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**017621**  
**INSTALLATION GUIDELINES**  
**FOR NSG01 & 02 Grease Separator's**

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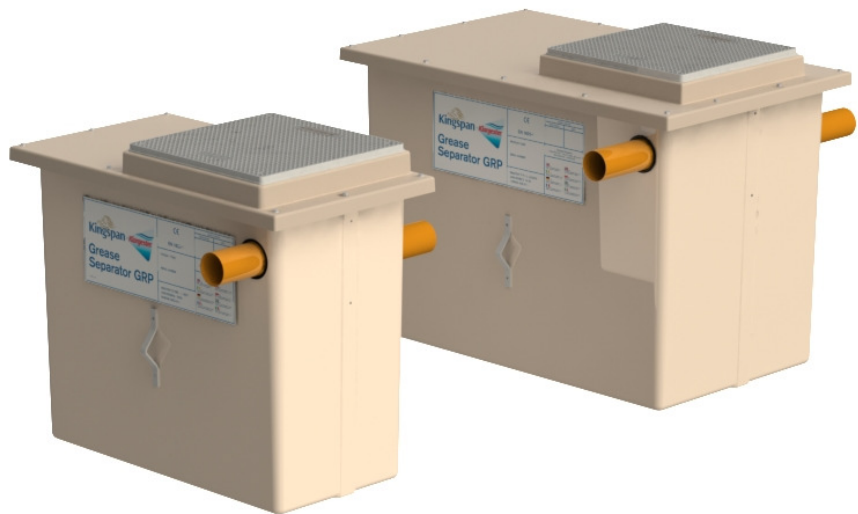


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**Enclosed Documents**

		NSG01	NSG02
DS1279P	NSG01 Grease Separator (500L)	●	
DS1280P	NSG02 Grease Separator (1000L)		●

Issue	Description	Date
02	CC1361 – Modifications to Grease Separators	February 2017
01	CC1293 – Release Of NSG01 & 02 Grease Separators	July 2016

## HEALTH & SAFETY

**These warnings are provided in the interest of safety. You must read them carefully before installing or using the equipment.**

It is important that this document is retained with the equipment for future reference. Should the equipment be transferred to a new owner, always ensure that all relevant documents are supplied in order that the new owner can be acquainted with the functioning of the equipment and the relevant warnings.

Installation should only be carried out by a suitably experienced contractor, following these guidelines.

We recommend the use of a dust mask and gloves when cutting GRP components.

Electrical work should be carried out by a qualified electrician.

Covers must be kept locked.

The correct ongoing maintenance is essential for the proper operation of the equipment. Service contracts are available and recommended. Please contact us for details of your local service provider.

Should you wish to inspect the operation of the equipment, please observe all necessary precautions, including those listed below, which apply to maintenance procedures:

Contaminated surface water can contain substances harmful to human health. Any person carrying out maintenance on the equipment should wear suitable protective clothing, including gloves. Good hygiene practice should also be observed.

When covers are removed precautions must be taken against personnel falling into the unit.

Ensure that you are familiar with the safe working areas and accesses. Ensure that the working area is adequately lit.

Observe all hazard labels and take appropriate action to avoid exposure to the risks indicated.

Take care to maintain correct posture, particularly when lifting. Use appropriate lifting equipment when necessary. Keep proper footing and balance at all times. Avoid any sharp edges.

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## 1 Introduction

- 1.1.1 Grease Separator's must be used on the dedicated outlets on all communal kitchens connected to individual wastewater treatment plants or septic tanks.
- 1.1.2 Grease Separator's are manufactured in Glass Fibre Reinforced Polyester (GRP). The finished products are light in weight, easy to transport and install. GRP is extremely robust, but can be susceptible to damage by sharp objects and from point loads. Care should be taken to avoid contact with sharp objects and point loads and the unit should be uniformly supported during transportation and installation.
- 1.1.3 Because of their lightweight and large volume, there is a risk of buoyancy and movement during installation. The unit should be carefully struted in position and ballasted with water in order to minimise these risks. On sites where the excavation is likely to be water logged the excavation must be kept free of water using suitable pumping equipment.
- 1.1.4 ***We will accept no liability for damage incurred through failure to comply with this procedure.***
- 1.1.5 This document should be used in conjunction with the latest issue of the relevant General Arrangement drawing, along with the concrete specification.

## 1.2 Applications

- 1.2.1 The following is a list of typical application for the Grease Separator's
  - 1.2.1.a **Public Houses**
  - 1.2.1.b **Restaurants**
  - 1.2.1.c **Hotels**
  - 1.2.1.d **Nursing Homes**
  - 1.2.1.e **Activity Centres**
  - 1.2.1.f **Schools**
- 1.2.2 It is not recommended that kitchen waste disposal units are used because they generate excess solid waste, which will be detrimental to Grease Separator performance. Solid kitchen waste should be disposed of by other means.
- 1.2.3 Weekly inspection is recommended as a minimum and regular emptying of both grease and solids must be carried out to maintain performance. Failure to empty a unit will result in problems for any downstream treatment systems.

Model	Typical No. Meals/Day	Inlet Invert. mm	Length mm	Width mm	Depth mm
NSG01	<40	300	1300	700	1100
NSG02	40-100	300	1600	1000	1175

## 1.3 Features

- 1.3.1 Durable GRP one piece construction
- 1.3.2 Lockable pedestrian (A15 Loading) or Vehicular (B125 Loading) duty access covers
- 1.3.3 Standard models suitable for up to 100 meals per day
- 1.3.4 Larger units available.

## 1.4 Positioning

- 1.4.1 The units should be positioned close to the source of contamination, but should also consider the temperature and the nature of the discharge as well as accessibility for emptying. Our experience indicates that units should be at least 12-15m away from the source of the contamination. This distance is normally sufficient to allow cooling of most kitchen wastewaters when the discharge temperature is < 60°C.
- 1.4.2 Grease Separator's are installed in dedicated kitchen outlets prior to the treatment plant. The installation should be arranged for gravity feed and discharge.
- 1.4.3 The site of installation should also take into account the need for regular access to remove grease from the surface, debris from the basket (if fitted) and periodic complete emptying possibly requiring road tanker access. Units should not be installed beneath pavements or car parks.

## 2 Installation Procedure

- 2.1.1 Before beginning the installation, the whole of these instructions must be read and complied with. Also, the following points must be noted:-
- 2.1.2 Adherence to good Working Practices and the Health & Safety at Work Act on site should be observed.
- 2.1.3 Prior to installation, check the tank for damage and always handle with care, avoiding heavy impact or contact with sharp objects.
- 2.1.4 On no account should the specified maximum drain invert depth be exceeded.
- 2.1.5 Never fill a freestanding tank with water or back fill an empty tank. Always fill the tank with water at the same time as the back fill material is placed. This avoids the risk of flotation and minimizes the applied loads to the tank.
- 2.1.6 ***These instructions assume no more than pedestrian duty loadings will be applied to the final installation. Traffic or other heavy superimposed loads must not be transferred through the walls of the tank.***
- 2.1.7 **CHECK:** Drain invert depth and orientation of inlet and outlet drains. Relevant drawing and the general concrete specifications are supplied with this document.
- 2.1.8 **INSPECT:** Grease Separator for damage before installation.
- 2.1.9 **DO NOT:** Subject Grease Separator to impact, contact with sharp edges or use metal chains, when lifting the unit.
- 2.1.10 The installation of any particular unit should be carried out in accordance with details shown on the relevant and current issue of the drawing. In particular, note the inlet and outlet pipe positions and levels relevant to ground level, the depth and size of the excavation.
- 2.1.11 Set out the excavation to size, in the correct position relevant to existing pipe positions. Allowance must be made for timbering or trench sheeting. When setting out the levels carefully note any slopes present on the site. The small fall between inlet and outlet inverts means that the unit must be installed in a level plane.
- 2.1.12 Excavate the hole to the correct size and depth. For wet installations it will be necessary to dewater the excavation using suitable pumping equipment.

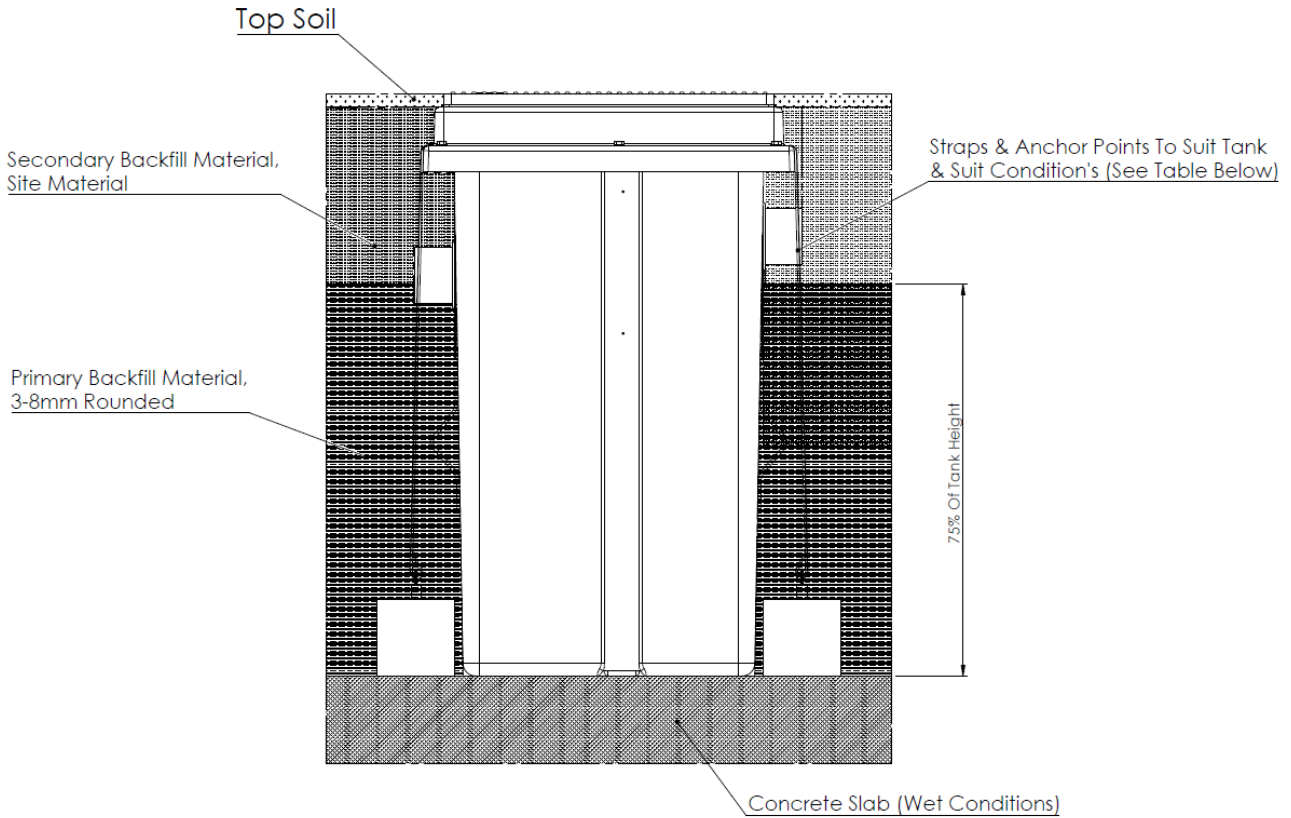
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- 2.1.13 Lay a concrete base (sulphate resisting, if required) of suitable thickness to suit site conditions in accordance with concrete specification BS EN 206-1 (see below) and level to the correct depth below drain invert (approx 100mm). Reinforcement may be required for installations where a high water table is present.
- 2.1.14 Allow the concrete base to set.
- 2.1.15 Using webbing slings of suitable strength, lift the unit and lower onto the base. Wedge the unit in position with timber wedges under the unit, set to the correct level and alignment of pipes. The level should be checked across the width and along the length of the unit. Strut firmly with suitable timbers.
- 2.1.16 Begin to ballast the unit with water, in stages, to invert level and backfill with concrete to a minimum thickness of 150mm. Pour concrete, keeping the level of water ballasting 300mm ahead of backfill until full.
- 2.1.17 Connect pipe work before backfilling up to final level as shown on relevant drawing.
- 2.1.18 Carefully remove trench sheeting and strutting before the concrete fully sets and prevents their removal, ensuring that the unit's position is not moved during this operation.
- 2.1.19 Leave unit full of water on completion of installation. For wet installations dewatering should continue until the unit is full of water or the concrete has set.
- 2.1.20 In the event of any problems please contact Kingspan Environmental Service.

<b>GENERAL CONCRETE SPECIFICATION IN ACCORDANCE WITH BS EN 206-1 ( BS 8500-1)</b>		
TYPE OF MIX		(DC) DESIGN
PERMITTED TYPE OF CEMENT		BS 12 (OPC): BS 12 (RHPC): BS 4027 (SRPC)
PERMITTED TYPE OF AGGREGATE (coarse & fine)		BS 882
NOMINAL MAXIMUM SIZE OF AGGREGATE		20 mm
GRADES: C25 /30 C25 /30 C16 /20		REINFORCED & ABOVE GROUND WITH HOLDING DOWN BOLTS REINFORCED (EG. FOR HIGH WATER TABLE) UNREINFORCED (NORMAL CONDITIONS)
MINIMUM CEMENT CONTENT	C30 C20	270 - 280 Kg/M <sup>3</sup> 220 - 230 Kg/M <sup>3</sup>
SLUMP CLASS		S1 (25mm)
RATE OF SAMPLING		READY MIX CONCRETE SHOULD BE SUPPLIED COMPLETE WITH APPROPRIATE DELIVERY TICKET IN ACCORDANCE WITH BS EN 12350-1
NOTE: STANDARD MIXES SHOULD NOT BE USED WHERE SULPHATES OR OTHER AGGRESSIVE CHEMICALS EXIST IN GROUND WATER		

### 3 Granular Backfill and Strapping

- 3.1 If granular backfill is chosen the material must be rounded gravel between 3-8mm diameters. Material with sharp edges must NOT be used as it can damage the GRP and cause potential leak points.



- 3.2 Holding down straps for each tank are shown in the table below with another table showing the recommended quantity and widths as per strength rating of straps.

Holding Down Straps		
Max Volume Of Tank (L)	Number Of Straps Required	Strength Rating Of Straps (kg)
500L	2	2500kg
1000L	2	2500kg

Width Of Strap	Strength Rating (kg)
35mm	2500kg
50mm	5000kg
60mm	8000kg
75mm	10000kg

- 3.3 For correct strap positions please see sales drawing relevant to the tank being installed.  
 3.4 Hold down anchor points/ eyes to have loading capabilities to suit potential tank uplift.

## **4 Vehicular Installation**

- 4.1 It is important to transfer any cover loads through to the backfill. I.E:- Concrete to be free of any voids under GRP Top Flange.
- 4.2 Concrete backfill by client to suit site conditions.
- 4.3 Concrete base slab cast by client to suit site conditions.