Delta Grease Arrestor
Product Manual

Delta 2                      Delta 1

Undersink pump unit
# INDEX

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>3</td>
</tr>
<tr>
<td>APPLICATIONS</td>
<td>5</td>
</tr>
<tr>
<td>SPECIFICATIONS</td>
<td>6</td>
</tr>
<tr>
<td>INSTALLATION INSTRUCTIONS</td>
<td>7</td>
</tr>
<tr>
<td>BELOW GROUND</td>
<td>7</td>
</tr>
<tr>
<td>ABOVE GROUND</td>
<td>8</td>
</tr>
<tr>
<td>VENTING REQUIREMENTS</td>
<td>9</td>
</tr>
<tr>
<td>PUMPOUT LINES</td>
<td>9</td>
</tr>
<tr>
<td>MAINTENANCE INSTRUCTIONS</td>
<td>10</td>
</tr>
<tr>
<td>WARRANTY</td>
<td>11</td>
</tr>
<tr>
<td>HOUSEKEEPING SIGN</td>
<td>12</td>
</tr>
<tr>
<td>DIMENSIONAL DRAWING</td>
<td>13</td>
</tr>
<tr>
<td>ENGINEERING CERTIFICATION</td>
<td>14</td>
</tr>
<tr>
<td>APPLICATION DRAWINGS</td>
<td>15</td>
</tr>
</tbody>
</table>
INTRODUCTION.

The Delta grease arrestor is a highly efficient device for the removal of grease and solid matter as may be found in all commercial cooking and food preparation areas.

The Delta is fully protected by Australian and overseas patents. The Delta is fully Australian made and Eclipse Environmental is Australian owned.

The Delta 1 has several unique features:

These are:

1. Extra solids capacity or higher throughput.
2. Internal fillet curves give extra strength for below ground installations.
3. Compact octagonal shape for greater versatility and against the wall mounting.
The method of operation consists of two actions:

1. Food particles larger than 1.2 mm will not pass through the cartridge. These are
   a. either trapped or
   b. sink to the bottom taking with them adhering grease.

2. The oleophyllic cartridge prevents oil and grease from passing through it.

Both these actions protect the sewer from the ingress of both suspended solids and oil and grease.

The compact nature of the Delta grease arrestor makes it ideal for retrofitting to older premises and allows the customer to relocate the unit without great expense.
APPLICATIONS.

Bakery                        Kebabs                          
Boarding house               Motel                        
Butchers                      nightclub                    
Cafe                          Nuts                           
Cafeteria                    Pasta                             
Canteen                      Patisserie                     
Cheese Cake Shop (made on premises) Pavlova
Chicken shop                     Pizza                              
Child Care Centre              Restaurant                    
Club                           School Canteen (cooking)  
Coffee shop                    School Home Science 
Commercial kitchen            Seafood                        
Community Hall                Service Station Forecourt Caravan 
Defence Force Mess            Ship to Shore (galley waste)  
Delicatessen                  Soup Kitchen                   
Dessert shop                   Take away Foods                 
Fast food shop                 Yeeros (Yiros)                 
Fish and chip Shop            Function Centre                
Hot Bread                      Hotel                           

Delta 1 suitability guide.  
Restaurant with no more than 70 settings 
Takeaway shop with less than 8 employees at any one time. 
Fast food outlet where most of the food is already prepared.

Delta 2 suitability guide.  
Restaurant with no more than 120 settings 
Takeaway shop with less than 12 employees at any one time. 
Fast food outlet where most of the food is already prepared.

Flow rates:  
The Delta 1 has a maximum daily volume of around 2000 litres.
The Delta 2 has a maximum daily volume of around 3000 litres

Further requirements.  
A dry basket arrestor is necessary if floor wastes are in food preparation and handling areas. 
Trade wastewater must pass through the grease arrestor.

NB. Sink strainers must always be in place. Failure of the equipment can result and 
voiding of any warranty will result if this condition is not met.
SPECIFICATIONS:

Delta 1.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>colour</td>
<td>light grey</td>
</tr>
<tr>
<td>tank material</td>
<td>FRP (min 8 mm thick)</td>
</tr>
<tr>
<td>internal structure</td>
<td>FRP</td>
</tr>
<tr>
<td>lid</td>
<td>450 mm diameter polypropylene with gastight seal</td>
</tr>
<tr>
<td>weight / volume</td>
<td>34 kg empty / 500 litres</td>
</tr>
<tr>
<td>pumpout volume</td>
<td>500 litres</td>
</tr>
<tr>
<td>dimensions</td>
<td>900 length 600 width 1200 high</td>
</tr>
<tr>
<td>fittings</td>
<td></td>
</tr>
<tr>
<td>inlet</td>
<td>100 mm swd upvc</td>
</tr>
<tr>
<td>outlet</td>
<td>100 mm swd upvc</td>
</tr>
<tr>
<td>vent</td>
<td>100 mm swd upvc</td>
</tr>
</tbody>
</table>

Delta 2.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>colour</td>
<td>light grey</td>
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<tr>
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<td>FRP (min 8 mm thick)</td>
</tr>
<tr>
<td>internal structure</td>
<td>FRP</td>
</tr>
<tr>
<td>lid</td>
<td>450 mm diameter polypropylene with gastight seal</td>
</tr>
<tr>
<td>weight / volume</td>
<td>45 kg empty / 700 litres</td>
</tr>
<tr>
<td>pumpout volume</td>
<td>700 litres</td>
</tr>
<tr>
<td>dimensions (mm)</td>
<td>1200 length 600 width 1200 high</td>
</tr>
<tr>
<td>fittings</td>
<td></td>
</tr>
<tr>
<td>inlet</td>
<td>100 mm swd upvc</td>
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<td>100 mm swd upvc</td>
</tr>
<tr>
<td>vent</td>
<td>100 mm swd upvc</td>
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</tbody>
</table>

Quality Control for the manufacture of the fibreglass tank.

Resin type: Isophthalate laminating resin conforms to the following criteria.

<table>
<thead>
<tr>
<th>Test method</th>
<th>minimum</th>
<th>maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cone and plate viscosity (Poise at 25°C)</td>
<td>53-34-88</td>
<td>2.3</td>
</tr>
<tr>
<td>Brookfield viscosity, spindle 2 rpm</td>
<td>53-2-86</td>
<td>25</td>
</tr>
<tr>
<td>Gel time at 25°C</td>
<td>53-10-86</td>
<td>15</td>
</tr>
<tr>
<td>Exotherm to peak</td>
<td>53-11-86</td>
<td>40</td>
</tr>
<tr>
<td>Visible test</td>
<td>visual</td>
<td>light blue colour with no lumps</td>
</tr>
</tbody>
</table>

No laminating is carried out if ambient temperature exceeds 32°C
All resin mixes are carried out by using measuring vessels to arrive at the correct ratio.
**INSTALLATION INSTRUCTIONS.**

All installations should be carried out by a licensed plumber and comply with AS 3500. The Delta should be located so as not to impede access to persons and consideration be given to the maintenance requirements. Allow min 1.2 metres clearance above the unit for a (sludge judge) tester to be used.

There are many different installation methods available with the Delta.

These are
1. Gravity inlet and gravity outlet. (preferred option)
2. Pumped inlet and gravity outlet.
4. Pumped inlet and pumped outlet.

Each of the above combinations can also be installed above or below ground.

**Surcharge point.**
A gully or reflux valve must be installed downstream to protect the Delta from surcharge. Below ground installation only.

**Outlet from Delta.**
The outlet from the Delta must be trapped and have fittings with screwed inspection openings as per drawings.

**Plumbing fittings and pipes.**
PVC pipes are preferred but cast iron is acceptable. Copper pipes must not be used. Rubber adaptors are available for retrofitting PVC pipe to other types of pipes.

**BELOW GROUND INSTALLATION OF DELTA 1.**

1. Dig a hole with at least 200 mm clearance around all sides.

2. Make provision for the inlet and outlet connections and the vent pipe.

3. Ensure the base is prepared to AS 3500 with a 100 mm of concrete cover over compacted ground.

4. After the Delta has been positioned deposit a mixture of sand cement (10:1) around the base to stabilise it.
5. Partly fill the Delta to at least 500mm depth with water. This is important as the Delta will settle to its ultimate position.

6. Connect all plumbing now

7. Fill in the sides with a mixture of sand cement (10:1) and prepare the top area for the appropriate lid. (see note below, Trafficable lids)

8. If the Delta is in a non trafficable area the standard plastic lid will suffice. The unit should protrude above ground level by 150 mm to stop the ingress of rain water.

**Trafficable lids.**

For trafficable areas a gas tight concrete lid can be cast in place above the grease trap in accordance with the lid manufacturers instructions. The lid should be installed so that no loading is placed directly on the Delta but bridges over it and is supported by the side walls of the filled excavation. Lids are available with installation instructions from most concrete product suppliers. Minimum size should be 600 mm by 600 mm. See diagram at end of manual.

**ABOVE GROUND INSTALLATION.**

1. The site should be level and able to support the weight of the arrestor when full. A minimum 100 mm thick concrete slab must be used on open ground.

2. The Delta 1 may be partially filled with water to a height of 500 mm to stabilise it whilst plumbing connections are made.

**PROTECTING AGAINST ACCIDENTAL DAMAGE AND VANDALISM**

Suitable bollards should be positioned to stop motor vehicles from damaging the unit.

Steel posts typically 100 mm (dia.) and 1300 mm (high) should be positioned so as to stop any possibility of damage from a motor vehicle. If the chance of vandalism exists a fence or cage should be installed.

**INTERNAL INSTALLATIONS.**

Upon permission from the relevant health inspector the Delta can be installed within the premises without the usual vented enclosure. Consideration should be given to cleaning and maintaining the unit. Remote pumpout lines can be connected to the outside of the premises thereby making cleaning easier.
VENTING THE DELTA.

The contents of the Delta are hermetically sealed to prevent odours escaping. Two vents are required to provide air pressure equalisation and the transfer of odours away from the unit. Refer to the installation drawings at the back of this manual for various installation methods. The inlet pipe is open to the internal volume of the Delta. The vent pipe for the Delta is to be a minimum of 80 mm. If the Delta is pump fed the connection from the pump line to the inlet plumbing must be via 100 mm pipe.

PUMPOUT LINES.

The pumpout line can be fitted to within 1 m of the Delta. The final connection can be made at the time of the pumpout service. This line is connected to the outside of the premises and fitted with a male camlock fitting and cover. A plate can be used to mount the pipe or it can be cemented in place. The length should be kept to a minimum with few curves and preferably no low spots for waste to accumulate. Fixed suction lines shall terminate with a camlock fitting and ball valve adjacent to the grease arrestor and also where the pumping contractor locates their vehicles. Fixed suction lines are not permitted inside grease arrestors. 50 mm pvc (class 12) pressure pipe or 65 mm (class 12) polypropylene pipe with no joints and sweeping curves is the preferred material for this pipe. Consideration should be given to the parking requirements of the pumpout truck.

WATER SUPPLY AT THE ARRESTOR.

A hose cock and hose are required for the washing of the Delta. These must be located within 5 m of the Delta. The required back flow prevention device must be fitted.
Delta Maintenance instructions.

The Delta grease arrestor and undersink unit must be pumped out and cleaned within the agreed service period as set by your local Water Authority. This period must not exceed 3 months and is indicated when about 90 mm of floating oil, grease or sludge is evident, with the initial pump out period being 60 days from installation. Exchanging the cartridge reduces the onsite cleaning time.

Cleaning the Delta with filter cartridge replacement.

1. The lid is removed.
2. The cartridge and baffle are unscrewed in an anticlockwise direction and moved to one side.
3. The suction hose is put into the unit and the contents are sucked out.
4. The plastic baffle cylinder is then replaced and a replacement cartridge is screwed back in a clockwise direction (2 turns).
5. The lid is screwed back on.
6. The Delta is filled with water and returned to service

Cleaning Delta without filter cartridge replacement.

1. The lid is removed.
2. The cartridge and baffle are unscrewed and moved to one side.
3. The suction hose is put into the unit and the contents are sucked out.
4. The cartridge is removed and placed in a 60 litre bucket and cleaned
5. The plastic baffle cylinder is then removed and the internal surfaces are hosed.
6. The plastic baffle cylinder is then replaced and the cartridge is screwed back in a clockwise direction (2 turns).
7. The lid is screwed back on.
8. The Delta is filled with water and returned to service.

Cleanout contractor.

The cleaning and pumping out of the unit must be done by a licensed Contractor. The contents of the Delta must be pumped out at the required frequency. Regardless of whether fixed suction lines are in place or not, the above cleaning regime for the grease arrestor is still required to be completed
The Delta cartridge must be thoroughly cleaned or replaced with a clean cartridge and any undersink or rising main boxes must also be cleaned out at the same time. The service must be carried out by a fully trained person. Failure to the equipment can occur if the equipment is not serviced correctly.

IMPORTANT NOTE
The filter of the Delta Compact Grease Arrestor is an integral part of the equipment. The Delta compact grease arrestor must not be operated without a filter correctly in place.
**Manufacturer’s Warranty**

Eclipse grease arrestors manufactured by Eclipse Environmental Aust Pty Ltd are guaranteed to be free from defects in materials and workmanship for 60 months from date of purchase.

The obligations under this warranty, statutory or otherwise, is limited to replacement or repair at our factory in Sydney or another depot designated by us, of such component that we believe to be faulty or defective.

This warranty does not include freight to and from our factory or depot.

No expressed, implied or statutory warranty other than herein is made by Eclipse Environmental Aust. P/L.

In no event shall Eclipse Environmental Aust. P/L be liable for consequential damages or contingent liabilities arising out of the failure of any component supplied by us.

**Compliance plate.**

The Delta 1 has a compliance plate made from metallic film with plastic substrate mounted on the top the lid.

The plate is 100 mm by 50 mm in size and is attached with polyurethane adhesive.
This instruction sheet is mounted in the customer’s kitchen.

GREASE ARRESTOR INSTRUCTIONS.

Make sure that all sink strainers are always in place.

DO NOT allow food scraps to go down the drain.

Always scrape plates and drain oil into collection drums.

BEGINNING OF DAY.

1. ALLOW 10 LITRES OF WARM WATER TO GO DOWN THE SINK.

2. CHECK TO SEE THE PUMP IS OPERATING (IF UNDERSINK UNIT FITTED).

DURING THE DAY.

1. ON BUSY DAYS CHECK THAT THE PUMP IS OPERATING CORRECTLY.
   (IF UNDERSINK UNIT FITTED)

END OF DAY.

1. ALLOW 10 LITRES OF WARM WATER TO GO DOWN THE SINK.

2. CHECK THE UNDER SINK UNIT FOR EXCESS FOOD SCRAP.
   (IF UNDERSINK UNIT FITTED)

BLOCKAGES.

IF A BLOCKAGE OCCURS CHECK THAT THE PUMP IN THE UNDER SINK UNIT IS FREE
FROM DEBRIS. (IF UNDERSINK UNIT FITTED)

ROUTINE MAINTENANCE.

THE UNDER SINK UNIT SHOULD BE PUMPED OUT AT THE SAME TIME AS THE DELTA.

FOR ANY PROBLEMS CALL ECLIPSE 1300 272 650
NOTE 1

1. All connections to be made above or below inlet invert.

Outlet invert 50mm below inlet invert.

Material of construction: Fibreglass
30th March 2005

Eclipse Environmental (Aust) Pty Ltd
26 Larra Street
YENNORA NSW 2161

Attention: Mr R. Laferla

Dear Sir,

RE: PRE-CAST PITS

As requested we have reviewed the structural capacity of one of your pre-cast pits when placed in the ground.

The pit reviewed was the Delta 1 pit, 0.9 x 0.6 x 1.2 deep made from minimum 8mm fibreglass.

As a result of our review we are prepared to certify that the walls of the pit can adequately withstand the loads imposed by the earth backfill with potential hydrostatic pressure around the pits when empty.

Should there be any questions please do not hesitate to contact the undersigned.

Yours faithfully

CHAPMAN HUTCHISON PTY LTD

B A HUTCHISON
Vent pipe 100mm

trafficable lid on Delta 1

SET WATER LEVEL 50 mm BELOW INLET

Vent pipe 100mm

TWSP - Supplied by others