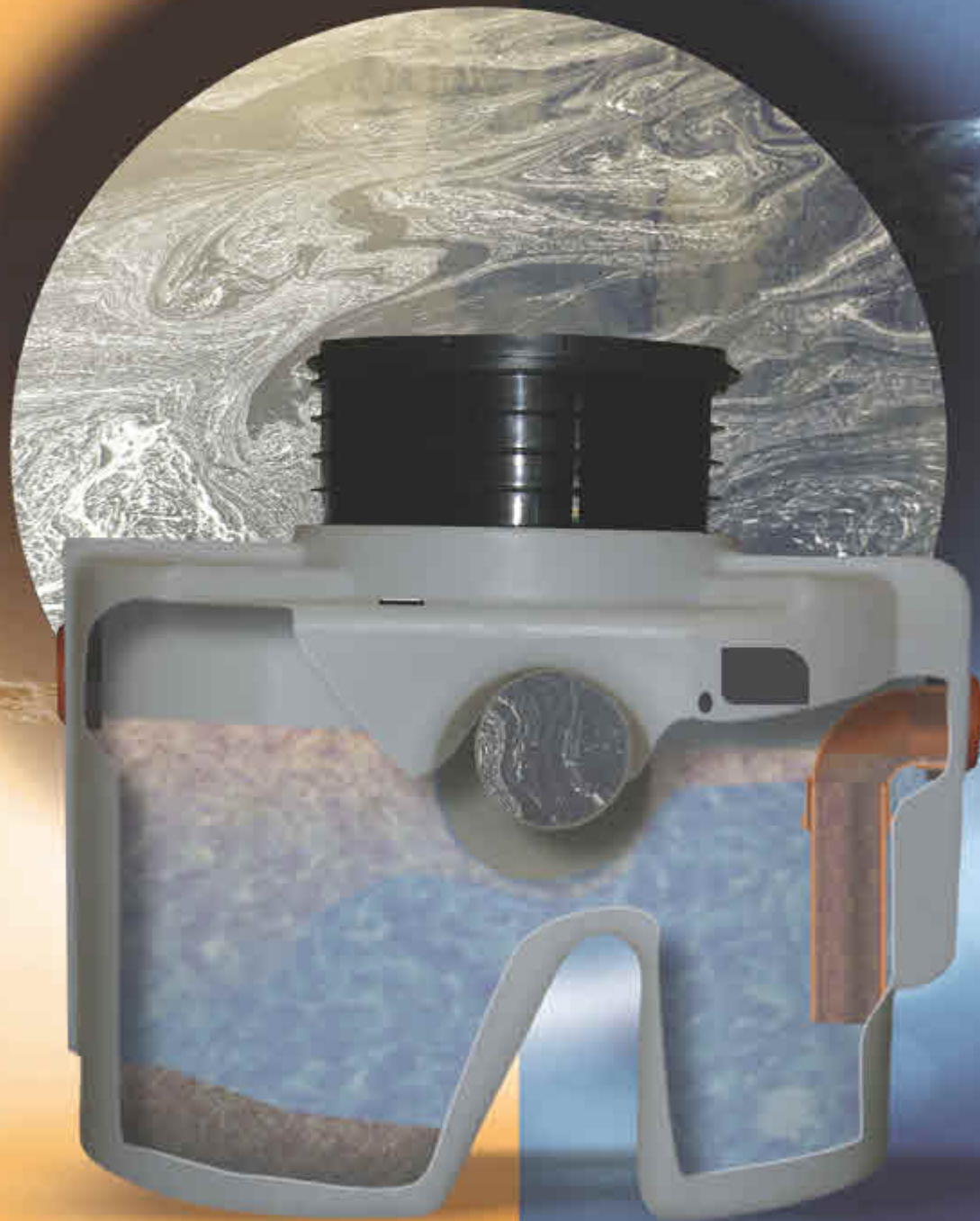




# Wastewater Management



**jumbo**  
Grease Traps



## Introduction

The use of a grease trap or separator should be a pre requisite for any architect, consultant or contractor who is designing or developing property that will have catering or food processing facilities.

Grease traps have been used predominantly in the catering industry to prevent a build up of grease and liquefied fats from solidifying and blocking the flow to the drainage system.

The installation of a grease trap is particularly important in kitchens where more than 30 meals per day are to be served regularly and in food processing plants and abattoirs, where animal fats and bi products are discharged into the foul drainage system.

These days a grease treatment system should be specified and installed as an integral part of the drainage design on restaurants, catering establishments and process plants and abattoirs, particularly those connected to a packaged sewage treatment systems.

The specification of the correct grease treatment system is imperative in supporting the drainage system and the sustainability and performance of the final treatment process.

**The Jumbo design reflects 20 years of industry experience and product design and we are delighted to offer this unique product to the market. Manufactured from Hdpe it is extremely lightweight at 20 kilos, however also very durable with a 50 year design life. Its unique circular baffle sets it apart from other traps on the market and the name Jumbo comes from its profile which we think looks like a small elephant.**

**We hope you like it as much as we do . . .**



**Optional 40mm Vent for sealed systems**



**Lockable Access Cover**



**Optional extension riser**  
235mm high



**Inlet Pipe**  
110mm as standard.



**Outlet dip pipe**  
Takes cleaner water from mid section of secondary chamber



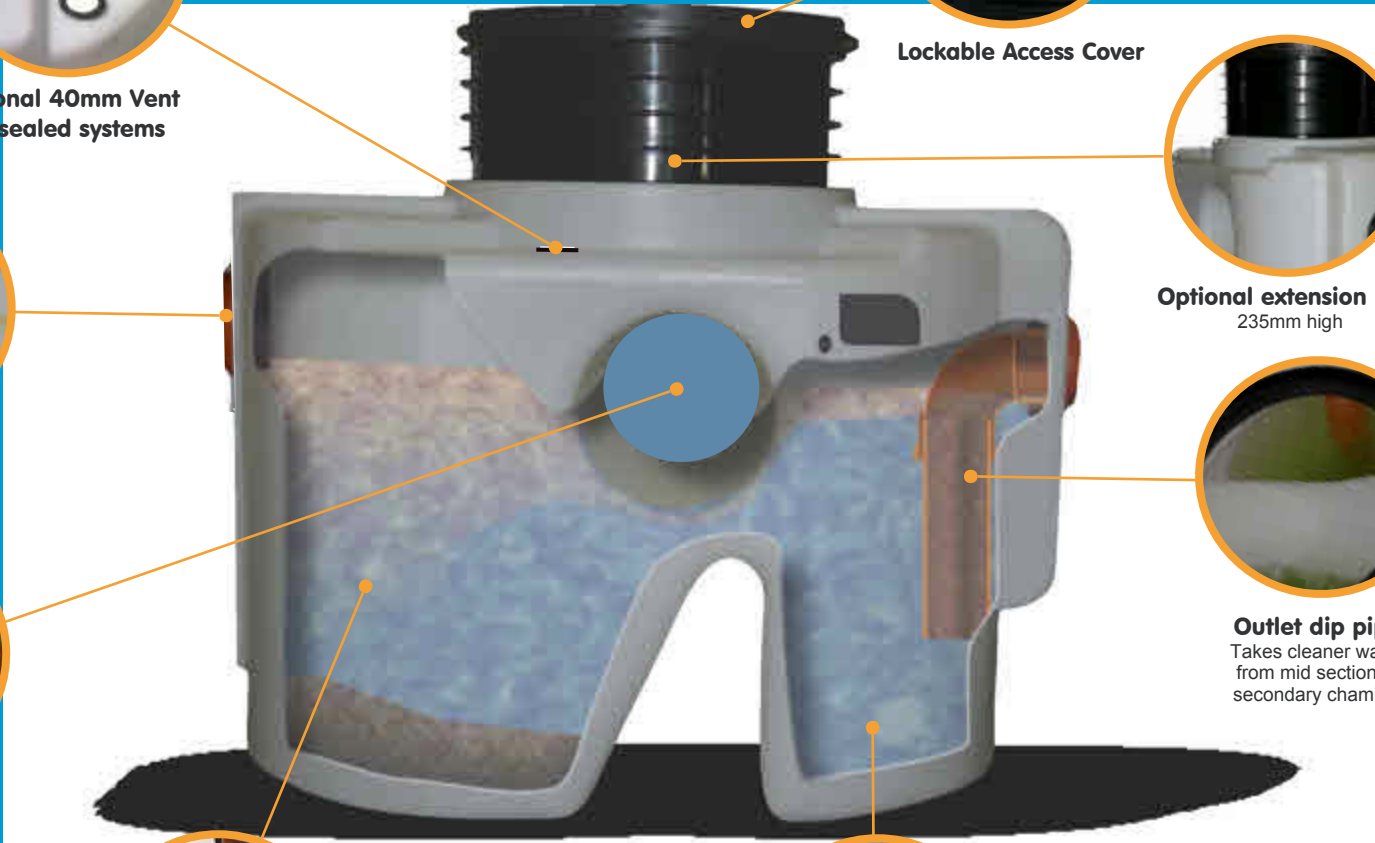
**Grease Baffle**  
This unique baffle design separates the two chambers as well as channeling the flow of suspended grease and oil



**Primary settlement chamber**  
This large chamber allows oils and greases to settle out at top and also retains solids in the base.



**Secondary settlement chamber**  
This chamber traps excess oil and grease that migrates from chamber 1 when full. The secondary settles it out



As detailed in the illustrations opposite the Jumbo range consists of two models

## Jumbo 1 & 2

### How they work . . .

Wastewater containing oils and grease enters the Jumbo where light liquids i.e. Oils, grease and liquefied fats gravitationally settle out at the top of the primary chamber and the heavier material ie. vegetable matter and fines drop to the base of this chamber. Heavily emulsified greases, fats and oils that are not completely separated will again drop to the base. Cleaner separated water is then channeled across into the second chamber under the circular baffle, this is the probably the Jumbo's main design feature and the location of this baffle is critical as the baffle stops oils and greases from migrating across the top of the grease trap and when the suspended oil level reaches the bottom of the baffle, it flows around the baffle face and is then retained at the top of the second chamber. This gives a much greater storage/retention for cooking oils and liquefied fats. The baffle also adds to the strength of the unit as it runs right through the unit. The second chamber has a dip pipe attached to the outlet which allows for a substantial build up of suspended oils and greases in both chambers and its location allows for cleaner separated water to discharge.

### What can enter the separator ?

Only wastewater containing organic greases and oils, which are required to be separated from the water, should be allowed into the trap. Under no circumstances should sewage, rainwater or wastewater containing mineral oils (hydrocarbon based) be allowed to enter the separator.



300 litre capacity  
Up to Nominal Size 1.5 (en1825)



j1



600 litre capacity  
Up to Nominal Size 3



j2

### Flow Characteristics



Cleaner water



Solids & heavier waste



Suspended grease & oils



\*Both units shown with extensions fitted above.

# Dimensions



Inlet End Elevation



Outlet End Elevation



Inlet End Elevation



Outlet End Elevation

The European design standard for a grease separator or grease trap installation is EN1825 published in 2005 stipulates that in order to calculate the correct size (or Nominal Size (NS)) of a grease trap or grease separator, 4 major factors are calculated:

- Influence of cleaning and rinsing agents used.
- Density of grease/oils to be separated
- Maximum temperature of water.
- Maximum flow rate of water (litres/per /sec).

The formula is  $(a \times b \times c) \times d = NS$ . Then NS multiplied by either 100 or 200 to allow for sludge, dependant on the application.

*(Figures for a b and c can be taken from en 1825 -1).*

Calculating the max flow can be a problem, however if you have a water meter fitted the flow rate Then take at least 60% of the metered water per day as a rule of thumb, more so for cafe's and restaurant's that have no baths or showers and limited toilet facilities, up to 80%. Then to get the nominal flow to litres per second divide the daily reading by the number of working hours then divide by 3600 to get to litres per second

**As an example :** A large restaurant open 12 hours a day. If it's daily average metered flow is 2000 litres, taking 70% usage =  $1400 \div 12 = 117$ . Then divide by 3600 so  $117 \div 3600 = 0.032$ . So the average flow rate is 0.032 litres per second. Then at least 400% for peak or max flow, so 0.128 Then using 1.5 as the nominal figure for  $axbxc$  (from formula above) . The nominal size becomes  $1.5 \times 0.128 = 0.192$ .

A final calculation for sludge retention means that the Nominal Size needs to be multiplied by 100 or 200 dependant on the application. In this case 100 is used The larger figure of 200 is used for abattoirs and similar processing plants.

**So for the above example above, it would require a trap or separator that held 19.2 litres of sludge. i.e.  $0.192 \times 100 = 19.2$  This would be our Jumbo 1**

If you have any issues with how to size a Grease Trap or Separator then do not hesitate to contact us, we will be delighted to help specify the correct product for your application.

# Installation

- 1 Connect waste and any drainage required to grease trap
- 2 Excavate allowing for a 200mm concrete base slab and 200mm surround
- 3 Once base slab is laid and set, then sit Jumbo on top and level.
- 4 Connect inlet pipework ensuring watertight seal (110mm pipework)
- 5 Connect outlet pipework (as above).
- 6 Connect vent if required ( as detailed using 40mm pipework)
- 7 Fill jumbo with clean water to pipework
- 8 Fit access cover
- 9 Pour a wet concrete mix around jumbo and tamp into place. Ensuring all voids are filled completely.
- 10 Finish off with final slab or capping. Noting that the Jumbo is only designed for a pedestrian loading.



## Maintenance

As with all grease traps there should be a prescribed maintenance regime in place to regularly monitor and clean the trap. This will be dependant on the application and nature of wastewater.

As a rule of thumb we would recommend weekly inspection and the emptying of the trap will be as required. However the trap should be emptied before the second chamber blocks with sediment, this will cause the trap to back up and block the upstream drainage system and if the drainage invert is particularly shallow the unit may overflow if not sealed.

Please Note : Waste from grease traps and separators is classed as special waste and this waste should only be taken away by a certified company. If you require further details on specialist servicing and cleaning companies we would be happy to recommend one for you.



