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LOTUS INNOVATION | OIL MIST AIR CLEANER

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LOTUS

OIL

MIST

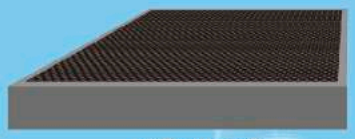
AIR CLEANER

{ Earth-Loving }

{ People-Saving }

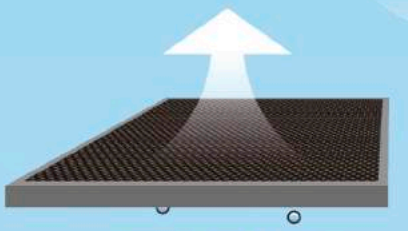
{ Health-Maintaining }

LOTUS INNOVATION
THE WORLD'S FIRST FIVE-STAGE FILTER

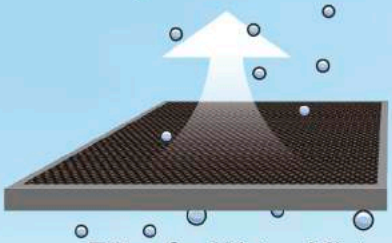


(Option)
Replaceable High-efficiency Activated Carbon

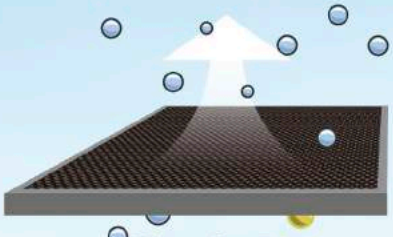
Filter for Toxic Air



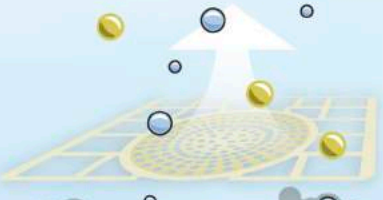
Filter for Oil Mist



Filter for Water Mist



Filter for Dust



Air Spoiler

What Is Particulate Matter?

Particulate Matter (also known as $PM_{2.5}$) refers to particles smaller than 2.5μm in diameter suspended in the air. $PM_{2.5}$ particles include many chemical substances and the chemical reactions that result in the production of these substances can be extremely complex.

How Do $PM_{2.5}$ Particles Affect Our Health?

Particulate pollutants are one of the main causes of poor air quality in Taiwan. In addition to affecting air quality, particulate pollutants in the atmosphere can be harmful to people's health by entering the body via the nose and throat. Short-term exposure could cause cardiovascular diseases, while long-term exposure can affect fetal development as well as result in chronic respiratory illnesses and even lung cancer. Health issues that can be caused by particulate pollutants include: allergies, asthma, emphysema, lung cancer, cardiovascular diseases, liver cancer, blood diseases, premature babies, and an increased risk of death.

Taiwan's $PM_{2.5}$ Regulatory Policies

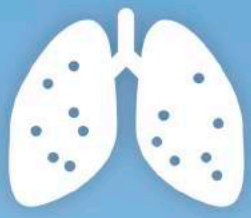
The Environmental Protection Administration continues to toughen stationary pollution source emission standards, fuel sulfur content standards, vehicle emission standards, as well as automotive gas and diesel content standards. It also imposes an air pollution prevention fee. These measures are aimed at reducing the amount of precursor pollutant emissions and improving the concentration of $PM_{2.5}$, SO_2, NO_x, VOC_s, and NH_3 particles in the air. In 2013, a standard method was put in place for measuring and monitoring particulate matter ($PM_{2.5}$). In 2014, the annual average was 23.5 $\mu g/m^3$, which was an improvement compared to the 24.0 $\mu g/m^3$ of 2013. In addition, based on data from automatic monitoring stations using non-standard methods for measuring $PM_{2.5}$, the situation in 2012 was a 19% improvement compared to the situation in 2005.

$PM_{2.5}$ Air Quality Standards

On May 14, 2012, the Environmental Protection Administration issued the revised Air Quality Standards, which included $PM_{2.5}$ air quality standards and placed the impact on health (based on Taiwan's health-impact research results) as the most important consideration, setting the average daily $PM_{2.5}$ concentration to 35 $\mu m/m^3$ and the average annual $PM_{2.5}$ concentration to 15 $\mu g/m^3$. The Environmental Protection Administration has set a preliminary goal for achieving a nationwide average annual particulate matter concentration of 15 $\mu g/m^3$ by the year 2020. In addition, it will also periodically review Taiwan's $PM_{2.5}$ air quality standards to ensure they are up to speed with international regulatory trends, with an ultimate goal of meeting the requirements of the WHO's air quality guidelines (an average daily concentration of 25 $\mu g/m^3$ and an average annual concentration of 10 $\mu g/m^3$).

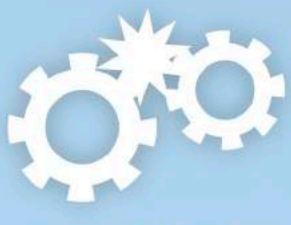
Air Quality Standards		WHO				EU	US		CA	AUS	JP	KR	HK	China		TH	TW
		IT-1	IT-2	IT-3	AQG		Federal	Calif.						Class 1	Class 2		
PM_{10} ($\mu g/m^3$)	Annual Average	70	50	30	20	40	—	20	70	—	—	50	55	40	70	50	65
	Daily Average	150	100	75	50	50	150	50	120	50	100	100	180	50	150	120	125
$PM_{2.5}$ ($\mu g/m^3$)	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

The Effects of Dust and Oil Mist



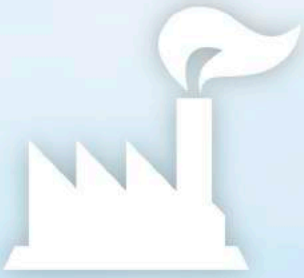
Impact Human Health

Result in Safety Incidents



Damage Machines

Result in Worker Fatigue and
Reduce Work Efficiency

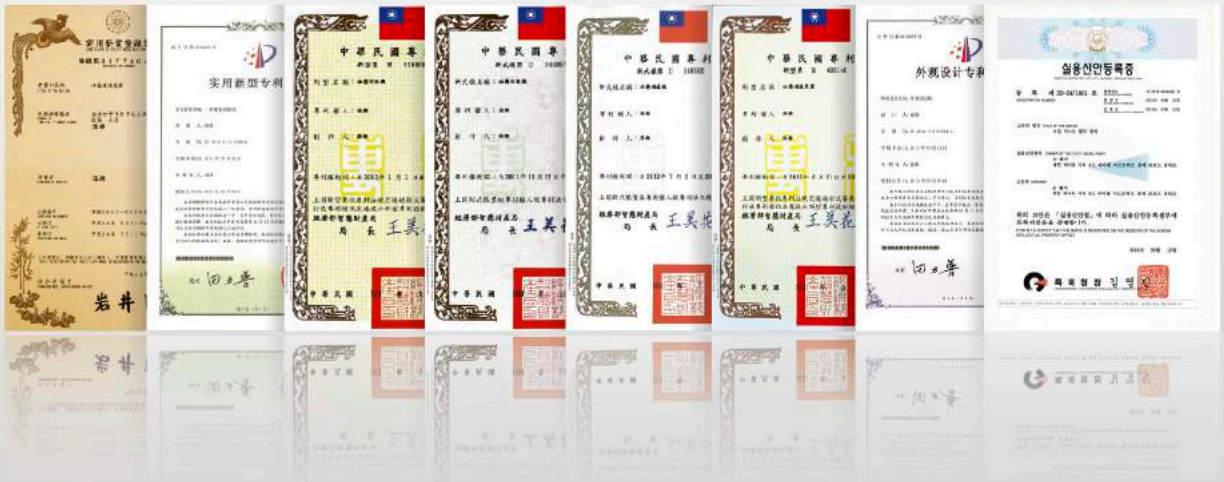


Harm the Environment and Affect
Air Conditioning Equipment

Patented Industry-Leading Technologies

Awarded Various Patents

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



Obtained Global Quality Certifications

LOMA 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. LOMA's products are required not only to pass internal standard ISO inspections, but also inspections performed by internationally accredited institutions.

Advanced Quality Assurance Equipment

LOMA'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.

LOTUS INNOVATION'S DESIGN CONCEPTS

A Leading Brand · The Best in Taiwan

European Specification(1) Filtration Class EN 779:2012				
Terminal Pressure Drop		Average Arrestance	Average Filtration Efficiency on 0.4μm	
250	G1	＜65%		
	G2	65~80%		
	G3	80~90%		
	G4	＞90%		
450	M5		40~60%	
	M6		60~80%	
	F7		80~90%	MTE≧35%
	F8		90~95%	MTE≧55%
	F9		＞95%	MTE≧70%

Recycling to Protect the Environment

In the LOMA-A model for example,
the actual measured collection rate is 99%.

It is capable of collecting up to 0.8 liters per hour or

17.5 barrels per year (with each barrel at 200 liters).

3504 liters can be saved each year.

(0.8 liters H x 12 hours / day X 365 days / year)

Saving Energy and Reducing Carbon

Comparing motor power consumption of models of the same class
(with similar air flow capacities) from competitors

Comparison of motor power consumption as
current price indices in energy conservation

Examples
1. Model SD-10 Air flow 16m³/min.; power consumption 0.75kw/H
2. Model LG-250A Air flow 15m³/min.; power consumption 0.75kw/H
3. Model MCA-07 Air flow 13m³/min.; power consumption 0.75kw/H
4. Our LOMA-15 Air flow 20m³/min.; power consumption 0.37kw/H

Our superior power-saving capabilities allow
customers to save more than 50% power or

9853 dollars (NT$) in electricity fees per year.

(0.75kw/H-0.37kw/H*12H/day*365 days / year *5.92 dollars / per kWh for commercial use)

Air Purification

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

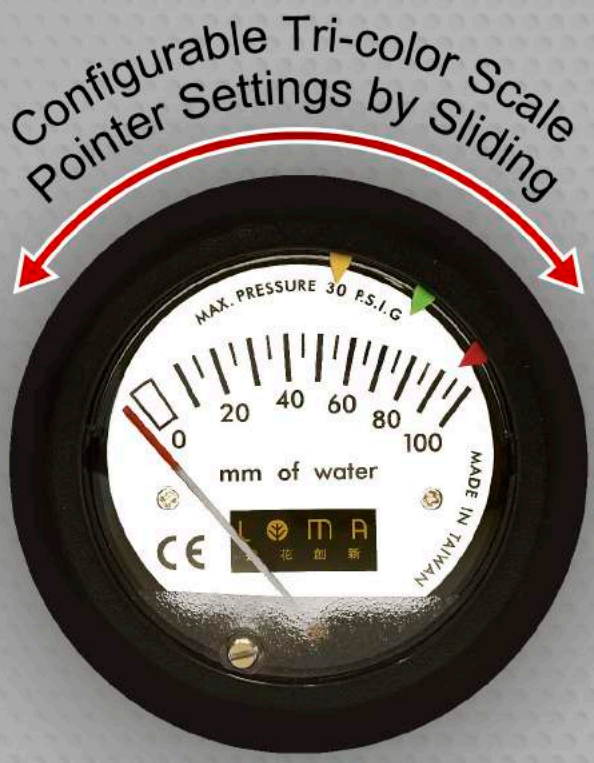
95% of 0.4um particulate matter.

LOMA-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

Product



High-precision Mechanical Micro-pressure Gauge

Product Features :

1. Globally exclusive innovative technologies.

2. A rugged pressure gauge that uses simple frictionless magnetic spiral movements as well as rubber diaphragms as the sensing elements for measurement.

3. The gauge can be used to quickly obtain gas pressure readings and the tri-color scale pointers are configurable, easily cleanable, and easily replaceable.

4. This design features shockproof and overpressure-detection functions, and without the need to fill liquid inside the gauge, that is , no problems of oxidation, freezing, condensation and odor will occur.

LOMA-N
OIL MIST COLLECTOR

LOMA-N Series Features

1. Up to 80% oil mist recycling and reuse.
2. Exclusive oil-mist separation design.
3. Further filtering of collected oil unnecessary.
4. First 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 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. Patent number 101301817/101206052

Model	Unit	LOMA-10N	LOMA-15N	LOMA-20N	LOMA-30N
Motor	KW	0.18	0.37	0.56	0.75
Voltage	V/HZ	3Ø 220V / 380V / 60Hz / 50Hz			
Rotation Speed	rpm	3400rpm / 2900rpm			
Air Flow	m^3/min	17 / 14	22 / 19	28 / 23	32 / 28
Noise Level	dB	73 / 69	73 / 69	75 / 70	80 / 75
Intake Port Dia	mm	Ø148	Ø148	Ø148	Ø148
Dimensions	mm(L×W×H)	617×325×445	680×345×485	774×387×516	803×413×535
Weight	kg	29	36	43	49.8

● Dimensions and specifications may change without notice.

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 cartridges, they can effectively collect more than 95% of oil mist.

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

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.

Air Flow Spoiler

An air flwo spoiler is installed in front of the Stage-1 filter, effectively reducing wind resistance and pressure loss. Patent number 101301817/101206052

Model	Unit	LOMA-10Y	LOMA-15Y	LOMA-20Y	LOMA-30Y
Motor	KW	0.18	0.37	0.56	0.75
Voltage	V/HZ	3Ø 220V / 380V / 60Hz / 50Hz			
Rotation Speed	rpm	3400rpm / 2900rpm			
Air Flow	m^3/min	14 / 12	21 / 16	23 / 19	31 / 25
Noise Level	dB	68 / 65	69 / 64	68 / 64	76 / 72
Intake Port Dia	mm	Ø148	Ø148	Ø148	Ø148
Dimensions	mm(L×W×H)	617×325×722	680×345×765	774×387×792	803×413×1065
Weight	kg	32	40	46.2	58

● Dimensions and specifications may change without notice.

LOMA-H
OIL MIST AIR CLEANER

For Air Purification + Use with Oil-based Cutting Fluid

LOMA-H Series Features

1. Over 98% oil mist collection rate.
2. HEPA / F9 level air purification. Passed TTRI certification based on EN799 / 2012. Capable of filtering over 95% of 0.4um particulate matter.
3. Large air flow, low noise, 50% less power consumption.
4. Comes standard with a new exclusive patented pressure gauge capable of indicating front-end and back-end filter blockages and never malfunctions.

Model	Unit	LOMA-10H	LOMA-15H	LOMA-20H
Motor	KW	0.18	0.37	0.56
Voltage	V/HZ	3Ø 220V / 380V / 60Hz / 50Hz		
Rotation Speed	rpm	3400rpm / 2900rpm		
Air Flow	m^3/min	12 / 10	16 / 13	20 / 16
Noise Level	dB	69 / 65	69 / 65	71 / 68
Intake Port Dia	mm	Ø148	Ø148	Ø148
Dimensions	mm(L×W×H)	617×351×723	680×351×757	774×387×785
Weight	kg	34.2	39.4	46.2

● Dimensions and specifications may change without notice.

LOMA-A
OIL MIST AIR CLEANER
(Long-term High-precision Model)
For Use with Oil-based Cutting Fluid + Heavy Fumes Pollution

LOMA-A Series Features

1. Over 99.99% oil mist collection rate.
2. HEPA / E11 level air purification. Passed TTRI certification based on EN1822. Capable of filtering over 96.8% of 0.2um particulate matter.
3. Large air flow, low noise, 50% less power consumption.
4. Comes standard with a new exclusive patented pressure gauge capable of indicating front-end and back-end filter blockages and never malfunctions.
5. Exclusive patented high-performance filter cartridges allow air containing oil mist to naturally flow downward, extending usage life to up to 1-3 years.

Model	Unit	LOMA-10A	LOMA-15A	LOMA-20A	LOMA-30A
Motor	KW	0.18	0.37	0.56	0.75
Voltage	V/HZ	3Ø 220V / 380V / 60Hz / 50Hz			
Rotation Speed	rpm	3400rpm / 2900rpm			
Air Flow	m^3/min	14 / 12	19 / 16	24 / 19	30 / 25
Noise Level	dB	68 / 65	69 / 63	68 / 63	75 / 70
Intake Port Dia	mm	Ø148	Ø148	Ø148	Ø148
Dimensions	mm(L×W×H)	617×325×823	680×345×1050	774×387×1074	803×413×1065
Weight	kg	34	43	49.4	61.4

● Dimensions and specifications may change without notice.

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