

Mechanical Grease Separators

These are also found under-bench in kitchen areas. The unit works by first passing the waste water through a strainer to remove any solids. The grease is then separated by a paddlewheel which has been specially coated to allow the grease to stick as it spins through the waste water. As the wheel leaves the water, a wiper blade scrapes the wheel and channels the grease into a container on the side of the device. A heater makes sure the grease remains liquid during this process to aid separation and transfer. The container should be emptied every day with the FOGs being collected with other used fats and oils for recycling.

Good House Keeping

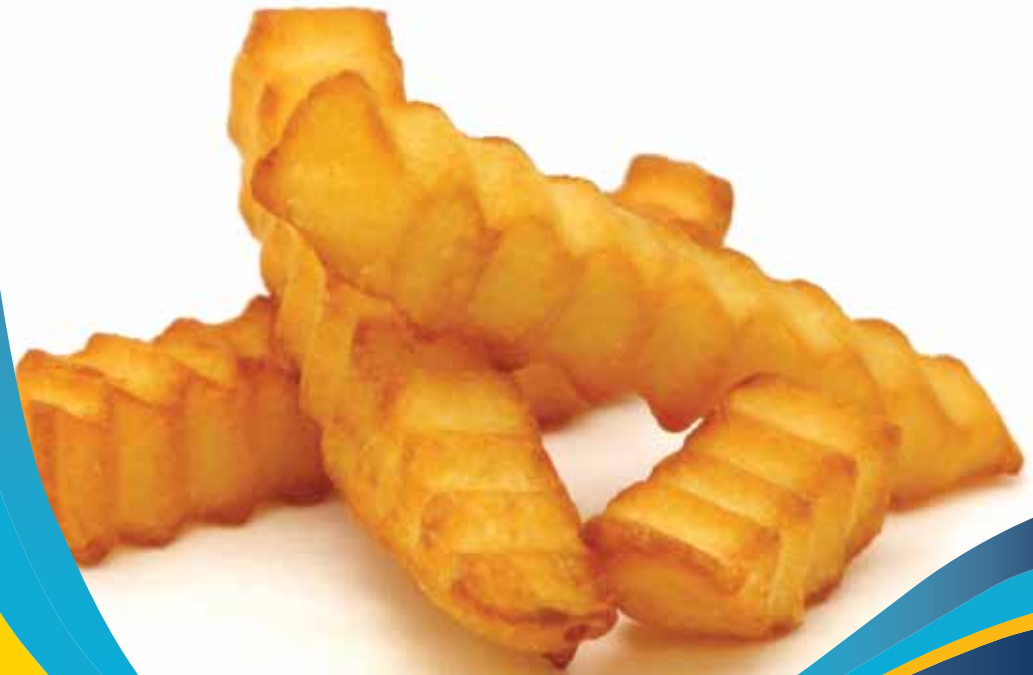
To reduce the cleaning frequency, ensure minimal loading of the system by:

- Scraping plates and utensils prior to cleaning.
- Disposing of waste oil and grease separately (eg: into drums, not down the drain). Oil drums should be stored in a bunded area undercover (to prevent rain water entry).
- Installing a sink strainer to remove food particles.
- Dry sweeping before hosing.

Use the local telephone directory to find a local business that will remove the waste fats and oils.



Poorly maintained grease trap



Further Information

For further information, please contact the Dunedin City Council Trade Waste Officer on 4774000, or visit us at www.dunedin.govt.nz

Waste Fats and Oils and Your Food Business



www.dunedin.govt.nz

Introduction

Fats, oils and greases (FOGs) are an essential part of almost all food businesses. They are used as ingredients and for cooking purposes. FOG residues are also left on plates and cooking utensils which, when cleaned, transfer into the waste water system.

Proper disposal of FOGs is important, otherwise problems will be experienced later on as fats solidify and block waste pipes. This can occur at any point on its way to the Waste Water Treatment Plant (WWTP), including at the plant itself, resulting in a lower quality of waste treatment.

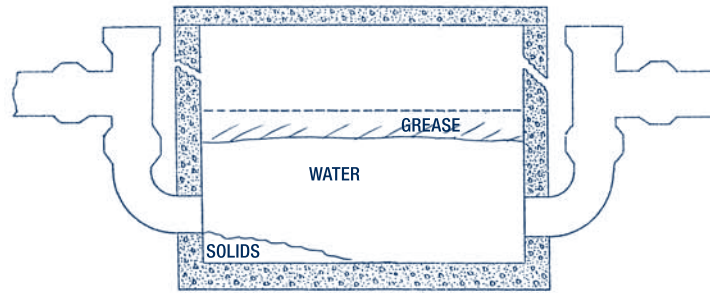
To prevent blockages and WWTP problems, the Dunedin City Council requires food businesses to install a system that removes FOGs from the waste water. Grease traps are one type of system. There are 3 types of grease trap: passive grease traps, grease converters and mechanical grease separators.

You must obtain a Trade Waste consent from the Dunedin City Council before you discharge your wastewater to the sewer. This consent establishes the conditions under which food outlets and services can discharge waste to the sewer.

Note that a Building Consent will be required of new grease traps or modifications to existing ones. For more information, contact the Dunedin City Council's Building Control.

Passive Grease Traps

These are normally located outside premises, in the ground covered by metal plates and may consist of 2 or 3 chambers. The size of the grease trap depends on the volume of trade waste discharged. They work by cooling down the waste water, allowing FOGs to float to the surface. Other solid materials (such as food scraps) sink to the bottom. Baffles at the point of entry, slow down the flow and reduce turbulence to assist with the FOG/water separation. High temperatures significantly impact grease trap effectiveness, so dishwashers should not be connected directly to a grease trap.



Schematic of grease trap operation



Fully Effective Grease Trap Just Before Cleaning

Above is an example of a grease trap in use at an industrial food processing plant. Note that grease is collected and floats in the first two chambers, leaving the final chamber clean – this is the final discharge from the grease trap.

The FOGs on top and the solids at the bottom of these traps need to be removed regularly. This is done by sucking out the contents of the trap. At this stage, the trap should be hosed down and refilled with cold water. Rain water should be prevented from entering the grease trap.

Maintenance of a grease trap

The trap needs to be cleaned frequently (this will vary depending on the business, and can range from a couple of weeks to a few months).

The grease is to be removed by an approved contractor and the docket retained.

Grease Converters

Grease converters are usually located under or near a sink and use enzymes and bacteria to break down FOGs. Inside the grease converter are baffles specially designed to retain the FOGs within the trap. During the day, FOGs build up within the trap. Every night, enzymes and bacteria are added to the grease converter and break down the FOGs which are then flushed through the system the following day. The enzymes and bacteria are added in powder or liquid form, preferably by an automatic dosing mechanism. (If in the powder form, the powder should be dissolved in warm water prior to addition to the grease converter.) The process takes about 5 hours. To work properly, grease converters must be kept warm – if located outside, they need to be insulated.

Grease converters need to be cleaned and inspected annually by a certified installer and a special start-up procedure needs to be followed after cleaning to ensure that the bacteria and enzymes are back to the correct levels. These units should not be cleaned out monthly like a passive grease trap as this would remove the bacteria living within it. It is important that the manufacturer's instructions are followed for correct operation of the unit.

