



# OPERATORS MANUAL

## CONTAINERISED RANGE OF SELF BUNDED TANKS





## Contents

FILLING THE TANK .....	3
DISCHARGING FROM THE TANK .....	5
PRIMING POINT .....	6
ISOLATION VALVE .....	6
INTERSTITIAL SPACE .....	7
AIR VENT .....	7
INTERSTITIAL SPACE EMERGENCY VENT .....	8
PLATFORM / LADDER ASSEMBLY .....	8
MOVING YOUR TANK .....	9
BUNDED PUMP BAY HOUSING – SIDE PANELS .....	9
SCHEDULED MAINTENANCE .....	10
OVERFILL ALARM .....	14






## TANK FILLING



Before filling ensure that the tank air vent is fitted. In order to fill the tank you must ensure that the tank can freely vent to atmosphere.

Your self bunded tank is fitted with a dedicated 80nb Fill Line. Major components of this fill line include:

<ul style="list-style-type: none"><li>• 80nb Camlock Dust Cap Assembly</li><li>• 80nb Male Camlock Fitting</li><li>• 80nb 150# Fire Safe Cast Steel 2 piece full bore ball valve Flanged 316 St/St ball and Stem PTFE Seats, Fire Safe gland packing</li></ul>	
<ul style="list-style-type: none"><li>• 80nb Overfill Protection Valve c/w Float Assembly</li></ul>	
<ul style="list-style-type: none"><li>• 9V Battery Operated Overfill Alarm Unit</li></ul>	



Tank filling procedure is as follows:



The tank should not be filled to more than 95% of the tank's rated capacity.

- Dip the tank to determine the current contents and therefore available ullage in the tank
- Remove warning tag from fill point
- Ensure air vent is fitted and is unobstructed to allow free air venting from the tank
- Remove Camlock Dust Cap Assembly
- Connect tanker filling hose to the tank fill point
- Open ball valve
- Commence pumping into the tank
- Once the tanker has discharged the metered quantity, turn the ball valve to the closed position
- The tanker is to empty the hose and fill point slops
- Using the slops bucket from the tanker, placed this under the hose connection point
- Disconnect the tanker hose from the tank fill point
- Residue fuel will be captured in the truck slops bucket

The tank is fitted with an audible overfill alarm in accordance with the requirements as defined by AS1940. This alarm will sound should the tank contents near the determined safe fill level. (please refer to appendix A attached to the end of the document for Alarm Operations Manual)



The overfill alarm is required to be tested on a monthly basis. Press the test button and test for operation. Should the audible alarm not sound, replace the 9V battery.

The tank is fitted with a mechanical overfill protection valve. This is a LAST RESORT device and should not be used as the primary means for shutting the fill line when filling the tank.



Every 6 months the Overfill Valve should be tested for operation. The plug / float assembly should be operated and tested for free movement. The plug should be lubricated every 6 months with a spray on lubricant product.



## DISCHARGING FROM THE TANK

In accordance with the requirements of AS1940 all openings to the tank are located above the liquid level of the tank. You **CANNOT** gravity feed from a tank.

The tank, in accordance with AS1940, is fitted with an 80nb Anti Syphon Valve. The valve is located within the tank at the beginning of the suction line from the tank. The Anti Syphon valve is design to perform two tasks:

- 1. Anti Syphon** – a pump is required to draw fuel from the tank. This positive suction lifts the spring / seat of the anti syphon valve, allowing fuel to flow vertically within the tank, through the two walls of the tank located above the liquid level of the tank, then down to the suction inlet of the pump. Once the pump ceases operation, the flow from the tank will stop, with the spring closing the seat within the anti syphon valve. Should the dispensing equipment be forcefully removed from the tank due to a vehicle colliding with the equipment, or a vehicle driving off with the hose / nozzle still attached, flow from the tank will be stopped by the anti syphon valve.



- 2. Foot Valve** – the Anti Syphon Valve is designed and indeed positioned to also operate as a foot valve. The valve is designed to retain a full head of fuel on the dispensing equipment in order to provide an easy start for the next pumping operation. This is particularly important for centrifugal style pumps that do not provide self priming operation.



## PRIMING POINT

Located within the suction line, positioned on the top dipping platform, the tank features a removable priming point. This priming point is designed to provide easy access to pour fuel into the suction line of the dispensing equipment. This provides a prime in order to allow centrifugal style pumps to commence dispensing operation. This priming point can also be used to purge air from the line during initial site commissioning.



## ISOLATION VALVE

The tank is supplied with a 80nb 150# Fire Safe 2 Piece Full Bore Flanged ball valve on the suction line main isolation valve. This valve is found mounted under the dipping platform, located on the roof of the front bunded pump bay housing.



When using a NMI approved bowser (such as a SANKI, Compac or Gilbarco bowser) particular note should be made of the need to provide a shut off, or bleed tubing from the bowser air eliminator outlet. Fuel can weep through this air eliminator outlet due to the head of pressure placed on the bowser due to the anti syphon valve retaining a prime of fuel in the suction line when the bowser is not discharging.

A Tokheim Valve (for retail applications) or Normally Closed Solenoid Valve (for commercial applications) should be located in the suction line prior to the bowser unit. You should consider running tubing from the air eliminator outlet back to the main tank unit.



## **INTERSTITIAL SPACE**

Your Tank is a double wall tank fabricated in accordance with the design requirements of AS1940, AS1692 and AS1657. Our design provides a complete 360deg wrap of the inner tank. The roof, floor and walls all feature a true double skin protection.

The interstitial space (gap between the two walls) is minimal. The majority of gap is provided under the floor of the tank. The logic to this design is that should be inner tank leak, the fluid will drop to the outer vessel.

We provide a bund dip tube tube from the roof of the tank through to the bottom interstitial space of the tank. A dipstick is provided in order to allow you to dip this interstitial space and check for any leakage through to the outer tank



You **MUST** check this interstitial space on a monthly basis.

Using Kolor Kut Hydrocarbon Finding Paste

Smear the end of the dip stick with paste. Insert the dip stick into the Bund Dip point. Wiggle around in the dip tube. After 2 minutes remove and check if any indication of hydrocarbons are found.

If a leak is detected please immediately contact us for advice / instruction.

## **AIR VENT**

The tank is provided with a 80nb Air Vent Assembly. Whilst this air vent is fit for purpose we recommend the use of the DONALDSON TRAP Air Vent Filter. This TRAP filter removes dust and water from air entering the LIQUITAINER tank. The removal of moisture from the air entering the tank is particularly important to prevent the build up of condensation within the tank, that could lead to corrosion and possible grow of algae within the contents of the tank.



## **INTERSTITIAL SPACE EMERGENCY VENT**

The tank features an Interstitial Space Emergency Vent. This vent is designed to relieve the build up of pressure in the interstitial space in the event of a fire, or otherwise heating of the inner tank contents.



Please check 6 monthly that this vent is clean and clear of any obstructions to ensure its operation in the event of a fire.



## **PLATFORM / LADDER ASSEMBLY**

The tank is supplied with an AS1657 designed and approved dipping platform and ladder assembly. This platform is designed to provide safe access to the top of the tank for the primary purpose of accessing the Overfill Alarm, Main Tank and Bund Dip points. This platform can also be used for access to the tank manway for maintenance requirements.

The ladder is designed to be removed and mounted either on the right or left hand side of the tank, depending upon site requirements. If the ladder is moved, please ensure the gateway is also moved to block the opposite gap to protect operators from a possible fall from this platform. The ladder is to be moved to its extended position prior to operation.







## **MOVING YOUR TANK**

The tank should only be moved when completely EMPTY. The tank carries the CSC Certificate confirming that the tank has been manufactured, tested and approved as a standard shipping container. The tank can transported by Road, Rail or Sea as a standard shipping container.



## **BUNDED PUMP BAY HOUSING – SIDE PANELS**

You will note there are removable panels located within the side panels of the banded pump bay housing. These removable panels allow you to run pipework or electrical cabling into the banded pump bay without having to cut the main side panel assembly.



## **Scheduled Maintenance**

It is important that you put into place a preventative maintenance schedule for your Self Bunded Storage and Dispensing Tank. Particular areas of focus should be as follows:

### **Tank**

#### **Updraft Vent (Breather)**

- The Tank is of a free venting design.
- For every litre of fluid filled into, or taken from the Tank a litre of air travels through the main tank breather.
- It is important that this breather remains clear and unblocked.
- Any blockage of this breather can result in structural damage to the tank.
- The tank is only rated to a maximum pressure of 21kpa (3psi)
- **Monthly** - Remove and wash / clear vent of all dust and other particles.  
Should this vent block

#### **Interstitial Emergency Vent**

- This vent provides relief to the interstitial space in the event of a fire.
- In the event of a fire the air within the interstitial space will pressurise.  
This Vent provides a vital job to relieve this pressure.
- **Monthly** - Please check vent operation on a monthly basis, lubricate as required.

#### **De-Watering**

- Over time water will build up in the bottom of your Tank.
- Moisture from the air flowing through the tank breather can be removed by using the Donaldson TRAP Breather product.



- We provide a 25mm Tank Dewatering Point on top of the Liquitainer Tank located central to the tank. This 25mm line extends to just off the bottom of the tank at the lowest point of the tank.
- Dip tank using tank dip stick smeared with Kolor Kut Water Finding Paste. Only smear bottom 100mm or so of the dipstick with the paste. If water is present the paste will change colour. This indicates the water height in the tank.
- Using a hand operated pump, remove liquid into bucket or other appropriate storage medium using 25mm suction tube until clear diesel flows
- Re-check tank water level by following above procedure using Kolor Kut Water Finding Paste.

### **Bunded Pump Bay Housing**

- This design feature of the tank is designed to capture spilt product over time. It is an area of the tank that requires regular maintenance and good housekeeping.
- We DO NOT include a drain bung as this would only invite operators to empty the contents of the bunded pump bay housing onto the ground, resulting in an ongoing risk of hydrocarbon contamination on site.
- You need to use absorbent pads and other cleaning tools to remove liquid from this housing regularly.



### **Overfill Alarm**

- MONTHLY - Test operation, replace batteries as required.

### **Interstitial Dip**

- MONTHLY - Dip interstitial space of the tank using Kolor Kut Hydrocarbons Gauging Paste.

### **Suction Strainer**

- MONTHLY – if a pre-pump suction strainer is included with your Tank please remove the element and clean on a monthly basis

### **Pumps**

- Please maintain in accordance with the pump manufacturers maintenance manual provided

### **Filters**

- MONTHLY – inspect and clean filter element, replace as required. Filter elements are a cheap insurance policy against contaminated product flowing through to your equipment.

### **Meters**

- Please maintain in accordance with the meter manufacturers maintenance manual provided
- SIX MONTHLY – calibrate in accordance with the meter manufacturers manual provided



## **Hose**

- MONTHLY – inspect for damage, replace as required

## **Nozzles**

- MONTHLY – test for nozzle seal leak. Repair and replace as required



## Technical Data

# ATEX APPROVED HIGH LEVEL ALARM



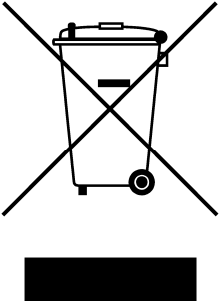
HLA3A.BP

Applies to the following models **only**:

- HLA3A.BP - HLA3A.BS - HLA3A.BSP - HLA3A.BAB

Please read carefully **before** commencing installation

## **ENVIRONMENTAL INFORMATION**



European Directive 2012/19/EU requires that the equipment bearing this symbol on the product and/or its packaging must not be disposed of with unsorted municipal waste. The symbol indicates that this product must be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electric and electronic equipment via designated collection facilities appointed by the government or local authorities.



## **PRODUCT DESCRIPTION**

The GO High Level Alarm is designed to provide visual and audible alarms whenever a predetermined level in a storage tank is reached. The system consists of a weighted float sensor that is connected, with a 5 metre fuel resistant cable, to the weatherproof bund alarm box containing the visual and audible alarms.

This alarm is approved to operate with flammable liquids classed as category 1, 2 or 3 in accordance with European Regulation No. 1272/2008. It is ATEX certified in accordance with EN 60079-0:2012 and EN 60079-11:2012. It is also IECEx certified in accordance with IEC 60079-0:2011 Ed 6 and IEC 60079-11:2011 Ed 6.

The alarm box, featuring the warning devices and test button, must be located outside any hazardous zone and bears the following certification marking and number:


CML16ATEX2356X  
IECEX CML 16.0129X

 II 1 G  
[Ex ia IIA Ga]  
-20°C to +40°C  
 2503



The float sensor(s) can be located in hazardous zones 0, 1 or 2 and bears the following certification marking and number:

CML 16ATEX2355X  
IECEX CML 16.0128X  
CML 16ATEX2356X  
IECEX CML 16.0129X

 II 1 G  
Ex ia IIA T3 Ga  
-20°C to +40°C



## **CONDITIONS OF CERTIFICATION**

1. Due to safety critical internal creepage and clearance distances in the control unit, if installed in a location other than a clean and dry environment, the user shall ensure that the control unit is additionally provided with protection having an ingress protection rating of at least IP54 and is maintained throughout the lifetime of the equipment.
2. The float switch incorporates an isolated metal part which could become either charged in use or be a discharge point for charged liquids upon filling or emptying. The float switch shall only be used in applications where static generated via contact liquids are controlled so not to be considered an ignition source.
3. Only alkaline batteries of the same make shall be used as replacements.

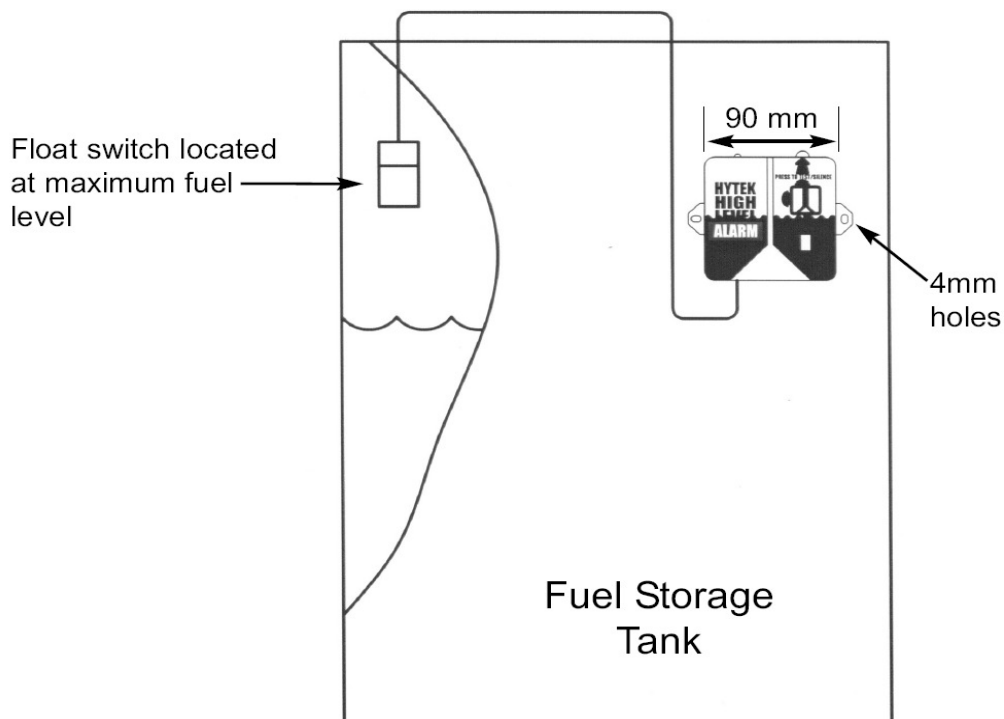
## **IMPORTANT WARNING NOTES**

1. This alarm is designed for use with liquids classed as category 1, 2 or 3 in accordance with European Regulation No. 1272/2008, including petrol, diesel, gas oil, water, hydraulic oil and heating oil.
2. The alarm box featuring the warning devices and test buttons must not be installed in a hazardous zone. The float sensor can be located in zones 0, 1 or 2 with the supplied connecting wire running to the alarm box.
3. The user must ensure that chemicals present in the atmosphere do not affect the performance or degrade the polycarbonate enclosure.
4. Use only the correct ATEX/IECEx certified float switches supplied.
5. The installation must be carried out by qualified installation engineers in accordance with the requirements of EN 60079-14 the latest relevant electrical and local authority regulations and standards.
6. It must not be used with any liquids or applications other than those specified. We will accept no warranty claims or liability if it is used for other liquids or applications.
7. This product must not be used if it is damaged.

# **INSTALLATION**

1. Using the mounting lugs provided, fix the high level alarm box in the position required using the supplied screws.
2. Hang the float switch inside the fuel storage tank and ensure it does not foul inside. For steel tanks (HLA3A.BSP) the brass cap will thread onto a 1 ½" tank fitting. For plastic tanks (HLA3A.BP) the cable is secured using the P-clip provided.
3. Locate the float switch so it will be activated when the level in the tank reaches the required maximum height and secure in position using the gland on the cap/plate.
4. Remove the alarm box cover (2 screws on the front) and connect the battery connector to the battery.
5. Press green button on top of the alarm box. Ensure a series of short beeps can be heard and the light flashes. Replace cover and screw down firmly.

# **INSTALLATION DIAGRAM**



## **OPERATION**

The GO High Level Alarm will operate when the float switch is activated by a rising liquid level in the fuel storage tank. The alarm will sound as a rising beep every 2.5 seconds and the light will flash simultaneously.

To silence the alarm, press the green button. The light will continue to flash until the liquid level in the tank bund drops below the level of the float switch.

The battery will power the GO High Level Alarm for 72 hours in full alarm mode with both the sounder and light activated. Low battery power is indicated by a short beep every 25 seconds.

When the battery is low and the alarm is activated the alarm will sound as a rising beep every 5 seconds to conserve power.

The light will flash every 25 seconds in normal operation (not in alarm mode) to indicate that the bund alarm is operating correctly.

If the float switch is disconnected or the cable has been severed the GO High Level Alarm will emit a short beep every 5 seconds. The light and sounder can be tested at any time by pressing the green button once. If the GO High Level Alarm is functioning correctly a short series of beeps will sound and the light will flash.



