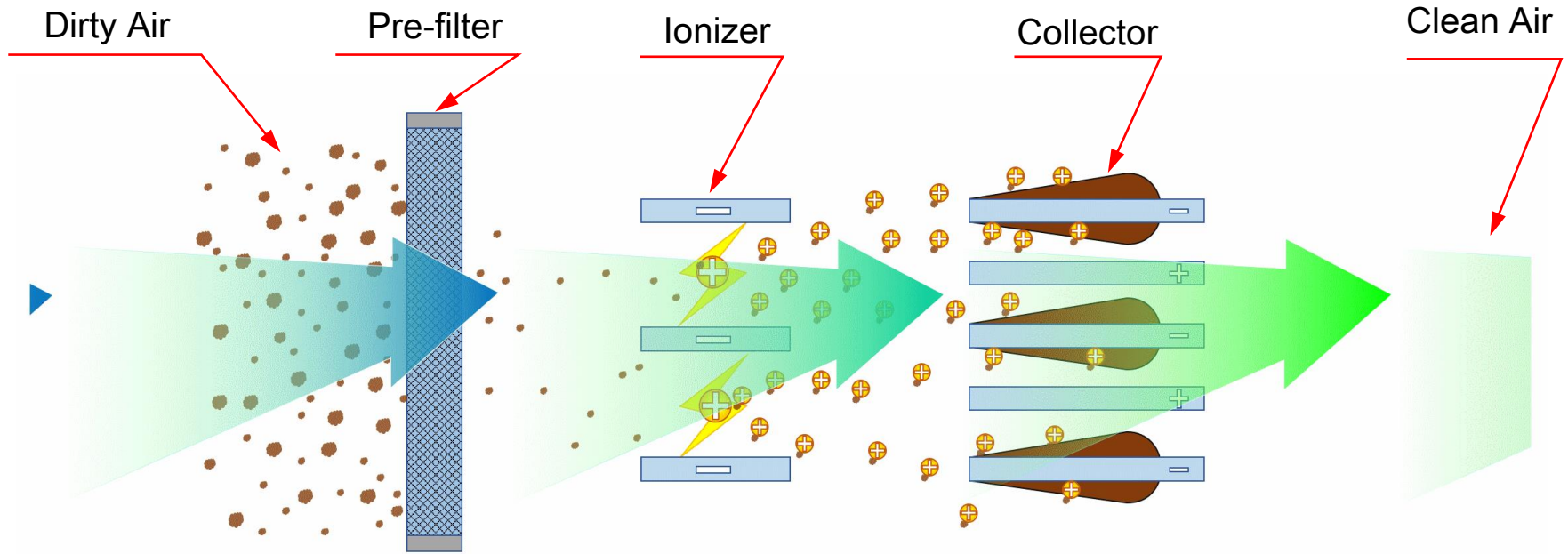




TRION KITCHEN ESP

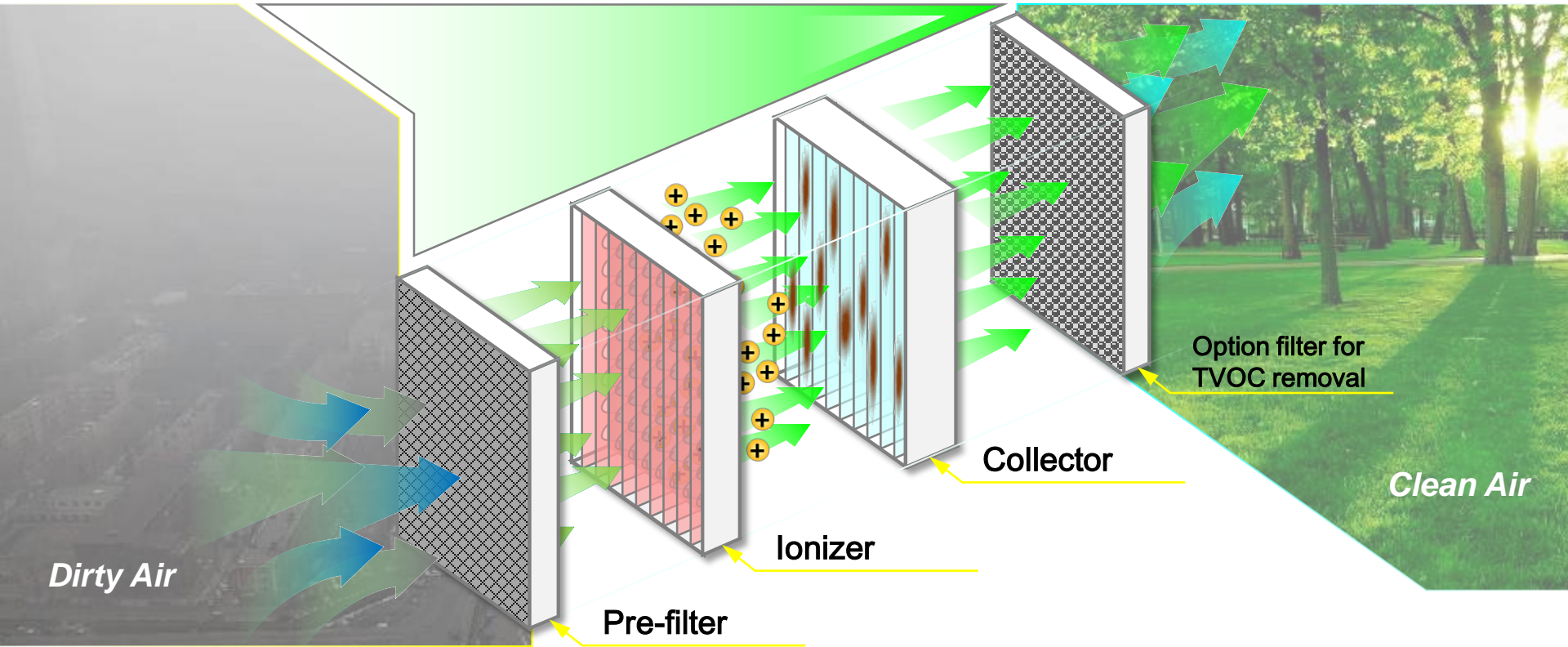
Product Introduction

Electrostatic Precipitation Working Principle



Air is drawn by the motor/blower through a washable metal mesh pre-filter which traps large dust particles. The remaining particles, some as small as 0.01 microns, pass into a strong electrical field (ionizing section) where the particulate receives an electrical charge. The charged particles then pass into a collector plate section made up of a series of equally spaced parallel plates. Each alternate plate is charged with the same polarity as the particles, which repel, while the interleaving plates are grounded, which attract and collect.

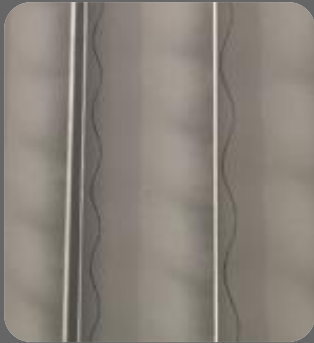
ESP Product Main Structure



HVAC ESP VS KITCHEN ESP

HVAC ESP

- Ionizer wiring



- Same voltage for ionizer and collector



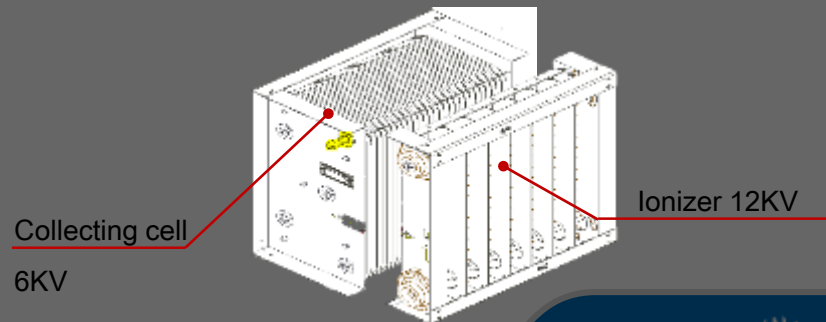
Ionizer & Collecting cell
6.2KV

KITCHEN ESP

- Spiked Ionizer Blades



- Dual-Voltage design of ion chamber



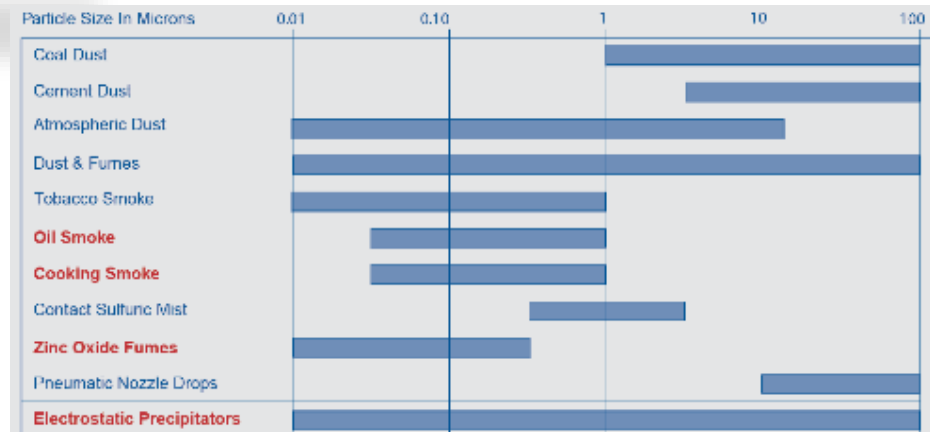
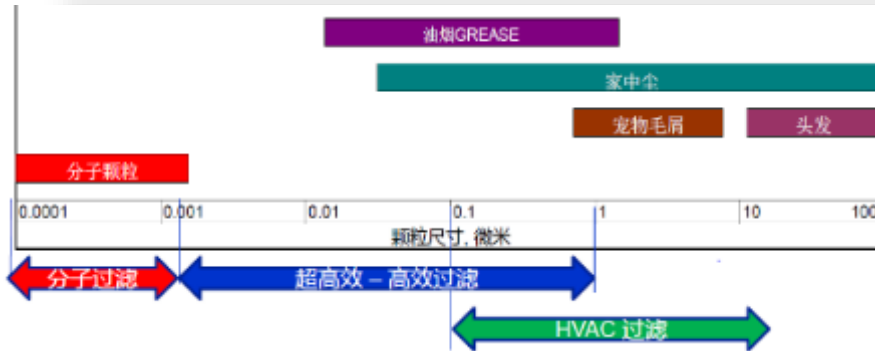
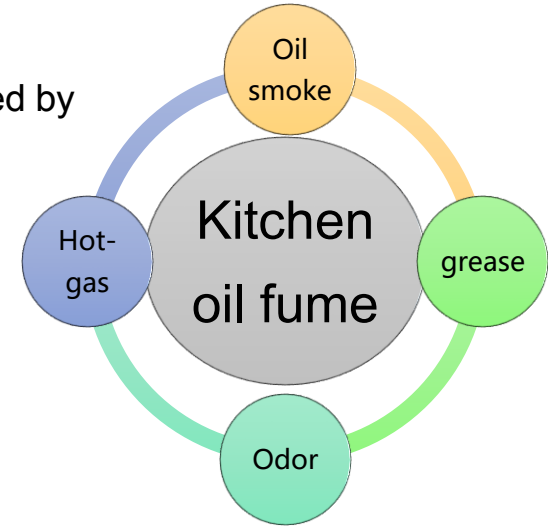
Collecting cell
6KV

Ionizer 12KV

Kitchen oil fume

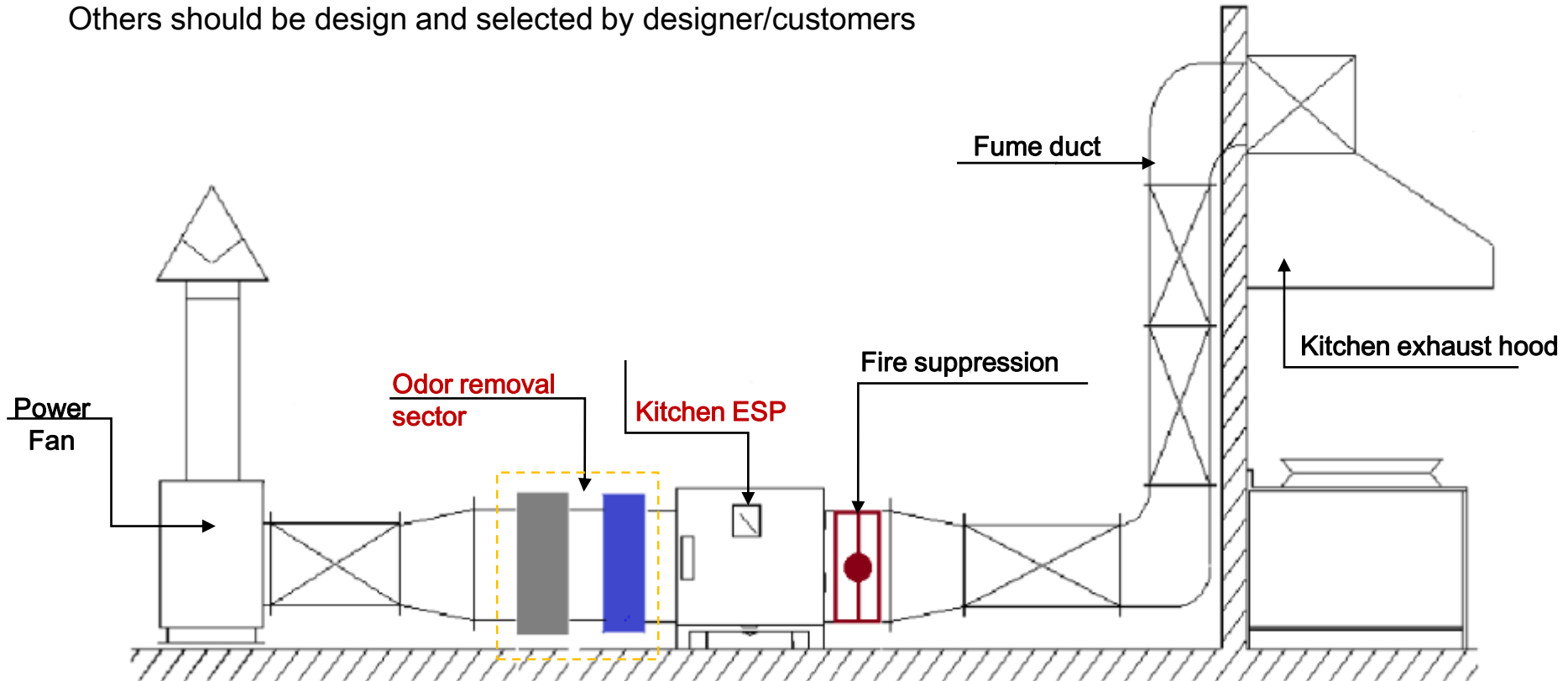
During cooking, there is normally generating these air pollutant;
Each pollutant has different particulates size which perfectly is covered by ESP product.

Items	Type	Size
Grease	Liquid drops	0.1-10 μ m
Oil smoke	particles	0.01-1.0 μ m
odor	molecule	0.001-1.0 μ m



Kitchen Purification System

Kitchen Purification System is composed by below parts;
Now Trion is offering Kitchen ESP, Odor removal section;
Others should be design and selected by designer/customers



CHINA TRION® Product Portfolio Overview

Kitchen & Industrial ESP

AIR BOSS



T1001-5005

AIR GREEN



T1001-5005(AG)

GREASE VIPER



GV111-151

Accessories



V carbon T1001-5005

AG/AB with cleaning system



Detergent

T1001-5005

AB w/ Fan power



T2600

T1300-5200

MINI-ME



Mini M.E.
TRION

MINI-PAC

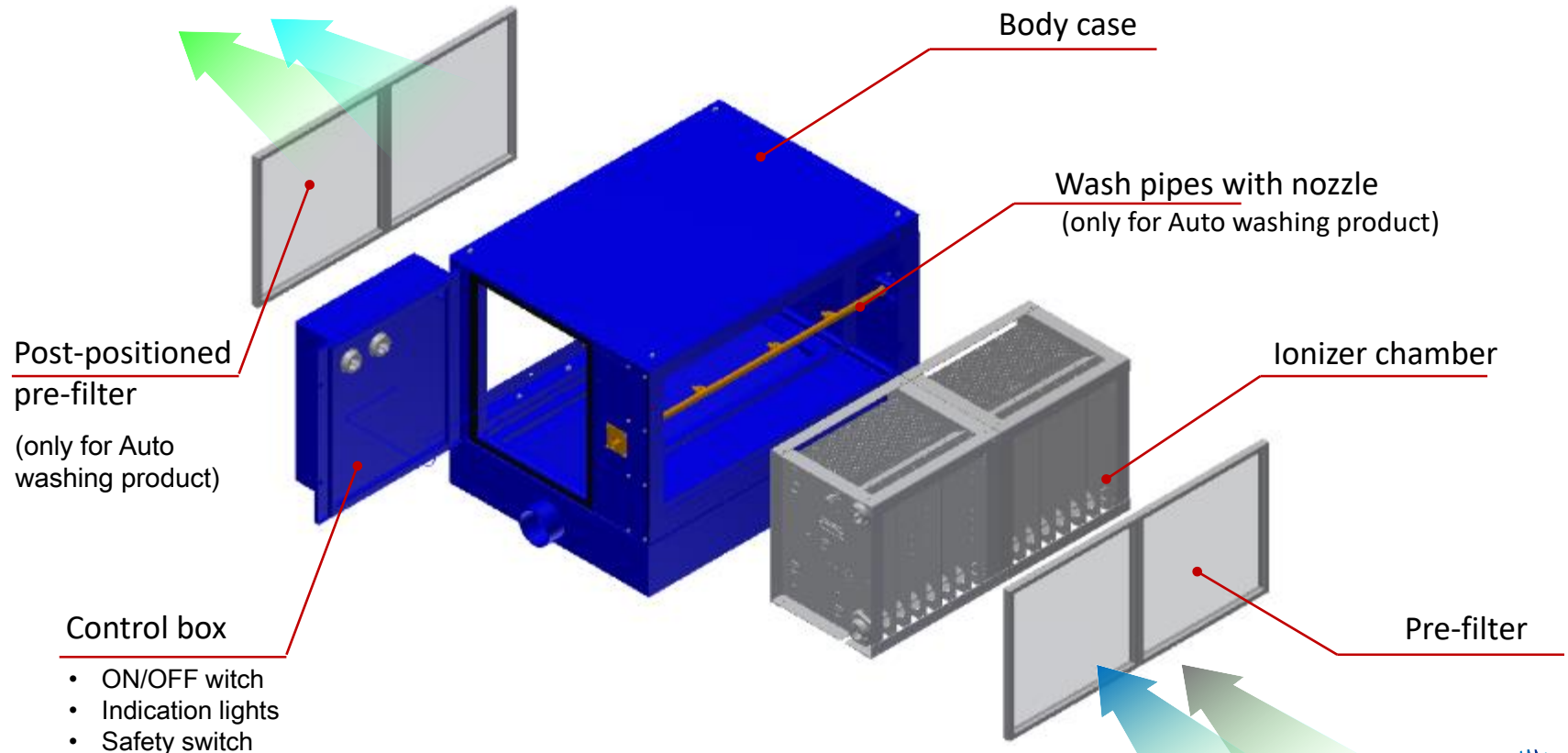


UV1001-5005

Kitchen ESP product Structure

Here Taking AG with wash module for example:

Different series has small differences from each others, pls note.



Kitchen ESP----AG/AB



Purification efficiency 95%, Low resistance

Air flow: 2,320-11,600m³/h (DOP 90%)

Modularity design (Max 5pcs stacks)

Washable for cost-saving

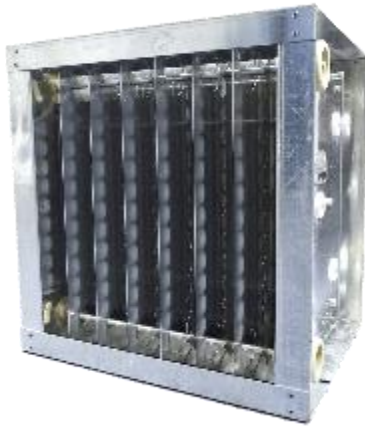
BA as options



Kitchen ESP----AG/AB

- **Spiked Ionizer Blades**

Revolutionary technology made of SS blades, not wires.
Reliable, unbreakable blades eliminate costly maintenance replacement and downtime.



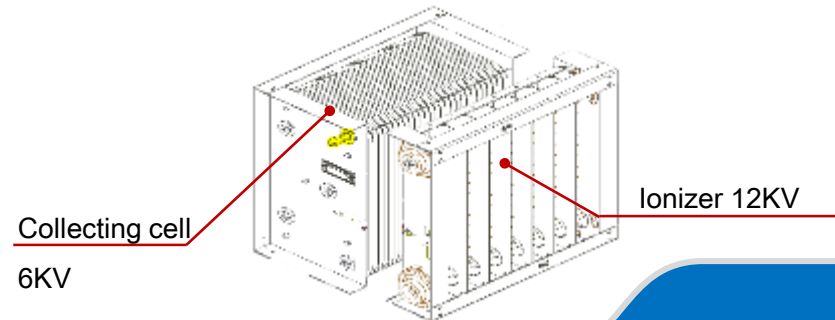
- **Large Ionizing-Collecting Cell**

Small distance between interleaving plates, Large size design of cell to reach heavy loads capability.

High-efficiency collection cell, designed to maintain high-efficiency under heavy loads.

- **Dual-Voltage design of ion chamber**

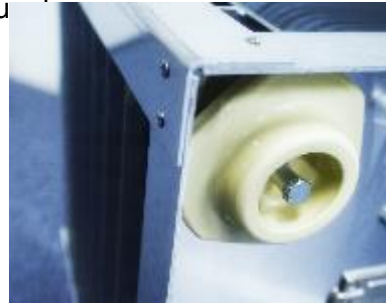
Different voltage design for collecting cell and ionizer to ensure high efficiency and best performance of each segment.



Kitchen ESP----AG/AB

Reliable Insulation :

- Made of self-glazing ceramic, insulates electrical current;
- Help to prevent and virtually eliminate arcing, prolongs power supply life and aides in maintaining high efficiency.



VS



Durability and Safety :

- Adopted high anti-corrosion material: Spiked blades is using SS material, collecting cell plate is aviation alum. 。
- Flame-resistant material used in part of plastic components。
- Safety switch configured to protect user during operation or maintenance.

Kitchen ESP----AB/AG with Detergent Cleaning



Kitchen ESP



ATS control Box



Detergent Tank

Purification efficiency 95%, Low resistance

Air flow: 2,320-11,600m³/h (DOP 90%)

Modularity design*

Washable for cost-saving

BA as options

* Modularity design: Max 5pcs stacks for T1001-3003,
Max 3pcs stacks for T4004-T5005

Kitchen ESP---AB/AG with Detergent Cleaning

ATS Control Box

- Cleaning frequency adjustment
- Indicator light for status

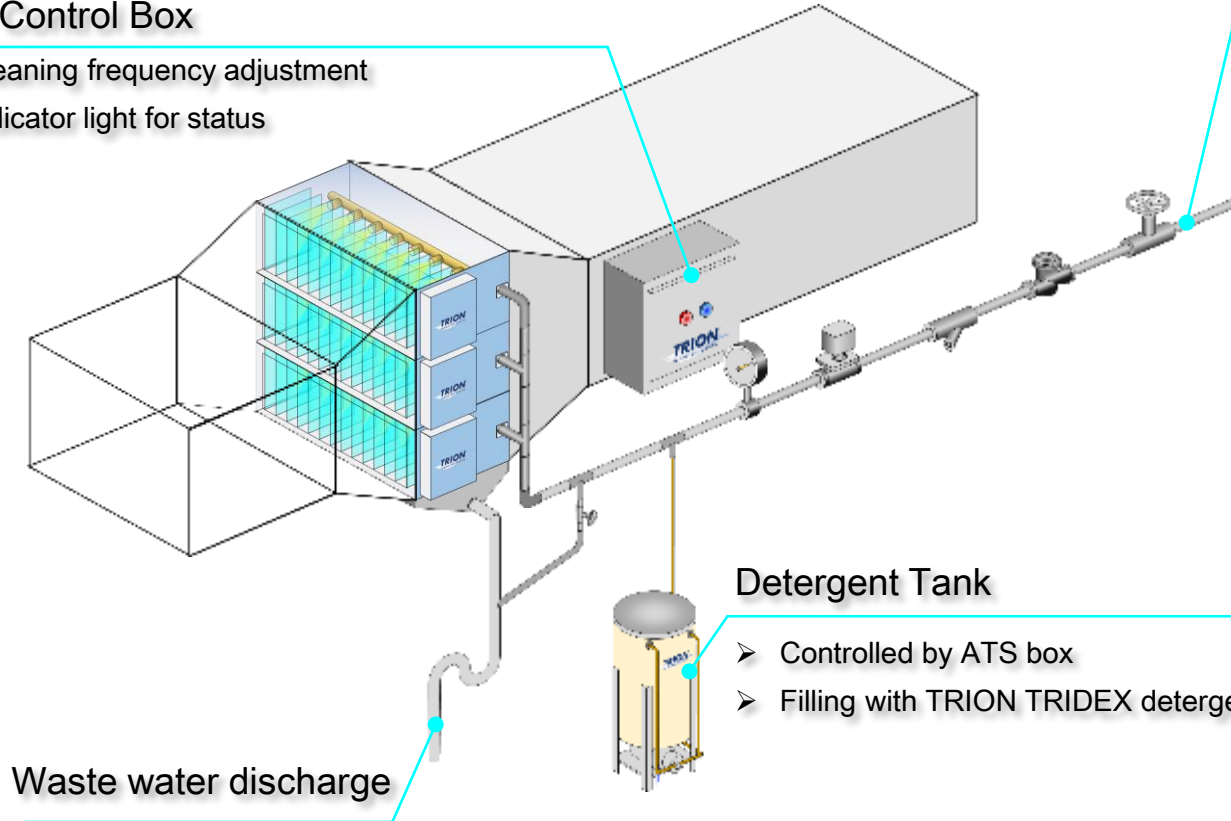
Tap water supply

- 40~60°C hot water for even better cleaning
- Tap water pressure: 45PSI~75PSI (0.315MPa~0.525MPa)
- Insulation needed if in cold area

Detergent Tank

- Controlled by ATS box
- Filling with TRION TRIDEX detergent

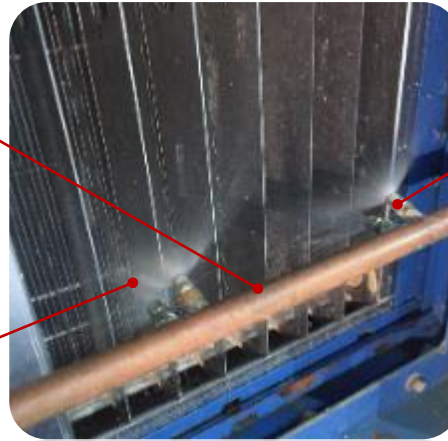
Waste water discharge



Kitchen ESP----AB/AG with Detergent Cleaning

■ Cleaning pipe design

- Horizontal placed tube, low resistance, high reliability and easy for maintenance
- Horizontal spray which aligned with oil deposits direction, better cleaning effect



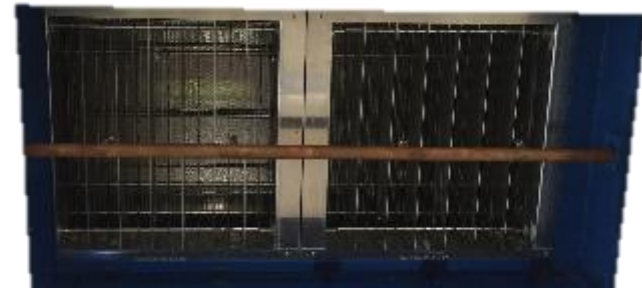
- The nozzles are staggered arranged. So the spray range is covering each part

■ High Durability

The cleaning pipe is copper; The nozzle is stainless steel.

The fastener and rail is SS

Anti-corrosion material ensure longer using life and high durability.



Kitchen ESP----AB/AG with Detergent Cleaning

V Shape water container :

- V-shape design to larger waste water contained
- Inclined design for water discharge easily and



Intelligent Control



Customized to define the cleaning frequency according application and usage habit. Which is much cost saving than manual cleaning.

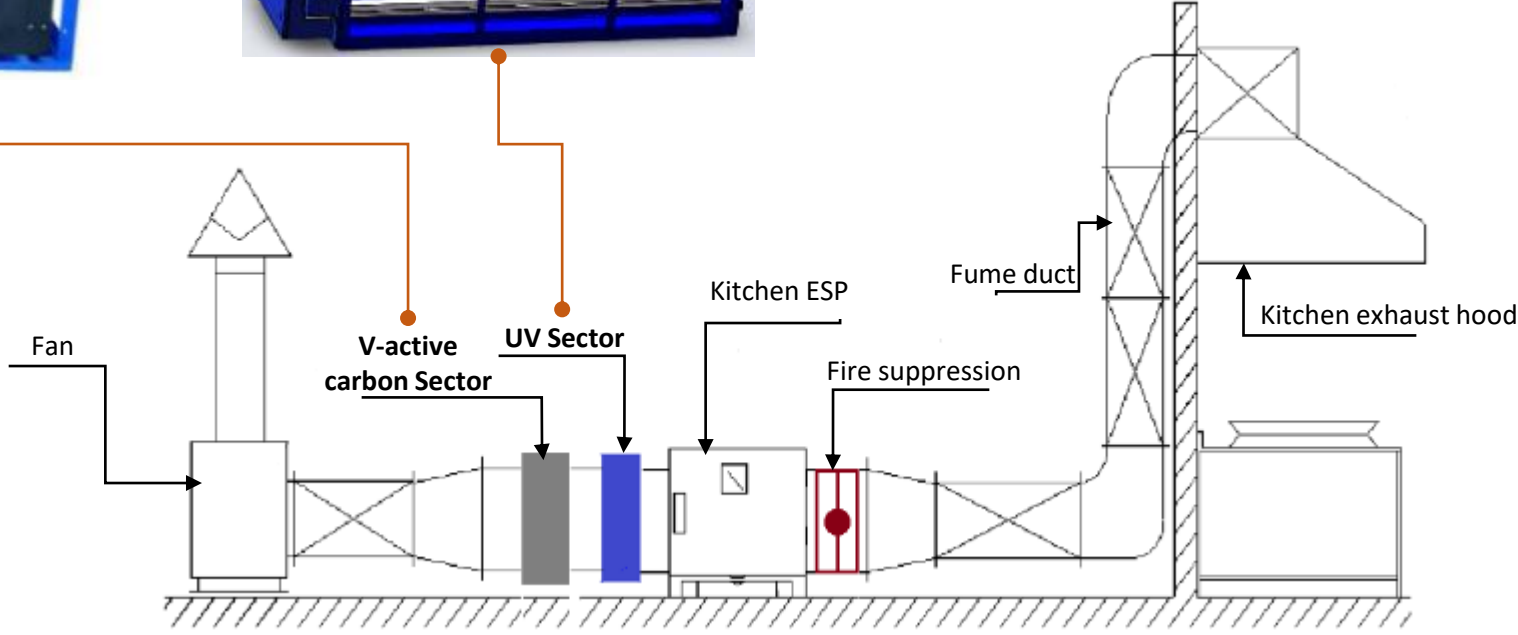
Availability for fan linked control, kitchen control center remote control, failure warning etc



Kitchen ESP----Odor remover

■ V-active carbon Section

■ UV Section



Kitchen ESP----Odor remover



V-ACTIVE CARBON SECTOR

- Air flow: 2320~11600CMH
- Working with AG
- Pressure drop is lower 140pa
- Odor elimination rate @ rated air flow higher than 50%
- Large filter area



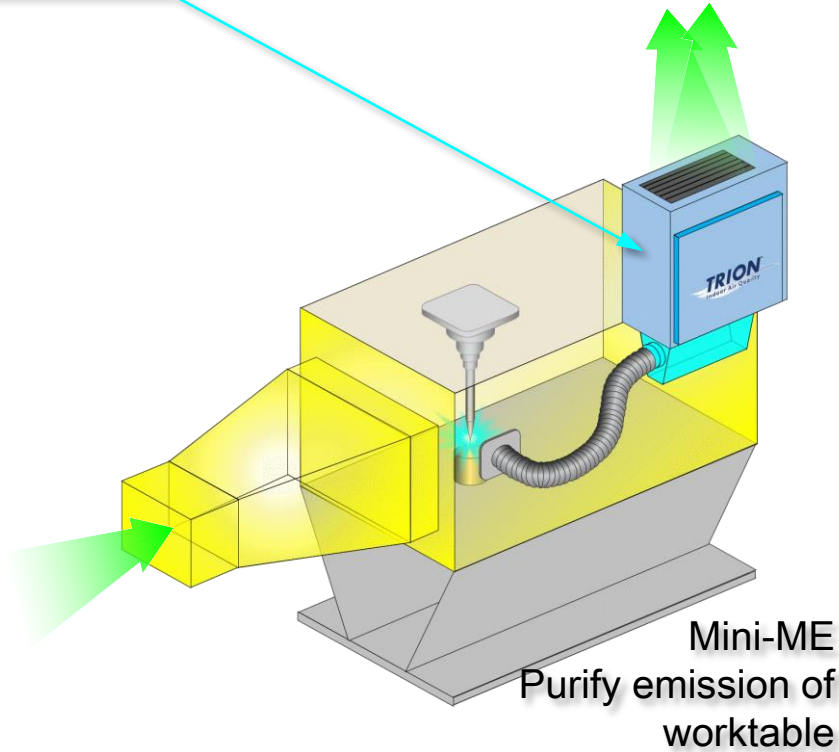
UV SECTOR

- Air flow: 2320~11600CMH
- Working with AG
- **IP 55** for outdoor installation
- UV light life span higher than **9000H**
- Smart control for timing reminding and light status indication
- Multi Safety design for using and maintenance
- Fan Linkage , fire control linkage design
- Available for BA control
- Higher Odor elimination rate for kitchen application

Kitchen ESP----Mini-ME



- Purification efficiency 95%
- Air flow: 0-980m³/h
- Small and Compact design
- Washable for cost-saving



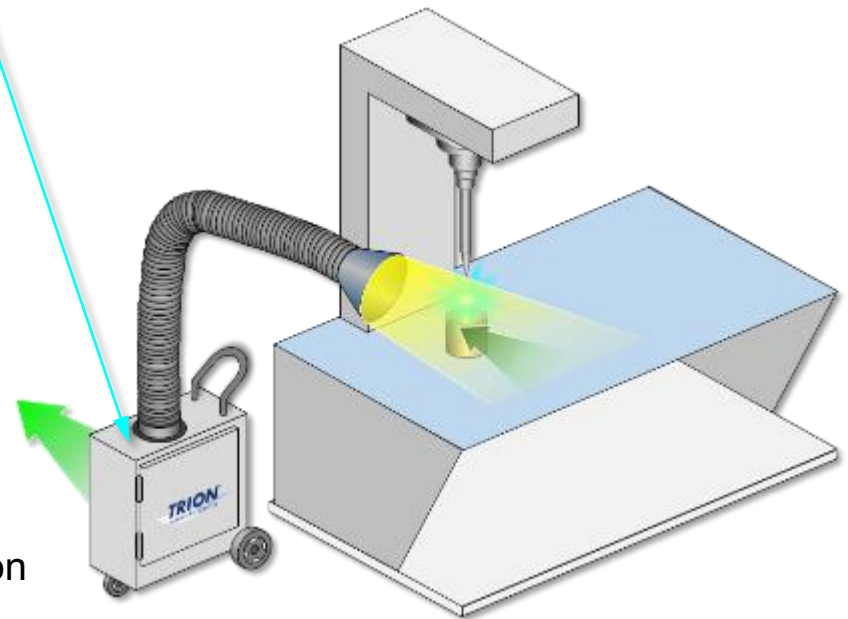
Kitchen ESP----Mini-ME



Specification

Spec	MINI-ME
Power Supply	220V/50Hz
Power (w)	300
Air Flow (m ³ /h)	0~980
Noise (dBA)	0~65
Product Dimension	650*655*318
Weight (Kg)	47
Safety	Safety switch

Kitchen ESP----Mini-PAC



Purification efficiency 95%

Air flow: 0-2,000m³/h

Roller design , removable for flexible application

The hand-arm is 360° rotatable

Washable for cost-saving

Kitchen ESP----Mini-PAC



Specification

Spec	Mini-PAC
Power Supply	220V/50Hz
Power (w)	300
Air Flow (m ³ /h)	0~2,000
Noise (dBA)	0~72
Product Dimension	665*375*800
Extraction arm DIA *L (mm)	Φ160*2000
Weight (Kg)	60
Safety	Safety switch



Kitchen ESP----Fan-T (AB with Fan imbedded)



Air flow: 0-9,280m³/h

Full pressure Max 400Pa

Compact Design for worktable application

Washable for cost-saving



Kitchen ESP----Fan-T (AB with Fan imbedded)



Specification

Spec	T1300	T2600	T5200
Power Supply	220V/50Hz		
Weight (Kg)	117	200	227
Power (w)	600	1100	2200
Air Flow (m ³ /h) @ 90% DOP	2320	4640	9280
Total Head (Pa) @ 90% DOP	400	400	380
Safety	Safety switch		

How to do product selection?

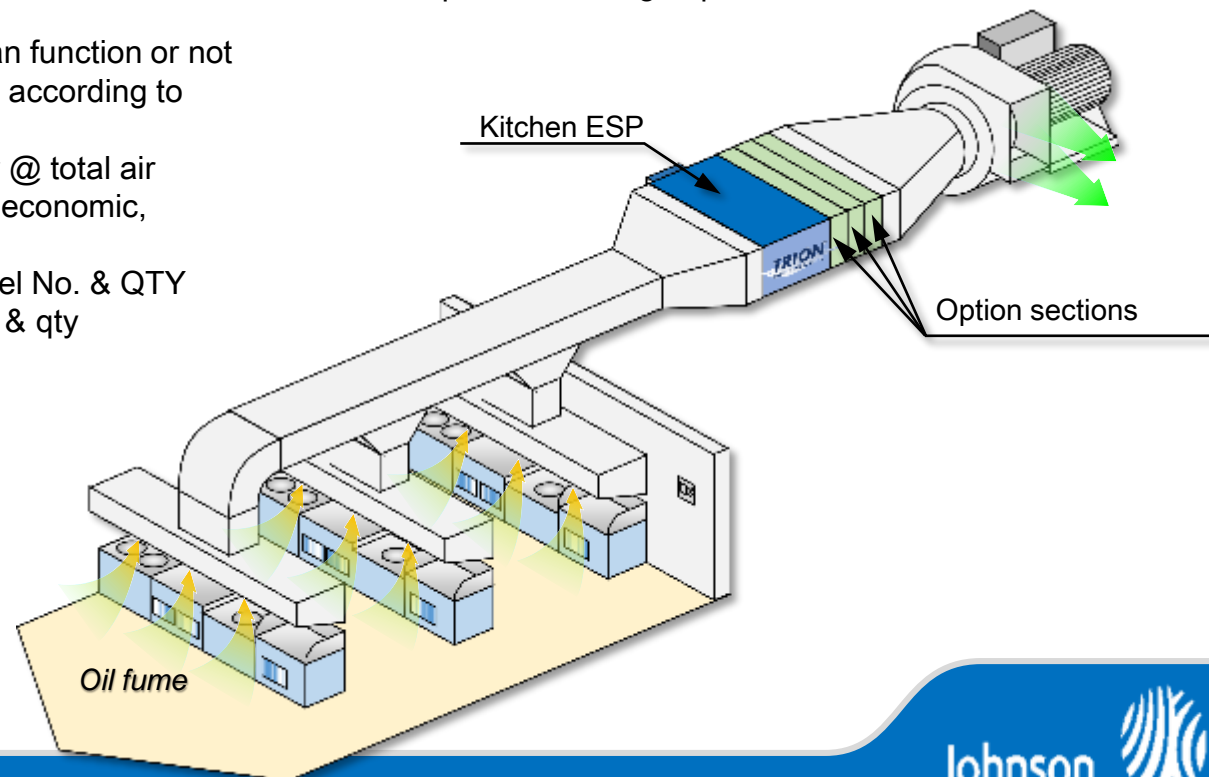
Product Selection

Before selection what we should know:

1. Know Cooking type to well understand it is heavy pollution with large oil fume generated like BBQ, fried, or light pollution with little oil fume like western restaurant;
2. Total kitchen oil fume air volume generated for project
3. Well know if they need odor removal section & type. Normally necessarily choose as odor control request

Product Selection:

1. Choose the right efficiency% type: DOP 90%? Or DOP95% or double pass according to pollutant situation;
2. Choose the product type: with auto clean function or not
3. Choose the Kitchen ESP product range according to price sensitiveness
4. Choose Kitchen ESP model No and qty @ total air volume . Should taking installation space, economic, effect etc. into consideration
5. If need, then choose odor removal model No. & QTY according to Kitchen ESP product models & qty



Case Study



青岛金茂湾



成都棕枫泉



深圳桔约沙酒店



SOHO中国北京望京



广州凯德云尚



苏州圆融购物中心



武汉古田凯德广场



武汉光谷新世界



成都VOLVO

安装两台Model 60(带清洗系统)



**Yard House - Model ATS-10
Pasadena, CA**



Sheraton Hotel - Woodbury, M



**Quattro Formaggi - Alexandria, VA
ATS-6 with ESP, Media & Carbon Sections**



屋顶油烟集中净化排放



Thanks !

TRION Project List

1. 武汉古田凯德：

项目体量： 24.5万平方米，
标段内容： 330万风量厨房油烟净化
项目状态： 2016年5月已经交付



2. 苏州中心

项目体量： 16.7万平方米，
标段内容： 240万风量厨房油烟净化
项目状态： 2016年07月已经交付



3. 广州凯德云尚

项目体量： 8.6万平方，
标段内容： 200万风量厨房油烟净化
项目状态： 2015年10月已经交付

TRION Project List

4. 成都来福士

项目体量： 30.8万平方米，

标段内容： 260万风量厨房油烟净化

项目状态： 2013年4月已经交付

5. 宁波来福士

项目体量： 14.3万平方米，

标段内容： 90万风量厨房油烟净化

项目状态： 2013年6月已经交付

6. 绵阳凯德商业

项目体量： 9.0万平方米，

标段内容： 90万风量厨房油烟净化

项目状态： 2014年7月已经交付



TRION Project List

7. 重庆保利厨房

项目体量： 5万平方米，
标段内容： 28万风量厨房油烟净化
项目状态： 2013年09月已经交付

8. 重庆两江假日酒店

项目体量： 3万平方米，
标段内容： 10万风量厨房油烟净化
项目状态： 2015年06月已经交付



9. 重庆天地舌尖上的中国馆

项目体量： 5万平方米，
标段内容： 50万风量厨房油烟净化
项目状态： 2015年08月已经交付

TRION Project List

10. 重庆香港置地-约克郡综合体厨房

项目体量： 38.6万平方米，
标段内容： 16万风量厨房油烟净化
项目状态： 2015年08月已经交付



11. 重庆融汇G3地块厨房

项目体量： 19万平方米，
标段内容： 35万风量厨房油烟净化
项目状态： 2015年05月已经交付

12. 成都双流机场

项目体量： 50万平方米，
标段内容： 60万风量厨房油烟净化
项目状态： 2012年8月已经交付



TRION Project List

13. 成都仁恒

项目体量： 21万平方米，
标段内容： 30万风量厨房油烟净化
项目状态： 2015年08月已经交付；



14. 成都棕榈泉

项目体量： 26万平方米，
标段内容： 20万风量厨房油烟净化
项目状态： 2016年03月已经交付



15..成都银泰中心

项目体量： 72万平方米，
标段内容： 150万风量厨房油烟净化
项目状态： 2015年08月已经交付

TRION Project List

16. 广州电视塔

广州新电视塔的名字为广州塔，海拔**600米**，为国内第一高塔。其油烟处理要求非常非常高，采用垂恩两段式油烟净化。近**300万**风量，**2012年**交付完成。



TRION Project List

17. Venetian Macau Hotel 澳门威尼斯

威尼斯人度假酒店位于澳门路氹金光大道中心地带,占地十一万平方米,是全球第二大、亚洲最大的赌场度假村综合建筑;采用了垂恩MODEL75系列厨房油烟净化装置,近200万风量;2012年交付完毕。



TRION Project List

18. Global projects 其他一些海外项目



四季酒店
San Francisco, CA



伦敦希尔顿酒店
London Hilton hotel



迪拜 君悦酒店
Dubai Grand Hyatt hotel