



OPERATING & MAINTENANCE  
INSTRUCTIONS FOR  
EXTRACTION SYSTEMS  
WITH STANDARD CONTROLS

Location Name:  
XXXX

BWF Ref: xxx

## EXTRACTION SYSTEMS OPERATION AND MAINTENANCE

See table 1 (below) for cleaning frequencies.

### 1) EXTRACTION CANOPY CLEANING

Generally the extraction canopy will be manufactured from Dull Buff Stainless Steel

To clean the stainless steel, we recommend a mild detergent with vinegar, which will remove light grease marks etc. ***Do not use any caustic materials as this may damage the stainless steel.***

The grease collection trays at the bottom of the extraction plenum will collect any excess grease/oil. These cups will collect any waste material over a long period and should be checked at regular intervals (see table 1).

### 2) BAFFLE TYPE GREASE FILTERS.

All grease filters should be cleaned at regular intervals according to use (see table 1).

The filters will fit into a Commercial Dishwash Machine or alternatively can be placed in very hot water with a detergent overnight and washed out under a tap to clear grease. ***Do not use any caustic materials as this may damage the filters.***

### 3) FANS AND CONTROLS

BWF's drawing as per reference number in title page shows the location and technical details for the fans installed.

Each extract / fresh air system fan is selected at design stage depending on the size of the canopy, the length and size of ductwork, the type of filtration system, and the type of cooking equipment being used.

There is very little maintenance to fans and controllers required but fans should be checked periodically for cleanliness and heavy grease deposits which could, in time, increase system resistance and cause fans to fail. It is not possible to service a fan as they are sealed units but cleaning by a professional company if grease deposits build up will prolong fan life.

### 4) EXTRACT DUCTWORK

BWF's drawing as per reference number in title page shows the location and duct layout as installed.

It is not possible to provide a general rule for the frequency of ductwork cleaning required because of the variation in hours of usage and level of contamination in the system. We recommend that a regular inspection is made and a risk assessment is made to determine the ongoing cleaning frequency (See Table 1 below). Further guidance is available in TR/19: Guide to Good Practice – Internal Cleanliness of Ventilation Systems published by the HVCA ([www.hvca.org.uk](http://www.hvca.org.uk)).

## 5) SUPPLY AIR DUCTWORK AND INLET FILTERS

BWF's drawing as per reference number in title page shows the location and duct layout as installed and technical details for the supply air inlet filters.

Dust filters are installed above the supply air ceiling outlets. These should be inspected and cleaned or removed and replaced as necessary as per the recommended cleaning frequency table in this document.

## 6) INTERLOCK CONTROL



Before this system can be operated, any fans connected should be turned on and operational. Once power is running to the interlock control panel, the Red 'Power' LED will be illuminated.

### Normal Operation

Insert the key into the key switch on the interlock control panel and turn to the 'ON' position. It can take up to Ten seconds for the Green 'Supply Fan' and 'Extract Fan' LEDs to illuminate. The Green 'Gas On' LED will then illuminate to signal that the Gas solenoid valve has opened, supplying gas to appliances. If any fans installed on the system are not functioning, the 'Fan Fault' LED will illuminate and the LED of the failed fan will flash.

## Emergency Stop

If the Emergency Stop button is depressed the Amber 'EM Stop' button will illuminate, the gas solenoid valve will close and an audible alarm will be present. To silence the alarm tone, press the 'Mute' button on the front of the interlock control panel. To reset the stop button, turn the key switch to the off position and repeat the normal operation procedure as detailed above.

## Fan fault

Should any fan connected to the gas interlock system fail (or be turned off), the fan fault LED will illuminate, the relevant fan LED will flash and the gas solenoid valve will close and prevent gas cooking.

If a fault persists please contact BW Fabrications on the details below for Assistance.

## 7) WALL CLADDING.

BWF's drawing as per reference number overleaf shows the extent of any stainless wall cladding fitted.

Made from 430-Grade stainless steel to customer's specific requirements. No maintenance is required apart from the need to keep clean by wiping over using a solution of hot water with a little mild detergent. **Do not use any caustic solutions.**

## 8) HEATER BATTERY – ELECTRIC



Fig 3 – Typical Heater Battery and Control Panel

BWF's drawing as per reference number in title page will show the location and type of any heater battery fitted.

Heater batteries are used to temper supply air into a kitchen, and will turn on and off as required automatically when the supply air fan is running. The temperature of the incoming air can be adjusted using the temperature set point of the front of the control panel.

The heater battery must be switched off at least two minutes before switching off the supply air fan to allow time to dissipate residual heat in the element. Clear signage is fixed to the controls to remind the user to do this.

An automatic safety cut out is fitted to the heater to protect the installation from overheating. There is no system tell-tale but if the supply air system unexpectedly starts to deliver cold air, it is possible that the cut out has been activated.

Reset is very simple. With reference to the right hand side photograph above, a small black screw cap is located on the top of the control unit housing. This cap unscrews to reveal a small black button underneath which should be pressed and a small click will be felt as the heater reset.

If any problems persist beyond temperature adjustment or reset, a suitably qualified electrical engineer should be instructed. Technical Information regarding this panel can be gained by contacting B W fabrications Ltd. on 01179 963 4492.

## 9) HEATER BATTERY – LOW PRESSURE HOT WATER (LPHW)



Fig 3 – Typical LPHW Coil (fitted in duct) with Control Panel

BWF's drawing as per reference number in title page will show the location and type of any heater battery fitted.

The controller shown is used with a room/exhaust duct air temperature sensor. The set-point temperature and operating range settings are on the face. A proportional signal output to a 3 port valve motor controls the low pressure hot water heat exchanger. 24v output is provided as the valve motor power supply. Fused fan outputs are also available.

## 10) ODOUR CONTRL – ELECTROSTATIC PRECIPITATOR ESP

BWF's drawing as per reference number in title page will show the location and type of any odour control measures fitted.

BWF's odour control installations are designed to be compliant with DEFRA 2005 and 2018 best practice guidance.

As per the photo below, in an ESP unit, air is passed across cells of closely stacked electrostatically charged plates which attract contaminants out of the air stream. A maintenance contract should be arranged with the manufacturer as per details below. They will advise on cleaning frequencies however a general guide is included later in this document.

BWF use two different ESP manufacturers depending on the requirements of the particular project. The manufacturers name is clearly displayed on the unit.





Fig 3 – Typical Heater Battery and Control Panel

## 11) ODOUR CONTRL – OZONE

BWF's drawing as per reference number in title page will show the location and type of any odour control measures fitted.

BWF's odour control installations are designed to be compliant with DEFRA 2005 and 2018 best practice guidance.

As per the photo below, an ozone unit is fitted outside of the airstream so that clean air is drawn across the internal Uv lights to generate ozone which is then drawn into the extract ductwork.

BWF use two different ESP manufacturers depending on the requirements of the particular project. The manufacturers name is clearly displayed on the unit.

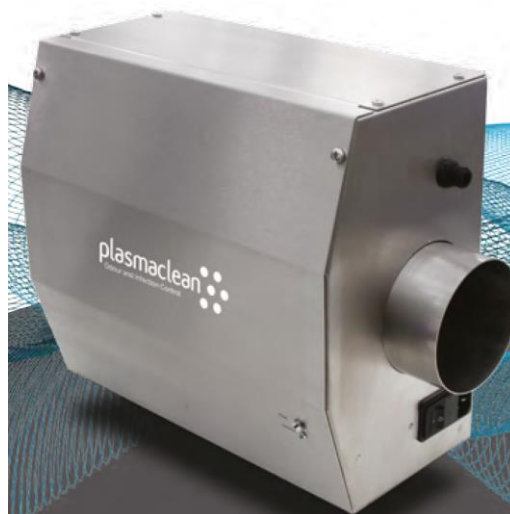




Fig 3 – Typical Heater Battery and Control Panel

## 12) ODOUR CONTRL – CARBON FILTERS

BWF's drawing as per reference number in title page will show the location and type of any odour control measures fitted.

BWF's odour control installations are designed to be compliant with DEFRA 2005 and 2018 best practice guidance.

The simplest form of odour control comprises of activated carbon filters located in the extract airstream.

Any specialist cleaning company will be able to change the filters as part of the general system cleaning cycle as per guid below.



### 13) FREQUENCY OF CLEANING.

The need for specialist cleaning of extraction systems will depend on the level of usage of the cooking equipment, types and quantity of cooking and other risk factors such as vulnerability of the system to ignition and of the building and its occupant / users to system fire, hygiene, vermin and mechanical hazards. Typical cleaning intervals are shown below. A suitable filter changing record document is also included. This should be used to maintain an accurate record of all filter changes in line with the frequencies required.

**Table 1: Typical Cleaning Frequencies for Extraction System Components at Different Usage Levels**

<b>SYSTEM COMPONENT</b>	<b>LIGHT USAGE 2-6 Hours/day</b>	<b>MEDIUM USAGE 6-12 Hours / day</b>	<b>HEAVY USAGE 12-16 Hours / day</b>
<b>CANOPY</b> (clean accessible internal and external surfaces, check collection trays)	Every 2-3 weeks	Weekly	Twice weekly
<b>GREASE FILTERS</b> (clean)	Weekly	Twice Weekly	Daily
<b>ODOUR CONTROL SYSTEMS</b> ESP / UV units (specialist cleaning as per manufacturer's instructions attached where relevant)	Minimum 12 monthly specialist clean	6 monthly	3 monthly recommended
<b>ODOUR CONTROL SYSTEMS</b> Activated Carbon Filters	Minimum 12 monthly specialist clean	6 monthly	3 monthly recommended
<b>FANS</b> (check and clean as necessary)	12 monthly	6 monthly	3 Monthly
<b>FRESH AIR FILTERS</b> (check and clean as necessary)	6 monthly	4 monthly	3 Monthly
<b>EXTRACT DUCTWORK</b>			

(check and clean as necessary)	12 monthly	8 monthly	6 Monthly
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\* Refer to manufacturers' guidance for UV/ESP/Ozone Systems

\*B W Fabrications can procure replacement filters, offering a supply and installation, as well as a supply only service. Please contact B W fabrications on the details below.

Systems with heavy usage of chargrills, salamander grills and chinese cookers may need to be cleaned even more frequently. Please refer to TR/19: Guide to Good Practice – Internal Cleanliness of Ventilation Systems (HVCA [www.hvca.org.uk](http://www.hvca.org.uk)) for more information.