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# ACO Building Drainage

Grease Management



*Product catalogue*

**ACO Biological Grease Traps**  
**- Grease management handbook**



## ACO Building Drainage

Our built environment is becoming ever more complex. Applications are becoming more sophisticated and the increasing pressure of regulations and standards make achieving design, performance and financial goals ever tougher.

ACO Building Drainage is a new concept within the ACO Group. Our mission: to eliminate design risk, to reduce installed and life cost and to deliver exceptional finish and performance in every product application.

We achieve this through three factors:

- High performance materials
- Design experience and project support
- Global manufacturing capacity

Our global resources and fabrication capacity make it possible for us to deliver best value, both with our standard products and with our bespoke designs. Confidence is further assured with quality systems that are in accordance with ISO 9001-2008.

ACO Building Drainage's extensive portfolio includes:

- Grease Management systems
- Stainless steel gullies
- Roof/Balcony drainage systems
- Wetroom and shower drainage
- Standard stainless steel and galvanised steel channels
- Stainless steel and polymer composite access covers
- Stainless steel socketed pipe system
- Anti-flood backflow protection systems
- Bespoke channel drainage systems

ACO Building Drainage is a division of ACO Technologies plc and part of the worldwide ACO Group. The Group has sales in excess of £500 million worldwide with production facilities in the UK, Germany, France, Switzerland, Denmark, Spain, Poland, Czech Republic, Australia and the USA. In total more than 3500 people are employed in 40 countries throughout the world.

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## Contents

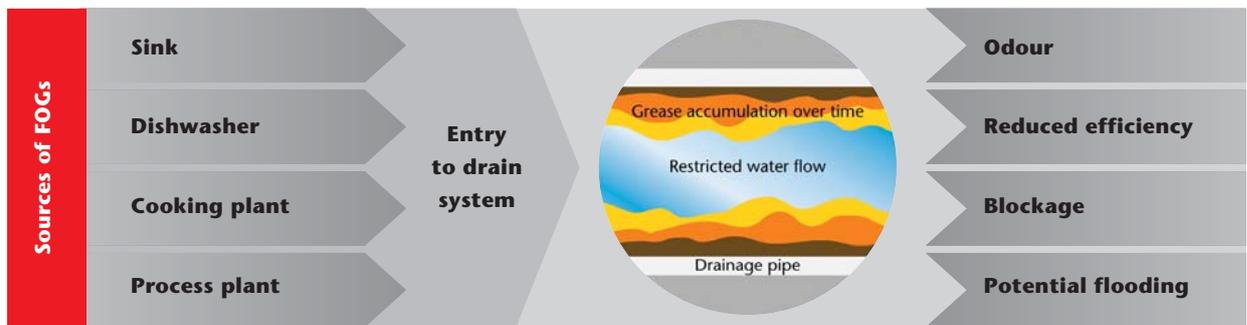
The need for fat, oil and grease management	
Local effects of fats, oils and grease (FOG's)	4
Regional effects	4
Legislation and regulation	4
System and process	
Overview	5
System components and FOG management variables	5
Biological activators	6
ACO activator process	6
Applications	6
Selecting a grease traps	
Factors to consider	7
Grease trap sizing	8
Load Class	9
Below ground polypropylene grease traps	
Features and benefits	10
Technical data	11
NBS Specification	12
Free standing polypropylene grease traps	
Features and benefits	13
Technical data	14
NBS Specification	14
Free standing stainless steel grease traps	
Features and benefits	15
Technical data	16
NBS Specification	16
Free standing stainless steel grease trap – compact	
Features and benefits	17
Technical data	18
NBS Specification	18
Accessories	
Features and benefits	19
Technical data	21
Installation	
General points all grease traps	22
Free standing biological grease traps	23
Below ground polypropylene biological grease traps	24
Operation and maintenance	
Biological dosing regime	25
Operation during first two weeks	26
Ongoing operation	26
Trouble shooting	26



## The need for fat, oil and grease management

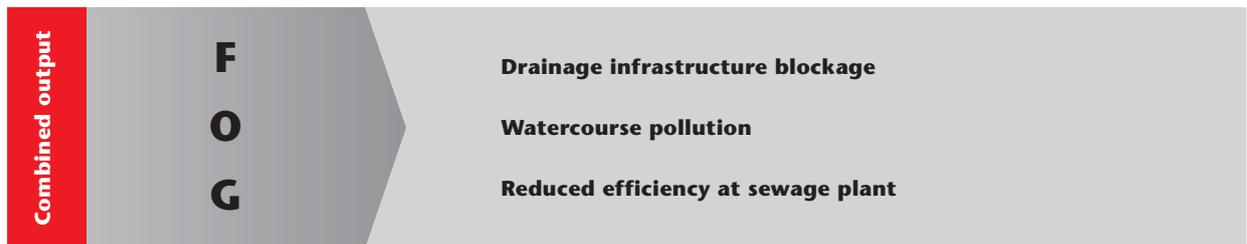
### Local effects of fats, oils and grease (FOG's)

One of the greatest drainage problems faced in kitchens and food processing areas is the accumulation of fats, oils and greases within the drainage system.



**Note:** As FOG's cool in the drainage system they can solidify. If untreated, accumulation eventually leads to drainage system failure leading to health hazards within the food preparation area.

### Regional effects



### Legislation and regulation

The problem of FOG pollution is being addressed at a national and regional level. Recent incorporation into Building Regulations and a proactive stance from many Local Authorities require that the problem is, in part, managed at source.

Driver	Driver
Water Resources Act 1991	Offence to pollute watercourse
Water Industry Act 1991	Offence to impair operation of sewer
Building Regulations Part H1 (S2.21)	Effective means of grease removal from commercial hot food premises required
Local Authority	May stipulate specific performance requirements for FOG management

## System and process

### Overview

All ACO Building Drainage biological grease traps work on the same principles: a biological activator is periodically injected into the connecting drainage pipe upstream of the trap.

The mixture of contaminated water and activator flows into the trap and through a sediment basket. The sediment basket removes any larger particles that may be

present in the drain waste. It is important to note that the sediment basket volume is limited, therefore any significant amounts of debris should be removed before entering the grease trap.

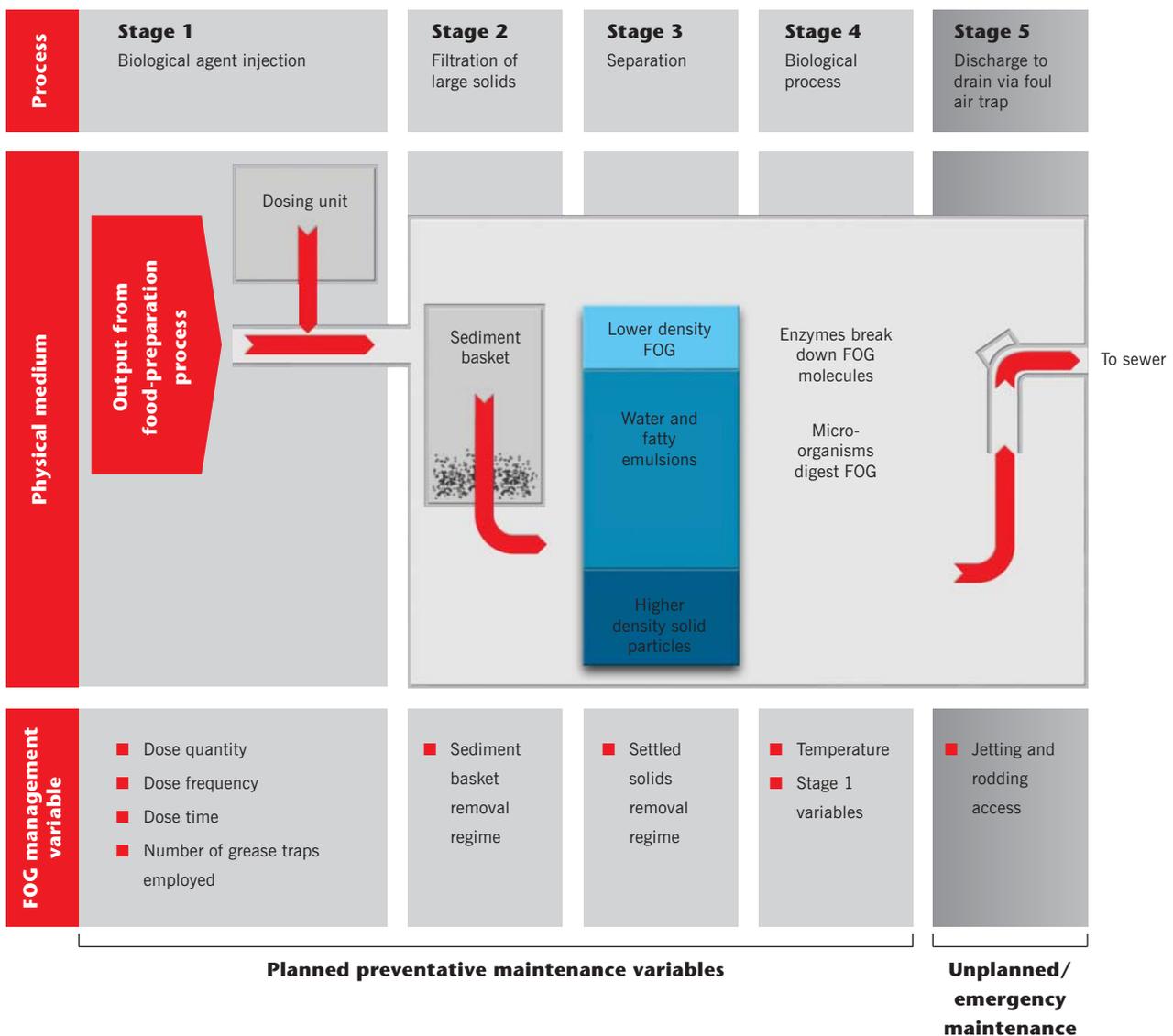
The physical capacity of the trap provides a separation area where relative density differences allow finer solids to settle to the trap floor and less dense FOGs to rise to

the surface.

Separation occurs relatively quickly, thereby allowing less contaminated water to flow to the outlet drain during periods of intense use.

Floating FOGs are gradually broken down as described in **biological activators**. The resulting liquid is then discharged to the sewer.

### System components and FOG management variables



## System and process

### Biological activators

Unlike strong acid or caustic drain cleaners, ACO biological activator works safely, but more slowly. It can be used to unblock drains and to replace aggressive caustic and acid cleaners.

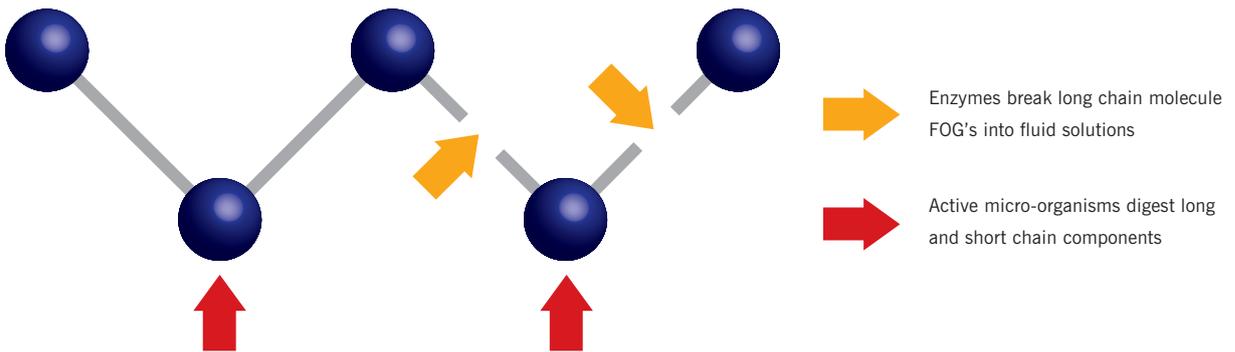
ACO biological activator works in two distinct ways on the FOG wastes that settle in the drainage pipework and grease trap system:

- i) The activator introduces an enzyme that assists the natural biological process of breaking down long molecular chain FOG's into a manageable solution to then be discharged safely into the foul drainage system.
- ii) The activator introduces other micro-organisms that actively feed on the FOG's present in the solution.

Biological activators will not digest solid residues from the food preparation process quickly, so the sediment bucket requires periodic removal for cleaning to ensure efficient operation.

**ACO Clear biological activator is available in 5 or 20 litre containers.**

### ACO activator process

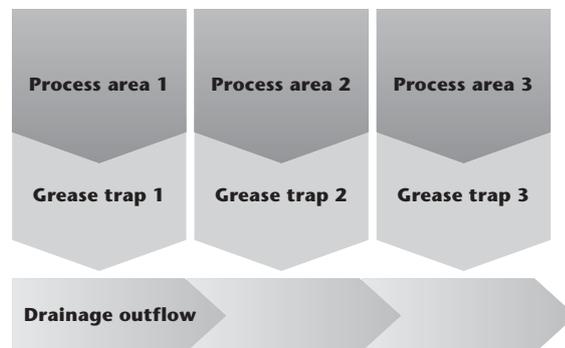


### Applications

Typical applications include:

- Kitchens
- Hotels
- Restaurants
- Fast food restaurants
- Public houses
- Social clubs
- Food processing factories
- Canteens

Depending upon the application, space available and physical layout of the kitchen/food processing area, grease traps can be installed in parallel to share the hydraulic load as shown below:



## Selecting a grease trap

### Factors to consider

Grease trap size	Key points	Other points
<b>Page 8</b>	<p>Biological traps are selected on “meals per day” basis.</p> <p>Free standing traps available for 50, 150 and 250 meals per day.</p> <p>Below ground traps available for up to 1000 meals per day.</p>	<p>BS EN 1825 conforming gravity separators available to special order.</p> <p>Traps can be installed in parallel to meet greater capacity requirements.</p>
<b>Location - Below Ground Polypropylene grease traps (BGP) range</b>		
<b>Page 10-12</b>	<p>50-1000 meals per day capacity.</p> <p>Recessed cover to FACTA Load Class A.</p> <p>Recessed or solid cover to FACTA Load Class B.</p> <p>Recessed cover to FACTA Load Class D.</p>	<p>Suitable for internal or external use.</p> <p>Appropriate where drainage inlet invert dictates below ground applications.</p> <p>Ideal where space limitations exist.</p> <p>Highest capacity trap.</p>
<b>Location - Free Standing Polypropylene (FSP) and Free Standing Stainless Steel (FSS) grease traps range</b>		
<b>Page 13-18</b>	<p>50-250 meals per day capacity.</p> <p>Clear height required for sediment basket removal given on pages 14, 16 and 18.</p>	<p>FSS 316 Stainless Steel construction for hygiene, durable and superior aesthetics.</p> <p>FSP polypropylene for cost effective installation.</p>
<b>Dosing</b>		
<b>Page 19-21</b>	<p>MODD - Mains Operated Drain Dosing.</p> <p>BODD - Battery Operated Drain Dosing.</p>	<p>Regime established after experimentation.</p>
<b>Installation</b>		
<b>Page 22-24</b>	<p>Proximity to waste source.</p> <p>Temperature.</p> <p>Wheel loading (below ground only).</p> <p>Drainage ventilation requirements.</p>	<p>Type of waste pipe.</p> <p>Waste fitting kit for automatic dosing.</p> <p>Mounting frame for automatic dosing.</p>
<b>Operations and maintenance</b>		
<b>Page 25-26</b>	<p>Commissioning the system.</p> <p>Access for sediment basket removal.</p> <p>Periodic system cleaning.</p>	

## Selecting a grease trap

### Grease trap sizing

Selecting the correct size of grease trap for a particular application is probably the most difficult task facing the specifier as each installation tends to be unique in the equipment contained in the food processing area, its location, the type and volumes of food being prepared or processed and the drainage connection points.

Flow rates of water can be used to assess the size of a grease trap, but our experience shows that in most instances, the actual flow rates from all the various kitchen appliances and equipment are not known in practice. This can lead to grossly inaccurate assumptions and subsequent error with a potential cost and performance penalty.

What is known from a kitchen or food-processing plant is the designed maximum volume of food to be produced each day. Examples include the number of meals produced from a restaurant kitchen or a sandwich production facility.

The amount of fats, oils and greases (FOG's) generated in the food processing area is generally proportional to the food volume produced. Therefore the most reliable and easiest method of sizing is to use the 'meals per day' notation.

For the convenience of sizing, 1 meal per day = 1 course of food. For example, an hotel providing three meal sittings on a daily basis for its guests – breakfast (1 course), lunch (3 courses) and dinner (3 courses) yields a maximum total number of courses for each guest of 7 'meals per day'. If the hotel has a total number of 40 double rooms, then the maximum number of meals per day that could be produced is given by:  $7 \times 40 \times 2 = 560\text{mpd}$ .

Further information may be at hand relating to the number of covers expected at a particular sitting. In this case the simple table below can be used to calculate meals per day.

For other food processing applications, equivalent 'meals per day' figures need to be derived. For fast food restaurants, fish and chip shops, and other takeaways, use 1 meal per day for each portion of food produced. For example, a burger bar producing 250 portions of burgers and fries together, estimate this as 250 meals per day. For sandwich production factories, estimate 10 rounds of sandwiches equal to 1 meal per day (1 round of sandwich comprises of 2 pieces of bread).

### Example calculation of meals per day - $A \times B \times C = \text{MPD}$

Sitting	Course 1	Course 2	Course 3	Course 4	A Total courses	B Number of guests possible	C % of guests expected	Meals per day
Breakfast	1	N/A	N/A	N/A	1	40	70%	28
Lunch	1	1	1	N/A	3	40	40%	48
Tea	1	N/A	N/A	N/A	1	40	20%	8
Dinner	1	1	1	1	4	40	100%	160

**Meals per day total 244**

\* Always size the grease trap based on maximum expected seasonal variations

## Selecting a grease trap

### Load Class

All ACO Building Drainage products have load classification in accordance with the FACTA (Fabricated Access Covers Trade Association) Load Class criteria.

The Load Class table below is provided as a guide only in the selection of fabricated metal gratings and covers for the applications indicated and has been designed specifically to cater for the performance of these products in service.

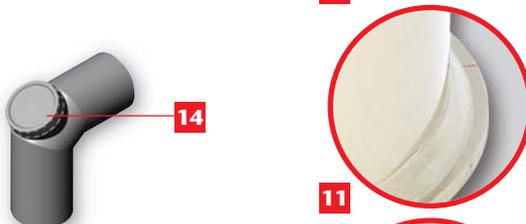
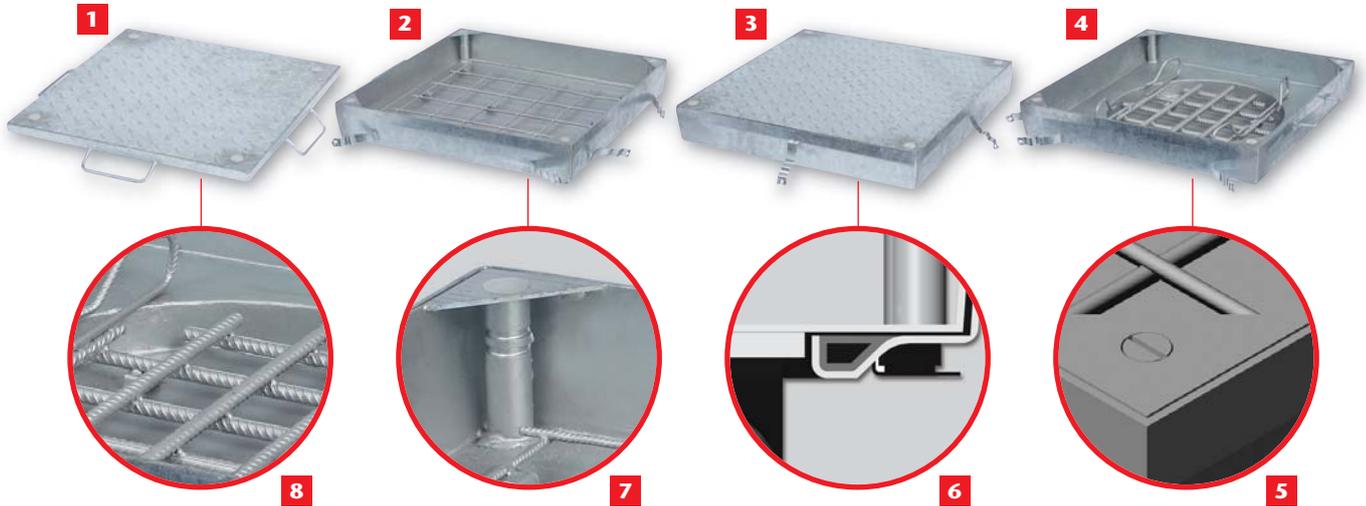
With respect to EN load test standards, the characteristics of stainless steel and mild steel materials are not addressed within their load test criteria.



FACTA Load Class	BS EN 124:1994 and BS EN 1433:2002 comparisons	Slow Moving Wheel Load (Tonnes)		Typical Applications
		Pneumatic	Solid	
<b>A15</b> 	A15	0.5	n/a	Pedestrian areas, changing rooms and toilets.
<b>AA</b> 		1.5	n/a	Very light industrial areas, small trolleys and private cars.
<b>AAA</b> 		2.5	0.5	Light industrial areas, trolleys and light pallet trucks.
<b>B</b> 	B125	5.0	0.75	Factories, industrial plants, pick-up trucks and small pallet trucks.
<b>C</b> 	C250	6.5	1.0	Factories, industrial plants, lorries, pallet trucks and small fork lift trucks.
<b>D</b> 	D400	11.0	3.0	Heavy duty industrial areas, medium duty fork lift trucks and HGV's.
<b>E</b> 	E600	16.0	5.0	Heavy duty industrial areas, heavy duty fork lift trucks and HGV's.

## Below ground polypropylene grease traps

### Features and benefits

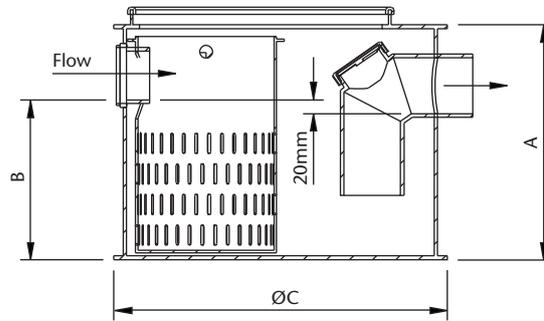


- 1** Solid chequer plate cover FACTA Load Class A.
- 2** Recessed cover FACTA Load Class B.
- 3** Solid chequer plate cover FACTA Load Class B.
- 4** Recessed cover FACTA Load Class D.
- 5** Slotted screw four point locking cover for convenient removal.
- 6** Sealed system on all covers.
- 7** Four point lifting key.
- 8** Robust, fully welded hot dip galvanised finish.
- 9** 300mm raising piece option easily cut on-site to length.
- 10** Six sizes up to 15 l/s or 1000 meals per day capacity.
- 11** Robust, fully welded lightweight and corrosion resistant polypropylene body.
- 12** Offset access point ensures convenient removal of sediment basket.
- 13** Conventional connections to Ø110mm and Ø160mm pipes with female in, male out on BGP 50-700. The BGP 1000 incorporates Ø200mm male connector.
- 14** Outlet has inbuilt access for jetting or rodding.
- 15** Lightweight polypropylene sediment basket with handle and location guide for easy maintenance.

**Below ground polypropylene grease traps**

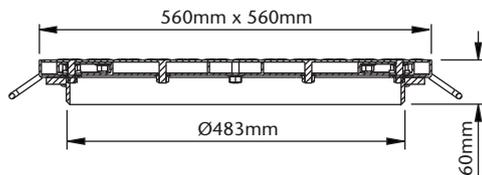
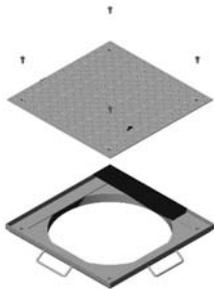
**Technical data**

**Product Dimensions - BGP Range**



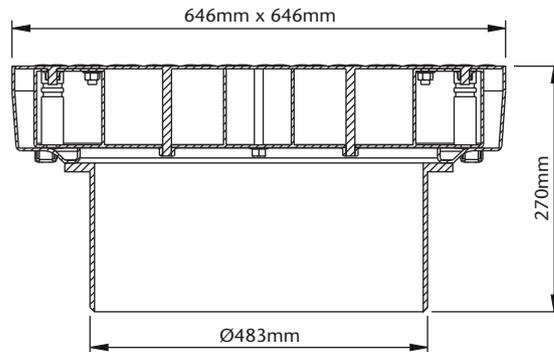
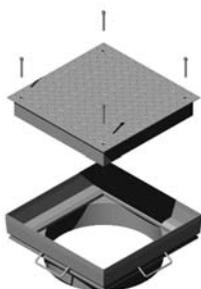
Body Model Ref	Part No.	Inlet/Outlet Connection mm	Body Height A mm	Base to Inlet Invert B mm	Body Diameter C mm	Dry Weight kg	Meals per day	Flow Rate l/s
BGP50	402617	110	458	298	650	15	0 - 50	2
BGP150	402618	110	618	453	745	23	50 - 150	4
BGP250	402619	110	580	415	850	30	150 - 250	6
BGP450	402620	160	820	605	850	35	250 - 450	8
BGP700	402621	160	920	705	850	38	450 - 700	10
BGP1000	402622	200	940	670	1050	65	700 - 1000	15

**Solid access cover - FACTA Load Class A**



Description	Part No	Cover and frame weight combined	Solid cover weight	Filled recessed cover weight
BGPSA	402623	19kg	15kg	N/A

**Solid access cover - FACTA Load Class B**

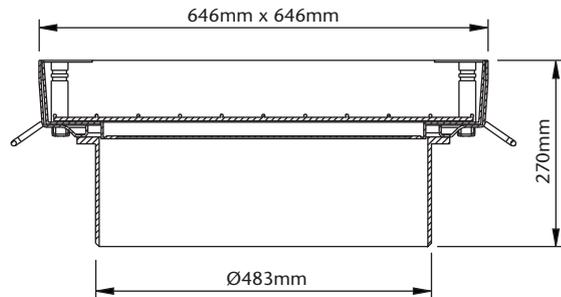


Description	Part No	Cover and frame weight combined	Solid cover weight	Filled recessed cover weight
BGPSB	402624	40.5kg	31.5kg	N/A

**Below ground polypropylene grease traps**

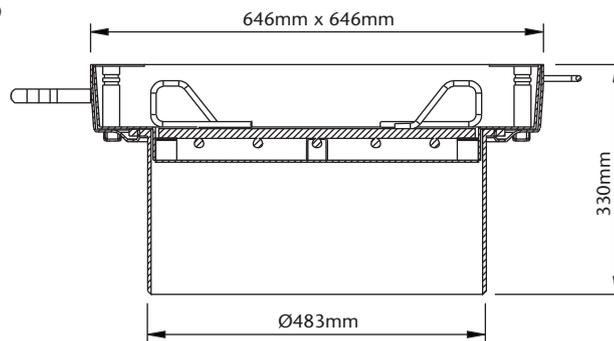
**Technical data**

**Recessed access cover - FACTA Load Class B**



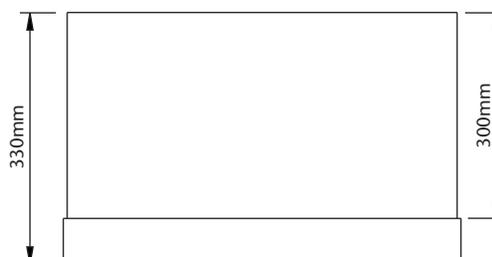
Description	Part No	Cover and frame weight combined	Solid cover weight	Filled recessed cover weight
BGPRB	402625	19kg	N/A	75kg

**Recessed access cover - FACTA Load Class D**



Description	Part No	Cover and frame weight combined	Solid cover weight	Filled recessed cover weight
BGPRD	402626	27kg	N/A	90kg

**Access cover raising piece**



Description	Part No	Weight
BGPRP	402627	3kg

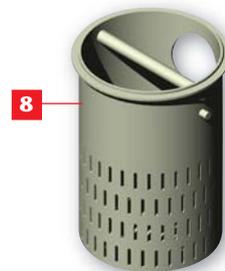
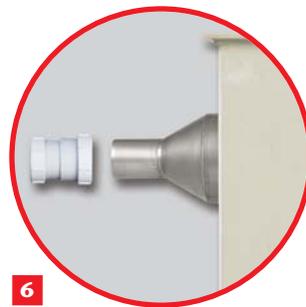
**NBS specification clause reference**

For relevant NBS specification, refer to NBS Section R12 Below Ground Drainage, Clause 630 Grease Traps/convertors.

## Free standing polypropylene grease traps

### Features and benefits

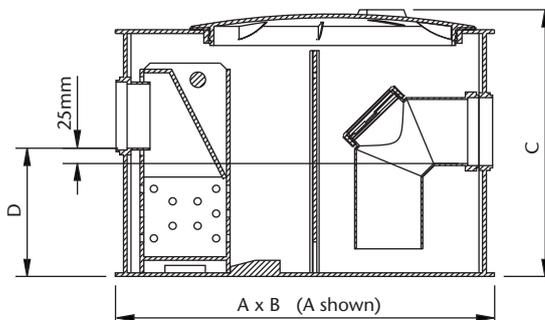
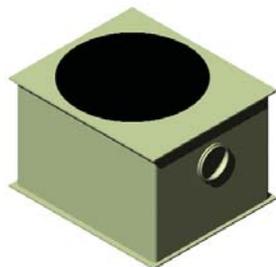
- 1** Screw-on air tight lid.
- 2** Robust polypropylene construction for cost effective installation.
- 3** Smooth easy to clean surface.
- 4** Three sizes available up to 250 meals per day.
- 5** Ø110mm female inlet and outlet connectors.
- 6** Concentric male Ø110mm to Ø50mm reducer and 50mm or 40mm push fit/solvent weld adaptor kit option.
- 7** Roddable foul air trap.
- 8** Lightweight polypropylene sediment basket with handle and location guide for easy maintenance.



**Free standing polypropylene grease traps**

**Technical data**

**Product dimensions - FSP Grease Trap**



Model Ref	Part No.	A mm	B mm	C mm	D mm	Dry Weight kg	Inlet dia mm	Outlet dia mm	Meals per day	Flow Rate l/s
FSP50	49079	610	520	440	205	13	110	110	0-50	2
FSP150	49080	760	660	540	305	21	110	110	50-150	4
FSP250	49081	930	740	540	305	29	110	110	150-250	6

**Minimum clear distance above top of grease trap required for service access**

Model Ref	Total clear height requirement for grease trap and sediment basket removal, mm
FSP50	755
FSP150	945
FSP250	945

**Grease trap connection accessories**

Model Ref	Part No	Weight kg	Description
FS110/50/40	402706	0.9	Conversion kit to connect grease trap to either 50mm or 40mm push fit or solvent weld waste pipes to BS 5254 and BS 5255. Kit comprises 2 stainless steel 110mm to 50mm concentric male/male reducers and appropriate plastic fitting connections. Depending upon the installation, flow capacity limitations may be experienced.

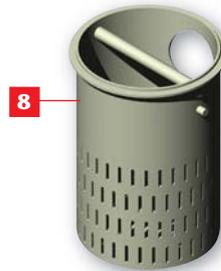
**NBS specification clause reference**

For relevant NBS specification, refer to NBS Section R11 Foul Drainage Above Ground, Clause 300 Grease Traps and insert the appropriate model reference number.

## Free standing stainless steel grease traps

### Features and benefits

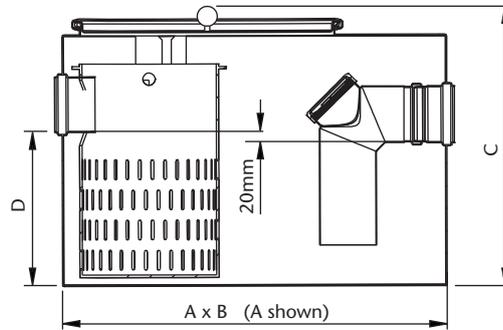
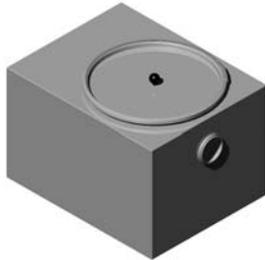
- 1** Aesthetically pleasing brushed finish.
- 2** Brushed easy to clean surface.
- 3** Three sizes available up to 250 meals per day.
- 4** Air tight metal band snap-fix lid.
- 5** Ø110mm female inlet and outlet connectors.
- 6** Concentric male Ø110mm to Ø50mm reducer and 50mm or 40mm push fit/solvent weld adaptor kit option.
- 7** Roddable foul air trap.
- 8** Lightweight polypropylene sediment basket with handle and location guide for easy maintenance.



**Free standing stainless steel grease traps**

**Technical data**

**Product dimensions - FSS Grease Trap**



Model Ref	Part No.	A mm	B mm	C mm	D mm	Dry Weight kg	Inlet dia mm	Outlet dia mm	Meals per day	Flow Rate l/s
FSS50	402614	610	520	440	185	35	110	110	0-50	2
FSS150	402615	760	660	540	285	48	110	110	50-150	4
FSS250	402616	930	660	540	285	65	110	110	150-250	6

**Minimum clear distance above top of grease trap required for service access**

Model Ref	Total clear height requirement for grease trap and sediment basket removal, mm
Compact	535
FSS50	755
FSS150	855
FSS250	855

**Grease trap connection accessories**

Model Ref	Part No	Weight kg	Description
FS110/50/40	402706	0.9	Conversion kit to connect grease trap to either 50mm or 40mm push fit or solvent weld waste pipes to BS 5254 and BS 5255. Kit comprises 2 stainless steel 110mm to 50mm concentric male/male reducers and appropriate plastic fitting connections. Depending upon the installation, flow capacity limitations may be experienced.

**NBS specification clause reference**

For relevant NBS specification, refer to NBS Section R11 Foul Drainage Above Ground, Clause 300 Grease Traps and insert the appropriate model reference number.

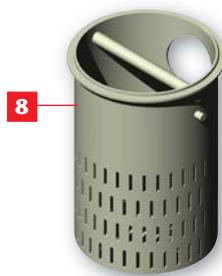
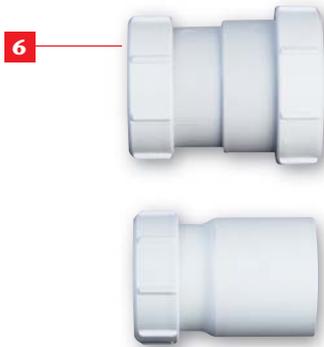


Free standing stainless steel grease trap – compact

Features and benefits



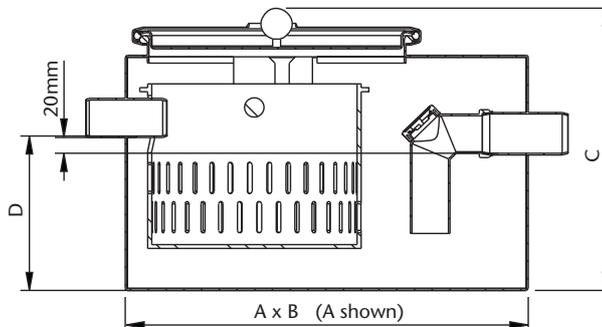
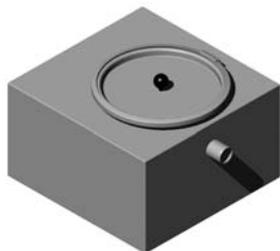
- 1** Compact size with overall height at 340mm makes this unit ideal for single appliances or the smaller kitchen.
- 2** 1 l/s flow rate ideal for sinks.
- 3** Corrosion resistant 316 stainless steel construction.
- 4** Aesthetically pleasing brushed finish.
- 5** Clear height requirement for sediment basket removal just 535mm.
- 6** Ø50mm male connectors supplied complete with 50/40mm push fit/solvent weld adaptor kit.
- 7** Roddable foul air trap.
- 8** Lightweight polypropylene sediment basket with handle and location guide for easy maintenance.
- 9** Air tight metal band snap-fix lid.



**Free standing stainless steel grease trap – compact**

**Technical data**

**FSS Compact**



Model Ref	Part No.	A mm	B mm	C mm	D mm	Dry Weight kg	Inlet dia mm	Outlet dia mm	Meals per day	Flow Rate l/s
Compact	402628	510	500	340	175	24	50*	50	-	1

**Minimum clear distance above top of grease trap required for service access**

Model Ref	Total clear height requirement for grease trap and sediment basket removal, mm
Compact	535

*\*The Compact grease trap is supplied with universal multifit 50mm and 40mm connectors for easy connection to all push fit and solvent weld plastic waste pipes.*

**NBS specification clause reference**

For relevant NBS specification, refer to NBS Section R11 Foul Drainage Above Ground, Clause 380 Grease Traps/convertors.



## Accessories

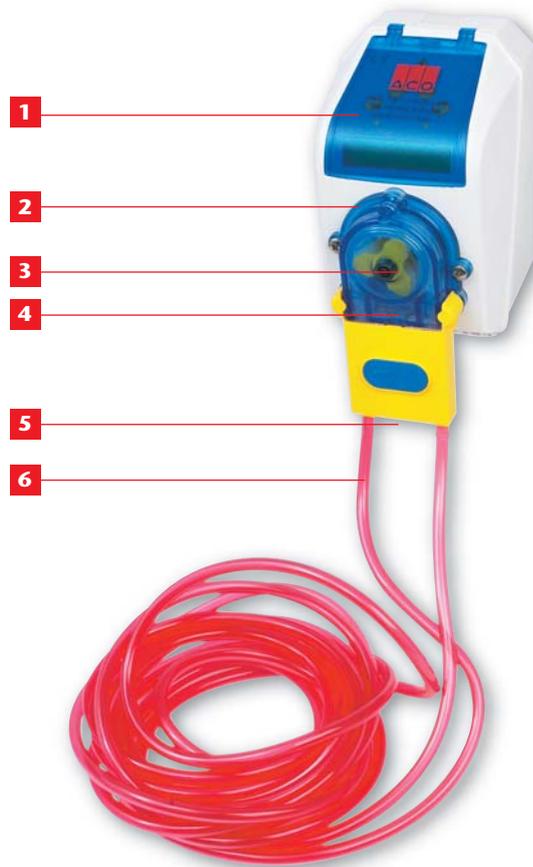
### Features and benefits

#### MODD and BODD

##### (Mains Operated Drain Dosing /Battery Operated Drain Dosing)

Choice of mains or battery operated dosing units enables maximum operational efficiency of grease management system to be established quickly.

- 1** Microprocessor controlled dosing is programmed via convenient LCD display touch pad input panel for easy set up and programme modification where, for example, the operating environment changes due to seasonal variations.
- 2** Water resistant ABS Enclosure conforms to IP 66M for water and dust ingress prevention.
- 3** MODD unit delivers 210ml per minute of biological activator, BODD-75ml/per minute. Both units are programmable to match user requirements. Each unit is supplied with PVC tubing, tube connectors and operating instructions.
- 4** MODD unit incorporates battery timeclock back up in case of power failure, BODD unit is operated by four 'D' cell batteries (not supplied) and is situated where no mains electricity is available.
- 5** MODD unit efficiently allows up to two traps to be dosed by one pump.
- 6** Precise delivery extends activator economy significantly over "manual dosing" methods.



#### Mounting frame

- 1** Manufactured in brushed grade 304 stainless steel to match other kitchen appliances.
- 2** Houses 5 litres of activator.
- 3** Versatile unit can be floor or wall mounted and has reversible door for right hand or left hand opening.
- 4** Pre-drilled apertures for mains feed and biological activator feed are supplied with blanking grommets.
- 5** Lockable door has slot aperture for convenient view of activator level.
- 6** Pre-drilled for wall mounting and MODD/BODD fixing.



**Accessories**

**Features and benefits**

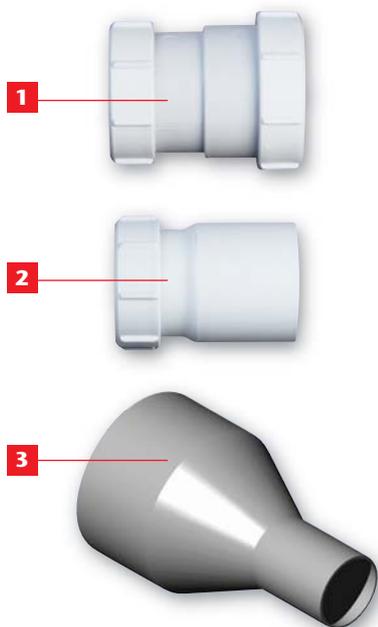


**Waste fitting kit**

- 1** Swept T connection connects all push fit and solvent weld 40mm and 50mm waste pipes to BS 5254 and BS 5255.
- 2** Provides quick and convenient connection for drain dosing units to system.

**ACO clear biological activator**

- 1** ACO Clear biological activator introduces an enzyme that assists in breaking down fat, oil and grease deposits. Micro-organisms actively feed on fats present in the drainage system or grease trap.
- 2** The activator can be applied manually, pouring a prescribed amount into the drain directly, or as recommended, via MODD or BODD units.
- 3** Available in 5 or 20 litre containers.



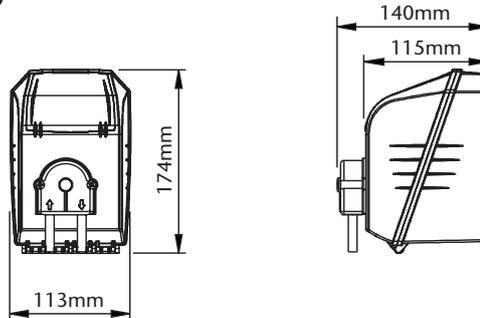
**Adaptor kit for free standing traps**

- 1** 2"/50mm connector, connects UK waste pipe to BS 5254/BS 5255.
- 2** 2" to 1 1/2" reducer.
- 3** 110mm - 50mm concentric reducer.

**Accessories**

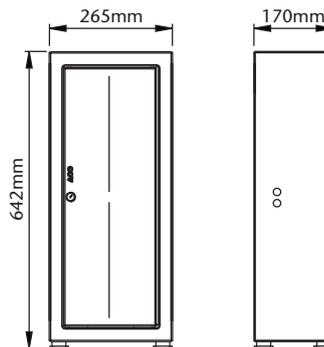
**Technical data**

**Mains/battery operated drain doser - MODD/BODD**



Description	Part No	Pump spread ml/min	Power supply	Weight kg
MODD	49025	210	220/240V	1.5
BODD	49024	75	Battery type 'D'	1.0

**Mounting frame**



Description	Part No	Weight kg
MF	402637	4.0

**Waste fitting kit**

Description	Part No	Weight kg
WFK	49026	1.0

**ACO clear biological activator**

Description	Part No	Volume l	Weight kg
ACO Clear 5 litres	49020	5	5
ACO Clear 20 litres	49022	20	20

**Grease trap connection accessories**

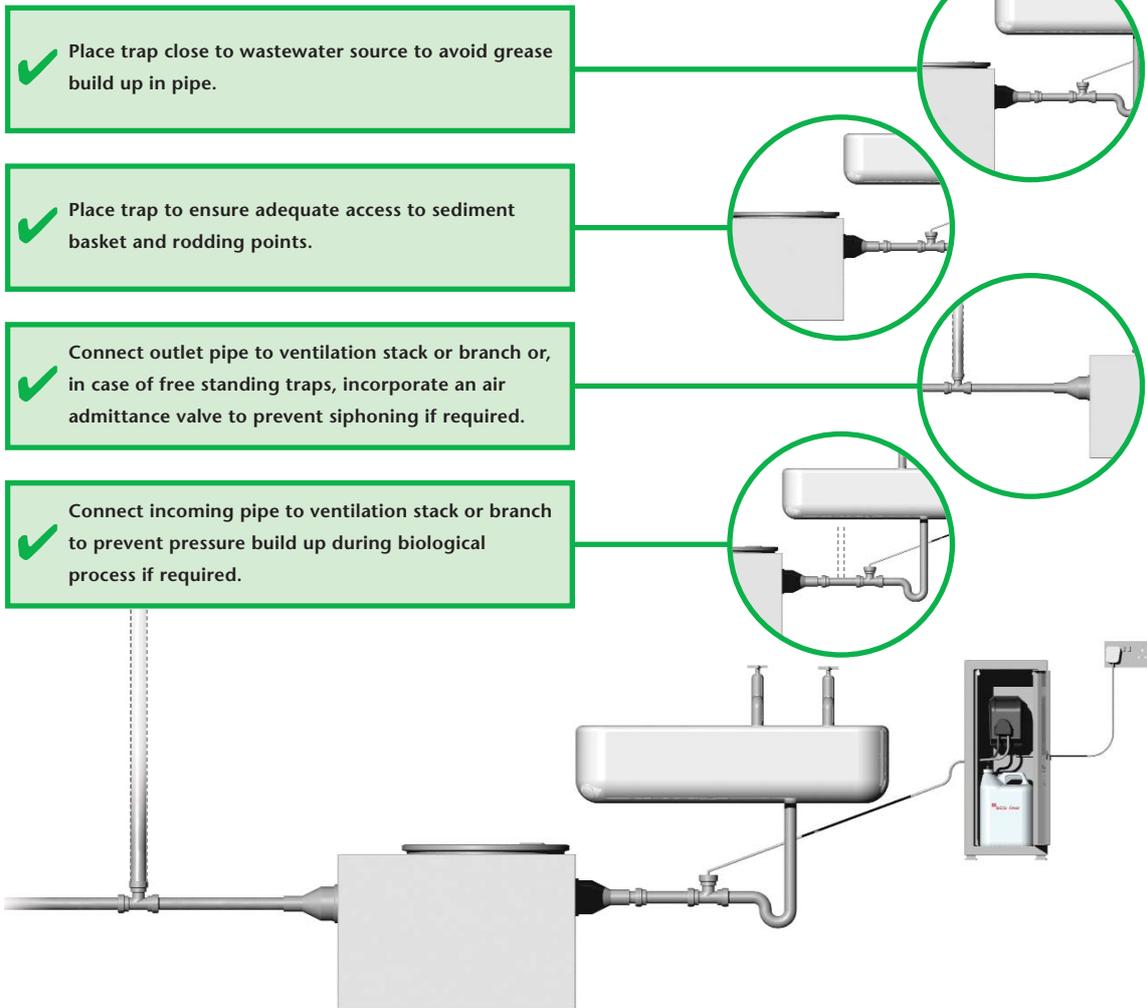
Sales Ref	Part No	Weight kg	Description
FS110/50/40	402706	0.9	Conversion kit to connect grease trap to either 50mm or 40mm push fit or solvent weld waste pipes to BS 5254 and BS 5255. Kit comprises 2 stainless steel 110mm to 50mm concentric male/male reducers and appropriate plastic fitting connections. Depending upon the installation, flow capacity limitations may be experienced.



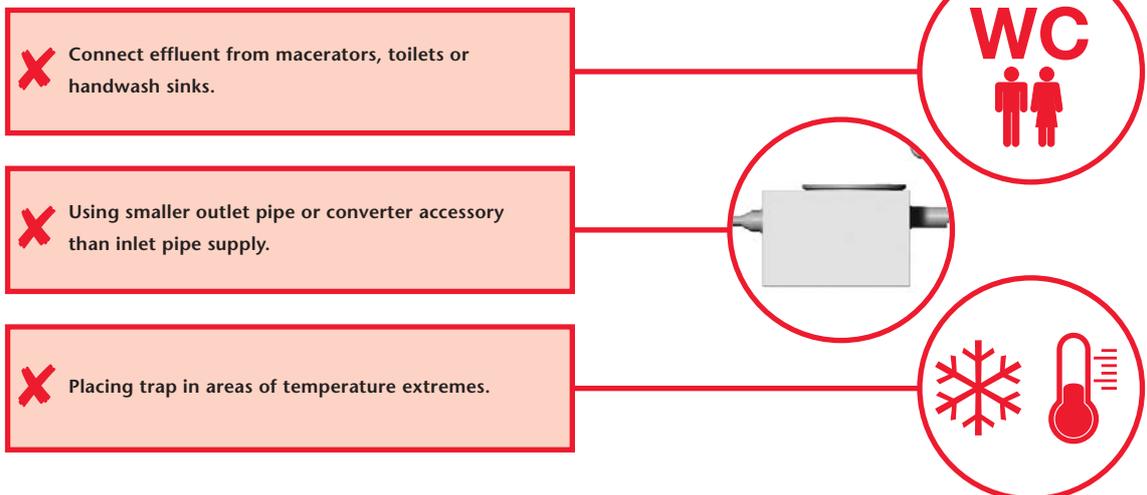
## Installation

### General points - all grease traps

#### Do this...



#### Avoid this...



## Installation

### Free standing biological grease traps

#### 1 Inlet/outlet

Both inlet and outlet points are clearly marked. Position the trap accordingly.

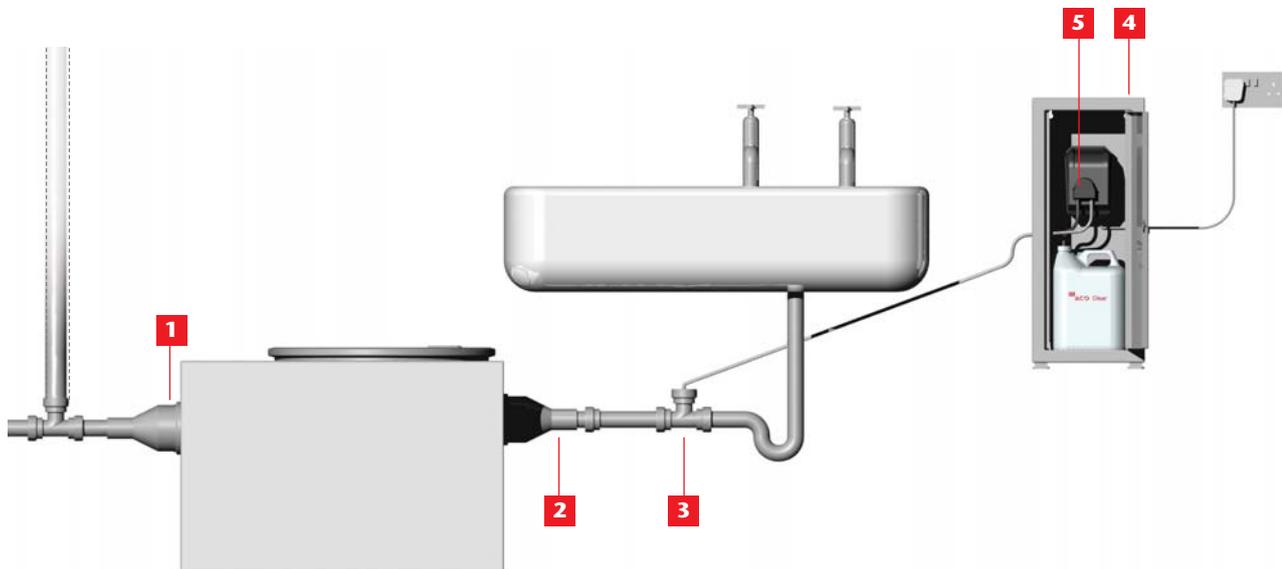
#### 2 Adaptor kits - FSS and FSP models

If Ø110mm pipe is not used, an adaptor kit is available to suit 50 and 40mm solvent weld and push fit waste pipes.

See page 21.

#### 3 Waste fitting kit

1. Place near source of grease, ie. pan wash sink.
2. Assemble nipple with sealing washer each side.
3. Trim back nipple to correct pipe size.
4. Install so that nipple is upright.



#### 4 Mounting frame

1. Decide door opening direction and assemble accordingly.
2. Unit can be free standing or wall mounted.

#### 5 MODD/BODD

Locate dosing system on wall or in mounting frame. Ensure supply tube to activator bottle is no longer than 2m.

See page 25 for setup.

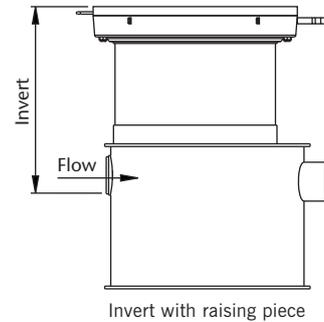
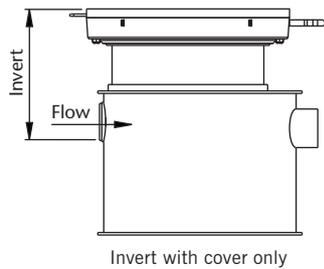
#### 6 Compact model (not shown)

The compact model is supplied with Ø50mm male inlet and outlet spigots complete with adaptor set to 50 and 40mm solvent weld and push fit waste pipes.

## Installation

### Below ground polypropylene biological grease traps

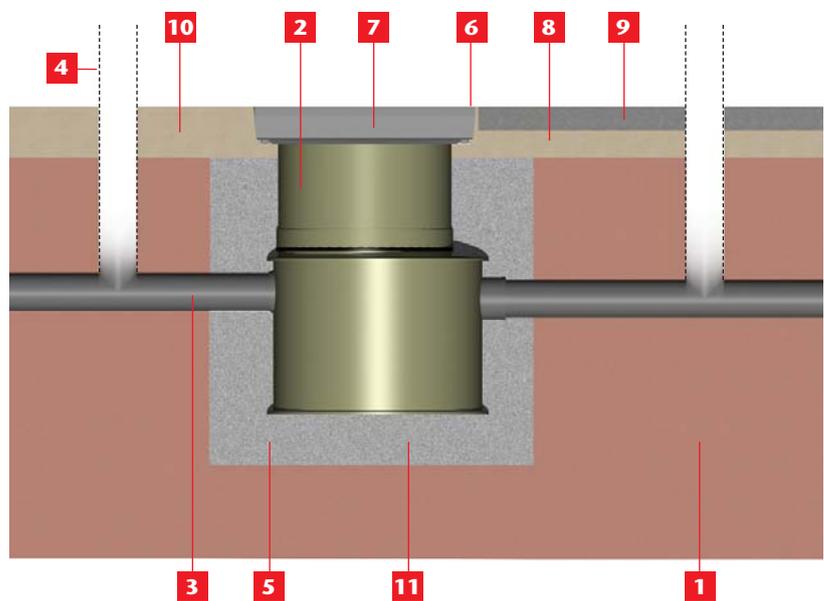
#### Invert with cover only



Description	Solid Class A	Solid Class B	Recessed Class B	Recessed Class D
1. BGP50	220	440	440	500
2. BGP150	225	445	445	505
3. BGP250	225	445	445	505
4. BGP450	275	495	495	555
5. BGP700	275	495	495	555
6. BGP1000	330	550	550	610

• Outlet invert is plus 20mm • Invert with raising piece as above + 300mm

- 1** Ensure ground conditions are suitable. Engineering advice may be required.
- 2** Access cover raising piece extends installation depth by 100-300mm. Cut on site to suit using carpenter's saw. Use multiple units to achieve depth increments greater than 300mm.  
  
Use of extension pieces will restrict access to sediment basket and rodding point. Rodding access should be effected by other means such as a purpose built manhole or access chamber downstream.
- 3** Inlet/outlet pipes are clearly labelled. Inlet side corresponds to silt basket position.
- 4** Ensure adequate ventilation connections are supplied to inlet and outlet pipe work if required.
- 5** Backfilling will require the system to be filled to outlet level with water to prevent flotation.
- 6** Ensure access cover installed is up to 2mm below finished floor level.



- 7** Recessed covers - in order to attain loading strength the cover must be filled with a suitable screed of minimum Strength Class C40/50.
- 8** General guidance notes for concrete reinforcement are available from ACO if required. Note: Independent certification will be necessary.
- 9** Block pavements should be bedded on a polymer modified mortar for the course adjacent to the cover to prevent lateral movement.
- 10** Concrete slab to engineers detail.
- 11** Concrete surround to Strength Class C20/25 minimum.

## Operation and maintenance

### Biological dosing regime

Once installed, grease trap performance can be optimised via the following procedure:

1. Establish total dosing time using table 1 opposite, referring to page 8 to arrive at 'meals per day'. Then convert the dosing times to seconds for either the MODD or BODD dosing units as appropriate (this facilitates the simple calculation below).
2. Establish hourly load on grease trap by considering daily average patterns for all facilities connected to the trap. Table 2 below gives an example of a sixteen hour period with a total capacity of 700 meals per day.

Load percentages are shown in row A, row B multiplies load percentage by total dosing time for a MODD unit in order to arrive at the time to be entered into dosing unit programme at the start of that period. For example the unit should be programmed for 30 seconds running at 10am, one minute at 2pm and so on. Programme the unit accordingly.

**Table 1 - dosing times**

Meals per day	ACO clear (ml)	Dosing times (seconds)	
		MODD	BODD
50	50	0:14	0:40
100	100	0:29	1:20
150	150	0:43	2:00
200	200	0:57	2:40
250	250	1:11	3:20
300	300	1:26	4:00
350	350	1:40	4:40
400	400	1:54	5:20
500	500	2:23	6:40
600	600	2:51	8:00
700	700	3:20	9:20
800	800	3:49	10:40
900	900	4:17	12:00
1000	1000	4:46	13:20

3. Alternatively, where the load on the grease trap is variable, the dosing can be programmed at the end of the working period, preferably when the trap will not be used for a few hours.

4. Shock dosing of the grease trap is an important element to start the biological process.

To rapidly establish a biomass within the grease trap, dose the system with 3 or 4 days of maintenance activator to begin the process, either by pouring ACO Clear activator directly through a sink at a quiet part of the working day when there is no drainage activity or by running the dosing pump in priming mode as per the instructions supplied with the pump.

**Table 2 - programming example**

Time		07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
A	Percentage load				15%				30%				20%			35%			100%
B	Dosing time(s)				30s				60s				40s			70s			200 seconds
Minutes/seconds for programming time																			
	Programming time (min/s)				0:30				1:00				0:40			1:10			3:20 min/s

## Operation and maintenance

### Operation during first 2 weeks

1. Inspect sediment basket daily at first to establish how often the basket needs to be emptied. If the basket fills rapidly (less than 2 weeks, for example), then it is necessary to provide other filtration upstream of the trap.

**Note:** Do not connect macerators to the trap.

2. Inspect the contents of the trap - increase the dosing frequency and period if:
  - a. solidified grease is apparent on the surface and/or near the walls of the trap.
  - b. significant pools of oil are present on the surface
  - c. flow is impaired at the outlet pipe. This can be established by removing the access point cap.

### Ongoing operation

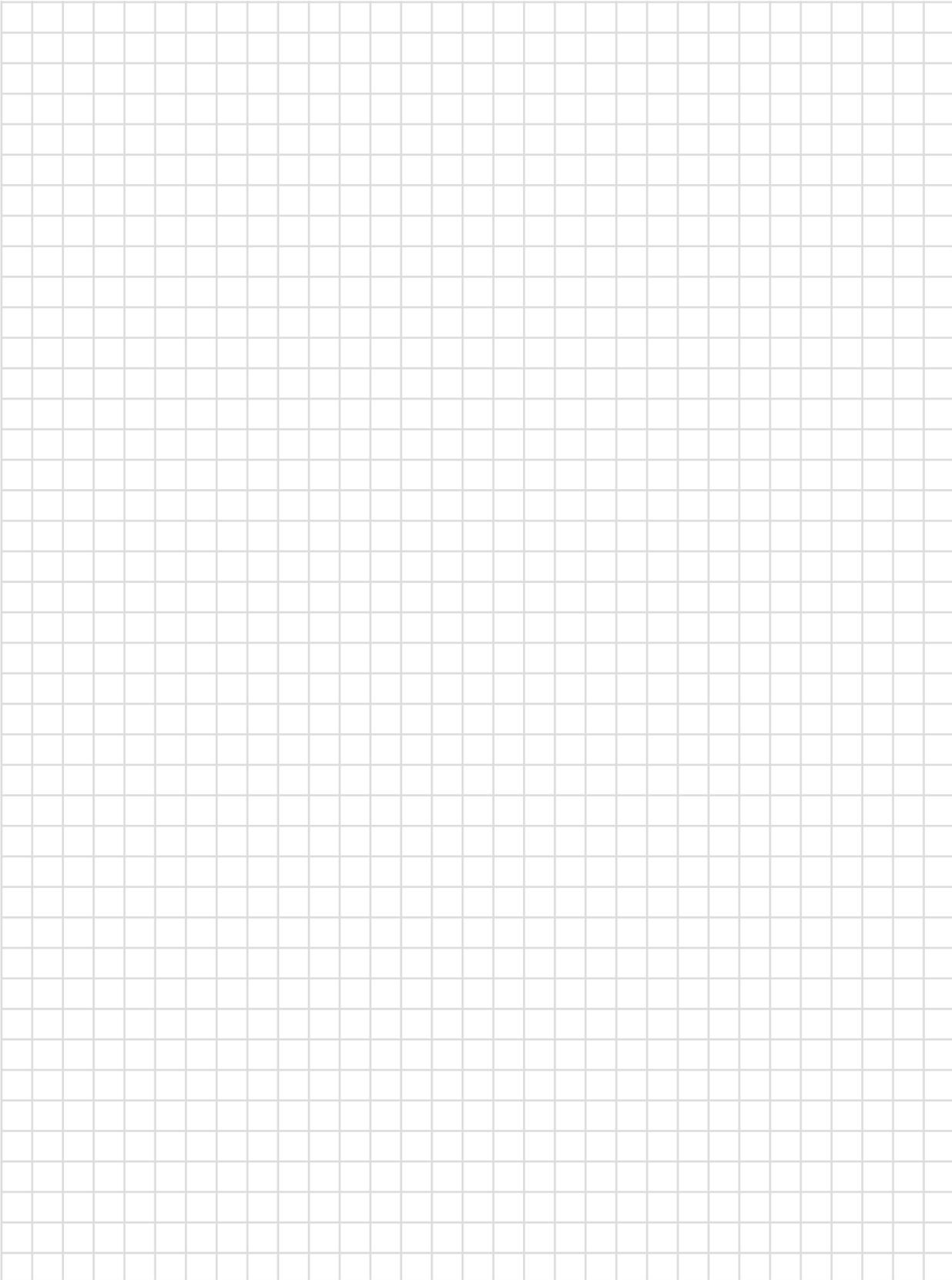
1. Adjust dosing period and frequency for known seasonal variations - establish regular sediment basket removal regime.
2. Drain, clean and inspect the trap twice annually or at more regular intervals if silt build up at the base of the trap exceeds 5cm.

### Trouble Shooting

Once ongoing operation is established ACO Biological Grease Traps should provide excellent service. Should problems become apparent, check the following variables and contact us on 01462 816666 for information.

1. MODD operation, electricity supply and programming, battery if BODD is used.
2. Pipelines from dosing unit.
3. Load on trap in meals per day.
4. Dosing period and frequency.
5. Influent temperature and temperature within trap.





## ACO Technologies plc

- ACO Building Drainage
- ACO Water Management  
Civils + Infrastructure  
Urban + Landscape
- ACO Sport
- ACO Wildlife
- ACO Technic
- ACO Home & Garden

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**The ACO Group: A strong family you can depend on.**

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