

**11.00**

# ENDURA GREASE INTERCEPTOR AND ASSOCIATED PRODUCTS



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# 11.00

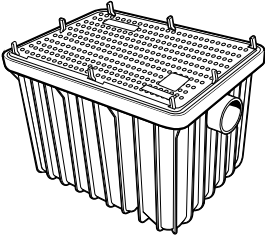


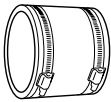


# Grease Management

**“Drainage serving kitchens in commercial hot food premises, should be fitted with a grease separator or other means of effective grease removal” UK Building Regs Part H 2002**

**“It is estimated that 30% of all foul water blockages that result in property flooding are actually caused by grease”**

Source DETR - Sept 2000

## GREASE MANAGEMENT

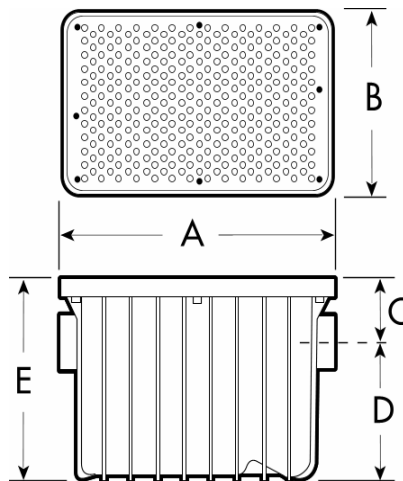
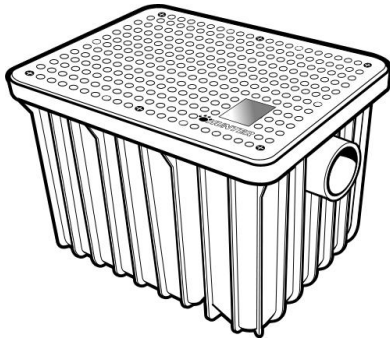
Description	Code
<p><b>ENDURA GREASE INTERCEPTOR</b></p>  <p>Supplied complete with full installation instructions, ICD and flexible inlet/outlet connectors</p> <p>1.6L/Sec 3.3L/Sec</p>	<p>DSG16 DSG32</p>
<p><b>ENDURA BIOPAK</b></p>  <p>Supplied complete with stainless steel enclosure, 5L Bio-G, Programmable dosing pump and all fittings required to install</p>	<p>DSG10</p>
<p><b>ENDURA INLET/OUTLET REDUCER</b></p>  <p>110mm x 50mm Flexible Rubber - will accommodate pipework up to 56mm diameter</p>	<p>DSG07</p>
<p><b>110mm PVC-PVC ADAPTOR</b></p> 	<p>DS28</p>
<p><b>BIO-G 12.5L - BIOPAK REFILL</b></p>  <p>Liquid Grease Degester - BioPak use only</p>	<p>DSG12</p>
<p><b>ENDURA BIO - 4 X 1kg</b></p>  <p>Granular Grease Degester - Non automated</p>	<p>DSG11</p>

# 11.01

## Grease Interceptor Specification



Material: Polypropylene (PP) – Inc: Influent Control Device (ICD)



All Dimensions in mm

DSG16:	DSG32:
A – 600mm	A – 788mm
B – 445mm	B – 597mm
C – 107mm	C – 127mm
D – 307mm	D – 318mm
E – 414mm	E – 445mm

**Cover Loading:**  
(Both Units\_

200kg – Foot and Light  
Traffic Only

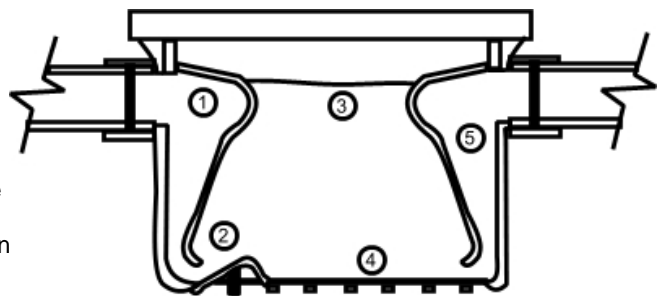
Part Code	Carton Qty	Connection Size	Flow Rate	Grease Capacity	List Price	Shipping Weight	Product Bar Code
DSG16	1	110mm	1.6L/Sec	23 kg	POA	15.31 kg	5013811911217
DSG32	1	110mm	3.2L/Sec	46 kg	POA	18.81 kg	5013811918674

### What is a Grease Interceptor?

A Grease Interceptor is defined as “Apparatus for the separation of grease from ‘influent’ (waste water, containing grease with the exception of sanitary waste water), in such a way that, due to the difference in density between the substance to be separated and the carrying liquid, and the reduction in flow velocity, the grease particles are separated from the waste water by flotation.” *Source prEN1825-1:1998*

The Endura Grease Interceptor from Hunter Plastics is the only moulded PP product of its kind available in the UK and Ireland. It provides the specifier with a high quality, cost effective solution to grease separation in large domestic and small to medium commercial situations.

- ① Endura incorporates many unique design features, for example the patented inlet and outlet baffles. The unit, in conjunction with the Influent Control Device (ICD) which both introduces air to the influent and protects the interceptor from influent surges, creates turbulence and slows the influent velocity.
- ② The influent is then forced upward by the integral ramp having been converted in to a laminar flow by the mouth of the inlet baffle.
- ③ The grease then floats to the top of the tank assisted by the entrained air introduced by the ICD, where it collects and is retained.
- ④ Any food particles remaining in the influent separate out of the flow under gravity.
- ⑤ The linear design of the outlet baffle opening, creates a suction effect drawing the waste water and over 90% of the silt and particulates out of the tank, thereby reducing the required maintenance period. It is recommended however that the interceptor be fully dismantled and cleaned thoroughly on a 6 monthly basis, in addition to its regular servicing schedule.



### Interceptor Sizing:

Appliance drainage period in combination with the service required and the volume of influent involved, establishes the rate of flow through the grease interceptor. Flow rate is therefore the primary gauge in establishing the correct size or capacity of interceptor for a particular application.

The link between flow rate and efficient interceptor operation is the Influent Control Device (ICD). A grease interceptor can not effectively regulate the flow of influent discharged from an appliance it is serving and therefore to ensure that the flow rate does not exceed the interceptor’s rated capacity, the Influent Control Device (ICD) is required on all installations. The ICD additionally protects from overload as a result of sudden surges from the appliance(s) controlling the flow of influent at all times and enabling the interceptor to operate effectively at its rated capacity.

# 11.01

## Grease Interceptor Specification

### Interceptor sizing:

Interceptor sizing is based on two key factors. The first is the time taken for the appliances(s) that are connected to the interceptor, to empty from when discharge begins. The second is the volume of waste water being discharged by the appliance(s).

These two factors combined provide a rate of flow through the interceptor and allow specification of the correct unit(s) for a particular application. The link between flow rate and efficient interceptor operation is the unique 'Influent Control Device' (ICD) which is essential on all Endura installations.

NB: The definition of 'Influent' - Waste water, containing grease but not sanitary waste.

The correct specification of the Endura grease interceptor can be determined by using the step-by-step method as shown below.

The rule of thumb for any installation is that the interceptor being considered has a flow rate capacity at least equal to the calculated flow rate with a drainage period of no longer than two minutes.

The table below gives an example of how to correctly size a grease interceptor for an application.

Step	Formula	Example
1	<b>Determine cubic capacity in metres of the appliance(s) by multiplying length x width x depth.</b>	<b>A sink 0.6m long, 0.46m wide and 0.2m deep.</b> Cubic capacity: $0.6 \times 0.46 \times 0.2 = 0.055 \text{ m}^3$
2	<b>Convert cubic metres into cubic litres - Multiply by 1000</b>	<b>Capacity in Litres:</b> $0.055 \times 1000 = 55 \text{ litres}$
3	<b>Determine the actual drainage load.</b>  It is considered that a fixture is normally filled to approximately 75% of its full capacity with water as the items being washed displace about 25% of that content.  Actual Drainage Load = 75% of appliance capacity.	<b>Actual Drainage Load (ADL):</b>  $0.75 \times 55 = 41.25\text{L}$
4	<b>Determine flow rate and drainage period.</b>  In general good practice dictates a drainage period of between one and two minutes maximum. Drainage period is defined as the actual time required to completely drain an appliance.  Flow Rate = $\frac{\text{Actual Drainage Load}}{\text{Drainage Period}}$	<b>For a 1 minute drainage period:</b>  $\frac{41.25}{60} = 0.6875 \text{ L/Sec}$  <b>For a 2 minute drainage period:</b>  $\frac{41.25}{120} = 0.34375 \text{ L/Sec}$
5	<b>Select a correctly sized interceptor.</b>  An interceptor should then be selected which has a flow rate capacity at least equal to the calculated flow rate. Where the calculated flow exceeds the Endura DSG16 or DSG32 capacity (e.g. 1.6 or 3.2L/Sec), a larger interceptor should be selected. Alternatively, more than one Endura can be used. In this case ensure that appliances are piped separately to each grease interceptor, so that the total capacity from each of the appliances does not exceed the maximum specified volume.	<b>For a 1 minute drainage period:</b>  2 appliances of this size plus an additional 0.2L/Sec could be specified with an Endura DSG16.  <b>For a 2 minute drainage period:</b>  Up to 4 appliances plus 0.25L as per this example

# 11.01

## Grease Interceptor Specification

### Grease Interceptor - Quick Reference Sizing / Max: 1.6 ls

Sink Size / mm Length x Width x Depth	Flow Rate / Litres Second	
	1 minute	2 minute
300 x 340 x 160	0.2	0.1
340 x 400 x 160	0.28	0.14
400 x 400 x 200	0.4	0.2
400 x 400 x 250	0.5	0.25
420 x 350 x 180	0.33	0.16
450 x 370 x 180	0.4	0.2
460 x 350 x 255	0.51	0.26
500 x 400 x 180	0.45	0.23
500 x 400 x 200	0.5	0.25
500 x 400 x 250	0.63	0.31
500 x 400 x 300	0.75	0.38
550 x 500 x 240	0.83	0.41
600 x 450 x 300	1.01	0.5
600 x 600 x 300	1.4	0.7
610 x 460 x 250	0.9	0.44
610 x 460 x 300	1.05	0.53
700 x 440 x 240	0.93	0.46
750 x 600 x 300	* 1.7	0.84
760 x 510 x 300	1.45	0.73
760 x 510 x 335	* 1.63	0.81
760 x 510 x 380	# 1.84	0.92

**NB : If a domestic dishwasher is to be added, you need to find out the discharge flow in litres per second and add this to the appropriate figure above. Please note that most commercial dishwashers will be too large a capacity to be considered, and therefore should be discharged separately.**

**\* Denotes boarder line situation**

**# Denotes if taken on 1 minute discharge could be too much !**

# 11.02

## Grease Interceptor Installation

### INSTRUCTIONS, 1.6ls-1 & 3.2ls UNITS.

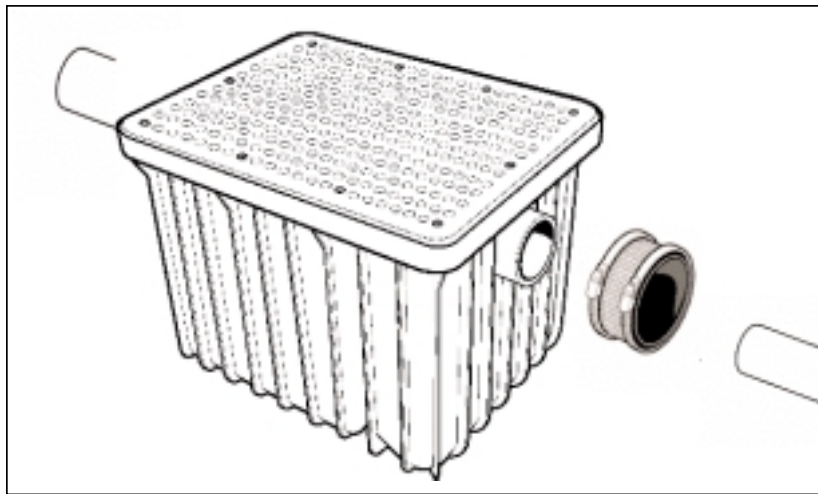
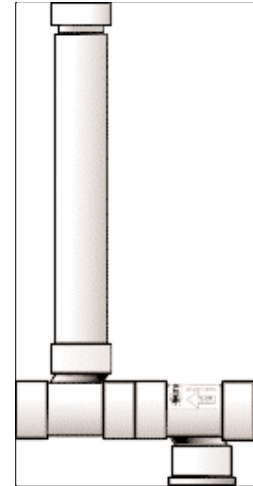
Due to the numerous installation configurations that the endura is used in, these notes are intended to clarify some of the limitations of the unit to avoid incorrect siting and installation.

These guidelines outline the installation of the Endura in the following applications:

- (i) Outside of the building
- (ii) Two storey buildings
- (iii) Multi storey buildings

#### Standard Hunter Plastics ICD model

NOTE: All Endura installations must include the fitment of the ICD (Influent Control Device)



**For Internal above ground installations do not use an inlet pipe diameter greater than 50mm.**

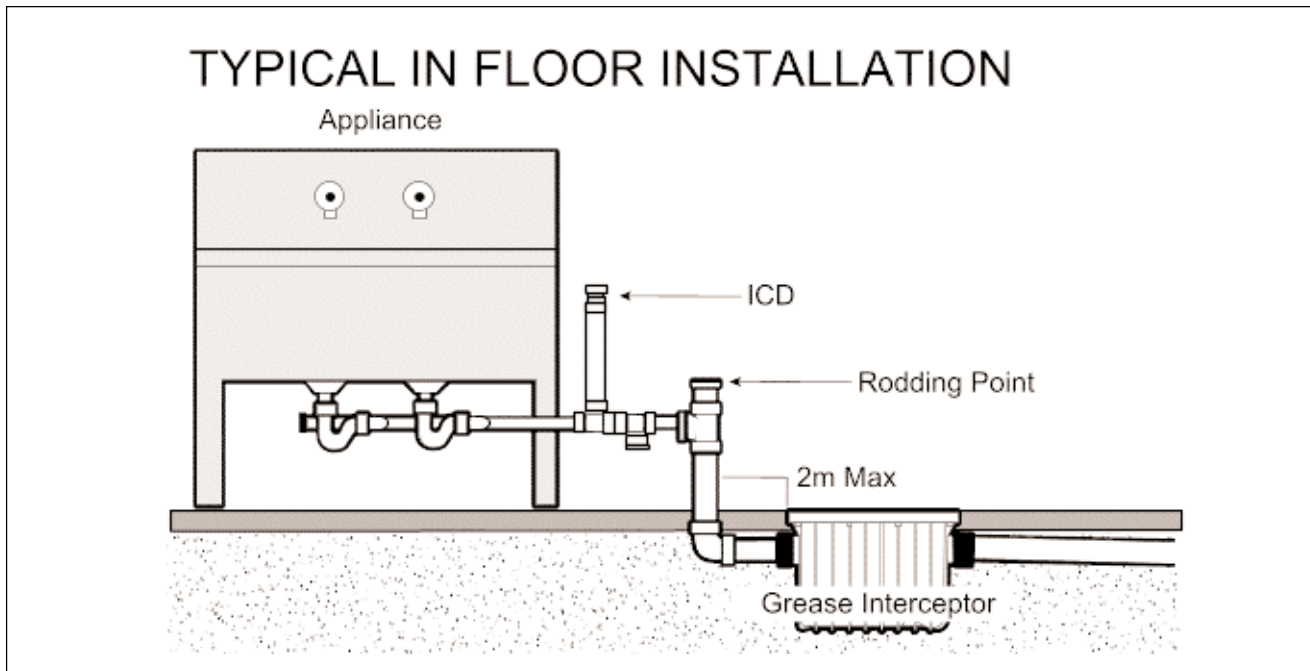
### Installation Instructions - Applications

- (i) External Installations

For external installations it may be required to connect 110mm underground pipe work to the inlet of the endura. In this instance a 110mm pipe is allowable but for a maximum run of 2 metres. This is measured from the inlet connection of the endura to the outlet connection of the ICD. This concession is to allow for possible use of bends in the system to make the final connection to the grease interceptor.

# 11.02

## Grease Interceptor Installation

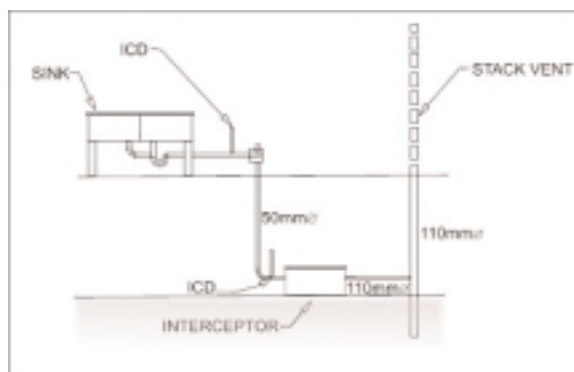


### (ii) Two storey buildings

This installation will require 2 No. ICD devices to be installed. The first ICD should be situated immediately after the outlet of the last appliance. A second ICD must be installed immediately before the inlet of the grease interceptor. Whether installing either the 1.6ls-1 or 3.2ls-1 unit, both ICD's must be fitted. Please ensure that these parts are purchased from your local endura stockist prior to installation.

For a 1.6ls-1 endura installation one additional ICD will be required (DSG16CD)

For a 3.2ls-1 endura installation one additional ICD will be required (DSG32CD)

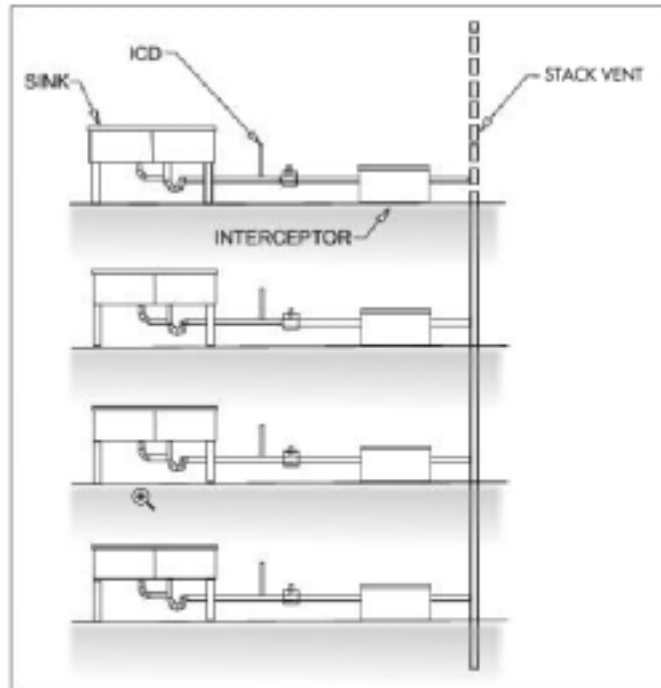


### (iii) For multi storey applications, greater than 2 floors

To avoid potential internal pressurisation of the system and possible reduction in performance, it is recommended that one endura unit be installed on each floor level that has an appliance requiring a grease interceptor.

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## Grease Interceptor Installation



For all installations warranty of the unit will be void if the combined discharge rate of all the connected appliances exceeds the maximum specified flow rate of the endura unit. Being 1.6l/s for DSG16 3.2l/s for DSG32.

Endura units are only suitable for applications where the discharge is gravity fed into the grease interceptor. The system is NOT suitable for use with pump evacuated appliances or pressurised soil stacks.

For any installation queries either go to the Hunter Plastics website ([www.hunterplastics.co.uk](http://www.hunterplastics.co.uk)) or phone Hunter Plastics direct (020-8855-9851) and ask to speak to the Technical Department.



# 11.02

## Grease Interceptor Installation

### Installation Instructions - General

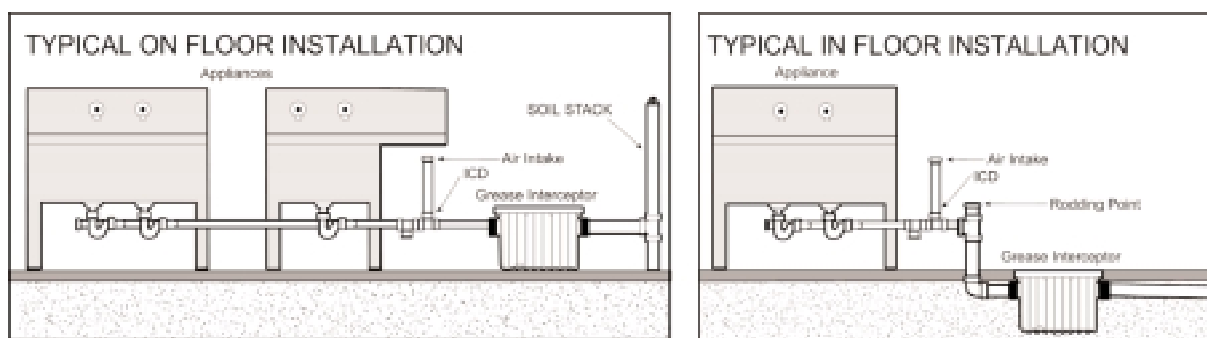
The Hunter Endura Grease Interceptor should be installed as close as is practical to the fixture(s) being served and can be set on, partially recessed or fully recessed into the floor. Note that the Endura Grease Interceptor is NOT recommended for above ground, external installation unless adequate protection from freezing is made.

Sufficient clearance around the cover area should be anticipated to allow for routine maintenance, including the removal of accumulated grease.

It is preferable that the Endura be located as close as possible to the appliances being served, up to a maximum of 8 metres from the last appliance. This precaution will prevent the waste pipes becoming clogged with congealed grease that could begin to solidify before reaching the grease interceptor.

DO NOT install Endura in the waste line from appliances such as waste disposal units. This type of unit must bypass the interceptor as rapid accumulation of solid matter will greatly reduce the interceptor's efficiency preventing operation in compliance with the rated capacity.

### Examples of Typical Installations



### Installation:

Correct installation of a grease interceptor is critical to its efficient operation. Even the best designed units will operate inefficiently if not installed correctly.

The interceptor should be installed as close as physically possible to the fixture(s) it is serving, whilst allowing sufficient space to access the unit for cleaning and maintenance and for installation of the Influent Control Device.

Solid debris entering the unit may cause the interceptor to clog. If this is a possibility, it is recommended that a solids interceptor is also installed.

The Influent Control Device (ICD) supplied with the Endura Grease Interceptor is essential for efficient and effective operation. The ICD should be installed as close to the source (appliance(s)) as possible and upstream of the main grease interceptor. Without this device, flows through the interceptor may exceed the rating of the unit, causing reduced efficiency and allowing grease to pass through into the downstream drainage system.

The Hunter Endura is designed to maintain pressure equilibrium in the separation chamber through the incorporation of the ICD and an integral air relief bypass. The ICD allows the introduction and mixing of air with the influent approaching and entering the separation tank. The air that is entrained into the influent facilitates grease separation encouraging the flotation of the grease, with the combination of the ICD and integral internal air relief bypass, allowing the unit to maintain the correct pressure balance, thereby avoiding siphonage.

# 11.02

## Grease Interceptor Installation

### Venting:

Grease interceptors must be connected to a vented waste (i.e. Soil Stack) sized in accordance with local building regulations.

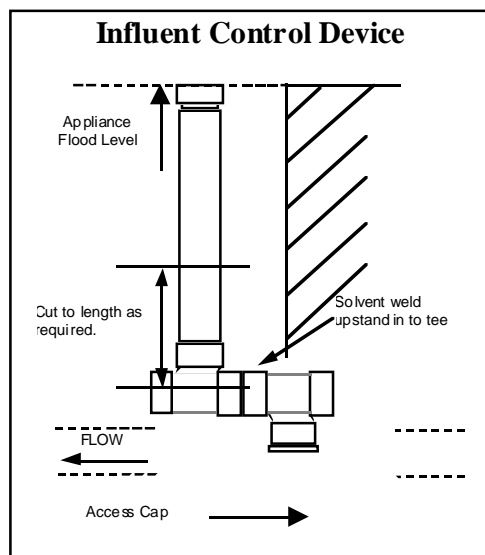
A single interceptor serving multiple fixtures is recommended only when the fixtures are located close together. In such installations, each fixture should be individually trapped and installed in accordance with local requirements. A minimum of 75mm water seal is recommended for commercial applications.

### Influent Control Installation:

The Influent Control Device (ICD) supplied with the Hunter Endura Grease Interceptor must be installed in the waste pipe, upstream of the interceptor and beyond the last connection from the appliance(s). The top of the upstand pipe (supplied at 500mm in length) must be positioned as close as possible to flood level and can be cut at the open end to reduce its length if required. The upstand should then be solvent welded into the open branch of the ICD itself. The pipe supplied with the Hunter ICD has a removable anti-siphon valve allowing a rodding access toward the tank. It is therefore suggested that where possible unrestricted access to this area be maintained. When waste of two or more fixtures are combined, to be served by one interceptor only one ICD need be fitted.

It is recommended that when fitted to the waste pipe itself, this be done in such a way that the ICD can be removed from waste line for cleaning and/or replacement purposes.

Note: The ICD should be checked regularly for accumulation of debris via the integral access cap.



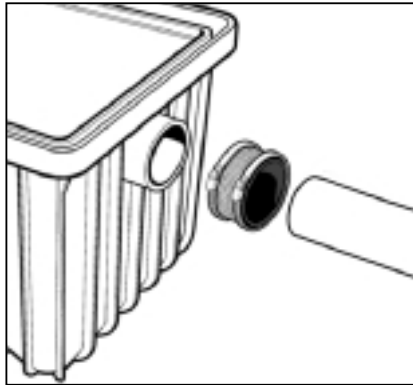
# 11.02

## Grease Interceptor Installation

### Connections:

All Hunter Endura Interceptors are manufactured with 110mm connections and the units are supplied as standard with one 110mm flexible drain connector, and one 110mm to 50mm reducer. Where below ground installation is required, a second 110mm flexible connector (DS28) can be purchased separately if required.

110mm Endura Connections



### General Maintenance:

To obtain optimum operating efficiency of the Hunter Endura Grease Interceptor it must be correctly sized (see Technical Specification Sheet), installed and a regular schedule of maintenance, formulated and followed. Every installation will be different from this point of view and it will take initially perhaps 6-8 weeks to establish the correct pattern of maintenance required.

Hunter Plastics in association with GMG Ltd are able to offer specialist advice on this and all aspects of the Hunter Endura Grease Interceptor. GMG Ltd are specialist waste management contractors, who deal specifically with Grease Interceptors and they will be pleased to advise on installation, commissioning and maintenance of your grease interceptor and can also provide quotations for waste management contracts and associated services should you so wish. They can be contacted at the following address: GMG Ltd, Eaton Works, Althorpe Road, Leamington Spa, CV31 2AV Tel: (01926) 432030 Fax: (01926) 432050 or alternatively refer to your local phone directory.

### Cleaning:

It is essential to service grease interceptors regularly to maintain efficient operation. The frequency of grease removal is dependent on the capacity of the grease interceptor and the quantity of grease contained in the influent. Once an optimal grease removal interval has been established for a specific installation, regular cleaning at that interval is necessary to maintain the rated efficiency of the unit. After the accumulated grease has been removed, the interceptor should be thoroughly checked to ensure that the inlet, outlet and air relief bypass, are clear of obstruction.

On completion of maintenance the interceptor should be refilled with water before replacement of the cover. On replacing the lid check the condition of the rubber lid seal and if any damage is evident it should be replaced (Please contact Hunter Sales hotline for advice). It is suggested that the lid seal should be replaced periodically (approximately 12-18 months) to ensure and maintain an effective airtight seal. Please note the interval is dependent on the frequency of maintenance schedule employed. To obtain replacement parts or for details of your local Hunter stockist please call 020 8317 1551 or visit our website at [www.hunterplastics.co.uk/stocklists.html](http://www.hunterplastics.co.uk/stocklists.html)

# 11.02

## Grease Interceptor Installation

### Bacterial Dosing:

To reduce the maintenance period of your Endura Grease Interceptor, Hunter Plastics also offer 'Bio-G' a liquid digestion media, which when dosed into the interceptor on a regular basis breaks down and digests a significant proportion of the grease that would normally accumulate in the tank.

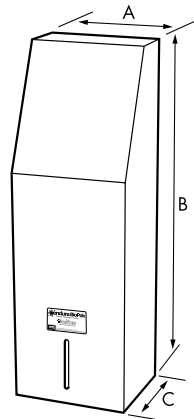
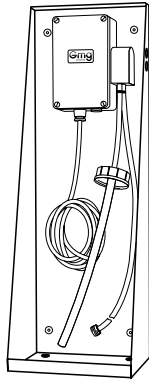
The Hunter BioPak starter kit (DSG10) comprises a programmable dosing unit, complete with 5 litres of Bio-G and all of the required connectors and tubing to complete a comprehensive installation. When installed, the package is neatly contained within a stainless steel enclosure that can be installed during or after commissioning of your Endura Grease Interceptor. For further details or to locate your local stockist please call 020 8317 1551 or visit our website at [www.hunterplastics.co.uk/stocklists.html](http://www.hunterplastics.co.uk/stocklists.html)

### Dimensional Information:

Part Number	DSG16	DSG 32
Flow Rate L/sec)	1.6	3.2
Grease Capacity (Kg)	23	46
Inlet/Outlet Size (mm)	110	110
Dimension A	600mm	787mm
Dimension B	445mm	597mm
Dimension C	107mm	127mm
Dimension D	307mm	318mm
Dimension E	414mm	445mm

# 11.03

## BioPak Dosing System Specification



### BioPak Dimensions

All Dimensions in mm

#### DSG10:

A - 250mm

B - 705mm

C - 210mm

Delivery Tubing - 4m

Electric Cable - 2m

**CE Approved**

Part Code	Carton Qty	Power Supply	Fixing Points	Delivery Dose	Unit Weight	Shipping Weight	List Price	Product Bar Code
DSG10	1	240V AC	4	150ml	12.5kg	18.5kg	POA	5013811912016

### What is the Endura BioPak?

The Endura BioPak can be considered as either a complimentary product to the Endura Grease Interceptor or as a stand-alone option for drain dosing.

The unit is based around a mains operated peristaltic dosing pump, which is a fully programmable delivering up to 4 measured doses within a 24 hour period. The unit is supplied pre-programmed to deliver a single dose at 00:05hrs with full programming instructions.

The IP66 rated pump and housing is mounted within a stainless steel, wall-mounted enclosure. This also provides a location for the 12.5L container from which the Bio-G liquid is dispensed via the tubing supplied.

### Why use the Endura BioPak?

As with all non-mechanical grease separators, the maintenance although essential to their effective operation, is considered an onerous and unpleasant task due to both the frequency of cleaning and removal of accumulate grease.

The use of a system such as the Endura BioPak significantly reduces the frequency of interceptor/separator servicing by the introduction of a grease digesting product (in this case Bio-G) and means that a significant amount of the grease that would normally accumulate is broken down and 'digested'. Dosing of the interceptor with Bio-G not only reduces the service frequency of the unit, but in addition protects the drainage system as a whole from grease accumulation and the commonly resulting blockage.

### What is Bio-G?

Bio-G is a powerful liquid formulation containing specially formulated enzymes and bacteria that liquefy and digest animal and vegetable fats thereby significantly reducing the frequency of grease separator maintenance.

The product has a two part action. Firstly the enzyme element breaks down the accumulated grease converting it to a mixture of Carbon Dioxide (CO<sub>2</sub>) and Water (H<sub>2</sub>O). This is followed by digestion of the now liquefied grease and oil by the bacterial elements. This not only reduces the volume of grease, but in addition digests the substances which cause foul odours.

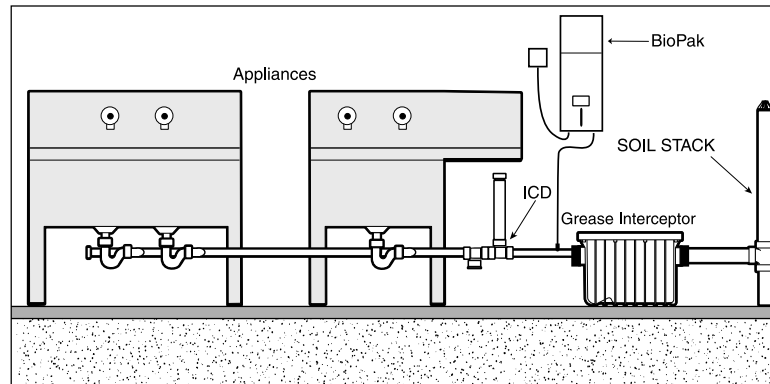
Bio-G is completely biodegradable having no detrimental effect on downstream treatment methods. It is also completely non-pathogenic.

# 11.03

## BioPak Dosing System Specification

### BioPak Installation:

A Typical BioPak Installation



In terms of specification/design take time to decide on an appropriate location for the BioPak taking into account the following:

- an appropriate wall capable of carrying the cabinet.
- the location of a continuous 240V AC, 3A power supply.
- the location of your grease interceptor or its upstream waste piping.
- ease of access for maintenance and replenishment of Bio-G liquid digesting media.

If at any stage you are unsure of how to proceed or would like advice with regard your planned installation, please call **GMG Ltd on 01926 432030**.

### The Installation Process:

The Endura BioPak is supplied with a 1/8th BSP threaded brass union on the end of a 4 metre length of delivery tubing. This union is removed and the tubing threaded through the right hand grommet in the base of the unit.

A 9mm hole is then drilled in the **top** of the waste pipe upstream of your grease interceptor, and the union screwed into place. A small amount of silicon sealant will ensure a leak proof installation. Ideally the point chosen to insert the union from which the Bio-G will enter the waste pipe, should be as close as possible to the grease interceptor itself (downstream of the ICD) and at a **maximum of 2 metres** from the interceptor.

The delivery tubing is cut to length ensuring that the route of the tubing does not obstruct any other operations in the kitchen. Tubing should be secured if necessary and the open end reconnected to the brass union.

### Servicing and Replenishment:

The BioPak is supplied with 5L of Bio-G, sufficient in normal circumstances for approximately 4 weeks operation. Replenishment of Bio-G is offered directly via GMG Ltd, who are also able to advise on servicing and waste management contracts if requested to do so. Please contact them on the number above for further advice.

### Typical Specification:

#### **Endura BioPak Grease Interceptor/Drain Dosing Package**

The Endura BioPak is distributed in the UK and Ireland in association with GMG Ltd by Hunter Plastics Ltd, Nathan Way, London SE28 0AE.

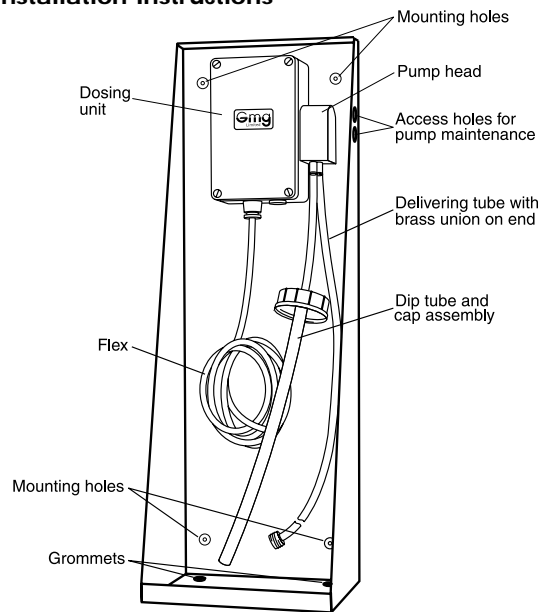
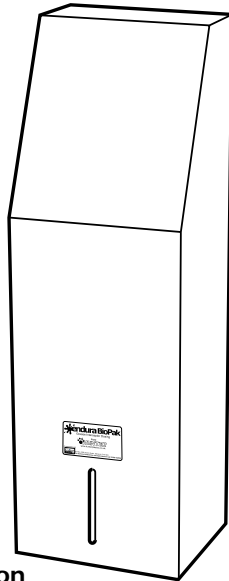
Supply and install \_\_\_\_\_ number, DSG10 BioPak automated dosing package. This product supplied complete, comprises a programmable dosing unit, a stainless steel enclosure and all the necessary tube and fittings required for installation. Also included is 5Litres of 'Bio-G' liquid digestion media, sufficient for approximately 4-6 weeks operation under normal circumstances. The BioPak will contain full installation and commissioning instructions accompanied with details of after sales service and waste management services.

# 11.04

## BioPak Dosing System Installation

### Endura BioPak Installation Instructions

#### BioPak Components



#### General Information

The Endura BioPak is supplied complete with 2 metres of electrical flex and 4 metres of delivery tubing. Take some time to decide on an appropriate location for the BioPak taking into account the following:

- an appropriate wall capable of carrying the cabinet.
- the location of a continuous 240V AC power supply.
- the location of your grease interceptor or its upstream waste piping.
- ease of access for maintenance and replenishment of Bio-G liquid digesting media.

**If at any stage you are unsure of how to proceed with your installation, please call GMG Ltd on 01926 432030 for further advice and/or assistance.**

#### Wall Mounting of the BioPak

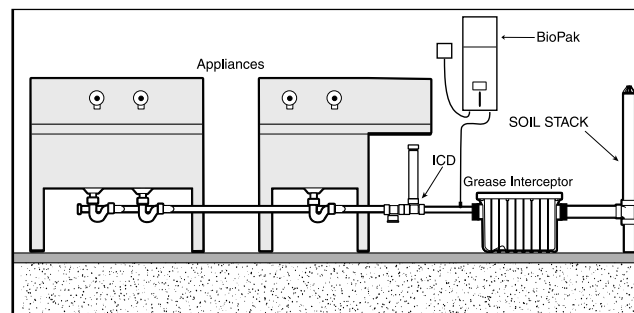
The cabinet should be secured to a suitably sound wall ensuring that it will not cause an obstruction and that the cover can be easily removed for maintenance, replenishment and/or programming. Note that due to the risk of freezing the Endura BioPak should not be installed externally of the building that it serves.

#### Electrical Connection.

**SAFETY FIRST: It is strongly recommended that all electrical installations are performed by a qualified electrician, in compliance with current electrical installation regulations and standards.**

The Endura BioPak dosing pump requires a 240V AC electrical supply. It is suggested where possible that a non-switching, fused spur be used. Alternatively a suitably located socket would be sufficient provided that this does not get switched off.

Remove front cover to dosing unit and check that the clock reads the correct time, if not please re-programme the unit as outlined on the reverse of this sheet. Thread the flex through grommet in base of cabinet and cut to length prior to connecting. On switching on the supply to the BioPak the dosing unit will automatically prime the system by dosing for 45 seconds.



**Fig 1 - A typical BioPak Installation.**





# 11.05

## Bio-G Liquid Grease Digesting Media

### What is Bio-G?

Bio-G is a powerful liquid formulation containing specially formulated enzymes and bacteria that liquefy and digest animal and vegetable fats thereby significantly reducing the frequency of grease separator maintenance.

The product has a two part action. Firstly the enzyme element breaks down the accumulated grease converting it to a mixture of Carbon Dioxide (CO<sub>2</sub>) and Water (H<sub>2</sub>O). This is followed by digestion of the now liquefied grease and oil by the bacterial elements. This not only reduces the volume of grease, but in addition digests the substances which cause foul odours.

Bio-G is completely biodegradable having no detrimental effect on downstream treatment methods. It is also completely non-pathogenic.

### Material Safety Data Sheet – Bio-G

#### 1.0 Preparation Identification

1.1 Product:  
1.2 Supplier:

**Bio-G**  
GMG Ltd, PO Box 1699, Eaton Works, Warwick CV34 6ZJ  
Tel. 01926 432030 Fax. 01926 432050

#### 2.0 Composition

A liquid formulation containing specially selected bacteria and enzymes to liquefy and digest grease with secondary effects on complex proteins, cellulose, starch and surfactants.

#### 3.0 Hazards Identification

Liquid enzyme solutions are naturally dust free. However, dust or aerosols may be formed as a result of inappropriate handling. Inhalation of dust or aerosols may induce sensitisation and may cause allergic reactions in sensitised individuals. Prolonged skin contact may cause minor irritation.

#### 4.0 First Aid Measures

4.1 Skin Contact:  
4.2 Eye Contact:  
4.3 Ingestion:  
4.4 Inhalation:

Wash hands thoroughly with water  
Flush with plenty of water  
Wash out mouth with water. Take plenty of water or milk to drink. Do not induce vomiting.  
Remove from exposure. If symptoms of irritation or sensitisation occur (shortness of breath, wheezing or laboured coughing), call a doctor.

#### 5.0 Fire-Fighting Measures

5.1 Suitable Fire-fighting Media:  
5.2 Special Fire-fighting Procedures:  
5.3 Hazardous Ingredients:

Water, foam, carbon dioxide  
None  
None

#### 6.0 Accidental Release Measures

Small spillages can be washed away with water. Product is completely biodegradable. Larger spillages should be taken up via mechanical means avoiding high pressure washing which will cause splashing. Ensure that there is plenty of ventilation. Wash contaminated clothes.

#### 7.0 Handling And Storage

No danger from handling packaged products, ensure containers remain sealed. Avoid formation of aerosols and dust from drying out of spillages. Avoid splashing and high pressure washing. Ensure good ventilation of room when handling. Store in cool place ensuring that temperature does not go below 0°C.

#### 8.0 Personal Protection

8.1 Eyes:  
8.2 Skin:  
8.3 Ingestion and Inhalation:  
8.4 General Precautions:

Wear safety goggles.  
Wear rubber gloves.  
Wear protective mask.  
Always wash hands thoroughly after use.

#### 9.0 Physical and Chemical Properties

9.1 Appearance:  
9.1 Odour:  
9.2 pH:  
9.3 Flashpoint:  
9.4 Water Solubility:  
9.5 Density:

Blue green liquid  
Lavender scent  
Neutral  
None  
Completely miscible  
1.000 ± 0.01

#### 10.0 Stability and Reactivity

This product is stable under normal conditions of use

10.1 Conditions To Avoid:  
10.2 Materials To Avoid:  
10.3 Hazardous Decomposition Products:

None  
None  
None

#### 11.0 Toxicological Information

The product is made up of naturally occurring micro organisms which are known to be non-pathogenic to humans and animals, and have not been genetically engineered. This bacterial solution has been analysed by the Laboratory for the Study and Research into Health and Environment at the Ecole Nationale De La Santé Publique in France and has been declared as non-pathogenic.

#### 12.0 Ecological Information

The product is readily biodegradable

#### 13.0 Disposal Considerations

No special disposal method required, except that it should be in accordance with local authority regulations.

#### 14.0 Transport Information

UN No. : None  
Road/Rail :  
Sea :  
Air :

: Not Applicable  
: Not Applicable  
: Not Applicable

#### 15.0 Regulatory Information

The product is not subject to mandatory labelling.

This information is provided in good faith and constitutes our current knowledge of the product; it is intended that this data be read to enable the user to use the product safely. We cannot accept liability for any loss, injury or damage which may have resulted from the products use. Where the customer has particular concerns, we would recommend that they have their own tests carried out.

# 11.06

# Bio+ Granular Grease Digesting Media

## What is Bio+?

Bio+ is a granular formulation of the Bio-G liquid. It is equally as effective but has the advantage that it is introduced to the drainage system by hand thereby requiring no additional dosing equipment. The product must be added via a sink connected to the grease interceptor on a daily basis to remain effective .

## Material Safety Data Sheet – Bio+

### 1.0 Preparation Identification

1.1 Product: **Bio+**  
1.2 Supplier: GMG Ltd, PO Box 1699, Eaton Works, Warwick, CV34 6ZJ  
Tel. 01926 432030 Fax. 01926 432050

### 2.0 Composition

A powder formulation containing specially selected bacteria to liquefy and digest grease with secondary effects on complex proteins, cellulose, starch and surfactants.

### 3.0 Hazards Identification

Dust or aerosols may be formed as a result of inappropriate handling. Inhalation of dust or aerosols may induce sensitisation and may cause allergic reactions in sensitised individuals. Prolonged skin contact may cause minor irritation.

### 4.0 First Aid Measures

4.1 Skin Contact : Wash hands thoroughly with water  
4.2 Eye Contact : Flush with plenty of water  
4.3 Ingestion : Wash out mouth with water. Take plenty of water or milk to drink. Do not induce vomiting  
4.4 Inhalation : Remove from exposure. If symptoms of irritation or sensitisation occur (shortness of breath, wheezing or laboured coughing), call a doctor.

### 5.0 Fire-Fighting Measures

5.1 Suitable Fire-fighting Media : Water, foam, carbon dioxide  
5.2 Special Fire-fighting Procedures : None  
5.3 Hazardous Ingredients : None

### 6.0 Accidental Release Measures

Small spillages can be washed away with water. Product is completely biodegradable. Larger spillages should be taken up via mechanical means avoiding high-pressure washing which will cause splashing. Ensure that there is plenty of ventilation. Wash contaminated clothes.

### 7.0 Handling And Storage

No danger from handling packaged products, ensure containers remain sealed. Avoid splashing from high pressure washing. Ensure good ventilation of room when handling. Store in cool place ensuring that temperature does not go below 0°C.

### 8.0 Personal Protection

8.1 Eyes : Wear safety goggles.  
8.2 Skin : Wear rubber gloves.  
8.3 Ingestion and Inhalation : Wear protective mask.  
8.4 General Precautions : Always wash hands thoroughly after use.

### 9.0 Physical and Chemical Properties

9.1 Appearance : Whitish powder  
9.1 Odour : Slight citrus odour  
9.2 pH : Neutral  
9.3 Flashpoint : None

### 10.0 Stability and Reactivity

This product is stable under normal conditions of use

10.1 Conditions To Avoid : None  
10.2 Materials To Avoid : None  
10.3 Hazardous Decomposition Products : None

### 11.0 Toxicological Information

The product is made up of naturally occurring microorganisms that are known to be non-pathogenic to humans and animals, and have not been genetically engineered. The product has been shown to be free of Salmonella and E Coli using procedures laid down by the USDA

### 12.0 Ecological Information

The product is readily biodegradable

### 13.0 Disposal Considerations

No special disposal method required, except that it should be in accordance with local authority regulations.

### 14.0 Transport Information

UN No. : None  
Road/Rail : Not Applicable  
Sea : Not Applicable  
Air : Not Applicable

### 15.0 Regulatory Information

The product is not subject to mandatory labelling.

This information is provided in good faith and constitutes our current knowledge of the product; it is intended that this data be read to enable the user to use the product safely. We cannot accept liability for any loss, injury or damage which may have resulted from the products use. Where the customer has particular concerns, we would recommend that they have their own tests carried out.