



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.

Tel: 01462 816666

Fax: 01462 851490

e-mail Enquiries: buildingdrainage@aco.co.uk

website: www.acobuildingdrainage.co.uk



Contents

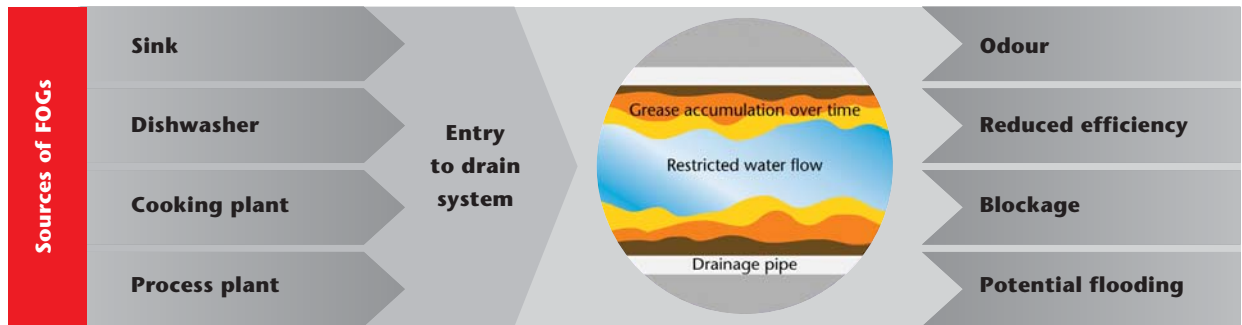
| | |
|---|----|
| The need for fat, oil and grease management | |
| Local effects of fats, oils and grease (FOG's) | 4 |
| Regional effects | 4 |
| Legislation and regulation | 4 |
| System and process | |
| Overview | 5 |
| System components and FOG management variables | 5 |
| Biological activators | 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

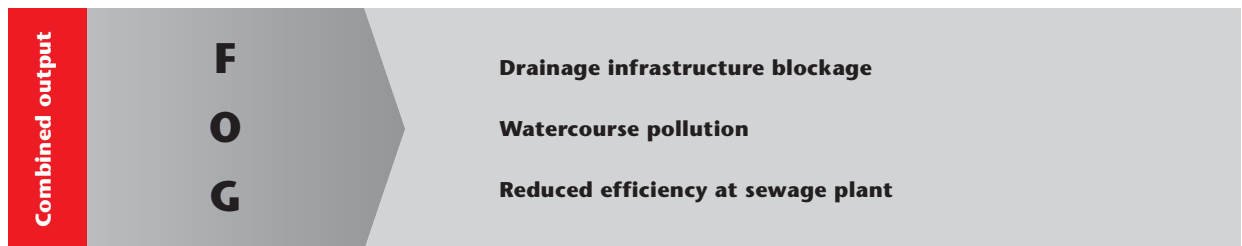
Local effects of fats, oils and grease (FOG's)

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.

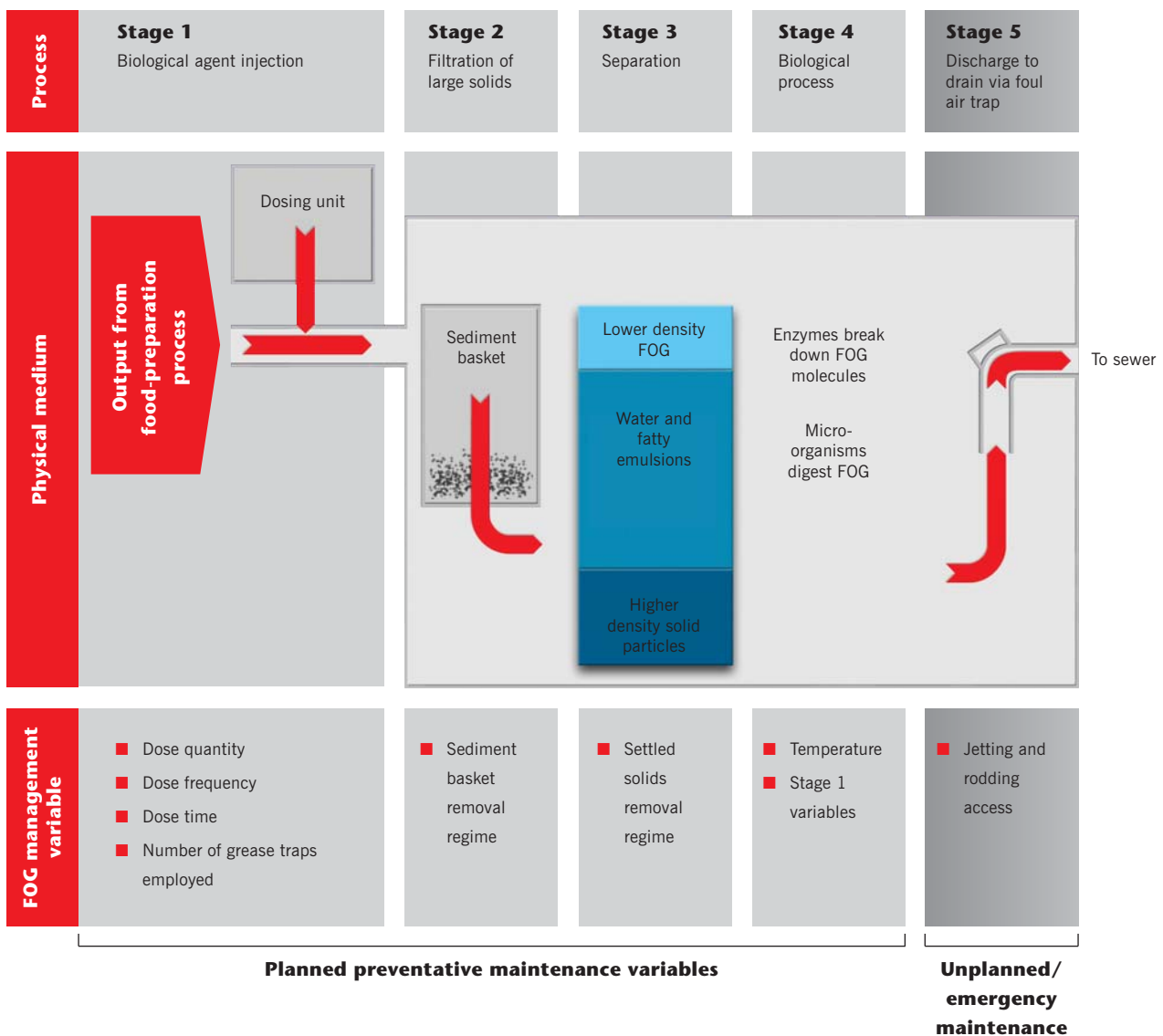
The physical capacity of the trap provides a separation area where relative density differences allow finer solids to settle to the trap floor and less dense FOGs to rise to

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.

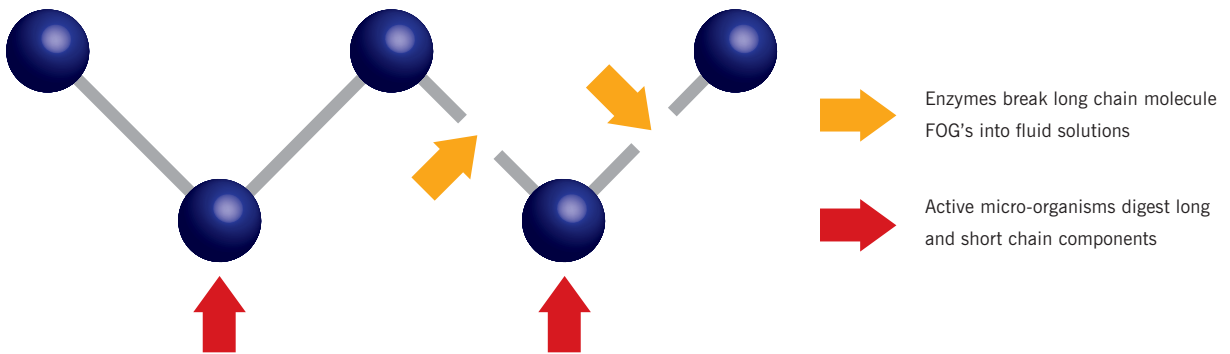
ACO biological activator works in two distinct ways on the FOG wastes that settle in the drainage pipework and grease trap system:

- 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

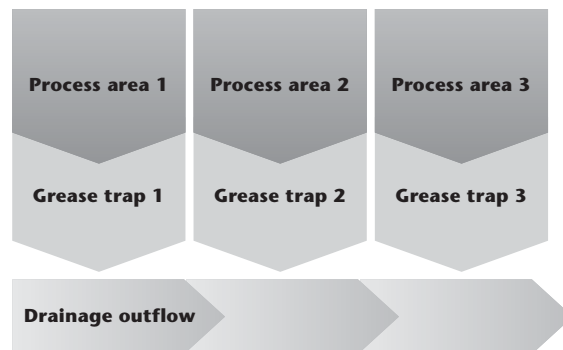


Applications

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 |
|--|--|--|
| Page 8 | <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> |
| Location - Below Ground Polypropylene grease traps (BGP) range | | |
| Page 10-12 | <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> |
| Location - Free Standing Polypropylene (FSP) and Free Standing Stainless Steel (FSS) grease traps range | | |
| Page 13-18 | <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> |
| Dosing | | |
| Page 19-21 | <p>MODD - Mains Operated Drain Dosing.</p> <p>BODD - Battery Operated Drain Dosing.</p> | <p>Regime established after experimentation.</p> |
| Installation | | |
| Page 22-24 | <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> |
| Operations and maintenance | | |
| Page 25-26 | <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.

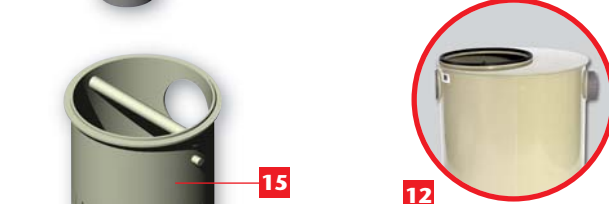
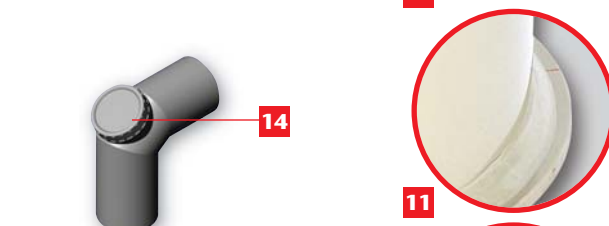
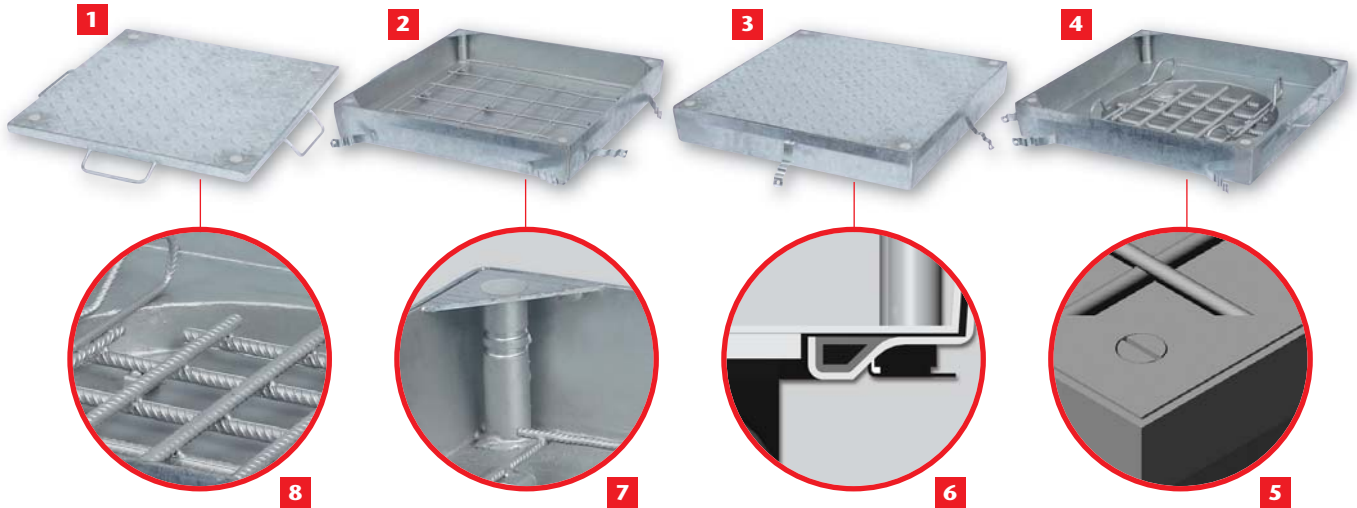
With respect to EN load test standards, the characteristics of stainless steel and mild steel materials are not addressed within their load test criteria.



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

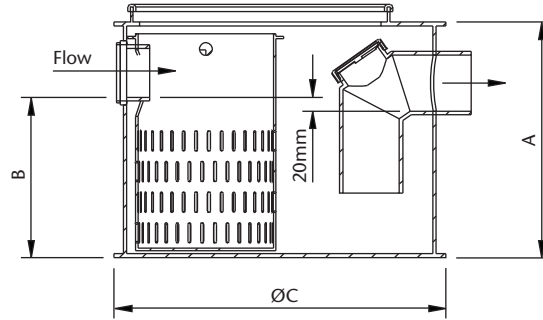


- 1** Solid chequer plate cover FACTA Load Class A.
- 2** Recessed cover FACTA Load Class B.
- 3** Solid chequer plate cover FACTA Load Class B.
- 4** Recessed cover FACTA Load Class D.
- 5** Slotted screw four point locking cover for convenient removal.
- 6** Sealed system on all covers.
- 7** Four 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

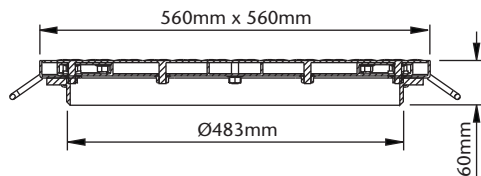
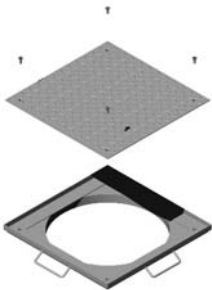
Technical data

Product Dimensions - BGP Range



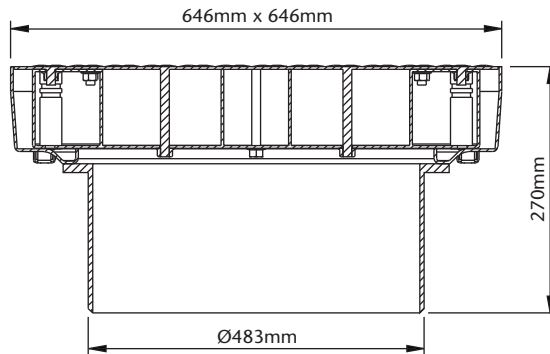
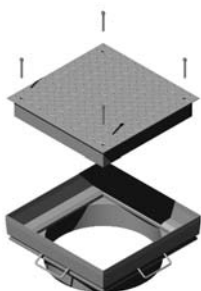
| Body Model Ref | Part No. | Inlet/Outlet Connection mm | Body Height A mm | Base to Inlet Invert B mm | Body Diameter C mm | Dry Weight kg | Meals per day | Flow Rate l/s |
|----------------|----------|----------------------------|------------------|---------------------------|--------------------|---------------|---------------|---------------|
| 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

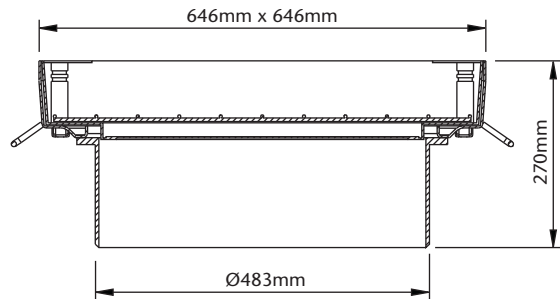


| Description | Part No | Cover and frame weight combined | Solid cover weight | Filled recessed cover weight |
|-------------|---------|---------------------------------|--------------------|------------------------------|
| BGPSB | 402624 | 40.5kg | 31.5kg | N/A |

Below ground polypropylene grease traps

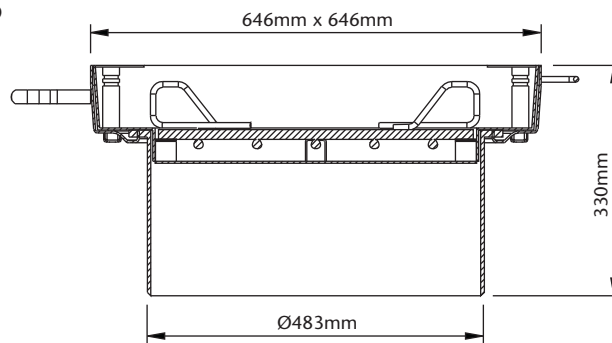
Technical data

Recessed access cover - FACTA Load Class B



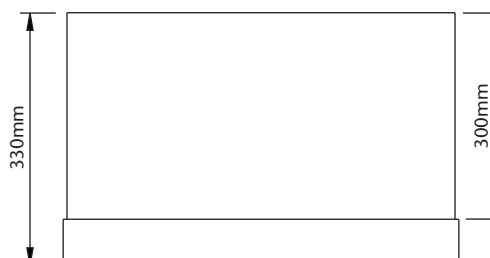
| Description | Part No | Cover and frame weight combined | Solid cover weight | Filled recessed cover weight |
|-------------|---------|---------------------------------|--------------------|------------------------------|
| BGPRB | 402625 | 19kg | N/A | 75kg |

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 |

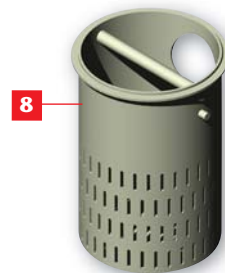
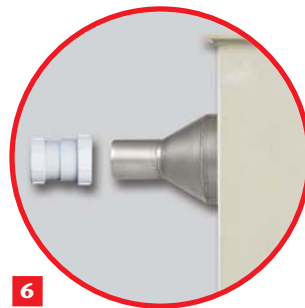
NBS specification clause reference

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

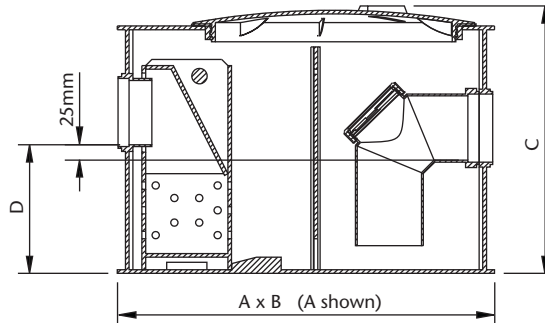
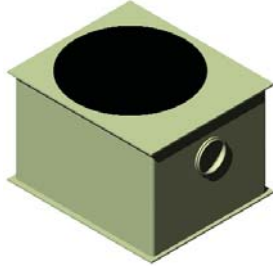
- 1** Screw-on air tight lid.
- 2** Robust polypropylene construction for cost effective installation.
- 3** Smooth easy to clean surface.
- 4** Three sizes available up to 250 meals per day.
- 5** Ø110mm female inlet and outlet connectors.
- 6** Concentric male Ø110mm to Ø50mm reducer and 50mm or 40mm 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. |

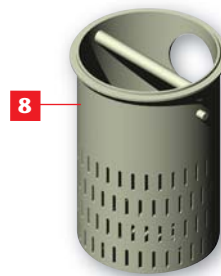
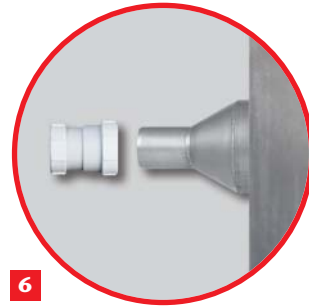
NBS specification clause reference

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

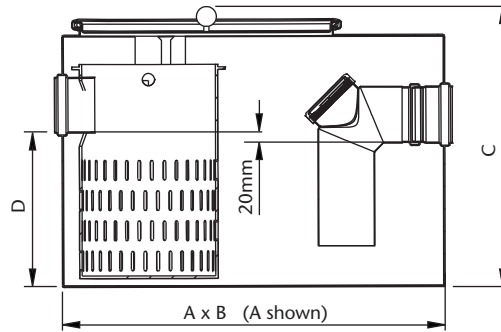
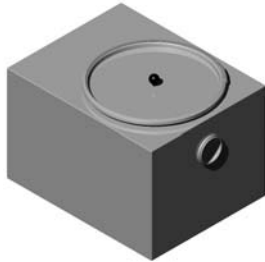
- 1** Aesthetically pleasing brushed finish.
- 2** Brushed easy to clean surface.
- 3** Three sizes available up to 250 meals per day.
- 4** Air tight metal band snap-fix lid.
- 5** Ø110mm female inlet and outlet connectors.
- 6** Concentric male Ø110mm to Ø50mm reducer and 50mm or 40mm push fit/solvent 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.

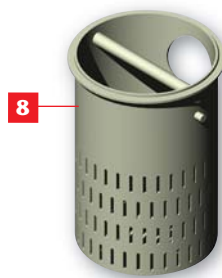
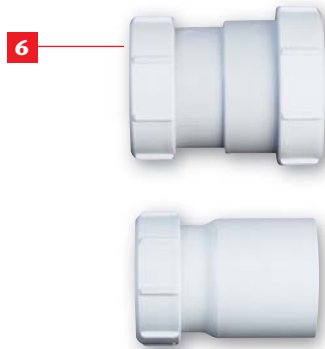


Free standing stainless steel grease trap – compact

Features and benefits



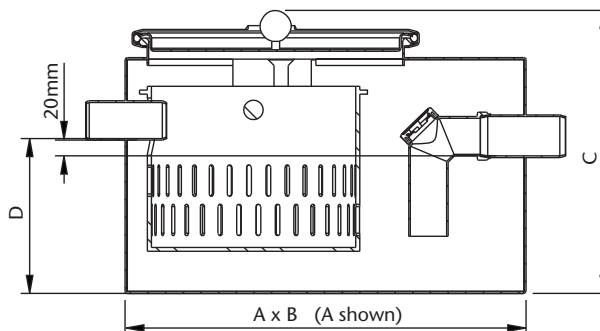
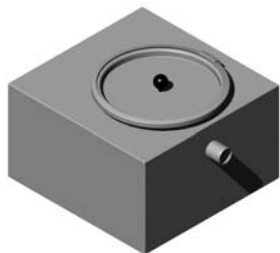
- 1** Compact size with overall height at 340mm makes this unit ideal for single appliances or the smaller kitchen.
- 2** 1 l/s flow rate ideal for sinks.
- 3** Corrosion resistant 316 stainless steel construction.
- 4** Aesthetically pleasing brushed finish.
- 5** Clear height requirement for sediment 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

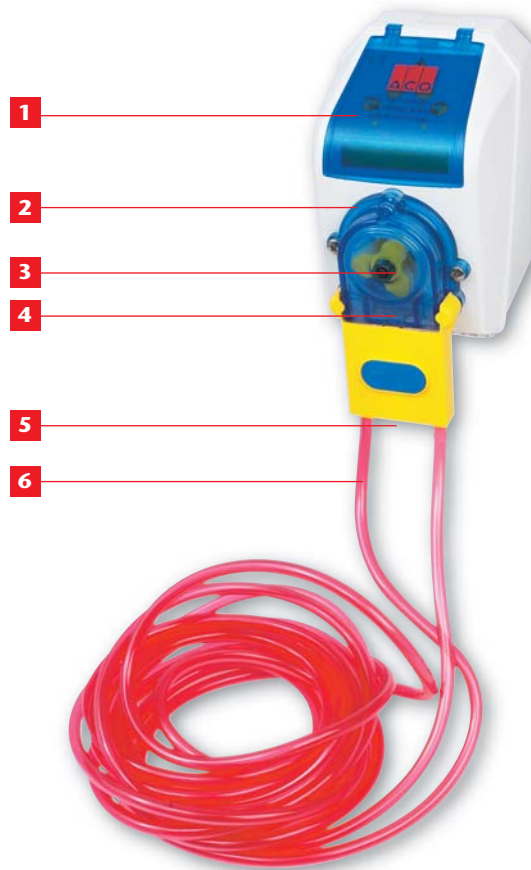
Features and benefits

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

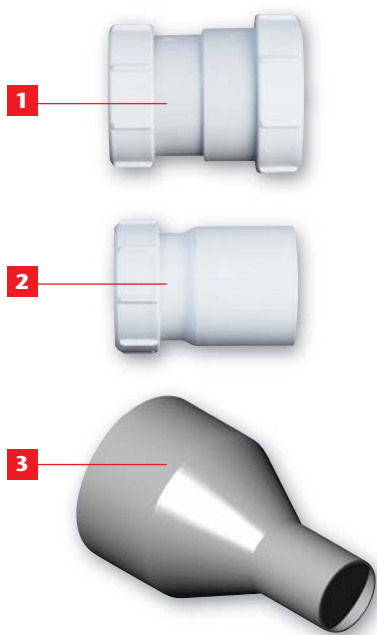


Waste fitting kit

- 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.



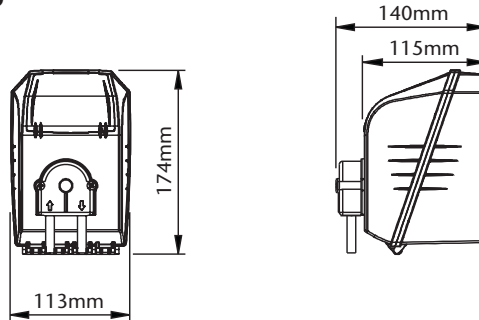
Adaptor kit for free standing traps

- 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

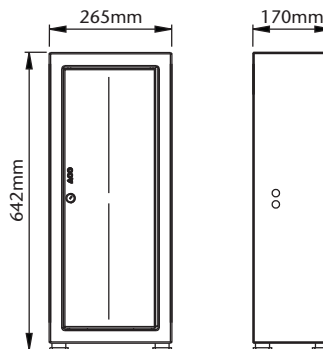
Technical data

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

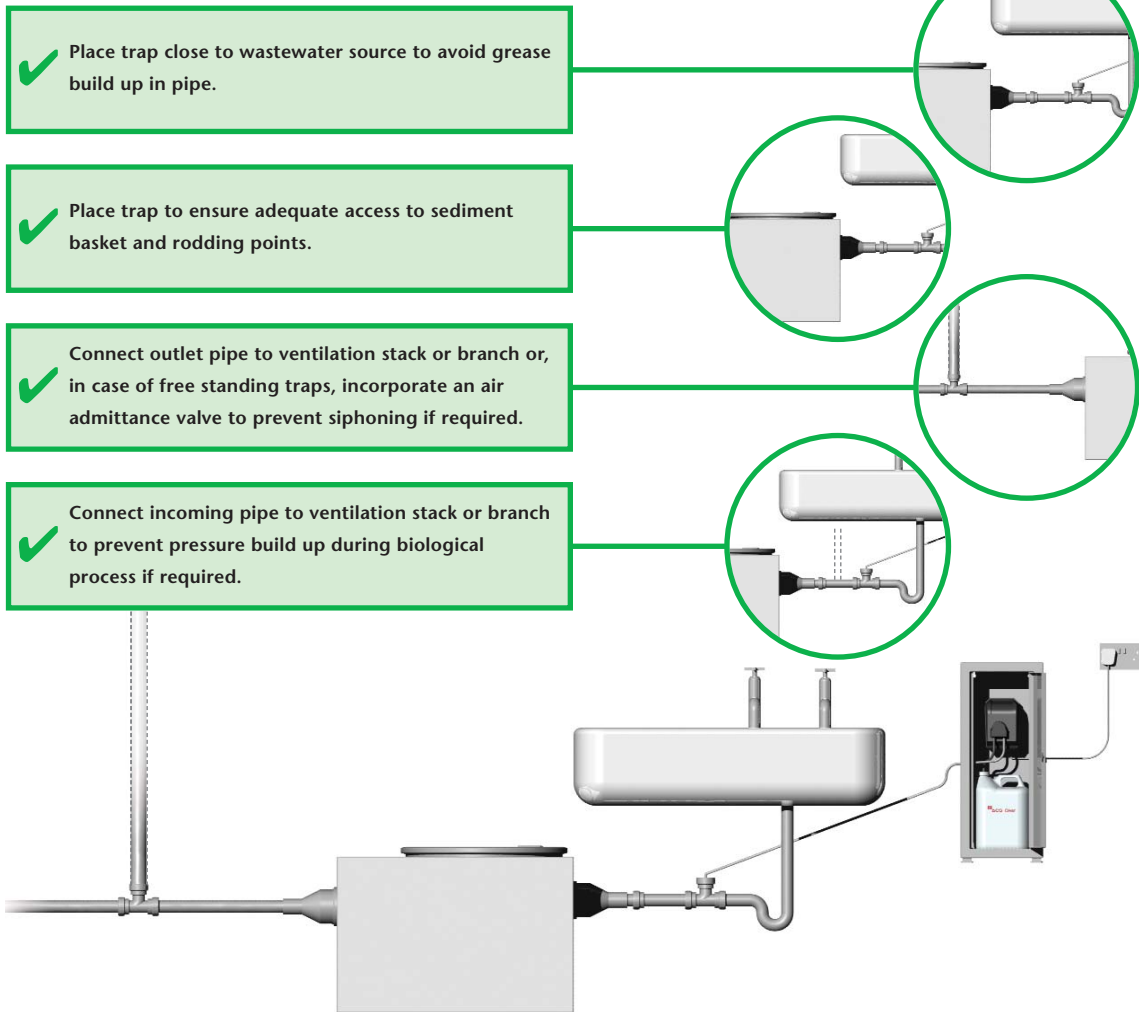
| Sales Ref | Part No | Weight kg | Description |
|-------------|---------|-----------|---|
| FS110/50/40 | 402706 | 0.9 | Conversion kit to connect grease trap to either 50mm or 40mm push fit or solvent weld waste pipes to BS 5254 and BS 5255. Kit comprises 2 stainless steel 110mm to 50mm concentric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



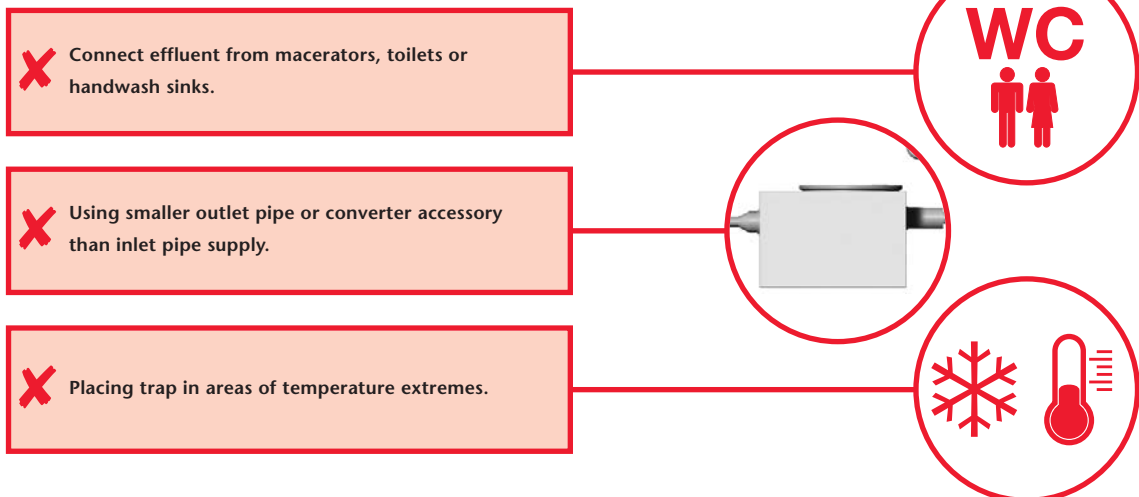
Installation

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.

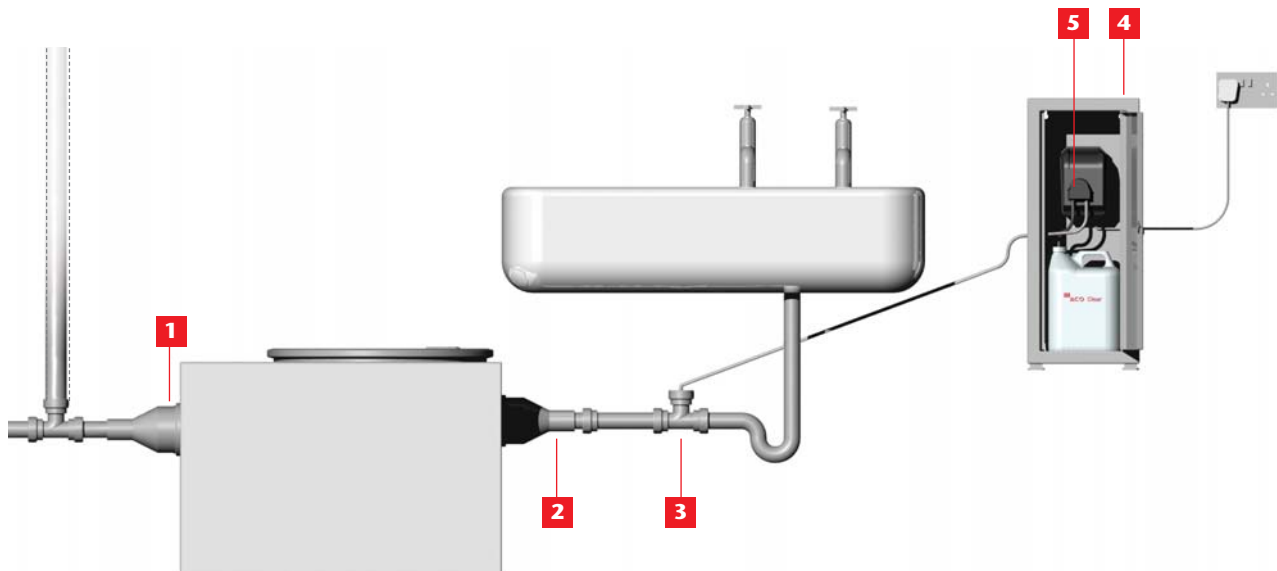
2 Adaptor kits - FSS and FSP models

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.

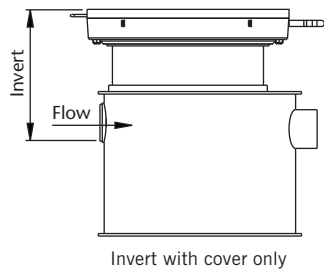
6 Compact model (not shown)

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.

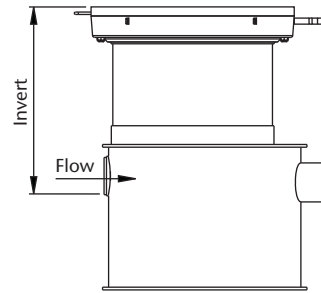
Installation

Below ground polypropylene biological grease traps

Invert with cover only



Invert with cover only



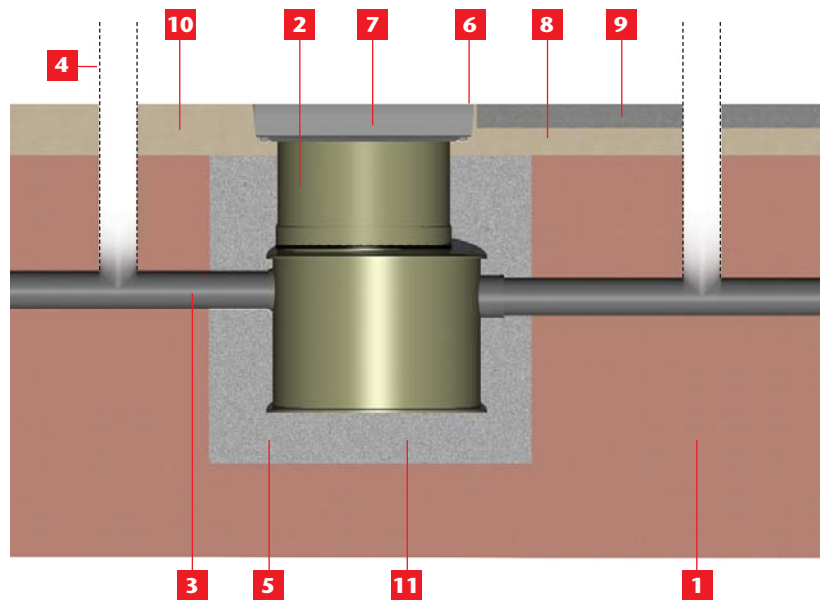
Invert with raising piece

| 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 paviours 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

ACO Building Drainage

A division of ACO Technologies plc
ACO Business Centre
Caxton Road
Bedford
Bedfordshire
MK41 0LF
Tel: 01462 816666
Fax: 01462 851490

e-mail: buildingdrainage@aco.co.uk
www.acobuildingdrainage.co.uk

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

© November 2011 ACO Technologies plc. All reasonable care has been taken in compiling the information in this document. All recommendations and suggestions on the use of ACO products are made without guarantee since the conditions of use are beyond the control of the Company. It is the customer's responsibility to ensure that each product is fit for its intended purpose, and that the actual conditions of use are suitable. This brochure and any advice is provided by ACO Technologies plc (the Company) free of charge and accordingly on terms that no liability including liability for negligence will attach to the Company or its servants or agents arising out of or in connection with or in relation to this brochure or any such advice. Any goods supplied by the Company will be supplied solely upon its standard conditions of sale, copies of which are available on request. The Company's policy of continuous product development and improvement renders specifications liable to modification. Information provided in this brochure is therefore subject to change without prior notification.

