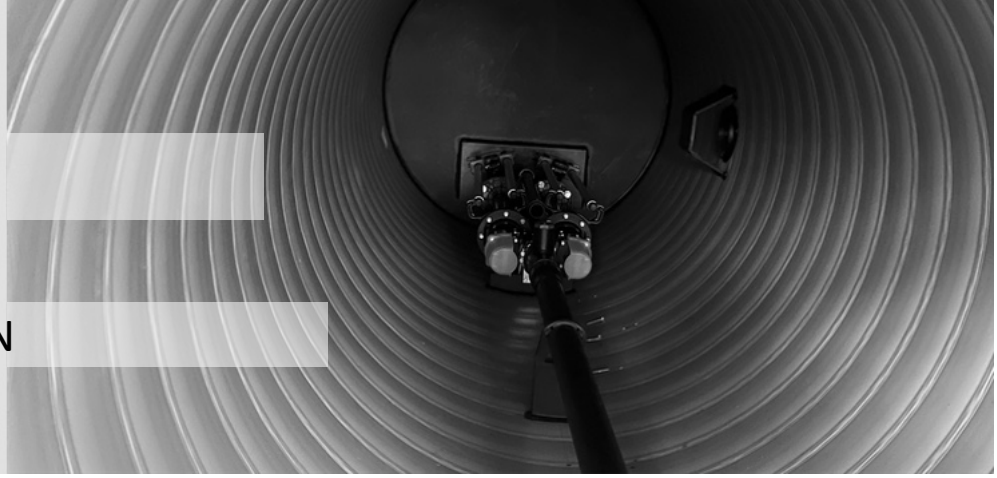
INSTALLATION



SEPARATOR INSTALLATION

ABOVE AND BELOW GROUND

ABOVE GROUND INSTALLATION

The term “separator” has been used to cover the above ground installation of Grease Traps, Oil and Grit Interceptors, and other Mactrap separator products manufactured from HDPE.

Location

1. Ensure the separator is on a firm surface and is braced to a wall or alternative support to prevent it from moving or tipping.
2. Install the separator in a location that is accessible by vacuum tanker so that it can be regularly serviced. Allow room above the separator for removal of the covers 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 separator 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 covers 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

The term “separator” has been used to cover the below ground installation of Grease Traps, Oil and Grit Interceptors, and other Mactrap Separator products manufactured from HDPE.

Location

1. Install the separator in a location that is accessible by 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 separator 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.

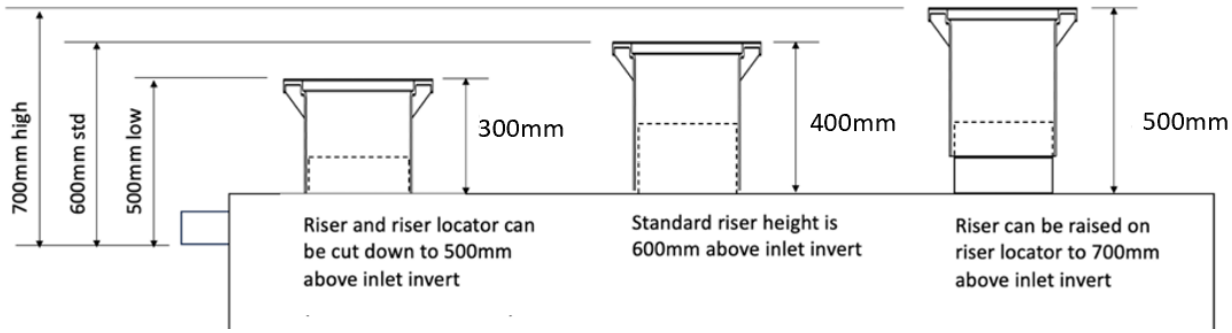
Risers and Covers

1. The upper surface of the separator is not designed for loads more than 300kg. If the installation will carry heavy pedestrian or vehicular loads, then risers and covers should be installed with appropriate load design.
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

Standard Risers – inherent adjustments

The standard riser height from inlet invert to FFL is adjustable from 500mm to 700mm.



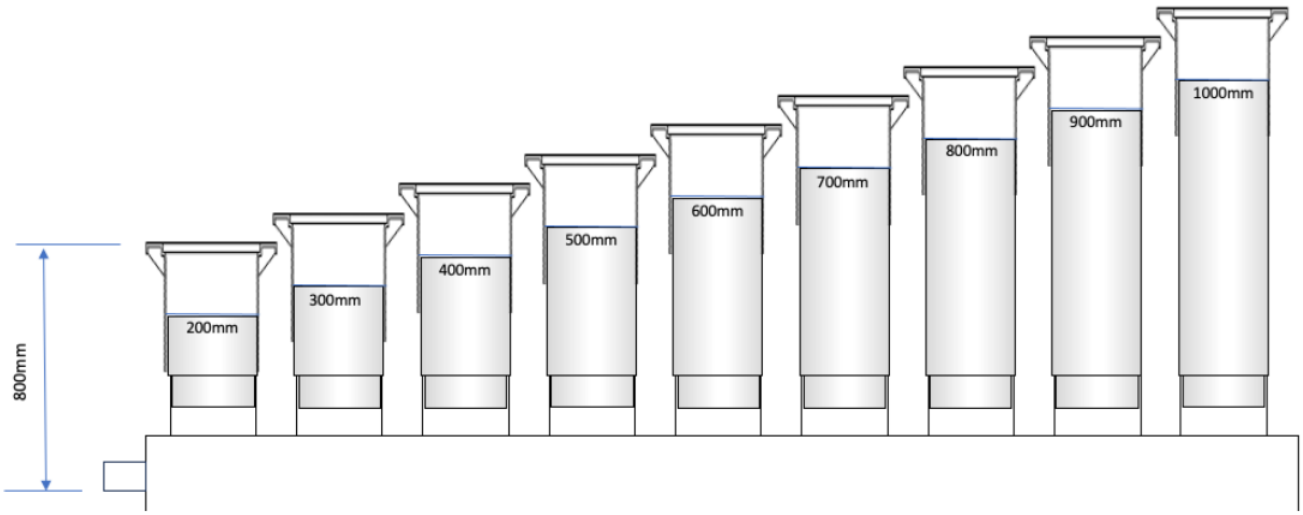
Low Profile Risers and Covers

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 adjust from 250mm to 350mm above the inlet invert (100 to 200mm above the surface).

Riser Extensions

Riser Extensions are available where the trap must be installed deeper than the standard riser height.

Example: a 200mm riser extension will increase the ***standard riser height*** (see previous drawing) from 600mm above inlet invert to 800mm above inlet invert.



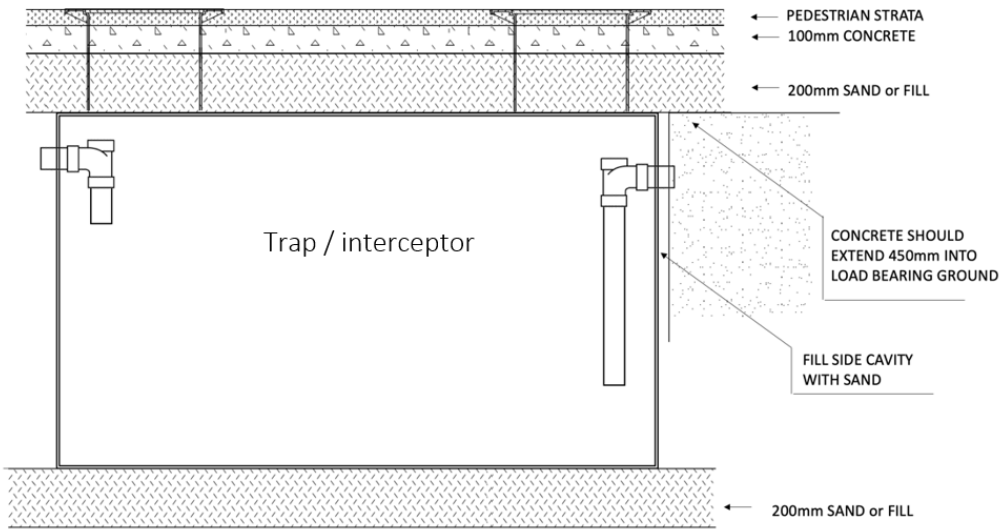
Depths greater than 1m

Separator 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.

Class A Load Bridge – Pedestrian areas

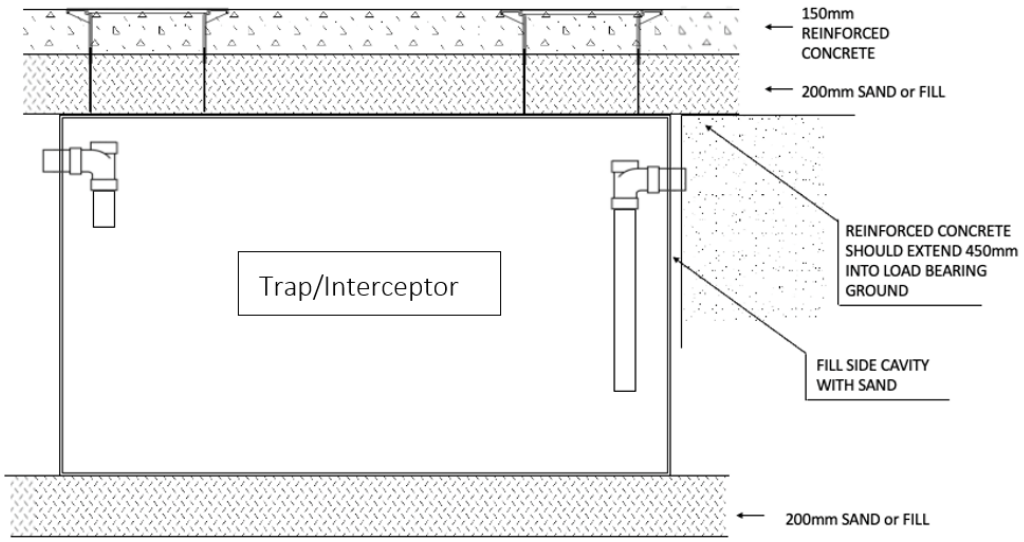
1. The Class A installation does not necessarily require a load bridge, but Mactrap recommends that one is installed. While normal pedestrian traffic will not harm the separator, unexpected vehicle loading, such as a service vehicle, will cause irreparable damage. Consider a load bridge if there is likely 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

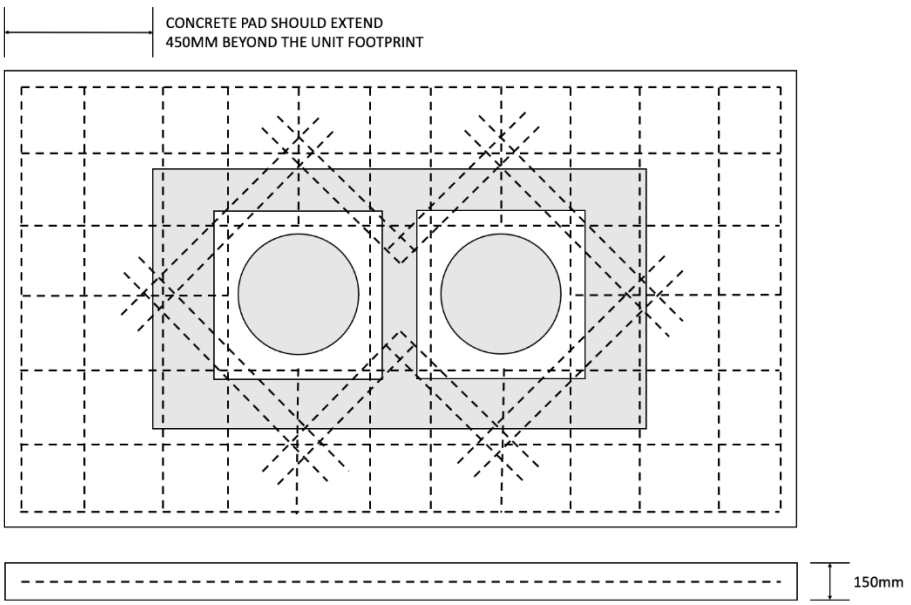
Class D Load Bridge – Vehicular areas

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. These are to be inserted into concrete or surrounding load bridge.



Class D vehicular installation example

2. An engineer's detail is required to ensure the risers and cover plates are set and located on a substrate that will hold the appropriate class cover. This means a concrete surround or steel frame to engineer's requirement installed above the separator to take trafficable weight.
3. Ensure that the load bridge extends at least 450mm onto the surrounding stable ground.
4. The Class D vehicular load bridge must be constructed using reinforced concrete. An engineer's detail is required for the load bridge specification for heavy vehicles. The concrete load bridge for Class D should be a minimum of 150mm depth and 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.

Sampling and Rodding

The internal inlet and outlet piping within the separator can be accessed from the risers and covers. In the event of a blockage at the inlet the length of the inlet piping can be accessed for rodding or other cleaning processes.

The outlet piping can be accessed for direct sampling of the wastewater outflow. This may alleviate the requirement for a separate sampling chamber.