Peak Hourly Flow

The estimates below are generally based on those provided in the *National Guideline for Managing FFOG (Food, Fats Oils and Grease) from food premises (WSAA 2018).* The guideline shall be used as a method for sizing grease arresters.

Sizing a passive grease interceptor from fixtures

Step 1: Determine the number of each trade waste fixture connected to sewer via the grease arrestor

Note: where the fixture is not listed, the volume will be determined on application

Step 2: Calculate the allowance per fixture.

1. Calculate the total volumes by fixture using Table 1
2. Calculate the risk rating using Table 2

Step 3: Determine the grease interceptor size.

1. Multiply the peak flow volume (Table 1) by the storage factor (Table 2)

Table 1: Determining volume from fixtures.

Fixture & Fittings	Peak Flow (Litres/hour)
Bain Marie Water heated	50
Cleaners Sink	50
Combi Oven/steamer roast oven	150 (up to 40 racks)
Dishwasher – Domestic type	30
Dishwasher – Large	120
Dishwasher – Tunnel	300
Floor Waste/bucket trap/grated strip drain	50 per 50m^2 of floor area
Hand Basin	30
Noodle Cooker	100
Sink – Single Bowl (Depth <300mm)	75
Sink – Double Bowl (Depth <300mm)	150
Sink – Pot/Utility Sink (Depth >300mm)	150
Tundish (other than refrigerant condensate)	10 plus any other listed connected apparatus
Wok burner - dry	20 per arm
Wok burner - wet	200

Takeaway restaurants e.g., Fast Food Chain Franchises – Minimum 3,000 litres

Table 2: Typical activities for various risk categories

Category	Low Risk	Medium Risk	High Risk
Food Preparation	1. No Cooking 2. Raw whole foods 3. Pre-packaged food 4. Assembling from raw food or food prepared elsewhere. 5. Low food waste to sewer	1. Steaming, boiling, microwaving, grilling lower fat and oil foods. 2. Baking 3. Butchery of Delicatessen 4. Moderate food waste to sewer	1. BBQ, frying, deep frying, roasting meat 2. Poultry cookers/combi ovens 3. High food waste to sewer
Products	1. Fresh fruit and vegetable drinks 2. Sandwiches, Rolls, Sushi 3. Cakes, slices & nuts	1. Fresh Meat and smallgoods 2. Low fat or oil food and meals 3. Coffee and associated hot & cold drinks. 4. Pizza	1. High Fat or oil food and meals 2. High fat and oil content stocks, bases and sauces 3. Cream products (e.g., ice cream)
Serving	1. Predominantly take away	1. Both eat in and take away in similar proportions	1. Predominantly eat-in
Storage Factor	**N/A**	**1.5**	**2.0**
	Low Risk	**High Risk**	
Characteristics of Temperature risk category	Combi ovens, dishwashers, woks are <50% of wastewater volume	Combi ovens, dishwashers, woks are >50% of wastewater volume	
Effects of temperature risk category on overall risk rating	The overall risk category remains the same as the food based risk assessment	Increase the overall risk category one level from the food based risk assessment	

Specifications of Arrestors

Where an Arrestor is required to pre-treat waste before its discharge to the Sewerage System the Arrestor shall be of a Council approved design and capacity.

All arrestors installed shall comply with the following:

(a) be not less than 1,000 litres in capacity (unless approved otherwise by Council);

(b) be vented with a 100mm induct vent and a 100mm educt vent;

(c) have gas tight lids;

(d) be fitted with a sample point downstream of the arrester with 100 mm diameter access covers, *note, on Halgan type grease arresters the designated sample point (gully trap) must be installed downstream of the configuration installation detailed by Halgan*;

(e) be provided with a hose tap fitted with a backflow prevention device (RPZD) within 5 metres of the Arrestor for cleaning purposes;

(f) have a capacity below the invert of the outlet of the Arrestor at least twice the total capacity of the appliances and fixtures connected to the Arrestor or, a larger capacity if required by the Council;

(g) have a distance from the top of the Arrestor to the outlet that is at least half the depth of the Arrestor below the outlet invert;

(h) have the outlet invert level of the Arrestor at least 50 mm below the inlet invert level;

(i) Grease arresters must be bunded if installed above ground and in a location where an environmental risk could occur if the vessel leaks. The bunded area must be able to hold 110% capacity of effective volume of the arrester in the event of accidental leakage.

(j) all floor waste gullies and preparation sinks prior to the pre-treatment device will be fitted with self-closing bucket traps or similar.

(k) All concrete grease or silt Arrestors are to be protected by an internal acid resistant protective coating that is:

1. installed:
    i. during the manufacture of the Arrestor; and
    ii. prior to the delivery and installation of the Arrestor; and
2. comprised of:
    iii. a spray-on protective coating; or
    iv. an epoxy protective coating; or
    v. a liner made from a durable material.

(l) Where it is intended that several trade waste generators share the use of a grease arrestor, the following information is required to be clearly tabled on the plan submitted with the application for approval:

- the size of the arrestor;
- details of the loading to be discharged by each trade waste generator;
- the names of the businesses and shop number(s) sharing the arrestor.

(m) Grease arrestors must be located so as to allow appropriate access for inspection and servicing requirements. Council must approve the location prior to installation.

(n) Where a grease arrestor is unable to be located in an accessible area for servicing, a suitable pump out line must be installed.

(o) Grease arrestors that need to be installed internally must be located in a suitably sealed, vermin proofed room with mechanical ventilation. The room must have external access only and be completely sealed from food preparation areas. A hose cock and remote servicing pipe must be located within the room. The door of the room must remain closed when the grease arrestor is being serviced.

(p) Remote servicing pipes for pre-treatment equipment must be installed. The pipe inlet at the device end must be positioned above the device and be complete with a cam lock fitting. The suction end of the pipe should be easily accessible by the waste transport contractor and fitted with a male cam lock fitting.

(q) Grease arrestors installed in restricted areas must satisfy the following requirements:

- The minimum clear height above the top of the arrestor lids and the underside of the floor slab, or concrete thickening beam or any other obstruction should be 1500mm minimum for gastight screw on light duty lids and 1800mm minimum for gastight covers and frame.

- A safe working platform may be required adjacent to the arrestor to enable the gastight covers to be removed from the frame. The walkway floor of the platform should be a minimum of 2100mm clear of the underside of the floor slab, or concrete thickening beam or any other obstruction.

(r) Grease arresters located in basements or confined spaces under a building must have remote servicing pipes for pre-treatment equipment. The pipe inlet at the device end must be positioned above the device and be complete with a cam lock fitting. The suction end of the pipe should be easily accessible by the waste transport contractor and fitted with a male cam lock fitting.

Notes

- Garbage disposal units are not to be installed.
- Where Whitsunday Regional Council has approved businesses to share a grease arrestor, the minimum size of the grease arrestor shall be calculated based on the capacity of the total fixtures for all businesses to be connected to the arrestor.
- **Pump out frequency must be followed as per standard approval conditions.**
- Maximum size grease arrestor size allowed is 5000 litres. Where multiple grease arrestors are to be installed and each grease arrestor shall be a separate discrete flow to sewer.