Indoor air contaminants catalogue

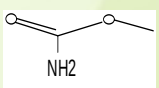
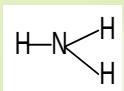
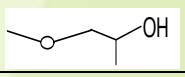
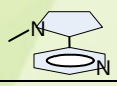
The health problems derived from indoor air contaminants generally appear as headache, disgorgement, respiratory tract infection, hypersensitivity, etc. In fact, the so-called Sick Building Syndrome(SBS) is also a result of indoor air contaminants which includes volatile organic compound(VOC), particle and airborne biological contaminants.

I. VOC, e.g. alkyl, olefin, alcohol, aether, aldehyde, ester, ketone, is the main source of environmental peculiar smell. And materials such as oil paint, aerosol, insecticide, construction material, carpet and cigarettes can also remit that kind of smell.
II. Particle, including mist, smoke, dust, fiber and other solid particles, is generally with a sphere of 0.0005-10 μ m and constant airborne.
III. All bacteria, microbe and germ belong to airborne biological contaminants or microorganism.

Diseases possibly caused by air contaminants

Type of air contaminants	Diseases possibly caused by the specified contaminants
Formaldehyde and other aldehydes	rhinocarcinoma
Aspiratory particales	Chronic pulmonary disease
Asbestos	Asbestosis, lung cancer, mesothelial tumour
Synthetic mineral fibers	lung cancer, pulmonary fibrosis
Polynuclear aromatic hydrocarbon	lung cancer
volatile organic compound	Various harms

The source of indoor environmental peculiar smell

Area	Main peculiar smell molecule	Remark
Hospital	Alcohol	
Shopping mall	Fishy smell(organic ammonia)	 
New office and cinema	Formaldehyde, toluene, aether, ester	 
Smoking section, cinema	Nicotin (organic ammonia)	C10H14N2 

JJmR-Clean-Air Solution Tech.Services Co., Ltd.
1F NO. 250 SHENG-LI RD. ZHU-BEI CITY SHIN-ZHU CONTY,.TAIWAN
TEL:(8863)658-3009 FAX:(8863)658-3193

How to discover whether indoor contaminants are existing

SBS(Sick Building Syndrome) is to describe microorganism pollution and the affection to indoor air quality. Except for the visual evidence, people can also scent the smell of organic compound in a microorganism pollution room.

The source of microorganism pollution

I. Indoor air conditioning system
- the hygroscopic air filter is apt to promote the propagation of microbe spores, esp. the accumulated moist dust.
- Condensed water in the cooling coil and accumulated water in pond.

II. The quality of building construction and indoor construction materials
- Whether there exist leakage in the building structure, and thus leads to over-humidity and microbe growth.
- If the board or wall board is mainly made up of cellulose, the easily-wet wood inside may leads to microbe growth.
- The humid vapour absorbs by floor and carpet may lead to microbe growth.

How to remove indoor microbes and peculiar smell.

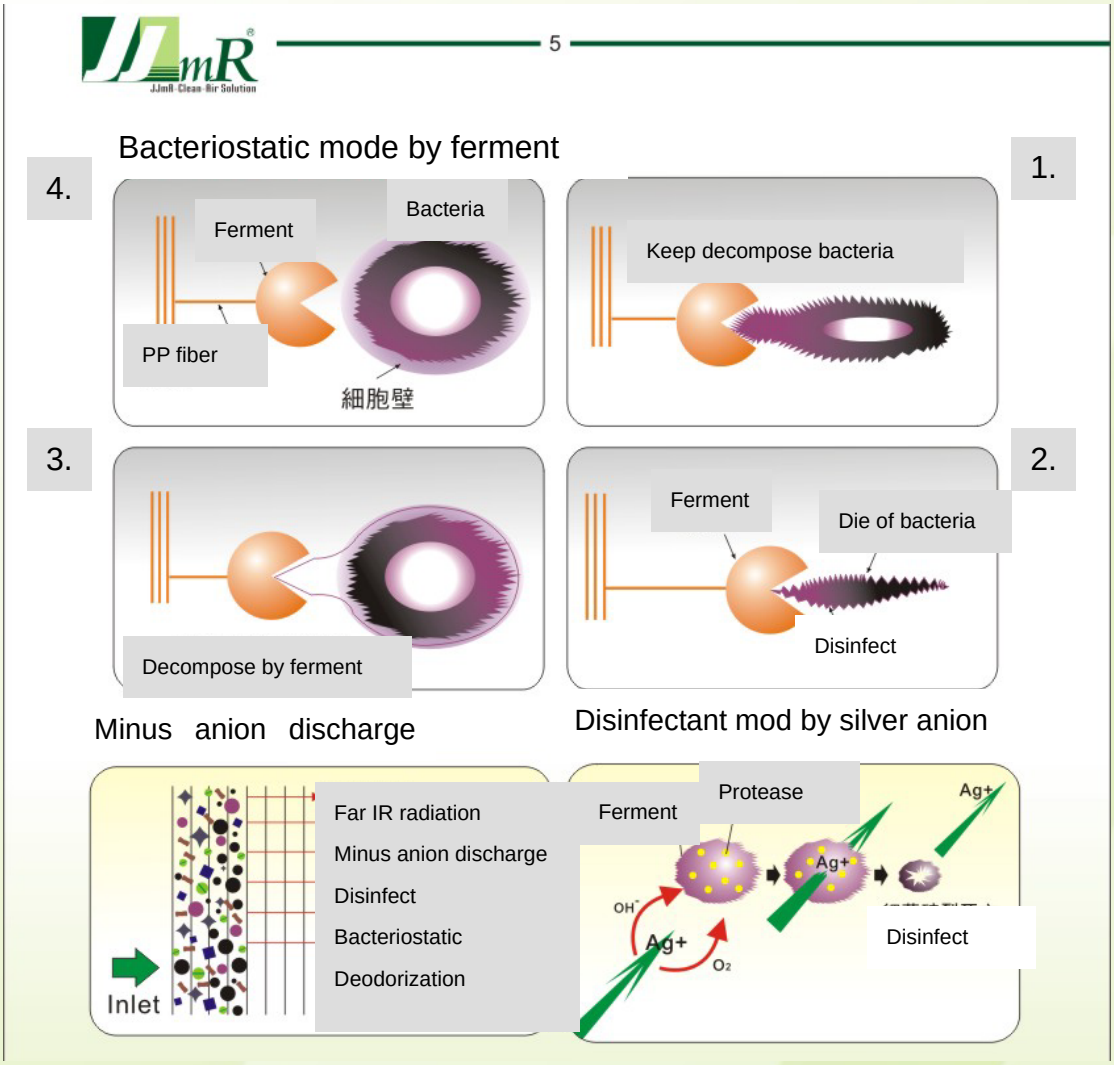
I. Means to remove indoor microbes
- Periodically check HAVC system and change the air filter and coils as well as examining all the visible locations.
- Because microbes can easily propagate in dark and humid place, there should be enough sunlight/illumination and keep dry in rooms.
- Use hot air to deal with microbes, that is, to let rooms fill with hot air for a whole day long.
- Create nice air circulation condition inside rooms. People should often open the windows and ventilate indoor environment. Intensify the ventilation power in places where humidity rate is higher. In winter, the humidity degree should be 30%-50%, and summer 40%-60%, therefore the average degree is 55%.

II. Means to remove peculiar smell
- Increase exhaust air quantity
- increase ventilation times
- Add active carbon filter

III. Install anion antimicrobial and deodorization filter inside circulation air-conditioning box, inlet and outlet.

Product principle

- The product is developed on the basis of specific patent. According to the melt spinning principle, Naro-meter silver powder and tourmaline powder are melt into cellosilk, and thus forms a Naro-meter silver minus anion mesh without the problem of anion and silver ion antibacterial and bacteriostatic capacity degradation.
- Because of the adding ferment and minus anion adding produce a bacteriostasis and antibiosics system and released in the surrounding, it realize a satisfied bacteriostasis and antibiosics effect as well as produce a pleasant and fresh air which also conduces to good health;
- Because of take natural materials as additives, it will not produce ozone (O_3) or any peculiar smell,
- Different form other high voltage discharge type and light accelerant.
  disinfect



Product Characteristics

• tridimensional honeycomb filter with low pressure loss, high capture efficiency and electric current that can adsorb dust and particles.

• The pressure loss and device space conform with the design demand of traditional filter, thus there is no need to change the air-conditioning system design, and should be directly installed to the existing filter or other filter space.

• sterilization, antibacteria, bacteriostasis and deodorization function without needing of electric power.

• Anion efficiencies would not degrad after clearance, and the shelf life of filter material and anion is one year..

• The shelf life of Naro-meter silver and ferment is one year.

• There does not exit distance-limited problem in sterilization and antibacterial power, which is superior to high voltage discharge device and light accelerant.

The product would not emit ozone and other peculiar smell.

Test report list

Item	Test Result
Anion quantity(Ions/CC)	1500+-300
Far IR Radiation rate(50C)	0.948+-0.1(3-15 μ m average radiation rate)
deodorization function	Average Eff.: 60.9% for ammonia, acetaldehyde and acetum
No ozone and peculiar smell is emitted	Yes
Far IR function	Yes
Blood purifying	Yes
Body cell activation and immunity promotion	Yes
Removal of unstable freeradical (OH^- ' $O2^-$)	Yes
Microcircuit adsorbing dust and particles	Yes
A.A.T.C.C. 147-1998 Staphylococcus aureus(ATCC#6538)	Growth-free zone: 5-12mm & Contact inhibition: 99.99%
A.A.T.C.C. 147-1998 colon bacillus(ATCC#8739)	Growth-free zone: 0.5-4.5mm & Contact inhibition: 99.99%
A.A.T.C.C. 147-1998 micrlbe(ATCC#6275)	Growth-free zone: 0.5-4.5mm & Contact inhibition: 99.99%
A.A.T.C.C. 147-1998 pneumobacillus(ATCC#9027)	Growth-free zone: 0.5-1mm & Contact inhibition: 99.99%
A.A.T.C.C. 147-1998 mildew(ATCC#9533)	Growth-free zone: 0.5-1mm& Contact inhibition: 99.99%
JIS Z2911-Aspergillus(ATCC#6275) penicillium(ATCC#9849)	Growth-free

JJmR-Clean-Air Solution Tech.Services Co., Ltd.
1F NO. 250 SHENG-LI RD. ZHU-BEI CITY SHIN-ZHU CONTY,.TAIWAN
TEL:(8863)658-3009 FAX:(8863)658-3193

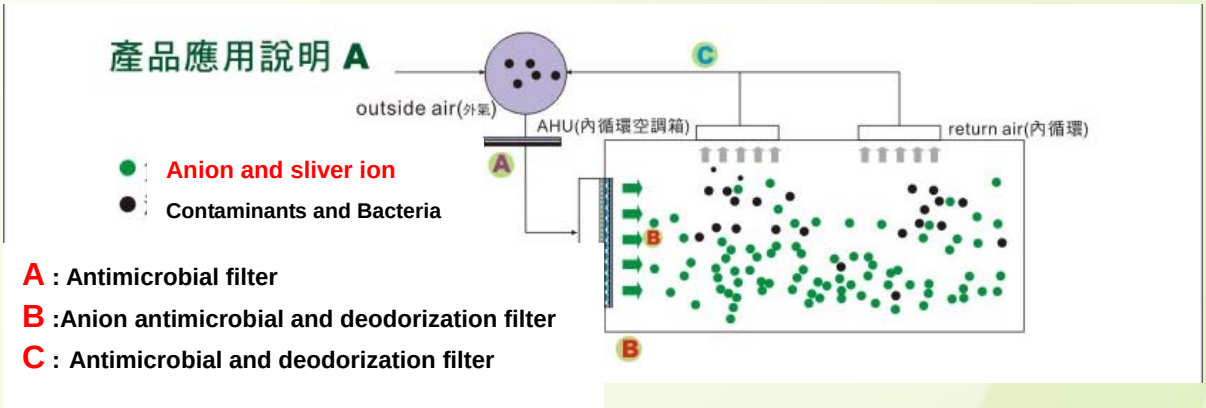
Chactomium(ATCC#6205) myroridin(ATCC#9095)	

Product technical parameter

Series Type	Model No.	Face Guard	External Dimensions(WX HXD) mm	Air Flow/ pressure Drop CMH/Pa at 2.5 m/s Face Velocity	Frame Materials Model No.	Unit Weight(kg)
B-LIPA	ALF-01		610×610×40	3400/90	Aluminum	1.22
B-LIPA	ALF-01		610×605×40	1700/90	Aluminum	1.08
B-LIPA	ALF-01		305×305×40	800/90	Aluminum	0.89
B-LIPA	ALF-01	OP	610×610×9.0	3400/70	Aluminum	0.63
B-LIPA	ALF-01	OP	610×305×9.0	1700/70	Aluminum	0.49
B-LIPA	ALF-01	OP	305×305×9.0	800/70	Aluminum	0.41

Application:
Media materials: PP Fiber Recommended Temp.:0-40C Recommended Relative Humidifity.: 30-90%

Product application manual -A



- Anion and Growth-free zone
- contaminants and microbe types

A :Antimicrobial filter

Staphylococcus aureus(Growth-free zone: 5-8mm & Contact inhibition: 99.99%& antimicrobial efficiency: 100%)

colon bacillus(Growth-free zone: 1-2.5mm& Contact inhibition: 99.99%& antimicrobial efficiency: 100%)

Microbe(Growth-free zone: 1.5-2.5mm& Contact inhibition: 99.99%& antimicrobial efficiency: 100%)

Pneumobacillus(Growth-free zone: 0.5-2.5mm& Contact inhibition: 99.99%& antimicrobial efficiency: 100%)

B :Anion antimicrobial and deodorization filter

Anion(1500＋－ 300 Ion/cc)

Far IR Radiation rate(50C&3-15μm average radiation rate): 94.8%+-0.1

Staphylococcus aureus(Growth-free zone: 8-12mm& Contact inhibition: 99.99%& antimicrobial efficiency: 100%)

Colon bacillus(Growth-free zone: 2.5-4.5mm& Contact inhibition: 99.99%& antimicrobial efficiency: 100%)

Microbe (Growth-free zone: 2.5-4.5mm& Contact inhibition: 99.99%& antimicrobial efficiency: 100%)

Pneumobacillus (Growth-free zone: 0.5-3.5mm& Contact inhibition: 99.99%& antimicrobial efficiency: 100%)

Deodorization (acetaldehyde, ammonia, acetum…)60.9%

C :Antimicrobial and deodorization filter

Staphylococcus aureus(Growth-free zone: 5-9mm& Contact inhibition: 99.99%& antimicrobial efficiency: 100%)

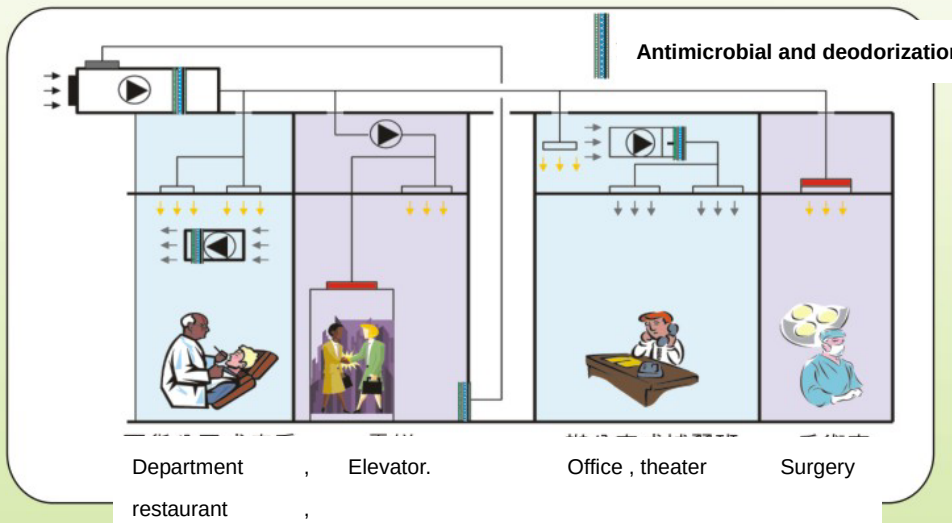
Colon bacillus(Growth-free zone: 2.5-3.5mm& Contact inhibition: 99.99%& antimicrobial efficiency: 100%)

Microbe(Growth-free zone: 2.5-3.5mm& Contact inhibition: 99.99%& antimicrobial efficiency: 100%)

Pneumobacillus(Growth-free zone: 0.5-2.5mm& Contact inhibition: 99.99%& antimicrobial efficiency: 100%)

Deodorization (acetaldehyde, ammonia, acetum…) 60.9%

Product application manual -B



Department , restaurant , hospital..etc.

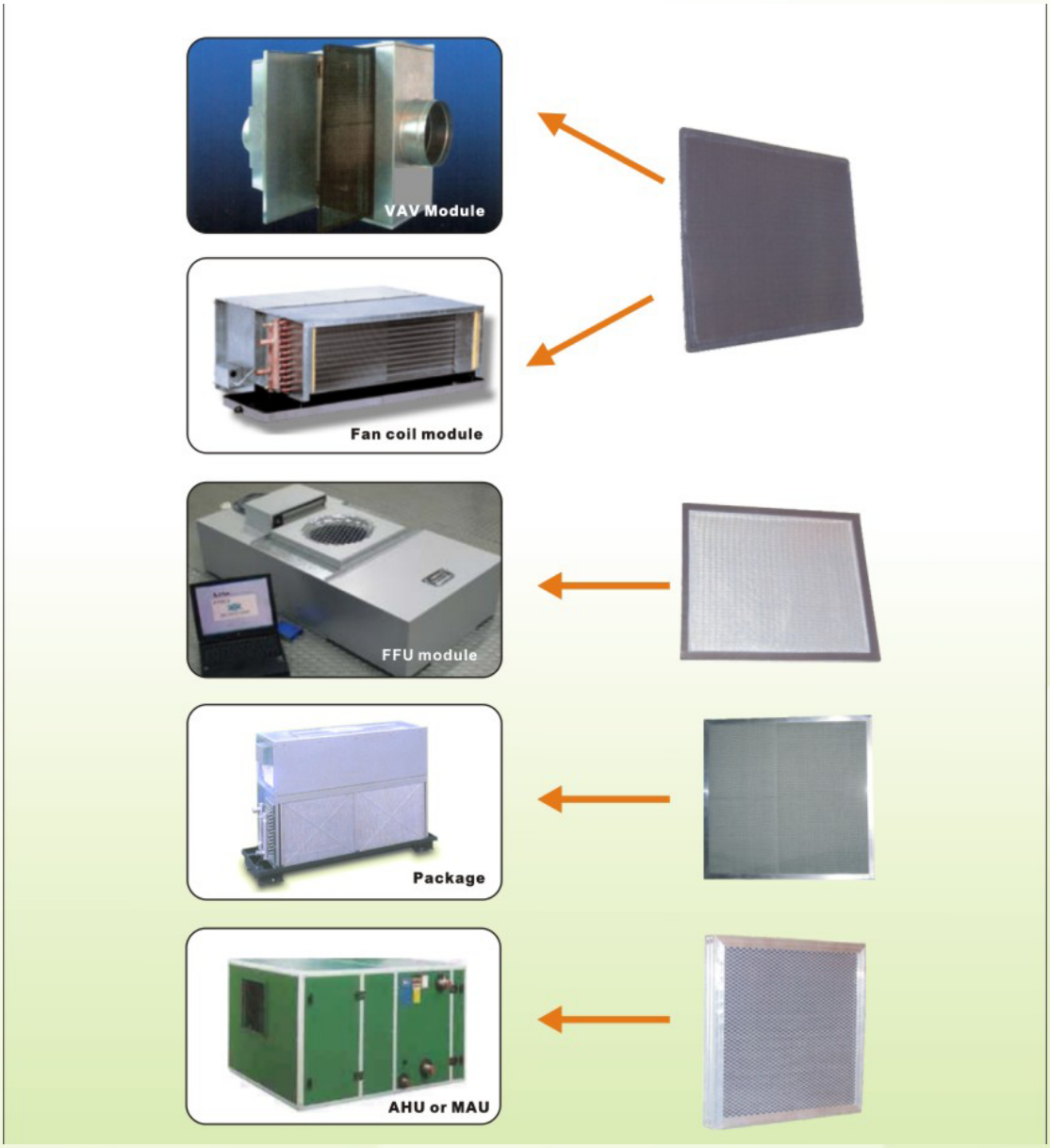
Elevator.

Office , theater

Surgery

JJmR-Clean-Air Solution Tech.Services Co., Ltd.
1F NO. 250 SHENG-LI RD. ZHU-BEI CITY SHIN-ZHU CONTY,.TAIWAN
TEL:(8863)658-3009 FAX:(8863)658-3193

Product application manual –C



JJmR-Clean-Air Solution Tech.Services Co., Ltd.
1F NO. 250 SHENG-LI RD. ZHU-BEI CITY SHIN-ZHU CONTY,.TAIWAN
TEL:(8863)658-3009 FAX:(8863)658-3193

Products comparison in circulation

Item	element	Bacteriostasis and antibacteria principle	Advantages	Short-comings
Light Accelerant	TiO_2	Ultraviolet radiation irradiates on TiO_2 and thus produces oxidation, which can destroy the bacteria cells.	1. High Bacteriostasis and antibacterial abilities	1. Cannot realize the antibacterial function in condition of lacking ray light.
			2. Dust, mist and peculiar smell removal	2. Rely on UV which cannot long exist and can lead to skin cancer.
				3. It may produce ozone(O_3) and oxid which is probably more toxic than existing contaminants, furthermore, often it cannot reduce the toxic degree within a short time, thus a more toxic environment may be formed.
				4. When alcohols in air are incompletely oxidized, they can produce toxic intermediate products such as aldehyde. And the polyreaction of aldehyde can result in fail of light accelerant effectiveness.
				5. Contact-inhibitition, which can not spread in the air.
				6. Having shelf life limit and needing clearance to assure antibacterial effect.
Nro-meter silver filter	Naro-meter silver	Use positive charge to adsorb cell ferment and then destroy epicyte and ferment, thus the activeness is reduced which probably lead to its death.	1. No toxic and side effect.	1. Less manufacturer and high cost.
			2. No hypersensitivity	2. Need clearance in order to assure antibacterial effect.
			3. No stimulation to mucocutaneous	
			4. No bacterial strain variation and no harm to body immunologic system	

			5. High endurance ability for water clearance	
Anion filter	tourmalin	N/A	1. Blood purifying	1. Need clearance to assure anion producing and deodorization function.
			2. Autonomic nerve improvement	
			3. Body cell activation	
			4. immunity promotion	
			5. High endurance ability for water clearance	
			6. Anion producing and deodorization function	
Anion antibacterial and deodorization filter	Naro-meter silver & tourmaline & ferment	1. Use positive charge to adsorb cell ferment and then destroy epicyte and ferment, thus the activeness is reduced which probably lead to its death. 2. Form Growth -free zone in space and realize antibacterial effect.	1. No toxic and side effect.	1. Need clearance to assure anion producing and deodorization function
			2. No hypersensitivity	2. Shelf life one year
			3. No stimulation to mucocutaneous	
			4. No bacterial strain variation and no harm to body immunologic system	
			5. High endurance ability for water clearance	
			6. Blood purifying	
			7. Autonomic nerve improvement	
			8. Body cell activation	
			9. Immunity promotion	
			10. Anti-bacterial, anion-producing and deodorization	