

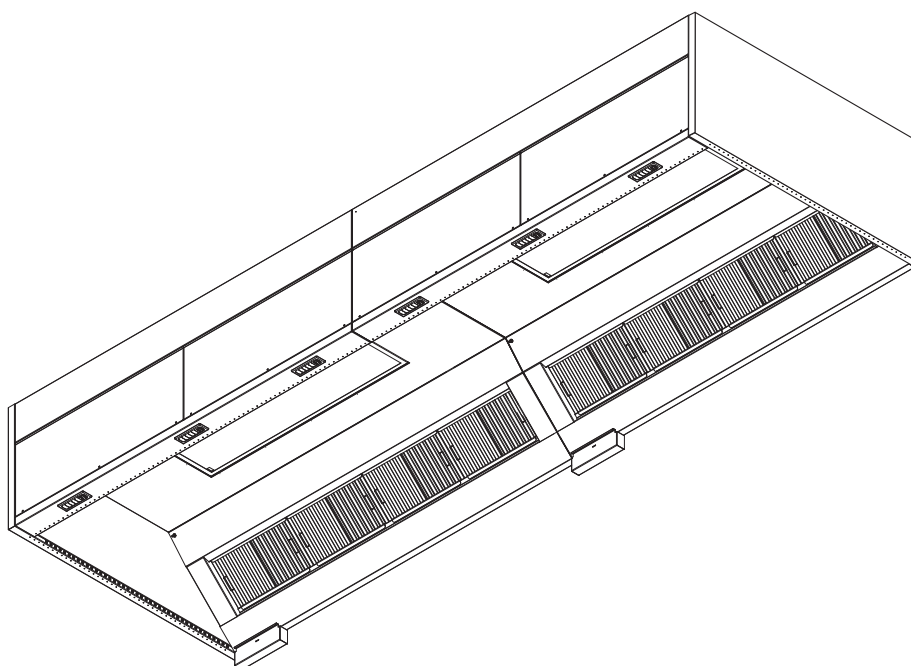
OPERATION, CLEANING & MAINTENANCE

READ ALL INSTRUCTIONS BEFORE USE

Halton Capture Jet 3 – Proprietary Kitchen Ventilation Exhaust Hoods

This manual is suitable for the following models:

KVF	Halton KVF Capture Jet™ Canopy with Supply Air and Side-Jet Technology
KVI	Halton KVI Capture Jet™ Canopy Side-Jet Technology
KVL	Halton KVL Extraction Canopy
KVX	Halton KVX Extraction Canopy



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<i>SPEH-HAL-0066</i>	

Attention

Carefully read this instruction booklet, as it contains important advice for safe installation, operation and maintenance. This manual is to be passed onto the owner/facility at the project completion.

Disclaimer

The manufacturer and distributor cannot be held responsible or liable for any injuries or damages of any kind occurred to persons, units or others, due to **abuse and misuse** of this unit in regards to installation, removal, operation, servicing or maintenance, or lack of conformity with the instructions indicated in this documentation.

All units made by the manufacturer are assembled, where possible, and ready to install. Any installation, removal, servicing, maintenance and access or removal of any parts, panels or safety barriers that is not permitted, does not comply in accordance to this documentation, or not performed by a **trained and authorised specialist** will result in the **immediate loss of the warranty**.

The manufacturer cannot be held responsible or liable for any **unauthorized modifications** or repairs. All modifications or repairs must be approved by the manufacturer in writing before initiating. All modifications or repairs performed to this unit **must** be performed at all times by a **trained and authorised specialist**.

General Information

When using any electrical unit, safety precautions must always be observed.

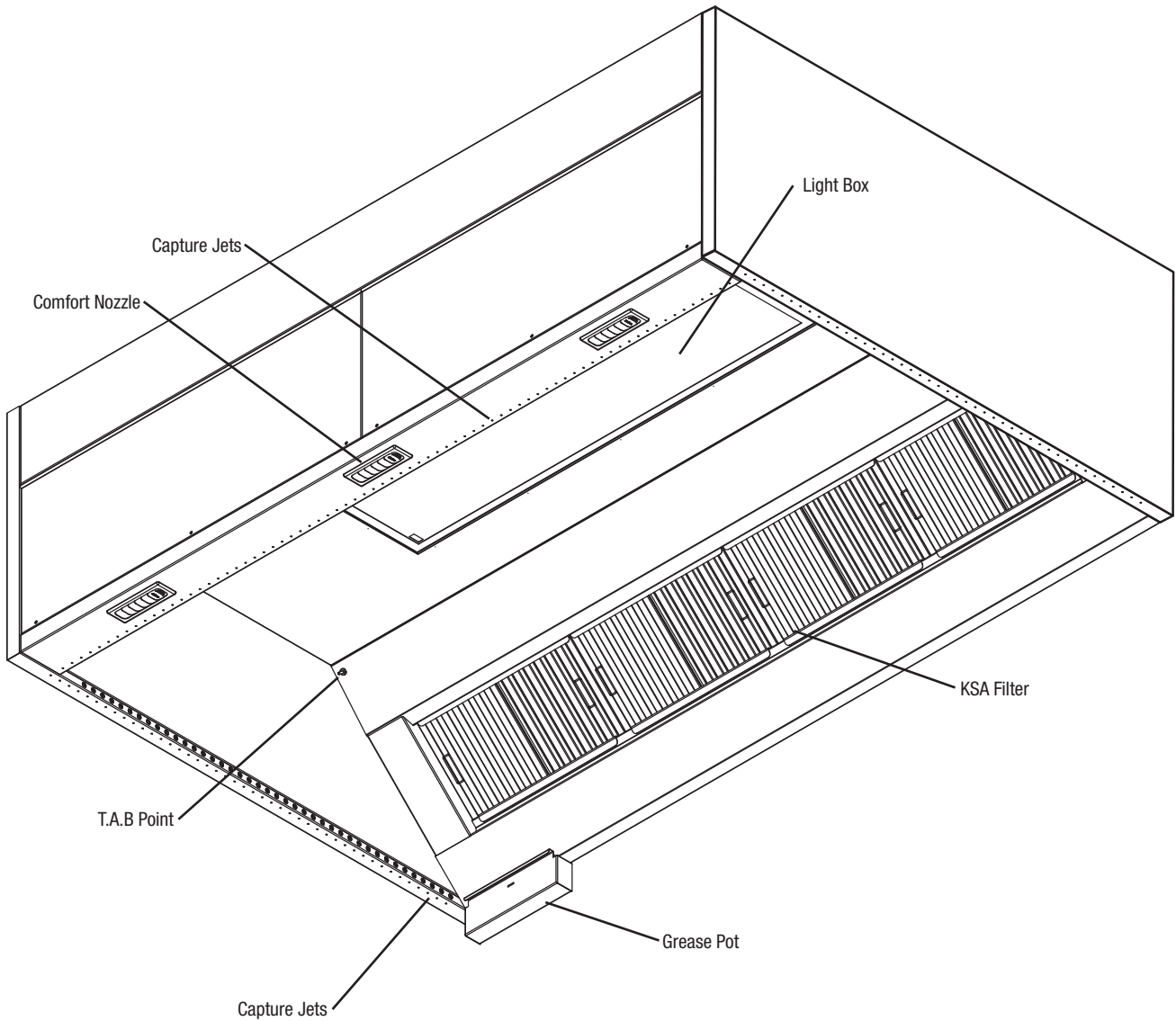
Our units have been designed for high performance.

Read these instructions carefully and retain for future reference.

- All units **MUST** be installed according to the procedures stated in the installation section of this manual
- In the case of new personnel, training is to be provided before operating the equipment
- **DO NOT** use this unit for any other purpose than its intended use
- Keep fingers out of "pinch point" areas
- Only use this unit with voltage specified on the rating label
- Threaded fasteners can loosen in service. Regular inspection and tightening should be carried out as required
- If any fault is detected, refer to the troubleshooting guide

Overview

Example only. Exhaust hood configuration may vary due to customer specifications

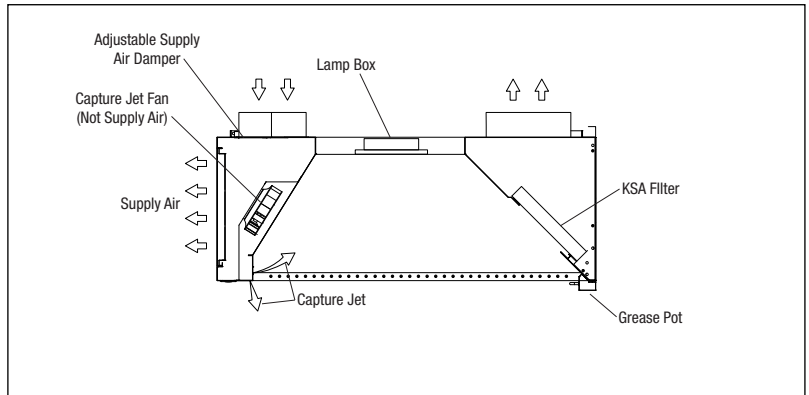


Due to continuous product research and development, the information contained herein is subject to change without notice.

Section Views

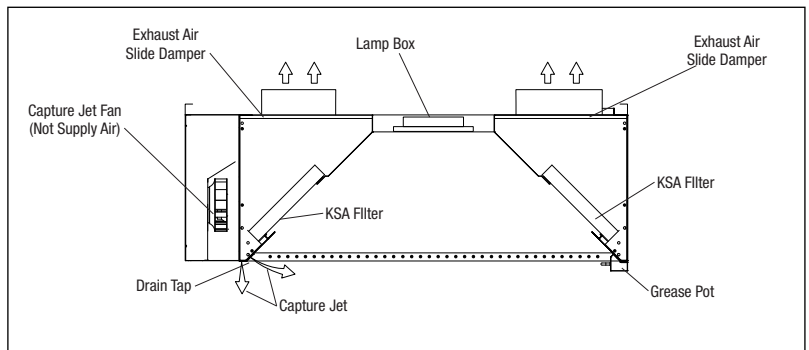
KVI: No provision for make-up air supply through hood.

KVF: Provision for make-up air supply through front perforated face of the hood.



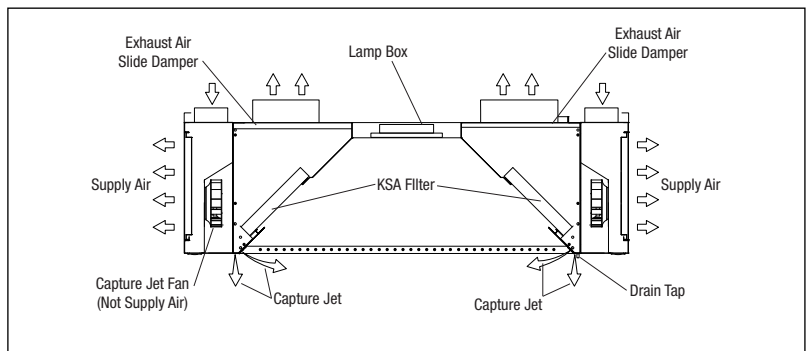
KVI-H: Wall position No provision for make-up air supply through hood.

KVF-H: Wall Position with provision for make-up air supply through front perforated face of the hood.



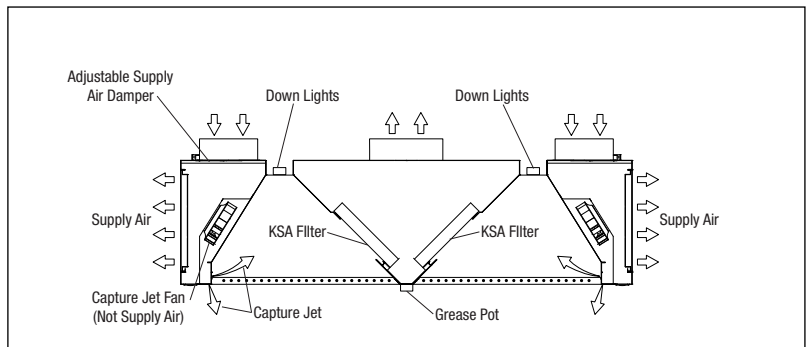
KVI-HI: Island Position No provision for make-up air supply through hood.

KVF-HI: Island Position with provision for make-up air supply through front & rear perforated faces of the hood.



KVI-M: Island Position No provision for make-up air supply through hood.

KVF-M: Island Position with provision for make-up air supply through front & rear perforated faces of the hood.

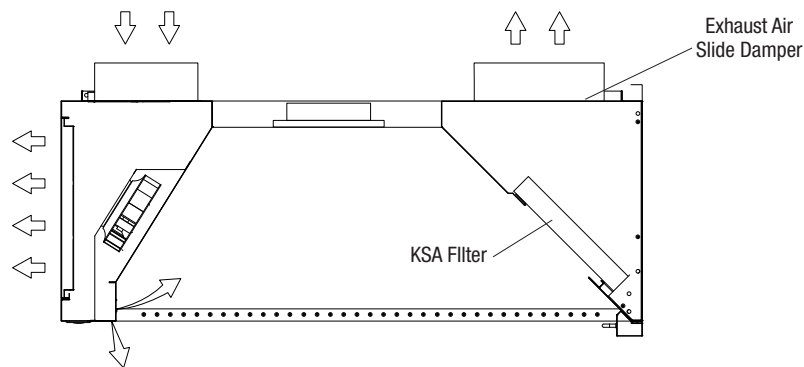


Capture Jet

- Halton Capture Jet Hoods have a row of horizontal and vertical jet holes along the front and open sides of the canopy. The capture jets produce controlled air curtains that capture and spiral the air toward the filters, improving capture. The air is drawn into the Capture Jet by special fans and speed controllers in the hood

Exhaust Plenum

- KSA cyclonic particulate separation filters are the primary exhaust air treatment
- Exhaust Air Slide Damper is adjusted during commissioning only to balance air between multiple hood sections
- T.A.B. points allow easy periodic checking of the exhaust fan's suction pressure



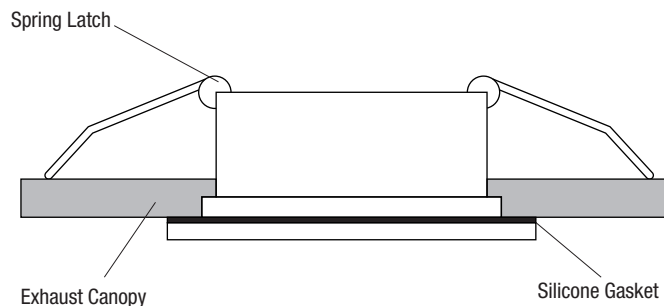
Supply Plenum (on F models)

- Perforated front face panels allows laminar flow of make-up air into the kitchen
- Supply air damper is adjusted during commissioning only to balance air between multiple hood sections.
- Comfort Nozzles allow some of the supply air to be directed down onto the chef to provide them with a more comfortable work environment
- Make up air supplied at low level velocity through the face of the canopy improve capture and containment by a further 10%

Lights

- The light box is mounted in the flat top section of the exhaust hood. A hinged glass door provides access to the lights

Optional: Down lights (LED or halogen) are fitted into stainless steel spring loaded fittings



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Hood Operation

Kitchen exhaust hoods are part of a complete kitchen exhaust system that includes exhaust fans, controllers (switches, VSD and or BMS), exhaust ducts and possibly secondary filtration systems. The make-up air supply system (mechanical or natural ventilation) is also an integral part of the exhaust system.

To operate the hood specifically:

- Turn on the room lights. The lights in the hood are normally switched on together with the room lighting
- Check all filters are positioned correctly in the hood. Filter position may affect airflow through the hood
- Turn on the Kitchen exhaust fan so that it draws the required airflow through the exhaust hood. (The exhaust fan may have a manual switch or be BMS or timer controlled)
- If the exhaust fan is controlled by a 2 speed switch, operate the fan in low only during preparation. Operate in high speed for all cooking activity (label the switch "Preparation" and "Cooking")

Cleaning

General Information

- Threaded fasteners can loosen in service. Regular inspection and adjustment should be carried out as required
- Cleaning is recommended for health and safety purposes and to prolong the life of the unit
- Do not use abrasive pads or cleaners on the stainless steel or any other metal parts of the unit
- Do not use industrial chemical cleaners, caustic based cleaners or bleaches and bleaching agents, many will damage the metals and plastics used on this unit
- When drying, metal surfaces should be wiped with a soft cloth in the same direction as grained polish
- Do not remove any screws for general cleaning. All internal sections of the unit are to be cleaned by a qualified technician
- This unit is not waterproof, do not hose, do not pour water directly onto the unit, do not immerse in water

Surface Finish / Corrosion Protection

1. Stainless steel exhibits good resistance to corrosion however, if not properly maintained stainless steel can rust and/or corrode
2. All metal surfaces should be checked while cleaning for damage, scuffs or scrapes as these can lead to rust and further damage to the product
3. Any sign of mild rust and/or corrosion should be thoroughly cleaned with warm soapy water and dried as soon as possible
4. Mild rust, discolouration and/or corrosion can be treated with a commercial cleaning agent that contains citric/oxalic/nitric/phosphoric acid. Do not use cleaning agents with chlorides or other harsh chemicals as this can cause corrosion. After treatment, wash with warm (not hot) soapy water and dry thoroughly
5. Some commercial stainless steel cleaners can leave residue or film on the metal. Make sure any residue is washed off with a clean damp cloth
6. Wipe the surfaces dry (in the same direction as grained polish) after cleaning and do not let water pool on the unit
7. For non-food contact surfaces, a light oil can be wiped on the surfaces with a cloth to enhance the stainless steel surface. Wipe in the direction of the grain

	IMPORTANT		WARNING
	Threaded fasteners can loosen in service. Regular inspection and adjustment should be carried out as required		This unit is NOT waterproof, do NOT hose. DO NOT pour water directly onto the unit. DO NOT immerse in water

	IMPORTANT		WARNING
	Some commercial stainless steel cleaners leave residue or film on the metal that may entrap fine particles of food, deeming the surface not FOOD SAFE.		Wait until the unit has cooled to a safe temperature before undertaking any cleaning or maintenance. Contact with hot surfaces can cause burns and serious injury.

Recommended Cleaning And Maintenance Schedule

For good kitchen hygiene, the exhaust hood should be visually inspected by management at least once per week. The below 'Cleaning and Maintenance Schedule' can also be found attached on the inside of the exhaust hood. These provide a cleaning guide for Extreme, Heavy and Light duty operation. Regular tasks for the operator include cleaning the hood's surfaces, emptying the grease pots and washing the filters. Additionally, a service technician is required to periodically perform routine maintenance tasks.

This schedule is only a guide. The frequency of cleaning will depend on the type and duration of cooking as well as the product and cooking oils used.

Legend:

- X – extreme usage
- H – heavy usage
- L – light usage

Item	6-12 Hours	Daily	Weekly	2 Weeks	1 Month	3 Months	6 Months	12 Months
Empty grease pots	X	H	L					
Clean visual surfaces of the canopy and any light covers	X	H	L					
Remove & wash KSA filters		X	H	L				
Clean exhaust plenum of hood					X	H	L	
Inspect & clean ductwork					X	H	L	
Inspect and service exhaust and supply fans **						X	H	L
Check exhaust hood airflow balance						X	H	L
Clean and service Capture Jet fans						X	H	L
Clean supply air perforated panels (if fitted)						X	H	L

** Refer to Fan Supplier's manual.

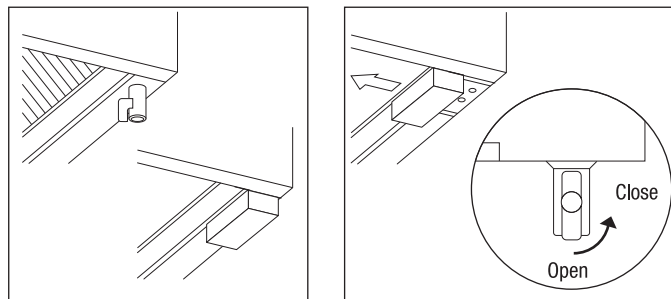
Exposed Hood Surface

Check all metal surfaces to ensure that there is no accumulation of grease or dirt and that there is no surface damage that could harbour dirt and bacteria. Clean exposed interior and exterior surfaces of hood and light fixture with mild soapy water or a neutral product. Carefully rinse away all surplus cleaning product.

Cleaning Task	Cleaning Agent	Comments
Routine cleaning	Use mild detergent and warm water	Use a sponge or clean cloth, rinse with clean water, wipe dry if necessary
Oil or Grease	Use cleanser or organic solvents (e.g. acetone, alcohol or methylated spirits)	Apply cleanser to a damp cloth or sponge and rub cleanser on the metal
Stubborn stains, soil and burnt deposits	Mild cleaning solutions (e.g. Jif or specialty stainless steel cleaners)	Use rag or fibre brush (soft nylon or natural bristle) or scotch-brite™ scouring pads. Do not use steel wool. Rub in the direction of the grain and polish lines. Rinse well with clean water and wipe dry

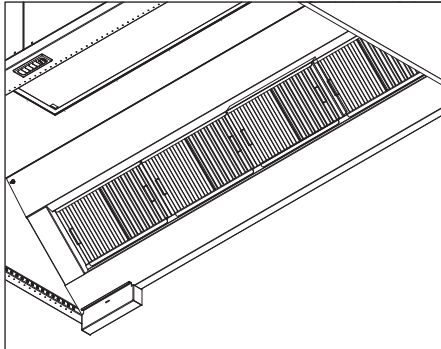
Grease Pots – Check and Empty

1. Regularly check grease collection pots as they collect the oil separated from the exhaust air
 2. To remove the pot from the hood, lift and slide the pot forward out of its holder (carefully if it is full and hot)
 3. Empty the oil into a waste oil container for recycling
 4. Wash the pot with hot soapy water before re-fitting it to the hood
 5. Replace the pot immediately as oil will continue to drip from the drain
- Note: for hoods that have a drain tap instead of a grease cup, hold a bucket under the drain and turn the tap to release collected oil

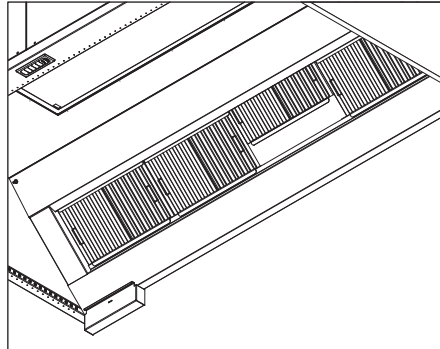


KSA Cyclonic Filters – Remove and Wash

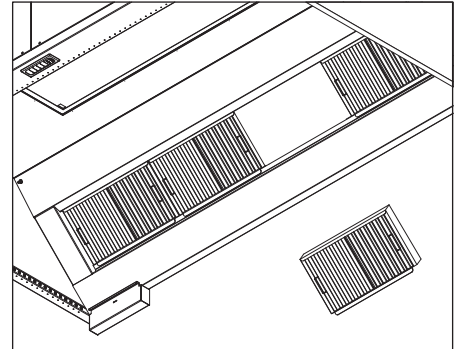
1. Switch off the exhaust fan
2. Take note of filter positions (to ensure any blind panels are positioned in same location)
3. Lift each filter up and rotate bottom of filter toward you, then lower filter down and out of the hood
4. Wash particulate off the filter in the pot sink with detergent, using spray-rinse and a brush or cloth
5. Place filters in a dishwasher basket (5 per basket) and pass through the dishwasher
6. Dry the filters & re-fit into the hood
7. Make sure the filters are properly located with both top and bottom hanging rails in place. (If there is a Filter to fan interlock, the fan will not restart when a filter is removed or not positioned properly)



Filter Arrangement

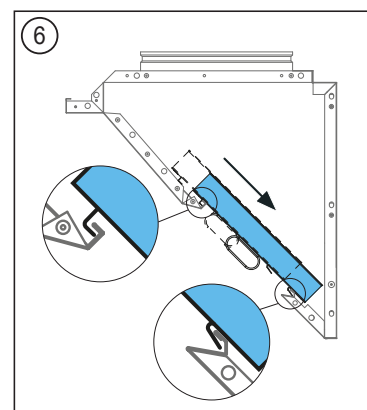
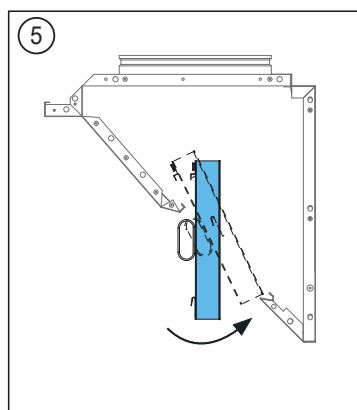
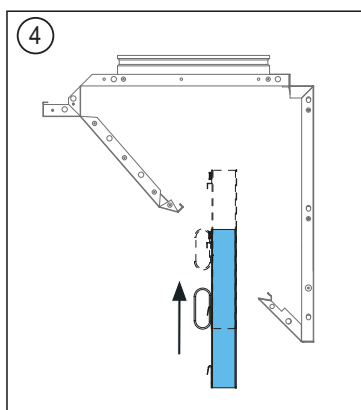
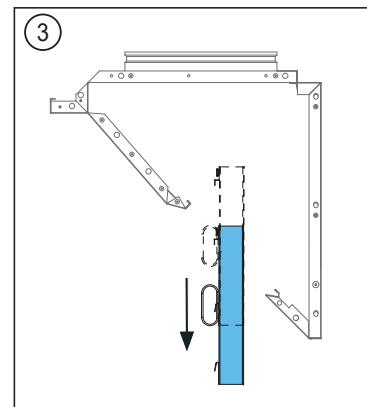
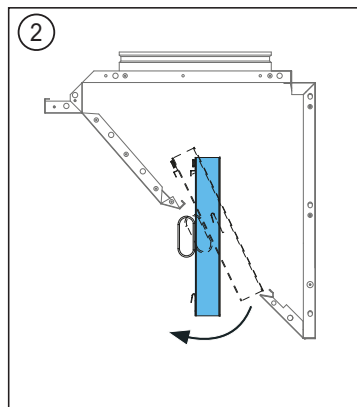
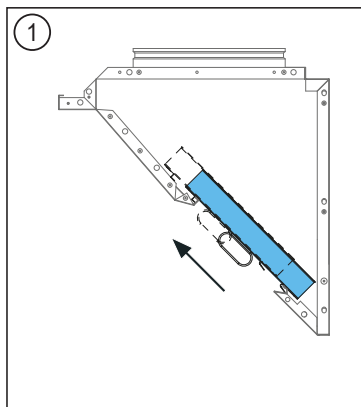


Filter Removal



**Filter Arrangement
Post Removal**

Note: KSA Filters must be correctly positioned over the top and bottom rails



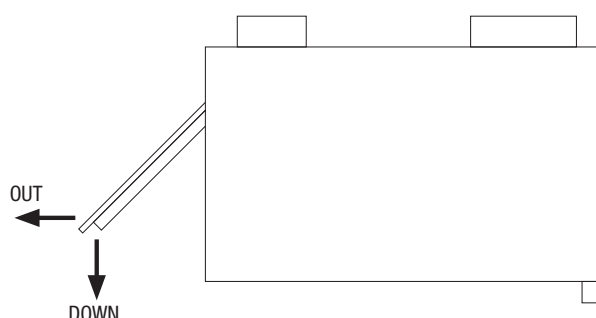
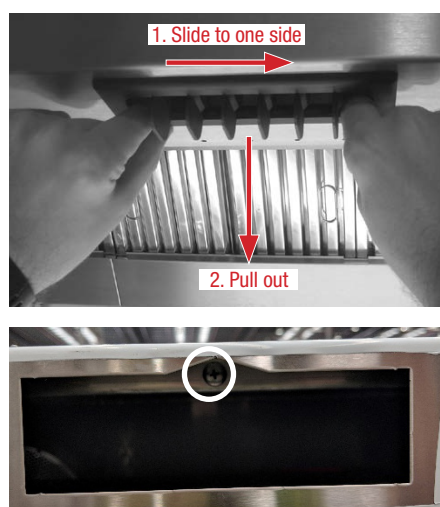
Exhaust Plenum - Inspect and Clean

The exhaust ductwork has to be periodically inspected and cleaned by the Service Contractor, the exhaust plenum should be also be thoroughly cleaned at the same time.

When the filters are removed, inspect the inside of the exhaust plenum. Condensed oil vapour should flow to the base and drain to the grease pots. Particulate and insects, etc. may accumulate inside the hood and cause ponding. Wipe the inside of the exhaust plenum using old rags.

Supply Plenum – Inspect and Clean

KVF hoods with supply air passing through a perforated front panel should be inspected periodically and wiped clean as required. The front panel can be removed by removing the comfort nozzles, undoing the screws and lifting the panel out.



Ductwork Surfaces - Inspect and Clean (by Service Contractor)

The recommended inspection periods for extract ductwork, as published in *HVAC TR/19 by Airah – “Guide to good practice. Internal Cleanliness of ventilation systems”, are as follows:

- Heavy use (12-16 hours/day) – inspect every 3 months
- Moderate use (6-12 hours/day) – inspect every 6 months
- Light use (<6 hours/day) – inspect every 12 months

Ductwork cleaning is usually done by specialist cleaning contractors. TR/19 suggests that the duct is cleaned based on the grease depth in the duct, according to the following:

- Duct considered clean – grease depth $\leq 0.05\text{mm}$
- Duct considered acceptable – grease $< 2\text{mm}$
- Duct should be scheduled for cleaning – grease depth $> 2\text{mm}$
- Duct should be cleaned immediately – grease depth $> 3\text{mm}$

Failure to implement a cleaning maintenance procedure will cause an accumulation of grease and dirt in the ventilation system which will promote the growth of harmful bacteria, increase the risk of fire, generate odours, reduce airflow through the kitchen and impair the overall system performance and efficiency. Cleaning frequency may be a condition of insurance policies – check your policy. For the efficient operation of a kitchen ventilation system, implement cleaning & maintenance procedures. For detailed requirements refer to the HVAC publication TR/19. Chemical safety procedures should be noted prior to use. If a cleaner containing chlorides, bleaches or hypochlorite's is used it must be, afterwards, promptly and thoroughly cleaned off.

* HVAC TR/19 by Airah: https://www.airah.org.au/Content_Files/Resources/Technical-Bulletin-Kitchen-Exhaust.pdf

Maintenance

- The process of handling and washing filters can result in them being bent. Check filters for damage to ensure they can be easily refitted. We recommend each business hold a stock of spare filters to replace damaged filters
- Fluorescent or LED lights in the exhaust hood have a limited service life & require periodic replacement by an authorised technician
- The Capture Jet fan requires annual service & cleaning by an authorised technician
- Airflow checks should be done annually and after service work by measuring the TAB pressure to confirm the exhaust airflow is within specification and ensure ongoing performance

Replacing Fluorescent / LED Lights

	IMPORTANT
	BEFORE ACCESSING THE LIGHTS, ENSURE ALL POWER TO THE HOOD IS SWITCHED OFF

Lights must only be replaced by a qualified technician. Fluorescent lights are housed within the light fixture to provide sufficient light to the work area underneath the hood. The lights may be fluorescent tubes, LED tubes, halogen downlights or LED downlights. Before replacing any lights ensure power to the hood is switched off.

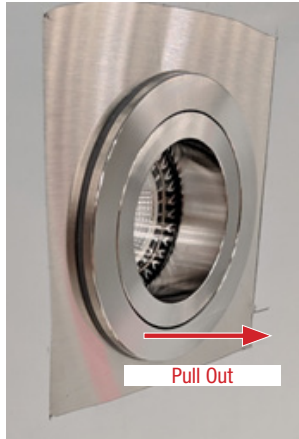
Fluorescent and LED tubes:

1. Unlatch the light diffuser panel and swing it downwards
2. Rotate the tube to release it from the tombstone ends and remove it
3. Replace the tube with a tube of the same size and wattage

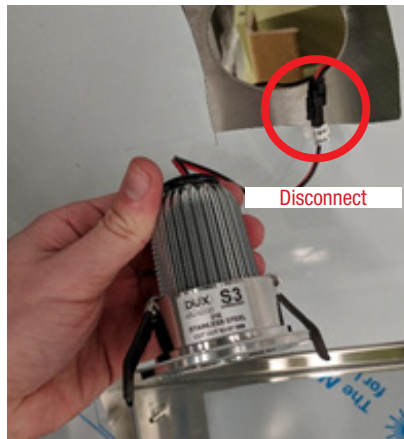


Down Lights:

1. Pull the downlight down and out of the hood, this can be difficult. There are two spring clamps holding the lamp in. You may need to pry the light off the surface of the hood and use a screwdriver (or similar) to hold the clamps back. If it is possible, reach on top of the hood and hold the clamps back



2. Disconnect the light and replace it with a new one



3. If replacing the light doesn't fix the problem, the driver needs to be replaced by a qualified electrician, service technician or similarly qualified persons. The driver is attached with Velcro next to the light opening with enough cable to pull it through the hole



4. To replace the driver, pull it through the hole, undo the connections and replace it with a new one



5. Re-fit all lights and drivers as they were before. Ensure the driver is connected to the hood with Velcro again (reuse the Velcro from the old driver if need be)

Testing and Balancing Pressure and Airflow - Exhaust Air Flow

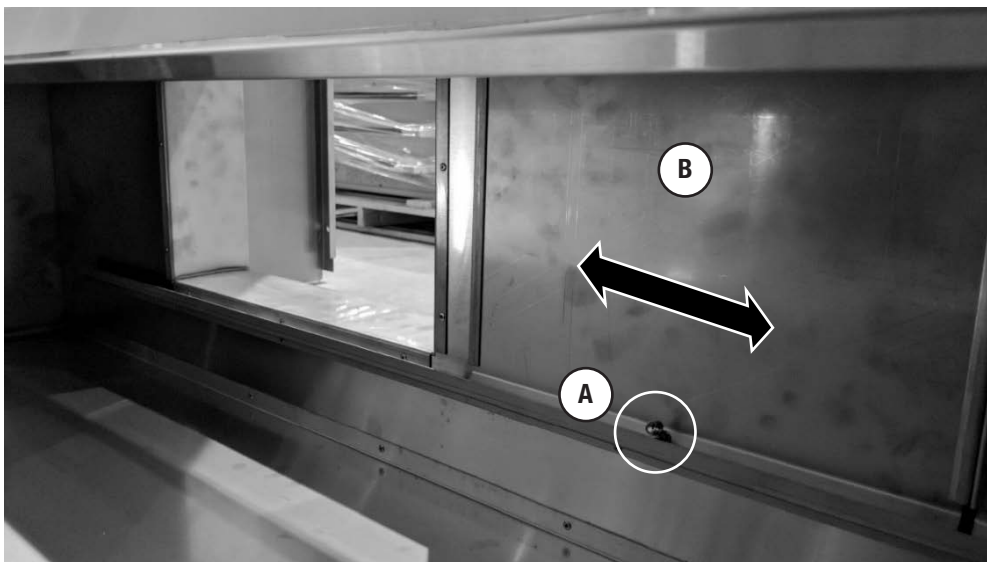
Every 6 months (typically) the Capture Jet fan will need to be serviced by a qualified technician. Contact Stoddart at 1300 307 289 for assistance.

Before measuring airflows check the exhaust and supply fan are on and functioning normally. Airflows are balanced in each hood section by adjusting the sliding dampers. It is important for the hood to have a balanced airflow, to ensure exhaust and supply function efficiently.

1. Using a manometer measure the pressure at the T.A.B. (Testing and Balancing) point. Do this for each exhaust plenum.



2. Compare results to the rating plate. Values must be within $\pm 10\%$ of specified value. If the value is correct, skip to the next section. If the value is incorrect, continue with the following steps.
3. Remove the filters to open or close the sliding dampers to increase/decrease pressure as required. Loosen the screw (A), then slide the damper (B) as required.



4. When the damper is in the final position re-fit the filters
5. Re-measure the pressure at the T.A.B point, if required continue adjusting the dampers and taking measurements until the specified values are reached

Testing and Balancing Pressure and Airflow - Supply Air Flow

Every 6 months (typically) the Capture Jet fan will need to be serviced by a qualified technician. Contact Stoddart at 1300 307 289 for assistance.

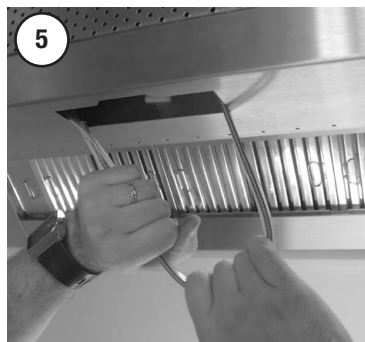
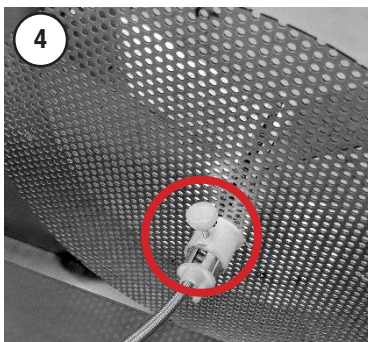
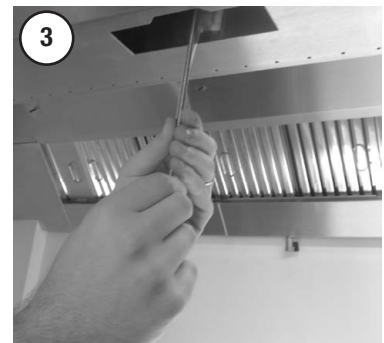
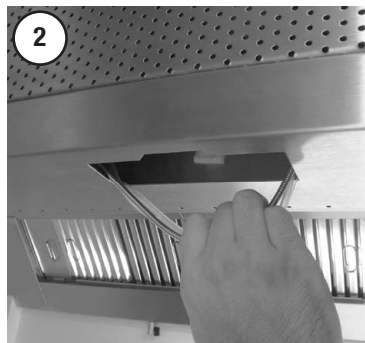
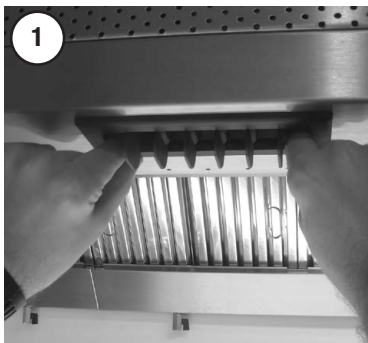
There are two components to the supply air, the T.A.B. pressure point and front face air speed. Note that not every model has a perforated front panel for supply air and only KVF models require a supply duct to be connected. Other models have an optional supply duct connection. Before measuring airflows check the exhaust and supply fan on and functioning normally. Airflows must be balanced for each damper in each hood section. It is important for the hood to have a balanced airflow, to ensure exhaust and supply function efficiently.

Using a manometer measure the pressure at the T.A.B. (Testing and Balancing) point. For hood models with a perforated front panel, use a vane manometer to measure the face air velocity at 50mm from the front panel. The air speed must be less than 0.6m/s. Do this for each supply plenum.



Compare results to the rating plate. Values must be within $\pm 10\%$ of specified value and the air velocity must be less than 0.6m/s. If the values are incorrect, adjust the airflows as per below.

1. To adjust to supply dampers (each supply collar has its own adjustable damper), first remove the comfort nozzles
2. Locate the spring inside the supply plenum
3. Twist the spring to increase (anticlockwise) or decrease (clockwise) the pressure as required
4. The bolt on the axle may need to be loosened before the damper can be adjusted
5. Feed the spring back inside the supply plenum
6. Re-fit the comfort nozzles when done



Troubleshooting

- If any faults/issues occur with the unit, follow the below troubleshooting procedures
- If the troubleshooting procedures do not correct the problem, contact the Stoddart Service Department

Problem / Alarm Indication	Possible Cause(s)	Corrective Action(s)
Cooking fumes are not being removed from the Kitchen	<ul style="list-style-type: none"> • Exhaust fan not operating correctly • Capture Jet fan not operating correctly • Exhaust fan is slowed or under sized • Supply air is not balanced • Excessive kitchen drafts • Equipment moved from original position • Equipment has changed • Secondary treatment system needs service 	<ul style="list-style-type: none"> • Check exhaust fan is powered on and running correctly • Check supply air capture jet fan is running • Check the required T.A.B. pressures, must be within 10% of value shown on rating plate • Check the exhaust fan is the correct size for required duty • Check supply fan and adjust speed to balance kitchen • Close doors and windows or turn off fans causing draft • Check equipment list and revise exhaust system design as required • Service filters
Excessive oil and grease at discharge	<ul style="list-style-type: none"> • Filters are overloaded or not correctly fitted • Hood and/or ductwork requires cleaning 	<ul style="list-style-type: none"> • Check they are correctly installed • Check and clean the inside of the hood exhaust plenum(s) and ductwork • If problem persists, contact Stoddart.
Measured exhaust pressures not per rating plate (+/-10%)	<ul style="list-style-type: none"> • Exhaust/supply dampers not set correctly • Poor seal around supply/exhaust collars • Exhaust fan is under or over sized • Supply fan is under or over sized • Optional VFD is not adjusted correctly 	<ul style="list-style-type: none"> • Check the required T.A.B. pressures and adjust the exhaust/supply dampers • Check the supply and exhaust collars for a sufficient seal • Replace exhaust fan with the correct size • Replace supply fan with the correct size • Adjust VFD settings
Lights not working	<ul style="list-style-type: none"> • Power not on • Tubes, starter or ballast faulty • Damaged, or incorrect wiring 	<ul style="list-style-type: none"> • Supply power to the lighting circuit • Replace damaged component • Fix faulty wiring
Some lights don't turn on	<ul style="list-style-type: none"> • Connections not made between hoods • Faulty lights 	<ul style="list-style-type: none"> • Check all lighting connections have been made between each hood section • Replace the lights • If problem persist, contact Stoddart.

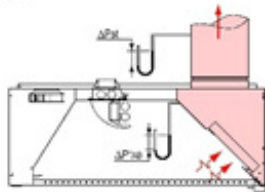
Pressure Drop And Sound Data

The sound levels in the kitchen under an exhaust canopy are influenced by many external factors including the room and surfaces, the duct, the exhaust fans and supply fans.

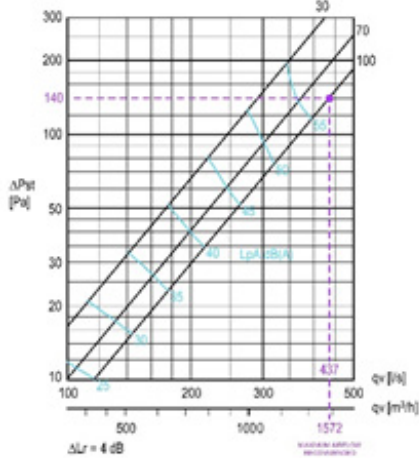
The graphs show the noise level of the exhaust air passing through the exhaust hood (typically 50 – 65dBA) is low in comparison to ambient noise levels in commercial kitchen (typically 70 – 75dBA) environments. Closing the slide dampers increases the exit velocity and increases the air noise level.

ΔP_{st} = Exhaust section static pressure loss
 ΔP_{TAB} = T.A.B.™ pressure for airflow rate measurement
 30,70,100 = Damper opening in %

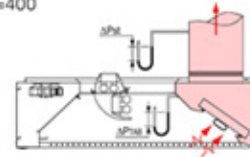
Exhaust plenum
 H=555



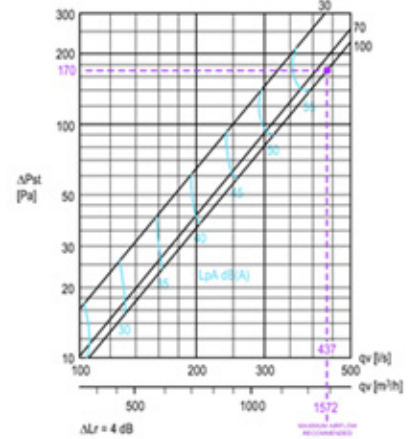
Section 1000 Static pressure loss and sound data



Exhaust plenum
 H=400

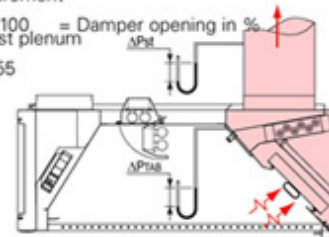


Section 1000 Static pressure loss and sound data

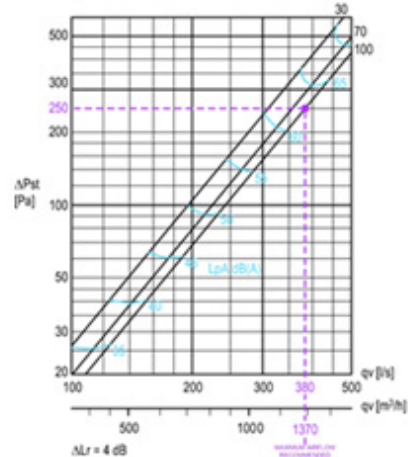


ΔP_{st} = Exhaust section static pressure loss
 ΔP_{TAB} = T.A.B.™ pressure for airflow rate measurement

30,70,100 = Damper opening in %
 Exhaust plenum
 H = 555



Section 1000 Static pressure loss and sound data



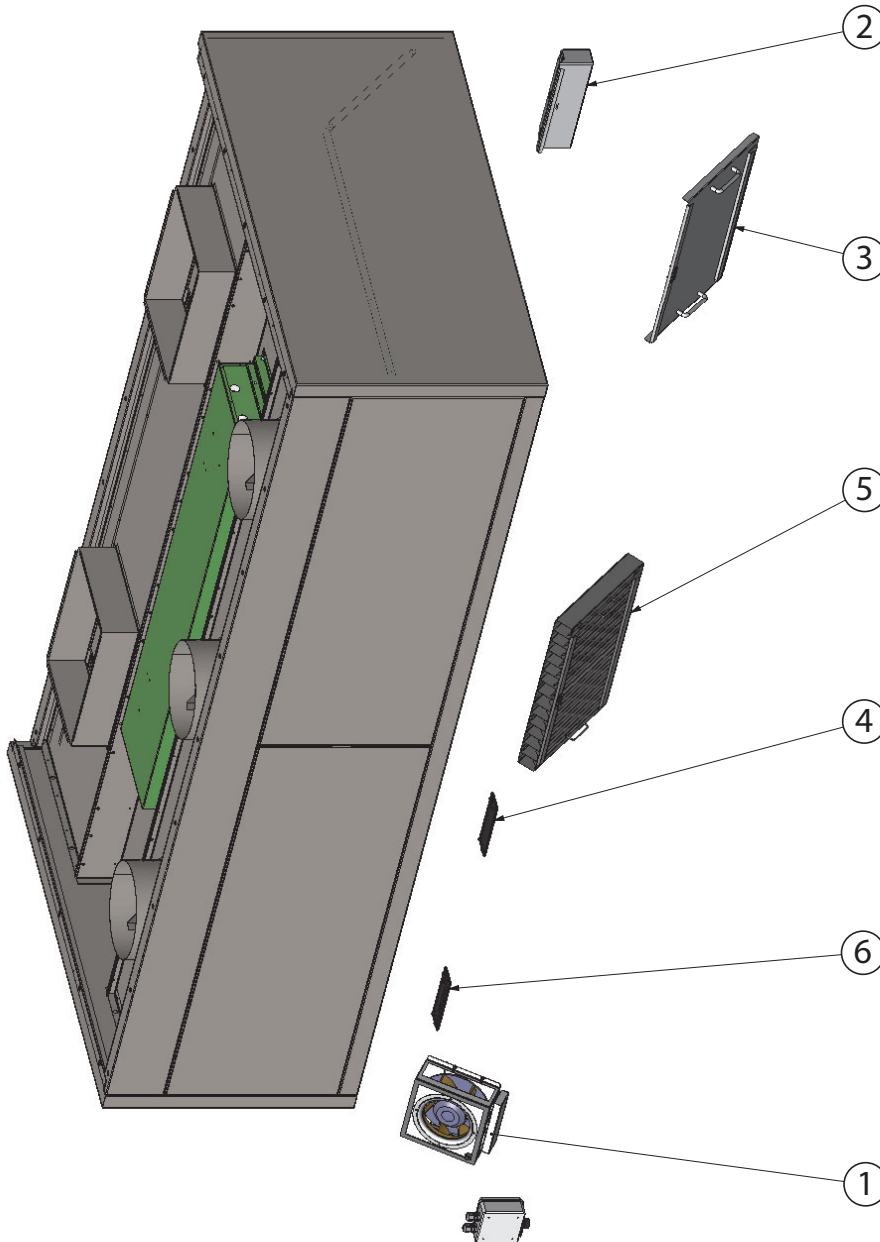
The Exhaust Pressure drop measured across the hood increases with the airflow. The pressure measured in the duct for a given airflow increases as the slide damper is closed. The dampers should not be closed more than 50%.

For any given airflow, the pressure drop measured at the TAB point can be determined by a constant relationship;
 $Q = K \cdot \sqrt{TAB}$.

Spare Parts

SPEH-HAL-KVI-KVF

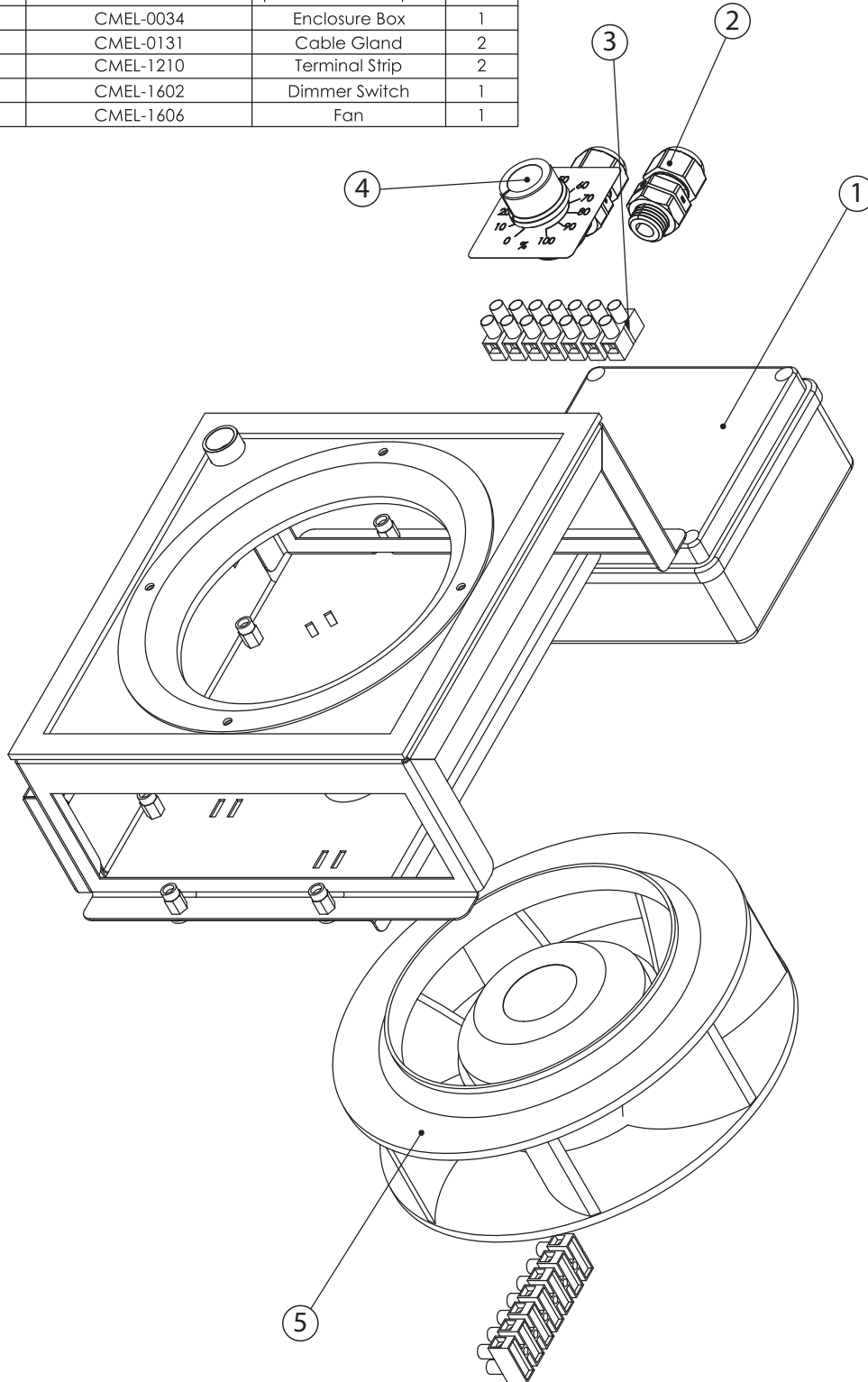
Item No.	Part Number	Spare Parts Description
1	SPEH-HAL-0066 A4	Capture Jet Fan & Controller
2	SPEH-HAL-0072 A1	Grease Pot
3	SPEH-HAL-0083 A4	Blind Filter
4	CMHAL-0010	Air Nozzle Closed
5	CMHAL-0019	KSA Filter
6	CMGE-1107	Air Nozzle



Due to continuous product research and development, the information contained herein is subject to change without notice.

SPEH-HAL-0066

ITEM NO.	PART NUMBER	Spare Parts Description	QTY.
1	CMEL-0034	Enclosure Box	1
2	CMEL-0131	Cable Gland	2
3	CMEL-1210	Terminal Strip	2
4	CMEL-1602	Dimmer Switch	1
5	CMEL-1606	Fan	1



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