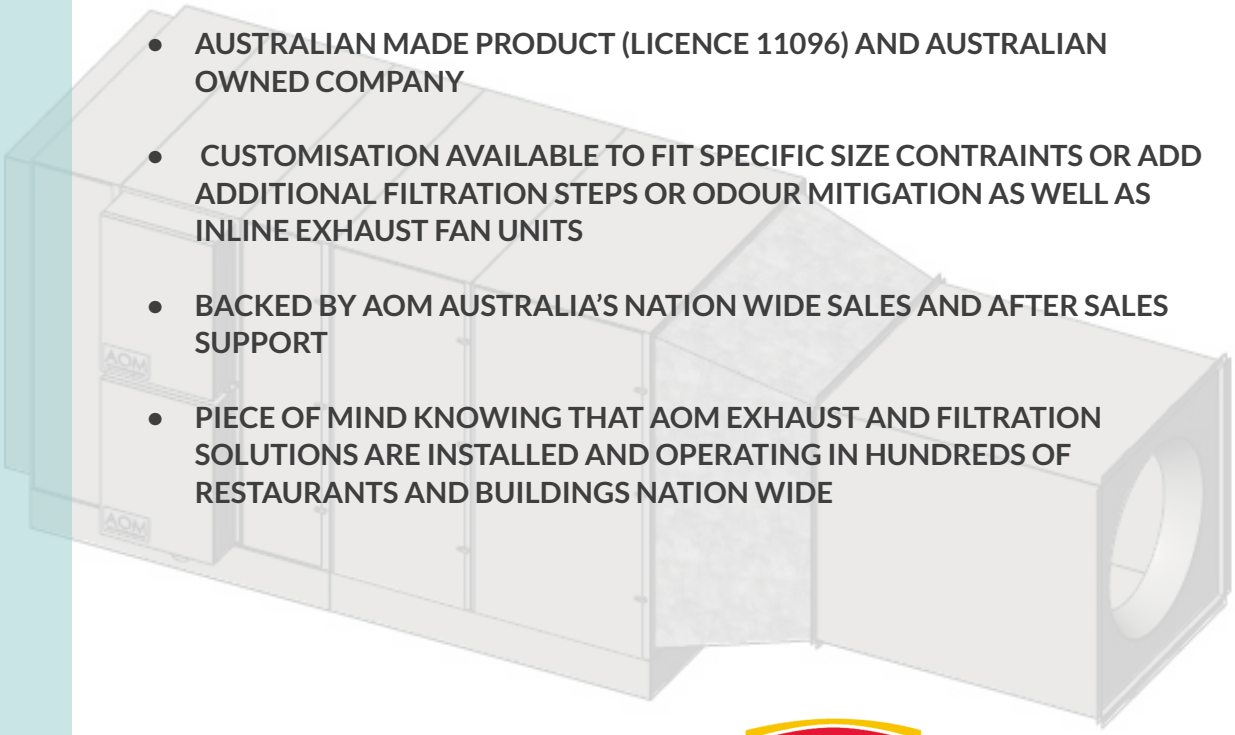
air & odour management

AOM ECOBOX +

High efficiency commercial kitchen exhaust filtration unit

ECOBOX+

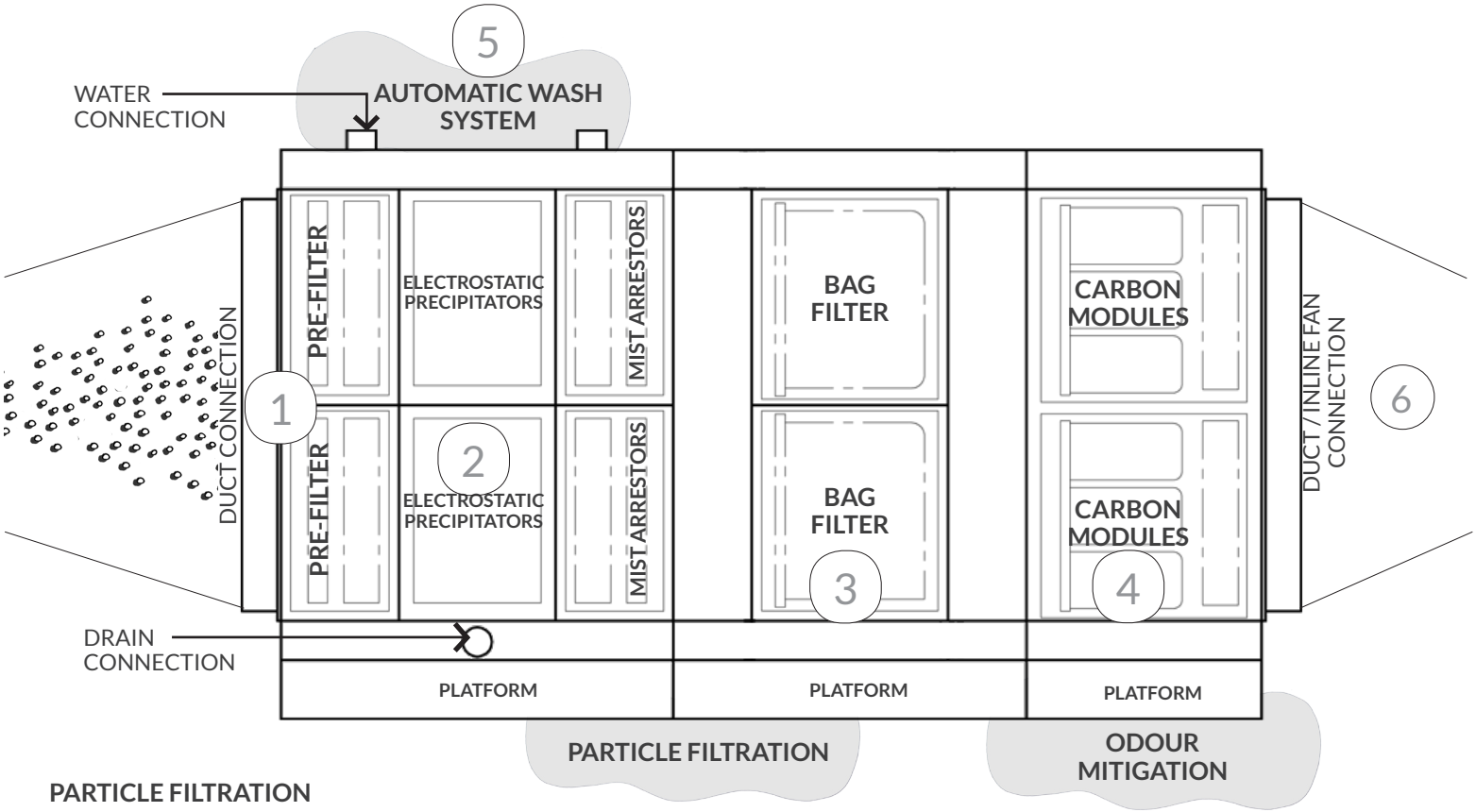
- ALL IN ONE INDUSTRY STANDARD FILTRATION UNIT INCLUDING HIGH EFFICIENCY SINGLE PASS ELECTROSTATIC PRECIPITATORS / SECONDARY BAG FILTERS AND ACTIVATED CARBON FOR ODOUR MITIGATION
- AUTO CLEAN FUNCTIONS COMMANDED BY PLC TO ENSURE HIGH PERFORMANCE OF THE ELECTROSTATIC PRECIPITATORS
- BACKED BY AOM PERFORMANCE SPECIFICATIONS BASED ON ROBUST INDEPENDENT TESTING IN AUSTRALIA BY AUSTRALIAN ORGANISATIONS ON AUSTRALIAN PROJECTS
- AUSTRALIAN MADE PRODUCT (LICENCE 11096) AND AUSTRALIAN OWNED COMPANY
- CUSTOMISATION AVAILABLE TO FIT SPECIFIC SIZE CONTRAINTS OR ADD ADDITIONAL FILTRATION STEPS OR ODOUR MITIGATION AS WELL AS INLINE EXHAUST FAN UNITS
- BACKED BY AOM AUSTRALIA'S NATION WIDE SALES AND AFTER SALES SUPPORT
- PIECE OF MIND KNOWING THAT AOM EXHAUST AND FILTRATION SOLUTIONS ARE INSTALLED AND OPERATING IN HUNDREDS OF RESTAURANTS AND BUILDINGS NATION WIDE



TESTED BY
The University of Sydney

AUSTRALIAN MADE

ECOBOX+ Standard Configuration



PARTICLE FILTRATION

1 **Pre filtration**: 50 mm deep aluminium mesh pre filters ensures that large particles and solid materials are stopped prior to entering into the electrostatic precipitator.

2 **Electrostatic Precipitator**: AOM electrostatic precipitators are performance tested and certified specifically to the extreme particle concentrations found in commercial kitchen exhaust. The 380 mm deep electrostatic precipitator UL 876 certified cells which function as follows:
- High Voltage 14 kV stainless steel spiked ionisers which are mounted within an aluminium frame distribute an electrical charge to particle matter.
- Equally spaced low voltage aluminium collection plates attract the charged particles. The particles precipitate into the drain area below.

3 **Glass fiber bag filter:** M6 to F8 (depending on the cooking process) Eurovent certified glass micro bag filters offering greater performance then standard synthetic bag filters.

ODOUR MITIGATION

4 **Activated carbon modules**: Either cylinder or V Bank refillable carbon modules supplied with Australian sourced Acticarb activated carbon specifically manufactured for filtering of organic micropollutants from air. Optional ozone producing UVC lamp or remote ozone injection final treatment is available to produce low respectively high concentrations of ozone for a final disinfection step.

AUTOMATIC WASH SYSTEM

5 Programmable cleaning cycles and connections to water and waste allow for the units to run independently and minimise the need for third party cleaning of the cells and filters. BMS connections through BACnet protocoles allow for the real time status information.

INTEGRATED INLINE FAN (option)

6 AOM Australia works either with Soler & Palau or Aerovent to select the most optimal inline exhaust fan. Integrated with a VSD and pressure sensor, the fan functions in harmony with the ECOBOX+ filtration unit.

ECOBOX+ Engineering Specification

Particle Filtration

Pre-filters & Mist Arrestors: shall be placed prior to and after the ESP cells. 50 mm thick. Aluminium frame & non-woven aluminium mesh filter media

Electrostatic precipitators:
ECOBOX+ electrostatic precipitator cells shall be certified to UL 867 Electrostatic Air Cleaners for overall performance and quality control.
Material of Ionizing Collecting cell: Aluminium Alloy (Thickness: 1.0 mm)
Material of Electrical Insulation: Aluminium Oxide
Power Supply: 220-240 V / 1P / 50-60Hz / 10A
Power Consumption: 70 - 140 Watt
High Voltage Power Pack: High Voltage 14,000 V / Low Voltage 7000 V
Efficiency:
AOM electrostatic precipitators have been independently tested to the following international testing methods and to the following results.
- ASHRAE 52.1-2017: Efficiency of 99% at 3 m/s though the filter for particle range of 0.3 - 1 micron.
- ASHREA 52.2-2017: Efficiency of 98% at 3 m/s through the filter for particles of 0.3 - 1 micron. This corresponds to a filtration MERV 16 rating for these results (based on EN799:2012).
- ISO 116890-2-2016: Efficiency of 95% at 2.54 m/s through the filter for particles of 0.3 – 10 micron.

Performance certification will be provided showing in situ independant testing of filtration equipment efficiencies of 98% on grease laden commercial kitchen exhaust in Australia. These results will be confirmed through research and development collaborations with a recognised Australian institute.

Bag Filters:
Filters shall be 500 x 500 mm x 400 deep performance Eurovent certified M6 or F8 6 pocket glass micro fiber bag filters or approved equal.

Odour Mitigation

Carbon Modules:
Carbon cylinders shall be made from 304 grade Stainless Steel or V Banks shall be made of galvanised steel.
Supplied activated carbon shall be of type Acticarb GC1200 designed for the treatment of air streams containing volatile organic compounds.
UV Lamp Specifications 10W, 44.5V, 0.23A
Power Supply AC 220V (+/- 10%), 3A
Performance certification will be provided showing in situ independant testing of odour mitigation efficiencies of up to 90% on highly contaminated commercial kitchen exhaust in Australia. These results will be confirmed through research and development collaborations with a recognised Australian institute.

AutoClean System

A water tray collects water as well as grease and particle matter that slides down the aluminium plates during the wash cycles. The tray then flows into the unit main drain towards the drain connection point.
All plumbing parts shall be copper/brass manufactured parts and include: ball valves, solenoid valves, presures gauges, spray nozzles.
The unit will be supplied with the following additional extras:

- Detergent dispenser and detergent pump
- Pressure gauges
- Water pump allowing for the regulation of water pressure through the cleaning system
- PLC Control with connection through a BACnet protocol which will allow to vary the wash cycle to minimise water consumption.

ECOBOX Advantages

Australian Manufactured Product
All AOM ECOBOX Series filtration units are designed and manufactured in Australia. Units are manufactured in AOM standard sizes whilst custom manufacturing / sizes is also possible to meet site constraints.

Stainless Steel Body
Similar to a commercial kitchen exhaust hood, AOM ECOBOX Series filtration units are built in Stainless Steel to withstand the conditions of highly contaminated commercial kitchen exhaust.

National leader in R&D and testing to commercial kitchen exhaust
AOM Australia is a national leader in research on commercial kitchen exhaust and testing of equipment under these conditions. This has resulted in equipment performance certification that is second to none.

Industry leader in commercial kitchen exhaust systems
AOM Australia supplies a wide range of equipment for commercial kitchen exhaust systems. AOM Australia is not just a filter supplier: from exhaust hoods to filtration equipment through to fans and VSDs, AOM has supplied hundreds of projects in Australia over the course of the last 10 years. AOM Australia also understands kitchen exhaust systems and is able to support customers to efficiently use their equipment.

National Sales and After Sales support
AOM Australia products are supported by a network of sales and after sales resources that no other company is able to offer. Our expertise in servicing filtration units means that our servicing teams currently carry out routine maintenance of competitor autoclean products.

Equipment Warranty Extensions
AOM Australia can supply an upfront servicing cost and will offer warranty extensions when regular maintenance is carried out by our teams.

Service and maintenance
AOM Australia has been supplying ECOBOX units to replace competitor AutoClean ESP units that customers have not been able to maintain leading to poor filtration efficiencies and issues with kitchen exhaust discharges.
So even if these units are defined as AutoClean, they do need regular servicing and maintenance which only AOM Australia is able to offer, as a simple solution to product End Users.

air & odour management
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