



LOTUS INNOVATION OIL MIST AIR CLEANER



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YOEN

OIL

MIST

AIR CLEANER



{ Earth-Loving }



{ People-Saving }



{ Health-Maintaining }

# LOTUS INNOVATION

## THE WORLD'S FIRST FIVE-STAGE FILTER

(Option)  
Replaceable High-efficiency Activated Carbon



Filter for Toxic Air



Filter for Oil Mist



Filter for Water Mist



Filter for Dust



Air Spoiler

Lotus Innovation Technology - High-efficiency filtering materials and top-notch application technologies from multiple countries, such as the US, Germany, Japan, and Taiwan, are combined in one. Approved by world environmental protection air quality standards. With "the world's first five-stage filter", a high-efficiency air cleaner capable of recycling oil mist is successfully developed. It can filter multiple types of media, such as water vapor, oil mist, oil smoke, and foreign odor generated from machine processing. The filtration and interception precision is unparalleled in the industry; the quality is outstanding. Certified by multiple CE directives and protected by multiple cross-national patents.



# What are oil smoke and mist/dust?

## How are they produced?

Oil smoke, mist and dust particles consist of fine suspended particulate matter (PM2.5) that are gathered on a large scale in the gases and smog compounds created when impact pyrolysis or high-temperature gasification occur during processing solids and liquids in processing machinery.

Dust particles generally refer to particles that can be observed by the naked eye and which are suspended for a certain amount of time in the air due to air convection. The particles are 5µm or smaller; single particles are generally invisible to the naked eye. Dust particles 10µm or smaller can be absorbed by the human body; oil smoke and mist particles 2.5µm or smaller may accumulate in the blood through the alveoli in the lungs, and have enormous adverse effects on health.

## Hazards of oil smoke and mist/dust

The sizes and compositions of particles generated from machine processing differ, depending on the workmanship and the underlying metal materials. These particles contained in oil smoke and mist are mostly ultra-fine micron-grade dust. According to the test data provided by Germany IFA, the diameter of a particle contained in oil smoke and mist is between 0.1 and 1 µm and particles with a diameter below 1 µm can enter the blood stream directly after they pass through pulmonary alveoli to result in serious health hazards. Possible risks associated with long-term exposure include: allergy, asthma, pulmonary emphysema, lung cancer, cardiovascular disease, liver cancer, premature birth of a baby, among others, and it increases the death rate.

## EPA to amend air quality standards

### Fine particulate matter (PM2.5) to be included in controls

Fine suspended particulate matter refers to particles 2.5µm or smaller in diameter that are suspended in the air. Due to their extremely small diameter, they easily enter the human body through respiration and thereby impact health. To improve the quality of the environment and protect the health of citizens, the Environmental Protection Agency has announced plans for amendments to the air quality standards, and has included PM2.5 within the control standards. The EPA will adopt the 24-hour standard of 35µg/m<sup>3</sup> and the annual average value of 15 µg/m<sup>3</sup>, also adopted by the United States and Japan. This standard value is the most rigorous standard in the world today.

Air Quality Standards		WHO				EU	US		CA	AUS	JP	KR	HK	China		TH	TW
		IT-1	IT-2	IT-3	AQG		Federal	Calif.						Class 1	Class 2		
PM <sub>10</sub> (µg/m <sup>3</sup> )	Annual Average	70	50	30	20	40	—	20	70	—	—	50	55	40	70	50	65
	Daily Average	150	100	75	50	50	150	50	120	50	100	100	180	50	150	120	125
PM <sub>2.5</sub> (µg/m <sup>3</sup> )	Annual Average	35	25	15	10	25	12	12	—	8	15	25	35	15	35	25	15
	Daily Average	75	50	37.5	25	—	35	—	30	25	35	50	75	35	75	50	35

## Impacts of Oil “Smoke”, Mist, and Dust



Impact Human Health



Result in Safety Incidents



Damage Machines



Result in Worker Fatigue and  
Reduce Work Efficiency



Harm the Environment and Affect  
Air Conditioning Equipment

### Impacts of Oil “Smoke”, Mist, and Dust

Less pollution, more green.

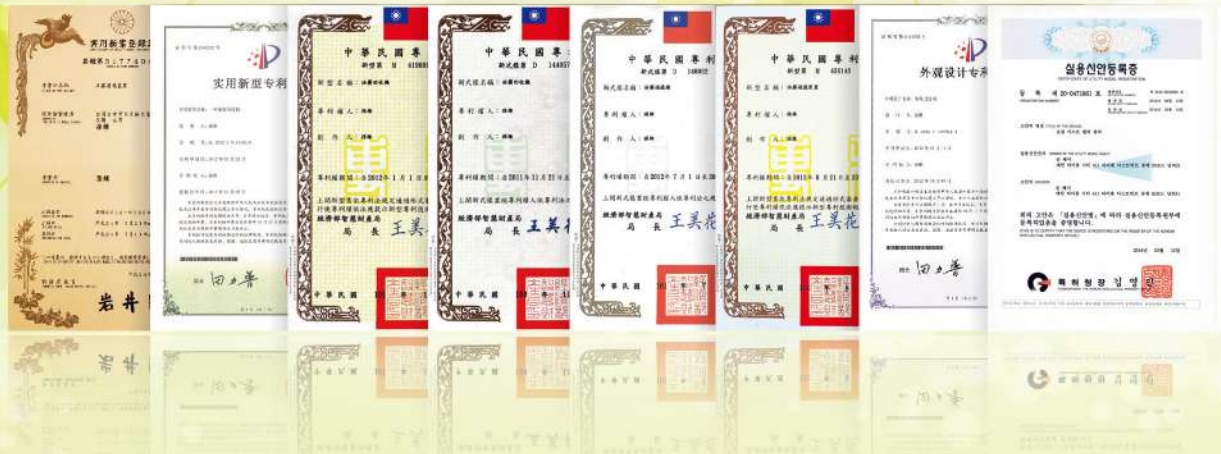
With the oil smoke and mist inside  
the machine reduced to a minimum,  
it is the maximum contribution to the  
benefits of the earth and the mankind.



# Patented Innovation Design, Industry-Leading Technologies

**Awarded Various Patents – Taiwan, Japan, Germany, China,  
Korea and EU ( All Rights Reserved)**

The YOMA Research Department has long been committed to improving and innovating products, allowing YOMA's products to stay ahead of products from other competitors.



# Obtained Global Quality Certifications

YOMA is an international company and has its eyes on the global market. It has obtained SGS, TTRI and CE test reports, providing customers with peace of mind for all of its products. YOMA's products are required not only to meet international quality standard, but also inspections performed by internationally accredited institutions.





# Advanced Quality Assurance Equipment & The Most Complete Test Equipment in the Industry.

YOMA's strict quality assurance system includes a wide range of measures for ensuring the best product quality, including material arrival inspections carried out when components first arrive at the factory, independent tests carried out by engineers in various assembly teams, random inspections carried out by quality assurance personnel on the production line, and final product inspections carried out at the very end of the production process.



**Anemometer**



**Decibel meter**



**Vibration tester**



**Thermometer**



**Tachometer**



**Inverter**



The GT-321 / high-precision dust detector, capable of detecting the number of 0.3um~2.0um PM particles per cubic foot (quantity method).



The GT-521 / high-precision dust detector, capable of detecting the number of 2.0um~10um PM particles per cubic foot (quantity method).



The AEROCET-531 / high-precision dust detector, capable of detecting the mass of PM1.0um~PM10um particles per cubic meter (gravimetric method).



The VOC detector, capable of detecting common VOCs that are harmful to humans, including : toluene, ethylbenzene, styrene, formaldehyde, acetaldehyde, etc. Expressed in ppm per cubic meter concentrations.



# Constantly Creating New Demands and New Satisfaction

Recognized by Domestic Renowned Machine Manufacturers



## Application Examples





We are living in a rapidly-changing era where technology, economies and information are growing with constant breakthroughs. Keeping a competitive edge under such circumstances is a critical task for every enterprise. To achieve this goal, information integration and development of new added value are essential to move from the “red sea markets” of competitive pricing to the “blue sea markets”.





## LOTUS INNOVATION'S DESIGN CONCEPTS

Recycling to Protect the Environment.  
Saving Energy and Reducing Carbon.  
Air Purification.  
A Leading Brand. The Best in Taiwan.



### Recycling to Protect the Environment

In the YOMA-N model for example,  
innovative 4-stage- filter cartridge,  
the actual measured collection rate is 80%.  
It is capable of collecting up to 1.2 liters per  
hour or 26 barrels per year ( with each barrel  
at 200 liters / 25 thousand market price).

**5256** liters can be saved each year  
and recoverable amount is 657,000 TWD per  
year (1.2 liters /H x 12Hours / day x 365 days/year )

### Saving Energy and

Comparing motor power consum  
(with similar air flow cap

Comparison of motor  
current price indices

Examples	1. Model SD-10	Air flow
	2. Model LG-250A	Air flow
	3. Model MCA-07	Air flow
	4. Our LOMA-15	Air flow

Our superior power-sa  
customers to save m

**9853** dollars (N

(0.75kw/H-0.37kw/H\*12H/day\*365 days / ye





## Reducing Carbon

Comparison of models of the same class (same capacities) from competitors

Lower power consumption as a result of savings in energy conservation

Model YOMA-H 16m³/min.; power consumption 0.75kw/H

Model YOMA-H 15m³/min.; power consumption 0.75kw/H

Model YOMA-H 13m³/min.; power consumption 0.75kw/H

Model YOMA-H 20m³/min.; power consumption 0.37kw/H

Energy saving capabilities allow for savings of more than 50% power or

(USD\$) in electricity fees per year.

(Year \*5.92 dollars / per kWh for commercial use)

European Specification(1) Filtration Class EN 779:2012

Pa	Class	Average Arrestance	Average Efficiency on 0.4 μ m
250	G1	< 65%	
	G2	65-80%	
	G3	80-90%	
	G4	> 90%	
450	M5		40-60%
	M6		60-80%
	F7		80-90%
	F8		90-95%
	F9		> 95%

EPA-HEPA-ULPA Filtration Class EN-1822

Filter Group Filter Class	Integral value on 0.2μm	
	Efficiency(%)	Penetration(%)
E 10	≥ 85	≥ 15
E 11	≥ 95	≥ 5
E 12	≥ 99,5	≥ 0,5
H 13	≥ 99,95	≥ 0,05
H 14	≥ 99,995	≥ 0,005
U 15	≥ 99,999 5	≥ 0,000 5
U 16	≥ 99,999 95	≥ 0,000 05
U 17	≥ 99,999 995	≥ 0,000 005

## Air Purification

YOMA-H series products have passed TTRI certification based on EN779:2012, meaning they are capable of filtering over

**95** % of 0.4um particulate matter.

YOMA-A series products have passed TTRI certification based on EN1822, meaning they are capable of filtering over

**96.8** % of 0.2um particulate matter.

Note: TTRI refers to the Taiwan Textile Research Institute



# YOMA-N Oil Mist Collector



## YOMA-N Series Features

1. In a simulated experiment where the oil mist was generated and recycled, the maximum amount of oil that can be recycled for reuse is 1200cc per hour.
2. Exclusive oil-mist separation design and further filtering of collected oil unnecessary.
3. Turbine aluminum alloy fan wheels are known for being light and low-noise.  
Super high suction and high performance.
4. First four stages can be cleaned repetitively and contains no consumable components.

## Stage-1 / Stage-2/ Stage-3 Filters

Patent	M467835	D144057	All rights reserved.
Number	M436140	D161095	

The Stage-1 filter uses a woven stainless steel screen capable of filtering metal dust and can be easily cleaned, extending usage life. The Stage-2, Stage-3 and Stage-4 filters are made of resin fiber and are capable of filtering water mist and oil mist.

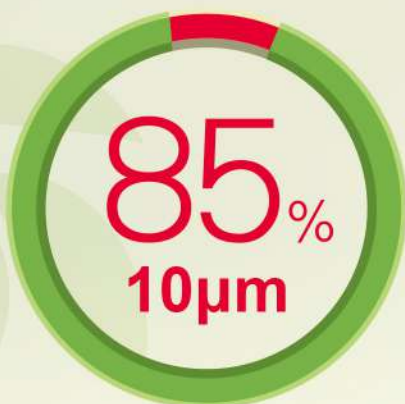
Model Number	Units	YOMA-10N	YOMA-15N	YOMA-20N	YOMA-30N
Motor	KW	0.18	0.37	0.56	0.75
Current Load	A	2.3 / 1.4	2.8 / 1.7	3.2 / 1.9	4.4 / 2.5
Voltage	V/HZ	3Ø 220V / 380V / 60Hz / 50Hz			
Air Flow	m³/min	15 / 14	20 / 18	25 / 22	31 / 27
Noise Level	dB	64 / 63	66 / 64	68 / 65	71 / 67
Intake Port Diameter	mm	Ø148	Ø148	Ø148	Ø148
Dimensions	mm(L×W×H)	660x330x475	675x350x508	780x390x534	804x420x561
Weight	kg	31.2	34.2	40.4	48.6

● Dimensions and specifications may change without notice. Third Revised Edition, November 2018.



# YOMA-Y Oil Mist Collector

Exclusive Innovation Stage-4 Filter Cartridge



## YOMA-Y Series Features

The YOMA-Y Series – Oil Mist Collectors are capable of fully intercepting oil mist and water mist. With the innovative Stage-4 cartridge, they can effectively collect more than 95% of oil mist.

### Stage-1/ Stage-2 / Stage-3 Filters

1. The Stage-1 filter uses a woven stainless steel screen capable of filtering dust and can be easily cleaned. The Stage-2 and Stage-3 filters are made of resin fiber and are capable of filtering water mist and oil mist.
2. Capable of intercepting oil mist, water mist and vapor, innovative stage-4 filter cartridge, with a PM 10 µm filtration precision of up to 85%.

### Air Flow Spoiler

An air flow spoiler is installed in front of the Stage-1 filter, large air flow, low noise, 50% less power consumption, effectively reducing wind resistance and pressure loss.

Patent	M467835	D144057	All rights
Number	M436140	D161095	reserved.

Model Number	Units	YOMA-10Y	YOMA-15Y	YOMA-20Y	YOMA-30Y
Motor	KW	0.18	0.37	0.56	0.75
Current Load	A	2.3 / 1.4	2.8 / 1.7	3.2 / 1.9	4.4 / 2.5
Voltage	V/Hz	3Ø 220V / 380V / 60Hz / 50Hz			
Air Flow	m³/min	16 / 14	21 / 19	26 / 23	32 / 27
Noise Level	dB	65 / 64	68 / 65	69 / 66	71 / 67
Intake Port Diameter	mm	Ø148	Ø148	Ø148	Ø148
Dimensions	mm(L×W×H)	660x350x749	675x350x782	780x390x812	804x439x839
Weight	kg	35	38.4	45	56.4

● Dimensions and specifications may change without notice. Third Revised Edition, November 2018.



# YOMA-P Oil Mist Air Cleaner

(Long-term, Cost-effective)

For Use with Water-soluble Cutting Fluid  
+ Air Purification



Re-defining  
**New Specification**



Optional accessory



## YOMA-P Series Features

- 1.Capable of intercepting particulate matter, with a PM 2.5 µm filtration precision of up to 99%.
- 2.Exclusive patented long-term, cost-effective filter cartridge for oil and air to naturally flow downward that has a long life span.
- 3.Optional new exclusive patented pressure difference gauge capable of indicating front-end and back-end filter blockages.
- 4.Large air flow volume, low noise, high performance.

Patent	M467835	D144057	All rights reserved.
Number	M436140	D161095	

Model Number	Units	YOMA-10P	YOMA-15P	YOMA-20P	YOMA-30P
Motor	KW	0.18	0.37	0.56	0.75
Current Load	A	2.3 / 1.4	2.8 / 1.7	3.2 / 1.9	4.4 / 2.5
Voltage	V/Hz	3Ø 220V / 380V / 60Hz / 50Hz			
Air Flow	m³/min	16 / 13	21 / 17	26 / 21	31 / 25
Noise Level	dB	61 / 58	62 / 59	63 / 61	65 / 60
Intake Port Diameter	mm	Ø148	Ø148	Ø148	Ø148
Dimensions	mm(L×W×H)	660x350x1049	675x350x1080	780x390x1108	804x439x1139
Weight	kg	36	39.7	45.9	57

● Dimensions and specifications may change without notice. Fourth Edition, June 2020.



# YOMA-H Oil Mist Air Cleaner

For Use with Oil-based Cutting Fluid  
+ Light Cutting



Re-defining  
**New Specification**



Optional accessory



## YOMA-H Series Features

- 1.Capable of intercepting particulate matter, with a PM 1.0 µm filtration precision of up to 99%.(Quantitative and weight results obtained with precision dust measuring instruments such as the GT-321/AEROCET-531)
- 2.The filter cartridge is HEPA/F9 class and has been tested and approved by the TTRI. According to EN-799/2012, the filtration precision of particulate matter PM 0.4 µm is above 95%.
- 3.Large air flow volume, low noise, high performance.
- 4.Optional new exclusive patented pressure difference gauge capable of indicating front-end and back-end filter blockages.

Patent	M467835	D144057	All rights reserved.
Number	M436140	D161095	

Model Number	Units	YOMA-10H	YOMA-15H	YOMA-20H
Motor	KW	0.18	0.37	0.56
Current Load	A	2.3 / 1.4	2.8 / 1.7	3.2 / 1.9
Voltage	V/Hz	3Ø 220V / 380V / 60Hz / 50Hz		
Air Flow	m³/min	15 / 12	20 / 16	25 / 20
Noise Level	dB	65 / 63	66 / 64	67 / 64
Intake Port Diameter	mm	Ø148	Ø148	Ø148
Dimensions	mm(L×W×H)	660x350x749	675x350x780	780x390x839
Weight	kg	36.4	39.6	45.8

● Dimensions and specifications may change without notice. Second Edition, July 2017.



# YOMA-A Oil Mist Air Cleaner

(Long-term, High-precision Model)

For Use with Oil-based Cutting Fluid  
+ Heavy Fumes Pollution Only



Re-defining  
New Specification



Optional accessory



## YOMA-A Series Features

- 1.Capable of intercepting particulate matter, with a PM 0.5 µm filtration precision of up to 99%.(Quantitative and weight results obtained with precision dust measuring instruments such as the GT-321/AEROCET-531)
- 2.The filter cartridge is HEPA/E11 class and has been tested and approved by the TTRI. According to EN-799/2012, the filtration precision of particulate matter PM 0.2 µm is above 96.8%.
- 3.Optional new exclusive patented pressure difference gauge capable of indicating front-end and back-end filter blockages.
- 4.Optional filter cartridge of HEPA/H13 class, which, according to EN1822, the filtration precision of particular matter of 0.2 µm is above 99.95%. It is usually suitable for clean room requirements.
- 5.Exclusive patented long-term, high-precision filter cartridge can last up to 1~3 years.

Patent	M467835	D144057	All rights reserved.
Number	M436140	D161095	

Model Number	Units	YOMA-10A	YOMA-15A	YOMA-20A	YOMA-30A
Motor	KW	0.18	0.37	0.56	0.75
Current Load	A	2.3 / 1.4	2.8 / 1.7	3.2 / 1.9	4.4 / 2.5
Voltage	V/HZ	3Ø 220V / 380V / 60Hz / 50Hz			
Air Flow	m³/min	16 / 13	21 / 17	26 / 21	30 / 25
Noise Level	dB	64 / 63	65 / 63	66 / 63	68 / 66
Intake Port Diameter	mm	Ø148	Ø148	Ø148	Ø148
Dimensions	mm(L×W×H)	660x350x1049	675x350x1080	780x390x1108	804x439x1139
Weight	kg	38	42.8	49	59

● Dimensions and specifications may change without notice. Fourth Edition, June 2020.



# ENVIRONMENTAL PROTECTION / ENERGY SAVING EXTRA LARGE AIR FLOW! LOW POWER CONSUMPTION!



## Optional Accessories

**Gasification filter cartridge -H13, exclusively for use in oil (welding) smoke + dust-free (clean) rooms.**

Features of the filter cartridge :

- It can intercept particulate matters, with a  $PM0.3\mu m$  filtration precision of 99% and above.
- The filtering material is of Grade HEPA/H13. According to Directive EN-1822, it can filter  $PM0.2\mu m$  at a precision of 99.95% and above.
- The product is suitable for use when: oil (welding) smoke and  $PM0.3\mu m$  of ISO 14644-1 and in dust-free (clean) rooms of Grade ISO-6; the number of particles per cubic meter may not exceed 100 thousand.



**Silencer**



**Vertical Telescopic Stand**

Telescopic height range :  
1250-2000mm



**L Shape Holder**

RH : 550x430x300mm



**Frequency Inverter**



**Motor Protection Circuit Breaker**



# YOMA-30AD Smoke Dust Air Cleaner

**Oil Smoke + Dust Heavy Pollution Only**



**Optional accessory**



**Standard accessory**

## YOMA-30AD Series Features

1. The Stage-1 and the Stage-2 filters are disposable filter cotton. No cleaning is needed. Costs of the consumables are low. The Stage-3 filter is: A filter bag. It can effectively intercept ultra-fine dry dust. It can sufficiently extend the life span of the high-precision filter cartridge.
2. With a new exclusive patented pressure difference gauge capable of indicating front-end and back-end filter blockages.
3. With a filter cartridge HEPA/E11 class, it has been tested and approved by the TTRI. According to EN-1822, the filtration precision of particulate matter PM 0.2µm is above 96.8%.
4. Optional component: The filter cartridge is HEPA/H13 class. According to EN-1822, the filtration precision of particulate matter PM 0.2µm is above 99.95%, which meets a clean room standard.
5. Patent pending. All rights reserved.



## Stage-1/Stage-2/Stage-3 Filter Bags

>>The Stage-1 and the Stage-2 filters are disposable filter cotton that can intercept: oil mist, water vapor, and partial dry dust; no cleaning is needed and replacement is convenient.

Costs of the consumables are low.

>>The Stage-3 filter is: A filter bag. It can effectively intercept ultra-fine dry dust. The disposable filter bag is easy to replace and is of low cost. It can sufficiently extend the life span of the high-precision filter cartridge.





## Re-defining New Specification



## Applicable Industries

- Various types of oven and smoke exhaust equipment
- Automobile oil seal industry
- Coating, spraying, and printing industries
- Pharmaceutical and chemical engineering industries

Patent	M467835	D144057	All rights reserved.
Number	M436140	D161095	

Model Number	Units	LOMA- 15AD	LOMA- 30AD
Motor	KW	0.37	0.75
Current Load	A	2.8/ 1.7	4.5/ 2.5
Voltage	V/Hz	3Ø 220V /380V/ 60Hz / 50Hz	3Ø 220V / 380V / 60Hz / 50Hz
Air Flow	m <sup>3</sup> /min	18 / 14	26 / 20
Noise Level	dB	60 / 57	61 / 57
Intake Port Diameter	mm	Ø148	Ø148
Dimensions	mm(L×W×H)	675x350x1080	804x439x1139
Weight	kg	43.4	63.2

- Dimensions and specifications may change without notice. Fourth Edition, June 2020.

## Application Examples

