

# INSTALLATION

## EXTERNAL SEPARATOR INSTALLATION

ABOVE OR BELOW GROUND

### ABOVE GROUND INSTALLATION

#### Location

1. Ensure the separator is on a firm surface and is braced it to a wall or alternative support to prevent it from moving or tipping.
2. Install the separator in a location that is accessible by manual or vacuum tanker so that it can be regularly serviced. Allow room above the separator for removal of the lids and access for the cleaning service. If possible, have clearance at least the maximum depth of the separator.
3. If the separator will be exposed to direct sunlight in temperatures that can exceed 30°C then consider a shade structure. If the separator will be exposed to temperatures below 0°C then consider a frost cover.
4. If necessary, the separator can be partially buried so that the inlet invert is at the most appropriate height to suit the inlet drainage. If the separator is to be partially buried, then:
  - a) Excavate the hole as close as possible to the size of the separator.
  - b) Ensure the base is flat and firm with even compaction and at least 25mm of sand for levelling.
  - c) Fill the separator with water to the height of the excavation before backfilling.
  - d) For separators 1500L and above, half fill with water then backfill to the water level, fill the remainder of the unit and complete backfilling.
  - e) Back fill the sides with sand and lightly compact.
  - f) Leave the lids exposed for access and service.

#### Venting

1. Venting can be off either the inlet or outlet drainage but should be within 1m from the separator.
2. The separator can be vented from the top surface. If installing a vent from the top surface of the separator, then install using a bulkhead fitting or appropriate seal. Mactrap can supply venting seals and filtered vents as required.
3. If cross ventilation is required, then install one vent at each end of the separator.
4. If the outlet is direct to sewer, then local authority regulations may mandate a vent on the outlet drainage.

#### Backflow prevention

1. If backflow prevention is required, then the backflow prevention device should be installed in the drainage within five metres of the separator.

#### Connections

1. The invert level of inlet and outlet are set. Do not raise or lower the inlet or outlet.
2. The invert of the outlet pipe must remain lower than the invert of the inlet pipe. The outlet pipe and drainage must never be of lesser diameter than the inlet pipe.





## BELOW GROUND INSTALLATION

### Location

1. Install the separator in a location that is accessible by manual or vacuum tanker so that it can be regularly serviced.
2. Excavate the hole as close as possible to the size of the separator.
3. Ensure the base is flat and firm with even compaction and at least 25mm of sand for levelling.
4. Fill the separator with water before back filling.
5. Back fill the sides with sand and lightly compact.
6. For separators 1500L and above, half fill with water then back fill with sand and lightly compact to the water level, fill the remainder of the separator with water and complete back filling.

### Risers and Covers

1. The upper surface of the separator is not load bearing, so if the installation will carry any form of load, then risers and covers must be installed.
2. Mactrap separators are available with HDPE trafficable covers in Class A (pedestrian) and Class D (vehicular).

Type	Class	Typical Use	Nominal Wheel Loading (kg)	Serviceability Design Load (kN)	Ultimate Limit State Design (kN)
	A	Areas accessible by pedestrians and small light vehicles such as ride-on mowers. Not suited to cars or vehicles.	330kg	6.7kN	10kN
	D	Major roads including freeway and motorway shoulders. Warehouse and loading docks.	8,000kg	160kN	240kN

### Riser Extensions

#### Depths up to 1m

Separators can be installed as standard to a depth of 1m from the surface of the separator to the top of the riser and cover. Riser extensions are available at time of order (manufactured in place) or as inserts. Riser extensions are available in 100mm sections from 100mm to 500mm.

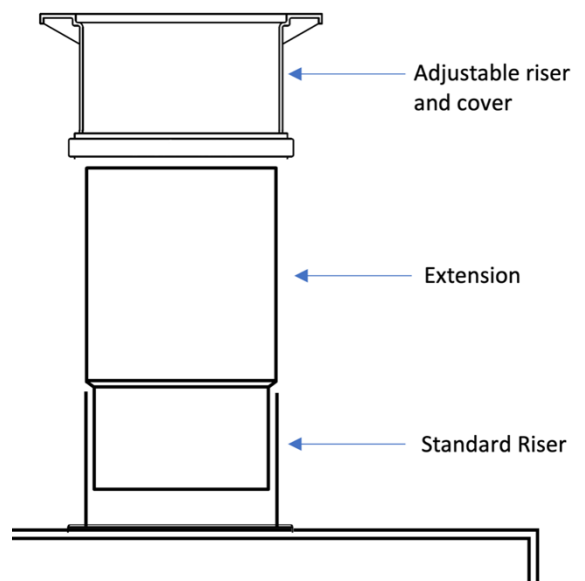
#### Depths greater than 1m

Separators installed at depths greater than 1m from the surface of the separator to the top of the riser and cover should include a static load bridge. A static load bridge consists of additional weight bearing reinforcing for the upper surface of the separator to ensure that the weight of fill/earth does not compromise the separator.

Static weight bridges are manufactured to order.

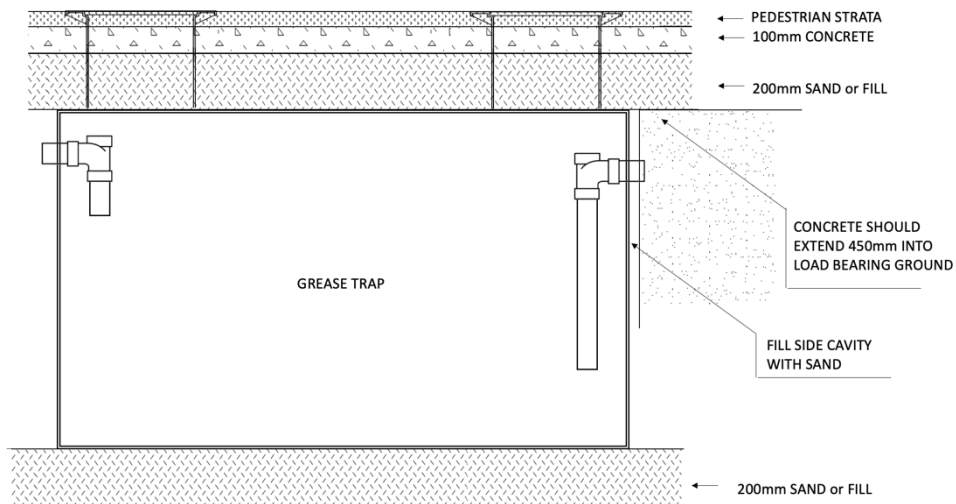
### Low Profile Risers and Covers

Low profile risers and covers are available where the depth of the separator is less than the height of the standard riser. Low profile risers and covers can allow the separator to be buried as little as 150mm below the surface.



## Class A Load Bridge

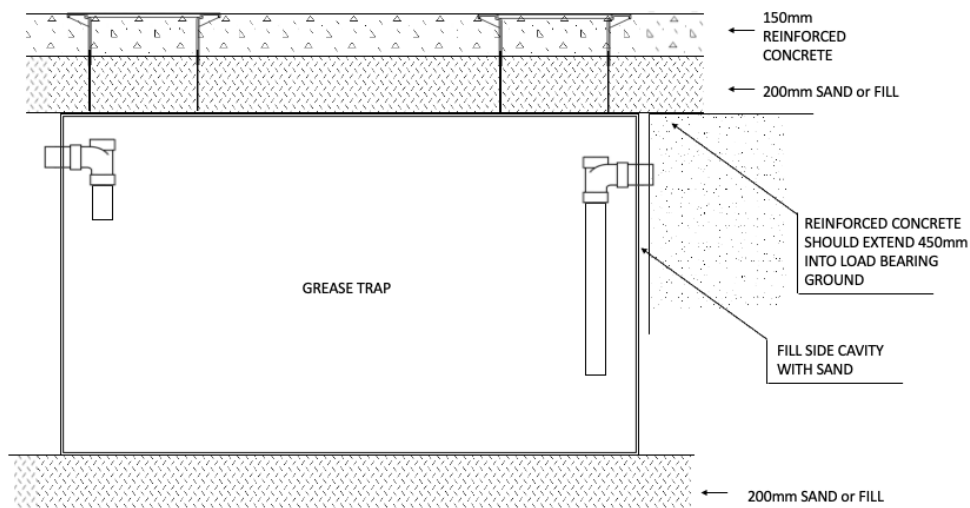
1. The Class A system does not necessarily require a load bridge, but Mactrap highly recommend that one is installed. While normal pedestrian traffic will not harm the Grease Trap, unexpected vehicle loading, such as a service vehicle, will cause irreparable damage. Consider a load bridge if there is likely to be sustained pedestrian loading.
2. The Class A risers and covers are in the form of a variable height riser that the HDPE cover fits over and is settled into a load bearing pedestrian strata.



*Class A pedestrian installation example*

## Class D Load Bridge

1. The Class D risers and covers are in the form of a variable height riser that the cast iron cover fits over and is settled into a load bearing traffic strata.

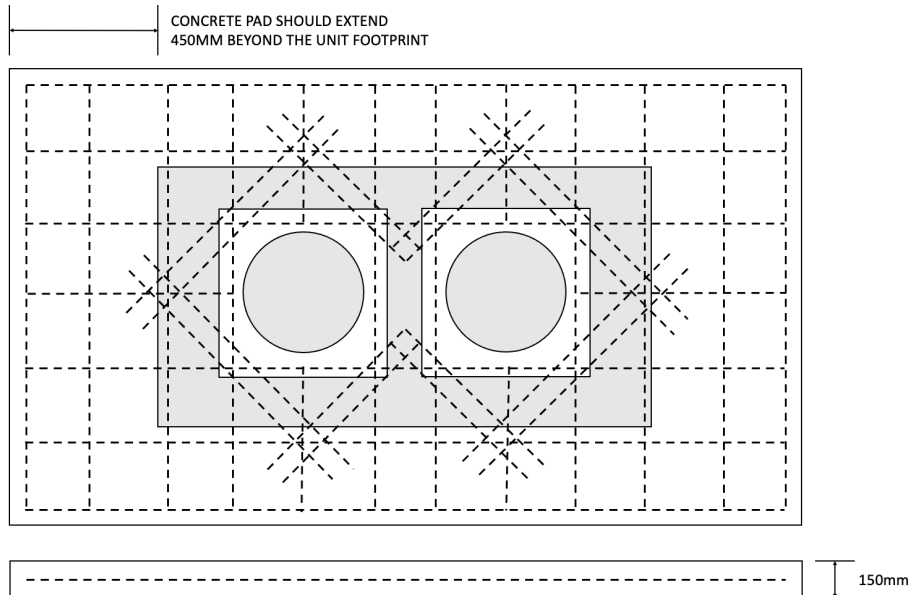


*Class D vehicular installation example*

2. Ensure the risers and cover plates are set and located on a substrate that will hold the appropriate load. This means a concrete surround installed above the separator to take the trafficable weight.



3. Ensure that the load bridge extends at least 450mm onto the surrounding stable ground. The load bridge must be constructed using reinforced concrete and should be a minimum of 150mm depth. An engineer's detail is required for the load bridge specification for heavy vehicles and the load bridge depth should be increased to 250mm.
4. The concrete load bridge should be reinforced as shown below:



### Venting

1. Venting can be off either the inlet or outlet drainage but should be within 1m from the separator.
2. The separator can be vented from the top surface. If installing a vent from the top surface of the separator, then install using a bulkhead fitting or appropriate seal. Mactrap can supply venting seals as required.
3. If cross ventilation is required, then install one vent at each end of the separator. If the outlet is direct to sewer, then local authority regulations may mandate an additional vent on the outlet drainage.

### Backflow prevention

1. If backflow prevention is required, then the backflow prevention device should be installed in the drainage within five metres of the separator.

### Connections

1. The invert level of inlet and outlet are set. Do not raise or lower the inlet or outlet. If the invert of the outlet is too high, then the inlet connection may be submerged.
2. The invert of the outlet pipe must remain lower than the invert of the inlet pipe. The outlet pipe and drainage must never be of lesser diameter than the inlet pipe.





## AFTER-INSTALLATION CARE AND SERVICING

### Operation

Mastrap grease separation systems intercept fats, oils, and grease (FOG) collected in wastewater from sources such as kitchens, bakeries, and food processing plants. These grease separators are amongst the lightest weight and most durable FOG capture systems available.

Wastewater enters the separator and the heavier food sediment sink to the bottom of the chamber while at the same time the FOG rises to the surface. Cleaned wastewater exits the separator without allowing any of the separated sediment or FOG to leave the separating chambers.

### Water temperature

The separator is certified to operate with water temperatures up to 65°C. Higher continuous temperatures may cause sagging in above ground units.

### Chemicals

The separator is tested to handle most commercial kitchen chemicals especially when diluted with water. Concentrated chemicals should be avoided.

### Sink Filters

Loading the separator up with food waste will increase the frequency of clean outs along with the associated cost. The more food waste pre-removed using sink filters, the higher the efficiency of the separator and the lower the cost of operation.

### Cleanout

The frequency of clean out is totally dependent on how much FOG and food sediment is intercepted. Most separators are sized for a three-monthly cleanout, however heavy usage may require more frequent clean outs. In normal circumstances separator are cleaned out by a vacuum truck. The entire contents are drained and removed before refilling the separator for continued operation.

## AVOID FOOD SOLIDS GETTING INTO THE GREASE TRAP

