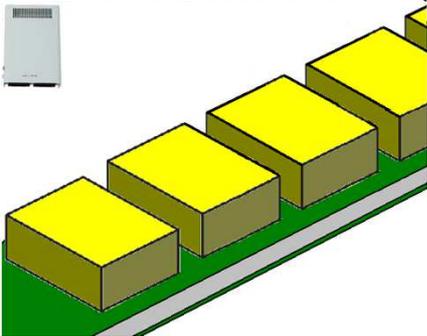
《 Problem Point 》

We were in trouble sometimes mold grows.

《 ⇒Kaizen Point 》

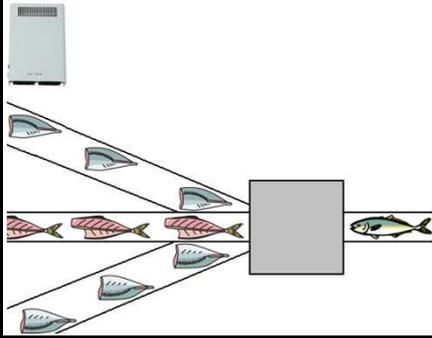
We have installed the OZ-20.

Since the eradication with ozone and ultraviolet light Mold is no longer noticeable.



**Ultraviolet sterilization and powerful ozone deodorant Method of utilizing OZ-10, OZ-20**

■ No. 11 Sanitization deodorization of fish processing hall



《 Problem Point 》

We were in trouble every morning smell is very.

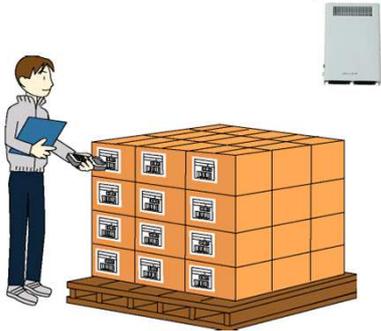
《 ⇒Kaizen Point 》

Install the OZ-20, was allowed to run overnight the end of work.

Since the deodorizing disinfecting with ozone and ultraviolet light, smell lightened.

It got to go to smooth production.

■ No. 12 Deodorization, sanitization of food warehouse



《 Problem Point 》

We ware in trouble sometimes mold grows.

《 ⇒Kaizen Point 》

We have installed the OZ-20.

Since the eradication with ozone and ultraviolet light

Mold is no longer noticeable.

■ No. 13 Night sanitization, deodorization of food factory



《 Problem Point 》

We ware in trouble sometimes mold grows.

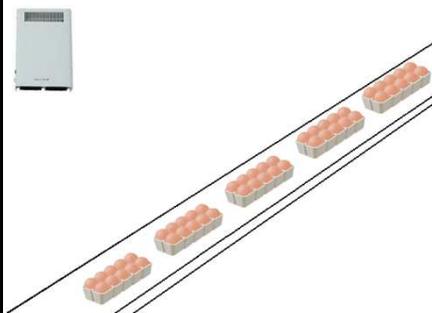
《 ⇒Kaizen Point 》

We have installed the OZ-20.

Since the eradication with ozone and ultraviolet light

Mold is no longer noticeable.

■ No. 14 Environment sanitization of egg plant



《 Problem Point 》

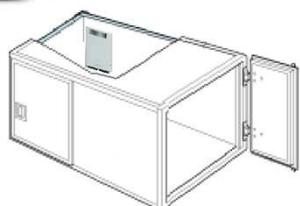
We were thinking of a new species of bacteria measures.

《 ⇒Kaizen Point 》

We have installed the OZ-20.

We were able to rest assured to sterilize ozone and ultraviolet light.

■ No. 15 Eradication of delivery car cool box



《 Problem Point 》

We ware in trouble sometimes mold grows.

《 ⇒Kaizen Point 》

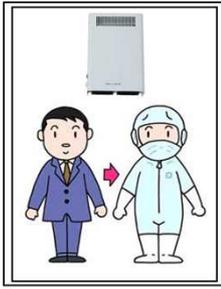
We have installed the OZ-20.

Since the eradication with ozone and ultraviolet light

Mold is no longer noticeable.

Ultraviolet sterilization and powerful ozone deodorant Method of utilizing OZ-10, OZ-20

■ No. 16 Eradication of the air shower



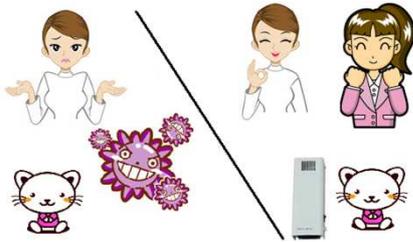
《 Problem Point 》

We were in trouble without what may be the eradication of the dressing room.

《 ⇒Kaizen Point 》

We have installed the OZ-20.  
We were able to rest assured to sterilize ozone and ultraviolet light.  
It got to go to smooth production.

■ No. 17 Deodorizing the smell of cat



《 Problem Point 》

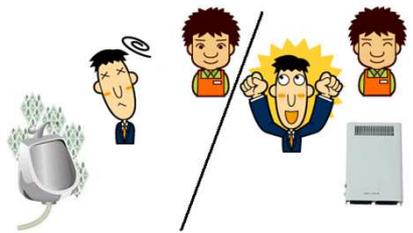
When a front door is opened, there would be the smell of a cat was said to the friend, and it was

《 ⇒Kaizen Point 》

I have installed the OZ-20.  
Since the deodorizing disinfecting with ozone and ultraviolet light, the smell becomes faint.  
I am glad she said "no longer smell at all!"

※ Attention ! There are individual differences in the deodorizing effect.

■ No. 18 Deodorizing the smell of toilet



《 Problem Point 》

The smell of the toilet without ventilation opening was trouble.

《 ⇒Kaizen Point 》

I have installed the OZ-20.  
Since the deodorizing disinfecting with ozone and ultraviolet light, smell mixed toilet, drainage, such as the mold was gone.  
I was refreshing complaint of customers is lost.

※ Attention ! There are individual differences in the deodorizing effect.

■ No. 19 Deodorizing the smell of the kitchen



《 Problem Point 》

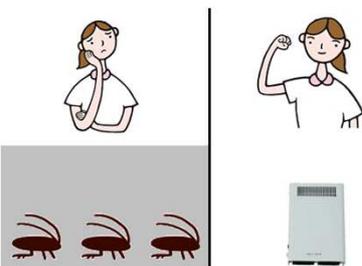
Smell of the kitchen sink was not in the mood really.  
Structure of the water pipe as well as garbage also seemed to be affected.

《 ⇒Kaizen Point 》

I have installed the OZ-20.  
Cooking became pleasant.

※ Attention ! There are individual differences in the deodorizing effect.

■ No. 20 Cockroach measures



Ozone will create an environment where pests settling down in the building is difficult to inhabit.

It is possible to suppress the breeding and nesting, to prevent intrusion from the outside.

According to a survey by Japan Society of animal health, it is the effective in cockroach in particular.

Ultraviolet sterilization and powerful ozone deodorant Method of utilizing OZ-10, OZ-20

■ No. 21 Deodorizing the smell of car



《 Problem Point 》

The smell of the car was worrisome.

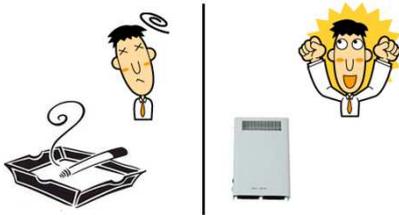
《 ⇒Kaizen Point 》

I have installed the OZ-10.

Driving of the car became pleasant.

※ Attention ! There are individual differences in the deodorizing effect.

■ No. 22 Deodorizing the smell of tobacco



《 Problem Point 》

The smell of the cigarette dyed in the wall was worrisome.

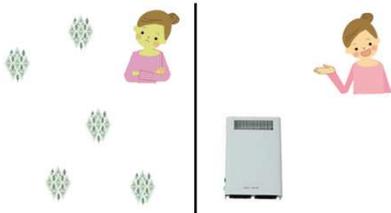
《 ⇒Kaizen Point 》

I have installed the OZ-20.

The smell stopped being worrisome.

※ Attention ! There are individual differences in the deodorizing effect.

■ No. 23 Deodorizing the smell of mold



《 Problem Point 》

The smell of mold was worrisome when a rainy day came.

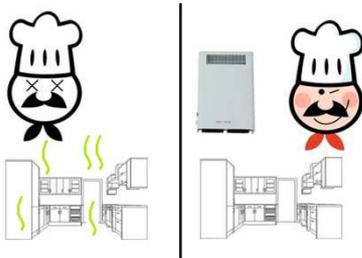
《 ⇒Kaizen Point 》

I have installed the OZ-20.

The smell stopped being worrisome.

※ Attention ! There are individual differences in the deodorizing effect.

■ No. 24 Sanitization of kitchen



《 Problem Point 》

The smell of the cookroom of first thing in the morning every day was worrisome.

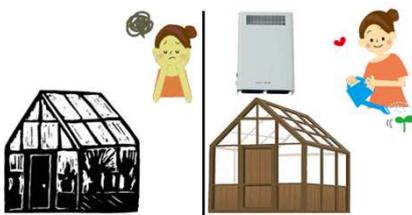
《 ⇒Kaizen Point 》

Install the OZ-20, was allowed to run overnight the end of work. Since the deodorizing disinfecting with ozone and ultraviolet light, smell lightened.

I can start to work every morning good feeling.

※ Attention ! There are individual differences in the deodorizing effect.

■ No. 25 Eradication of greenhouse



《 Problem Point 》

Greenhouse moldy was worrisome.

《 ⇒Kaizen Point 》

I have installed the OZ-20.

It went off gradually.

**Heat-tech**

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