

## **A GUIDE TO EFFICIENT GREASE MANAGEMENT**

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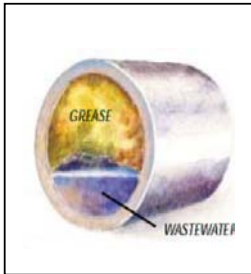
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## HOW GREASE CAUSES PROBLEMS



### BLOCKED PIPES

When hot oil is poured down a drain, or greasy wastewater enters the drain from sinks and ovens, the oil cools and can coat the inside of drainpipes, causing slow drainage or blocked pipes. The pipes then need to be jetted clean and this can prove costly. If municipal drains are blocked then a restaurant owner can be fined. It can cost at least €70 per hour to have pipes jetted clean



### DAMAGE TO PUMPING STATIONS

Pumping stations are used to facilitate the movement of water/sewage. Grease allowed to escape down the drains can cause pumping stations to break down. Grease erodes crucial components such as “o” rings and other gaskets and this can cause leakages. A layer of grease in the sump can prevent water from being pumped out of the system. The floats and sensors that signal the pumps to come on can be damaged by grease as well. It can cost at least €50 per hour to service a pumping station.



### LOSS OF EFFICIENCY IN SEWAGE TREATMENT PLANTS

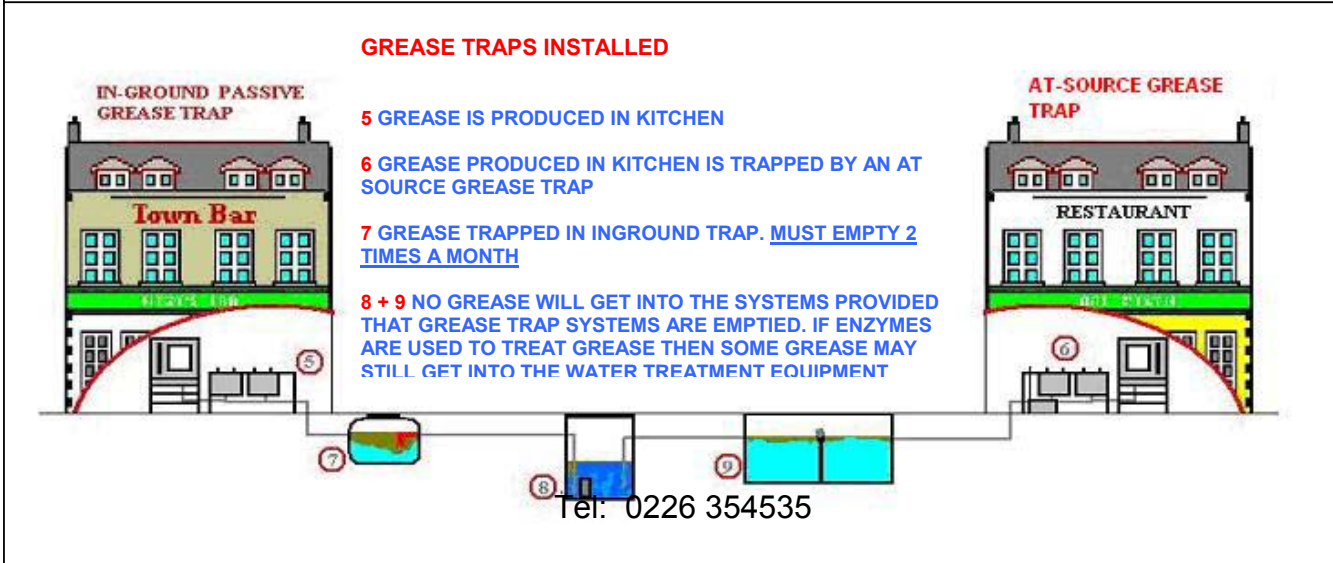
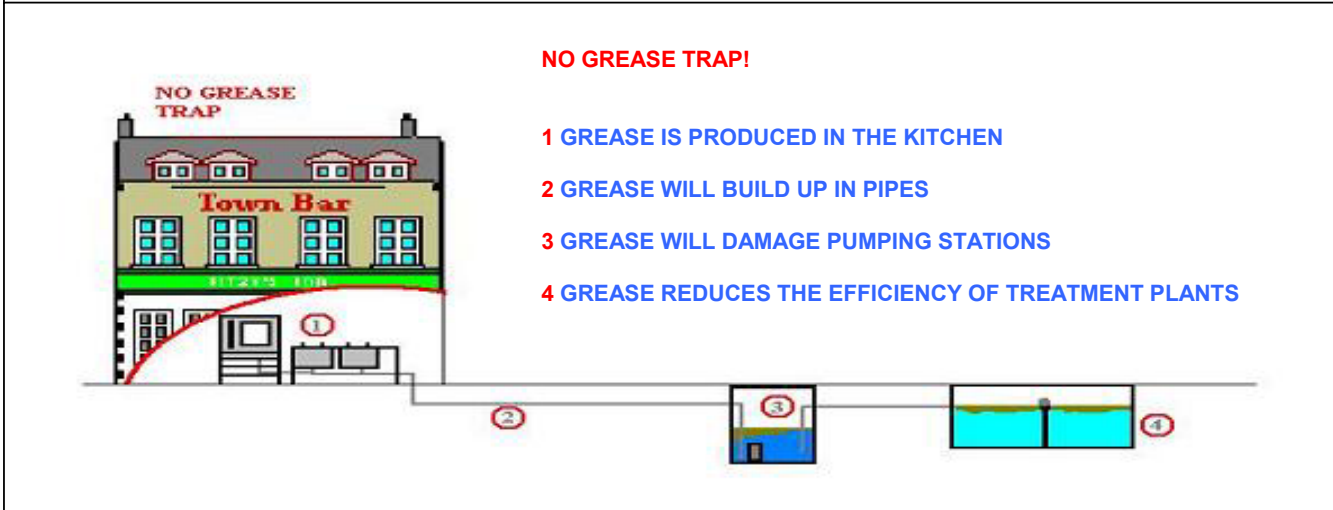
Grease is biodegradable, but it is a very slow process. Grease requires more oxygen to break it down. Grease attaches around media in systems and in some cases forms large balls of grease that clog up the system. It attaches to filters, pumps, floats and sensors and reduces the efficiency of the system dramatically. It is up to local authorities to ensure grease does not enter these systems

To prevent the above from occurring most commercial kitchen operators are required by law to install some form of **grease interceptor or trap**. Common national standards require that effluent coming from a grease trap should contain no more than 25mg/ltr of grease.

# THE SOURCE OF GREASE



- 1 Fastfood Outlet
- 2 Hospital Kitchens
- 3 Supermarket deli area
- 4 Bar Kitchen
- 5 Restaurant
- 6 Hotel
- 7 Factory Staff Canteen
- 8 Petrol station shop
- 9 School kitchen
- 10 Airport



## BEST KITCHEN PRACTICES

It is the responsibility of the kitchen manager to ensure that as much as possible is done to reduce the amount of grease entering the drains. Here are guidelines that should be followed.

### **7 WAYS TO MAXIMISE THE TREATMENT OF RESTAURANT KITCHEN WASTEWATER**

**1. Consider installing a grease trap or grease recovery device (GREASE GUARDIAN).** A grease trap will help stop grease leaving your premises. A grease recovery device, installed in the kitchen, will trap grease just like a grease trap but will also remove grease build-up automatically ensuring that an even higher level of efficiency.

**2. Train dishwashing personnel to thoroughly scrape plates and cookware** to remove all food waste, especially cooking oils and creamy sauces and gravies, which are high in grease, before rinsing dishes. Thick waste should not go down the drain.

**3. Store fryer grease.** Fryer fat should not be poured down the drain. It should be retained and given to a grease rendering company. Large amounts of grease such as fryer oil will put grease traps under pressure making them less efficient as well as blocking pipes.

**4. Low temperature (sanitizing rinse) dishwashers** may assist oil and grease to separate out in the grease trap. High water temperatures cause grease to become emulsified. Emulsified grease does not separate out in a grease trap and may be carried over into your leaching field. Check with your dishwasher manufacturer to see if your machine can be used as a low temperature sanitizing rinse dishwasher or Look for special dishwashing and general cleaning detergents that promote rapid oil/water separation.

**5. Wash dishes only into designated sinks** Not only is this more hygienic but it means that the waste going into the trap can be better controlled. A grease removal system can be installed under sinks to treat the waste at its source.

**6. Use strainers.** This is a simple method of ensuring less solids enter the pipes. It will also ensure that the grease trap will work more efficiently. Strainers can be placed over the plughole when draining and then emptied into the normal waste.

**7. Maintain grease traps or grease removal devices.** Grease traps will lose efficiency if they are not maintained. Follow the instructions given with the system and no problems will arise.

# GREASE TRAPS & DEVICES

## STATIC GREASE TRAPS



An Underground Grease Trap of a Restaurant

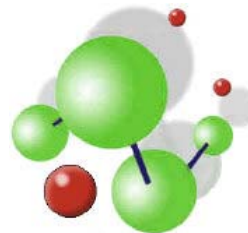
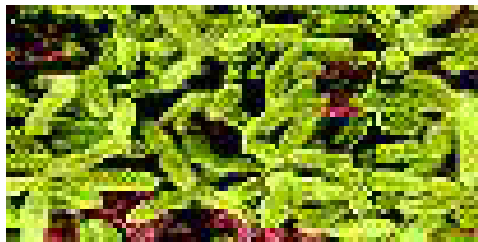


Sometimes referred to as passive or conventional grease separators or interceptors, these systems fill up with grease and must be emptied **every 2 weeks** (according to European Standard EN1825-2) if installed in the ground and at least once a week if installed in the kitchen. If correctly sized and maintained they can help prevent grease from entering private or municipal wastewater systems. Passive grease traps installed externally or in basements may not protect internal pipes from clogging. Some systems come with pumps to help with emptying but this can prove costly.



**UNLESS GREASE TRAPS ARE EMPTIED 1 – 2 TIMES A MONTH THEY WILL LOSE EFFICIENCY OR OVERFLOW**

## ENZYME'S OR BACTERIA SYSTEMS



Enzymes treat grease through emulsification. When grease loadings are quite low then such treatment can be successful. However, treatment using enzymes only removes grease from the trap or pipe it does not destroy the grease and the grease may reform elsewhere. Dosing with bacteria can reduce grease build up though performance may be affected by changing conditions.



**CHECK WITH YOUR LOCAL AUTHORITIES TO ENSURE SUCH TREATMENT IS PERMITTED**

## GREASE TRAPS & DEVICES CONTINUED....

### GREASE RECOVERY UNITS



Grease Recovery Units or Devices trap grease and remove it automatically using belts, skimmers or in some cases hydraulic pressure. These devices have the same qualities as conventional grease traps but with a mechanism to remove grease included in their design. In some cases they are very small systems that fit at the source of the problem. End users do not need to manually empty or pump these systems as they are programmed to automatically self clean when required.

The Grease Guardian® is an automatic grease recovery unit that can be installed at source or in a basement. For more details continue to the next section of this booklet



**WHEN CHOOSING A RECOVERY UNIT ENSURE IT IS CE MARKED, IP RATED AND CORRESPONDS TO NATIONAL STANDARDS: WE RECOMMEND THE GREASE GUARDIAN®**

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### Did you know?

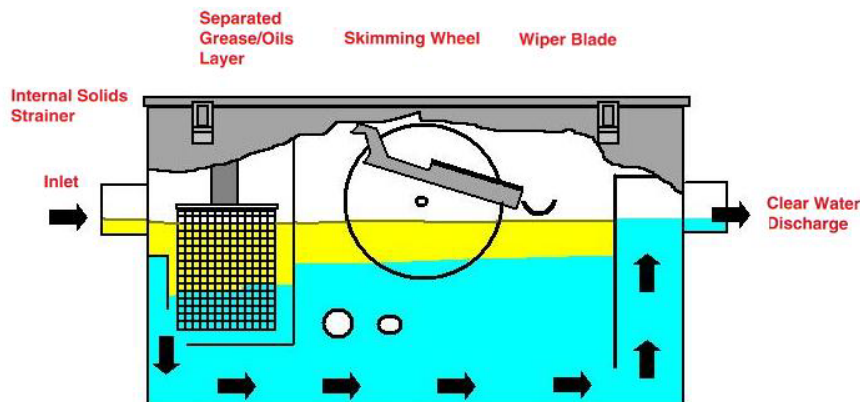
*Grease from grease traps can be recycled and used in many different industries. Fats, oils and grease are used in the production of bio-fuels. By implementing an effective grease management system in your kitchen not only will you protect your pipes and wastewater equipment but you will also be contributing to the development of the renewable energy industry.*



# GREASE GUARDIAN OPERATION

## Installation

The Grease Guardian® automatic grease removal system can be installed at source and typically suits most commercial kitchens. In cases where space is limited the Grease Guardian® can be installed in a basement or adjacent room or external kiosk.



## OPERATION

- 1. SOLIDS COLLECTION:** Wastewater from the kitchen is directed through the inlet pipe where a removable strainer basket collects any solids debris. The top lid has a special hinged section for easy access to empty the basket
- 2. GREASE AND OIL SEPARATION:** The wastewater containing free-floating grease and oils enters the retention chamber. The lighter grease and oils immediately rise to the surface and remain trapped. The water portion of the flow exits by displacement under the outlet baffle to final discharge.
- 3. SELF CLEANING AND GREASE REMOVAL:** A heating system located in the retention chamber is activated by a timer mechanism set to suit each individual kitchen. A motor operated skimming wheel collects the now liquefied surface matter and transfers them to the outlet pipe using a wiper blade assembly. The skimmed grease and oils flow through the pipe to a collection container supplied with the system.



## GREASE GUARDIAN BENEFITS



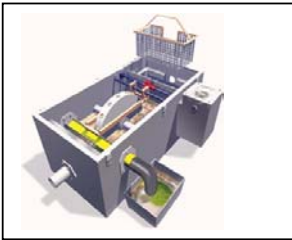
The Grease Guardian is easy to install, takes up little space, is designed to be installed into a kitchen and costs very little to run. No digging is required. The unit meets prEN1825 (European Norm) requirements and allows less than 25mg/ltr of grease in the effluent. The grease from a Grease Guardian can be recycled and used as bio-diesel

**EFFICIENT**



The units come in varying sizes depending on the specific needs of the kitchen being treated. The unit can be programmed to suit and upgraded easily if the kitchen is extended. The unit comes with a maintenance reminder buzzer to ensure basket and collection container are emptied

**SIMPLE**



The stainless steel Grease Guardian is designed to remove grease daily giving bacteria no time to form. Solids are collected in a strainer basket and can be deposited easily along with normal solid waste. All units comply with the health, safety and electrical requirements of the machinery directive 89/392/EEC, 91/368/EEC, 93/44/EEC

**CERTIFIED**



The Grease Guardian does not require enzymes or bacteria, nor does it require anyone to remove the grease. The system for removing grease is fully automatic. The unit comes with many innovative features that ensure efficient operation.

**HYGIENIC**

# REFERENCES



## **AIRPORTS**

Oslo, Dublin, Belfast, London HR, London GW, London ST, Leeds, Newcastle, Edinburgh, Azores, Singapore, Barcelona



## **FAMOUS LOCATIONS**

Emirates Stadium (Left), Old Trafford, Olympic Stadium Sydney, GPO Dublin, NATO Bosnia, Louvre Paris, Hillsborough Castle, Odyssey Arena Belfast, Casino do Estoril Portugal, The David Beckham Academy, HMS Warrior, Santa Village Finland



## **FASTFOOD, RESTAURANTS, BARS**

Yates Wine Lodge, Whitbread Pubs, KFC, McDonalds, Burger King, TGI Friday, Hard Rock Café, Pizza Hut, SuperMacs, Woolworths



## **SUPERMARKETS**

Sommerfields, Kwiksave, Sainsbury's, Centra, SuperValu, Spar, Eurospar, Carrefour, Roches Stores, SDA, Quinsworth, Londis



## **HOTELS**

Hilton Maldives (left), Sheraton Cairo, Mena Hotel Egypt, Radisson Hotel, Hilton (Malta), Clarence (Dublin), Gatwick Manor, Golden Tulip, Corinthians, Holiday Inn, Meridien, Four Seasons

FOR A REFERENCE NEAR YOU CONTACT [SALES@GREASEGUARDIAN.COM](mailto:SALES@GREASEGUARDIAN.COM)

