

Report Title

Operational Drainage Management Plan

Property Address

Proposed Depot Construction
Cleator Mills
Mill Street
Cleator
Cumbria
CA23 3FA

Client

Cleator Mills Business Park Ltd

Our Reference

23-406r003

Date

May 2024

Prepared by

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INTRODUCTION

This Operational Drainage Management Plan has been prepared to support the development of a depot and associated infrastructure on land at Cleator Mills, Mill Street, Cleator, Cumbria, CA23 3FA

The site lies within the administrative boundary of Cumberland Council (CC) and is currently subject to a planning application ref 4/22/2364/0F1.

This report identifies necessary maintenance measures to ensure drainage systems operate in accordance with the requirements of all statutory bodies and prevent potential effects upon the environment and nearby sensitive receptors during the operational phase of the development.

SITE

The site comprises of a depot for a plant hire company including:

- Warehouse
- Office
- External yard and infrastructure
- Landscaping and fencing

OPERATIONAL ACTIVITIES WHICH MAY POLLUTE

ACTIVITIES

The following operational activities are assessed as having a likelihood to pollute :

- Refuelling works.
- Vehicle and plant maintenance including oil changes.
- Cleaning of plant and equipment.
- Maintenance works to the property.

All activities shall be undertaken on site by the operator of the site, and shall be covered by suitable method statements and risk assessments produced by the operator and users.

ENVIRONMENTAL PROTECTION MEASURES

There are a number of environmental protection measures proposed for the site. These include:

- Stage 2 oil interceptor.
- Bunded self contained fuel store *
- Bunded self contained waste oil store *
- Bunded self contained Ad blue store *

Full operational manuals are appended to this report.

* Proprietary items supplied by the tenant.

MAINTENANCE ACTIVITIES

The following tables relate to the maintenance requirements to drainage installed on the site and all works required to them..

#	Description	Frequency
1.	GENERAL REQUIREMENTS	
	Maintenance activities comprise ● Regular Maintenance ● Occasional Tasks ● Remedial Work	
	<u>Generally</u>	
	Litter Collect all litter or other debris and remove from site at each site visit.	Monthly
2.	FILTER DRAINS AND INFILTRATION TRENCHES	
	<u>Regular Maintenance</u>	
	Grass Edges Mow 1m min. wide grass surround to drain at 100mm and 150mm maximum to filter runoff and protect drain from silt.	Monthly or as required
	<u>Occasional Tasks</u>	
	Weeds Hand pull or spot treat individual weed growth only if necessary ensuring weedkiller does not enter the filter drain. Weed growth usually dies in dry weather.	As required
	<u>Remedial Works</u>	
	Siltation at Surface	

#	Description	Frequency
	Where there is no protective geotextile remove all stone and perforated pipe replacing as original Spec. and include separating geotextile as below.	As required
	Where there is a separating geotextile (see Spec.) then remove surface stone layer and separating geotextile that protects the stone drain below. Replace geotextile and top stone layer.	As required
3.	INFILTRATION DEVICES SOAKAWAYS, INFILTRATION TRENCHES AND INFILTRATION BASINS	
	<u>Occasional Tasks</u>	
	Infiltration Basins Where there is a build up of silt in basis at intels, i.e. 50mm or more above the design level then remove when the ground is damp in autumn or early spring and turf to the original design levels. Spread excavated material on site above SuDS design profile, e.g. top of banks, in accordance with E.A. Waste Exemption Guidance.	As required
	Infiltration Trench Hand pull or spot treat individual weed growth only if necessary, ensuring weedkiller does not enter the drain and inhibit breakdown of pollutants.	As required
	<u>Remedial Works</u>	
	Infiltration Basin Where the infiltration basin is compacted then reinstate by removal of silt and decompaction of the surface by scarifying, spiking or the use of hollow tines to the basin area.	As required
4.	INLETS, OUTLETS, CONTROLS, AND INSPECTION CHAMBERS	
	<u>Regular Maintenance</u>	
	Inlets, outlets and surface control structures Inspect surface structures removing obstructions and silt as necessary. Check there is no physical damage.	Monthly

#	Description	Frequency
	Strim vegetation 1m min. surround to structures and keep hard aprons free from silt and debris	Monthly
	Inspection chambers and below ground control chambers Remove cover and inspect ensuring water is flowing freely and that the exit route for water is unobstructed. Remove debris and silt. Undertake inspection after leaf fall in autumn.	Annually
	<u>Occasional Maintenance</u>	
	Check topsoil levels are 20mm above edges of baskets and chambers to avoid mower damage	As necessary
	<u>Remedial Work</u>	
	Unpack stone in basket features and unblock or repair and repack stone as design as necessary.	As required
	Repair physical damage if necessary.	As required
5.	OVERFLOWS AND FLOOD ROUTES	
	<u>Regular Maintenance</u>	
	Overflows Jet pipes leading from overflow structures annually and check by running water through the overflow. Check free flow at next SUDS feature - inlet to basin or chamber.	Annually
	Overflows Remove any accumulated grass cuttings or other debris on top of grass weirs or stone filled baskets overflows.	Monthly
	Flood Routes Make visual inspection. Check route is not blocked by new fences, walls, soil or other rubbish. Remove as necessary.	Monthly
	<u>Remedial Works</u>	
	Overflows	

#	Description	Frequency
	If overflow is not clear then dismantle structure and reassemble to design detail.	As required
6.	ORNAMENTAL PLANTING AND EXISTING VEGETATION	
	<u>Regular Maintenance</u>	
	Grass Maintenance Amenity Grass - Mow all grass verges, paths and amenity grass at 35-50mm with 75mm max. All cuttings to remain in situ.	16 visits
	Rough grass - Mow at 75-100mm but not to exceed 150mm. All cuttings to wildlife piles.	4-8 visits
	Wildflower areas strimmed to 50mm in September-October or Wildflower areas strimmed to 50mm July and September or Wildflower areas strimmed to 50mm or 3 year rotation 30% each year. All cuttings to wildlife piles	1 visit 2 visits 1 visit
	Ornamental tree and shrub planting Weed all shrub beds as detailed spec as necessary. Cut back planting from lights, paths and visibility sight lines in late autumn and as necessary. Cut hedges slightly tapered back from base with flat top at specified height. Do not mulch planting adjacent to permeable/porous paving surfaces.	4 visits

#	Description	Frequency
	Remove stakes and ties from trees when no longer needed for support and within 3 years of planting. Protect from strimmer damage and remove competitive growth until well established.	
	Native trees and shrub planting Prune to shape in year 1. Protect trees from strimmer damage and remove competitive growth until well established. Remove stakes and ties from trees when no longer needed for support and within 3 years from planting.	1 visit
	Existing trees Check existing trees for safety.	1 visit
	<u>Remedial Works</u>	
	Replace trees and shrubs which fall in the first five years after planting. Carry out tree surgery as necessary	

APPENDICES

Operational manuals

- Oil interceptor
- Bunded fuel store
- Bunded oil tank
- Bunded Ad Blue tank

Installation, Operating, Maintenance & Safety Instructions

Titan DieselStore

DS1300 & DS2500 (230v)



INSTALLATION INSTRUCTIONS

These instructions should be read in their entirety before commencing installation of the tank.

- Installation should meet current Building Control/ Environment Agency/ Pollution Control guidelines.
- Refer to OFTEC Technical Information Book 3 and BS5410, Part 1 and Part 2: 1997 for requirements on location, installation and maintenance.
- For all tank installation and maintenance, please take into consideration Health and Safety/ Local Building Regulations.
- Refer to OFTEC Technical Information Book 3 and BS5410, Part 1 and Part 2: 1997 for indoor installations.
- For commercial and industrial installations refer to BS5410: Part 2 and OFTEC Technical Book 3.
- For agricultural installations refer to OFTEC Technical Book 3.
- The tank should be installed directly on a level, secure and non-combustible base. Please refer to OFTEC Technical Book 3.
- Determine if tank needs to be secured in place in exposed conditions. Do not drill holes in the tank.
- The DieselStore bunded range of tanks are supplied with a contents level gauge.
- Prior to installing the tank, inspect for damage, if damaged do not install.
- It is recommended that a suitably qualified engineer with OFTEC registration or equivalent is used to install the tank.
- The warranty is dependant on the tank being correctly installed and maintained by a suitably qualified engineer.
- **THE TANK MUST NOT BE FILLED AT A RATE EXCEEDING 400 LITRES/MINUTE.**
- Oil storage tanks for non-domestic applications under 3500L should be located 2m away from any building or boundary on the same site or any adjoining site. Where the 2m clearances cannot be achieved fire protection will be required (not less than 60 minutes fire resistance). Refer to OFTEC Technical Book 3.

(a) A 60 minute fire rated screen wall between the oil storage tank and the building or boundary which extends 900mm beyond the ends of the oil storage tank and 900mm higher than the highest part of the oil storage tank.

or

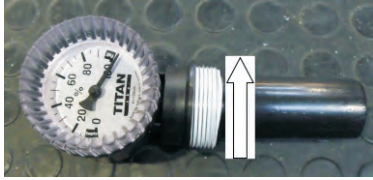
(b) The walls of any building or boundary on the same site within 1.8m in any direction from any part of the tank should have a fire rating of 60 minutes and be imperforate.

- Ensure the entire base of the tank is supported with a non-combustible base (minimum 45mm in thickness) extending 300mm on all sides. **Refer to OFTEC Technical Book 3.**

**For further advice, contact the OFTEC helpline on 0845 6585 080 or visit www.oftec.org
After installation, please ensure that this instruction booklet is left with the end user for future reference.**

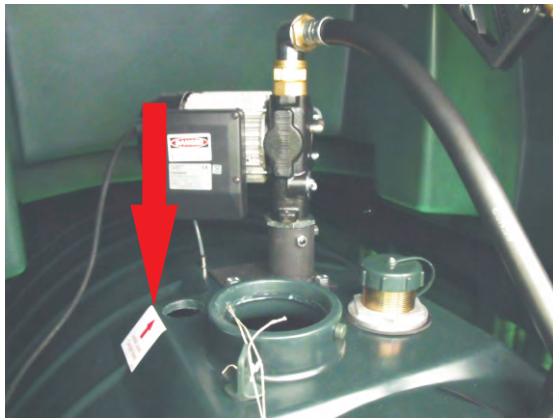
LEVEL GAUGE INSTALLATION INSTRUCTIONS

1. Remove level gauge from box and apply white PTFE tape (supplied) to threads in a clockwise direction, as shown below.

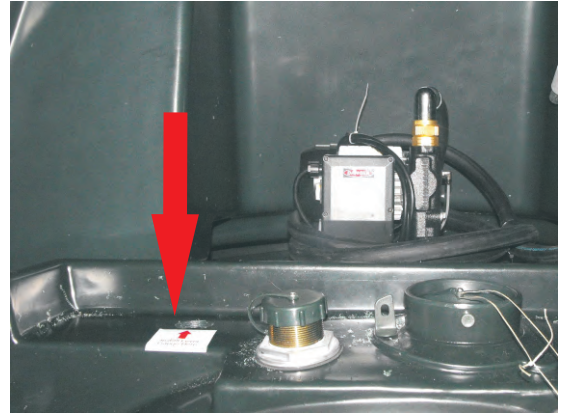


2. Locate threaded hole in inner tank identified by label with red arrow as show below.

DS1300



DS2500



3. Pass float section of gauge through threaded hole and slowly allow float to drop into the tank by passing the float cord through hand.
4. Screw the gauge into the tank and tighten as much as possible whilst ensuring the gauge is orientated to allow to be viewed through the DieselStore door.



DIESELSTORE INFORMATION

- DieselStore bunded dispensing tanks are fitted with a 230 V pump. The pump manufacturer's instructions are supplied with the tank, including installation, maintenance and trouble shooting guide.
- Pump should be maintained in accordance with the pump manufacturer's instructions.
- For use with diesel fuel, viscosity from 2 to 5.35 Cst at 37.8OC. Minimum flash point 55°C.
- Electrical connection to be made by a suitably qualified electrician.
- Fuel management systems are available on request.
- Pumps are not suitable for retail purposes.
- Pump and pump accessories are guaranteed for one year.

TANK MAINTENANCE

Tank maintenance should be carried out annually by a suitably qualified engineer with OFTEC registration or equivalent. A check should be made on the following items:

- The general condition of the tank.
- Determine if there are any oil leaks.
- The tank for water ingress. Determine the cause and rectify.
- The condition of all pipework and fittings.
- The condition of filling and venting provisions.
- The condition of tank supports.
- The bunded tank: determine if any fluid is present in the bund, determine cause and rectify. Remove fluid as soon as possible and dispose of according to the requisite legislation.
- The condition of content measuring devices.

Refer to OFTEC Technical book 3 for further information on tank maintenance and inspection.

DIESELSTORE TANK GUARANTEE

The DieselStore bunded oil storage tank is guaranteed for 10 years from the date of purchase against faulty materials or manufacture. Provided that the following criteria are adhered to (applicable to all models):

- The tank is installed and commissioned in accordance with the instructions outlined in the Installation and User Manual.
- The tank is installed and commissioned by a suitably qualified engineer.
- The tank is used for the storage of Agricultural Fuel Oil (A2) and Gas/Oil Diesel (D), (BS2869: Part 2:1997 and BS EN 590:2004 Diesel). It should be noted that the tanks are not suitable for the storage of petrol, kerosene or liquid petroleum gas (LPG).
- The tank has not been subject to misuse, careless handling, faulty installation, or any repairs have not been attempted or carried out other than by service staff.
- The tank has been purchased by the end user and is not for hire purposes.
- The tank has not been filled at a rate exceeding 400 litres / min.
- The tank is installed above the ground.
- The tank is inspected annually by a suitably qualified service engineer. Immediately upon discovery of any defect in the tank steps are taken to mitigate loss by contacting the oil supplier and if necessary arrange for the tank to be drained pending the supply of a new tank.
- Immediately upon discovery of any defect you contact the Guarantor and allow a representative to inspect the tank and its surroundings and where necessary carry out any repairs (before any attempts are made to move the tank).
- The guarantee excludes equipment and ancillary fittings such as contents level gauge and pump. Further guarantee information on equipment and ancillary fittings is provided within the manual. This guarantee is offered as an extra benefit and does not affect your statutory rights as a consumer. It is provided on the basis that it is applicable for a period of 10 Years (Bunded Range) only and it shall expire at the end of the specified period from the date of purchase.





Oil Tank Installation & Maintenance Guide

INCLUDES WARRANTY

Installation Instructions

This entire booklet should be read before commencing installation of the tank.

- Installation should meet current Building Control/Environmental Agency/Pollution Control guidelines.
- For all tanks please take into consideration Health and Safety/Local Building Regulations.
- Prior to installing inspect for damage.
- Determine if tank needs to be secured in place in exposed conditions. Do not drill holes in the tank.
- Tanks may be fitted with bottom or top outlets.
- For vapourising appliances, bottom outlets are preferred (see figure 1). However, if a top outlet tank is used, a lift pump will be required - consult the appliance manufacturer for technical advice.
- For bottom outlets, the length of pipe run, tank height and boiler requirements will determine the outlet size.
- All associated pipe work should be supported independently so as not to put any strain on the tank.
- Buried pipe work needs to meet current building control guidelines.
- Connections must be held in place when tightening. Do not over tighten.
- Use only approved sealing tape provided.
- Never solder joints/connections.
- The guarantee card in this booklet should be returned without delay.
- The serial number must be completed to validate the warranty. This number is usually located around the lid area and on larger tanks on the rib above the outlet.
- It is recommended that an OFTEC registered installation technician with the appropriate qualifications is used to install the tank.
- The warranty is dependent on the tank being correctly installed and maintained by a suitably qualified technician. After installation, please ensure that this instruction booklet is left with the end user for future reference.



Sonic Gauge Switch Settings

Apollo or Watchman Gauge Switch Settings for Atlantis Bunded Plastic Oil Tanks.

TANK CODE	INNER TANK HEIGHT (MM)	APOLLO GAUGE (SWITCH "ON")	WATCHMAN GAUGE (SWITCH "ON")
BUP.R650	1250	1, 3, 6, 8	5, 6, 7, 8
BUP.R1000S	1350	1, 3, 5, 7	4, 8
BUP.R1200	1200	1, 3, 7, 8	5, 6, 7
BUP.R1250	1440	1, 3, 5, 6, 8	4, 7
BUP.R1400	1400	1, 3, 5, 6, 8	4, 7
BUP.R1750	1360	1, 3, 5, 7	4, 8
BUP.LP1200	730	1, 5, 7	6
BUP.H1235	1050	1, 4, 5, 7, 8	5, 7, 8
BUP.H1300	1000	1, 4, 5, 8	5, 7
BUP.H1800	1280	1, 3, 6, 8	5, 6, 7, 8
BUP.H2450	1200	1, 3, 7, 8	5, 6, 7
BUP.H2500	1250	1, 3, 6, 8	5, 6, 7, 8
BUP.V1230	1250	1, 3, 6, 8	5, 6, 7, 8
BUP.V1340	1200	1, 3, 7, 8	5, 6, 7
BUP.V2455	1450	1, 3, 5, 6, 7, 8	4, 7, 8
BUP.V3500	1470	1, 3, 5, 6, 7, 8	4, 7, 8
BUP.R5000	2000	1, 2, 5, 7, 8	4, 5, 6, 7

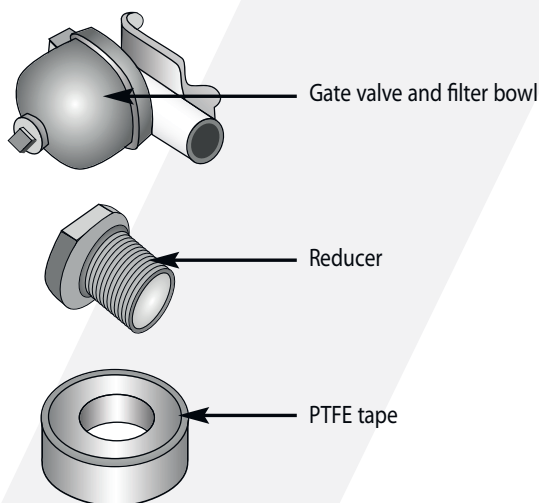
Bottom Outlet Fitting Kit

A bottom outlet fitting kit consists of: PTFE tape, reducer (or straight male to male nipple, depending on outlet size), and shut-off valve/filter combined.

- The standard outlet on the tank is a 1" BSP female thread which can take a bottom outlet fitting kit.
- Bottom outlet fitting kits have a hydraulic fitting. This fitting needs to be seated and aligned before and during tightening.
- Outlet fitting kits are guaranteed for one year.
- The filter bowl may be orientated to suit the installation, as shown in figure 3 (Page 6).

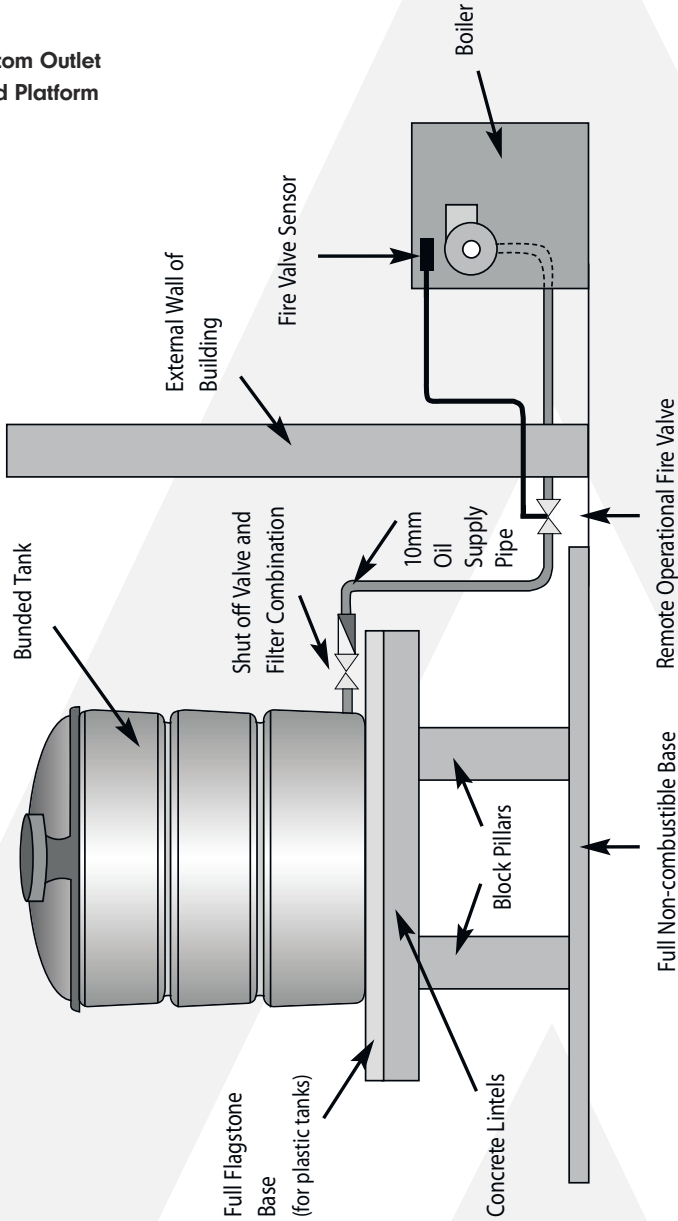
Retrofit kits are available upon request.

10mm Bottom Outlet Fitting Kit



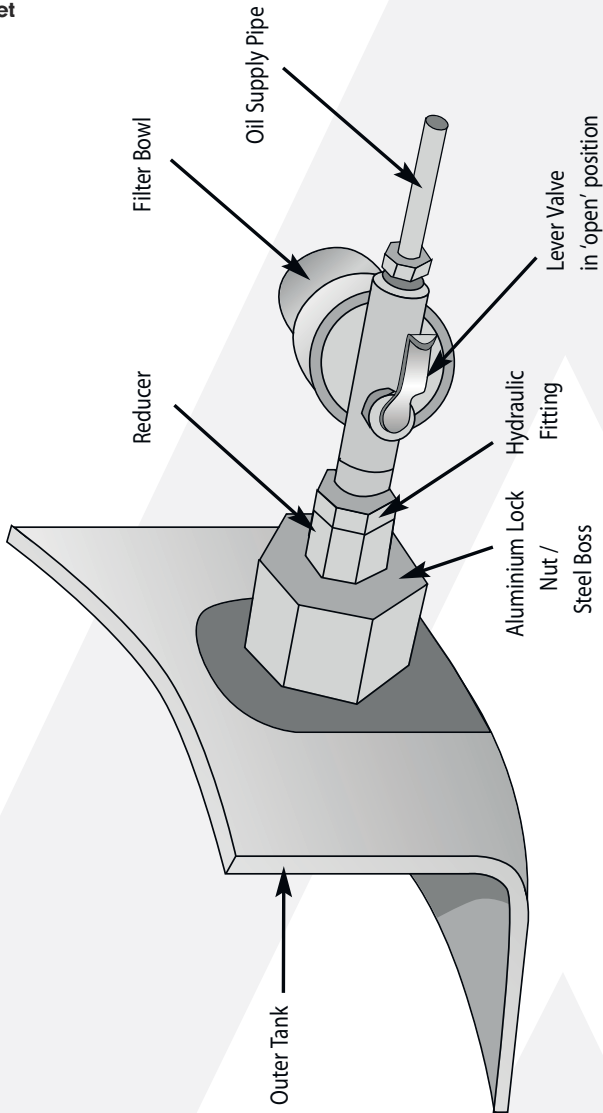
Bottom Outlet Details

Figure 1:
Typical Bottom Outlet
on a Raised Platform



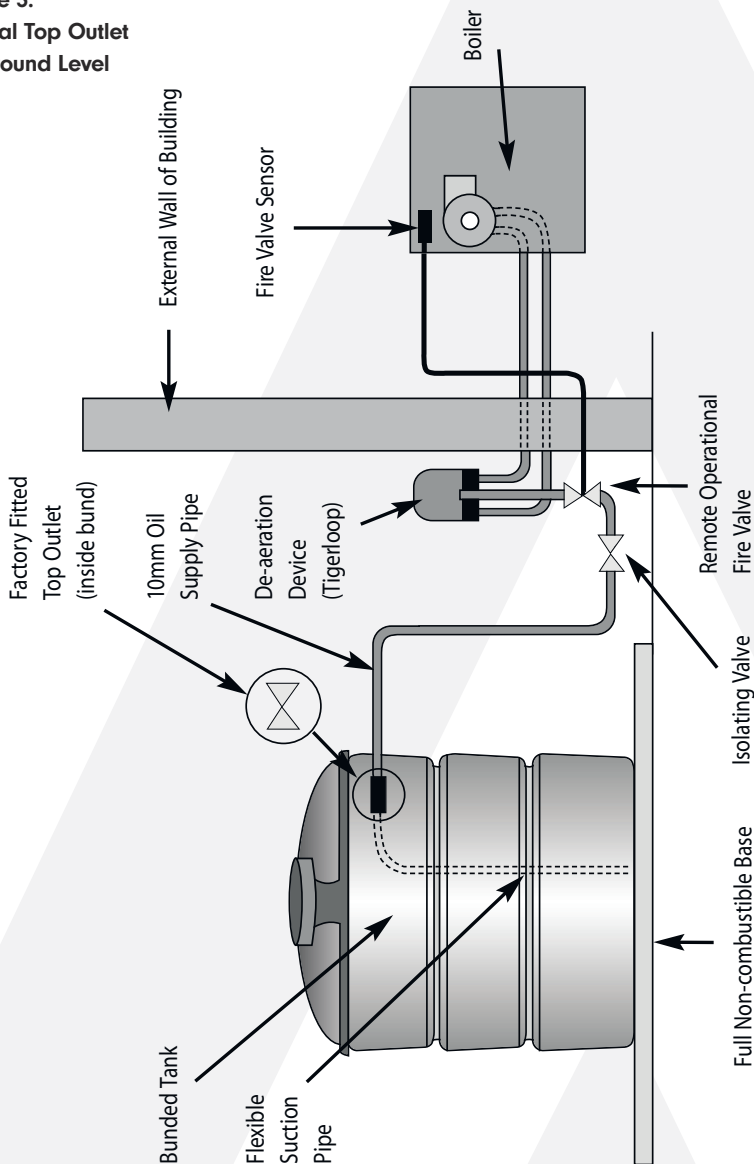
Bottom Outlet Details

Figure 2:
Bottom Outlet



Top Outlet Details

Figure 3:
Typical Top Outlet
at Ground Level



Plastic Tanks

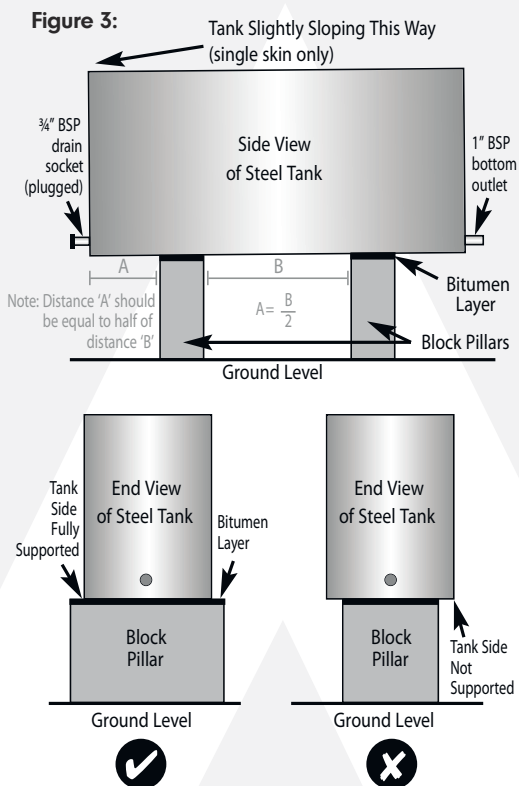
Plastic Tank Installation.

- Plastic tanks will generally either be installed at ground level (as in fig 2), or on a raised platform (as in fig 1).
- Either way the entire base of the plastic tank must be supported. This is very important and will affect your guarantee.
- Plastic tanks are generally manufactured with a 1" BSP bottom outlet connection, 2" BSP top fill point connection, a tank vent, a 4" inspection lid and various other ports for fitting a contents gauge etc. Bunded tanks will also have a 18" top hinged lid for access to the inner tank.
- Top outlet tanks will have a top connection for 10mm copper pipe instead of the 1" BSP bottom outlet connection.

Steel Tanks

Steel Tank Installation.

- Steel tanks will generally be installed on two or more raised pillars so as to limit corrosion to the base of the tank.
- Bunded tanks are supplied with additional base support runners so these can be installed on a ground level platform. Either way, it is recommended that a bitumen type strip material is installed underneath the tank contact points to further limit corrosion.
- Single skin steel tanks installed on raised pillars should have support to the vertical sides of the tank. For example, the pillars should extend beyond the dimensions of the tank in order to fulfil this (see figure 3).
- Single skin steel tanks are supplied with 3 x 2" BSP top female sockets (fill, vent and gauge), 1 x 1" BSP bottom outlet socket and 1 x 3/4" BSP drain socket (plugged).
- Bunded Steel tanks are supplied with, 2 x 2" BSP top female sockets (fill and gauge), 1 x 1" BSP top suction drain (plugged), 1 x 2" BSP tank to bund vent, 1 x 2" bund vent c/w cowl, 1 x 1/2" BSP top female socket for bund gauge and 1 x 1" BSP bottom outlet socket.
- It is also good practice to install single skin steel tanks with a very slight slope towards the drain socket to facilitate any water drain off.



Storage Tank Guarantee

Warranty.

We offer a 12 year guarantee on our plastic bunded tanks, 3 years if plastic single skin, 3 years if steel single skin, 10 years if steel bunded from the date of purchase against faulty materials or workmanship, provided that:

1. The tank has been purchased by the end user and is not for hire purposes. Proof of purchase will be required.
2. The tank has not been misused or handled carelessly.
3. Repairs have not been attempted other than by our service staff.
4. The tank is used for the storage of Kerosene (C1/C2), Agricultural Fuel Oil (A2) and Diesel (D), (BS2869: Part 2: 1998) or in the case of water tanks - water. It should be noted that our tanks are not suitable for the storage of petrol or liquid petroleum gas (LPG).
5. The tank is installed above ground.
6. The tank has been installed by an OFTEC approved installer and/ or complies with the current Building Control Regulations at time of installation.
7. The tank has not transferred ownership.

The guarantee excludes ancillary fittings such as liquid measuring gauges or mechanical pumps. This guarantee does not confer any rights other than those expressly set out above and does not cover any claims for consequential loss or damage. The guarantee is offered as an extra benefit and does not affect your statutory rights as a consumer.



Tank Maintenance

Tank maintenance should be carried out annually by an OFTEC registered technician.

Or better still by our own registered technicians.

A check should be made on the following items:

- The condition of the tank.
- The tank for any water ingress. Determine the cause and rectify.
- The condition of all pipework and fittings.
- The condition of filling and venting provisions.
- The condition of tank supports.
- The bunded tank: determine if any fluid is present in the bund, determine cause and rectify. Remove fluid as soon as possible and dispose of according to the required legislation.
- The condition of measuring devices, including bund contents alarm. (where applicable)
- Determine if there are any oil leaks.
- Check the filter bowl and replace parts as necessary. If spare parts are not readily available please contact us.
- The anti-siphon valve is working according to the manufacturer's instructions. (where applicable)
- The Tigerloop de-aerator is working according to the manufacturer's instructions. (where applicable)

TANK MAINTENANCE: COMMENTS



Tank Care & Records

Type:		Type:	
Model:		Model:	
Size:		Size:	
Tank Serial Number:		Tank Serial Number:	
Date Installed:		Date Installed:	
Tank Installer:		Tank Installer:	
Date of Inspection:		Date of Inspection:	
Engineers Name:		Engineers Name:	
Engineers Company:		Engineers Company:	
Comments:		Comments:	
OFTEC Engineers Reg. No:		OFTEC Engineers Reg. No:	
Date of Next Inspection:		Date of Next Inspection:	



Tank Care & Records

Type:		Type:	
Model:		Model:	
Size:		Size:	
Tank Serial Number:		Tank Serial Number:	
Date Installed:		Date Installed:	
Tank Installer:		Tank Installer:	
Date of Inspection:		Date of Inspection:	
Engineers Name:		Engineers Name:	
Engineers Company:		Engineers Company:	
Comments:		Comments:	
OFTEC Engineers Reg. No:		OFTEC Engineers Reg. No:	
Date of Next Inspection:		Date of Next Inspection:	



Tank Care & Records

Type:		
Model:		
Size:		
Tank Serial Number:		
Date Installed:		
Tank Installer:		
Date of Inspection:		
Engineers Name:		
Engineers Company:		
Comments:		
OFTEC Engineers Reg. No:		
Date of Next Inspection:		



Tank Care & Records

Type:		Type:	
Model:		Model:	
Size:		Size:	
Tank Serial Number:		Tank Serial Number:	
Date Installed:		Date Installed:	
Tank Installer:		Tank Installer:	
Date of Inspection:		Date of Inspection:	
Engineers Name:		Engineers Name:	
Engineers Company:		Engineers Company:	
Comments:		Comments:	
OFTEC Engineers Reg. No:		OFTEC Engineers Reg. No:	
Date of Next Inspection:		Date of Next Inspection:	



Terms & Conditions

This page (together with the documents referred to on it) tells you the terms and conditions on which we supply products ('Products') to you ('Conditions'). Please read these Conditions carefully before ordering any Products from us. You should understand that by ordering any of our Products, you agree to be bound by these Conditions.

1. You should print a copy of these Conditions for future reference.
2. YOUR STATUS

By placing an order with us, you confirm that you are legally capable of entering into binding contracts.

By placing an order with us, you also confirm that:

- (a) You are a business that is incorporated and operating in the United Kingdom; or
- (b) You are an individual who is 18 years or older and a sole trader or a partner in a partnership incorporated and operating in the United Kingdom.

We rely on these statements by you in entering into an agreement with you for sale of any Product.

3. HOW THE CONTRACT IS FORMED BETWEEN YOU AND US

- 3.1 After placing an order, you will receive an e-mail from us acknowledging that we have received your order. Please note that this does not mean that your order has been accepted. Your order constitutes an offer to us to buy Products. All orders are subject to acceptance by us, and we will confirm any such acceptance to you by sending you an e-mail that confirms that the Products have been dispatched ('the Dispatch Confirmation'). The contract between us ('Contract') will only be formed when we send you the Dispatch Confirmation.
- 3.2 The Contract will relate only to those Products whose dispatch we have confirmed in the Dispatch Confirmation. We will not be obliged to supply any other Products which may have been part of your order until the dispatch of such Products has been confirmed in a separate Dispatch Confirmation.
- 3.3 We may, in our absolute discretion, allow you to cancel the Contract and return the Products at any time within fourteen days after the date on which the Contract is formed. If we agree to cancel the Contract under these circumstances, we will refund the price of the Products after deducting delivery, return and re-stocking costs.

4. AVAILABILITY AND DELIVERY

- 4.1 We shall deliver the Products to the location set out in the Order or such other location as the parties may agree ('Delivery Location').
- 4.2 We will use our reasonable endeavours in an effort to ensure that your order is fulfilled by the delivery date set out in the Dispatch Confirmation or, if no delivery date is specified, then within 30 days of the date of the Dispatch Confirmation ('Delivery Date').
- 4.3 Delivery is completed on the completion of unloading of the Products at the Delivery Location.
- 4.4 Any dates quoted for delivery are approximate only, and the time of delivery is not of the essence. We shall not be liable for any delay in delivery of the Products that is caused by a Force Majeure Event or your failure to provide us with adequate delivery instructions or any other instructions that are relevant to the supply of the Products.
- 4.5 If we fail to deliver the Products, our liability shall be limited to the costs and expenses incurred by you in obtaining replacement goods of similar description and quality in the cheapest market available, less the price of the Products. We shall have no liability for any failure to deliver the Products to the extent that such failure is caused by a Force Majeure Event or your failure to provide us with adequate delivery instructions or any other instructions that are relevant to the supply of the Products.
- 4.6 You must inspect the Products on delivery and notify us without delay if you identify any defects.
- 4.7 If you fail to accept delivery of the Products on the Delivery Date, then, except where such failure or delay is caused by a Force Majeure Event or our failure to comply with our obligations under the Contract:
 - (a) delivery of the Products shall be deemed to have been completed on the Delivery Date; and
 - (b) we shall store the Products until delivery takes place, and charge you for all related costs and expenses (including insurance).



- 4.8 If ten days after the Delivery Date you have not accepted actual delivery of the Products, we may resell or otherwise dispose of part or all of the Products and, after deducting reasonable storage and selling costs, account to you for any excess over the price of the Products or charge you for any shortfall below the price of the Products.
- 4.9 Additional terms and conditions relating to delivery are available on our web site. Please read those terms and conditions carefully before ordering any Products from us. You should understand that by ordering any of our Products, you agree to be bound by those terms and conditions as well as these Conditions.

5. RISK AND TITLE

- 5.1 The Products will be at your risk from the time of delivery.
- 5.2 Ownership of the Products will only pass to you when we receive full payment (in cash or cleared funds) of all sums due in respect of the Products, including any delivery charges.
- 5.3 Until title to the Products has passed to you, you shall:
- not remove, deface or obscure any identifying mark on or relating to the Products;
 - not install the Products; and
 - maintain the Products in satisfactory condition and keep them insured against all risks for their full price from the date of delivery.
- 5.4 At any time before title to the Products passes to you, we may require you to deliver up all Products in your possession and if you fail to do so promptly, we may enter any of your premises and/or those of any third party where the Products are stored in order to recover them.

6. PRICE AND PAYMENT

- 6.1 The price of any Products will be as quoted on our site from time to time, except in cases of obvious error.
- 6.2 These prices (unless stated otherwise) include VAT and delivery costs (apart from goods/services sold out of the UK).
- 6.3 Prices are liable to change at any time, but subject to clause 6.6 changes will not affect orders in respect of which we have already sent you a Dispatch Confirmation.
- 6.4 It is always possible that, despite our best efforts, some of our Products may be incorrectly priced. We will normally verify prices as part of our dispatch procedures so that, where the Products' correct price is less than our stated price, we will charge the lower amount when dispatching the Products to you. If the Products' correct price is higher than the price stated, we will normally, at our discretion, either contact you for instructions before dispatching the Products, and/or reject your order and notify you of such rejection.
- 6.5 We are under no obligation to provide the Products to you at the incorrect (lower) price, even after we have sent you a Dispatch Confirmation, if the pricing error is obvious and unmistakable and could have reasonably been recognised by you as a mis-pricing.
- 6.6 We may, by giving notice to you at any time up to 5 days before delivery, increase the price of the Products to reflect any increase in the cost of the Products that is due to:
- any request by you to change the Delivery Date, quantities or types of Products ordered; or
 - any delay caused by any of your instructions or your failure to give us adequate or accurate information or instructions.
- 6.7 Unless agreed otherwise in writing, we may invoice you for the Products on or at any time after you place your order.
- 6.8 You shall pay for the Products:
- when you place your order or in accordance with any credit terms agreed in writing; and
 - in full and in cleared funds to a bank account that we nominate in writing.
- 6.9 Time for payment shall be of the essence of the Contract.
- 6.10 If you fail to make a payment due to us under the Contract by the due date, then, without limiting our remedies under clause 8 (Termination), you shall pay interest on the overdue sum from the due date until payment of the overdue sum, whether before or after judgment. Interest under this clause 6.10 will accrue each day at 4% a year above the Bank of England's base rate from time to time, but at 4% a year for any period when that base rate is below 0%.
- 6.11 All amounts due under the Contract shall be paid in full without any set-off, counterclaim, deduction or withholding other than any deduction or withholding of tax as required by law.
- 6.12 We accept payment by credit and debit card, and Paypal. We also accept payment by BACS, CHAPS or FPI etc.
- 6.13 We have the right to revise or revoke any credit terms in the event that you breach the Contract.

7. WARRANTY / OUR LIABILITY

- 7.1 We warrant to you that at the time of delivery any Products purchased from us through our site will be of satisfactory quality and reasonably fit for any purpose held out by us.
- 7.2 We warrant that at the time of delivery the Products will be compliant with all applicable laws, but any requirement to re-test the Products following delivery will be your responsibility.



- 7.3 We guarantee that on delivery and for a period of twelve months (the "Guarantee Period"), the Products shall be free from material defects. Proof of purchase will be required. However, this guarantee does not apply in the circumstances described in clause 7.6.
- 7.4 Subject to clause 7.6, we shall, at our option, repair or replace the defective Products, or refund the price of the defective Products in full if:
- (a) you give us notice in writing during the Guarantee Period within a reasonable time of discovery that some or all of the Products do not comply with the guarantee set out in clause 7.3; and
 - (b) we are given a reasonable opportunity of examining such Products.
- 7.5 These Conditions shall apply to any repaired or replacement Products that we supply.
- 7.6 The guarantee set out in clause 7.3 does not apply to any defect in the Products arising from:
- (a) you continuing to use the Products after giving notice in accordance with clause 7.4.
 - (b) fair wear and tear;
 - (c) wilful damage, abnormal storage or working conditions, accident, negligence by you or by any third party;
 - (d) if you fail to operate or use the Products in accordance with the user instructions;
 - (e) any alteration or repair by you or by a third party; and
 - (f) any specification provided by you.
- 7.7 The terms implied by sections 13 to 15 of the Sale of Goods Act 1979 are, to the fullest extent permitted by law, excluded from the Contract.
- 7.8 We have obtained insurance cover in respect of its own legal liability for certain claims, but we have been unable to obtain insurance in respect of certain types of loss at a commercially viable price. The limits and exclusions in this clause 7 reflect the insurance cover that we have been able to arrange and you are responsible for making your own arrangements for the insurance of any excess loss.
- 7.9 The restrictions on liability in this clause 7 apply to every liability arising under or in connection with the Contract including for negligence.
- 7.10 Our liability for losses you suffer as a result of us breaching the Contract is limited to the purchase price of the Products you purchased. We are not responsible for indirect or consequential losses including but not limited to:
- (a) loss of the content of any tank;
 - (b) damage to tangible property;
 - (c) loss of income or revenue;
 - (d) loss of profits;
 - (e) loss of sales or business;
 - (f) loss of agreements or contracts;
 - (g) loss of anticipated savings;
 - (h) loss of use or corruption of software, data or information;
 - (i) loss of or damage to goodwill;
 - (j) reinstallation and removal costs; and
 - (k) remedial costs.
- 7.11 This does not exclude or limit in any way our liability:
- (a) for death or personal injury caused by our negligence or the negligence of our employees, agents or subcontractors;
 - (b) for fraud or fraudulent misrepresentation; or
 - (c) for any matter for which it would be unlawful for us to exclude, or attempt to exclude, our liability.
- 7.12 This clause 7 shall survive termination of the Contract.

8. TERMINATION

- 8.1 Without limiting our other rights or remedies, we may suspend provision of the Products under the Contract if you fail to pay any amount due under the Contract on the due date for payment.
- 8.2 Without limiting our other rights or remedies, we may terminate the Contract with immediate effect by giving written notice to you if you fail to pay any amount due under the Contract on the due date for payment.
- 8.3 On termination of the Contract for any reason you shall immediately pay all of our outstanding unpaid invoices and interest and, in respect of Products supplied but for which no invoice has been submitted, we shall submit an invoice, which shall be payable by you immediately on receipt.
- 8.4 Termination or expiry of the Contract, however arising, shall not affect any of the parties' rights and remedies that have accrued at termination or expiry, including the right to claim damages in respect of any breach of the Contract which existed at or before the date of termination or expiry.
- 8.5 Any provision of the Contract that expressly or by implication is intended to come into or continue in force on or after termination or expiry of the Contract shall remain in full force and effect.



9. WRITTEN COMMUNICATIONS

Applicable laws require that some of the information or communications we send to you should be in writing. When using our site, you accept that communication with us will be mainly electronic. We will contact you by e-mail or provide you with information by posting notices on our website. For contractual purposes, you agree to this electronic means of communication and you acknowledge that all contracts, notices, information and other communications that we provide to you electronically comply with any legal requirement that such communications be in writing. This condition does not affect your statutory rights.

10. NOTICES

All notices given by you to us must be given to us at sales@atlantistanks.co.uk. We may give notice to you at either the e-mail or postal address you provide to us when placing an order, or in any of the ways specified above. Notice will be deemed received and properly served immediately when posted on our website, 24 hours after an e-mail is sent, or three days after the date of posting of any letter. In proving the service of any notice, it will be sufficient to prove, in the case of a letter, that such letter was properly addressed, stamped and placed in the post and, in the case of an e-mail, that such e-mail was sent to the specified e-mail address of the addressee.

11. TRANSFER OF RIGHTS AND OBLIGATIONS

11.1 The Contract between you and us is binding on you and us and on our respective successors and assigns.

11.2 You may not transfer, assign, charge or otherwise dispose of the Contract, or any of your rights or obligations arising under it, without our prior written consent.

11.3 We may transfer, assign, charge, sub-contract or otherwise dispose of the Contract, or any of our rights or obligations arising under it, at any time during the term of the Contract.

12. EVENTS OUTSIDE OUR CONTROL

12.1 We will not be liable or responsible for any failure to perform, or delay in performance of, any of our obligations under a Contract that is caused by events outside our reasonable control ('Force Majeure Event').

12.2 A Force Majeure Event includes any act, event, non-happening, omission or accident beyond our reasonable control and includes in particular (without limitation) the following:

- (a) Strikes, lock-outs or other industrial action.
- (b) Civil commotion, riot, invasion, terrorist attack or threat of terrorist attack, war (whether declared or not) or threat or preparation for war.
- (c) Fire, explosion, storm, flood, earthquake, subsidence, epidemic, pandemic or other natural disaster.
- (d) Impossibility of the use of railways, shipping, aircraft, motor transport or other means of public or private transport.
- (e) Impossibility of the use of public or private telecommunications networks.
- (f) The acts, decrees, legislation, regulations or restrictions of any government.

12.3 Our performance under any Contract is deemed to be suspended for the period that the Force Majeure Event continues, and we will have an extension of time for performance for the duration of that period. We will use our reasonable endeavours to bring the Force Majeure Event to a close or to find a solution by which our obligations under the Contract may be performed despite the Force Majeure Event.

12.4 We may have to cancel your order if stock is unavailable. If this happens:

- (a) We will promptly contact you to let you know.
- (b) If you have made any payment in advance for Products that have not been delivered to you we will refund those amounts to you.
- (c) We will not charge you anything further and you will not have to make any payment to us.

13. WAIVER

13.1 If we fail, at any time during the term of the Contract, to insist upon strict performance of any of your obligations under the Contract or any of these Conditions, or if we fail to exercise any of the rights or remedies to which we are entitled under the Contract, this shall not constitute a waiver of such rights or remedies and shall not relieve you from compliance with such obligations.

13.2 A waiver by us of any default shall not constitute a waiver of any subsequent default.

13.3 No waiver by us of any of these Conditions shall be effective unless it is expressly stated to be a waiver and is communicated to you in writing in accordance with clause 10 above.

14. SEVERABILITY

If any of these Conditions or any provisions of a Contract are determined by any competent authority to be invalid, unlawful or unenforceable to any extent, such term, condition or provision will to that extent be severed from the remaining terms, conditions and provisions which will continue to be valid to the fullest extent permitted by law.



15. ENTIRE AGREEMENT

- 15.1 These Conditions and any document expressly referred to in them represent the entire agreement between us in relation to the subject matter of any Contract and supersede any prior agreement, understanding or arrangement between us, whether oral or in writing. These Conditions apply to the Contract to the exclusion of any other terms which are implied by law, trade custom, practice or course of dealing.
- 15.2 We each acknowledge that, in entering into a Contract, neither of us has relied on any representation, undertaking or promise given by the other or be implied from anything said or written in negotiations between us prior to such Contract except as expressly stated in these Conditions.
- 15.3 Any samples, drawings, descriptive matter or advertising produced by us and any descriptions or illustrations contained in our catalogues or brochures are produced for the sole purpose of giving an approximate idea of the Products referred to in them. They shall not form part of the Contract nor have any contractual force.
- 15.4 Each of us agrees that the only rights and remedies available to us arising out of or in connection with a representation shall be for breach of contract as provided in these Conditions.
- 15.5 Nothing in this clause shall limit or exclude any liability for fraud.

16. OUR RIGHT TO VARY THESE CONDITIONS

- 16.1 We have the right to revise and amend these Conditions from time to time.
- 16.2 You will be subject to the policies and Conditions in force at the time that you order products from us, unless any change to those policies or these Conditions is required to be made by law or governmental authority (in which case it will apply to orders previously placed by you), or if we notify you of the change to those policies or these Conditions before we send you the Dispatch Confirmation (in which case we have the right to assume that you have accepted the change to the Conditions, unless you notify us to the contrary within three working days of receipt by you of the Products).

17. LAW AND JURISDICTION

Contracts for the purchase of Products through our site and any dispute or claim arising out of or in connection with them or their subject matter or formation (including non-contractual disputes or claims) will be governed by English law. Any dispute or claim arising out of or in connection with such Contracts or their formation (including non-contractual disputes or claims) shall be subject to the non-exclusive jurisdiction of the courts of England and Wales

18. GENERAL DATA PROTECTION REGULATION

The General Data Protection Regulation ('GDPR') came into force on 1 May 2018 and sets out how we must process data that we hold about you. We refer you to the GDPR Fair Processing Notice on our site for further details.

19. INFORMATION ABOUT US

Portafuel, StoraFuel, Puratank and Easytank are trading names of Atlantis Tanks Group Ltd (company number: 09955291) whose registered address is Legend House, Station Road, Ferryhill, England, DL17 0BP. Details of this company can be found at www.atlantistanks.co.uk.



Notes



Here for you

Tel: 0330 999 1100

Fax: 0844 844 0405

Email: sales@atlantistanks.co.uk

www.atlantistanks.co.uk

Legend House

Station Road

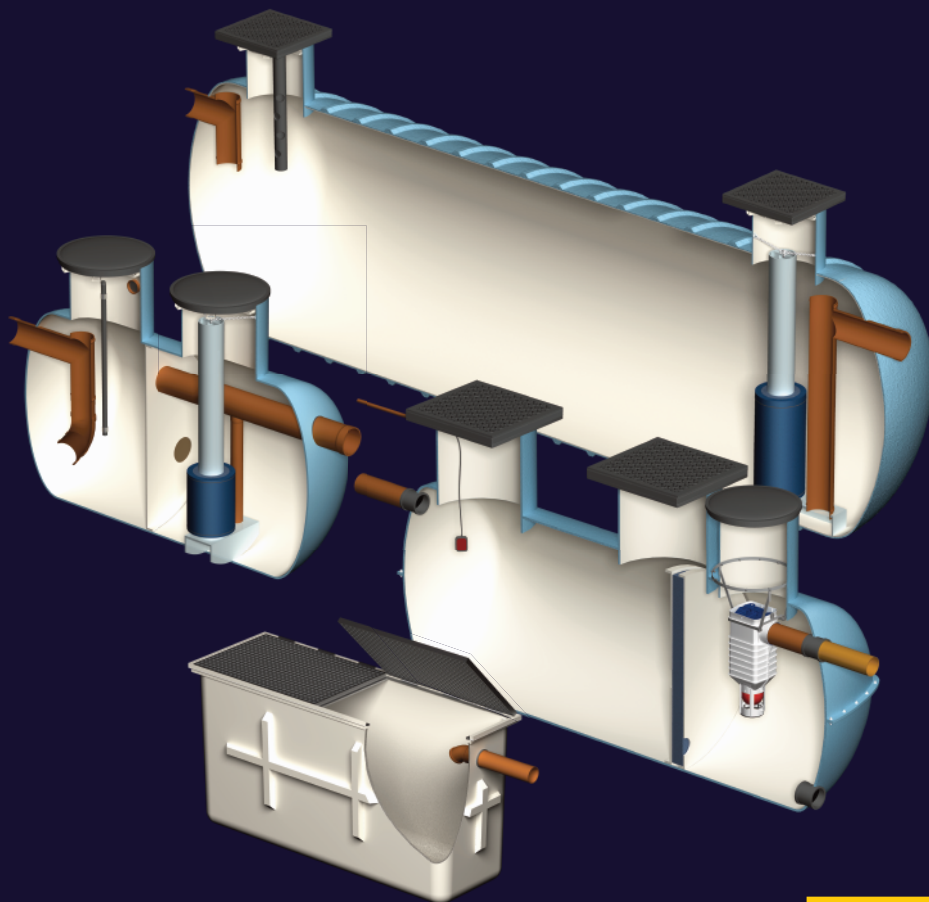
Ferryhill

DL17 0BP

Marsh Industries

Oil separators

Installation and operating manual



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Marsh Industries delivers world-class water/wastewater treatment products and solutions to the domestic, commercial and agricultural sectors from its UK manufacturing plants in Kettering and Bridgwater.

The company is recognised as a collaborative and trusted partner to its customers, with a reputation for providing quality products that really do add value:

- Sewage treatment plants 4-500+ PE
- Pump chambers 234-100,000L
- Septic tanks and cesspools 2800-20,000L
- Uni:Gem™ septic conversion units 4-60PE
- Marsh GMS grease traps 234-20,000L
- Degreilleur™ trash/debris barrier
- Agri-silage tanks Up to 100,000L
- Storm:Dammer® stormwater attenuation Up to 130,000L
- Rainwater harvesting systems 1500-20,000L
- Hydroil™ oil separators

All products are fully type-tested and certified to ensure compliance with relevant environmental permitting programmes and building regulations.

Note: Marsh Industries accepts no liability for any damage or loss, including consequential loss caused by the failure of any drainage equipment or any failure caused by gross solids or fats entering the sewage treatment plant.

It is the responsibility of the installer/contractor to undertake installation of the sewage treatment plant as per the manufacturer instructions.

Marsh Industries believes that the information printed in this manual is accurate, and published for information only. No warrants, express or implied, are contained therein, nor does any legal liability attach to Marsh Industries for any reason whatsoever. The company's policy is one of continuous product improvement and we reserve the right to make alterations to our range and specification without prior notice.

1 Health and safety

These instructions are provided in the interest of your safety. Please read carefully before installing or using the equipment.

It is important that this document is retained with the oil separator for future reference, and included in any on site maintenance process description for cleaning and planned maintenance. Should the site transfer ownership, the person responsible should always ensure that all relevant documentation is transferred so that the new owner can be made familiar with the operation of the equipment.

- Installation should only be carried out by a suitably qualified contractor
- We advise the use of protective workwear including dust mask and gloves when cutting GRP components
- Electrical work should be carried out by a qualified electrician
- Contaminated surface water can contain substances harmful to human health and good hygiene practice should be observed
- Attention should be paid to selection of the correct access cover. Covers should be selected with reference to the location of the unit and traffic loads in the local area likely to be driving over the unit
- Unless the Marsh turret guard (optional extra) is fitted to your unit, when removing covers precautions must be taken against falling into the unit
- Adhere to all local and legislative health and safety requirements
- Ensure that you are familiar with the working area, and that the person responsible for the site is aware of your work. A safe system of work should be documented and a permit to work may also be required

2 Alarm system

An oil level alarm is required to be fitted to the separator, signalling an alarm condition when 90% of the oil storage volume is reached.

The alarm system may be mains powered or battery powered (solar trickle charge).

3 Maintenance

Correct and timely maintenance is essential for the correct operation of the system. You should not rely on the oil level alarm to signal when emptying is required. A regular visual inspection of the unit should also be taken along with a separator maintenance log. A functional test of the oil level alarm system should also be undertaken periodically.

Removal of oils and silt/sludge should be carried out by a licensed waste carrier. A list of these will be available from your local authority.

Please note that these guidelines are of a 'generic' nature. The exact installation location, and any site constrictions will always take precedence over any advice given in this document. It is the responsibility of those installing the unit to examine and verify that the appropriate site specific ground conditions are taken into consideration for each installatio, including any potential traffic.

4 Handling and storage

On delivery, ensure the unit is placed in a safe location prior to installation.

The centre of gravity of the unit may not be in the centre of the tank. This risk will increase as the size of the separator increases.

Therefore great care should be taken to ensure that the unit is stable when lifting. Water may collect inside the unit if it has been stored on site for any length of time before installation, which could add to the instability.

When lifting do not use chains around the body of the unit.

A spreader bar should be used to ensure that the unit is stable during the lift and that the load is evenly distributed. When lifting the unit, a spreader bar should be used where slings are at an angle of less than 30 degrees from vertical.

Lifting equipment should be selected by taking into account the unit weight, length and the distance of lift required on site. Marsh Industries accepts no responsibility for the selection of lifting equipment.

When stored on site, the unit must be placed on ground which is flat, level and free from risks of impact damage.

Site Planning

The following points should be considered before installation of the equipment:

- The outfall from the unit must have the consent of the relevant local authority and/or Environment Agency
- The installation should have Planning and Building Control approval
- You should consider the use of manual or automatic cut-off valves both upstream and downstream of the unit in order to isolate the separator in an emergency or during maintenance
- Roof water should be excluded from separators
- Ground conditions and water table level should be assessed
- If the discharge is to a soakaway (class 1 units only), a percolation/porosity test should be carried out as part of the assessment of suitability for sub-soil drainage – see Part H of Building Regulations for further information
- There must be at least 1 metre of clear, level ground all around the access covers to allow for routine maintenance
- Mains water supply should be accessible for routine cleaning and refilling the unit after removal of waste material and liquid
- You must provide an electrical supply for the oil alarm system (unless you have purchased a solar or battery powered unit)

5 Installation

Specific site conditions should be taken into consideration when designing concrete backfill and should be designed to bear any loads which may be applied during and after installation to prevent the tank from being subjected to these loads.

- In locations where the excavation will not safely maintain a vertical wall, it will be necessary to shore up the sidewalls of the excavation with a suitable trenching sheet system and bracing to maintain a vertical wall from the bottom to the top of the excavation. DO NOT completely remove the shoring system until the backfill is complete, but before the concrete fully hardens

- In areas where the water table is above the bottom of the excavation or the excavation is liable to flood, the excavation should be dewatered using a suitable pumping method
- During installation care must be taken to ensure that the body of the unit is uniformly supported so that 'point loads' on the unit are avoided
- Excavate a hole of sufficient length and width to accommodate the tank and a minimum of 225mm thickness of concrete surround - and to a depth which allows for the depth of the unit plus concrete base slab and haunch. Also taking in account proposed inlet invert depth
- Construct a suitable concrete base slab appropriate to site conditions. Ensure that the slab is flat and level
- When the concrete base slab has set enough to support the unit, lay a concrete haunch along the middle of the cast slab to provide even support under the unit
- Lower the unit onto the haunch using suitable lifting equipment
- It is important that the unit is level after installation to allow correct operation of the internal components
- Pour approximately 300mm depth of clean water into each chamber of the unit simultaneously. DO NOT OVERFILL
- Pour concrete backfill to approximately 300mm depth under and to the sides of the tank ensuring good compaction to remove voids. DO NOT use vibrating pokers
- Continue pouring concrete backfill, simultaneously keeping the internal water level no more than 300mm above the backfill level at all times until the backfill is just below the underside of the outlet connection, leaving sufficient room to connect the inlet and outlet pipework
- Connect inlet and outlet drains and vent pipes when safe access to the backfill can be gained
- Should you wish to connect in and outlet pipework that is not immediately compatible with the fittings on the unit, proprietary flex seal couplings can be obtained to fit over the outside of the site pipework and the outside of separator connection
- Continue backfilling with concrete over the tank body to the required level. Build up a shell of concrete, minimum 225mm thick, around the access shaft(s). Temporarily strut the access shaft to avoid distortion
- On class 1 units only, where an extension shaft is fitted to meet a deeper invert, a coalescer extension handle is also provided with the shaft. If there is a coalescer, remove it from the unit before adding the extension shaft. Remove the pre-fitted handle, add the extension piece and replace the handle, bolting it securely in place. Replace the handle so that it can be bolted near to the top of the extension neck. When refitting, ensure that the coalescer tube is correctly pushed onto the base fitting
- It is advisable to seal the joints on the extension shafts (particularly on sites with high ground water) with appropriate sealant. Where more than one neck section is required to suit a deep invert, consider back-filling section by section. If the extension neck is too long please trim using a fine-toothed saw
- Oil level alarm systems - Lay 82mm diameter PVCu underground ducting between the alarm panel location and the alarm probe position. The ducting should be 500mm below ground level and fitted with a drawstring for later cable insertion. Any changes of direction should be by long radius bend. If necessary, drill a suitable hole in the access shaft adjacent to the alarm probe terminal box, to accept the ducting and seal
- Vent sockets should be placed as high in the access shaft as possible. Consult with local building control on exact specification of vent installation. As a minimum the vent should terminate no less than 2.4m above the ground, and at least 1m away from any window

- In traffic areas a suitable top slab must be constructed. The top slab should bear on a suitable foundation to prevent superimposed loads being transmitted to the unit and access shafts. Loads applied to covers and frames must bear on the top slab, not the access shaft
- The unit should be filled with clean water up to the invert level of the outlet pipe. Ensure the unit identification is placed/marked inside the neck for future information

The unit is now ready for use

6 Waste removal and servicing

Separated light liquid must be removed from the separator when the oil capacity has been reached.

An oil level alarm system gives warning when the separated light liquid/water interface level reaches 90% of the maximum recommended oil storage volume required.

Separators should be inspected at least every six months. A log should be maintained detailing the depth of oil found, any oil and any silt removal, or cleaning carried out.

Each site will be different in the amount and type of silt/oils generated, however as a minimum inspections every 6 months should be made to assess the volume of silt and oil accumulated.

Alarm probes should be removed and cleaned with water whenever waste material is removed from the separator.

Waste Removal Procedure

- Isolate the unit and prevent flow from entering
- Remove the access cover and lower the desludging hose in to the separation chamber. Draw off the surface oil. Always remove the oil before attempting to remove the coalescer
- Lower the desludging hose to the base of the tank and empty the unit of any silt or sludge that may have collected. Do not remove more water than is necessary
- Ensure that you access and clean both compartments
- Remove the alarm probe and clean with water and replace
- Consider the period of time that the coalescer has been installed and consider removing and inspecting (cleaning or replacing) the coalescer media. If removed, ensure that it is correctly replaced and secured into position
- Re-fill the separator with clean water up to the outlet level. The alarm will display an alarm condition until the separator is re-filled. Check alarm operation when the unit is full

7 Maintenance log

Site address/location	
Separator location	
Type of separator	
Nominal flow	
Total capacity	

Inspection/ maintenance date	Comments	Waste volumes removed (if applicable)

separators@marshindustries.co.uk
+44 (0)1933 654582
www.marshindustries.co.uk



Marsh Industries | Units 2-16 Addington Park Industrial Estate, Little Addington, Kettering, Northamptonshire NN14 4AS
Marsh Industries believes that the information printed in this brochure is accurate and published for information only. No warrants, express or implied, are contained therein, nor does any legal liability attach to Marsh Industries for any reason whatsoever. The company's policy is one of continuous product improvement and we reserve the right to make alterations to our range and specification without prior notice.



Installation and Operation Manual



AdBlue Storage and Dispensing Above Ground Polyethylene Tanks

Issue 1 January 2010



Index

1. Safety Instructions
2. Product Description
3. Transport & Storage
4. Installation & Commissioning
5. User Guide
6. Maintenance & Service Schedule Information
7. Warranty
8. Trouble shooting Guide

Appendix A – Further Details of Main Parts

Appendix B – Tank Monitoring System Information

1. Safety Instructions

PLEASE READ OPERATION MANUAL CAREFULLY BEFORE USE & COMPLY WITH ALL INSTRUCTIONS HEREIN

OPERATION MANUAL SHOULD BE KEPT WITH THE EQUIPMENT AT ALL TIMES

1. This manual contains important information concerning the safe installation and use of this product. Read the manual carefully before installation and use. Pay attention to all safety warnings.
2. Installation and use of this product should only be carried out by properly trained and approved personnel.
3. The user of this product is responsible for the safe and correct use of this product.
4. Any changes to this product, which have been done without consulting the manufacturer, may invalidate all warranties and guarantees.
5. The manufacturer will not be responsible for any accidents or damages caused by incorrect installation or use of this product.
6. This product is only suitable for storage and dispensing of AdBlue to DIN70070.

2. Product Description

The BlueMaster range of tanks are designed to answer the needs of commercial companies as well as public depots with truck fleets for storage and dispensing of 32.5% urea, trade mark AdBlue. The tank enables safe AdBlue storage outdoors, at a safe distance from buildings and Atex hazardous zoned areas. High resistance against mechanical impact and protection against frost and heat due the "tank in tank" construction and optional inbuilt heating and cooling to suit UK and ROI temperature conditions can be shown. The high standard of specification ensures optimum safety and functionality. The product is not Atex approved.

	BMH2500	BMV5000	BMV9000
Capacity	2500 litres/550 gallons	5000 litres/1100 gallons	9000 litres/ 1980 gallons
Length/Diameter	2460mm	2230mm	3580mm
Width	1430mm	2700mm	2460mm
Height	1850mm	2380mm	2950mm

3. Transport & Storage

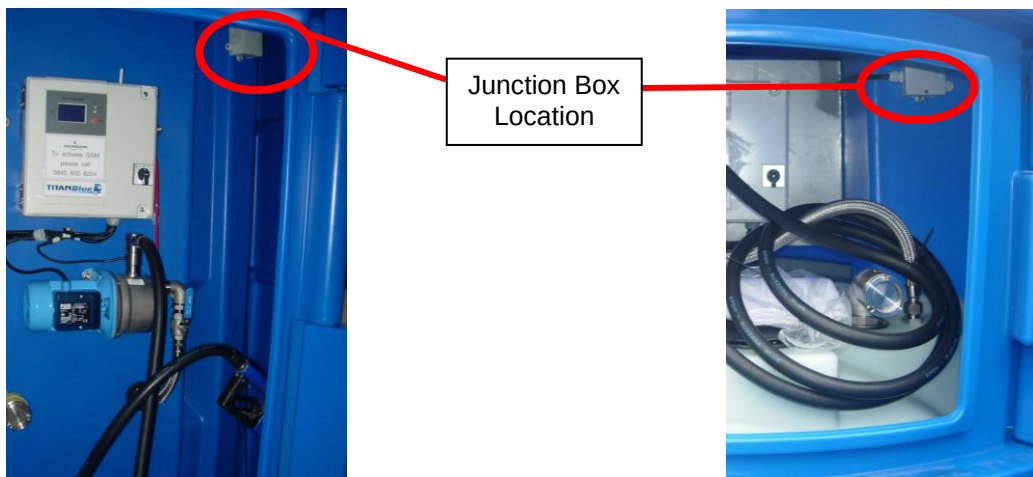
1. **DO NOT TRANSPORT WITH LIQUID INSIDE**
2. On the BlueMaster 5000 and 9000 litre tanks, a plastic strap is used to secure the housing to the tank for transportation and off loading. Do not remove until tank is in final location.
3. The BlueMaster tanks must be protected against mechanical damage during transport and storage.
4. Loading and off-loading must be carried out using only professional equipment, either a forklift with extended forks/tines or a crane. If lifting slings are used they must be attached to the lifting points on the external tank. The covers, sockets or other protruding elements, which are not designed for lifting or moving the tank, must not be used to lift or move the tank.
5. The BlueMaster tanks must never be pushed or rolled.
6. During transport and storage, the door must be tightly closed and secured. The dispensing nozzle must be placed in its holster and the control box shut.

7. Loading and transport areas must be smooth and free of sharp edges. During transportation the tank must be secured to prevent the tank from moving.

4. Installation & Commissioning

When installing a BlueMaster tank, the following guidelines must be observed:

1. The area on which the tank sits on should be solid (eg. concrete), smooth and free of sharp edges.
2. The tank should be placed at a minimum distance of 0.5m from all devices with surface temperatures $> 100^{\circ}\text{C}$.
3. The tank should be protected against direct sunlight in hot regions with ambient temperatures $> 40^{\circ}\text{C}$.
4. The user shall ensure safe urea supply (tank filling) and free space around the tank for periodic inspections and reviews.
5. Tank is delivered without power supply line. A qualified engineer should connect a suitable 230V power line to junction box in the pump housing. The individual cores of the power supply cable should be minimum 2.5mm^2 .



6. The BlueMaster user is responsible for complying with all legal requirements related to the installation and use of this product, as well as the guidelines issued by local fire fighting authorities and environmental authorities.
7. Provision should be made to protect tank from impact damage.

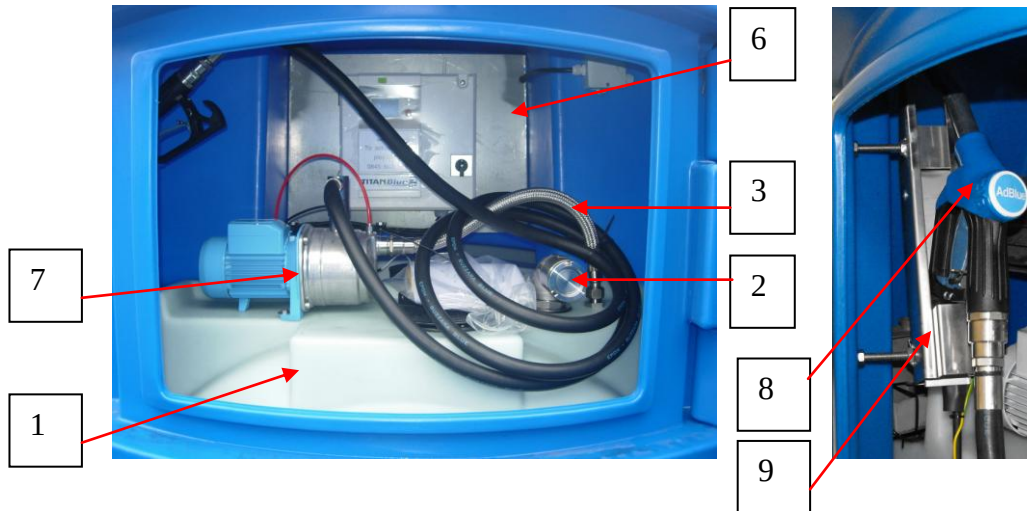
5. User Guide

(a) Summary of Main Parts

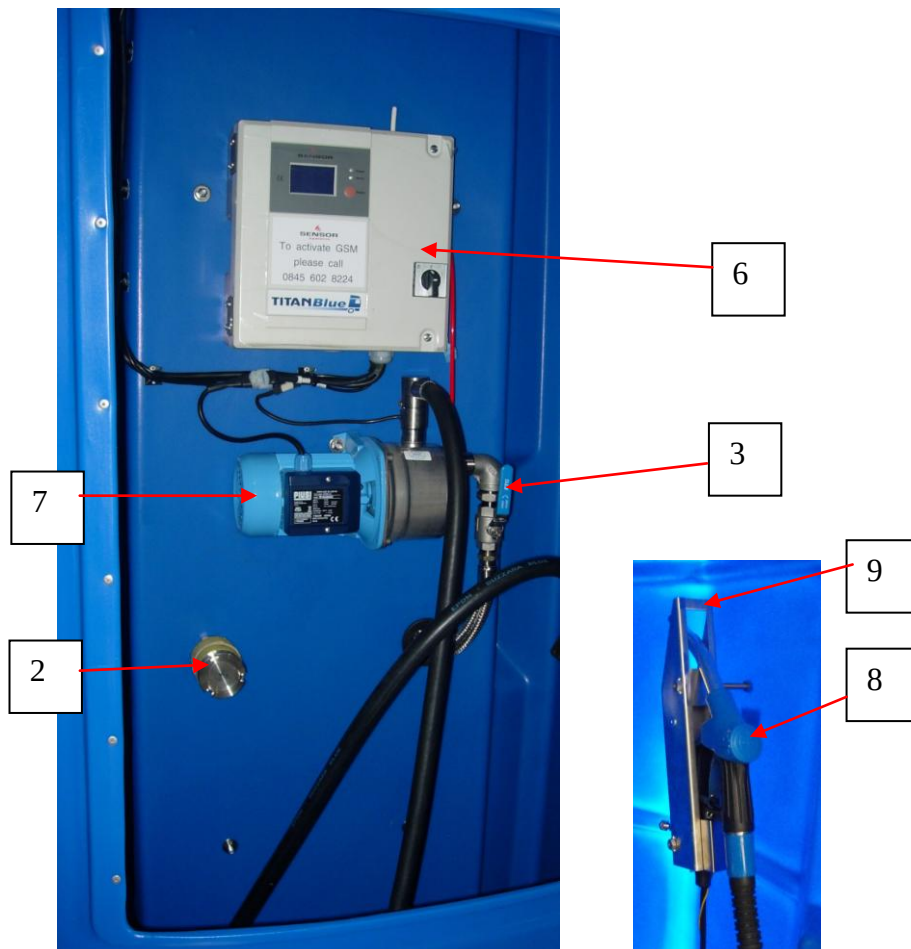
1. Bunded tank - inner storage tank with capacity equal to 95% of nominal volume & outer bund with capacity equal to 110% of inner tank.
2. 2" filling line and dry break coupling
3. Stainless steel $\frac{3}{4}$ " suction pipe with filter, check valve & shut-off valve (not available on 2500 litre).
4. Lockable equipment housing
5. Inner tank ventilation
6. Tank Monitoring System (TMS). *To connect TMS to a management interface with and without software please refer to Appendix B: TMS Management Interface.*
 - level & flow displays
 - overfill, leak and equipment alarms
 - low level & time cut-offs
 - remote monitoring telemetry (optional)

7. Pump – in cabinet or submersible
8. Dispensing hose and autonozzle - Standard or ZVA
9. Nozzle holster and switch

BMH2500



BMV5000



For further details on main parts see Appendix A and B

(b) Filling BlueMaster Tank

Do not exceed a maximum fill rate of 350 litres per minute.

During the first fill of the tank the level indicator shows less volume than that filled. The level indicator minimum read point is placed several centimetres above the base of the tank, which creates a dead zone in the bottom of the tank.

- Filling should be performed only under constant supervision of an authorised person
- This tank can only be filled by a tanker equipped with a female dry-break coupling.
- Ensure dispensing nozzle is in the holster.
- Fit delivery hose to dry-break coupling
- Fill tank in normal manner.
- Stop filling when desired amount has been dispensed into tank or when overfill alarm sounds.
- Disconnect delivery hose from dry-break coupling.

(c) Dispensing From BlueMaster Tanks

- Lift dispensing nozzle from holster.
- The TMS display will automatically switch to the Dispensing Screen and pump will start.
- Dispense AdBlue.
- Replace dispensing nozzle in holster.
- Dispensing Screen will revert back to the Main Screen in 1 minute.

Note: If the dispensing nozzle is not replaced into the holster correctly, the pump will run for 5 minutes before automatically switching off. If this occurs press the reset button on the TMS or lift and replace the dispensing nozzle in the holster.

(d) General Operation (via TMS)

Main Screen

When the control panel is switched on, the TMS 'Main Screen' will appear, as shown in Figure 1 below. The numeric indicator shows the volume of liquid remaining in the tank, in litres. The bar chart below the number is a visual indication of the tank's volume; each bar represents 1/10th of the volume (ullage).

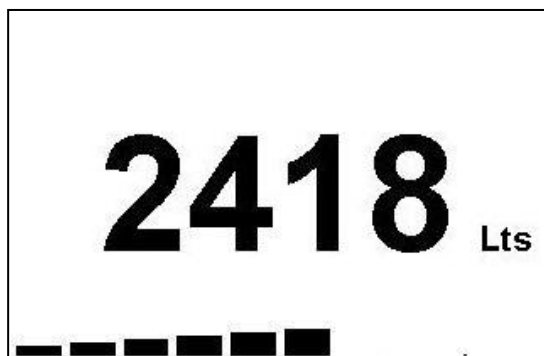


Figure 1 LCD – Main Screen

Flow Mode

When the dispensing nozzle is removed from its holder, the TMS will automatically switch to the 'Dispensing Screen', as shown in Figure 2 below. The large size numbers in the centre of the screen indicate how many litres have been dispensed at present. The small size numbers beside "TOTAL" indicates the total volume of liquid dispensed in litres.

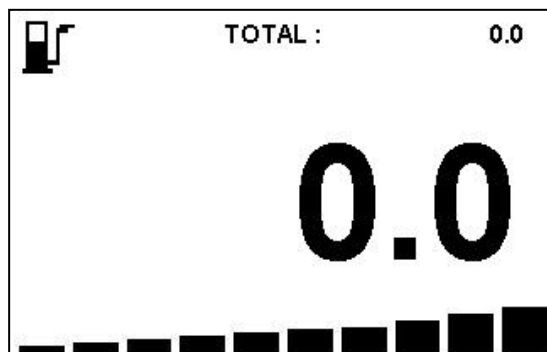


Figure 2 LCD – Dispensing Screen

When the dispensing operation is complete and the dispensing nozzle is returned to its holster, the 'Dispensing Screen' will revert back to the 'Main Screen' in approximately one minute. There is still the ability to move between the 2 screens, by using the reset button. If the dispensing nozzle is lifted off its holster or not positioned back correctly, the pump turns off after 5 minutes if nothing is dispensed.

Pushing the reset button in the middle of dispensing will reset the flow meter to 0.

Alarms



: This symbol will appear in the top left corner of display to indicate that there is at least 1 alarm mode present.

Low Level Alarm:

This indicates the level in the tank is low, and therefore it is not possible to dispense any liquid. The pump is switched off automatically, and cannot be switched on until the volume in the tank exceeds the low level setting, i.e. tank has to be filled to enable pump to operate.

Note: The first section of the bar chart will be flashing. There will be no buzzer sound and no Alarm LED light.

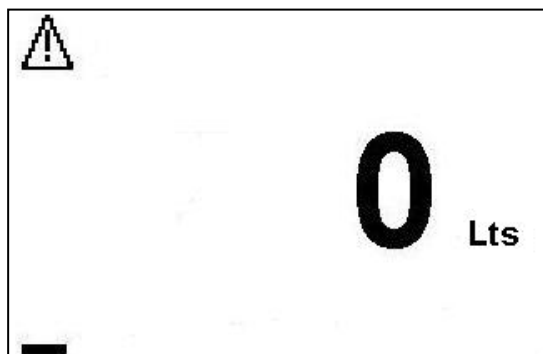


Figure 3 LCD – Low Level Alarm

Level Alarm:

This indicates a fault has occurred with the tank's level detection device and therefore cannot measure the volume of liquid remaining in the tank. The volume displayed is the last good level received and will remain until new level is received. An Alarm LED will light and a buzzer will also sound. It will not be possible to dispense liquid while in this alarm mode, as the pump will be automatically switched off.



Figure 4 LCD – Level Alarm

Overfill Alarm:

Activation of this alarm indicates the tank has reached full capacity and filling must be stopped immediately. An Alarm LED will light and a buzzer will also sound for 5 minutes.

Note: It will remain like this until the level falls below the Overfill Level.



Figure 5 LCD – Overfill Alarm

Factory Programmed Level Settings

BMH2500	Low Level	250 litres
	Overfill	2325 litres
BMV5000	Low Level	485 litres
	Overfill	4700 litres
BMV9000	Low Level	600 litres
	Overfill	8500 litres

Bund Alarm:

If fluid in the bund area has been detected the buzzer will sound and an Alarm LED will light. The buzzer will stop after 5 minutes, but the LED will remain lit. Check to see if bund area is wet. Once bund area is emptied, the LED will turn off and the LCD will revert back to the main screen.

Repetitive occurrences of this alarm should be investigated to determine cause of fluid in bund.

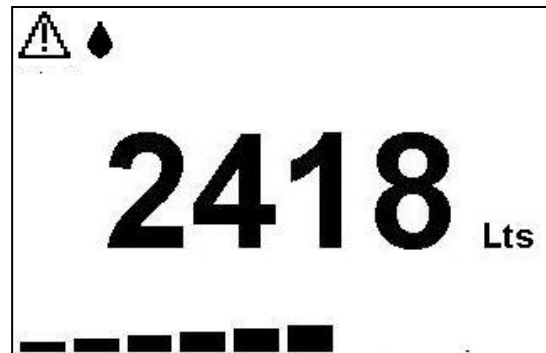


Figure 6 LCD – Bund Alarm

Bund Sensor Error Alarm:

If a fault has been detected with the bund sensor, the buzzer will sound and Alarm LED will light. Check the connection between the TMS and the bund sensor.



Figure 7 LCD – Bund Sensor Error Alarm

6. Maintenance & Service Schedule

- Transport and store the tank so as not to damage the tank walls.
- Keep all tank equipment in good working condition.
- A daily check should be carried out in the visual condition of the tank, devices and power line.
- Any faults or alarms should be reported to the tank supplier immediately.
- If fluid is found in the bund, contact the tank supplier immediately.
- Spare parts must comply with the requirements of the manufacturer.
- Protect against unauthorised access.
- BlueMaster tanks should be serviced every 6 months or every 50,000 litres dispensed, depending on which occurs first.
- BlueMaster tanks should only be serviced by Kingspan Environmental approved qualified personnel. Please contact Kingspan Environmental for further details.

7. Warranty

Within the warranty period Kingspan Environmental will repair or replace, at their discretion, any tanks found faulty due to incorrect material or workmanship. Kingspan Environmental products are guaranteed against material or manufacturing defect and have the following guarantee period commencing from the date of invoice:

For polyethylene tanks: 5 years

For accessories/components: 12 months

This guarantee is not valid for the following defects:

Mechanical damage caused by the user, dealer or improper maintenance.

Faults, damage or premature wear caused by improper use.

Damage caused by third parties.

Repairs carried out by unauthorised service personnel.

Claims:

If a problem develops during the guarantee period, please call Commercial Fuel Solutions Ltd Customer Care with the serial number and model type on +44 (0) 2380 231 007

Commercial Fuel Solutions Ltd

6 City West

Millbrook Road East

Southampton SO15 1AH

Tel: +44 (0)845 688 9755

Fax: +44 (0)845 688 9744

8. Trouble Shooting Guide

Fault	Action/Solution
Nozzle fails to operate	1. If nozzle is ZVA ensure magnetic collar is fitted to receiving tank 2. Check TMS for alarms - See below. 3. If no alarm is displayed check if nozzle is blocked by adblue. If so, submerge nozzle in bucket of water for approx. 20 minutes to dissolve AdBlue. 4. Internal parts may be damaged if nozzle has been dropped or damaged. New nozzle required. 5. Pump may need priming see Appendix A If problem not resolved please contact Customer Care
Pump fails to operate	1. Check power supply to tank. 2. Check TMS for alarms – see below. 3. If tank is fitted with nozzle holder into which nozzle is pointed downwards check the nozzle switch area has no adblue crystals surrounding it. Hot wash away any crystallisation. 4. Check that nozzle switch is operating by using a pencil to push down inside the tube – click/click should be heard. If problem not resolved please contact Customer Care
Pump requires priming	See priming instructions in Section A. If pump requires repetitive priming please contact Customer Care.

TMS Alarms	Action/Solution
Low Level Alarm	Fill Tank
Overfill Alarm	Stop Filling the Tank
Level Alarm	Check connection to Level Device
Bund Alarm	Pump out bund area as soon as possible. Dispose of fluid safely and according to the requisite legislation
Bund Sensor Error Alarm	Check connection to the Bund Sensor

Appendix A

Pumps

Suzzara Blue

Name and producer: Suzzara Blue, PIUSI

Voltage: 230 V, 50 Hz, +/- 5%

Power: 370 Watt;

Maximum flow: 40 litres/min

Weight: 15kg

Maximum delivery pressure: 5 bar

Self-priming height: up to 2m

Maximum sound level: 75 dB (A)



Attention:

1. Before use carefully read the instructions provided by the pump manufacturer.
2. The pump is only suitable for dispensing AdBlue
3. Running the pump dry can damage the seals.
4. Pump must be filled with AdBlue or demineralised water for priming (about 1,5L).
5. Do not leave the pump filled with liquid when there is a risk of freezing. Prime pump again before next use.

Priming Instructions:

(available in full in Pump Manual)

1. Undo grub screws that lock cap on top of flowmeter using a 2.5mm Allen key.
2. Lift the cap taking care not to pull cable.
3. Fill the pump using a suitable spouted container with 1.5 litres of suitable liquid.
4. Replace the flowmeter cap and retighten grub screws.

Submersible

Name and producer: Ecodiver, Leader

Voltage: 230V, 50Hz

Maximum flow: 80 litres/min

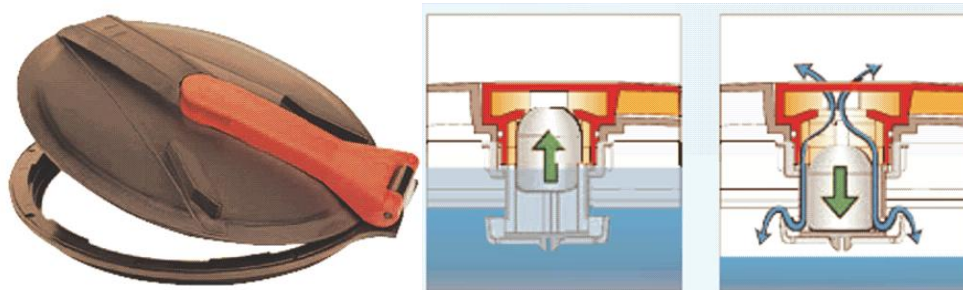
Weight: 7.3 – 8.8kg



Inner Tank Ventilation

The inner tank is ventilated by two means:

A). The plastic 16" lid in the centre top of the inner tank is equipped with a built-in vent unit. The lid provides access to the inside of the inner tank if necessary. Before using the lid the top of the bund tank must be removed.



B). Plastic 2" vent, with protection mesh, varying in number depending on tank size



Filling Line

The filling line consists of 2" EPDM pipe or stainless steel elbow (on 2500) and stainless steel fittings. The fill line is attached to the tank. The other end of the filling line is in the pump housing. It is connected to a spill free, male 2" dry break valve (shown on right below). Filling lines to this must be equipped with a female 2" dry break connection (shown on left below).



Suction line, Nozzle and Nozzle Holster (In-cabinet pump)

The suction line is made entirely from stainless steel. The mesh filter prevents dirt from entering the line. A shut off ball valve (not available on 2500litre) enables easy pump maintenance. The pump outlet is connected to Turbinox flowmeter and from there to a dispensing hose and automatic nozzle. The nozzle holster contains an on/off switch for the pump.

Identification Plate

Each BlueMaster has an identification plate (shown below) attached:

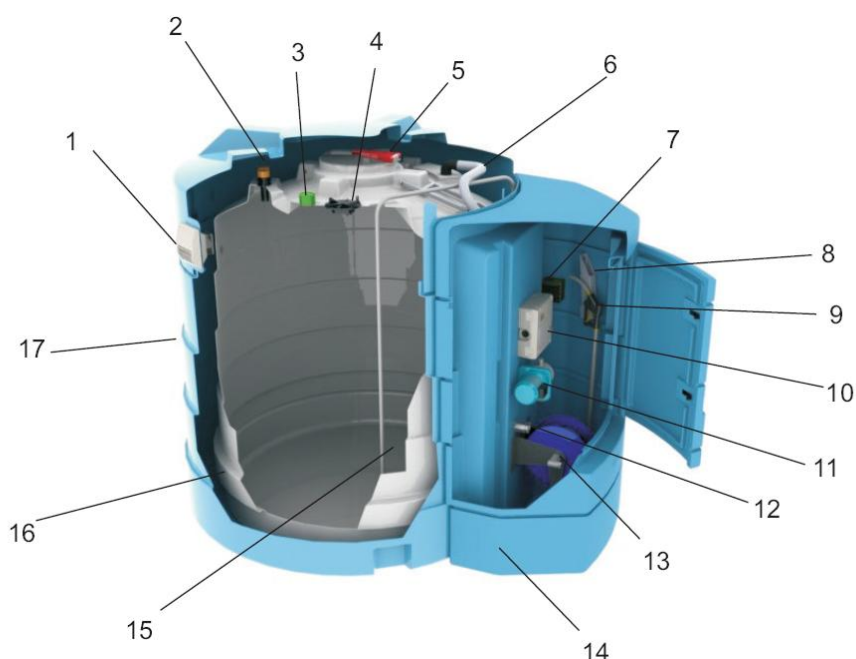
Serial No: _____
Production date: _____
Nominal capacity: _____
Material: LLDPE
Max. fill rate: 350 litres/min

Unpressurised operation.
Approved for external installation.
Storage of only aqueous urea "AUS 32" (32.5%) or
AdBlue® with a max. density of 1.15g/cm³

Before installation and use read operation manual.

Manufacturer: Kingspan Environmental Ltd
180 Gilford Road, Portadown
Co Armagh,
Northern Ireland, BT63 5LF
Tel: +44 (0) 28 3836 4400
sales@titanenv.com
www.titanenv.com

Sectional image of a BlueMaster 5000 litre tank BMV5000



1. Vent fan
2. 2" Inner tank vent
3. Ultrasonic level sensor
4. 4" Screw lid
5. 16" vented lid
6. 2" Fill hose
7. Housing heater
8. Nozzle holster
9. Dispensing nozzle
10. Tank Management System (TMS)
11. Pump unit
12. 2" Dry break coupling
13. Hose reel
14. Equipment housing
15. Stainless steel suction line
16. Inner tank
17. Bund

Please note: Equipment shown is not standard on all tanks and positions of equipment may vary depending on BlueMaster model.

Appendix B

ADBLUE TMS

General

The AdBlue TMS is a bespoke design to control, monitor and accommodate efficient storage and dispensing of AdBlue.



Functions of AdBlue TMS

- Level Measurement
Ultrasonic or 4 – 20mA type identical transducer
- Overfill Alarm
Visual and audible
- Variable Low Level Cut Off
Visual and audible
- Bund Alarm
Active Conductive type sensor, 10mm from tank base
- Equipment Alarms
Notification if level measurement, bund or capacitive sensors are damaged
- Integrated Flow Meter
Flow in litres and cumulative amount
Auto display when pistol is lifted
Reverts back to level after 1 minute or via button toggle facility
- Flow Meter Conversion
91 – 100 pulses converter for flow equipment
- Automatic Pump Control
Cuts off after 5 minutes if not used

Optional Features

- Remote Monitoring Facility
GSM/GPRS real time accessibility
Provision of Alarms
Web hosting and integration of level / status information to SAP, Sage etc

Physical Features

- Fire Resistant Cabling
- Safety Cut Off Emergency Stop Button
- Fire Retardant Box
- IP65 Rated Box
- Tested for Humidity, (see Technical Specification)
- Fits full range of BlueMaster AdBlue tanks

AdBlue Control Panel Technical Specification

Dimensions	Height: 310mm, Width: 358.5mm, Depth: 114.7mm
Material	ABS
Ambient temperature	-20°C to +40°C
Supply voltage	230 V ac
Electrical connections	High voltage: 2 and 3 way connectors 5.08 pitch Low voltage: 2 way and 20 way connector 3.5 pitch, Jack connector – 3 pole, 3.5mm, 1A jack socket
Inputs	High voltage: - power supply 230 V - thermostat 35 C - thermostat –8 C Low voltage: - ultrasonic input (3 V) - 4 - 20 mA - flowmeter input (91 impulses/ litre) - thermistor 10k - bund sensor - pistol
Outputs	High voltage (230 V): - fan 1 - fan 2 - pump - house heater - tank heater - management interface - light Low voltage: - impulses out (100 impulses/litre), open collector, 12 V dc
Interface	Jack connector – 3 pole, 3.5mm, 1A jack socket (RS232)
Display	128x64 graphic LCD, blue
LEDs	Green – power Red – alarm
Operation	- switch - emergency button
Buzzer	12 V dc
Circuit breakers	- fans - 6A - pump and MC Box - 6A - house heater - 10A - tank heater and lamp - 16A
Approvals	Unit meets the requirements of; • Low Voltage Directive: EN 61010:2001 • EMC Directive: EN55011:1999+A2:2001, EN 61326:1998+A3:2003



High Voltage Outputs (Fan 1, Fan 2, Light, Pump House Heater, Tank Heater) are hazardous voltage (mains voltage).

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

F1 (Fuse) - 315mA Slow Blow Fuse

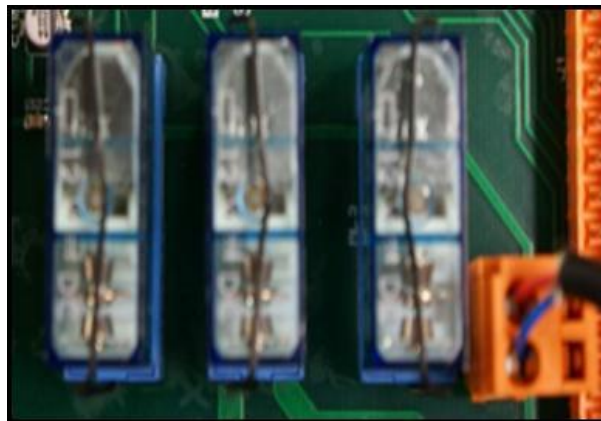
The equipment contains no other user serviceable parts and all maintenance and repair must be carried out by the manufacturer.

TMS Management Interface

This should only be undertaken by trained personnel

Pistol: Pin14: blue
Pin15: red

a) In normal mode **and** management mode, when the pistol is lifted and the pump is switched on and the screen switches to dispensing mode. In normal mode and management mode, when the pistol is lifted the third relay closes until the pistol is returned to park position. To use this relay output, ensure that the third relay is inserted. To connect to the output of the relay use the red and blue wire outlined in the figure below. If the board has no relay please call Kingspan Environmental and we can send a kit for easy installation of this relay.



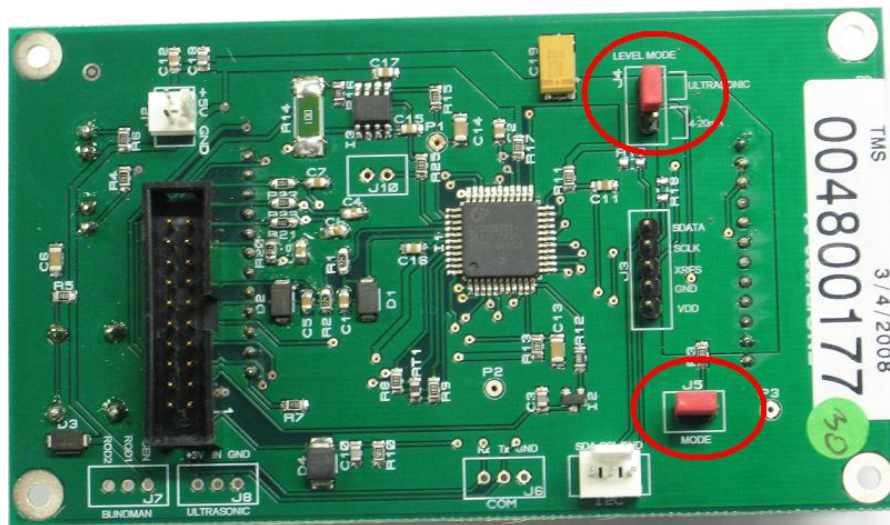
b) Ext In:

Note: This input will only work when the jumper on the Display board is connected to both pins as per picture on the next page.

This is an active low control signal that is used by external management systems to over ride the local control of the pump. Creating a short circuit between the two pins of EXT In will enable the pump. Creating an open circuit between the two pins on EXT in will disable the pump.

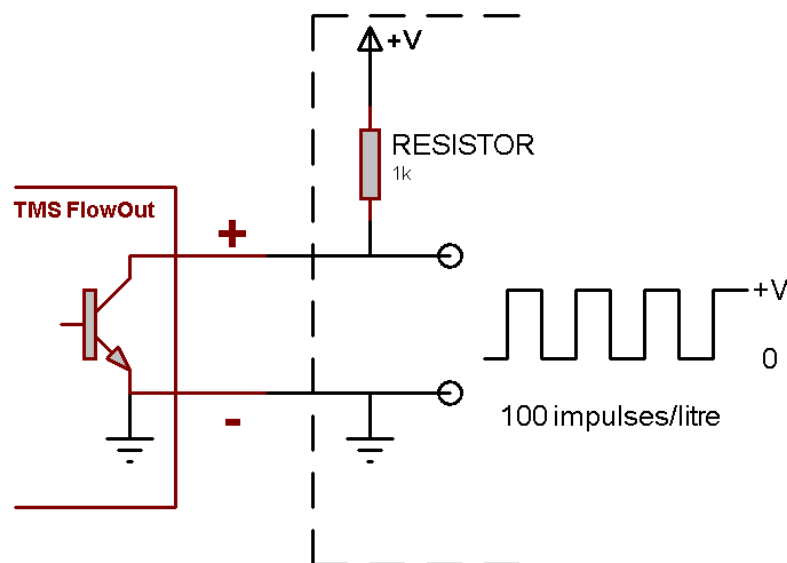
Pin16: black
Pin17: red

Note: Ext In only works when the Mode jumper is as show in the picture below. You must also configure the Panel setting in software to be turned on.



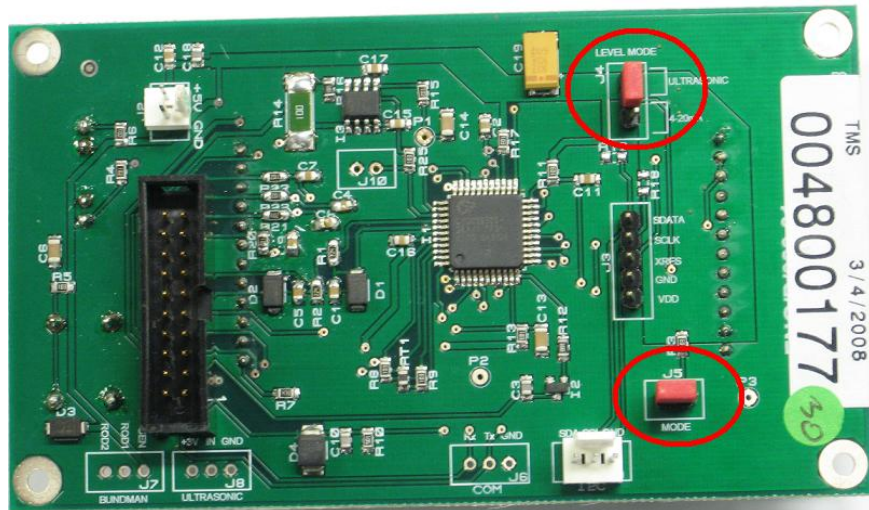
c) Flow Out: open collector output, max. 30V DC, 20mA, 100 impulses/litre, microprocessor convert impulses from pump flow meter and creates 100 impulses per litre. This output is present in normal mode and management mode.

Pin18: green
Pin19: yellow



3. Jumpers on the PSoC board:

At the back of the PSoC board (board with blue LCD) there are two places for jumpers:



- **LEVEL MODE - J4:**

J4 is a 3 pin connector. If we put the jumper (red) on the top two pins that means the TMS box will read the tank level from ultrasonic unit. If the jumper is on the bottom two pins the TMS box will read level from 4..20 mA level probe.

- **MODE – J5:**

J5 is a 2 pin connector. J5 without the jumper means that TMS is in “normal mode”. If there is a jumper on the J5 connector the TMS is in “access mode”. In this mode we can see the pad lock symbol on blue LCD in the top-right corner. If the pad lock is closed this means the pump is disable. A short circuit on EXT IN input enables the pump. EXT IN it is 4th (positive) and 5th (negative) pin from the left side in the 20 way connector J1. This input has an internal pull-up resistor to work with any switch, relay or open collector output device. The active low signal (short circuit) should remain for as long as pump control is required.

