KOTON
TECHNOLOGIES

Stay Clean & Green
Clean Air - Healthy Work Environment - Low Carbon Footprint

OIL MIST
AIR CLEANER

www.koton-edm.com

Air pollution - An invisible killer

About PM2.5

It may come to your attention that smog has become one of the top human health hazards all over the world. In the past few years, levels of smog in different areas are on the increase, resulting in the deterioration of air quality and elevated risk of our health. It raises people's awareness of respiratory care. PM2.5 is a main component of smog among other substances. PM2.5 refers to particles less than or equal to 2.5 micrometers in diameter, which can penetrate deeply into our lungs, irritating and corroding the alveolar wall, and consequently impair lung function.
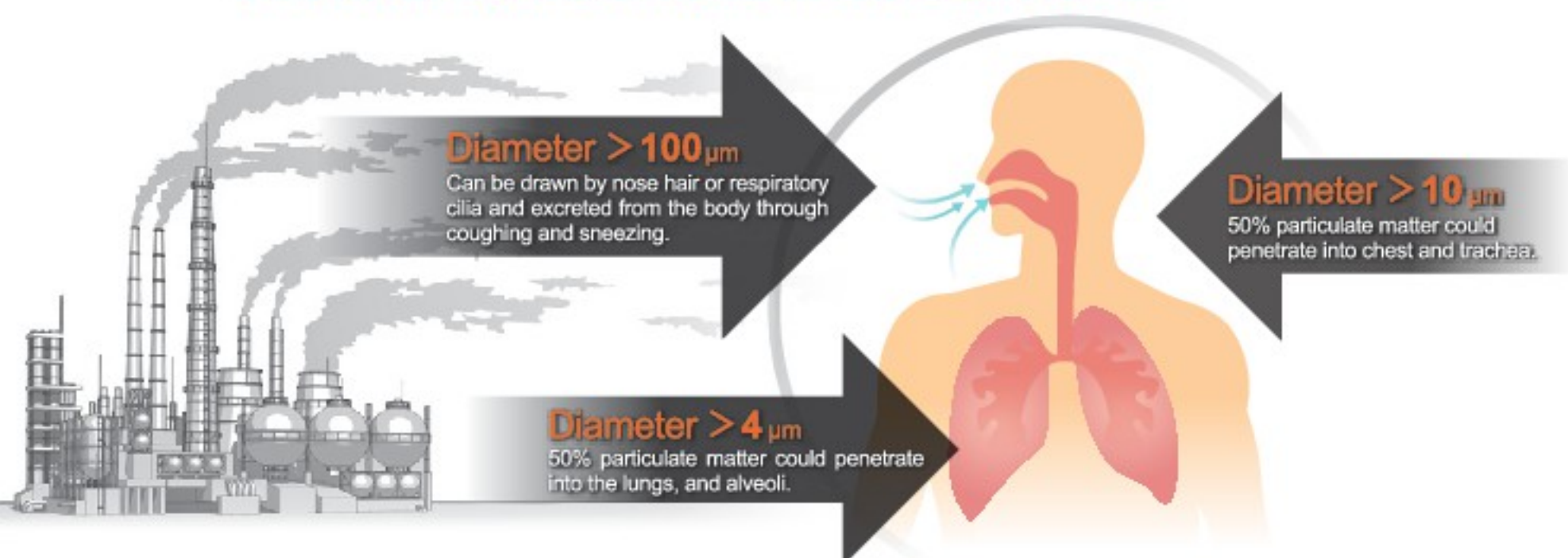
PM2.5 Causes Lung Cancer

PM2.5 is mostly from anthropogenic emissions. It can also be formed with the chemical reactions of gases, such as sulphur dioxide (SO_2) and nitrogen oxides (NOx: nitric oxide, NO plus nitrogen dioxide, NO_2) .These are called secondary particles. Measures to reduce the emissions of these precursor gases are therefore often beneficial to reduce the overall level of PM2.5.

Cancer has been the leading cause of death in Taiwan for years. The death of cancer reached 47 thousands in 2016, which indicates there are 131 people who die each day of some forms of cancers, especially lung cancer - it is on the top of the killer list.

The smoking rate in Taiwan has been declined for years. However, the cases of lung cancer have been increased year after year. Over high PM2.5 concentration in the air is seen as one of the major causes.

According to the data published by the World Health Organization, every $10\mu m/m^3$ of PM2.5 concentration increases 6% of mortality rate.

Offering you a healthier work environment, is the reason why we develop the KOTON Oil Mist Cleaner.

Diameter > 100 μm
Can be drawn by nose hair or respiratory cilia and excreted from the body through coughing and sneezing.

Diameter > 10 μm
50% particulate matter could penetrate into chest and trachea.

Diameter > 4 μm
50% particulate matter could penetrate into the lungs, and alveoli.

Health Risks of PM2.5

Particulate matter can travel into the respiratory tract, different diameter particulate matter with different effect of respiratory system.

Source: www.ksepb.gov.tw

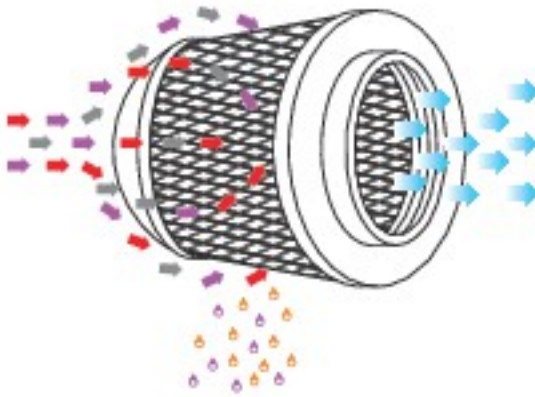| Level of PM2.5 Pollutant	PM2.5 (Concentration (μg/m³)	Activity Suggestion
Low	0~35	Fair air quality. No impact on human activities.
Middle	36~53	Outdoor activities can be continued. However, adults or children who have heart, lung, or cardiovascular disease should reduce outdoor exposure.
High	54~70	Outdoor activities should be avoided if people, especially children, have a needle-in-the-eye syndrome, a bad cough, or a sore throat.
Very High	>71	Anyone who has a needle-in-the-eye syndrome, a bad cough, or a sore throat should avoid physical activities and remain indoors.

OIL MIST
AIR CLEANER

Low Carbon Footprint

Clean Air

Environmental Recycling

Pre-Filtration System

- Effective, low-drag pre-filter for air/oil separation
- Separates oil droplets from the air and returns 95% of the oil to the machine
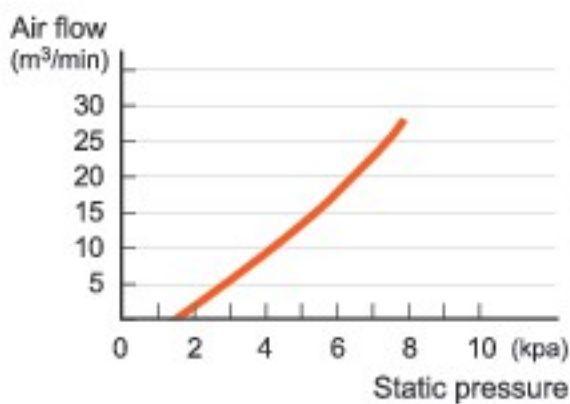- Stainless and washable

Unique Fan Design

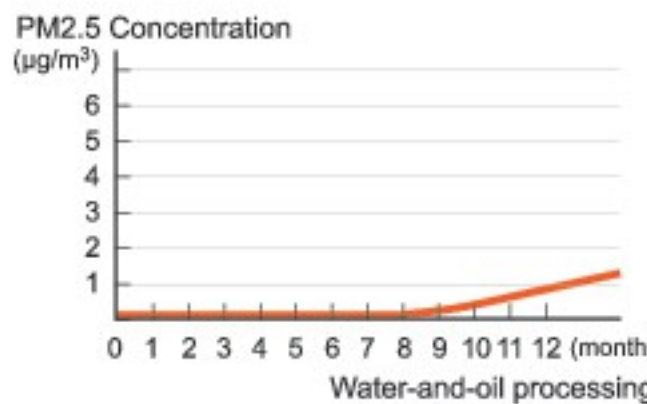- Unique fan design & efficient compact motor reduce energy consumption

High Efficiency Air Filter

- European H11 HEPA-Standard
- Cylindrical, multi-layer design with increased filter surface area
- High density micro-fine fiberglass elements
- Efficiently removes up to 99.5% of PM2.5 particles
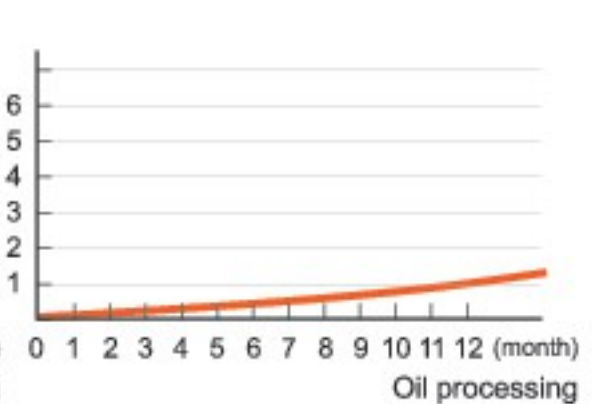- Tool-free filter change

Air flow (m³/min)

Static pressure

Suction volume graph of pre-filter

It is a KF-20E estimated result.

PM2.5 Concentration (µg/m³)

Water-and-oil processing

Oil processing

Filtrate PM2.5 graph of after-filter

Test conducted in the water-oil processing machine, after 8 months, PM2.5 is still 0.

- This is the result of testing in terms of KF-20E, all the reported data can be varied due to different delete conditions.

OIL MIST AIR CLEANER
On-site Testing

Airflow w. HEPA-Filter Attached

Real test, with loading the air flow of **13~14** m/sec.

Airflow w/o HEPA-Filter

Real test, without loading the air flow of **20~23** m/sec.

▶ Video

Oil Recycling System

KOTON Oil Mist Cleaner separates oil mist from the air.

60 % of the used oil is collected through the process in order to eliminate unnecessary cost.

Noise Test

The decibel recorded during the noise test shows the value produced by KOTON Oil Mist Cleaner is lower than average value.

Air concentration of PM2.5, near filter **0.0** ug.

Filter Efficiency Test

The on-site test conducted through a third-party factory

gives the results that over **99.5** % of **0.3** μm particles are filtered and collected. What's more, KOTON Oil Mist Cleaner can operate on its own. Long-term use of it brings factories a better indoor air quality.
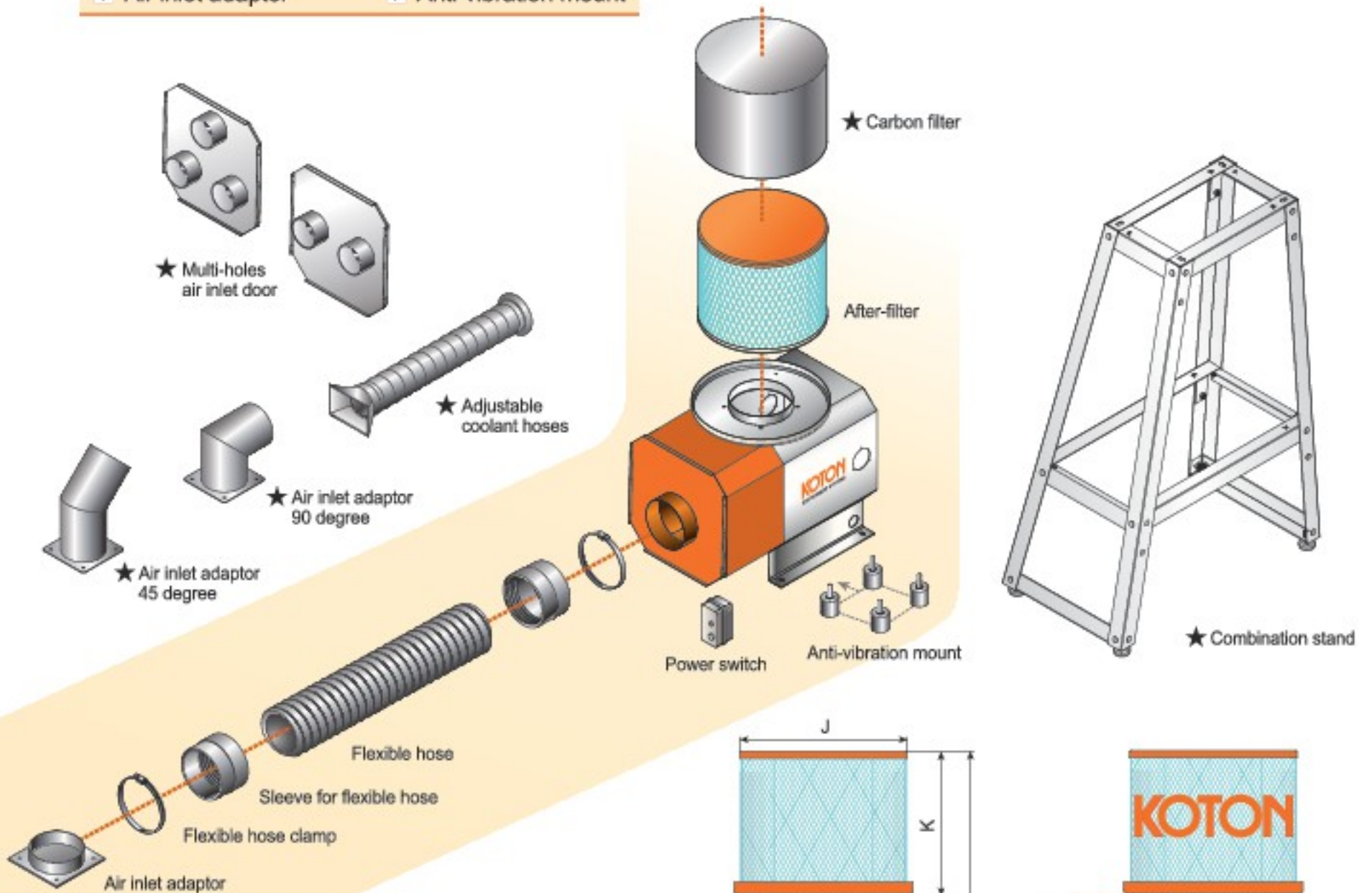
Accessories

Standard Accessories

- ✓ Pre-filter
- ✓ After-filter
- ✓ Sleeve for flexible hose
- ✓ Flexible hose clamp
- ✓ Air inlet adaptor
- ✓ Power switch
- ✓ Oil resistant cable
- ✓ Flexible hose
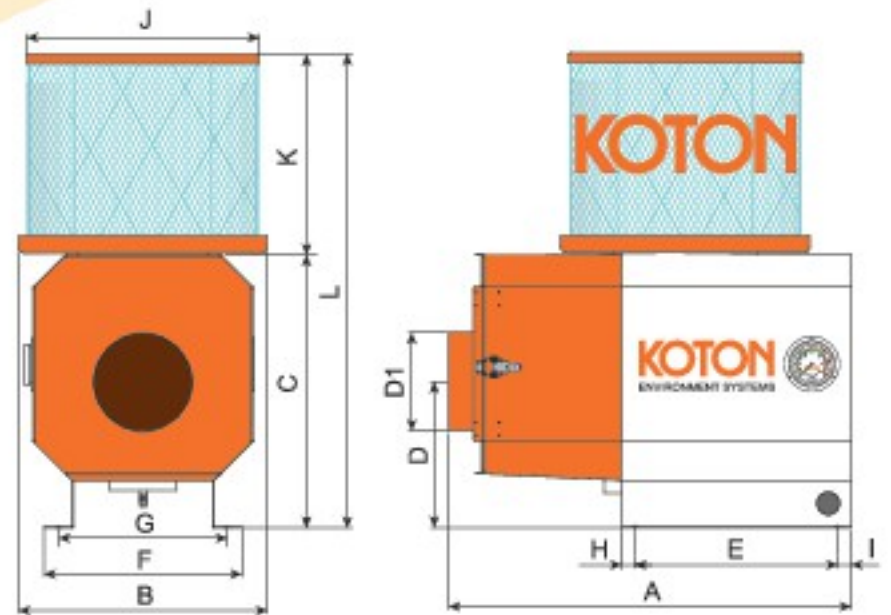- ✓ Oil drain hose
- ✓ Anti-vibration mount

Optional Accessories

- ★ Combination stand
- ★ Adjustable coolant hoses
- ★ Air inlet adaptor 90 degree
- ★ Air inlet adaptor 45 degree
- ★ Carbon filter
- ★ Multi-holes air inlet door

Using multi-holes will reduce the collection efficiency

★ Multi-holes air inlet door

★ Adjustable coolant hoses

★ Air inlet adaptor 90 degree

★ Air inlet adaptor 45 degree

Flexible hose

Sleeve for flexible hose

Flexible hose clamp

Air inlet adaptor

★ Carbon filter

After-filter

Power switch

Anti-vibration mount

★ Combination stand

Dimensions

MODEL	Power Source	Output (KW)	Airflow (50/60HZ) m³/min		Static Pressure (kap)	Operating Noise dp(A)	Collection Efficiency	Weight (Kg)	Air Intake Diameter
			w/o HEPA-Filter	w. HEPA-Filter					
KF-10E	3-Phase AC380V or AC220V 50/60HZ	0.2	9 / 12.8	5 / 8	0.75 / 1.13	64 / 67	Up to 99.5% EU H11 Class	41	Ø150
KF-20E		0.4	18 / 21.5	9 / 13	1.08 / 1.74	65 / 68		46	Ø150
KF-30E		0.75	28 / 32.5	18 / 21	1.42 / 1.82	68 / 73		63	Ø150

MODEL	A	B	C	D	D1	E	F	G	H	I	J	K	L
KF-10E	609	380	417	223	150	295	302	258	25	25	Ø360	310	727
KF-20E	633	380	446	236	150	310	327	283	25	25	Ø360	410	856
KF-30E	749	438	512	278	150	363	387	337	30	30	Ø435	410	922

Unit: mm

Installations

KOTON Oil Mist Air Cleaner requires limited space due to its simplicity and compactness of installation. The installation is subject to users' environments. The product can either be installed on the top of the machine or be settled on the telescopic stand.

Installed on the top of the machine

Settled up on the combination stand

Oil Mist Air Cleaner Installation Examples

- Machining factory
- EDM machining factory
- Petrochemical factory
- Punching factory
- Glass surface treatment factory
- Food processing and production factory
- Textile factory
- Electronic factory (clean room)

High efficiency, low noise, and excellent air purification create a healthy work environment.

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TECHNOLOGIES

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