

Modular Grease Trap (MGT)



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Installation Requirements Water Corporation

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**Modular Grease Trap Installation Requirements
For the Water Corporation Region**

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1.0 Design & Approvals

1.1 Permits and Approvals

The MGT must be installed in compliance with Water Corporation Regulations, Commercial & Industrial Services group requirements, the WA Health Regulations and all relevant codes of practice.

Before installation of the MGT is commenced:

1. A duly completed Industrial Waste Installation Form must be lodged with Water Corporation. The model and configuration of the proposed MGT units must be stated on the form.
2. Plumbing/drainage acceptance must be obtained from the Water Corporation Commercial & Industrial Services Section. Approval of the WA Health Protection Service must be obtained if the MGT is to be installed internally of a building.
3. It will be a condition of Water Corporation approval that the servicing and maintenance of the MGT unit meet or exceed the requirements specified in this manual.

1.2 Location

The Halgan agent will check the location for ease of contractor access to the vacuum pumpout line. In case of doubt, the Halgan agent will request an authorised cleaning contractor to visit the site and provide written confirmation of their ability to properly service the MGT. Water Corporation will not approve any installations which cannot be properly serviced.

1.3 Sizing of MGTs and Grease Trap Chambers

Sizing recommendations - refer to table on page 5

A correct application of the MGT is important for maintaining an economical pumpout frequency. The following table indicates the factors, which have been found to be good indicators for determining the required model of MGT:

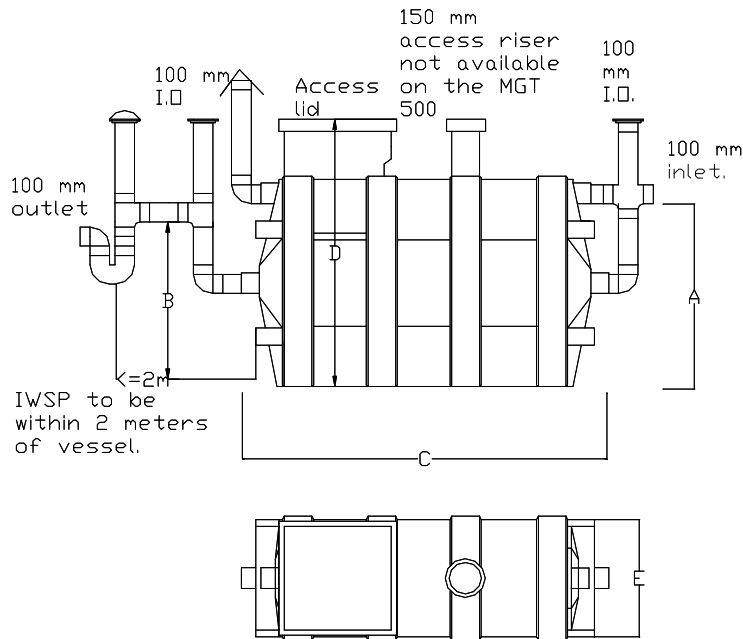
Note: an economical pumpout frequency will also depend on good standards of housekeeping practice.

2.0 MGT Model Applicability

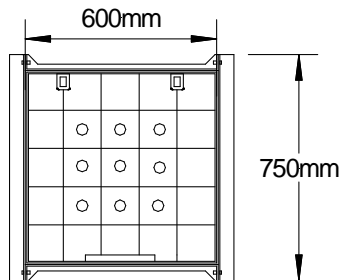
Model	MGT 1000	MGT 1500	MGT 2000	MGT 3000
Type of Premises	as specified by Water Corporation Trade Waste for a 1,000 litre grease trap	typically for canteens, cafeterias & restaurants	typically for canteens, cafeterias & restaurants	higher capacity discharges and McDonald/ KFC stores etc
Maximum flow (litres per working day)	1,000 litres	3,200 litres	6,400 litres	9,600 litres
Maximum seating capacity	69	199	399	500

3.0 Modular Grease Trap Specification Drawing

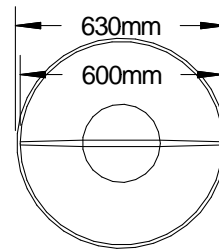
3.1 MGT General Drawings



Access Lids



In ground access lid.
Cast iron concrete
Infill as per AS3906



Above ground access lid.
Screw type, polypropylene.

Model	A	B	C	D	E
MGT 500	1060	980	1120	1550	720
MGT 1000	1060	980	2060	1550	720
MGT 1500	1060	980	3000	1550	720

3.2 Modular Grease Trap Sizing

Model	1st tank	2nd tank	Total Liquid Capacity
MGT 1000 MGT 1000.2	1000 Litres 500 litres	500 litres	1000 litres 1000 litres
MGT 1500 MGT 1500.2 MGT 1500.3	1500 litres 1000 litres 500 litres	500 litres 500 litres	1500 litres 1500 litres 1500 litres
MGT 2000 MGT2000.2	1000 litres 1500 litres	1000 litres 500 litres	2000 litres 2000 litres
MGT 3000 MGT 3000.2	1500 litres 1000 litres	1500 litres 1000 litres	3000 litres 3000 litres

The Modular Grease Trap can be installed in a number of combinations. It is required to install the larger volume units first.

The total number of vessels must equal the liquid volume required, e.g. MGT 3000 can be a combination of the following:-

- 2 x MGT 1500's equals 3000 litres.**
- 3 x MGT 1000's equals 3000 litres.**

3.3 Sampling Point

GRAVITY SECTION
CONCRETE BASE

PUMPED SECTION
CONCRETE BASE

GUIDELINES

1. LOCATED IMMEDIATELY DOWNSTREAM OF ANY PRE-TREATMENT FIXTURE
2. THE INDUSTRIAL WASTE SAMPLING POINT SHALL BE POSITIONED AT ANY POSITION AS DIRECTED BY THE INDUSTRIAL WASTE SECTION.
3. SAMPLING POINTS ARE TO BE PURPOSE MADE TO PROVIDE A MINIMUM DEPTH OF WATER OF 300mm.
4. MINIMUM SIZE OF SAMPLING POINT SHALL BE 2000 DISCONNECTOR ONLY.
5. SAMPLE POINTS SHALL NOT BE USED AS A RELIEF DISCONNECTOR ONLY.
6. UNLESS OTHERWISE APPROVED, ONLY ONE INDUSTRIAL SAMPLING POINT SHALL BE PROVIDED FOR EACH BUSINESS.
7. MINIMUM 100mm VERTICAL DISTANCE BETWEEN INLET INVERT LEVEL TO TOP OF WATER SEAL.
8. ALL MEASUREMENTS SHOWN ARE IN MILLIMETRES.
9. ALL ASSOCIATED PUMPING WORK IS TO COMPLY WITH WATER SERVICES LICENSING (PLUMBERS LICENSING AND PLUMBING STANDARDS) REGULATIONS 2000, AS/NZS 3500.1:2003 AND AS/NZS 3500.2:2003.

ISSUE DATE: 08/2009 **NOTE 9 ADDED**

DESIGNER: A. KANZINGER **RECOMMENDED DATE:** 01/08/2005

DESIGN CHECKER: A. KANZINGER

DESIGNER: A. KANZINGER **SECTOR ASSESSMENTS OFFICER:**

APPROVED: 01/08/2005

APPROVED: J. HEMMILL **MANAGER, INDUSTRIAL WASTES**

WATER CORPORATION

WATER CORPORATION
TYPICAL DRAWINGS FOR INDUSTRIAL WASTE
INDUSTRIAL WASTE SAMPLING POINT (IWSPP)
FORMERLY TYPICAL DRAWING 1130

PROJECT: HX33-11-30 **SCALE:** 1:100

FILE: PLAN **CAJ ISSUE:** B **ORIGIN:** A3

4.0 Detailed Design & Installation Requirements

4.1 General

4.1.1 Location

The MGT is to be installed in a location that will not cause a nuisance, will not obstruct fire access, and in which it will not be damaged by vehicles or traffic or vandalised and which allows ease of access for maintenance. It is preferred to have the MGT installed externally below ground with a gravity inlet and gravity outlet.

4.1.2 Surcharge Relief Point

The MGT must not be used as a surcharge point. An extra surcharge gully or reflux valve may be required.

4.1.3 Sampling Points

Sampling points shall be provided at the inlet and outlet of the MGT. If below ground, risers shall be extended to ground level and fitted with a gas tight inspection box. The sampling points can also be used for clean up points.

4.1.4 Piping Material

Copper pipe and fittings shall not be used in trade waste installation as per AS/NZS 3500.

4.1.5 Garbage Disposal Units

Garbage disposal units cannot discharge to the MGT.

4.1.6 Non Standard Installations

Certain installations or position of installations that are unusual due to particular circumstances or matters not covered by this specification or local codes may be submitted to Halgan for consideration. Water Corporation trade waste approval for these situations will be considered on an individual basis.

4.1.7 Health Requirements

The MGT shall be designed and installed in such a way as not to cause a danger to health arising from leakage, blockage or surcharging.

4.1.8 Fire Resistance Level

The MGT is to be installed to maintain the Fire Resistance Level (F.R.L.) as specified in the Building Code of Australia.

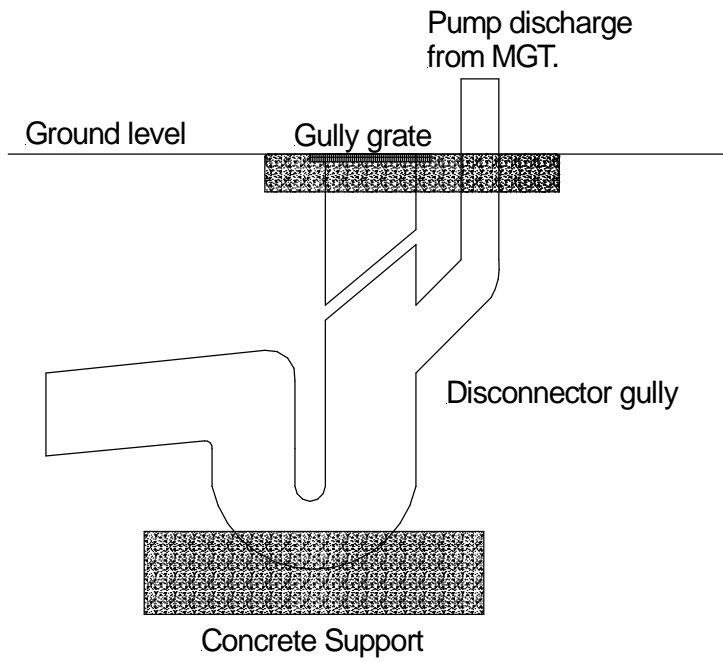
4.1.9 Safety

The carrying out of work covered in this Technical Manual shall comply with the safety requirements of the relevant Authorities.

4.1.10 Pumped Discharge from MGT

Refer to AS/NZS 3500 part 2, Pumped Discharge From Waste Fixtures for typical pumped discharge to sewer from MGT.

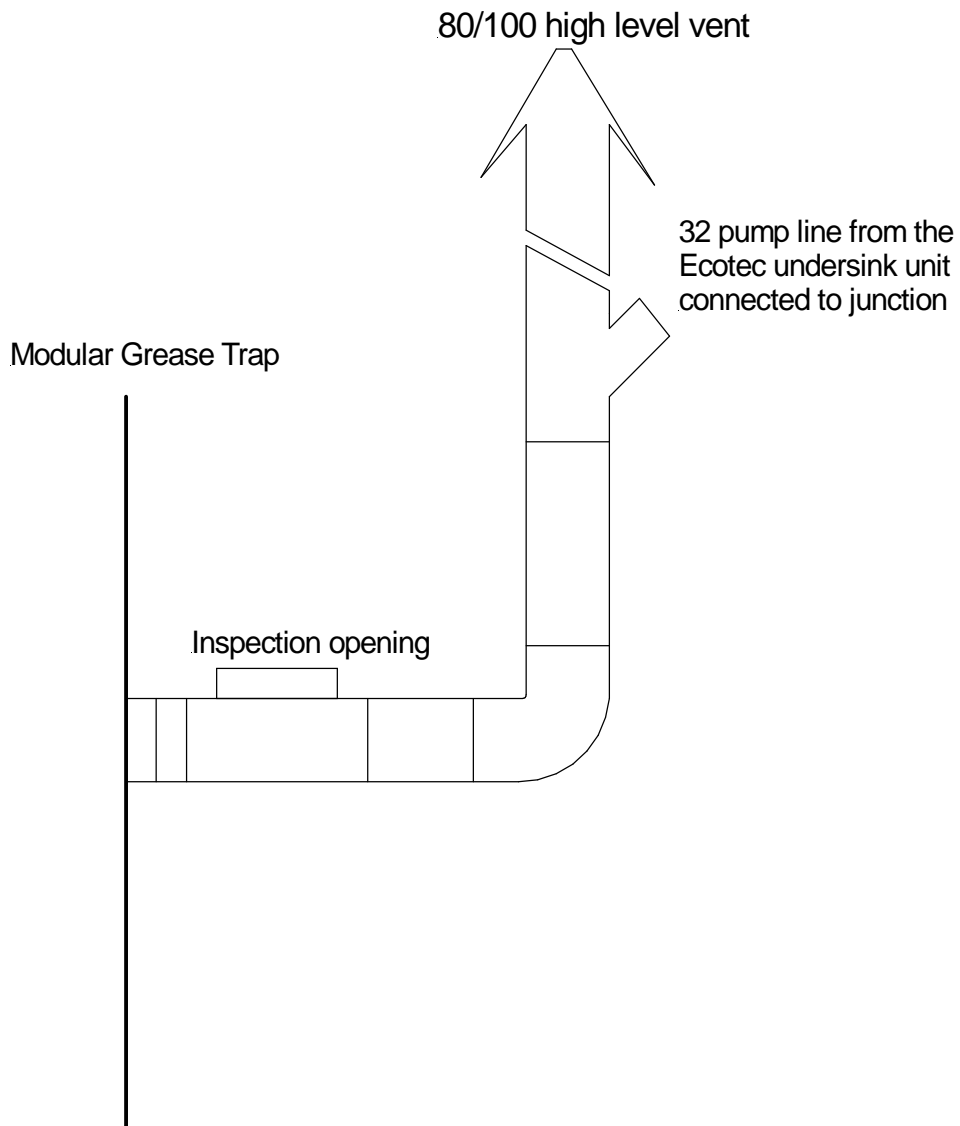
Figure 1



4.1.11 Pump Discharge to MGT

The 32 mm discharge line from the ECOTEC undersink unit has to be connected to the vertical riser of the inlet line to the MGT. Waste must enter the MGT chamber by gravity.

Figure 2



4.1.12 Typical Drainage Layout for MGT

The MGT must not be used as an overflow relief point. An extra overflow gully or reflux valve may be required. The drainage line upstream from the MGT shall have an overflow relief gully as per the AS/NZS 3500. A 100 mm high/low level vent is required from the main chamber and a 100 mm high-level vent is required on the inlet line. Refer to AS/NZS 3500 Part 2.

NOTE: Refer to clause 3.1, page 5 and clause 3.3 page 7 for the correct installation of the Industrial Waste Sampling Point (IWSP).

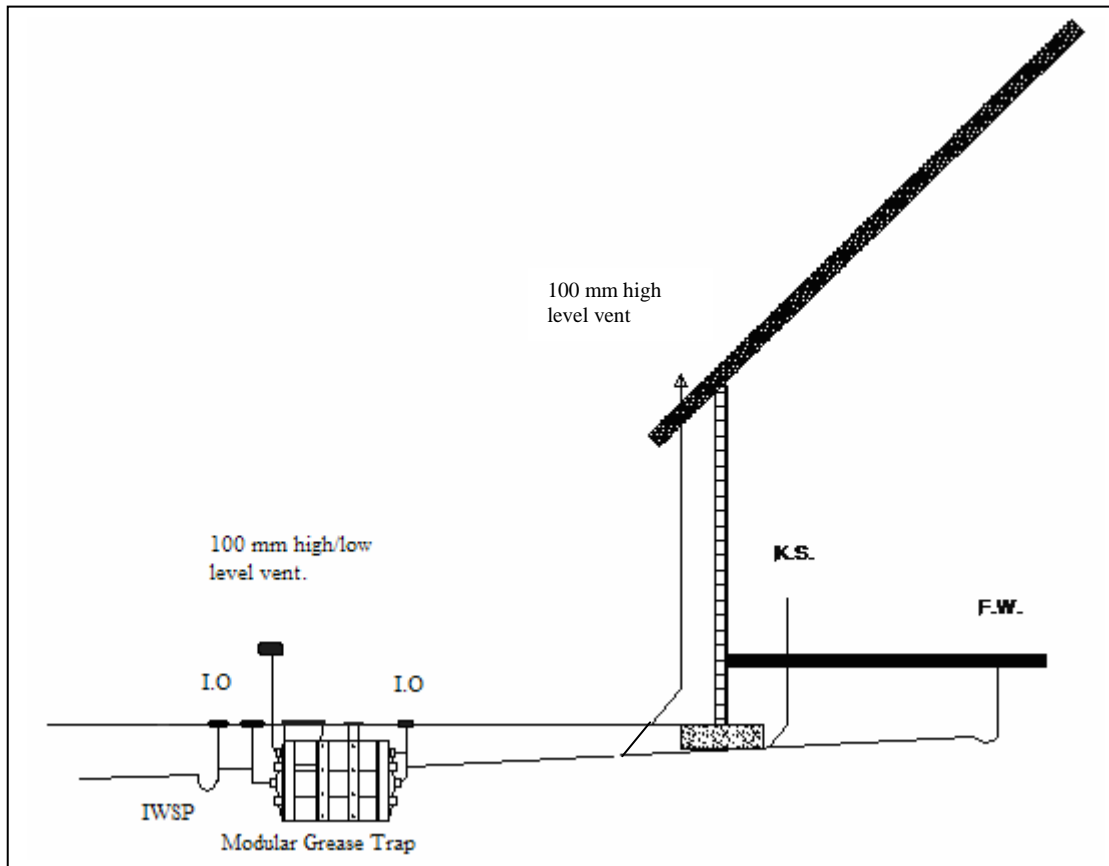


Figure 3

4.2 Installation Requirements

4.2.1 General

The MGT is to be installed in a location that will not cause a nuisance, obstruct fire access, cannot be vandalised or be damaged by vehicles. The MGT must have ease of access to pumpout point for maintenance. A hose tap fitted with a Back Flow Protection Device (as per AS/NZS 3500) must be provided within 6 m of the MGT for cleaning purposes.

4.2.2 Installation above ground

The MGT is to be supported on a 100 mm thick concrete pad or on 98% compacted level ground with 20 mm sand base. The MGT does not require a stand. All pipes connecting to the MGT shall be fully supported; there should be no stress on the tank connections. All storm water must be diverted away from MGT to prevent undermining of supports or foundations.

4.2.3 Installation below ground

All connections to the Modular Grease Trap shall be in accordance with the appropriate authorities. Any excavation exceeding 1.5 m in depth shall comply with the construction safety Acts and Regulations. Before backfilling, the Modular Grease Trap must be filled with water.

NOTE: In the Water Corporation area, maximum of 600 mm extension riser for the access lid can be used.

4.2.3.1 Excavation dimensions

The excavated hole width shall be kept as narrow as practicable. The depth shall be not greater than 150 mm than the required depth. A 75 mm clearance is required at the sides of tank.

4.2.3.2 Over excavation

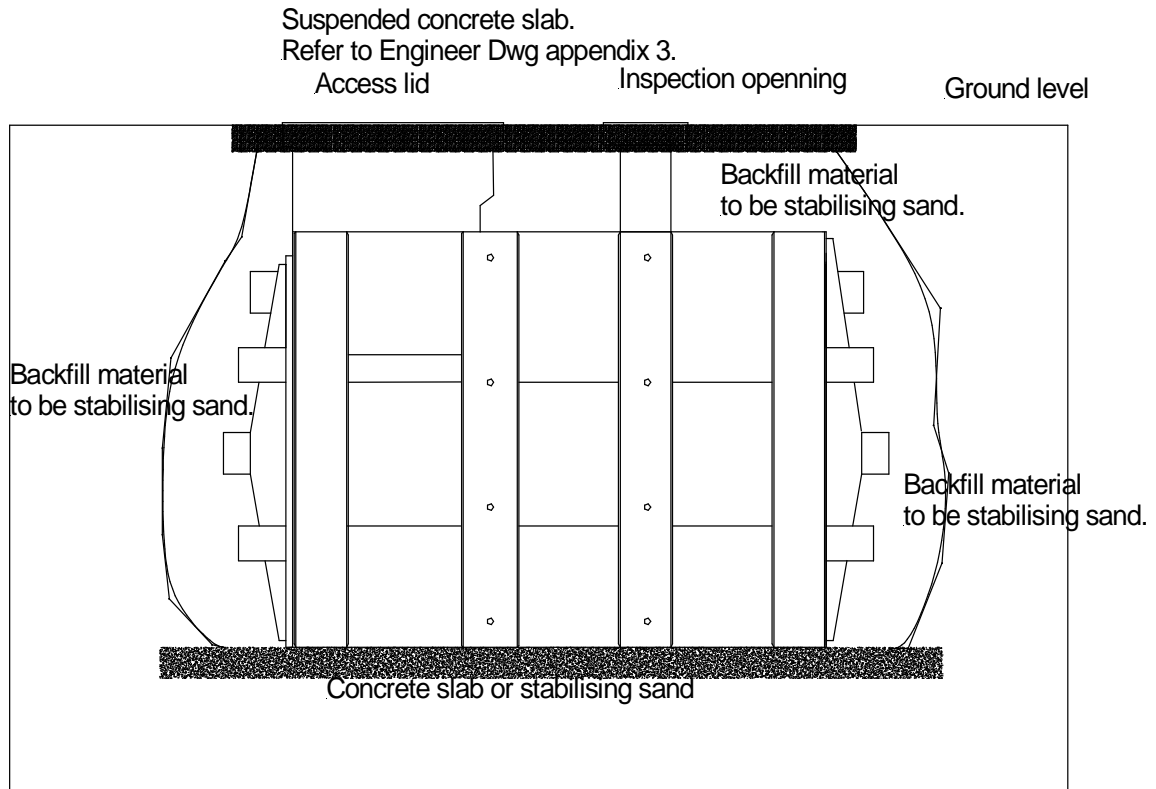
Where an excavation has been deeper than necessary, the excess depth shall be filled either with bedding material compacted to achieve a compaction of 98% or concrete.

4.2.3.3 Installation in mine subsidence, filled, unstable or water charged areas

A qualified engineer is required to certify this application.

4.2.3.4 Backfill/Bedding material

The backfill/bedding material shall be 1 part Portland cement to 5 parts clean sand. The backfill/bedding shall be thoroughly compacted by tamping at 300 mm layers. The backfill/bedding material shall encase the whole tank.



4.2.3.5 Final Backfill

The final backfill material shall comply with the following:

- (a). Spoil from the excavation of the trench may be used.
- (b). Foreign material such as builder's waste, bricks, and concrete shall not be used.
- (c) The backfill shall be compacted to restore the excavated hole as near as practicable to the normal ground.

4.2.4 Relief Overflow Point

The MGT is not to be used as a surcharge point. An extra surcharge gully may be required or a reflux valve installed. Refer to figure in AS/NZS 3500 Part 2. The drainage line upstream from the MGT shall have an overflow relief gully as per the AS/NZS 3500.

4.2.5 Protection Barricades

The protection barricades shall be installed to protect the MGT from physical damage. The posts shall be manufactured from 80 mm galvanised tube (refer to material specification) with a sealing cap at the top. A 400 mm white strip shall be painted at the top of the post. The posts will be 1300 mm long and approximately 800 mm apart.

- Concrete Installation - The post shall be 1300 mm long with a 200 mm x 200 mm base plate fixed to the concrete with four 12 mm x 50 mm concrete anchors.

- Installation in Bitumen & In Ground - A hole shall be excavated 400 mm x 400 mm x 400 mm deep. The base shall be encased in concrete. The post will be 1700 mm long and have bituminous paint applied to the section enclosed in concrete. The concrete shall be finished in a way that water cannot settle around the base.

4.2.6 Venting

The high level vent on the inlet line shall be 100 mm. The high level vent shall terminate above the roofline and a high/low vent from the chamber as per AS/NZS 3500. Refer to AS/NZS 3500 Part 2.

Air admittance valves are **NOT TO BE USED** in any part of the venting in the installation of the Modular Grease Trap.

4.2.7 Pipe Connection

Inlet connection is a double Y junction (figure 1) or in some council areas a 90 degree slope junction (figure 2) is allowed. The top connection of the MGT is the vent transfer to high-level vent of the inlet drainage line. The middle connection of the MGT is the liquid connection. The outlet connection is raised and the chamber vent at the outlet side is terminated as a low or high-level vent. Check council requirements.



Figure 1

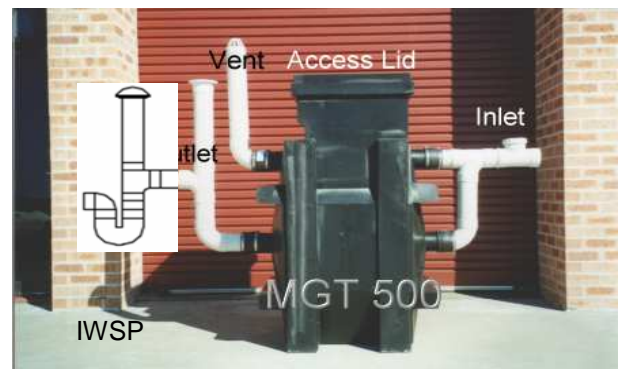
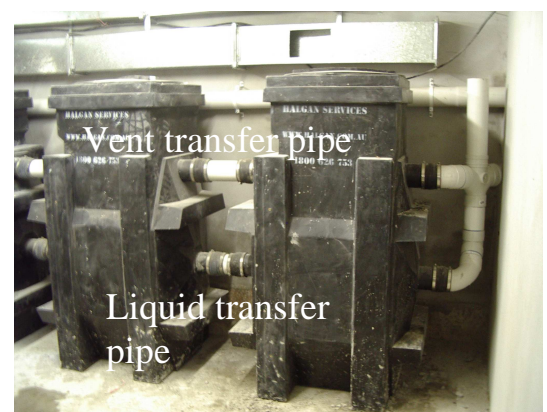


Figure 2

4.2.7.1 Series Connection

In series connections the top vent transfer pipe and the middle transfer pipe are connected to the next vessel.



When the MGT is installed parallel, the vent and liquid transfer pipes are connected as shown in figure 3 & 4.



Figure 3

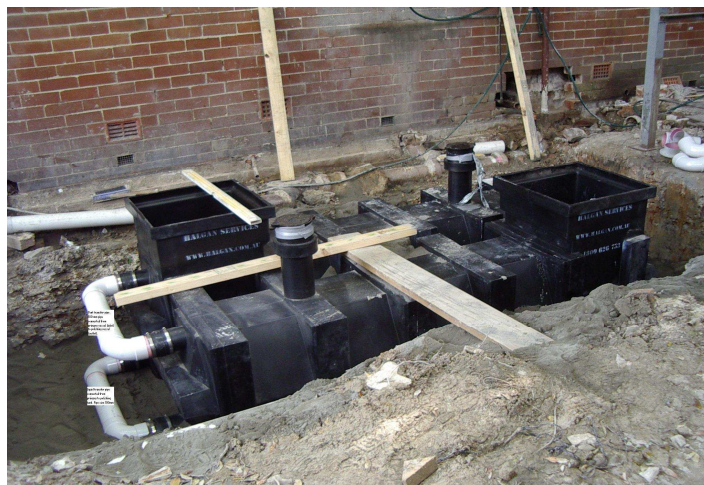


Figure 4

4.2.8 Vacuum Pumpout Line (optional extra)

Note: Consult with pump out contractor and Customer Service Representative for correct location.

The vacuum pump out line is used by the cleaning contractor to pump out the MGT in restricted site applications. A 50 mm M.I. quick release coupling with dust caps is supplied with the unit. The vacuum line has to be extended to the external of the building for ease of access. The lines must be as straight and short as possible. Where bends are necessary, only long radius bends should be used. The size of the vacuum line pipe can be 50 mm for the first 6 metres and 80 mm thereafter. The piping and fittings material can either be class 12 pressure pipe or galvanised pipe (refer to material specification). A 600 mm long x 600 mm wide x 200 mm deep access area is required around the quick release coupling for ease of connection.

4.2.9 Access Lids (refer to Engineers drawing appendix 1)

General - The top of the access lid shall be a 100 mm above ground level to stop the ingress of storm water. The polyethylene MGT with the polypropylene lid can be installed in a non trafficable areas, eg garden beds etc. If the MGT is in a location where it can be damaged due to gardening activities (lawn mower etc) a minimum 100 mm x 100 mm concrete edge strip is to be installed around the MGT. **NOTE: In the Water Corporation area, maximum of 600 mm extension riser for the access lid can be used.**

Duty of Access Lids -

All covers are manufactured to Australian Standards 3906 and comply with the required design loading.

For above ground or non-pedestrian application the access lid is 600 mm in diameter and manufactured from high density polyethylene lid.

All other application the access lid shall be 600 x 600 square, cast iron, gas tight, concrete infill lid and frame. For concrete lid requirements for the Modular Grease Trap access lid and ports, refer to appendix 1.

All handles are as per Water Corporation requirements 1999.

4.2.10 Installation Access Covers and Grating In-situ concrete method

4.2.11 Introduction

In the IN-SITU method, the cover set is supported by the formwork or the MGT Access Lid until the in-situ concrete is strong enough to withstand construction loads. ***The in-situ concrete must support the full width of the frame.***

Halgan covers are individually fitted to ensure a gas-tight fit. Covers and frames are not intended to be rated at not less than 28 Mpa for the supporting walls and for cover infilling.

4.2.12 Preparation

Ensure that the usage class is suitable for the traffic application – refer to AS3996.

Before fixing the cover into position on the formwork, clean and grease all mating surfaces of the cover set and check that the product is correctly assembled.

If the cover is bolted or rivetted to the frame, the cover may be supported directly by the formwork, otherwise, nails can be driven into the formwork so that the frame is supported at the correct level.

Before concreting commences, check that the cover is fully seated in the frames.

If the cover was fitted by installation bolts, these will have to be removed prior to the infilling covers. This means that infilling will have to be delayed until the concrete supporting the frame has cured.



4.2.13 Concreting

Place the concrete in-situ and vibrate well so that the concrete which supports the full width of the frame and fills the frame cells is well compacted and will reach the specified Mpa. Honeycombed or bony concrete under the frame will reduce the capacity of the cover and may cause it to fail at relatively low loads. If infill covers are supplied the concrete infilling is at the same time.

Screed off the excess concrete and finish the surface as required. The ribs and edges of the cover and frame should be visible.

Allow the concrete to cure before removing the cover and the formwork – premature stripping may damage the supporting concrete and distort the frame.

After the concrete has cured, remove the cover, mark the pit number on the underside of the cover (do not mix the covers) and strip the formwork.

Clean and grease all mating surfaces of the cover and frame before replacing the cover.

Where grating is being installed, references to infilling the cover should be ignored. Inadequate installation will void product warranty.

5.0 Vented Chambers

Refer to AS/NZS 3500.

6.0 Warranty Card

HALGAN PTY LTD, UNIT 2 187 South Creek Road Cromer NSW 2099

Phone: 02 9972 1355 Fax: 02 9972 1455

Modular Grease Trap warranty card to be completed and returned to Halgan Pty Ltd.

PRODUCT WARRANTY REGISTRATION CARD

NAME: _____

ADDRESS: _____

TYPE OF BUSINESS: _____

NAME OF PURCHASING AGENT: _____

AGENT ADDRESS: _____

DATE OF PURCHASE: _____

PRODUCT MODEL NO.: _____

CONDITIONS OF WARRANTY

Halgan Pty Ltd warrants that all Halgan products are free from defects. Any apparent fault will be rectify free of charge by Halgan Pty Ltd or by any of Halgan's authorised agents within appropriate time limits herein set out provided that

* The customer produces the original invoice or other purchase document as proof of the purchase date.

* All costs of installation, cartage, freight, travelling expenses and insurance are paid by the claimant.

* Halgan Pty Ltd and its Authorised Dealers will not be liable for any consequential loss or damage whatsoever or howsoever arisen.

* The Product being precision equipment has not been misused, adjusted or serviced by any person other than a service dealer, authorised by Halgan Pty Ltd.

* The equipment has been installed correctly and is used in accordance with the Halgan Pty Ltd specifications issued with the product.

* Nothing in these Conditions of Warranty shall be deemed to restrict any warranty required to be given under the Trade Practices Act (Commonwealth) or any consumer legislation of any State of Australia.

12 MONTH WARRANTY

* Full warranty on mechanical and electrical components. Electronic circuitry issued with a letter of acceptance from Electrical Supply Authority.

7 YEAR WARRANTY

*Full warranty on polyethylene and stainless steel tanks.

WARRANTY EXCLUSIONS

* Normal user adjustments or customers instruction on the Product's operation.

* Products purchased overseas / interstate - not designed or approved in the installed area.

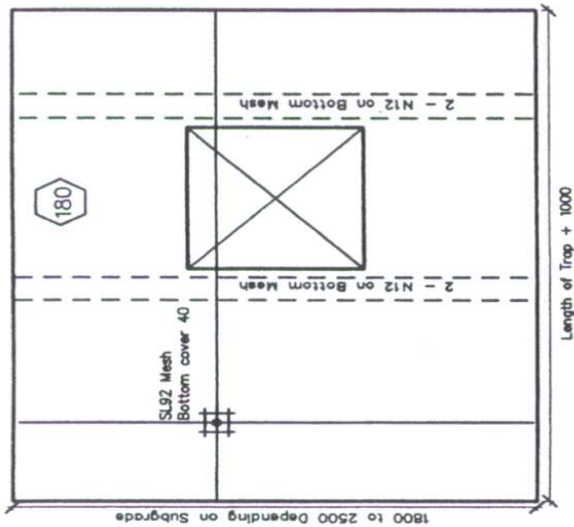
* Normal user adjustments or customer instruction on the Product's operation.

* Abnormal product performance caused by any ancillary equipment, interference or other external factors.

* Cleaning of the product and filters.

*Any mileage or travelling charges outside the Service Dealer's normal service area

Appendix 3. Engineers Access Lid Drawing



NOTE:
New slab to be doweled into existing slab with N12 dowels 300 long at 600 centres.

GREASE TRAP LID FOR HALGAN PTY LTD

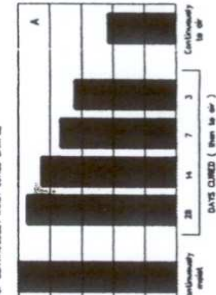
Scale 1:20

CONCRETE NOTES:

- All concrete work to be in accordance with AS 3600.
- $f_c = 32$ MPa for All external slabs & columns.
- Maximum aggregate size = 20 for footings, slabs & beams.
= 10 for block filling.
- Slump = 80.
- All concrete, including block filling, to be vibrated.
- Slabs to be kept damp for at least 14 days after placing or to be protected by an approved curing membrane.
- Bar Chairs to be no more than 800mm ctr to ctr spacing.
- Reinforcing Steel to comply with AS/NZS 4671:2001, and to be D500N unless noted otherwise. (where 500 = strength grade in megapascals & N = Normal ductility class)
- Reinforcement to be tied at every other intersection minimum.
- Metal roofing being used as formwork (not Bonddeck or similar).
Depth of Slab must be taken from the Top of the Roof Rib.
Specified bottom cover must be taken from the Top of the Roofing Rib.

IMPORTANCE OF CURING CONCRETE

COMPRESSIVE STRENGTH AT 280 DAYS AS % OF CONTINUOUSLY CURED SAMPLE



Effect of curing duration on : (A) compressive strength; and (B) concrete permeability
Acknowledgement : Diagram is based on fig. 1.2 of Guide to Concrete Repair & Protection (SMA/NSRA 1998)

PLAN OR DOCUMENT CERTIFICATION

I am a qualified...CIVIL, GEOTECHNICAL & STRUCTURAL ENGINEER...
I hold the following qualifications or licence No.....M.Eng.Sc.....
.....F.I.E.Aust.....Nper3.....Struct.Civil.No.149788.....
Further I am appropriately qualified to certify this component of the project.
I hereby state that these plans or details comply with the conditions of development consent, the provisions of the Building Code of Australia.
A.S.1170., A.S.1170.1, A.S.1170.2, A.S.1684., A.S.3600., A.S.3700., A.S.4100

Jack D. Hodgson 22/2/02
Name Date Signature

No.	Amendment	Drawn	Date

**GREASE TRAP LID
PROPOSED ADDITION**

HALGAN PTY LTD

The Structural Details shown on this Drawing are Not to change under any circumstance. No Certificate will be issued for work Not in accordance with this Drawing.

JACK HODGSON CONSULTANTS PTY. LIMITED.

Consulting Civil, Geotechnical, and Structural Engineers.
11 Bungan Street, MONA VALE. P.O. Box 389, Post Code 2103.
Telephone (02) 9979 6733. Facsimile (02) 9979 6926.
A.C.N. 053 405 011

Designed JDH	Drawn ARC	Job No.	19612-1
Checked JDH	Scale 1:100,20, unc.		
Date 22 FEBRUARY 2002			Drawing No.