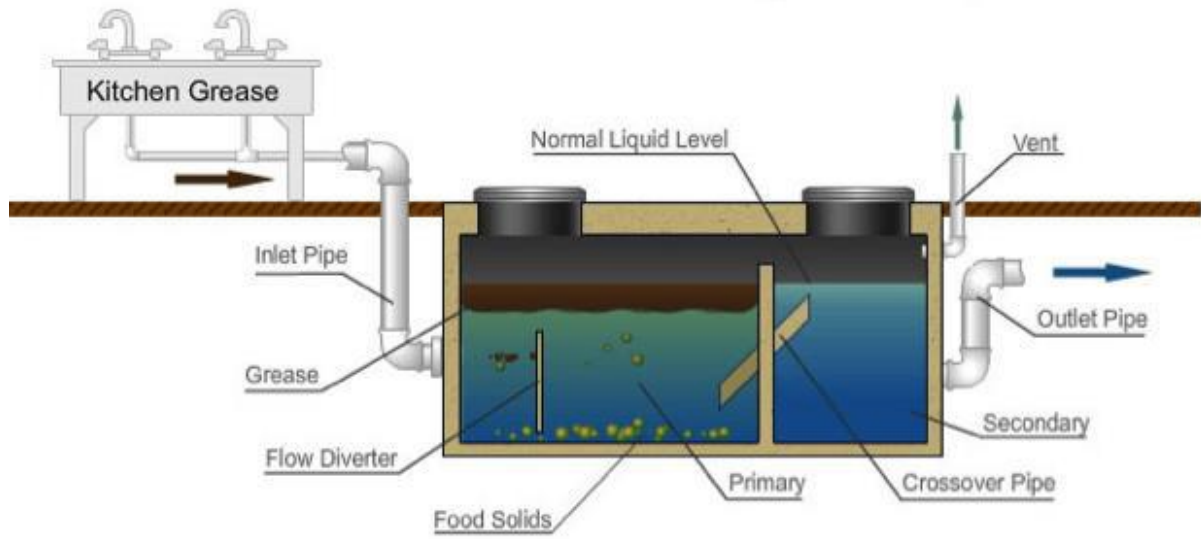




## How a grease trap works



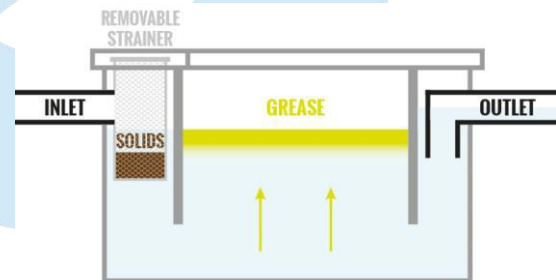
### WHAT ARE GREASE TRAPS AND HOW DO THEY WORK

Nearly half a million tons of grease and fat enter the SA sewerage system every year. Grease sticks to pipe walls, which can eventually lead to blockages while fats and oils damage wastewater treatment equipment, costing municipalities millions in repairs every year. If allowed to enter a natural water course, fats, oils and grease (FOG) can cause serious damage to the environment.

For these reasons, legislation ensuring that the correct FOG management is used by food service operators is now being heavily enforced. Polluters can face large fines or even closure if FOG waste is not managed effectively. FOG also causes big problems within commercial kitchens, with FOG from wastewater causing blockages in internal pipes leading to expensive repairs and potential equipment downtime.

Fortunately, grease management systems such as grease traps are readily available.

They are often the first-choice FOG management solution for kitchen operators but what are they and how do they work?



### WHAT IS A GREASE TRAP?

Grease traps have been around for more than 100 years and are also known as grease interceptors, converters, catchers, grease recovery / management devices or FOG traps. They are used in a wide range of environments including:



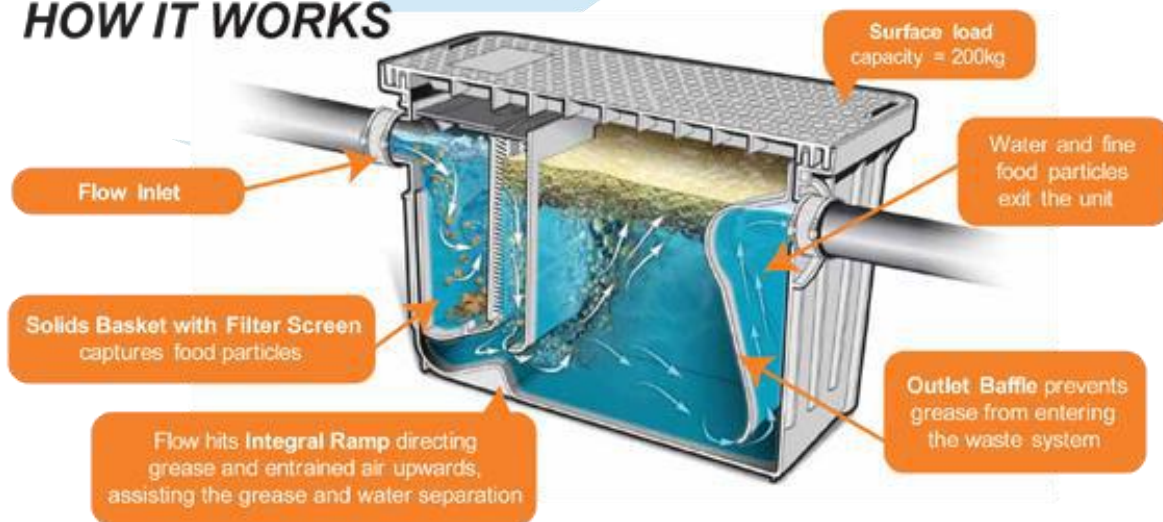
- Restaurants
- Cafes
- Takeaways
- Pubs, bars and inns
- Hotels
- Schools and colleges
- Bakeries

To put it simply, a grease trap is a receptacle into which wastewater containing FOG flows through before entering a drainage system. The receptacle is designed to intercept or "trap" the FOG while allowing clear water to escape.

### HOW DOES A GREASE TRAP WORK?

Grease traps work on the basis that animal fats and vegetable oils (grease) are 10 to 15 percent less dense than water and that grease will not mix with water. Thus, fats and oils float on top of water.

### HOW IT WORKS



When wastewater enters a grease trap, the flow rate is reduced enough so the wastewater is given enough time to cool and separate into 3 layers. The grease rises to the top inside the interceptor and is trapped using a system of baffles. Solids settle at the bottom and the separated clear water escapes under an outlet baffle. Many grease traps also have strainers for collecting solid debris, which

reduces the number of solids that settle at the bottom of the trap.

Over time, solids and grease build-up, and if left to accumulate for long enough they can start to escape through the outlet and in some circumstances, they can back-up through the inlet. For this reason, the trap must be cleaned / pumped out on a regular basis.

The time between cleaning / pumping out the trap will depend on the amount of wastewater produced and the size of the grease trap, but it is usually every 2-4 weeks. This time-period can be lengthened to up to 8 weeks by adding a biological grease treatment fluid into the system. The solution combines non-pathogenic bacteria with nutrients and enzymes to break down FOG, aiding grease trap performance. This process is commonly referred to as "dosing".

Dosing can also be implemented at the outlet stage as a further method of preventing FOG build-up in internal piping.



## THE DIFFERENT TYPES OF GREASE TRAPS

There are 3 main types of grease trap: passive hydromechanical (manual), automatic and gravity.

### PASSIVE HYDROMECHANICAL (MANUAL) GREASE TRAPS

Traditional passive systems are one of the most common systems used in smaller establishments. This is due to the low initial investment cost required to purchase one and the variety of sizes available, meaning they can be easily installed under most sinks while larger units are available to accommodate bigger wastewater production requirements.

Designs of manual grease traps date back to 1885 when the first U.S. patent was issued. Even today grease interceptors use the same basic operating design as the 1885 model. They are usually constructed from plastic or stainless steel and must be cleaned manually and on a regular basis.

### AUTOMATIC GREASE TRAPS

Automatic systems, also known as AGRU's (automatic grease removal units), use some of the same principals as a



traditional passive trap but re-heat and skim out the FOG automatically on a

programmed schedule. The skimmed FOG is then transferred into a collector bin for easy removal and recycling. The programmed schedule is based on the amount of FOG produced and means

operators do not have to measure or check grease levels.

Much like passive systems they are available in a variety of sizes to accommodate a range of requirements. While they have a higher initial investment cost, they are more efficient and have lower long-term running and servicing costs.

### GRAVITY GREASE TRAPS

Gravity systems are generally large in-ground tanks constructed from concrete, fibreglass or steel. They work in a similar way to a passive hydromechanical trap but have a much larger capacity and are better for high-flow applications.

### FAT TRAP MANUFACTURING

As per our Immersion tanks, we strongly believe in the use of Polystone Polypropylene as a heavy-duty material able to cater for all your needs in your store. The material can withstand remarkably high temperatures and does not deteriorate. It has a lifespan of approximately 15-20 years as opposed to traditional stainless steel which tends to deteriorate, starts becoming a brittle material after extended use and forms scaling on the inside which is exceedingly difficult to remove.

**Stainless steel** traps exposed to harsh chemicals have a **life span of only 5-7 years.**



### CARBEXT FAT TRAPS

As manufacturers, we can manufacture fat traps in Polystone Polypropylene with several options, namely:

- Manual Fat Trap – Gravity fed
- Automatic Fat Trap – Motorised
- Manual Fat trap with **optional** dosing pump

We manufacture Fat traps to your specification such as:

- Below floor level,
- Below sinks and water faucets, etc.
- Portable on Castor wheels

A range of standard sizes are available:

- Mini – 350 x 350 x 350 high – 45 Litre
- Maxi- 500 x 500 x 400 High – 100 Litre
- Jumbo – 700 x 450 x 450 High - 140 Litre
- Mega – 1200 x 500 x 550 high – 330 Litre



### HOW CAN CARBEXT HELP YOU?

Our trained technicians can service your fat trap and dispose of the fat off site.

Our service team is trained in the removal of FOG (Fat, Oil, Grease). We can gladly assist you with the service, maintenance and upkeep of your fat trap.

### DRAINZYME – WASTE FOG DIGESTOR

Introducing Drainzyme, a revolutionary approach to waste grease elimination. A microbiological breakthrough that allows the natural ability of bacteria/enzymes to digest and degrade waste, even in the presence of BLEACH or CHLORINATED DISHWASH, which inhibits the performance of most products on the market. This outstanding product has the remarkable ability to withstand intermittent high temperatures (Up to 70°C) and the high alkalinity of many cleaning products. Drainzyme utilizes the natural ability of unique bacterial strains to degrade the solid waste that accumulates in grease traps and drains.

