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WD3000N Tanker Filling Station
INSTALLATION MANUAL

Revision: 1.3

PREPARED BY

ABBERFIELD INDUSTRIES PTY LTD

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Document Control Sheet

AMENDMENT RECORD

Revision	Change History	Release Date	Names
1.0	Initial Release	26/07/15	John Colyer Emily
1.1	Added suggested slab design Minor changes	04/08/16	Langley SSmith
1.2	Added external RPZ	02/06/17	MC Colyer
1.3	Added machine orientation	09/08/17	John Colyer

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TABLE OF CONTENTS

1. DOCUMENT PURPOSE 4
2. MACHINE ORIENTATION 4
3. DELIVERY 4
4. SITE ASSEMBLY 6
5. COMPLETED INSTALLATION 8
6. ELECTRICAL 8
7. INSTALLATION NOTES 11
7.1. NOTE ONE 11
7.2. NOTE TWO 12
7.3. NOTE THREE 12
7.4. NOTE FOUR 12
7.5. NOTE FIVE 12
7.6. NOTE SIX 13
8. INSTALLERS TO TAKE TO SITE 13
9. ITEMS TO RETURN TO ABBERFIELD INDUSTRIES 13
10. TELEPHONE SUPPORT 14
APPENDIX 1 – WD3000N EXTERNAL RESIDUAL PRESSURE ZONE DEVICES (RPZ) 15
INSTALLATION 16
APPENDIX 2 – SUGGESTED CONCRETE PLINTH DIMENSIONS (MACHINE ONLY) 17
APPENDIX 3 – SUGGESTED CONCRETE PLINTH DIMENSIONS (MACHINE & RPZ WITH CAGE) 19
APPENDIX 4 – RECOMMENDED BOLLARDS SPECIFICATION 20

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1. DOCUMENT PURPOSE

This document provides an installation guide for the WD3000N Series Tanker Filling Stations.

2. MACHINE ORIENTATION

To assist the electronics handle summer heat it is recommended that the customer interface (face of the machine) is pointing south. In this way the credit card reader will not receive direct sun exposure.

Although the electronics is rated at 75 degrees centigrade, the card reader is rated at 50 degrees centigrade and direct sun should be avoided.

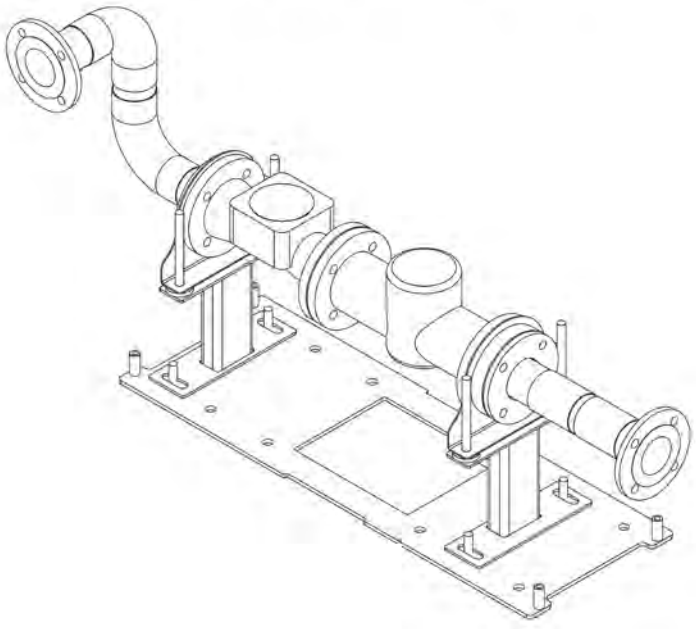
3. DELIVERY

The machine consists of a ground plate securely attached to a concrete slab and on to the ground plate the plumbing and cabinet are individually attached. Plumbing can enter the cabinet on either side (right or left).

Delivery is expected to be in three parts:

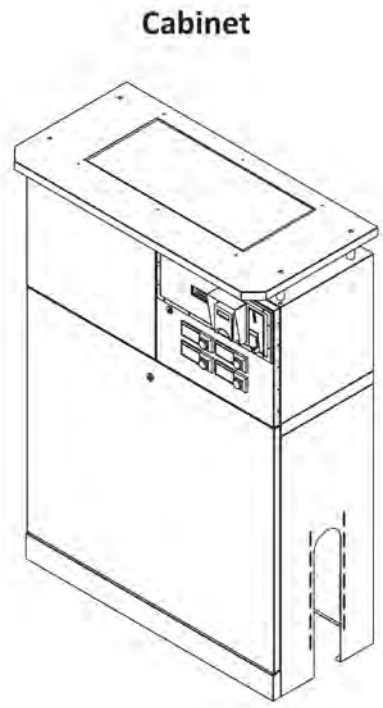
1. Ground plate with plumbing attached

Ground plate with plumbing attached



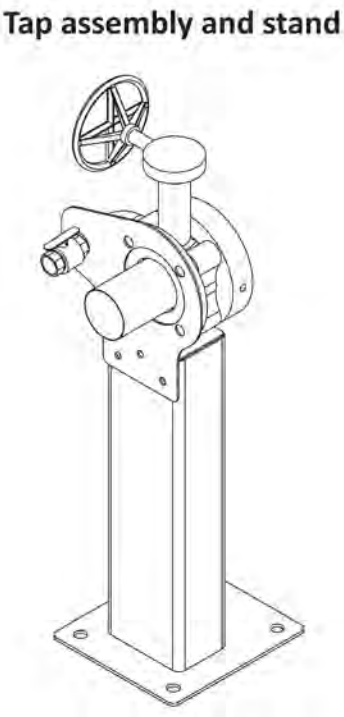
Note: Plumbing shown is Right Hand entry. Left hand entry is also available.

Cabinet



NOTE: Cabinet cut outs allow plumbing to enter on either side (right or left).

2. Tap assembly and stand



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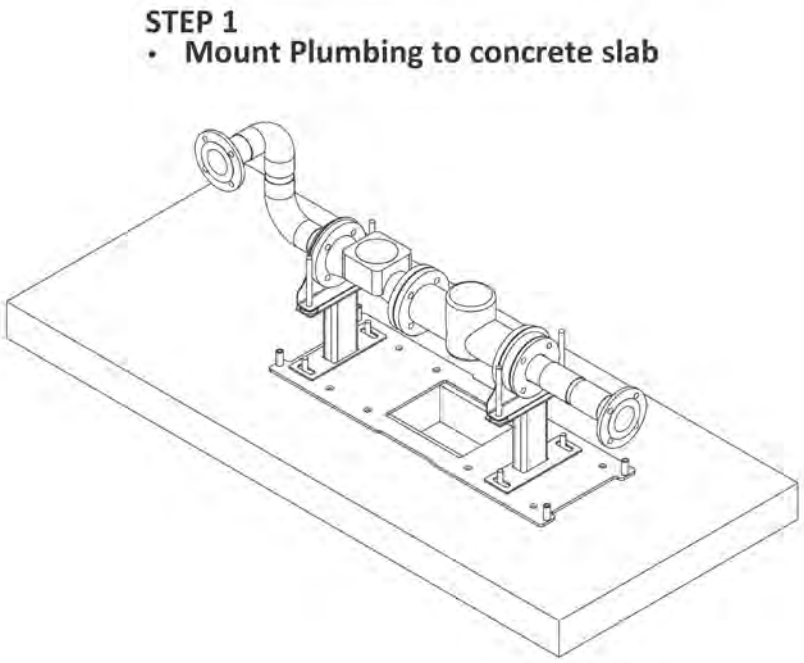
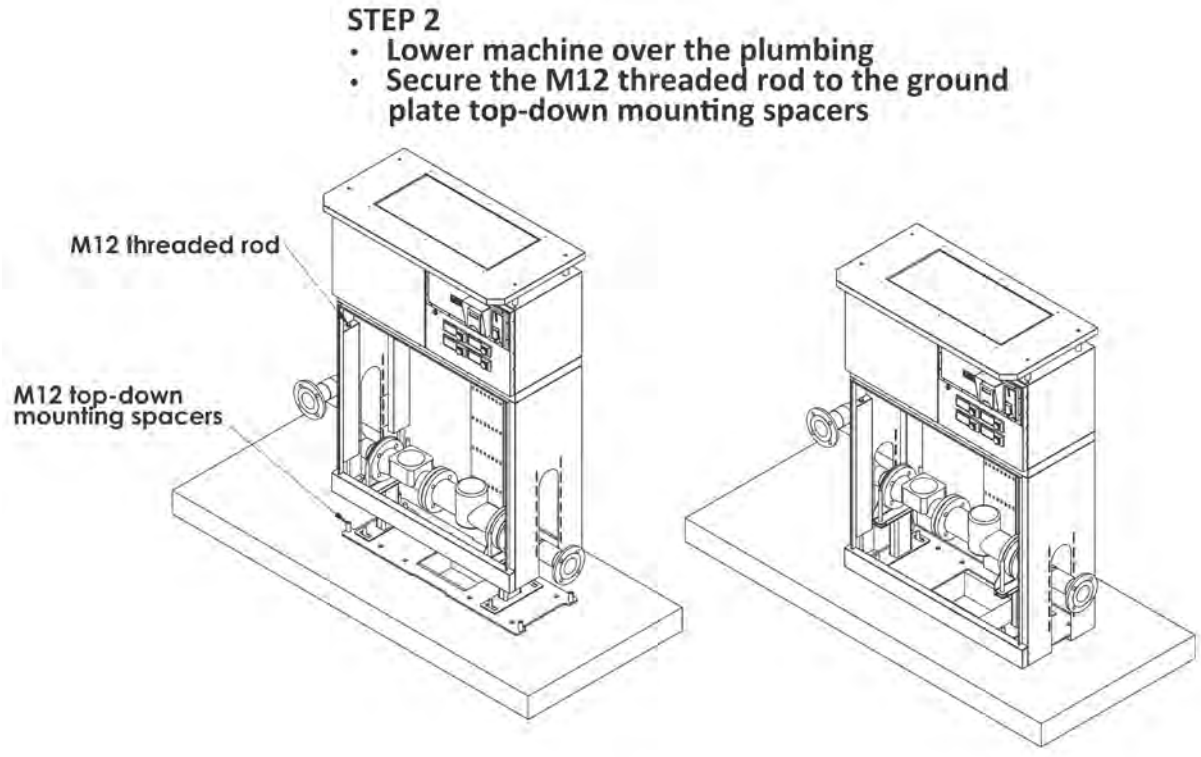
4. SITE ASSEMBLY



NOTE: Slab can be reversed to allow for plumbing to enter from the left hand side. Height of the plumbing can be adjusted be raising or lowering the mounting plates with the M16 nuts on the 4 threaded rods.



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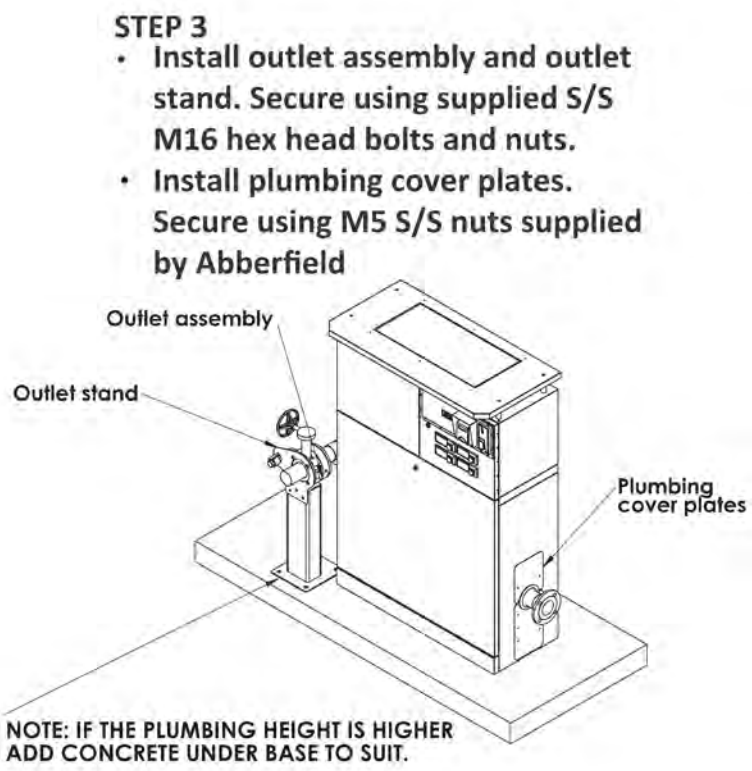
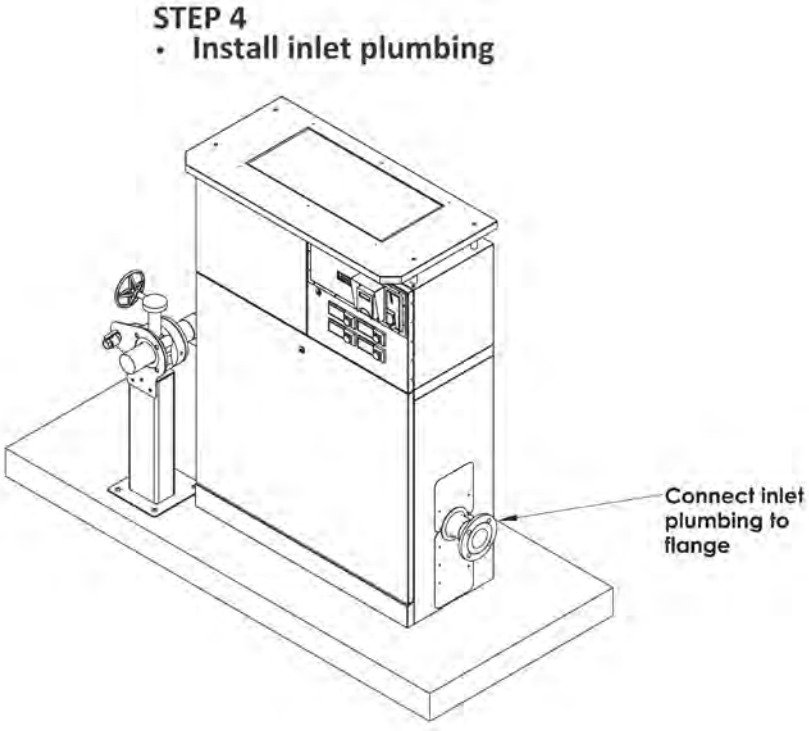


NOTE: It is normal to have the outlet pointing down slightly to ensure any dirt or contaminant flushes free of the plumbing system.



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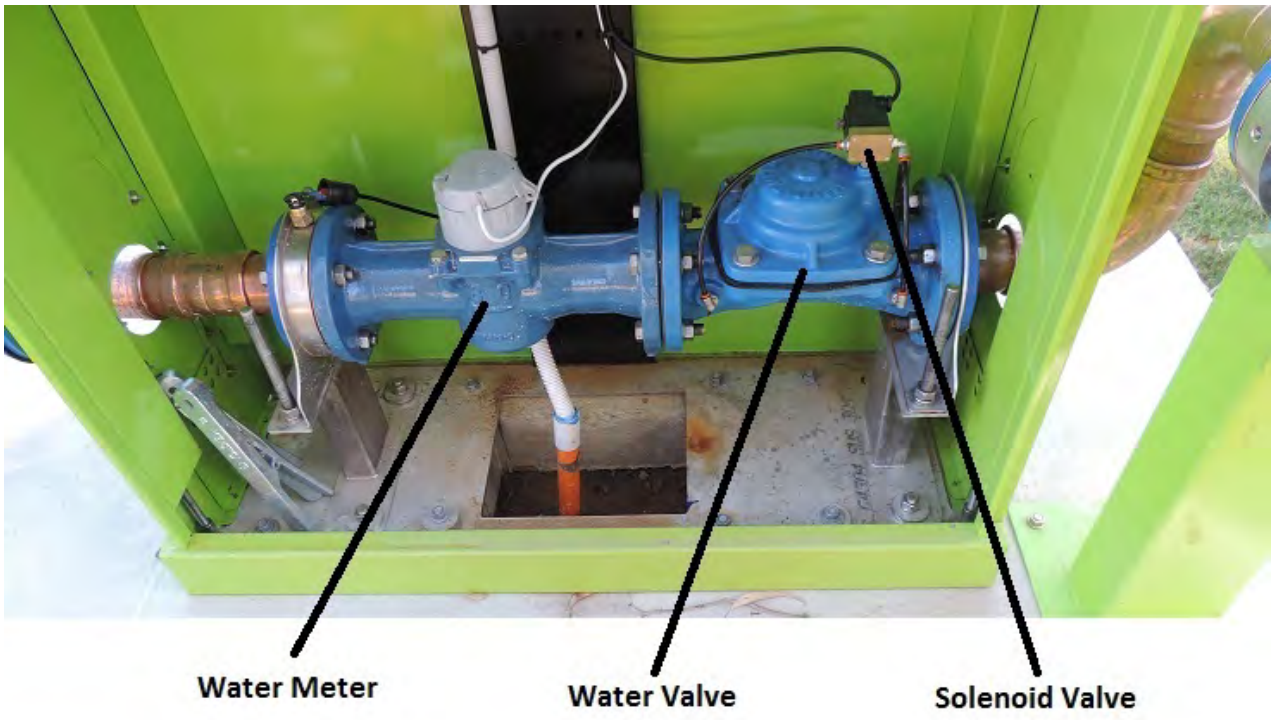
5. COMPLETED INSTALLATION

The image below shows a completed installation for a WD3000N Tanker Filling Station



6. ELECTRICAL

As standard the WD3000N includes a switchboard comprising:

- Mains switch
- RCD machine supply switch
- RCD power outlet

Electricians wire this in the locked cabinet provided to the rear of the machine and connect the flexible mains lead that is pre-wired to the control cabinet.

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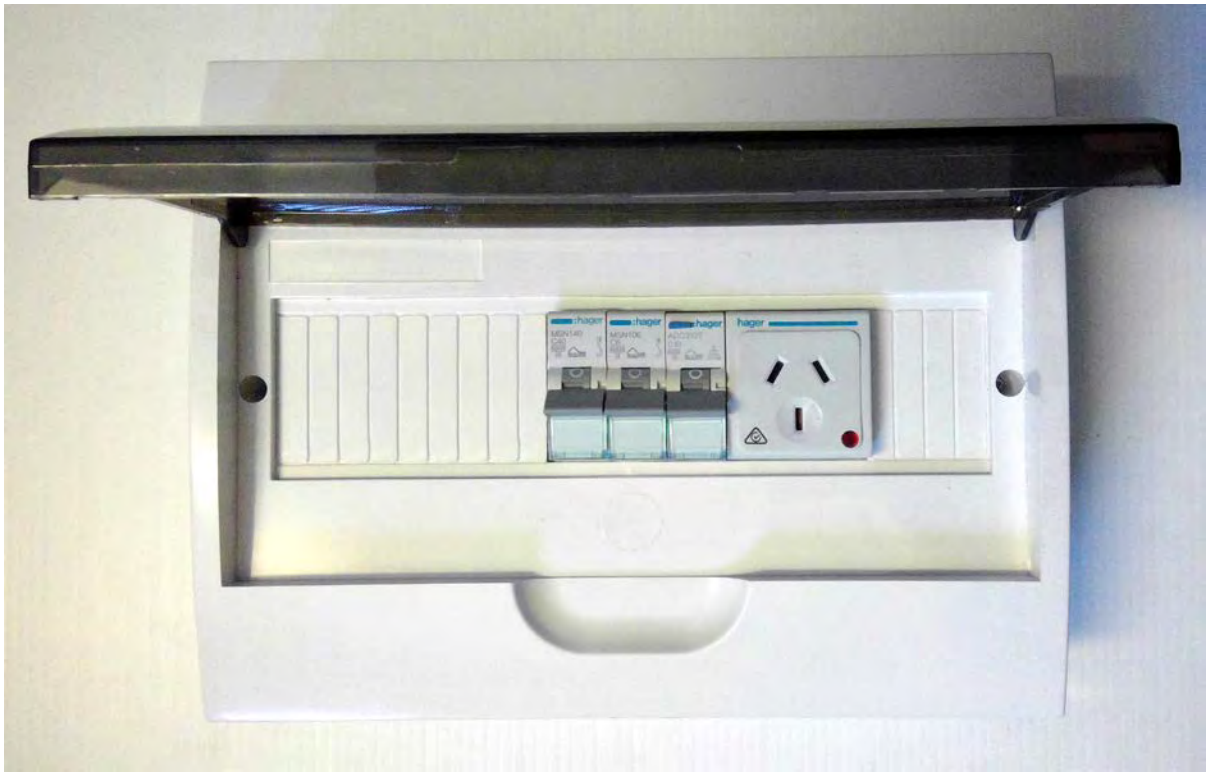
POWER BOARD



The switchboard cabinet has provision to include a meter board but there is no expectation of this ever being required.

If an on board solar panel is fitted this will be pre-wired at the factory.

If an external solar panel is fitted, then the larger battery and regulator should be fitted inside of the switchboard and cables run through to the control cabinet. These are connected to the terminal plate where marked “external solar + and –.”

Note: the connection to the terminal switch plate will be from the battery not the solar panel and a regulator should be fitted to protect the battery and the system electronics.

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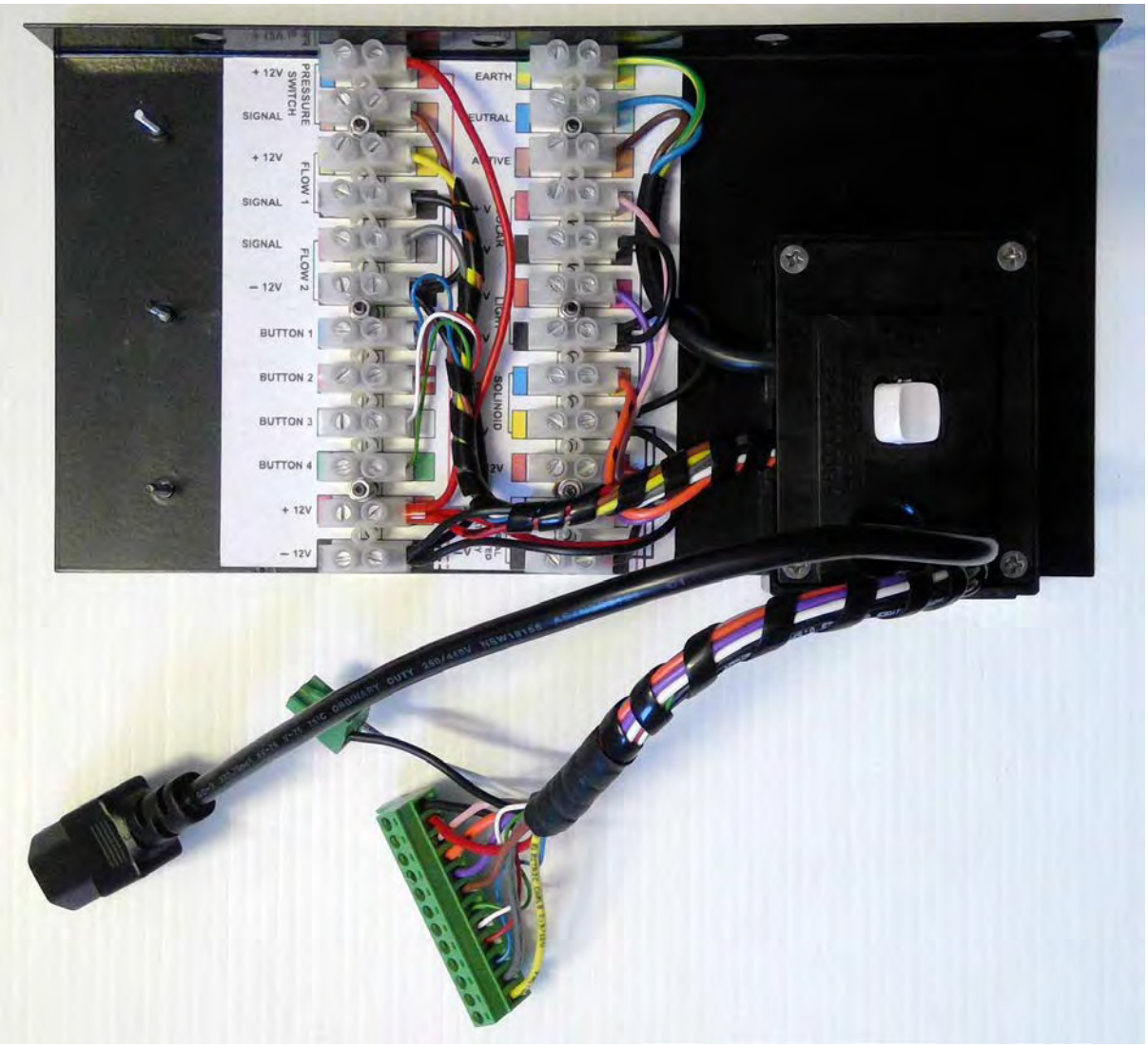
TERMINAL SWITCH PLATE INSIDE CONTROL PANEL



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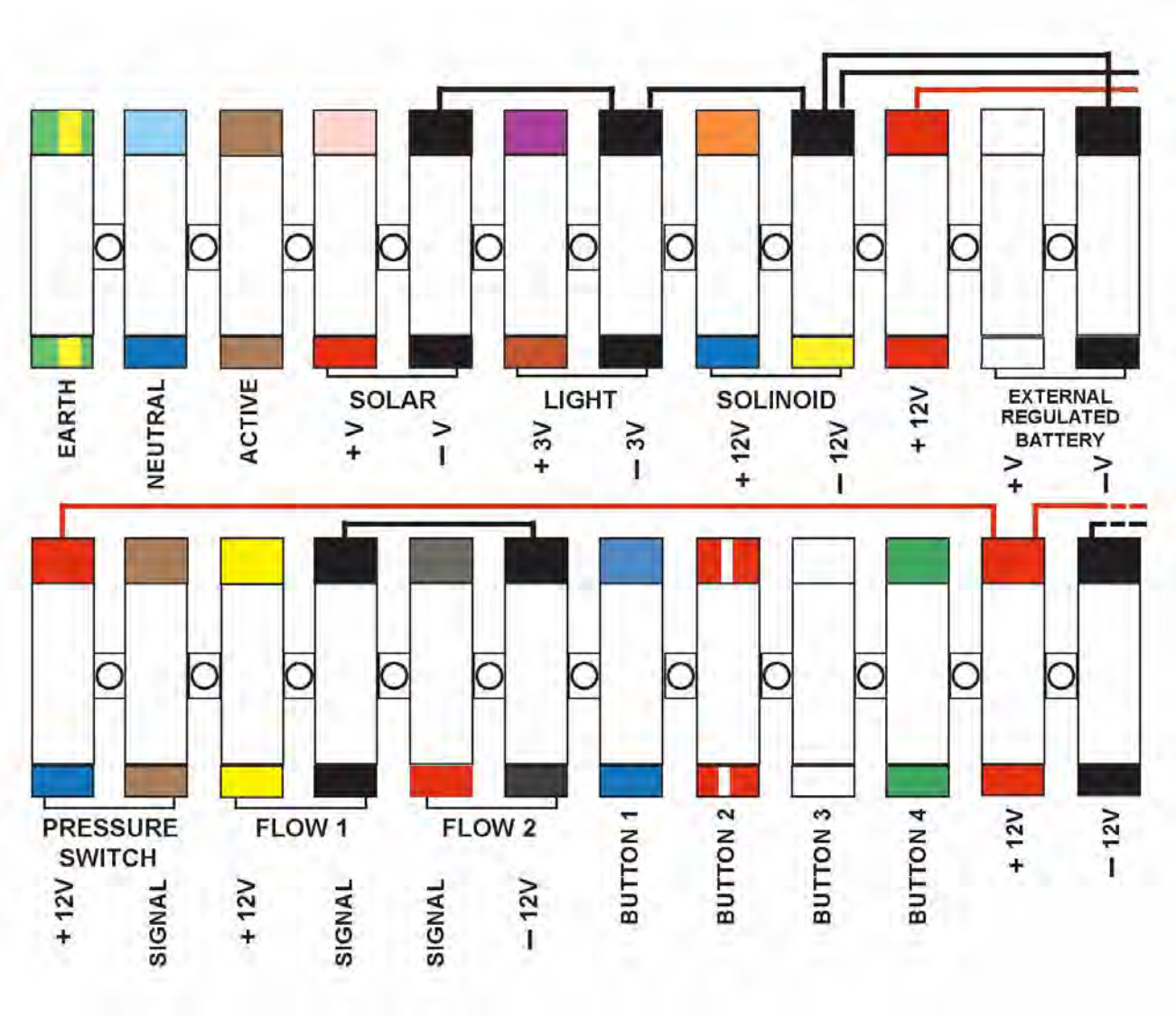
TERMINAL SWITCH PLATE WIRING LABEL



7. INSTALLATION NOTES

7.1. NOTE ONE

Plumbing is able to enter the cabinet from either side (left or right). This is achieve by changing the goose neck outlet to face 180 degrees in the opposite direction.

7.2. NOTE TWO

The concrete slab should be flat so that the ground plate is not distorted when bolted in place. If there is doubt, then lay down a film of dry sand cement first to act as a bedding.

It may be necessary to bed the cabinet in dry sand cement as well.

7.3. NOTE THREE

The plumbing should be datum to the entry end of the ground plate where it should be pre-assembled on receipt. This is necessary to ensure there is room to remove the joining bolts to the plumbing fitting adjacent to the plumbing exit side of the cabinet. This is not essential, but avoids unnecessary removal of other plumbing devices first, should replacement to plumbing devices ever be required.

7.4. NOTE FOUR

Take care in lifting the cabinet by eye bolts (Hiab etc). Do not jerk the cabinet or apply excessive side load**.**

When lowering the cabinet into position ensure that it is accurately positioned. The top down mounting bolts must slot neatly into the mating ground plate threaded spacers

7.5. NOTE FIVE

The ground plate threaded spacers should already have Anti Seize Lubricant applied to their thread. If this is absent add grease before installing to the top down bolts. This ensures that seizing of the thread cannot occur (stainless does not rust but if the thread is a very tight fit, stainless has a habit of molecular bonding and ‘freezing’ tight).

Anti-seize or grease should be used on all bolts and nuts.

7.6. NOTE SIX

Once installed the plumbing system door is fitted and checked to see that the top of the door aligns with the base of the cabinets that are attached to the plumbing system base. If offset then loosen the two front mounting bolts and adjust the cabinet front left or right so that the top of the plumbing door aligns correctly. Once the cabinet is mounted correctly, if further alignment is required, fit skim washers to the door 'feet' (left or right) as needed.

8. INSTALLERS TO TAKE TO SITE

1. Dry sand cement
2. Concrete mix and water
3. Packing for under the tap assembly and stand (pavers, cement board or plastic shims)
4. Ground fastening devices for the ground plate (up to 8 per ground plate). Use stainless steel fasteners and apply grease to the thread.
5. Fastening for the tap assembly (4 per stand). Remember the stand may sit on the ground or may be on a concrete island (packers underneath stand and then concrete rendered into place), depending on the height of the inlet plumbing.
6. Kit of parts from Abberfield Industries comprising of:
    a. M12 security screws and M12 normal screws to replace eye bolts on top of the cabinet
    b. 25mm ball valve outlet
    c. 80mm cam lock outlet
    d. Machine keys

9. ITEMS TO RETURN TO ABBERFIELD INDUSTRIES

(If possible)

1. Purpose built palettes and joining plates.
2. Plumbing end blanking plates.
3. Eye bolts.

10. TELEPHONE SUPPORT

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Nathan Hemsworth
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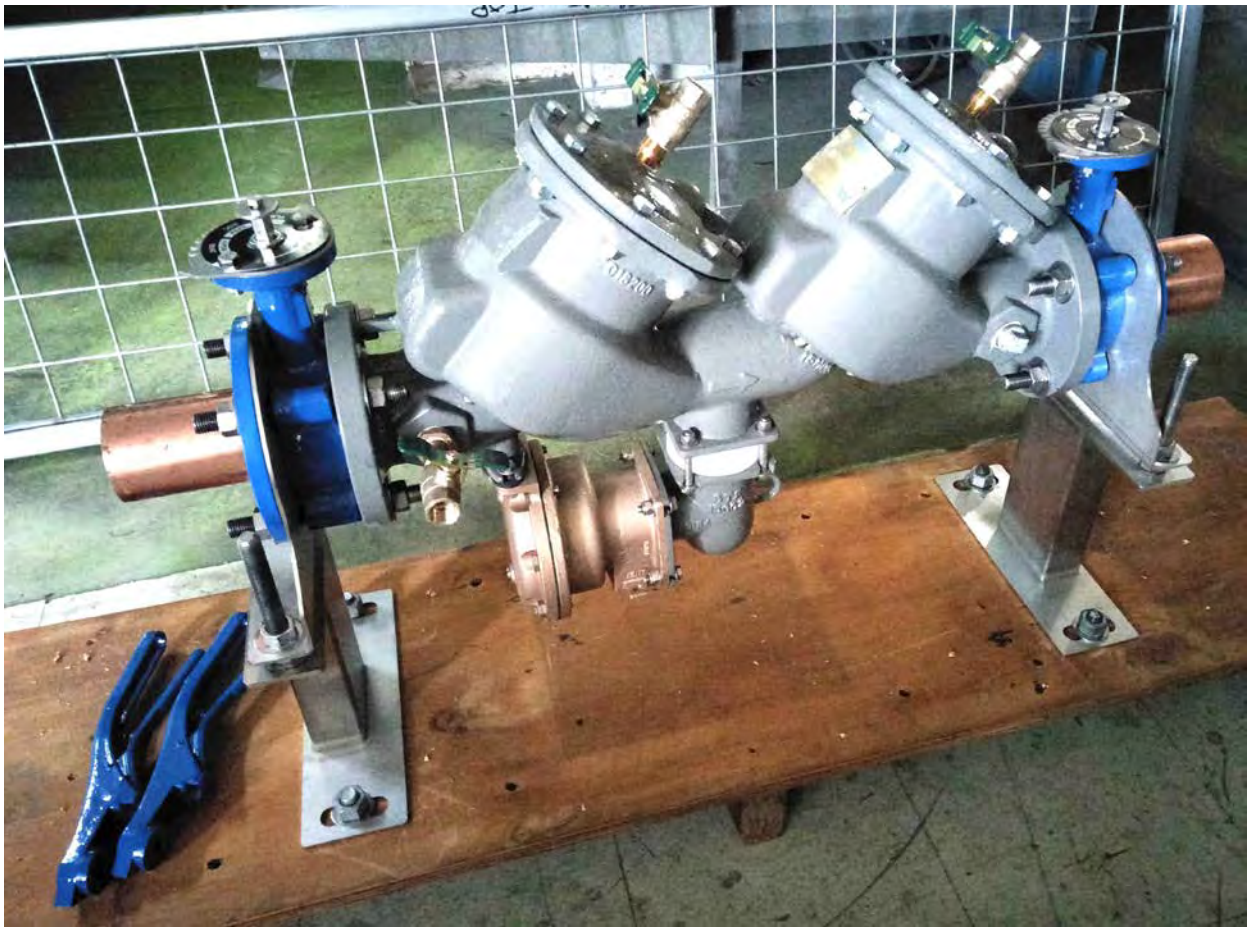
APPENDIX 1 – WD3000N EXTERNAL RESIDUAL PRESSURE ZONE DEVICES (RPZ)

These water backflow devices are attached external to the WD3000N payment and delivery station. They can be to the left or right of the WD3000N, as a straight through or a returned entry or positioned behind.

Theft protection is provided by a lockable cage with a hinged lid.

RESIDUAL PRESSURE ZONE DEVICE (RPZ)



The standard cage is 1,580mm x 580mm and the mounting plinth should be sized accordingly.

Occasionally customers request the inclusion of a water meter as part of the RPZ assembly. This extends the cage to 2,080mm.

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ON-SITE PHOTO OF RPZ & CAGE

INSTALLATION

The RPZ with control taps is preassembled and mounted on two stainless steel stands. The height is adjustable with 16mm nuts.

Having installed the plumbing the cage fits vertically over the RPZ and is secured by four corner bolts.

The plinth is reversible to allow for left or right hand plumbing entry.

If mounting plumbing in line, install the plumbing so that the front edge is level with the front of the WD3000N.

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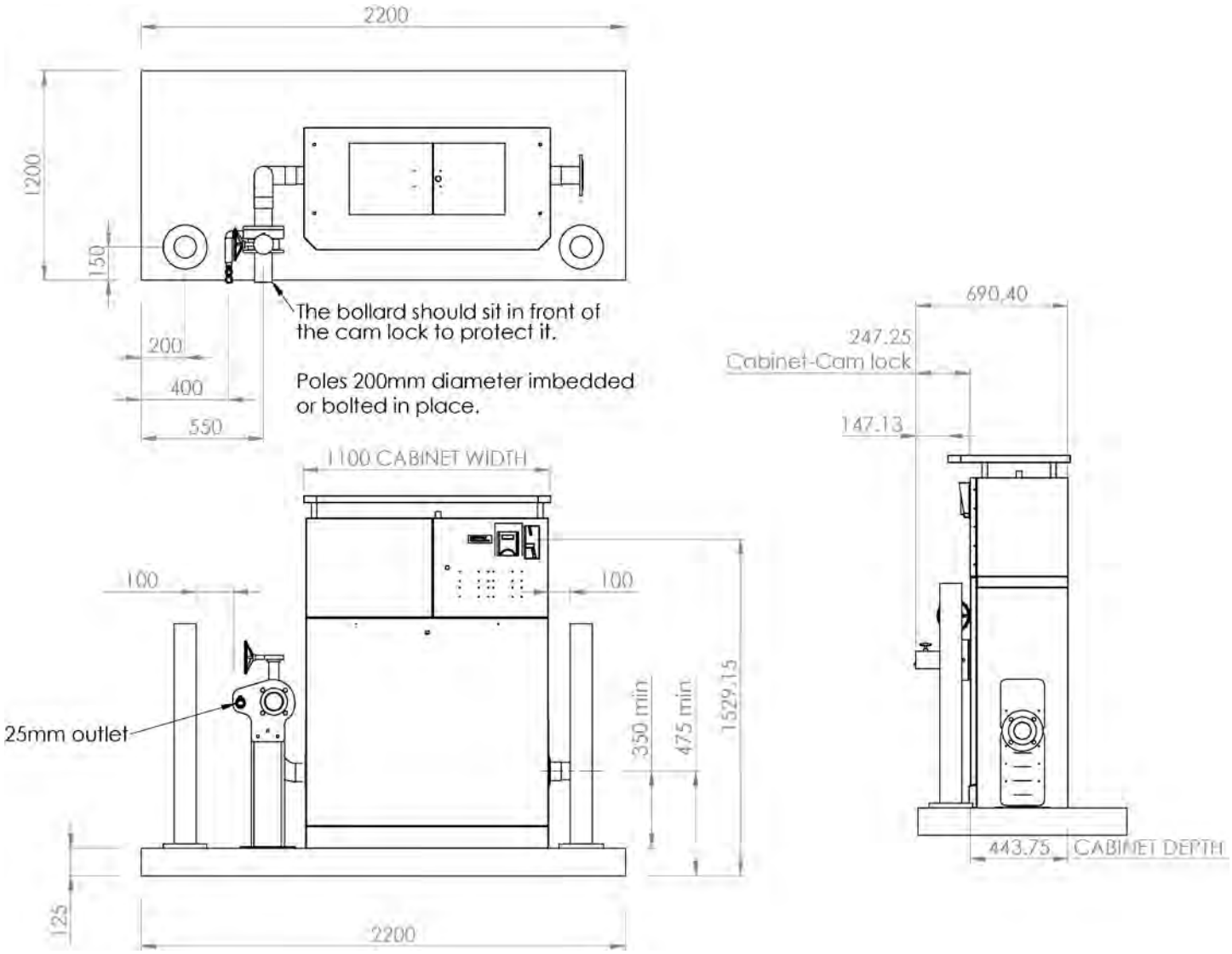
APPENDIX 2 – SUGGESTED CONCRETE PLINTH DIMENSIONS (MACHINE ONLY)

These suggested concrete plinth dimensions do not constitute an engineered design, but merely provide a suggestion for your slab design. Please consult with your engineer for your specific installation requirements. As always Abberfield is available for assistance.

CABINET AND PLINTH



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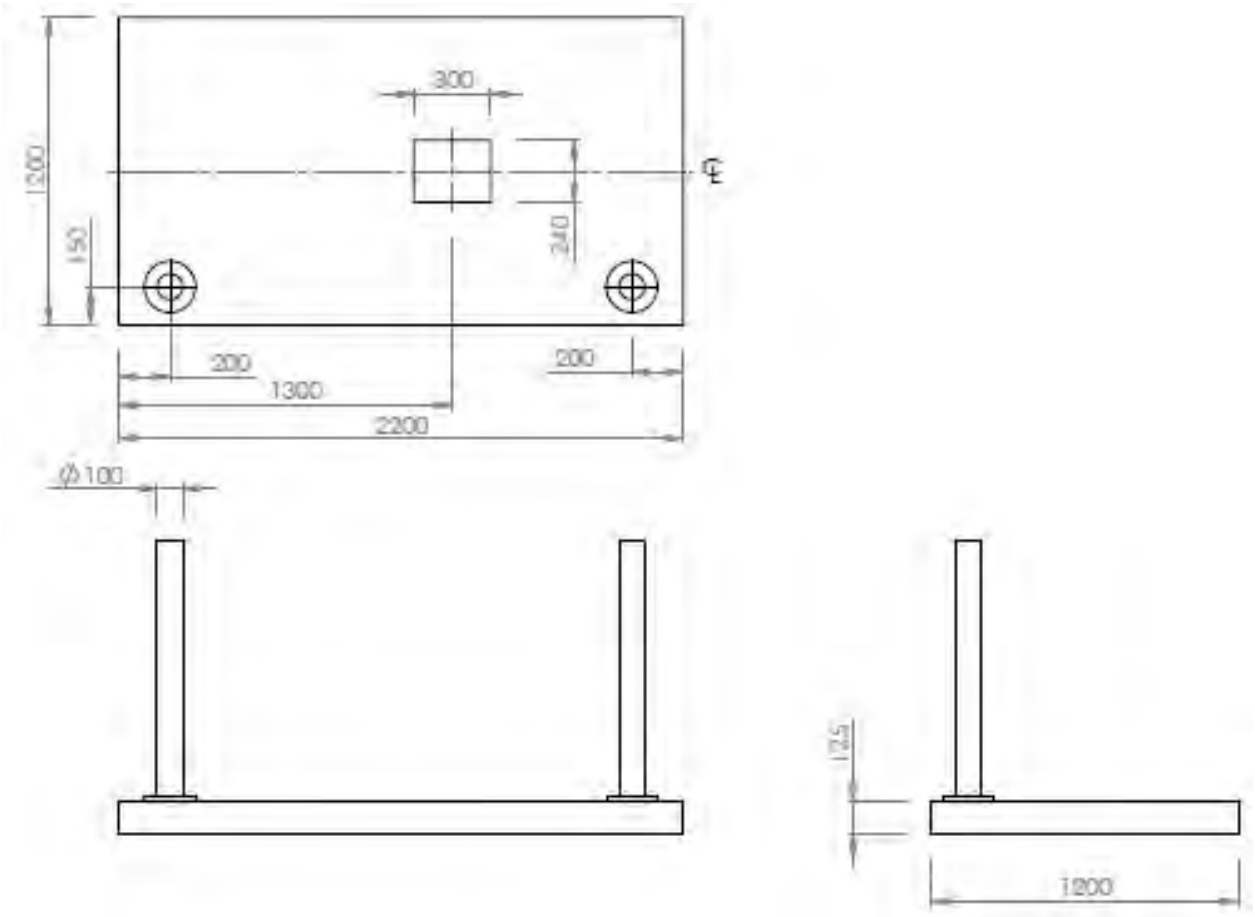
NOTE: Right hand entry plumbing shown. Plinth is symmetrical so can be spun 180 degrees to accommodate left hand entry plumbing

Plinth should include perimeter ribs (perhaps 100mm x 100mm) or similar protection to resist sheer loading. For maximum protection the bollards should be imbedded in their own footing separate to the cabinet concrete plinth.

PLINTH ONLY



NOTE 1: Plinth is symmetrical so can be spun 180 degrees to accommodate left hand entry plumbing.

NOTE 2: Provision should be made for sheer loads (hit by vehicle etc.). Suggest casting in integral or adjacent sheer pegs.

NOTE 3: Bollards can be set in concrete separate to the mounting plinth. This has the advantage that vehicles hitting the bollards impart no load on the plumbing system.

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APPENDIX 3 – SUGGESTED CONCRETE PLINTH DIMENSIONS (MACHINE & RPZ WITH CAGE)

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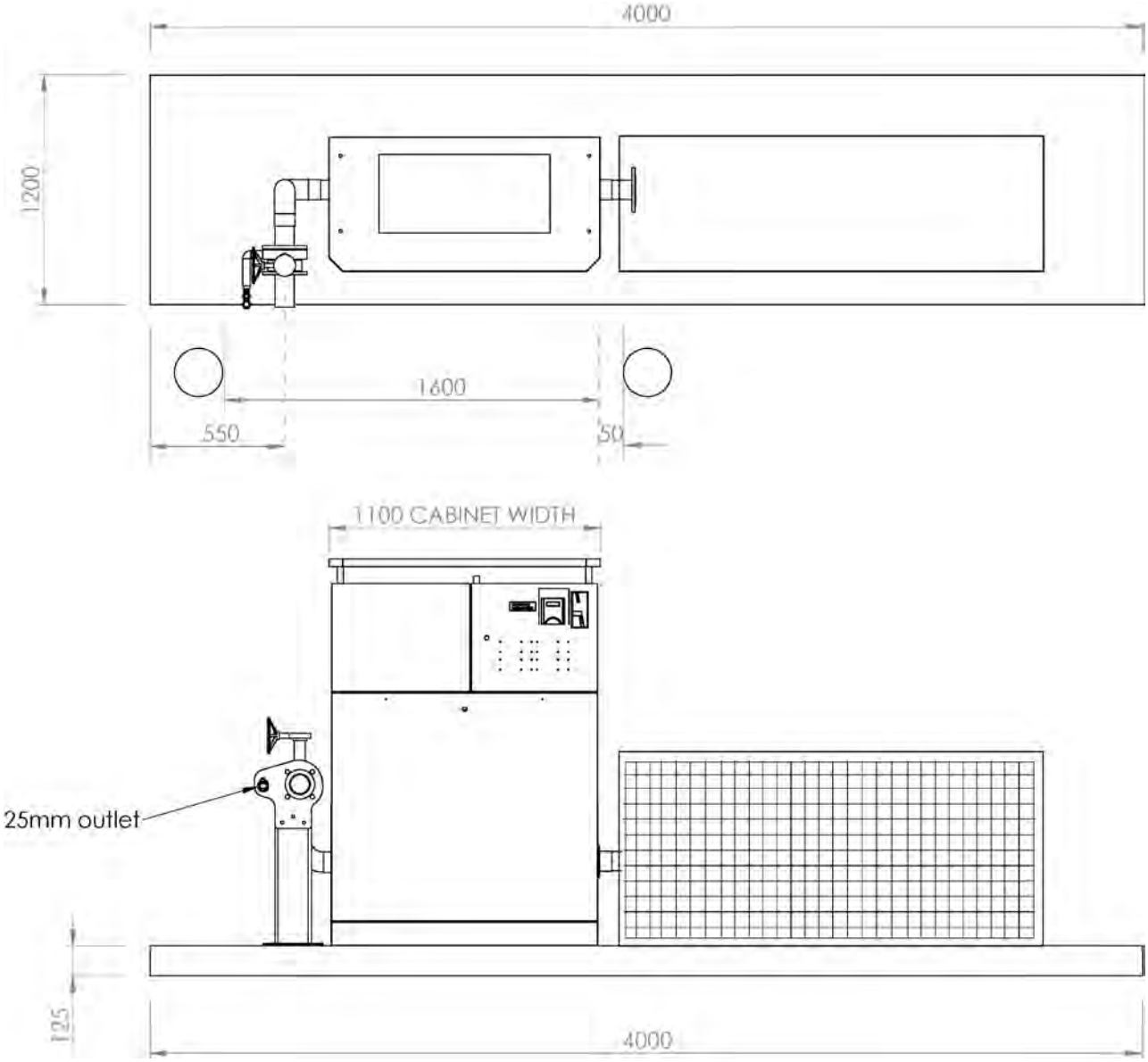
CABINET AND PLINTH



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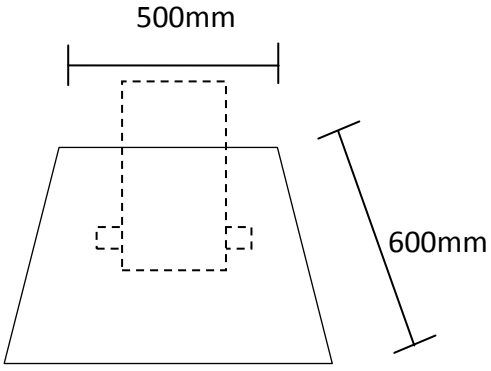
APPENDIX 4 – RECOMMENDED BOLLARDS SPECIFICATION (for maximum impact resistance loaded tanker protection)

- 300mm diameter
- 1200mm above ground
- 660mm imbedded
- 8mm wall thickness
- Seamless mild steel
- Galvanised
- Painted powder coat - safety yellow
- Open top, concrete filled with reinforced mesh inner
- Minimum footing 500mm x 500mm or 600 diameter / 500mm deep
- Foundation undercut recommended

INTERIOR REINFORCING MESH

BOLLARD



UNDERCUT RECOMMENDED

CUTAWAY