

PETRO PT TANK



OPERATIONS **MANUAL**

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PETRO INDUSTRIAL





14 Business Drive, Narangba, 4504
PO Box 407
P: +61 (0) 7 3204 9558
sales@petroindustrial.com.au

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PETRO PT TANK RANGE SPECIFICATIONS

| MODEL | GROSS VOLUME (L) | SAFE FILL LEVEL (L) | EXTERNAL DIMENSIONS (L x W x H) (mm) | TARE WEIGHT (empty) (kg) | INNER TANK (mm/material) | OUTER TANK (mm/material) | CONTAINER FOOTPRINT | INTEGRATED PUMP BAY |
|-------|------------------|---------------------|--------------------------------------|--------------------------|--------------------------|--------------------------|---------------------|---------------------|
| PT12 | 12,000 | 10,000 | 3,000 x 2,438 x 2,896 | 4,540 | 6/Q35B Mild Steel | 6/Q35B Mild Steel | 10FT High Cube | Yes |
| PT30 | 30,000 | 27,000 | 6,058 x 2,438 x 2,896 | 7,375 | 6/Q35B Mild Steel | 6/Q35B Mild Steel | 20FT High Cube | Yes |
| PT65 | 65,000 | 62,300 | 12,192 x 2,438 x 2,896 | 13,300 | 6/Q35B Mild Steel | 6/Q35B Mild Steel | 40FT High Cube | Yes |
| PT80 | 80,000 | 76,000 | 14,630 x 2,438 x 2,896 | 15,925 | 6/Q35B Mild Steel | 6/Q35B Mild Steel | 48FT High Cube | Yes |
| PT110 | 110,000 | 105,000 | 14,630 x 2,438 x 2,896 | 21,100 | 6/Q35B Mild Steel | 6/Q35B Mild Steel | BREAKBULK | Yes |
| PT200 | 200,000 | 194,500 | 16,165 x 2,438 x 2,896 | 45,265 | 6/Q35B Mild Steel | 6/Q35B Mild Steel | BREAKBULK | No |



TANK GAUGE PROBE INSTALLATION

For shipping of the tank, the Tank Gauge probe is rolled up and cabled tied to the top to stop the probe from being damaged.

The probe cable will be a red tube (OCIO) or a black cable (OLE). You will need side cutters to remove the cable tie.

1. Loosen the black plastic electrical gland
2. Cut the cable ties.
3. Lower the probe cable to the bottom of the tank
4. Tighten the black plastic electrical gland.





PRIOR TO FILLING THE TANK:



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 PT SERIES self banded tank is fitted with a dedicated 80nb Fill Line.

Major components of this fill line include:

- 80nb PETRO Camlock Dust Cap Assembly
- 80nb PETRO Male Camlock Fitting
- 80nb 150# PETRO Fire Safe Cast Steel 2 piece full bore ball valve Flanged 316 St/St ball and Stem PTFE Seats, Fire Safe gland packing
- Dual 80nb PETRO Overfill Protection Valve c/w Float Assembly for models PT110 and PT200
- Single 80nb PETRO Overfill Protection Valve c/w Float Assembly for models PT12, PT30, PT65, PT80 and Multi-Compartment
- PETRO 9V Battery Operated Overfill Alarm Unit





TANK FILLING PROCEDURE:



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 Bund area is not to be used to empty hose – this must be collected by Tanker operator as per specific refuelling procedures associated with Tanker operations.

The PT 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.



The PETRO 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 PT tank is fitted with a mechanical overfill protection valve.



Every 6 months the PETRO 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.



FIRST DISCHARGE FROM THE PT TANK:

Important to note: In order to ensure system performance and product quality please dispose of the 1st 20 L dispensed from the Liquitainer

DISCHARGING FROM THE PT TANK:

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

The PT tank, in accordance with AS1940, is fitted with an 80nb PETRO 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 PT 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 PETRO 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.



ISOLATION VALVE:

The PT tank is supplied with a 80nb PETRO 150# Fire Safe 2 Piece Full Bore Flanged ball valve an the suction line main isolation valve. This valve is found on the left hand side of the Pump Bay.

BOWSERS

When using a NMI approved bowser (such as a 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 PT tank is a double wall tank fabricated in accordance with the design requirements of AS1940 and AS1692. Our design provides a complete 360deg wrap of the inner tank. The PFT 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 from the roof of the tank through to the bottom interstitial space of the PT 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 regular basis.

Using Kolor Kut Hydrocarbon Finding Paste (available from the PETRO Industrial Web Store – link as follows: <http://petroindustrial.com.au/prod640.htm>)

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 PETRO Industrial for advice / instruction.

AIR VENT:

The PT tank is provide with a 80nb PETRO Air Vent Assembly.



INTERSTITIAL SPACE EMERGENCY VENT:

The PT tank features an Interstitial Space Emergency Vent. This vent is designed to relieve the build up of pressure in the interstitial space.



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



MOVING YOUR PT TANK:

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



DOORS:

Your PT tank is supplied with doors to provide a secure, weatherproof bunded pump bay housing to mount your dispensing equipment. The doors are supplied with 2 x heavy duty keys. Please consult a locksmith should these keys be lost and need replacement.



BUNDED PUMP BAY HOUSING – SIDE PANELS:

You will note there are removable panels located within the side panels of the bunded pump bay housing. These removable panels allow you to run pipework or electrical cabling into the bunded 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 PT Self Bunded Storage and Dispensing Tank. Particular areas of focus should be as follows:

Updraft Vent (Breather)

- The PT Tank is of a free venting design.
- For every litre of fluid filled into, or taken from the PT 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 PT tank is only rated to a maximum pressure of 21kpa (3psi)
- Monthly - Remove and wash / clear vent of all dust and other particles.

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 PT Tank.
- Moisture from the air flowing through the tank breather can be removed by using the Donaldson TRAP Breather product, more information can be found as follows:
<http://petroindustrial.com.au/default/filter-donaldsondff0078-breather-trap-1-5-bsp-male.html>
- We provide a 25mm Tank Dewatering Point on top of the PT 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. For more information regarding Kolor Kut Water Finding Paste please click on the following link -
<http://petroindustrial.com.au/default/kolor-kut-water-finding-paste-3-oztube.html>
- 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. More information about this product can be found at the following web link - <http://petroindustrial.com.au/default/kolorkut-hydrocarbon-gauging-paste-2-25-oz-plastic-jars.html>

Suction Strainer

- MONTHLY – if a pre-pump suction strainer is included with your PT 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

Paint Finish Care Instructions

- MONTHLY - Wash tank surface with wash and wax to keep surface clean from dust build up, pollution fall out and any other corrosive air born particles that might accumulate on the painted surface.

PETRO Industrial stocks a full range of spare parts for your PT Tank, please contact one of our branch locations. Branch locations are as follows: -

<http://petroindustrial.com.au/default/contact>



PT LADDER ASSEMBLY: (Only applies to Standard PT SERIES Tanks)

The following instructions will inform personnel how to assemble a PT Series Ladder.

Step 1:

Unbolt and remove ladder from brackets, lower platform down.



Step 2:

Bolt handrails to platform and tank brackets.





Step 3:

Bolt ladder to handrails using an Alan key.



Step 4:

Bolt platform-ladder connection into place.





Step 5:

Put supports into place and fastened to tank brackets and platform



Step 6:

Place bottom support hooks over receivers and bolt to ladder.





PT LADDER DISASSEMBLY:

The following instructions will inform personnel how to disassemble a PT Series Ladder.

Step 1:

Unbolt bottom support and unhook from receivers.



Step 2:

Unbolt and remove supports from platform and tank brackets.





Step 3:

Unbolt and remove platform-ladder connection



Step 4:

Disconnect ladder from handrails.





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Step 5:

Unbolt and remove handrails



Step 6:

Raise platform and bolt ladder frame to tank.



PT TANK RISK ASSESSMENT:

Workplace / Equipment:

Risk Assessor:

Specific Task Related to Hazard:

Assessment Date:

| Section 1 Hazards: Potential HAZARDS | | | | | | |
|--------------------------------------|---|---|--------------------------|---|---|----------------------------|
| | Y | N | | Y | N | |
| Work Environment | | | Radiation | | | Environmental |
| Adequate access | | | Ionizing radiation | | | Spills |
| Air-conditioning | | | Non-ionizing radiation | | | Damage |
| Confined spaces | | | Kinetic Energy | | | Contamination |
| Lighting | | | The body hitting objects | | | Hazardous Substance |
| Mental stress | | | Hit by moving objects | | | Liquids |
| Ergonomics | | | Explosion | | | Fumes |
| Temperature / Weather Effects | | | Penetrating objects | | | Gases |
| Heat | | | Vibration | | | Vapours / mists |
| Cold | | | Acoustic / noise | | | Solids |
| Rain / flood | | | Energy | | | Manual Handling |
| Wind | | | Electrical | | | Lifting / carrying |
| Pressure (diving / altitude) | | | Gravity | | | Pushing / pulling |
| Lighting | | | Falls / trips / slips | | | Posture |
| Smoke | | | Falling objects | | | Reaching / overstretching |
| Health and Security | | | Mechanical | | | Repetitive movement |
| Food | | | Vehicles | | | Bending |
| Poisoning or contamination | | | Mobile and fixed plant | | | Miscellaneous |
| Intoxication | | | Powered equipment | | | Working at heights |
| Dehydration | | | Non-powered equipment | | | Cuts / lacerations |
| Violence | | | | | | |
| Working alone | | | | | | |
| Bites / stings | | | | | | |



Section 2 Summary of Identified Hazards

| | | | |
|---|----------------------------|----|-----------------|
| 1 | Adequate access to PT Tank | 6 | Electricity |
| 2 | Confined Space | 7 | Spills |
| 3 | Heat | 8 | Liquids |
| 4 | Cold | 9 | Work at Heights |
| 5 | Poisoning / Contamination | 10 | |

Any specific circumstances (describe): NONE

Persons at risk (list): OPERATOR

Section 3 Risk Assessment

(List identified hazards and detail measures taken to address the hazards) This form is to be expanded electronically or additional information attached where required

Controls to be considered from the following hierarchy of control

1. Elimination (is it necessary?)
2. Substitution
3. Isolation (restrict access)
4. Engineering (guarding, redesign)
5. Administration (training, SOP's,)
6. Personal Protective Equipment (PPE) eg (gloves, leather apron, coveralls, respirator) etc

| Identified Hazards Exposure | Risk Rating | Required Controls | Controls Implemented | |
|-----------------------------|-------------|--|----------------------|---|
| | | | Y | N |
| Adequate access to PT Tank | Medium | Allow at least 600mm clear access to hatches | | |
| Confined Space | High | Ensure monitored confined space entry procedures are in place | | |
| Heat and Cold | Medium | Avoid exposure to +50 deg. C and Below 20 deg. C | | |
| Poisoning/Contamination | Medium | Ensure controls advised in product Safety Data Sheet are followed | | |
| Electricity | High | Prestart checks for wear and Earth PT Series Tank | | |
| Spills - Liquid | Medium | Filling and Fuelling procedure in place – Spill Kit – Gloves and Glasses | | |
| Work at Heights | High | Ensure Work at Heights procedure in place prior to PT Tank top access | | |



| Section 4 Implementation Plan (Complete at commissioning) | | | |
|---|-----------|-----------------------|------------------------------|
| Control Option | Resources | Person(s) Responsible | Proposed Implementation Date |
| | | | |
| | | | |
| | | | |
| | | | |

| Section 5 Comments and Endorsements | |
|--|------------------------------|
| <p>Comments: The PETRO PT Tank is a self bunded unit that requires regular checks for wear / damage of external surfaces and Bund. Regular maintenance schedule is to be implemented.</p> | |
| <p>Assessment Approval: I am satisfied that the risks are not significant and/or adequately controlled and that resources required will be provided.</p> | |
| <p>Name:</p> | <p>Position Title:</p> |
| <p>Signature:</p> | <p>Date:</p> |

PRIORITISING HAZARDS AND RISKS

| Consequence | Likelihood | | | |
|------------------|-------------|--------|----------|-----------------|
| | Very Likely | Likely | Unlikely | Highly Unlikely |
| Life Threatening | High | High | High | Medium |
| Detrimental | High | High | Medium | Medium |
| Harmful | High | Medium | Medium | Low |
| Negligible | Medium | Medium | Low | Low |

HAZARD CONSEQUENCE RATING TABLE

| | |
|-------------------------|--|
| Life Threatening | Hazard may cause death or total loss of one or more bodily functions (eg. loss of: or use an arm, an eye, huge financial loss etc). |
| Detrimental | Hazard may cause severe injury, illness or permanent partial loss of one or more bodily functions (eg. noise induced hearing loss), or serious property damage, loss of production capability. |
| Harmful | Hazard may cause a reportable incident ie. an incident that results in the employee being unable to undertake their normal duties for 7 days or more, or significant property damage, high financial loss. |
| Negligible | Hazard may cause minor injury, illness or property damage, first aid treatment only or no injury, low financial loss. |

PROBABILITY RATING TABLE

| | |
|------------------------|--|
| Very Likely | Exposure to hazard likely to occur frequently. |
| Likely | Exposure to hazard likely to occur but not frequently. |
| Unlikely | Exposure to hazard unlikely to occur. |
| Highly Unlikely | Exposure to hazard so unlikely that it can be assumed that it will not happen. |



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PETRO WARRANTY POLICY:

1. PETRO Industrial warrants that each new and unused item of equipment (hereinafter called the Product) is of good workmanship and is free from mechanical defects, provided that:
 - The Product is installed and operated in accordance with the printed instructions as provided by PETRO Industrial.
 - The Product is used under normal operating conditions for which it is designed.
 - The Product is not subject to misuse, negligence or accident.
 - The Product receives proper care, lubrication, protection and maintenance under the supervision of suitably qualified personnel.
2. This warranty only applies where the product is maintained as per the PETRO Industrial's Tank Maintenance Schedule. This Maintenance Schedule covers the following:
 - Tank surface cleaning and paint protection.
 - External valves, sockets, filtration and venting.
 - Pump bay dispensing equipment.
3. This warranty expires 12 months after shipment by PETRO Industrial to the first user.
4. This warranty does not apply to:
 - Fluids
 - Filters
 - Fuses
 - Bulbs
 - And other consumable or normally wearing type items unless found to be defective prior to use.
5. PETRO Industrial does not warrant the following components:
 - Engines (Gasoline or Diesel)
 - Compressors (Air or Freon)
 - Storage Batteries
 - Engine Starters
 - Generators
 - Alternators
 - Regulators
 - Governors
 - Transmissions
 - Any other Product having its own inherent warranty.

Many of the foregoing components are warranted directly by the manufacturer and are serviced by a worldwide network of distributors and others authorised to handle claims for component manufacturers. A first user's claim should be presented directly to such an authorized component service outlet.



In the event any component manufacturer has warranted its component to PETRO Industrial and will not deal directly with a first user, then PETRO Industrial will cooperate with the first user in the presentation of a claim to such manufacturer.

Under no circumstances does PETRO Industrial assume any liability for any warranty claim against or warranty work done by, or on behalf, of any manufacturer of the foregoing components.

5. PETRO Industrial extends this warranty only to the purchaser of new Products from PETRO Industrial or one of its authorised distributors. The products purchased under this warranty are intended for use exclusively by the buyer and its employees and by no other persons and, therefore, there shall be no third party beneficiary to this warranty.
6. A claim of defects in any Product covered by this warranty must be in writing and is subject to PETRO Industrial inspection and judgment. PETRO Industrial's liability is limited to repair only. PETRO Industrial will replace the defective product, F.O.B. factory, once the purchaser, at its expense, has returned the defective product to PETRO Industrial's nominated shipping place. Replacement and exchange parts will be warranted for the remainder of the original warranty, or for a period of ninety days, whichever is the greater.
7. Under no circumstances whatsoever shall PETRO Industrial and its authorised distributors be liable for any special or consequential damages, whether based on goodwill, lost resale profits, work stoppage, impairment of other goods or otherwise, and whether arising out of breach of any express or implied warranty, breach of contract, negligence or otherwise, except only as may be required by applicable law.
8. Continued use of Product (s) after discovery of a defect voids all warranties.
9. Except as authorised in writing, this warranty does not cover any equipment that has been altered by any party other than PETRO Industrial.
10. There are no warranties, which extend beyond the description of the face hereof. PETRO Industrial makes no warranties, express or implied, of merchant ability or fitness for a particular purpose.
11. PETRO Industrial neither assumes nor authorises any person for PETRO Industrial any liability in connection with the Products sold, and there are no oral agreements or warranties collateral to of affecting this written warranty.
12. The laws of the State of Queensland, Australia hereunder shall govern this warranty and all undertakings of PETRO Industrial.

Warning

At all times, safety must be considered an important factor in the installation, servicing and operation of the product. Skilled and technically qualified personnel should always be employed for such tasks.