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LOTUS INNOVATION | OIL MIST AIR CLEANER

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OIL

MIST

AIR CLEANER



{ Earth-Loving }

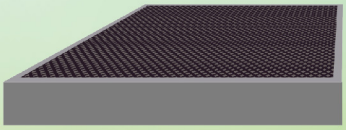


{ People-Saving }



{ Health-Maintaining }

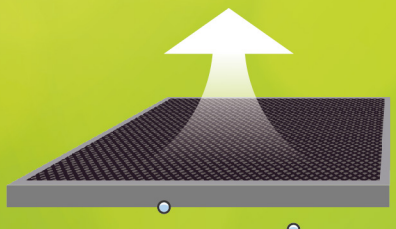
LOTUS INNOVATION
THE WORLD'S FIRST FIVE-STAGE FILTER



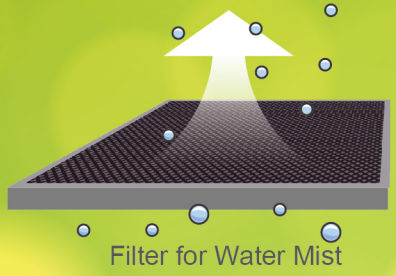
(Option)
Replaceable High-efficiency Activated Carbon



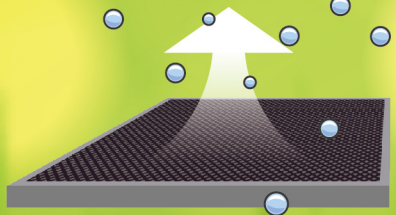
Filter for Toxic Air



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

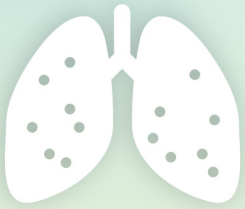
The sizes and compositions of particles generated from machine processing differ, depending on the workmanship and the underlying metal materials. These particles contained in oil smoke and mist are mostly ultra-fine micron-grade dust. According to the test data provided by Germany IFA, the diameter 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/m3 and the annual average value of 15 μg/m3, 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_{10} ($\mu g/m^3$)	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
$PM_{2.5}$ ($\mu g/m^3$)	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

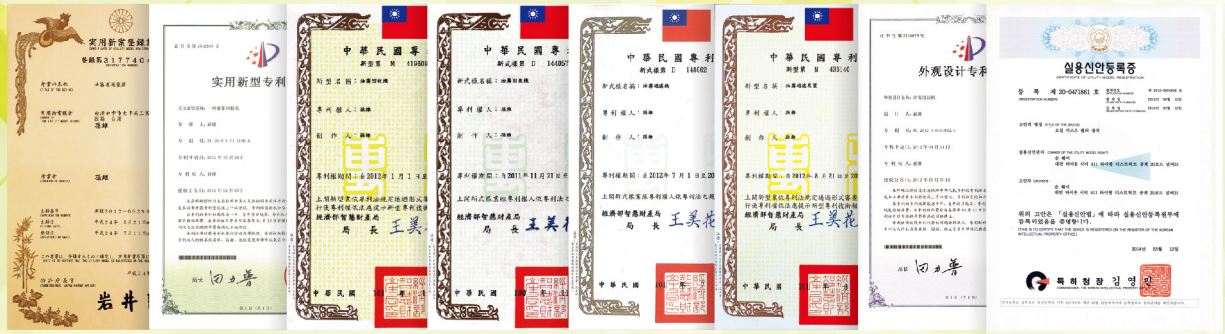
Impacts of Oil “Smoke”, Mist, and Dust

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



AEROCET 531S Particulate Suspension Monitor (Dust Counter) is capable of detecting dust particulates of 0.5, 1.0, 5.0 and 10.0 µm diameters.
Detecting Range: 0-3,000,000 particulates/ft2 (105,900 particulates/liter)



Particulate Suspension Monitor PM10/PM2.5 (Particulate Monitor) is capable of spotting pollution hot-points, verifying air quality modes, inspecting indoor air quality, and monitoring personal exposure as well as short-term exposure of fixed locations.



4-channel Dust Counter 804 is a portable 4-channel dust detector capable of counting particulates of 0.3 to 10.0µm diameters.

Constantly Creating New Demands and New Satisfactions

Recognized by Domestic Renowned Machine Manufacturers

友嘉集團 | 上銀科技 | 亞崴機電 | 永進機械 | 油機工業 | 慶鴻機電

福裕事業 | 程泰機械 | 富格蘭 | 陸聯 | 哈廷國際科技 | 力勁機械

長榮航宇 | 大同大隈 | 震虎機械 | 億川鐵工所 | 亞德客集團 | 綠點高新科技

程寬精機 | 寶傑精密 | 鍵和機械 | 邁鑫機械 | 和勤精機 | 鼎維工業

國碩科技 | 大光長榮機械 | 慧德刀具五金 | 合濟工業 | 元駿國際 | 遠山機械

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”.

精湛光學 | 威亞精密 | 三新 | 通展精機 | 千島精密 | 三鋒機器

禮鑫有限公司 | 正代機械 | 鉅基科技 | 登宇機械科技工業 | 橋椿金屬 | 正泰機械

中陽實業 | 艾格瑪 | 日紳科技 | 立仲機械 | 連峰勝機械 | 陀飛輪精機

台因精密工業 | 中揚光電 | 大陽精機 | 豐凱實業 | 準力機械 | 先捷實業











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 i

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 mo

9853 dollars (N

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

European Specification(1) Filtration Class EN 779:2012			
Pa	Class	Average Arrestance	Average Efficiency on 0.4 μm
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	Intergral 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



d Reducing Carbon

ption of models of the same class
pacities) from competitors

power consumption as
in energy conservation

16m³/min.; power consumption 0.75kw/H
15m³/min.; power consumption 0.75kw/H
13m³/min.; power consumption 0.75kw/H
20m³/min.; power consumption 0.37kw/H

aving capabilities allow
ore than 50% power or

T$) in electricity fees per year.

ar *5.92 dollars / per kWh for commercial use)

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

LOMA-N
Oil Mist Collector





LOMA-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.The front-end three stages can be cleaned repetitively and contains no consumable components.

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

The Stage-1 filter uses a woven stainless steel mesh 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.

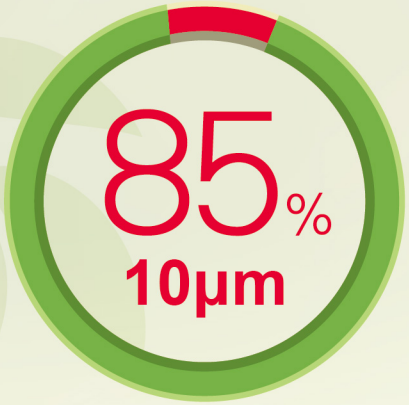
Model Number	Units	LOMA-10N	LOMA-15N	LOMA-20N	LOMA-30N
Motor	KW	0.4	0.5	0.56	0.75
Current Load	A	2.4 / 1.4	2.3 / 1.3	2.6 / 1.6	3 / 1.8
Voltage	V/HZ	3Ø 220V / 380V / 60Hz / 50Hz			
Air Flow	m^3/min	15 / 14	20 / 18	25 / 22	31 / 27
Noise Level	dB	64 / 63	66 / 64	68 / 65	71 / 67
Suction Diameter	mm	Ø148	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. First Edition, January 2024.

LOMA-Y
Oil Mist Collector

For Use with Water-soluble Cutting Fluid





LOMA-Y Series Features

The LOMA-Y Series – Oil Mist Collectors are capable of fully intercepting oil mist and water mist.
With the innovative Stage-4 filter 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.

Model Number	Units	LOMA-10Y	LOMA-15Y	LOMA-20Y	LOMA-30Y
Motor	KW	0.4	0.5	0.56	0.75
Current Load	A	2.4 / 1.4	2.3 / 1.3	2.6 / 1.6	3 / 1.8
Voltage	V/HZ	3Ø 220V / 380V / 60Hz / 50Hz			
Air Flow	m^3/min	16 / 14	21 / 19	26 / 23	32 / 27
Noise Level	dB	65 / 64	68 / 65	69 / 66	71 / 67
Suction Diameter	mm	Ø148	Ø148	Ø148	Ø148
Dimensions	mm(L×W×H)	660x350x749	675x350x780	780x390x812	804x439x839
Weight	kg	35	38.4	45	56.4

● Dimensions and specifications may change without notice. First Edition, January 2024.

LOMA-P
Oil Mist Air Cleaner
(Long-term economic model)

New

Re-defining

New Specification

For Use with Water-soluble Cutting Fluid
+ Air Purification





Standard accessory



LOMA-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. With a new exclusive patented pressure difference gauge capable of indicating front-end and back-end filter blockages.
4. Large air flow volume, low noise and performance.

Model Number	Units	LOMA-10P	LOMA-15P	LOMA-20P	LOMA-30P
Motor	KW	0.4	0.5	0.56	0.75
Current Load	A	2.4 / 1.4	2.3 / 1.3	2.6 / 1.6	3 / 1.8
Voltage	V/HZ	3Ø 220V / 380V / 60Hz / 50Hz			
Air Flow	m^3/min	16 / 13	21 / 17	26 / 21	31 / 25
Noise Level	dB	61 / 58	62 / 59	63 / 61	65 / 60
Suction 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. First Edition, January 2024.

LOMA-H
Oil Mist Air Cleaner

For Use with Oil-based Cutting Fluid
+ Light Cutting

New

Re-defining
New Specification





Standard 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 and high performance.
4.With a new exclusive patented pressure difference gauge capable of indicating front-end and back-end filter blockages.

Model Number	Units	LOMA-10H	LOMA-15H	LOMA-20H
Motor	KW	0.4	0.5	0.56
Current Load	A	2.4 / 1.4	2.3 / 1.3	2.6 / 1.6
Voltage	V/HZ	3Ø 220V / 380V / 60Hz / 50Hz		
Air Flow	m^3/min	15 / 12	20 / 16	25 / 20
Noise Level	dB	65 / 63	66 / 64	67 / 64
Suction 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. First Edition, January 2024.

LOMA-A
Oil Mist Air Cleaner
(Long-term high-precision model)

Re-defining
New Specification

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





Standard accessory



LOMA-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.With a 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.

Model Number	Units	LOMA-10A	LOMA-15A	LOMA-20A	LOMA-30A
Motor	KW	0.4	0.5	0.56	0.75
Current Load	A	2.4 / 1.4	2.3 / 1.3	2.6 / 1.6	3 / 1.8
Voltage	V/HZ	3Ø 220V / 380V / 60Hz / 50Hz			
Air Flow	m^3/min	16 / 13	21 / 17	26 / 21	30 / 25
Noise Level	dB	64 / 63	65 / 63	66 / 63	68 / 66
Suction 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. First Edition, January 2024.

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 PM0.3μm filtration precision of 99% and above.
- The filtering material is of Grade HEPA/H13. According to Directive EN-1822, it can filter PM0.2μm at a precision of 99.95% and above.
- The product is suitable for use when: oil (welding) smoke and PM0.3μm 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.

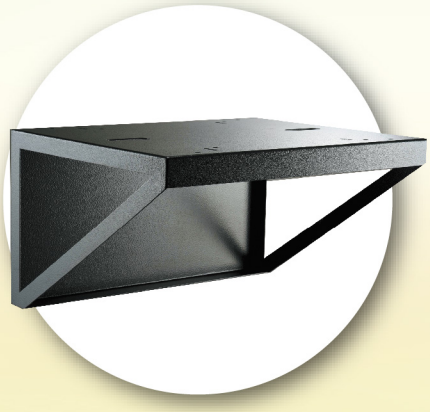


Silencer



Vertical Telescopic Stand

Telescopic height range :
1250-2000mm



L Shape Holder

RH：550x430x300mm



Frequency Inverter



Motor Protection Circuit Breaker

LOMA-AD
Smoke Dust Air Cleaner

Oil Smoke + Dust Heavy Pollution Only



Optional accessory



Standard accessory



LOMA-AD 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 accessory: 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.

New

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



Application Examples








Model Number	Units	LOMA- 15AD	LOMA- 30AD
Motor	KW	0.5	0.75
Current Load	A	2.3 / 1.3	3 / 1.8
Voltage	V/HZ	3Ø 220V / 380V / 60Hz / 50Hz	3Ø 220V / 380V / 60Hz / 50Hz
Air Flow	m^3/min	18 / 14	26 / 20
Noise Level	dB	60 / 57	61 / 57
Suction Diameter	mm	Ø148	Ø148
Dimensions	mm(L×W×H)	675x350x1080	804x439x1139
Weight	kg	43.4	63.2

● Dimensions and specifications may change without notice. First Edition, January 2024.

YOEN

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E306418 E306418 ED/2004/3006A-01 Testing Laboratory 0160