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Kitchen Grease Extract

Kitchen Grease Extract

- This cleaning frequency is for **new builds** and **1st clean only**
- After this point, you should refer to past information given by the client
- This table is for **guidance only** and consideration should be taken for a change of the menu, foodstuffs being cooked or changes of use
- Fixed charts are not usually recommended for cleaning guidelines because it could be dangerous if they are interpreted incorrectly

No. of Hours of Daily use	LOW Very little production of grease laden air in food preparations	MEDIUM Moderate levels of grease laden aerosols	HIGH Heavy and contami-nant amounts of grease laden aerosols
6 hours	Once a year	Once a year 12 monthly	Twice a Year
6.-12 hours	Yearly	Twice a year 6 monthly	4 times a year 3 monthly
12-16 hours	Twice a year	Three times a year 4 monthly	4 times a year 3 monthly
16+ hours	Twice a year	3 monthly	6 times a year 2 monthly

Initial Cleaning Frequency Chart or 1st Clean

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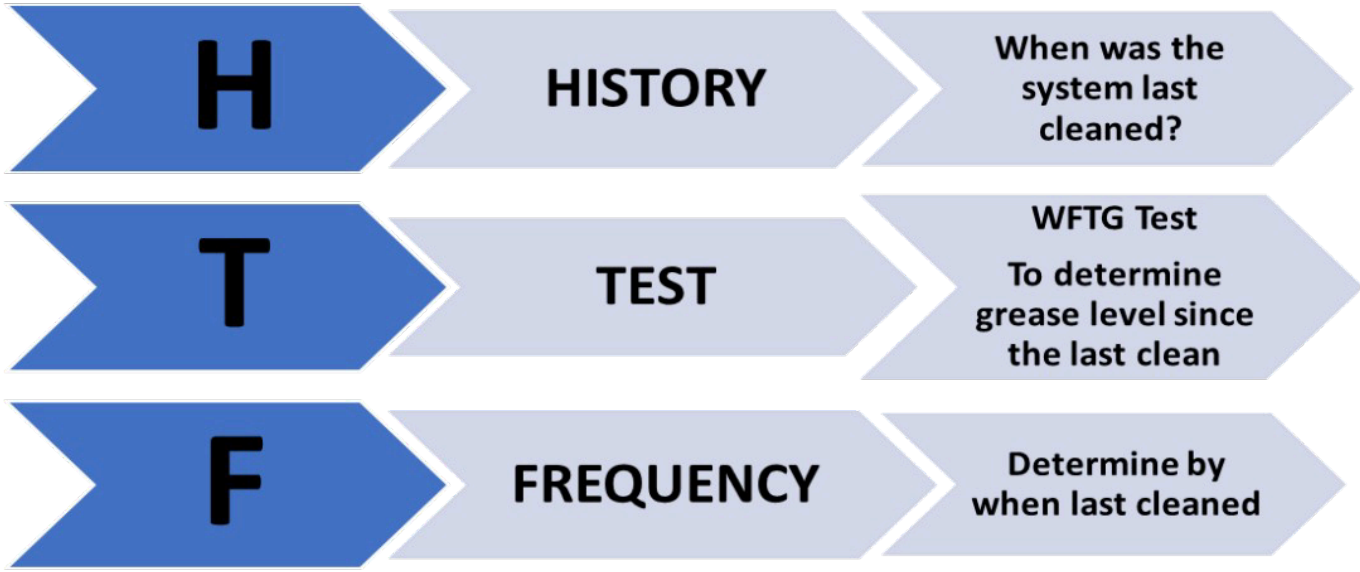
Cleaning Frequency for Existing Kitchen Grease Extract Systems

Fixed charts increase the risk to insurers and other building uses.

Instead, the Three-Word Test is recommended - History, Test & Frequency (HTF)



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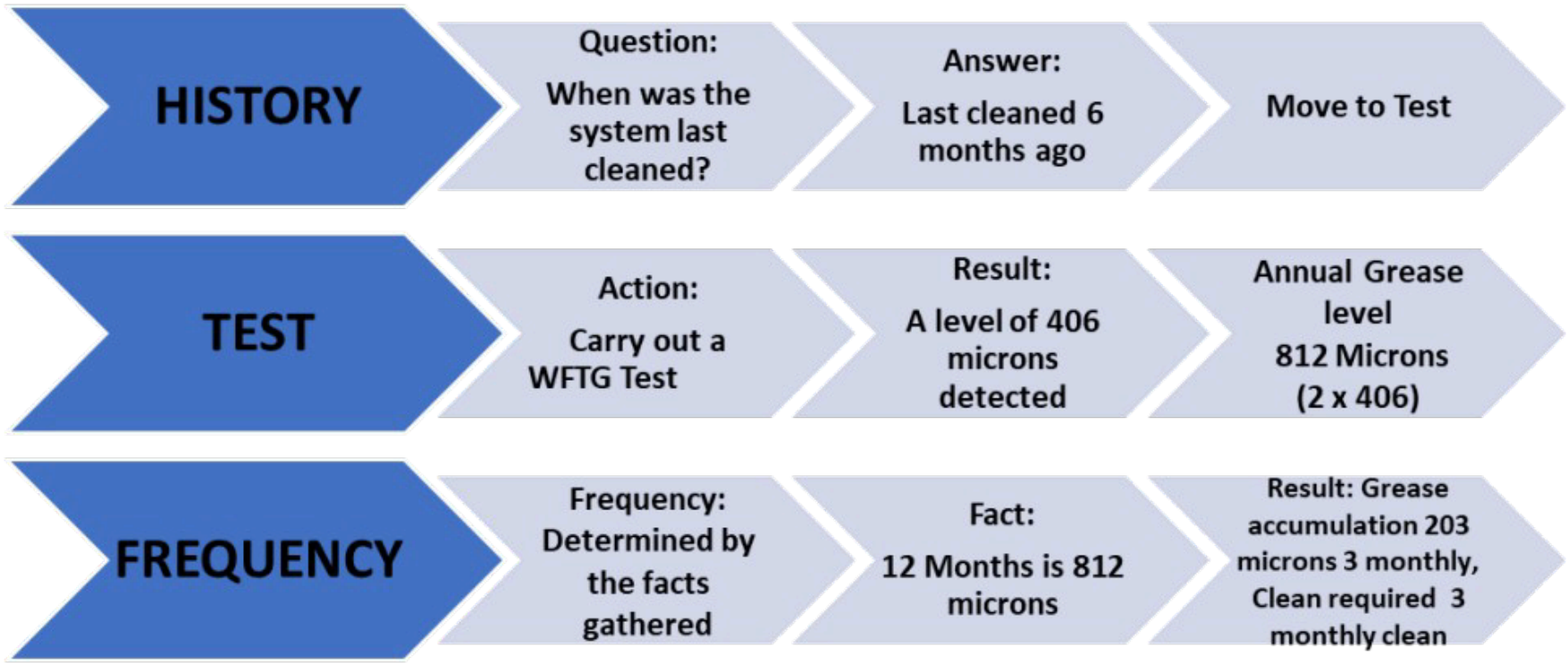
Example of HTF in Practice



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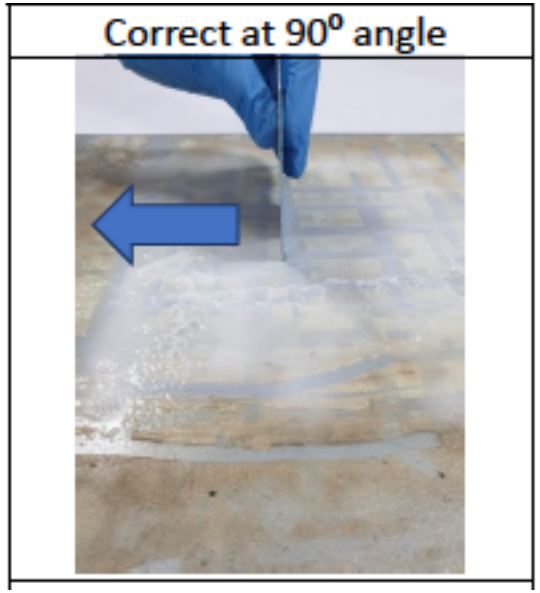
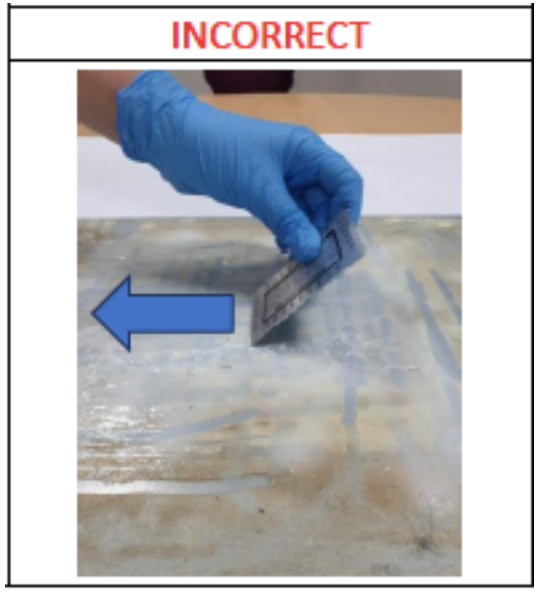
Wet Film Thickness Gauge (WFTG) Test

How to take a WFTG Test:





Note – Scrape 100mm

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How to Read a Wet Film Thickness Gauge (WFTG)

WFT Gauge with grease

Wrong place to take the reading

Correct place to take the reading – The tip point is the measurement

The last tip with grease adherence is the depth of the reading.

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Industry Standard Accepted Practice

The industry norm is expected is **200 microns**. When this is recorded across the whole system then the whole system should be cleaned.

For example, when two samples are taken on a small system, divide by 2. When 4 samples are taken, divide by 4.

If one area exceeds 500 microns, then **urgent cleaning** is required for that area.

All areas of the ductwork can be affected, including areas such as sills behind the grease filters, header duct above canopy, base of riser and fan.

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Cleaning Methods for Contractors

Most Common Manual Methods	Type of Contamination
Hand wiping: wiping grease from surface with a cloth	Light contamination
Scraping: removing grease by hand scraping	Heavy contamination
Steam cleaning: hot water under pressure to dissolve grease (NAADUK do not recommend the use of steam –see CAUTION)	Burnt on
Rotary brushing with chemical: brush & spraying to remove grease	Burnt on
Hot chemical foam: spray foam to hang and dissolve grease	Burnt on and heavy
Chemical: to soften grease for easier removal	Burnt on and heavy

- All of these methods have been used industry-wide for decades, but new equipment and methods are continually being developed.
- Make sure you meet the requirements of the post clean verification required by law and using current guidelines.

CAUTION:

1) When using pump or trigger sprays operatives must wear personal protection including respiratory protection, as long-term effects of inhaling some chemicals on internal organs are not yet known.
2) Steam or use of wet methods may lead to leaks that could damage ceilings or other services

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What To Be Aware Of:

What effects can chemical cleaning agents have?

- It can affect materials and the environment when it's disposed. To minimise this, make sure all Control of Substances Hazardous to Health (COSHH) assessments are measured.

Is some staining normal?

- Unless a brand-new system is kept clean regularly, you can expect staining.

Do I need to be careful when scraping / brushing parts of extraction power units?

- Yes, because it can remove the paint or other protective coatings.

What about using wet methods?

- If you use wet methods, make sure all cleaning fluids are removed from the system before handover.

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What To Be Aware Of: (cont.)

What about Fire Resisting systems?

- For Fire Resisting systems check with manufacturers and the Association for Specialist Fire Protection (ASFP) for recommendations.

Can I use standard industry approved chemicals?

- Do **not** use these, as they can damage seals and other intumescent screw seals. Only use a solution that is less than 8% caustic strength.

Is any training necessary?

- All operatives should be trained to minimum standards i.e. NAADUK, Construction Industry Training Board (CITB), LPS 2084 and National Occupational Standards (NOS).

When should I take a WFTG measurement?

- Before starting to clean.

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Summary Advice to Cleaning Contractors

Use the **Checklist of Cleaning Contractors Responsibilities** as a guide.

- Before starting to clean, check the system is not under any special warranty / service contract that doesn't allow direct / internal cleaning. Ask the client and the manufacturer if unsure.

- Seek advice if the unit contains any sensors / monitoring equipment / Fire Resisting sensors to avoid any potential damage and expensive repairs.

- Report any high level accumulates / contamination seen at the point of entry or exhaust.

- Get **written** agreement with the client on what is and what is not to be cleaned **before** starting work.

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Checklist of Responsibilities

√	CHECKLIST OF CLEANING CONTRACTORS RESPONSIBILITIES
	Tape or zone working areas
	Make or update schematic of duct and location of access panels – See template guide on **Pages 19 & 20**
	Ensure catering equipment has cooled
	Cover area/equipment with protective covering
	Measure all areas with WFTG (Wet Film Thickness Gauge) and photograph gauge and duct
	Remove filters and if not previously cleaned, clean. (Remind the client that these should be cleaned weekly by them)
	Clean plenum area rear of filters, taking care not to activate the fire suppression system
	If necessary fit access panels in the system, max 3m apart, closer if other components require
	Clean ductwork using COSHH approved chemicals and equipment that can be utilised to carry out a full clean
	Every effort must be made to access all areas, if any areas are inaccessible then you must issue an advisory note. If inaccessibility is due to a solid ceiling, advise the client to install a ceiling type access panel as shown on **Page 47**. Ceiling access panels must be of the same integrity as the existing ceiling.
	When applying chemical, score the grease first and allow the chemical to dwell for 10 minutes
	Then brush or scrape to remove all grease and wipe clean
	All waste to be disposed of in correct containers by licensed operators, or licenced waste carriers
	If inaccessible areas cannot be reached by hand, then rotary brush methods should still be used to reduce amounts of grease in these areas to minimum levels possible
	Although the grease will be removed there may be some substraight staining on the duct-work. This does affect its compliance.

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Note: This list is not exhaustive

Client's Responsibilities to Help Lower the Risk of Fire

Keep grease and fire as far apart as possible.

It is best to make a daily and weekly task checklist. They need to be signed by a responsible person as part of a Fire Risk Assessment, as in Regulatory Reform Fire Safety Order 2005.

- Are all appliances serviced annually by qualified engineers?
- Are all staff working in the kitchen area aware of fire procedures?
- Are they aware of how to use fire extinguishing equipment, manual or automated?
- Have you made sure the ductwork and associated equipment is being cleaned by competent people according to the frequency of use?
- Is the Schematic drawing provided by your Cleaning Contractor on display?

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Example of a Checklist for a Client's Use

CHECKED √	CHECK DAILY
	Clean all visible kitchen surfaces
	Clean parts of hood visible to kitchen staff
	Check grease drip tray and clean as required
CHECKED √	**CHECK WEEKLY**
	Remove and clean filters from hood dependant on use, more frequently if necessary, clean all corners and crevices – Insurers may specify a minimum
	Wipe grease from inside of filter housing
	Remove filter, check grease in the plenum chamber and wipe if necessary, twice if required (Check for sign of damage to filter(s))
	Remove access panel from hood if safe to do so and wipe away all local areas of grease within reach
	Ensure catering equipment is wiped and cleaned daily, before or after use
	Ensure area around catering equipment i.e. walls/floors are also cleaned
	Do not store old, used or new oil in the kitchen area
	Flammable solvents or other flammable solutions must not be used
	Check any visible exhaust grills for signs of accumulate / grease drips

Prevention is best—
Ensure all the above is adhered to and you will lower the risk of fire

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Kitchen Extract Schematics – Suggested Criteria for a Schematic

IDENTIFY THE BUILDING TYPE	♦ Building Name & Room No. ♦ Site contact & Details/Occupiers ♦ Right of access details ♦ Type of floor & ceiling: Concrete/Tiles etc ♦ Location of door entrances ♦ Areas requiring additional access requirements
IDENTIFY AREAS BY COLOUR CODING	♦ GREEN Accessible Ducting ♦ BLUE Ducting that is Inaccessible at present ♦ RED Fire Resisting Ductwork ♦ BROWN Walls & Interior Dividing Walls ♦ BLACK Access Panels ♦ PURPLE Additional Access Panels Required

In the report to the client, you need to include a **Schematic**. **Schematic drawings** can be drawn up with the client's help. It should be placed in a **visible position** near an **Entrance Door**, so that Fire Officers can see the layout of the Kitchen Extract in the event of a fire, in the **Kitchen Area** and in the **O&M Manuals.**

IDENTIFY PARTS OF THE VENTILATION SYSTEM **FROM EXTRACT CANOPY TO FAN & OUTLET**	♦ Access obstructed ♦ Access panels fitted ♦ Access panels required ♦ Airflow ceiling ♦ Attenuators ♦ Canopy ♦ Ceiling Hatches ♦ Ducting/Spigots/Risers ♦ Fan ♦ Fan Fire curtain ♦ Fire Dampers ♦ Terminal Point ♦ Trion/ESP ♦ Volume Control Dampers
ESSENTIAL DETAILS	♦ Schematic should be in at least 2D ♦ Show the direction of duct travel ♦ Limited or poor access to allow cleaning ♦ Routes to access ducting location. ♦ Circular/Rectangular Duct ♦ Lagged Ducting ♦ Access Fitted ♦ Access Required ♦ Access Fitted but Obstructed ♦ Specialist Equipment to Access ♦ Type of Access Doors – RD, Circular, Bolted, Toggle. ♦ Specific Safety warnings (i.e.) Harness required for roof. ♦ Key Locations

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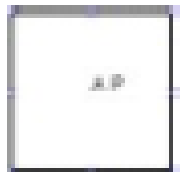
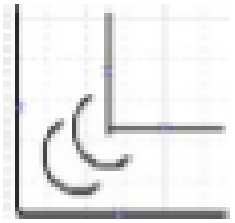
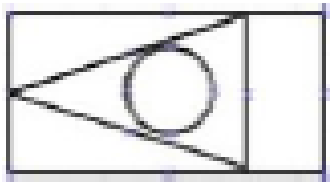
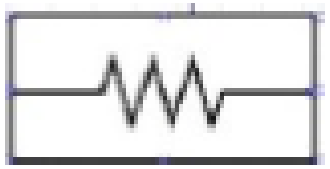
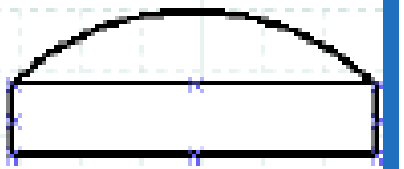
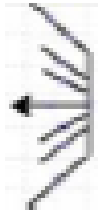
Basic Symbols for a Schematic Drawing

SYMBOLS				
Canopy 	Grease Filter 	Access Panel 	Fire damper 	Turning vane 
Volume Control Damper 	Extract Fan 	Attenuator/ Silencer 	Discharge Cowl 	Discharge Louvre 

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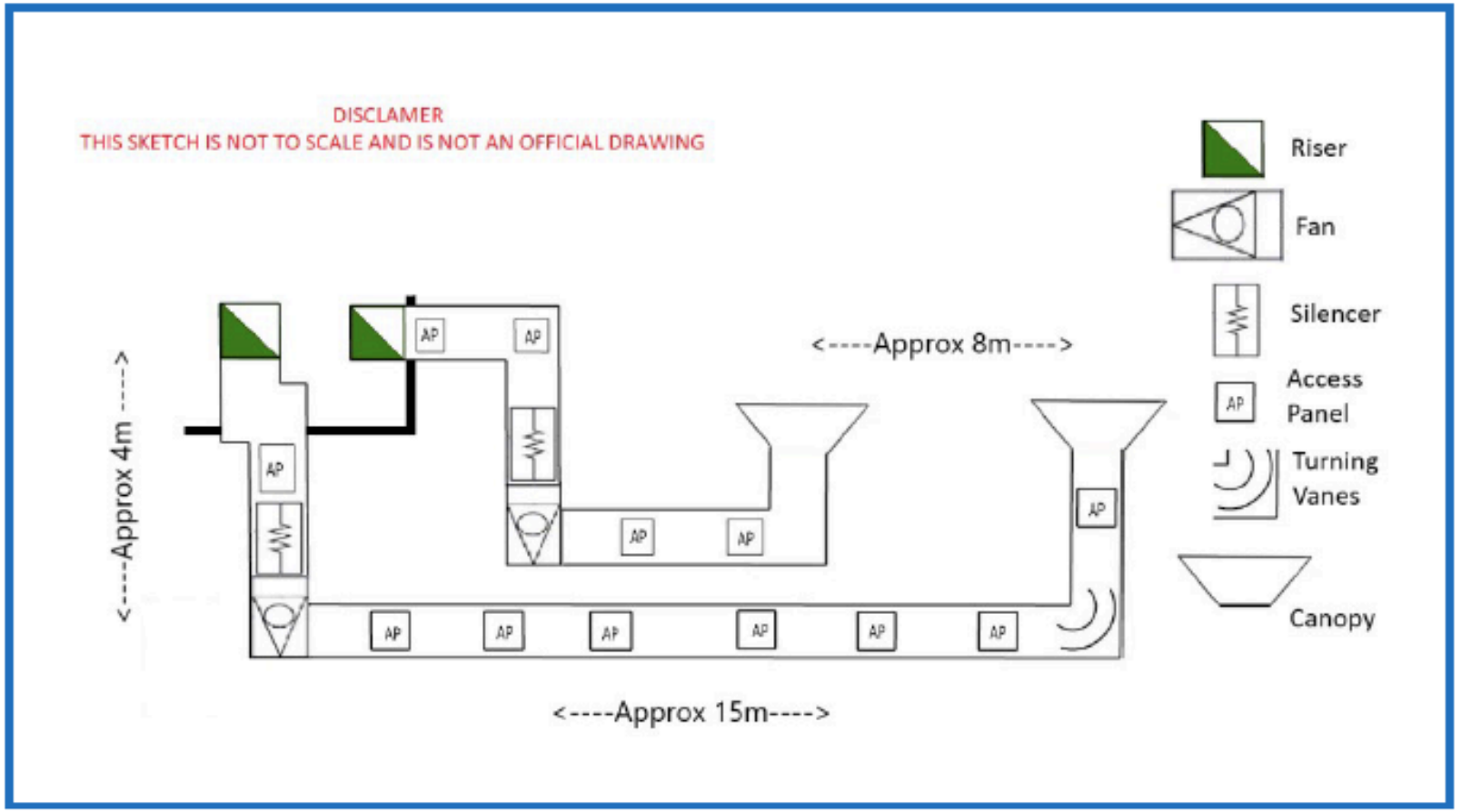
Drawing a Schematic

It should be drawn on **graph paper** or **specialist software**.

They should all carry a **disclaimer** by the author - as shown in this example of a Kitchen Extract Schematic.



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Kitchen Fire Suppression Systems

A kitchen extinguishing system should be approved by the **USA Certification Body.**

Example of a Fire Suppression System

- Some are designed to protect the catering equipment and **not** the grease extract system
- Duct cleaning companies should have a **written procedure** for working around these systems and a **disclaimer** if the system is accidentally discharged.
- Always refer to the manufacturer's manual for guidance.

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Important Factors

- The protection system should be operated **both manually and automatically**
- The discharge nozzles should be placed **above** all cooking appliances
- It should be installed and serviced by a company **approved by the system manufacturer**
- The system can be accepted as a fire protection solution when the system:
  - Is approved, certified or listed by a **recognised** testing laboratory
  - Has passed an **acceptable test protocol** (e.g. UL300 test protocol)
  - Is installed according to a **fire protection standard** (e.g. National Fire Protection Association (NFPA) 17A Standard)

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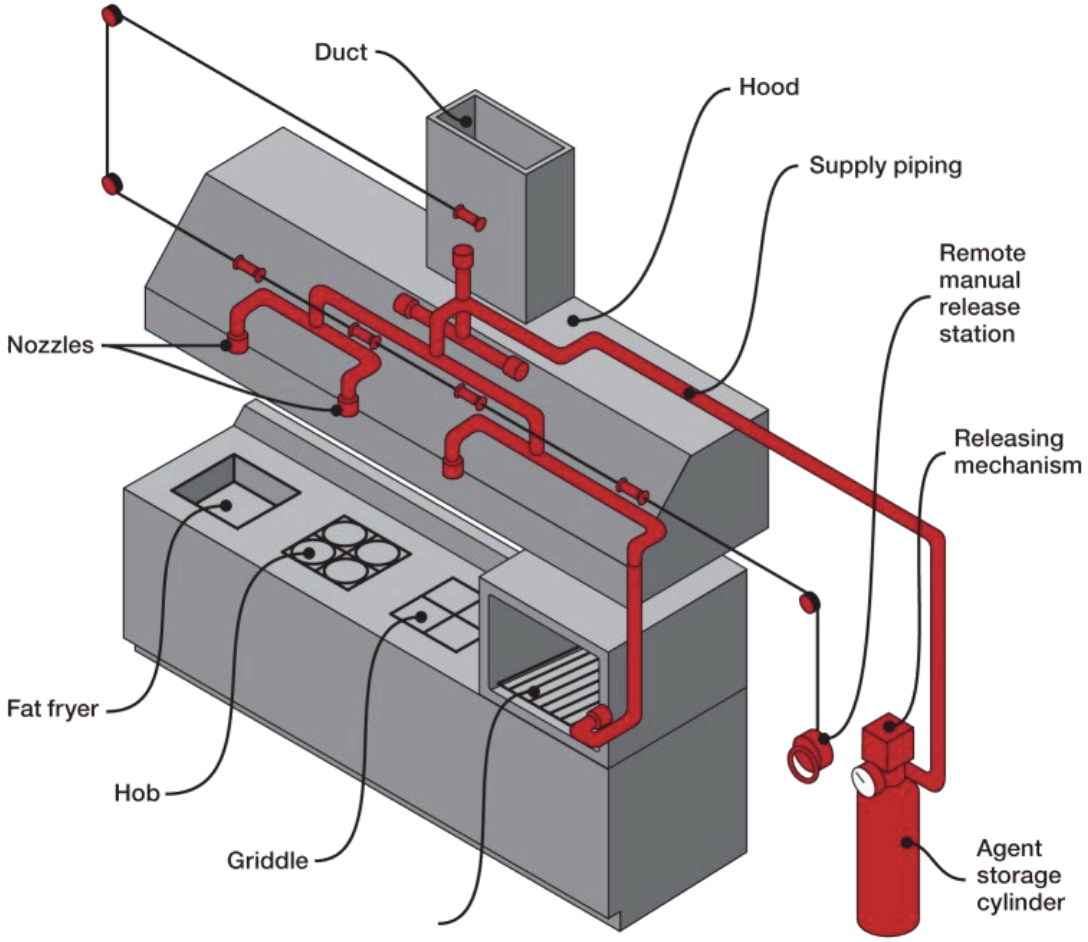
Typical layout of a Kitchen Fire Suppression System



A Photograph of a Kitchen Fire Suppression System

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Extinguishing System Cause and Effect (Sequence of Events)

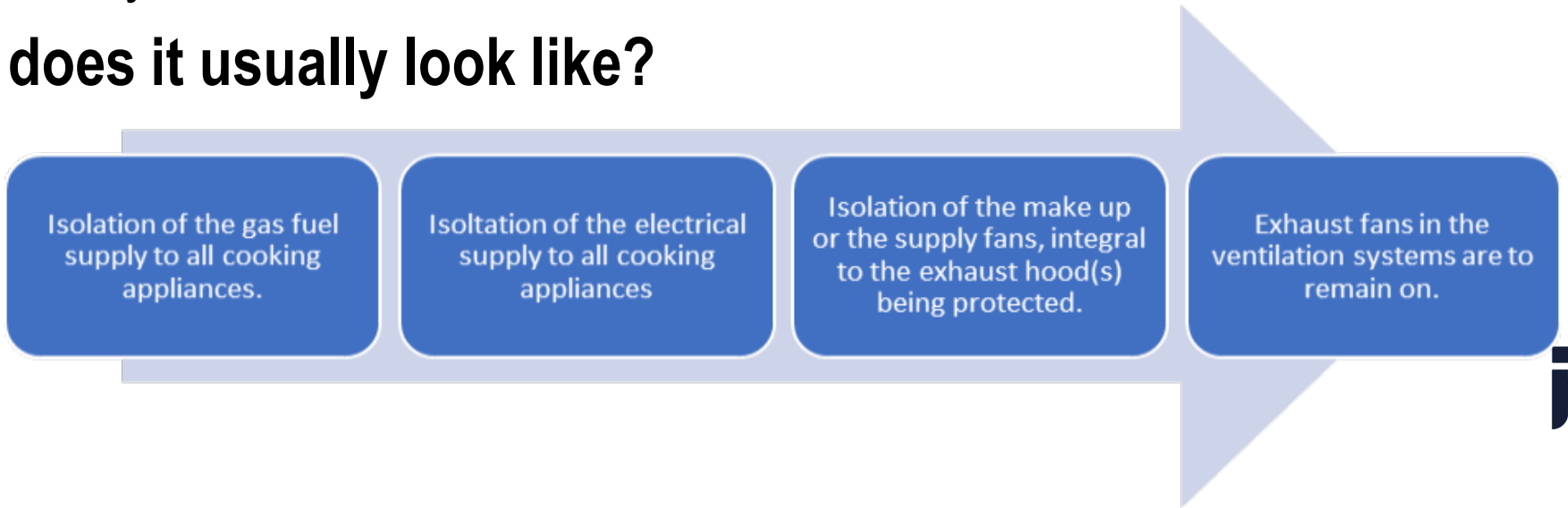
Where should the Cause and Effect matrix be put?

- On the front of the extinguishing system control panel

Why?

- To clearly show the configuration of the interlocks / the sequence of events when the system is activated

What does it usually look like?



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Fire Alarm System

Sometimes, the automatic fire alarm can be used for isolation for the extinguishing system.

It is important to make sure that the sequence of events **immediately** isolates the gas and electrical fuel supplies to all cooking equipment.

Example of automatic gas isolation valve

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Reducing Odours in a Grease Extract System

Not all odour reduction solutions are suitable for all cooking methods.

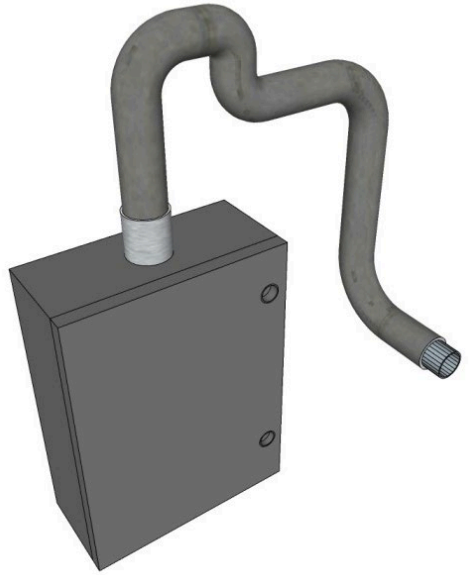
The most common types:

1. Odour Neutralisation

This sprays an odour neutralising chemical into the air stream.

A typical unit is installed next to the extract duct to make servicing easier – near to the discharge but still on the negative pressure side.

A neutralising mist goes from the unit, through a delivery tube into the duct.



A typical Ozone Control Unit

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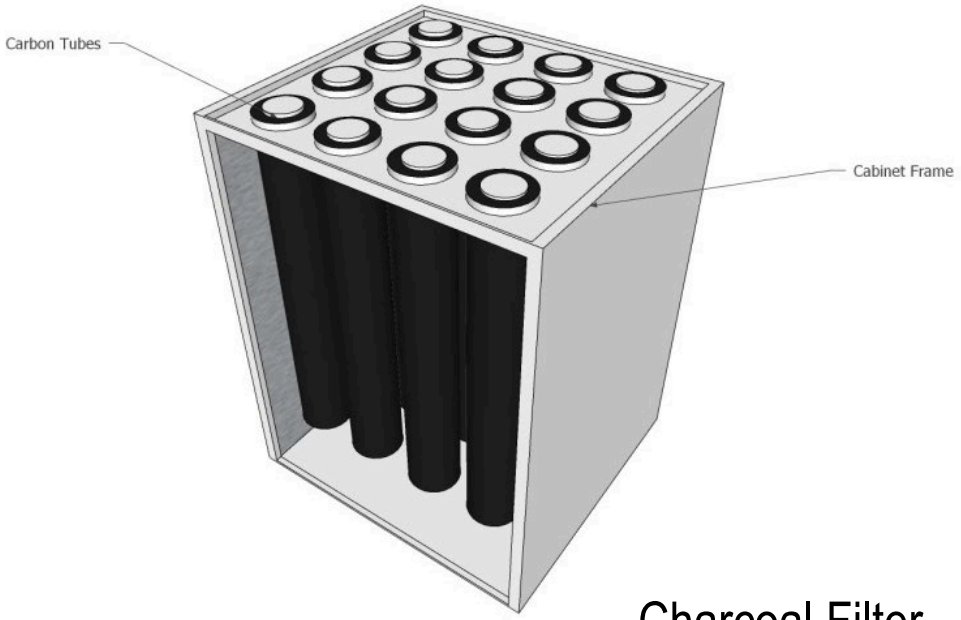
2. **Activated Charcoal filters**

This is the most common type of filter and filters out most of the cooking odour. These filters are usually disposable.



Charcoal Filter

They last around 6 months - 1 year (depending on use)

Many manufacturers specify which filter to use in their system.

Roller Charcoal filter

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