



## Envirohood Operation Manual



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## **General description**

Envirohood type 7 certified proprietary kitchen exhaust hood is designed to capture smoke plume and fumes generated during the cooking process. The Envirohood are fully engineered to maximise effectiveness while minimising energy usage. The Envirohood requires 30 – 40 % less air volume than traditional exhaust hoods.



## **Features and benefits of the Envirohood**

- Envirohood are certified by Globalmark Pty Ltd
- Larger overhang of the cooking equipment helps capture smoke and heat load inside the hood.
- Stainless steel honeycomb filters are CSIRO approved and certified to AS 1530.1 – methods of fire tests on building materials, components and structures combustibility test materials.
- Envirohood require smaller kitchen exhaust and supply air ductwork when integrated into the design.
- Envirohood utilises 30 – 40 % less airflow than traditional exhaust hoods this will result in smaller ductwork and kitchen exhaust fans resulting in energy consumption savings.
- Envirohood are constructed from 1.2mm stainless steel 304 grade No 4 finish and polished surfaces and fully welded.
- Envirohood are locally manufactured in Australia reducing lead times and delivery dates.
- 1.5mm thick and double skin stainless steel sliding dampers are provided within the hood to balance exhaust airflow rates.
- Air curtain allows contaminated exhaust air to be trapped inside the exhaust hood and the air curtain evenly distributed air pushes the air directed towards the stainless-steel honeycomb filters which allows no exhaust air spillage.



## **General safety information**

Only qualified personnel should install Envirohood and kitchen exhaust system. Personnel should have clear understanding of the instructions and all applicable local and national codes should be adhere to. Personnel should be aware of safety precautions and guidelines of hanging and supporting the Envirohood if more information is required please to hesitate to contact AOS.

### **Danger**

Always disconnect power before working on near electrical components in the hood. Lock and tag and disconnect switch or breaker or prevent accidental power up.

## **Installation, operation and maintenance manual**

Please read and save these instructions for further future reference. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and / or property damage.



## **Receiving**

Upon receiving the Envirohood, check to ensure all items are accounted for by referencing the invoice. Inspect each crate for any damage before accepting delivery. Alert AOS of any damage or defect detected. The customer will make a notation of damage (or shortage of items) on the delivery receipt and all copies of the bill of lading. Any physical damage to the Envirohood or goods after acceptance is not the responsibility of AOS.

## **Unpacking**

Verify that all required parts and correct quantity of each item have been received. If any items are missing report shortages to AOS. Sometimes it is not possible to have all items shipped together due to lack of space and availability of transportation

## **Handling**

Envirohood are to be moved by forklifts and they should be handled in a safe manner from starching and denting the Envirohood.





## **Storage**

Envirohood should be protected against damage during transportation and shipment and if the Envirohood can't be operated immediately precautions must be taken to protect the Envirohood from damage. It is the user responsibility of the hood and accessories while in storage. The manufacturer will not take any responsibility for damage during storage.

The ideal environment for storage of the hood is to be indoors in clean and dry area this eliminates any moisture or dirt accumulating on the exhaust hood.

## **Removing from storage**

As equipment is removed from storage it should be handled with care.

## **Warranty terms**

AOS provides a Manufacturer 's warranty for all of the equipment against defects in materials and workmanship for a period of 1 year from the date of shipment. Manufacturer undertakes to replace all inferior parts to proper quality parts or materials. In case of a fault, a properly filled claim is required and must contain all essential information relative to the fault. Faulty parts shall be returned to Manufacturer for further inspection.

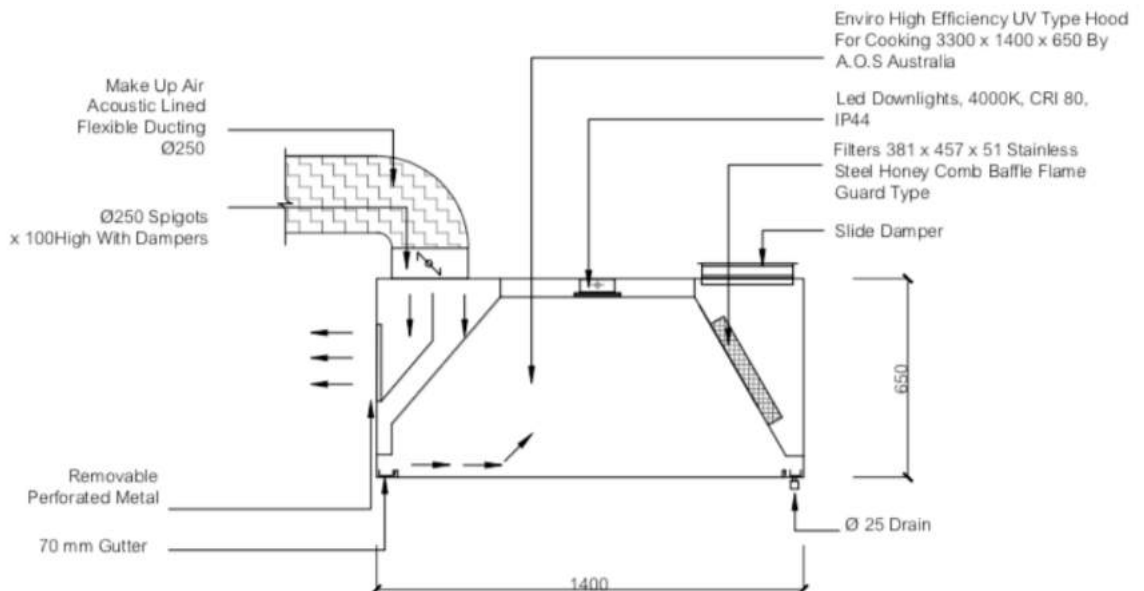
The producer does not take any responsibility for damages that occur due to ignorance of cautions, improper maintenance or mechanical damages of the unit, including those, caused during the delivery. This warranty is not effective if damage occurs from improper installation, misuse; if the equipment is not operated within its published air flow rate capacity, incorrect voltage supply, wear and tear from normal usage, accidental breakage, damage or if the equipment is operated contrary to the user instructions. Any expenses in connection with the installation or costs of making adjustments (including service procedures, travel time costs) on the equipment to comply with the supply at the point of installation are not covered by this warranty. The warranty does not cover if the damage occurs due to natural disasters; fire, if repair service was made by unauthorized person.

## Envirohood Models

All Envirohood are manufactured in Australia and comply with AS 1668.2 2012 and independently certified by Global Mark Pty Ltd as a Type 7 proprietary exhaust hood.

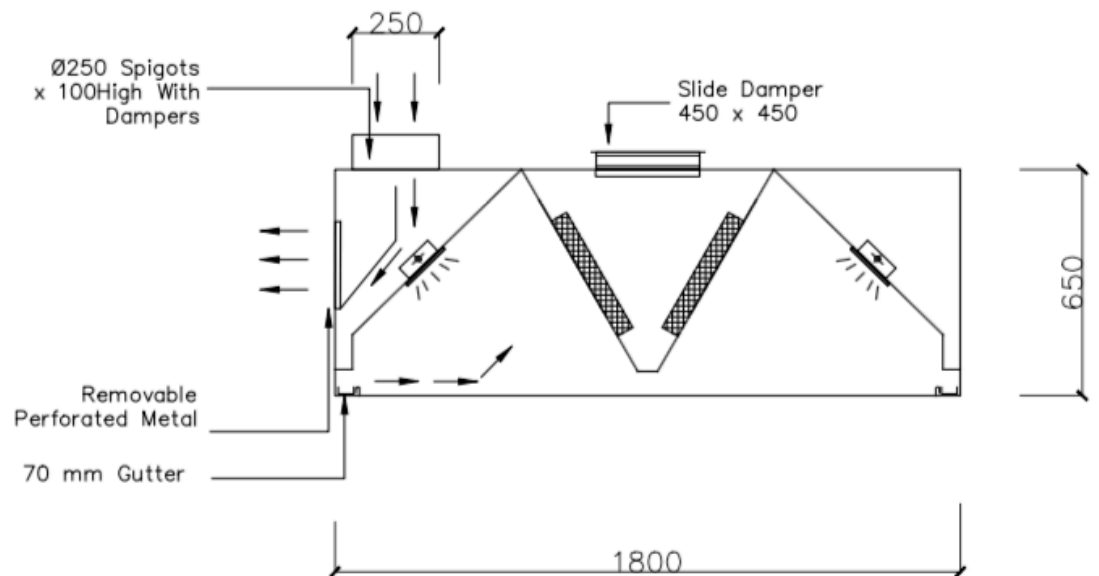
### Envirohood – WM (Wall Mount)

Envirohood Wall Mount ideally can be installed on a wall better known as wall mount, before installing the exhaust hood the installer should check the structure of the wall.



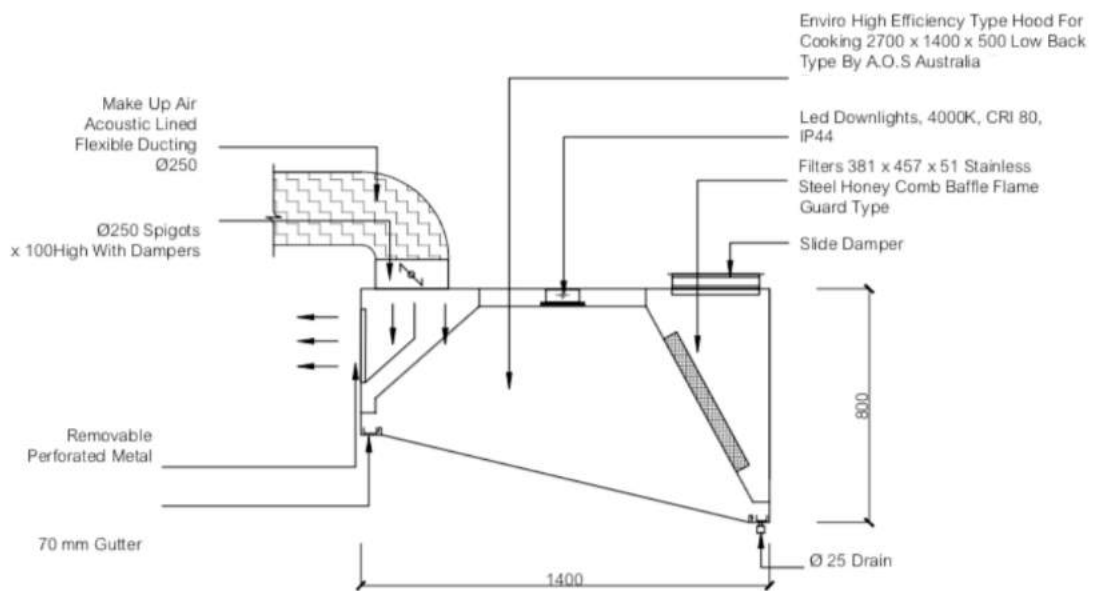
## Envirohood – I (Island)

Envirohood Island can be suspended from the ceiling with all four sides of the hood exposed in the middle of the commercial kitchen usually over the cooking equipment and air curtain is highly recommended for any drafts or exhaust spillages.



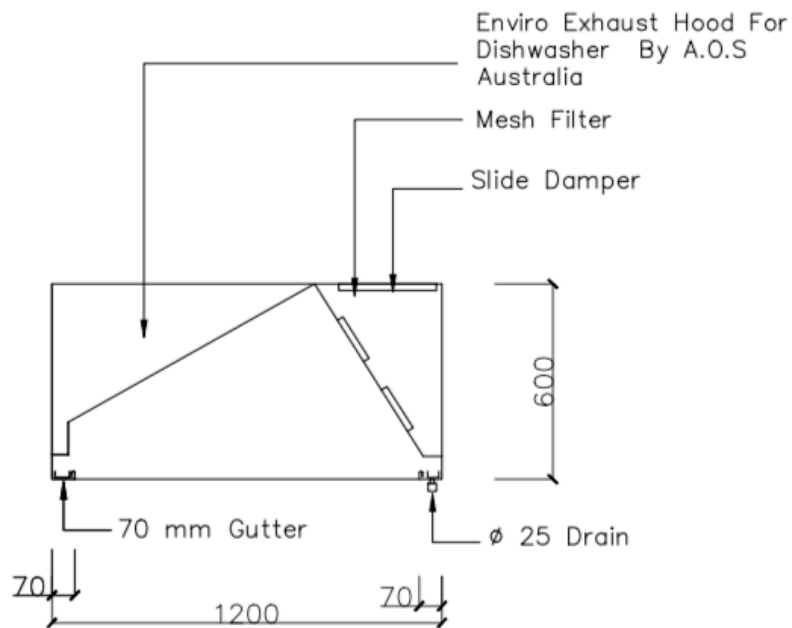
## Envirohood – LB (Low – Back)

Envirohood Low – Back are installed where is low ceiling height due to space constraints.



## Envirohood – DW (Dishwasher)

Envirohood Dishwasher is the ultimate choice for dishwashing areas which collects steam and vapours and equipped with perforated panel slots. Note: Is always best to install a dishwasher hood over dishwasher appliance if not the ceiling can be damaged by condensation overtime.



## **Capture efficiency**

Capture efficiency is the ability of the kitchen hood to provide sufficient capture and containment maximum exhaust flow rate.

## **Envirohood: Engineered Hood System**

Envirohood engineered hood offered by AOS these proprietary hoods are factory built and tested and considered to be high efficiency system. Air curtain technology is to improve capture and containment efficiency of the Envirohood overall.

## **Exhaust Hood Sizing**

The size of the exhaust hood in relation to the cooking equipment is an important design consideration. Typically, the exhaust hood must extend beyond the cooking equipment. If an exhaust hood is not designed properly and sized correctly you will notice the exhaust hood not capturing effluent from the cooking process it will spill from the corner of the exhaust hood, kitchen ventilation hoods will require some distance of overhang on each end of the exhaust hood.



## **Effective Kitchen Exhaust Hood**

The objectives of an effective kitchen exhaust are to

- Remove cooking fumes at the source
- Remove excess hot air from the working environment
- Make sure air movement in the kitchen so it doesn't cause discomfort eg from strong draughts.
- Kitchen exhaust hood to be easy clean and avoid fat build – up and reduce fire risk.

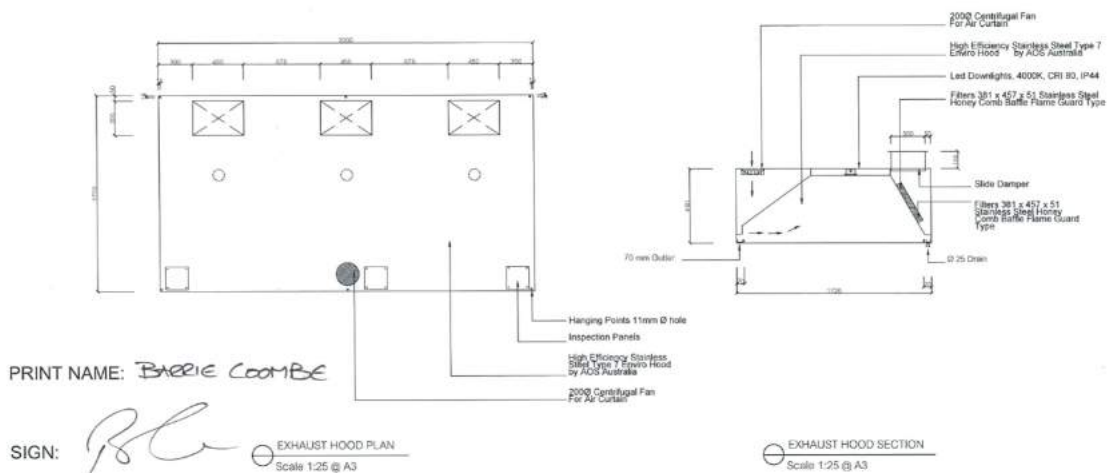
Factors to be considered

- Cooking load.
- Amount of cooking equipment used.
- Layout of the kitchen.
- Number of staffs.
- Need for easy cleaning and maintenance
- Be quiet and no vibration.



## Envirohood Design

The Envirohood models are to design and operated to ensure effective removal of cooking fumes and it needs to be a suitable size and overhang and have enough extraction to minimise fume spillage into the kitchen. The airflow into the exhaust hood should be uniform and constant and meet the appropriate design flow for the cooking equipment. There should be suitable access to the ductwork to allow regular cleaning to prevent accumulation of fat and grease flame guard stainless steel honeycomb filter need to be easy to move for maintenance and replacing. Envirohood final design can be provided in DWG or PDF file formats.



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## **Designed Envirohood drawings and sign off**

Please see designed mechanical drawings or Envirohood specifications sheet. AOS determines the optimum exhaust airflow rates for effective capture and containment of cooking effluent. The exhaust airflows are included in the Envirohood specifications for each hood and customised for specific kitchen cooking equipment and environment. Before manufactured is commenced a client's signature is required to start manufacturers process.



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## **Suspending and mounting the Envirohood**

Envirohood can be supported in alternative ways depending on the individual kitchen conditions and design. Subject to the structural integrity to the floor, walls and roof design. All options are available to bespoke proposals enabling our system to overcome almost any commercial kitchen obstacle. The Envirohood has 10mm threaded rod locations which are location on top of the hood and access will be provided by 250mm x 250mm square plate which are removable and suitable to hang the hood is 10mm threaded rod. It is also important to check with the installer for accurate location of the exhaust before attempting to secure and mounting the exhaust hood.



## **Envirohood Allowances & Safety Factors**

Envirohood allowances and safety factors are applied to the design of each individual exhaust hood to compensate for the uncertainty of the design process and effect that the undesired air movement within the kitchen has on the hood performance. Better designed airflows rates minimised energy costs while maintaining a margin of safety with respect to capture and containment.

## **Fire Safety**

The main purpose of the fire protection is to prevent the occupants and firefighting personnel in case of a fire. In commercial kitchen the biggest fire hazard exists in places where there is a lot of grease build up from deep fryers, chargrills and woks.

The existence of grease and at the same time high surface temperatures can cause grease and oil to ignite. Fire suppression systems are used precisely in these cases in many countries.

Whenever fire safety issues are concerned local and national codes have to be take into account. The existence of grease and at the same time high surface temperatures can cause grease and oil to ignite. Fire suppression systems are used precisely in these cases in many countries.

## **Fire Suppression Systems**

A fire suppression system can be integrated into the Envirohood. Many kitchen fires are caused by grease build up in the kitchen exhaust hood. A fire suppression system can detect and operate to suppress a fire in seconds and with today's cooking styles and high temperatures and there is a greater threat of fire. Pre – engineered fire suppression systems can be installed in the kitchen exhaust to provide added protection.



## **German VDI 2052 Standard**

Envirohood implements the VDI standard 2052 calculates the sensible and latent thermal loads from appliances under the exhaust hood. The VDI standard have different hood designs have different capture and containment efficiencies and VDI exhaust hood airflows are based on convective airflows from cooking appliances.

The VDI 2052 standard currently has the same exhaust airflow calculated for different hood design and does encourage manufacturers to develop more efficient products.



## **Envirohood Certified AS 1668.2 – 2012 3.4.5 Proprietary exhaust allowance**

Where the kitchen cooking equipment are provided with proprietary exhaust systems, that is exhaust spigots ready for connection to an exhaust system. The exhaust airflow rate shall be in accordance with manufacturers requirement, in this case omission of separate exhaust Envirohood shall be permitted.



## **Envirohood Proprietary Exhaust Hood Performance**

Alternative exhaust hood designs including proprietary designs, engineered ventilated ceilings system and specialised (appliances specific) designs may be used provided it can be established that the performance of such systems is at least equivalent to the performance of the hood described in the section.

## **Envirohood Product Certification & Auditing Process**

Envirohood must adhere to strict yearly product certification auditing this process is undertaken by Global – Mark Pty Ltd. Envirohood surveillance and auditing process includes test / commissioning of exhaust hood manufacturing and installation. Review and auditing process verification of installation and manufacturing processes, filtering performance, commissioning and customer sign off.





## Envirohood ISO9001 Compliance

Envirohood proprietary exhaust hood complies to ISO 9001 2015.



ISO 9001 2015 is defined as an international standard that specifies requires for a quality management system and which includes below.

- Documentation requirements / Product support plan
- Records management
- Policy (commitment to quality and compliance)
- Responsibility, authority
- Management review
- Training of staff
- Infrastructure and work environment
- Incoming inspection of products
- Production controls
- Design and development including design changes
- Purchasing
- Product or production change processes
- Product / Batch identification and traceability
- Batch testing
- Control of measuring and monitoring devices
- Internal audit
- Control of nonconforming products
- Rework or disposal of non-conforming products
- Corrective and preventive action
- Customer complaints
- Product branding
- Product recall

## JAS – ANZ Joint Accreditation System Of Australia And New Zealand Envirohood Accreditation

JAS – ANZ (Joint A Joint Accreditation System Of Australia And New Zealand Accreditation) is an accreditation body that assess and accredit certification bodies for a defined scope of accreditation relating to specific industry.



## Benefits of JAS – ANZ

- Maintaining control your internal systems
- Getting on path to continuous improvement
- Promoting credentials and what you stand for
- Reducing variance keeping control of processes.
- Signalling your creditability to customers and partners
- Managing your improvement agenda

## JAS – ANZ accreditation provides

**Increase consumer confidence:** You can distinguish what you are selling with conformity assessment since it sends a market signal that you meet a verified set of standards.

**Strong marketing tool:** The JAS – ANZ symbol is a available asset since it instils confidence in new and existing clients by indicating you can be counted on.

**Risk:** You can better manage your risks through the JAS – ANZ risk accreditation framework.

**Safety:** You can better manage safety risks through JAS – ANZ based on accreditation framework through health and human services.

## **Installation of the Envirohood**

Note: Specifications and drawings should be reviewed for each individual project.

1. When uncarting, handling, installing Envirohood the installer should take extreme caution to protect the stainless steel from damage as they are costly to repair.
2. Position the Envirohood on the floor and keep all four corners up off the floor any protect any damages, scratches, dents.
3. Once the Envirohood is in position remove plastic from the back of the exhaust hood. Make sure it is the back of the exhaust hood.
4. Check wall structure and it will be different for each individual project. Make sure fixings are strong enough to hold Envirohood weight and dimensions.
5. Check overhead beams or concrete slabs or timbers structures if they are strong enough to hold Envirohood weights and structures.
6. Locate the back of the exhaust hood and drill 10mm diameter holes for concrete wall structure and check wall structures it may require different fixings.

7. Lift the Envirohood up on to genie hoist or lifter help will be required make sure the correct position for installation is identified.
8. Wind up the Envirohood in position and fix and secure Dyna bolt into concrete wall use spanner to be tightening up.
9. Use 10mm threaded rod to hang and secure Envirohood. Threaded rod locations are provided on top of the exhaust hood a square stainless-steel plate 200mm x 200mm will need to remove to gain access.
10. 12mm sleeve anchor will be provided to be fixed into the concrete and check overhead structures fixings may be different and a heavy angle bracket may be used. Integrity and supporting of the Envirohood remains the responsibility of the installer.
11. Once Dyna bolts or fixings and threaded rods are secured it is best to have a 2mm to 3mm raised from the front of the hood to back drain plugs for oil and grease drainage. A slight raise of the Envirohood will require the threaded rods to be slighting adjusted up.
12. Once the Envirohood is secure the exhaust collars or plenums can be installed.
13. If modular Envirohood is secure kitchen exhaust collars or plenums can be installed.

**Note: We strongly suggest exhaust hood installation should only be performed by a qualified and licenced mechanical contractor or installer who is familiar with the level of involvement for proper installation. Ensure proper safety precautions are taken, permits are obtaining, and code requirements are met.**



## **Envirohood Exhaust Spigots**

Envirohood exhaust spigots are supplied with each individual proprietary exhaust hood ready for connection. The Envirohood exhaust spigots can be provided with or without depending on height circumstances if required an exhaust plenum duct can be manufactured by a duct installer to be provided on top of the exhaust hood if space requirements is the issue.

## **Envirohood Air curtain**

Air curtain increases smoke efficiency and containment and the air curtain also contributes to substantial cost energy savings of the commercial kitchen ventilation environment.

The Air curtain integrated in the Envirohood supply's around 7% of the make-up air rate and air curtain helps efficiency by introducing conditional or unconditional air through a series of nozzles located at the opposite side of the hood and can be introduced around the perimeter of the hood on three sides. The air curtain stabilises the exhaust air from spillage or leakage by forming a vortex and propels it towards the flame guard stainless steel honeycomb filters and the air curtain helps contain the heat and plume inside the hood which minimises any exhaust air escaping from the hood before it gets exhausted.

Air curtain assists in fume capture and provides a vertical barrier from small cross drafts and any other air disturbances and it also cools the grease particles.



## **Envirohood Integrated Make – up air system**

Make up air contributes to increase kitchen comfort allows to introduce make up air directly to the occupied area with the highest heat load in the kitchen. The make-up air is supplied through perforated panel at low velocity which avoids drafts and minimises mixing and ensures that the capture and containment is not compromised. The perforated panel can be easily removed by pushing up and removing out no screws are required.





## **Make – up air provided through diffusers**

Make – up air can be delivered to the kitchen through ceiling diffusers. In using this concept care should be taken to assure that discharge velocities are kept to a minimum to eliminate excessive drafts that could disrupt the airflow in the kitchen exhaust hood. In most climates to maintain a comfortable working temperature in the kitchen.

## **Exhaust Airflow rates**

Please see the designed specifications of the Envirohood or mechanical drawings or contact AOS the manufacturer for each Envirohood exhaust airflow rates and for effective smoke and containment capture the Envirohood airflows are included in the Envirohood specifications for each hood.



## **Proper location is essential**

Location of the Envirohood and with sufficient operation over the cooking equipment it is important and mandatory for proper capture and extraction of grease and smoke.



## **Installed Height of Envirohood**

The height of Envirohood should be installed between 2000mm and 2100mm to underside of the Envirohood at the lowest point to the finished floor.



## **Benefits of reduced exhaust airflow rates**

Reduced exhaust airflow rates also lower the energy usage and the use of smaller ductwork and exhaust fan are required for each individual project. The owner of a restaurant can have a longer cooking line with a lower airflow rate.



## **Envirohood gutters and oil drainage**

There are removable caps to drain grease and oil build up and the hood gutters are 70mm in size with a 12mm folded over safety edge which are located around the perimeter of the Envirohood.

The 12mm safety provides less chance of injury to hands when performing maintenance on the commercial range hood. Oil and grease can be drained manually from the exhaust hood with a bucket or tray.



## **AS 1668.2 – 2012 - E5 kitchen exhaust hoods incorporating grease removal filters**

Certified Envirohood provides 1530.1 honeycomb stainless steel filter media and holding frame shall be constructed of rigid material not deemed combustible when tested in accordance with AS 1530.1.

## **Envirohood 3.6 Ventilated ceilings and proprietary kitchen exhaust equipment hood types 5 & 7**

Envirohood proprietary kitchen exhaust hoods are not covered under clauses 3.4 & 3.5 shall be designed to a proven test method and standard. The basis for these designs is to lower energy usage and reduce airflow requirements and consequently they generally require more detailed calculation methods.

Notes:

1. Acceptable measure of the performance of the equipment (ventilated ceilings or exhaust hood) to capture and containment effluent without spillage.
2. Typically, standards and / or guidelines including the following.
  - German guideline VDI 2052, ventilated equipment for kitchens
  - The German standard DIN 18869, Equipment for commercial kitchens (components for ventilation – all parts).

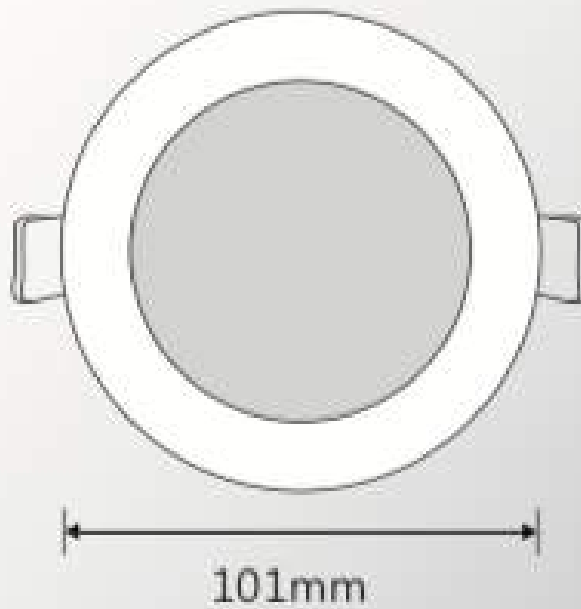
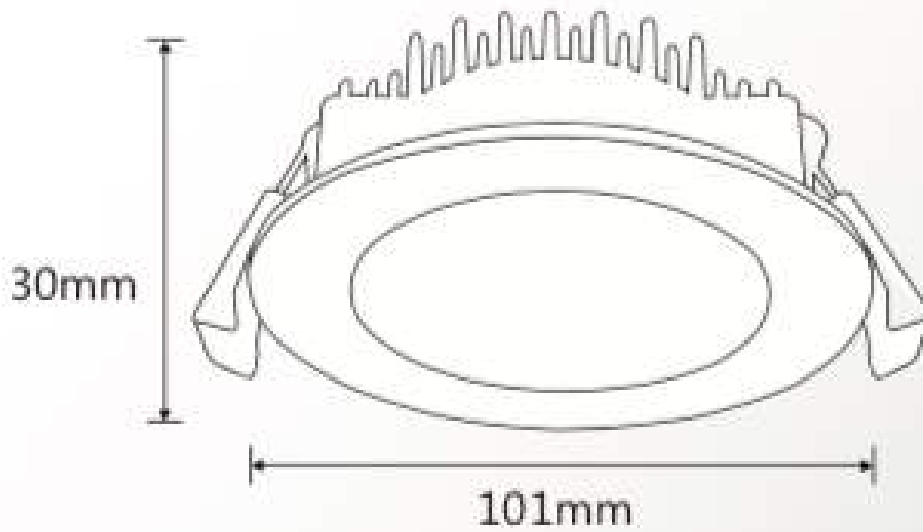
## **Envirohood LED Lighting**

Envirohood utilises LED downlights (Tradetec Ultra 13W LED downlight) is an excellent luminaire for any commercial range hood it is very effective.

### Main features

- Lightning options can be interchanged from cool white, warm white, daylight.
- Die cast stainless steel brushed finished
- Dimmable to 10%
- Polycarbon lens
- Input power 13W
- Average lamp life 35000 hours
- 90mm hole size required for exhaust hood
- Maximum surface temperature 90 degrees Celsius.
- LED save up to 60% of energy costs
- LED light fixtures can be easily removed for cleaning purposes.
- LED light fixtures are flush mounted.







Wattage	13w		
Lumen Output	860lm	880lm	900lm
Colour Temp	3000k	4000k	5000k
Beam Angle	100°		
Approx Lamp Life	50,000HRS		
CRI	> 80		
Cut Out	90mm		
<b>Ordering Codes</b>			
Matt White Frame	TLUD3010WD	TLUD4010WD	TLUD5010WD
Brushed Nickel Frame	TLUD3010BD	TLUD4010BD	TLUD5010BD

## Envirohood lightning compliance

The Martec led downlight has been tested to comply with relevant Australian / New Zealand codes 3001: 2007 standards.

- Electrical safety test report 5986 laboratories spectrum
- AS/NZ 6058.2.2: 2001 including Amdt A recessed Luminaries
- EMC EN 55015: 2006
- CISPR15: 2006 Supplier code No N120
- SAA 130046
- IP Rating : 1P44 ( protection of solid foreign objects ie dust and igrass of water).



## **Envirohood Light Output**

Envirohood light output is an informal term for how much light a fixture produces and how the light fixture emits and distributes the light. The formal term for data describing the quantity and distribution of the visible light produced by a light source or fixtures is photometrics

## **What are Lumens?**

Lumen is the measure of the total amount of visible light to the human eye from a light source or lamp.

## **What are Watts?**

Watt is a unit power rate at which energy is measured or generated

## **IP Rating - Envirohood**

IP rating standard determines how waterproof and dust and solid proof a light fitting is. The first digit IP rating refers to how dust proof a fitting is, and the second digit refers to how waterproof the fitting is.

The ingress protection or IP rating is an important consideration during the selection of the Envirohood the type 7 proprietary exhaust hood. The IP rating reflects the suitability of the light fitting to specific environmental conditions in indoor or outdoor installations.

IP 44 rated lights are suitable for bathrooms, kitchen exhaust hoods which creates a lot of steam and smoke while cooking under cooking equipment.

## **Envirohood Colour temperature Lighting**

Colour temperature is generally defined by a kelvin rating and is assigned to have the symbol K. Envirohood colour temperature describe the light appearance by a light bulb lamp. It is measured in degrees of Kelvin ( K) on a scale of 1000 to 10000.

## **What is Lux?**

Lux is the measure of brightness at a particular location. It enables us to measure the total amount of visible light present and the intensity of illumination on a surface.

## Replacing the LED Downlights in the Envirohood

**Note: Replacement of LED Downlights must install or replaced by a licenced electrician**

1. Ensure that the power to the hood has been turned off. If the hood power is connected to an interlocking system, ensure the main switch is turned off.
2. Pull the LED Downlight away from the hood until you can see the spring loaded
3. holding clips. With one hand continue to pull the downlight away from the hood and with the other hand, using your thumb and pointer finger, squeeze the spring loaded clips upwards and hold them upwards until the clips clear the hole. Be careful when releasing the clips as they could injure your fingers.
4. Insert you hand into the hole and towards the rear of the hood, about 100-150mm you will feel the LED light's power plug connected to a power surface socket. Unplug the light and remove the entire LED light assemble
5. Obtain a replacement light assembly and reverse the above instructions



Please note that the power sockets are all aligned with the earth blade pointing down.

## **Commissioning of the Envirohood**

Exhaust airflow, Air curtain and supply Air can be adjusted and balanced within the Envirohood.

### **Location of the adjustment dampers**

1. Exhaust Airflow can be balanced by sliding dampers which are located behind the flameguard stainless steel filters which will need to be removed.
2. Air curtain Airflow can be balanced via a centrifugal exhaust fan setting on the fan are 1 – 10 which includes VSD control and adjusted according to required airflow rates.
3. Integrated supply air and air curtain can be adjusted via damper controlled by a spiltter.

### **Envirohood Adjustment procedure**

1. Measure airflow at each CSIRO Approved and tested AS 1530.1 flameguard stainless steel honeycomb filter using nanometer.
2. Adjust the exhaust fan via Variable speed controller or adjusting dampers in the Envirohood.
3. Repeat the above if necessary, until the desired airflow rate is set.

## **General requirements**

1. Envirohood type 7 proprietary exhaust hood must be installed and operated with the designed airflow rate as per specification.
2. Before operating the Envirohood make sure the supply air is capable of 80% of the exhaust air capacity.
3. While the Envirohood is operating the flame guard stainless steel filters must be always installed in the exhaust in order.

## **Envirohood UV**

The Envirohood combines UV technology to make an Envirohood – UV. The size and number of UV modules required in the kitchen exhaust system depends on the total extracted volume and other factors include duct sizes and what type of cooking.



## **UV Ozone tubes and Ozone generator design considerations**

- Optional UV ozone tubes or ozone generation can be implemented either option available.
- Power requirements for both 240 Volts, single phase 1PH (plug and play).
- UV ozone tubes operation life of 13,000 hours.
- 100mm PVC pipe to attached to the ductwork for ozone generator.
- UV ozone tubes or ozone generator to be electrical interlocked with exhaust fan.
- Access requirements e.g. access panel for service and maintenance requirements.

## **Pressure sensor switch for ozone treatments**

Pressure switch can be installed to ensure no ozone is released in to the building. The pressure switch sensor needs to be set up so when there is a pressure drop in the kitchen exhaust system the ozone generator or uv lamps will shut down. An optional pressure sensor can be mounted to the exhaust hood plenum to detect pressure differential and shut down the uv ozone system.

## **Safety Features for the UV ozone system**



The UV ozone tube mounted, and ozone generator option should be electrical interlocked with the kitchen exhaust fan to ensure the ozone system only operates when the exhaust fan turns on and should the kitchen exhaust fan stop so does the ozone system it will shut down.



## **Ozone Generator Maintenance**

Ensure power is turned off from the ozone generator and open the ozone generator door via two door knobs and clean the corona plates with cotton wool and change the filters which are located inside the ozone unit depending on dirt level. If the ozone generator should be checked at every quarter service and checking constantly is also recommended.

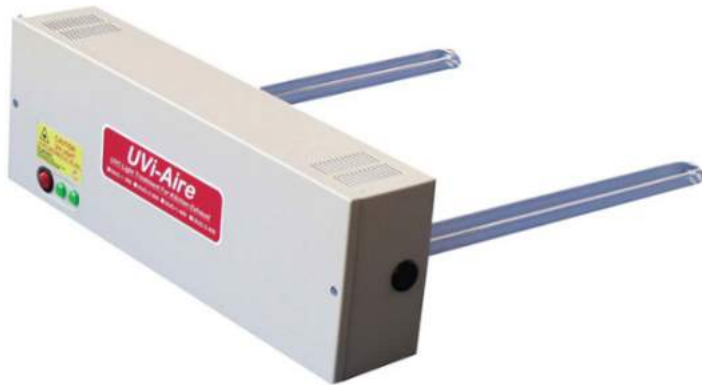


For open areas where there is high humidity and dust areas monthly services are recommended.

### **Maintenance of UV ozone tubes**

UV ozone tubes must be cleaned regularly in order to allow the system to operate at peak efficiency and dirty UV tubes will allow grease and oil to accumulate in the kitchen exhaust ductwork.

In order to clean the UV ozone tubes, you are required to shut off the electrical point to the system. UV ozone tubes should be wiped with a damp cloth any failure on the lamp will be indicated on the mounted unit. An only AOS qualified and authorised personnel are allowed to work on the system.



## Envirohood Certification



# Certificate of Approval

This certificate confirms that the company below complies with the following standard(s):

Company Name	AOS Air Odour Solutions Pty Ltd	Client ID	104074
Company Other Name	AOS Air & Odour Solutions Australia Pty Ltd	Type of Certification	Product Certification; System 5
Certification Standard	AS 1668.2-2012 : The use of ventilation and air-conditioning in buildings - Appendix E Kitchen exhaust hoods – design, construction and installation		
Scheme	No Scheme		
Certification Review Date	23/02/2017	Certification Expiry Date	23/02/2022
Certificate Issue Date	3/09/2017	Certificate Last Update Date	15/03/2019

**APPROVED COMPANY/SITE ADDRESS(ES):**  
**32 Chifley Street Smithfield NSW 2164 Australia**

This certification remains valid until the above mentioned expiry date and subject to the organisation's continued compliance with the certification standard, and Global Mark's Terms and Conditions. This Certificate of Approval remains the property of Global Mark Pty Ltd, Company Number: ACN 108 087 654. The use of the Accreditation Mark indicates accreditation by the Joint Accreditation System of Australia and New Zealand in respect to those activities covered by JAS-ANZ accreditation. Refer to [www.jas-anz.org/register](http://www.jas-anz.org/register) for verification.



Certification Manager

Unique Certificate Code: 70538934DB0924C8CA258BBD0072224B  
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Model(s) on which the Global-Mark logo may be applied by the certificate holder as a declaration of compliance by the certificate holder:

In placing the authorised mark on the product, the certificate holder makes a declaration of compliance with the certification standard(s) and confirms that the product is identical to the product certified herein. In issuing this Certificate of Approval Global-Mark has relied on the expertise of external bodies (laboratories, and technical experts).

Model Identification	Model Name	Brand Name	Product Description / Attributes	Date Approved
Envirohood - IH	Envirohood	AOS	Proprietary Type 7 exhausthood (Island hood) with or without make – up air.	8/08/2017
Envirohood - LB	Envirohood	AOS	Proprietary Type 7 exhausthood (Low back hood) with or without make – up air.	8/08/2017
Envirohood - WM	Envirohood	AOS	Proprietary Type 7 exhausthood (Wall mounthood) with or without make – up air.	8/08/2017

**Comments:**

**Conditions:**

1. Each appliance design must be approved and certified by the manufacturer in accordance with the AOS procedures.
2. Each appliance must be type tested by the manufacturer in accordance with the AOS procedures.
3. Must be installed and commissioned in accordance with AOS Installation Manual 09/2017 and by AOS trained and approved installers.

End of the document



Certification Manager

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## Stainless steel flameguard honeycomb filter certification

### Envirohood Certification



Stainless steel flame guard  
honeycomb filter AS 1530.1 CSIRO  
Certified



independently certified by **Global-Mark**. Global-Mark are world  
recognised independent certifiers

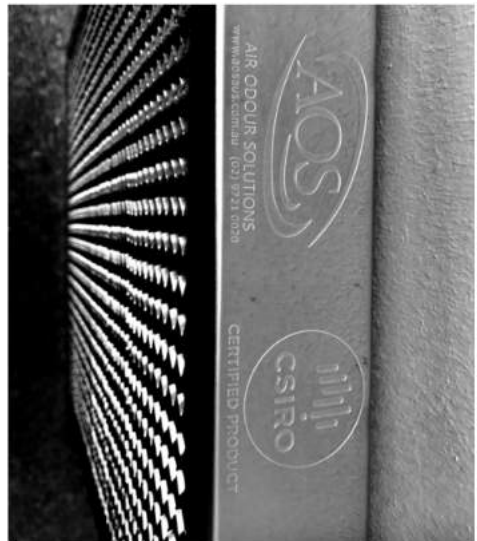


## Stainless steel flameguard Baffle filter – UL 1046 certified

Envirohood can provide optional UL 1046 stainless steel flameguard baffle filters as requested by client.



AS 1530.1 CSIRO  
Certified &  
Approved



# Certificate of Test

Quote No.: NC7790

REPORT No.: FNC11997

## COMBUSTIBILITY TEST FOR MATERIALS IN ACCORDANCE WITH AS 1530.1-1994

**TRADE NAME:** The Sponsor identified the tested specimen as a stainless steel honeycomb grease filter.

**SPONSOR:** AOS Air & Odour Solutions Australia Pty Ltd  
32 Chifley Street  
SMITHFIELD NSW 2161  
AUSTRALIA

**DESCRIPTION OF TEST SAMPLE:** The sponsor described the tested specimen as uncoated corrugated stainless steel honeycomb grease filters. The 45-mm diameter stainless steel discs were loose laid on each other and stacked up without adhesive to form the 50-mm height suitable for testing.

Nominal thickness: 0.15 mm (50-mm thick for the test)  
Nominal density: 8000 kg/m<sup>3</sup>  
Colour: silver

**TEST PROCEDURE:** Five (5) samples were tested in accordance with Australian Standard 1530 Methods for fire tests on building materials, components and structures, Part 1- 1994: Combustibility Test for Materials.

An alternative suitable insulating material was used to fill the annular space between the furnace tubes, as specified in Clause 4.2 of ISO 1182:2010.

**RESULTS:**

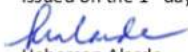
Mean furnace thermocouple temperature rise.....	9.4°C
Mean specimen centre thermocouple temperature rise.....	7.2°C
Mean specimen surface thermocouple temperature rise.....	2.4°C
Mean duration of sustained flaming.....	0 seconds
Mean mass loss.....	0.07 %


**DESIGNATION:** The material is NOT deemed COMBUSTIBLE according to the test criteria specified in Clause 3.4 of AS 1530.1-1994.

These test results relate only to the behaviour of the test specimens of the material under the particular conditions of the test and they are not intended to be the sole criterion for assessing the potential fire hazard of the material in use.

DATE OF TEST: 17 July 2017

Issued on the 1<sup>st</sup> day of August 2017 without alterations or additions.

  
Heherson Alarde  
Testing Officer

  
Brett Roddy  
Team Leader, Fire Testing and Assessments

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NATA Accredited Laboratory  
Number: 165  
Corporate Site No 3625

Accredited for compliance with ISO/IEC 17025 - Testing.

CSIRO INFRASTRUCTURE TECHNOLOGIES

14 Julius Avenue, Riverside Corporate Park, North Ryde NSW 2113 AUSTRALIA  
Telephone: 61 2 9490 5444 Facsimile: 61 2 9490 5555 www.csiro.au





## **AS 1530.1 1994 – Methods for fire tests on building materials, components and structures Part 1 combustibility test for materials**

CSIRO conducted a fire test for materials of combustibility in accordance with AS 1530-.1 1994 on the stainless-steel honeycomb filter provided by AOS Australia Pty Ltd. A sample will be taken, conditioned in a ventilated oven and then placed in the furnace for testing to AS1530.1.

CSIRO will provide you with a written report of the results pass or fail which will describe the test method, test as carried out, observations, the data obtained results and conclusions.

### **Overview of fire test procedure**

In accordance with the building code of Australia, non-combustible means a material non-deemed combustible as determined by AS 1530.1.

### **Sample requirements**

Six sample requirements are required in order to determine combustibility. These samples determine the following requirements must be met.

- Diameter 45-mm +0, -2 mm
- Height 50-mm  $\pm$  2mm
- 2-mm hole in centre of sample and hole must be 25mm deep

## **Envirohood Maintenance**

Clean the exhaust hood canopy inside and outside as needed with mild soap or water or degreaser. Never use harsh chemicals or abrasive cleaners on stainless steel or painted surfaces, make sure to wipe and clean interior and exterior of the Envirohood including downlight fixtures which are removable and draining of grease and oil from drain plugs. Never clean exhaust hood while its hot.

### **Daily maintenance**

- Empty and clean grease and oil from the gutters of the exhaust hood. Empty oil and grease to a bucket and use a scraper if possible, to remove large amounts of oil and grease in the bucket.
- Use a damp cloth with water and degreaser mixture to wipe down the surfaces of the Envirohood to remove any oil stains or grease gathered on the exhaust hood
- Wipe and clean perforated stainless steel make up air grill with a damp cloth which is located on the outside of the exhaust hood.
- Dry all wet surfaces and apply stainless steel polish to the Envirohood.

### **Weekly maintenance**

- Recommended is an exchange set of stainless-steel honeycomb filters for the filter maintenance which purchased from AOS Australia.
- Cleaning of the kitchen filter is recommended by a commercial kitchen filter cleaning company they will provide scheduled maintenance schedules.
- Stainless steel honeycomb filters must not be cleaned in a dishwasher and caustic chemicals must not be used it will damage the stainless-steel honeycomb filters.
- Heavy cooking application maintenance of the Envirohood and stainless-steel honeycomb filter should be maintained regularly.



### **Periodic maintenance**

- Perform visual inspection of the Envirohood.
- Check condition of stainless-steel honeycomb filter for any grease build up.
- Check accumulation of grease and oil in exhaust hood gutters.
- Check internal surfaces of the exhaust hood by removing filters check to see the condition of exhaust plenums if there is any accumulation of grease and oil.
- Check filter frame support if there is any damage.
- Check fire protection pipes are clean and not obstructed.

