



EN CHEMICAL FILTER



www.cands.co.kr

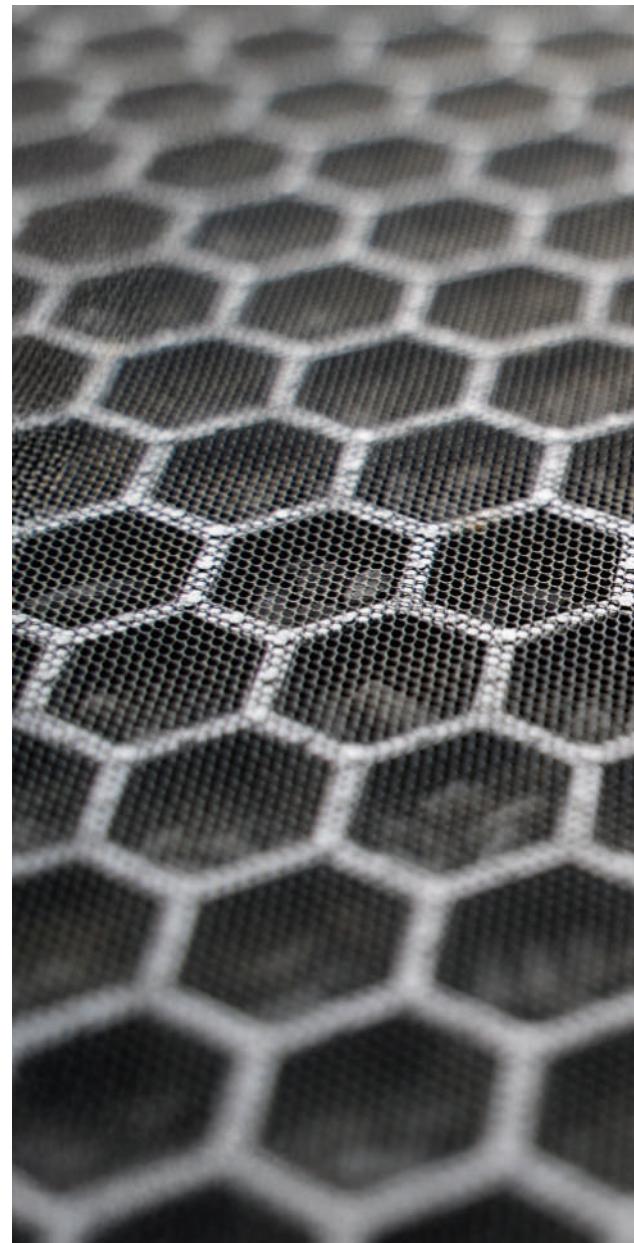
1973	Establishment of Jeonil Industries Launch of automotive filter media production
1980	New construction of resin lamination processing plant Establishment of Seoul branch First technical partnership with J.C. Binzer GmbH & Co. KG, Germany
1990	Second technical partnership with J.C. Binzer GmbH & Co. KG, Germany Completion of Jeong-eup North Plant building (6,751.85 m ²) Establishment of corporate research institute (Korea Industrial Technology Promotion Association) Awarded 1 Million Dollar Export Tower (Korea International Trade Association) Establishment of Japan branch
2000	Technical agreement with AAF INTERNATIONAL, USA Launch of nonwoven fabric business using melt-blown technology Name change to CLEAN & SCIENCE Co., Ltd. KOSDAQ listing KOSDAQ New construction of a melt-blown nonwoven media plant Awarded 5 Million Dollar Export Tower (Korea International Trade Association) Awarded 10 Million Dollar Export Tower (Korea International Trade Association) Installation of assembly line Establishing a Clean & Science subsidiary in USA Expansion of filter assembly plant and construction of Melt Blown plant
2010	Acquired ISO14001 certification Adoption of International Financial Reporting Standards (IFRS) Establishing a Clean & Science subsidiary in China Selected for HIDDEN STAR500 Construction of SMC/BMC composite material production line Construction of liquid filter production line Completion of Jeong-eup Plant No. 2
2020	Completion of Melt Blown Line 5 and 6 Introduction of mask manufacturing equipment Completion of Thailand plant

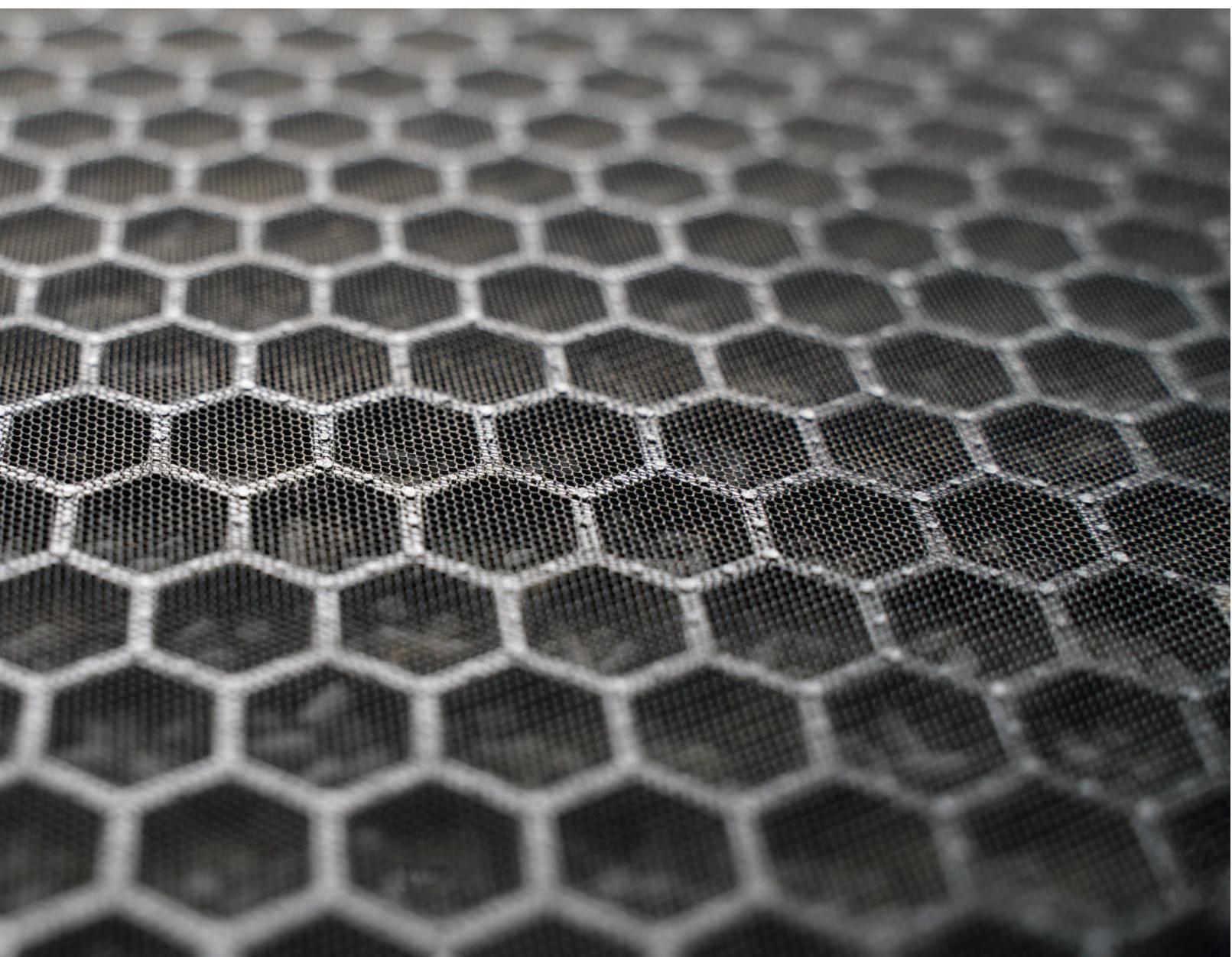
CHEMICAL FILTER

APPLICATION OF CHEMICAL 05

CHEMICAL FILTER

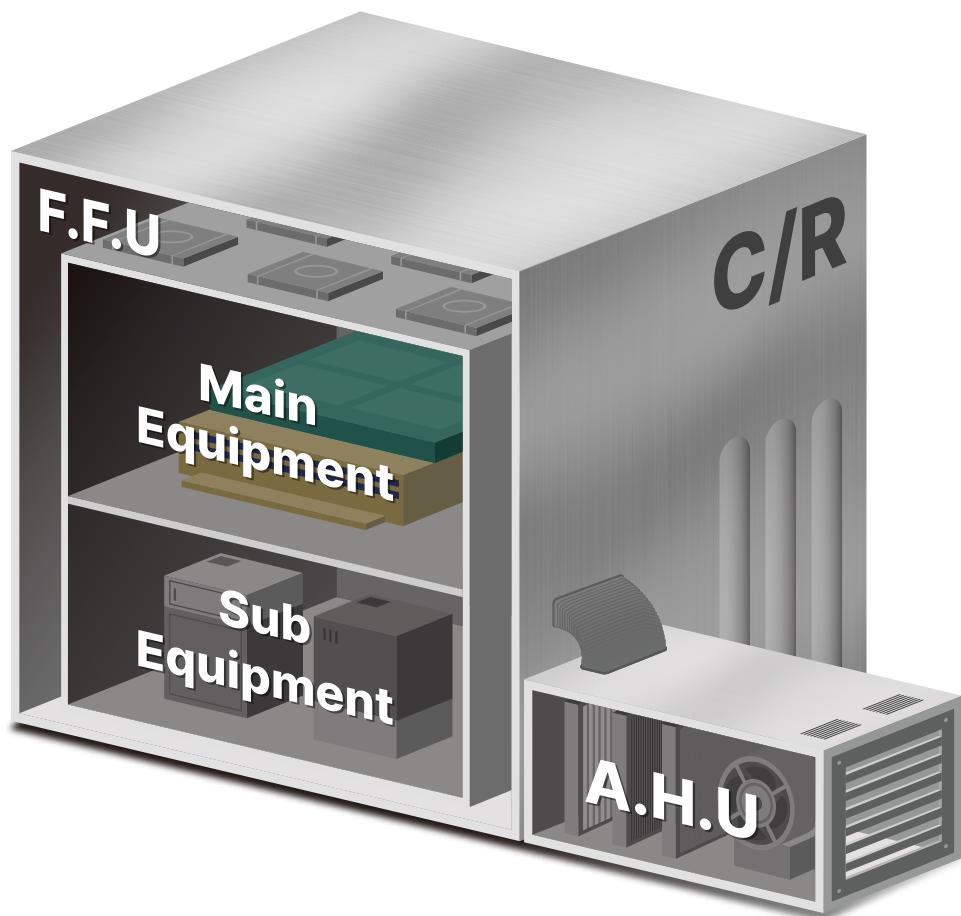
Pleated Type _ FFU / EFU	07
V-Bank Type _ OAC / AHU	09
Box Type _ OAC / AHU	11
Tray Type _ OAC	13







APPLICATION OF CHEMICAL FILTER



Fan Filter Unit

Ozone, MA, MB, MC, VOCs

Main Equipment

MA, MB, MC, MD, VOCs

Sub Equipment

MA, MB, MC, MD, VOCs

Air Handling Unit

MA, MB, Ozone

KLARING is the brand name of CLEAN & SCIENCE Co., Ltd. products.

KLARING CHEMICAL FILTER APPLICATION OF CHEMICAL FILTER

- MA : Molecular Acids (SO_x, NO_x, HCl, Cl₂, HF, H₂S etc.)
- MB : Molecular Bases (NH₃, Amine, NMP (N-Methylpyrrolidone) etc.)
- MC : Molecular Condensable (Volatile Organic Compounds (m.w.:>120, b.p.:>150°C))

- Ozone : O₃
- VOCs : Volatile Organic Compounds

Ion Exchange Fiber



High ion exchange efficiency and adsorption rate: 10–100 times faster than conventional ion exchange resins

High efficiency at low chemical concentrations: Achieves 97–100% efficiency

Low pressure drop during adsorption: Reduces the phenomenon of foreign matter adsorption compared to activated carbon, extending product life and ensuring high purification efficiency

Efficient application in thin and lightweight layers at high gas flow rates

Overcomes drawbacks of ion exchange resins, such as breakdown and crushing

Enables decontamination of radioactive isotopes

Resistant to hydrolysis even when reacting with PGMEA in organic compounds

Ion Exchange Resin



Selective removal of unwanted specific ions (Base / Acid)

Uniform reaction ensures consistent porosity and specific surface area, resulting in stable flow, increased exchange capacity, and reduced operating costs

Impregnated Active Carbon



Improved adsorption performance for organic and inorganic compounds & increased lifetime

Applied activated carbon: Granular activated carbon with BET 1300 or 1600 m²/g, using high-grade materials

Customized design according to customer requirements: Size and target gas

Increased residence time during gas passage with 2-stage, 12-layer configuration: Optimized adsorption time

CHEMICAL FILTER

PLEATED TYPE

FFU / EFU



KLARING is the brand name of CLEAN & SCIENCE Co., Ltd. products.

CLEAN & SCIENCE

KLARING CHEMICAL FILTER PLEATED TYPE

Selective target gases such as acids and bases can be removed. Customization is available according to customer requirements, and effective materials suited to the on-site environment—such as ion exchange resins, ion exchange fibers, or impregnated activated carbon—can be applied.

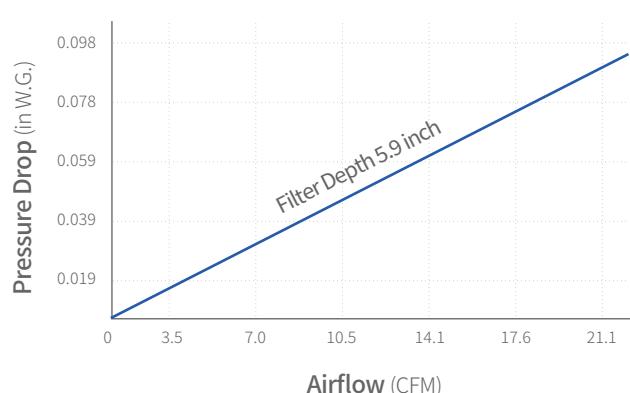
FILTER SPEC

Application	FFU
Target Gas	NH ₃ , Acid, Condensable Organic, O ₃ etc.
Media	Ion Exchange Resin, Active Carbon, Impregnated Activated Carbon
Filter Type	Pleated
Casing Material	Aluminum
Dimensions	Variables

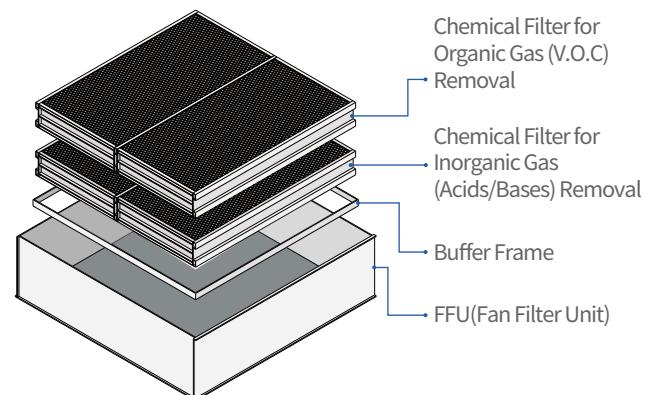
PRODUCT SPEC

Filter Depth	5.9 inch
Pressure Drop	0.45 m/s @ 0.078 in W.G. ↓ Depth varies with design conditions
Removal Efficiency	Initial 90% ↑
Filter Type	Media

PRESSURE DROP



STRUCTURE



CHEMICAL FILTER

V-BANK TYPE

OAC / AHU



KLARING is the brand name of CLEAN & SCIENCE Co., Ltd. products.

CLEAN & SCIENCE

KLARING CHEMICAL FILTER V-BANK TYPE

Selective target gases such as VOCs, acids, and bases can be removed. With a 12-tray design, it achieves low pressure drop and extended lifetime. The ABS frame makes the filter environmentally friendly and allows for easy disposal and replacement.

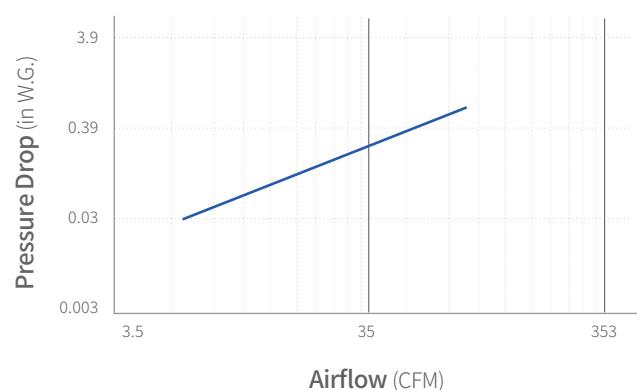
FILTER SPEC

Application	OAC
Target Gas	NH ₃ , Acid, Condensable Organic, O ₃ etc.
Media	Ion Exchange Resin, Active Carbon, Impregnated Activated Carbon
Filter Type	Pleated
Casing Material	Aluminum
Dimensions	Variables

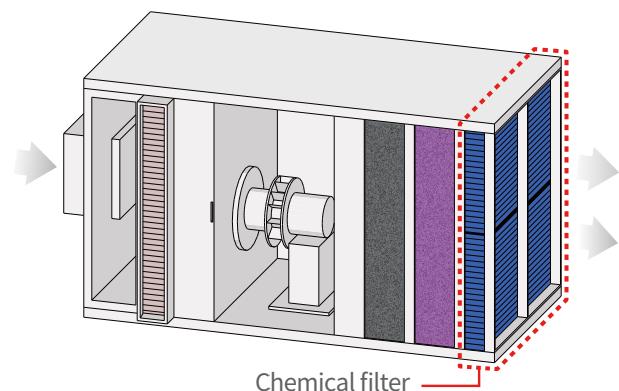
PRODUCT SPEC

Filter Depth	5.9 inch
Pressure Drop	0.45 m/s @ 0.078 in W.G. ↓ Depth varies with design conditions
Removal Efficiency	Initial 90% ↑
Filter Type	Media

PRESSURE DROP



CHEMICAL FILTRATION SYSTEM



CHEMICAL FILTER 
BOX TYPE
OAC / AHU

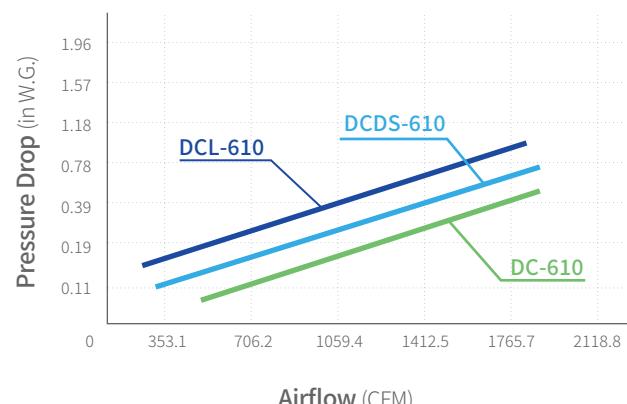
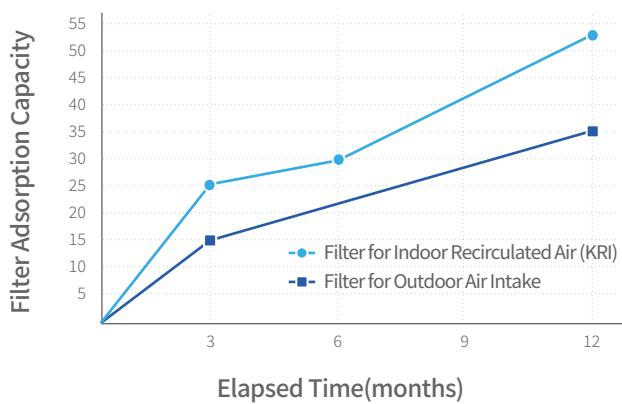


KLARING is the brand name of CLEAN & SCIENCE Co., Ltd. products.

KLARING CHEMICAL FILTER BOX TYPE

This filter features a flat 3.9 in thick frame with eight plate-type panels installed inside the case. Depending on the application, it includes filters for general deodorization, removal of the four major odors, cigarette smoke, alkaline gases, and animal odors. It offers high collection efficiency and easy filter media replacement, resulting in low maintenance costs. Additionally, compared to conventional products, it is lightweight, making installation and maintenance easier.

- Indoor Location: KRD & KRI Offices, Kyoto Science Center Building
- Filter Size: 16.5 × 16.5 × 11.4 in
- Media Specification: PS FELT
- Handling Capacity: 1,200m³/hr



Category	Size H×W×D (inch)	Flow Rate (CFM)	Function	Efficiency (%)
FTCC-SAXX-0610, 0610, 290	24×24×11.4	1553.8	General deodorization	90 over
FTCC-SAXX-0610, 0305, 290	24×12×11.4	776.9	General deodorization	90 over
FTCC-SAXX-0610, 0610, 290	24×24×11.4	1553.8	Removal of solvent odor	90 over
FTCC-SAXX-0610, 0305, 290	24×12×11.4	776.9	Removal of solvent odor	90 over
FTCC-SAXX-0610, 0610, 290	24×24×11.4	1553.8	4 major odor removal	90 over
FTCC-SAXX-0610, 0305, 290	24×12×11.4	776.9	4 major odor removal	90 over
FTCC-SAXX-0610, 0610, 290	24×24×11.4	1553.8	Removal of cigarette smoke	90 over
FTCC-SAXX-0610, 0305, 290	24×12×11.4	776.9	Removal of cigarette smoke	90 over
FTCC-SAXX-0610, 0610, 290	24×24×11.4	1553.8	Removal of positive gas	90 over
FTCC-SAXX-0610, 0305, 290	24×12×11.4	776.9	Removal of positive gas	90 over
FTCC-SAXX-0610, 0610, 290	24×24×11.4	1553.8	Removal of animal odor	90 over
FTCC-SAXX-0610, 0305, 290	24×12×11.4	776.9	Removal of animal odor	90 over

CHEMICAL FILTER
TRAY TYPE
OAC



KLARING is the brand name of CLEAN & SCIENCE Co., Ltd. products.

CLEAN & SCIENCE

KLARING CHEMICAL FILTER TRAY TYPE

Applied in a tray type for easy replacement, it allows selective removal of target gases such as VOCs, acids, and bases, and can be customized according to customer requirements.

FILTER SPEC

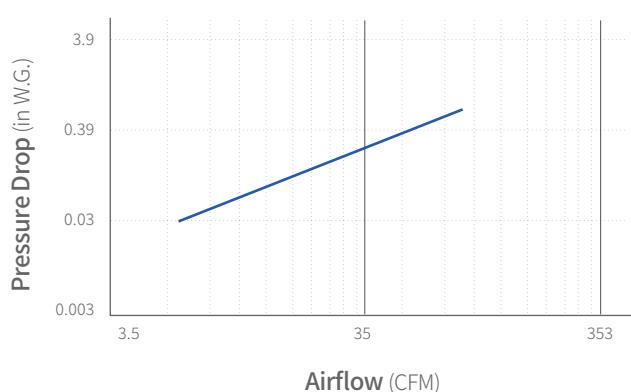
Application	OAC
Target Gas	NH ₃ , Acid, Condensable Organic, O ₃ etc.
Media	Ion Exchange Resin, Active Carbon, Impregnated Activated Carbon
Filter Type	Tray
Casing Material	SUS / Aluminum
Dimensions	Variables

PRODUCT SPEC

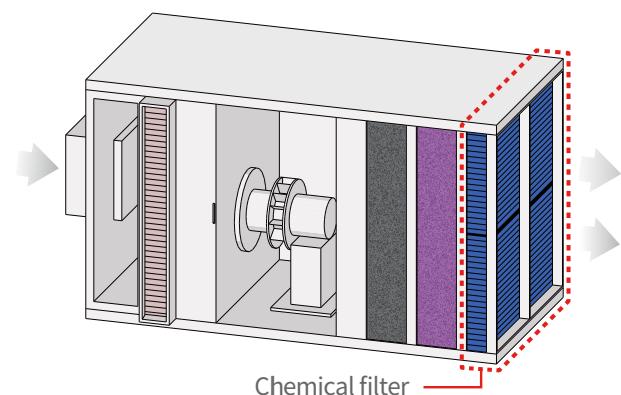
Filter Size	24×24×17.7 (inch) : Tray filter box
Pressure Drop	2.5 m/s @ 0.5 in W.G. ↓ Depth varies with design conditions
Removal Efficiency	Initial 90% ↑

Filter Type Tray

PRESSURE DROP



CHEMICAL FILTRATION SYSTEM





Head Office

903-1, Trade Tower, 511 Yeongdong-daero, Gangnam-gu, Seoul, 06164, Korea
T: +82-2-550-0800 / F: +82-2-6969-5146

Jeongeup Factory

67, 3Sandan 3-gil, Buk-myeon, Jeongeup-si, Jeollabuk-do, 56137, Korea (Block 15, 3rd Industrial Complex)
T: +82-2-550-0900 / F: +82-63-536-7885

Hanam Factory

28-13, Deokpungbuk-ro 6beon-gil, Hanam-si, Gyeonggi-do, 12936, South Korea
T: 031-794-0221 / F: 031-794-0225

THAILAND Factory

789/91 Moo 1, Pinthong Industrial Estate 1, Si Racha District, Chonburi 20230, Thailand
T: +82-31-794-0221 / F: +82-31-794-0225

USA Branch

2775, Algonquin Rd, Suite 110, Rolling Meadows, IL, 60008, USA.
T: +1-847-461-9292 / F: +1-815-524-2279

JAPAN Branch

Sanyus Building 6F, 27-15 Namiki 3-chome, Kawaguchi-shi, Saitama, 332-0034, Japan
T: +81-6-6226-8225 / F: +81-6-6226-8256

CHINA Branch

309, 3F, N03998, Hongxim Road, Minhang District, Shanghai, 201103, China
T: +86-21-6167-9520 / F: +86-21-6167-9519