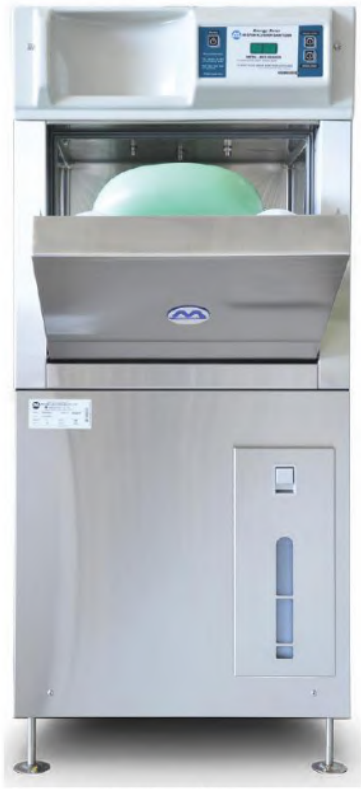
MALMET (AUSTRALIA) PTY LTD

Bedpan / Urinal Bottle Washer Disinfector

Models ES915, ES935

Detergent Models with Hands Free Operation



Operation, Maintenance and Installation Manual

Note: Due to Malmet's policy of continuous product improvement; design and technical specifications are subject to change without notice.

Serial Number:	Purchased from:
Date Installed:	Installed by:

It is important that the name from whom you purchased your device and the name of the installer are recorded above. The installer is responsible for the correct installation, start up and demonstrating the operation of this device. They are also responsible for issuing relevant certificates of compliance (these may differ from state to state).

Issue 3

Table of Contents

Foreword

To obtain maximum life and efficiency from your Malmet Bedpan / Urinal Bottle Washer Disinfector and to ensure safe operation, please read this manual thoroughly and follow all instructions before operating the device.

This manual provides information on the operation of the device. It is recommended that all persons operating the device have access to this manual for training purposes.

This unit is not intended for use by any person without the proper training, experience or knowledge.

The specifications supplied in this manual were in effect at the time of publication. However, owing to Malmet (Australia)'s policy of continuous improvement, changes to these specifications may be made at any time without notice on the part of Malmet (Australia).

Quality Policy

Malmet's quality management system is certified to ISO 9001:2015 and ISO 13485:2016 and guarantees the quality of this product.

Certifications

Electrical Safety:	Cert No. CS10847N to IEC 61010-2-040, IEC 61010-1
EMC Compliance:	Report T130119 to IEC 60601-1-2
Watermark:	Cert No. WMKA21156

Important Warranty Reminder

Should you have any problems with your device, contact the company from whom you purchased it, or Malmet (Australia) Pty Ltd.

It is important that the name from whom you purchased your device and the name of the installer are recorded on the front page of this manual. The installer is responsible for the correct installation, start up and demonstrating the operation of this device. They are also responsible for issuing relevant certificates of compliance (these may differ from state to state).

Malmet Head Office and Factory Contact Details

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LEETON NSW 2705

Telephone: +61 2 6953 7677

E-mail: info@malmet.com.au

Website: www.malmet.com.au

Safety Instructions - Warnings

Please read and understand this manual before using this device, if this device is used in a manner not specified by the manufacturer protection by the device may be impaired.

Please refer to this manual for information wherever this warning symbol is displayed -

Be aware of 240V Voltage

Disconnect power when servicing

Mains power ISO switch or circuit-breaker must be in an accessible position, easily reached and not obstructed so device can be isolated from mains power during service

Only process items listed as per the design parameters in this manual

Be aware of steam discharge

Goods and racks are hot to handle

Safety gloves and goggles must be worn when changing detergent

Safety clothing with reflective tape can activate the hands free sensor when device is in standby mode

Be aware of hot surface, pipes and hoses from steam and hot water

Install temperature probes and element over temperature protection thermal cut-outs correctly

Plumbing service connection must comply with AS/NZS 3500

Design Parameters

The Malmet Bedpan / Urinal Bottle Washer Disinfector has been designed within the following parameters:

a) A single bedpan with lid and two urinal bottles can be emptied, cleaned and disinfected during each automatic cycle.

The utensils that can be cleaned in the device are:-

i) Standard size bed pans

ii) Standard commode bowl

iii) Standard male and female urinal bottles

iv) Most plastic urinal bottles including male non-spill and female cervec

v) Small slipper pan

vi) Large slipper pan

b) The cradle is designed to ensure that utensils are not dislodged during the cleaning cycle; the contents are emptied during door closure.

c) The chamber and door are self-cleaning and do not permit water or soil to remain after a properly completed cycle. Steam disinfection ensures all internal surfaces are totally clean and safe.

d) The flush and clean stage:

i) Removes the soil

ii) Clears the trap

e) A complete cycle is completed in approximately four (4) minutes for the 20 Amp Bedpan /Urinal Bottle Washer Disinfector and six (6) minutes and thirty (30) seconds for the 10 Amp Bedpan / Urinal Bottle Washer Disinfector

Note: Dependant on ambient air temperature.

Note: The first cycle will take longer as the device has to reach the operating water temperature of 90˚C.

f) Malmet Door Obstruction Feature

This is factory set to 12Nm ±10%; causing the door to re-open when an obstruction is detected. This is designed to protect the integrity of the device and the articles within.

Disconnect power when servicing

Section A – Device Operation

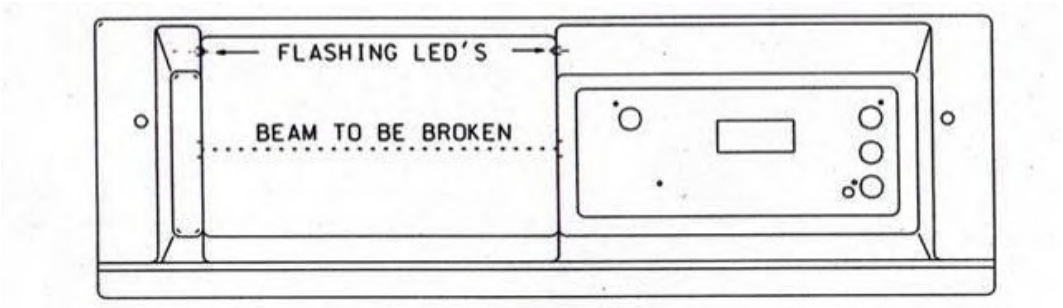
For the safe use of this device the responsible body should ensure that all operators are adequately trained to operate and maintain the device in its safe use.

Hands Free Operation

Zero Contamination – Totally Hands Free

The Malmet Bedpan / Urinal Bottle Washer Disinfector is fully automatic.

Door open, door close and cycle start can be activated without touching the device.



Front View

Manual operation of the door and a manual start button are available.

To Operate

To **Open** Door – **Break Sensor Beam**

To **Close** Door – **Break Sensor Beam**

To **Start Cycle** – **Break Sensor Beam once when green LED's flash within 8 seconds after door closure**

Note: If door is opened then closed and cycle has not commenced the beam must be broken twice.

Detergent

The detergent system delivers 30ml of concentrated detergent in the initial wash stage.

Current Safety Data Sheet for Malmet Device Detergent is available in pdf format from Malmet's website. www.malmet.com.au

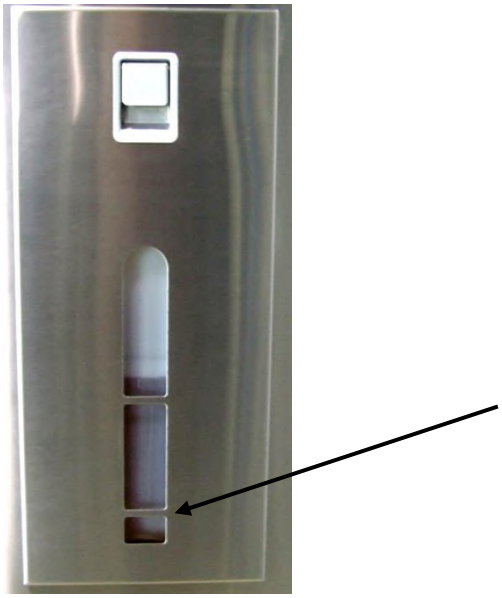
Detergent Out Condition - F 30 Fault

If insufficient detergent is available to deliver the required quantity, the device will display an F 30 dEt fault. Access to the load will be restricted until the condition is rectified.

To rectify this fault, install a new detergent bottle as per the procedure in this manual "Changing the Detergent Bottle".

On completion of changing the detergent bottle, press either the "Manual Door" or "Manual Start" button to initiate a priming sequence. If priming is successfully the fault will clear and door will open. Inspect the items, ensuring they have been cleaned sufficiently before unloading. It is recommended the items are reprocessed in the event of an F 30 dEt Fault.

If priming is unsuccessful, access to the load will continue to be restricted and F 30 dEt fault displayed.



To avoid the detergent out condition check the low level mark on detergent door, replace detergent when the detergent level reaches this mark.

WARNING!

SAFETY GLOVES AND GOGGLES MUST BE WORN WHEN CHANGING DETERGENT AND DISPOSING OF EMPTY CONTAINERS

Current Safety Data Sheet for Malmet Device Detergent is available in pdf format from Malmet's website. www.malmet.com.au

Changing the Detergent Bottle

1. Pull latch on detergent door and open.
2. Unscrew cap and pull out with suction hose (let hose hang in detergent chamber).
3. Remove empty bottle and replace with full bottle.

   Note: Leave cap on new bottle until in position.
4. Remove cap on new bottle and fit existing hose and cap.
5. Close detergent door.
6. Restart device operation as normal.

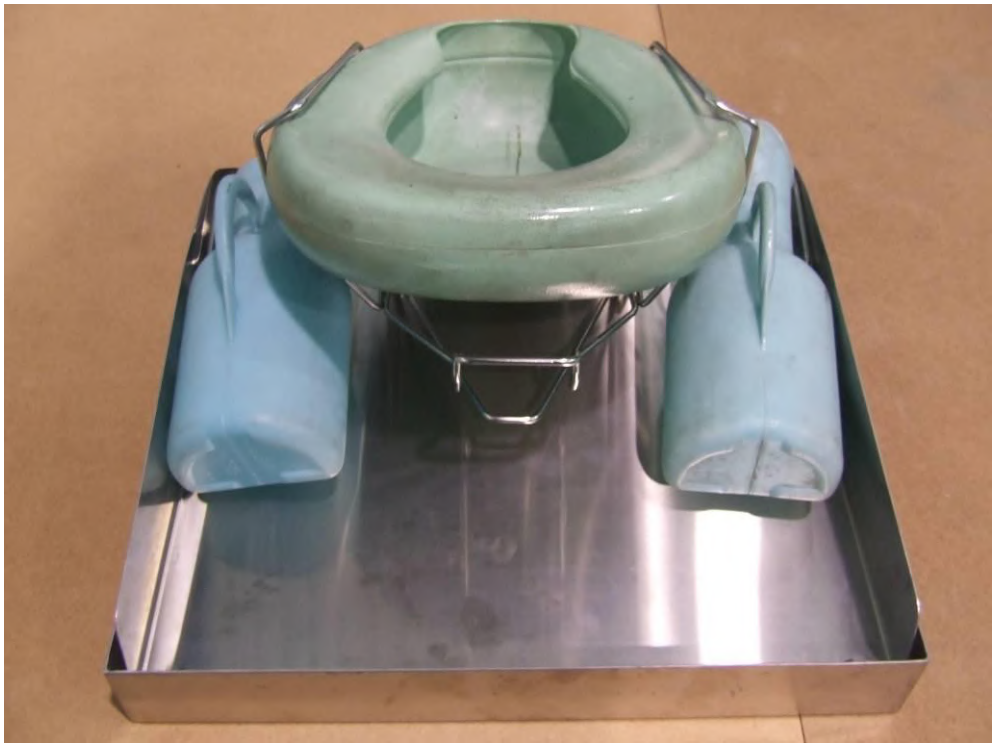
Disposal of Empty Detergent Bottles

1. When handling empty containers treat as though container is full and wear appropriate PPE as per MSD requirements.
2. Triple rinse container and puncture base to render unusable.
3. Dispose of containers as per facility chemical waste handling procedures, and/or local government requirements.

Loading Configurations

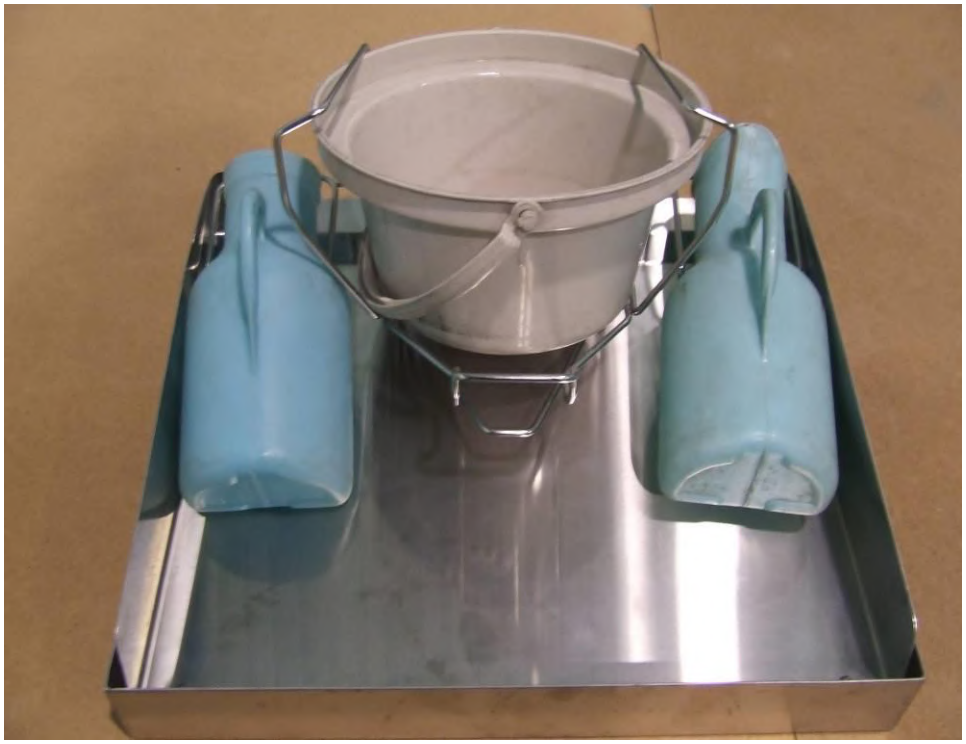
The device is intended to be loaded as per the below configurations, please refer to the design parameters section of this manual for items that this device is designed to process. Part loads or singular items can be processed but must be loaded in their designated positions as below.

Bed Pan + 2 Urinal Bottles



Slipper Pan + 2 Urinal Bottles

Standard Commode Bowl + 2 Urinal Bottles



Large Commode Bowl + 2 Urinal Bottles

Cycle of Operation

Stage 1 Flushing / Cleaning

One rotating 180° back spray

Two fixed 60° top sprays

Two fixed urinal sprays

Rinse for 10 seconds

Detergent pump on for 7 seconds to add 30ml of concentrate to pump

Main pump on for 3 seconds to apply detergent

Pause for 40 seconds

Rinse for 10 seconds to wash detergent off

Stage 2 Thermal Disinfection

Steam is delivered into the sealed wash chamber

Steam continues to heat the surface temperature of utensils and chamber to a minimum of 90°C for 60 seconds

Stage 3 Cool Down Rinse

One 60° fine mist top spray delivers cold water direct from mains.

Utensils are cooled to 55°C for safe handling.

In accordance and complies with:

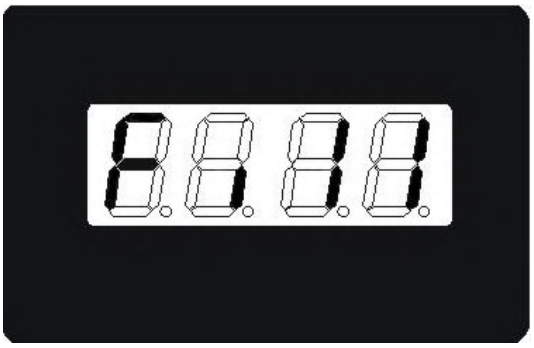
Cleaning Efficacy
AS/NZS 4187:2014, ISO 15883-1, ISO/TS 15883-5

Thermal Disinfection
AS/NZS 4187:2014, ISO 15883-1

Sequence of Operation

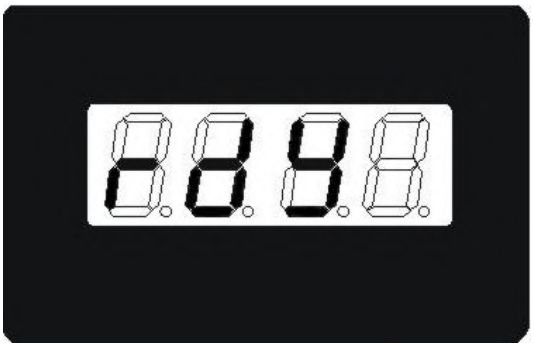
1. Once device is installed into position with power and water connected, push power on button.
2. When the device is turned on via the display panel the **display shows fill** indicating steam generator and cold water tanks are filling to the high water level.

   At this stage the device will not commence a cycle until Step 5.



3. Once the steam tank water level probes sense the tank is full it will start heating.
4. The steam tank is heated to temperature 90°C - 92°C. The device is now ready to commence a cycle.

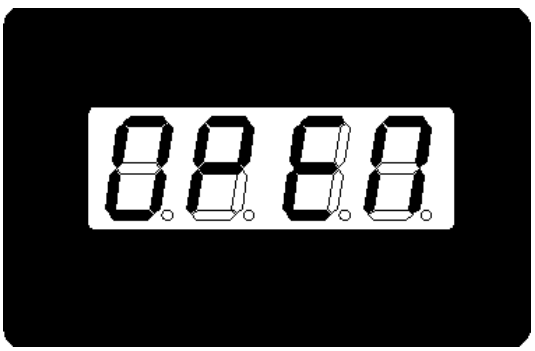
   The display shows rdY (ready)**.**



5. The operator breaks the infra-red beam, which opens the door.

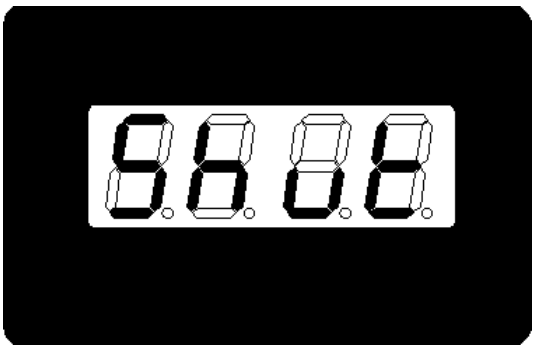
   The display shows open.

   Note: Whenever the door is opened the elements are in the off mode.



6. Once the device is “loaded” the operator breaks the infra-red beam to close the door.

   The display shows <u>Shut</u>



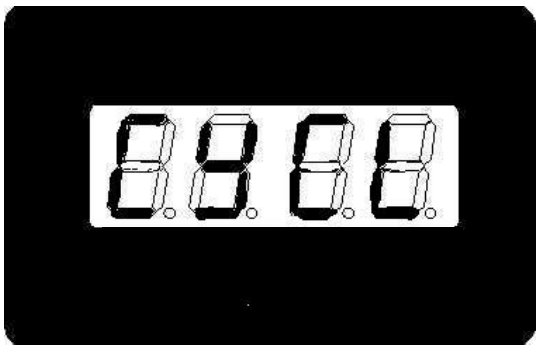
7. When the door is fully closed 2 green LED’s will flash in the infra-red sensor area for 8 seconds to advise the user to break the beam again to start a cycle.

   The display shows <u>rdY</u>

   If the 8 seconds has elapsed the flashing LED’s will stop and the device will not start for a cycle. The operator has to repeat the process from Step 5 (or press manual start).

   Note: If this occurs the beam must be broken twice.

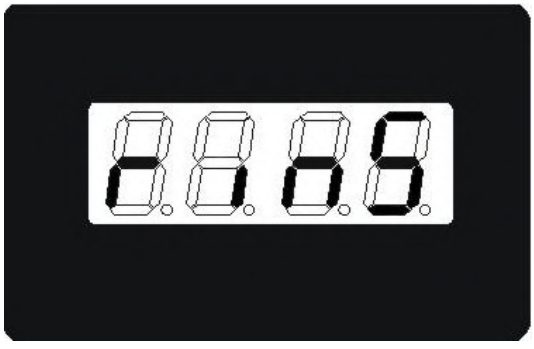
   Note: On 10A models, if the steam generator temperature is not at 90°C after the beam has been broken or the manual start button pressed, the display will show “<u>CYCL”.</u> The Green LED’s will stop flashing and stay on. When the steam generator has reached temperature the display will show <u>rinS</u> and the wash cycle will start automatically.



8. Once a cycle has been initiated the elements are turned on in the steam tank to start heating the water.

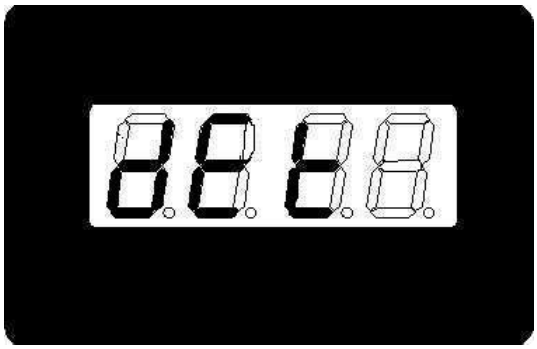
   The wash pump is turned on for 10 seconds for the initial wash.

   The display shows <u>rinS</u>



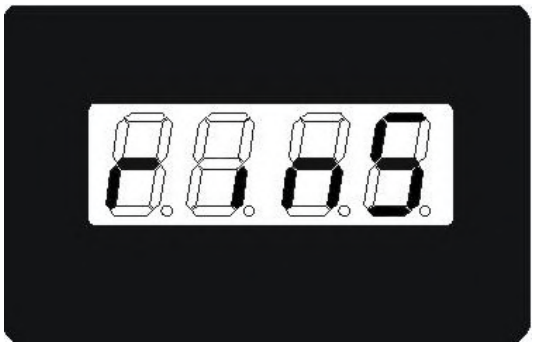
9. Detergent pump comes on delivering 30ml of concentrate to rinse pump.

   The display shows dEt



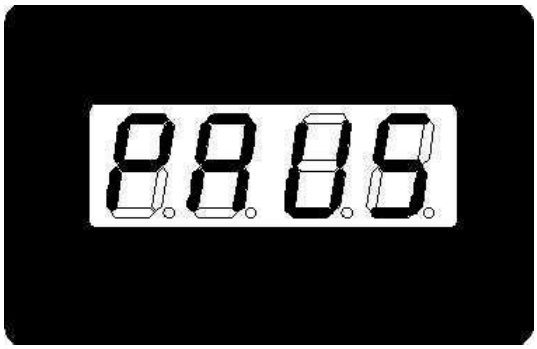
10. Rinse pump comes on to distribute detergent over and inside items

    The display shows rinS



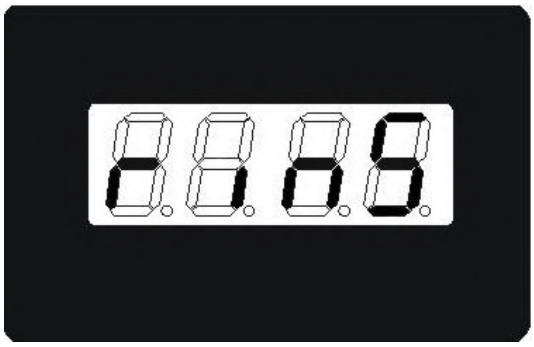
11. Pause for 40 seconds so detergent can take effect

    The display shows PAUS

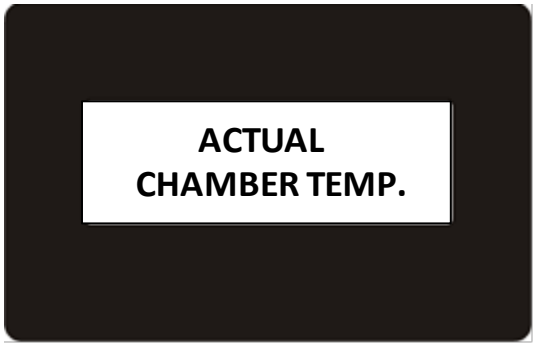


12. Rinse pump comes on for 10 seconds to rinse detergent from items

    The display shows <u>rinS</u>

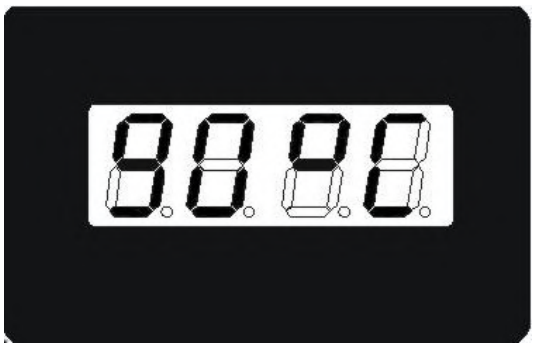


13. Once the wash cycle is complete the display will begin to flash the internal chamber temperature during heating until the disinfection temperature is reached. At this point the fill solenoid is disabled and will not operate until Step 19.



14. The elements in the steam generator heat to produce steam, which is directed into the wash chamber raising the internal cabinet temperature above 90°C.

15. Once the internal cabinet temperature has reached 90°C the temperature display will stop flashing and the disinfection cycle will commence.



16. All elements on 20 Amp models and 10 Amp models will continue to heat during the disinfection cycle until the internal cabinet temperature reaches 91°C.

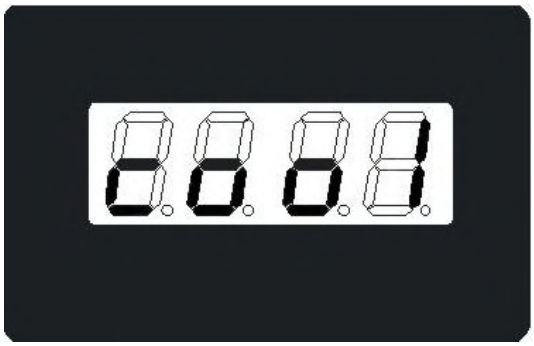
17. For 20 Amp models, at 91°C one element will turn off and at 92°C another element will turn off. For 10 Amp models, at 91°C one element will turn off. For all models, one element will remain on until 15 seconds before the end of the cycle. If the internal cabinet temperature falls below 92°C, the second element will turn back on and if the cabinet temperature falls below 91°C, the third element will turn back on.

    Note: Regardless of element combinations 15 seconds before the end of the cycle ALL elements will turn off. This is to overcome the effects of overshoot in the steam generator producing steam at the end of the disinfection cycle.

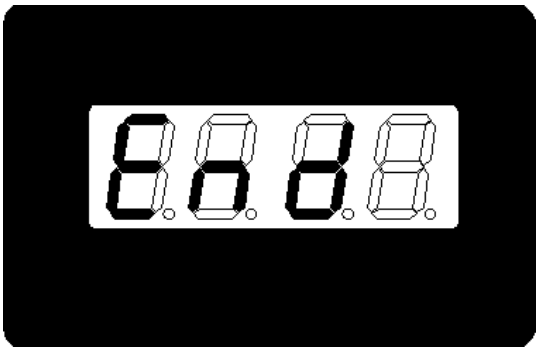
18. The maximum time allowable for the disinfection cycle is 10 minutes. If this time is exceeded then the device will go to fault and elements turn off.

19. After the disinfection cycle is complete the cooling solenoid will turn on for 15 seconds. This will cool down the surface temperature of the utensils and make them safe to handle.

    The display shows cool. This water is direct from the mains.



20. At the end of the cool down rinse, **the display shows End**. This will be displayed until the door is re-opened. If the chamber temperature is above the safe opening temperature the display shows “HOT” and access is restricted until temperature has reduced to a safe level.



21. If the device is not used, the device steam generator temperature will be kept at 85°C-90°C for a period of 15 minutes. After 15 minutes, if the device is still not used it will enter into idle mode and the elements will only come on at 50°C and rise to the temperature of 90°C repeatedly until the cycle is started again.

Display Board

		Green LED Display
Door open		OPEN
Door closed		Shut
Steam generator fill		Fill
Cycle ready		rdY
Cycle started		rinS
Detergent		dEt
Pause		PAUS
Disinfection cycle started	*(flashing)*	90˚C
Disinfection temperature reached		'actual' temp ˚C
Cool down final rinse		cool
End of cycle		End
Chamber above safe opening temperature		Hot
Yellow LED illuminates on control panel		Overflow
2 flashing green LED in activation area	*(8 seconds)*	Cycle can be started

Section B – Device Maintenance

A qualified person should carry out all maintenance, preventative or breakdown. Failure to comply with this condition may result in unsafe conditions.

The Malmet Bedpan / Urinal Bottle Washer Disinfector is self-cleaning, however proper care should be taken to ensure that the device is cleaned and maintained in accordance with the maintenance instructions for Malmet Bedpan / Urinal Bottle Washer Disinfectors and in accordance with all other regulatory and common sense practices.

Preventative Maintenance Schedule

Daily Maintenance (Operator or Maintenance Technician)

a) Wipe out the inside of the door and chamber with warm water and detergent. A wipe with disinfectant is also desirable.

b) Wipe over outside stainless steel panels with a stainless steel cleaner.

c) Wipe the front control panel with a soft cloth and mild detergent as necessary. Care should be taken not to damage the digital display or to activate a cycle.

d) Check level in detergent bottle, replenish as necessary.

e) Check Bedpan Wash Spinner turns freely by manually spinning nozzle.

f) Check spray nozzles are not blocked, insert a small pin into the orifice of the spray nozzle to ensure no blockages are present. If a build up or blockage is noticed please have a technician clean nozzles as per Bi-Monthly Maintenance to ensure adequate performance.

g) Visually inspect for signs of leaking fluid from the device, as these may pose a pathogenic risk. Inspect around the chamber door, beneath the device and service connection points. If a spill or leak is observed, clean up as per the facility's infection control procedure and notify a maintenance technician to fix the cause of the leak.

Bi-Monthly (Maintenance Technician)

WARNING! 240 VOLTS

ISOLATE DEVICE FROM ELECTRICAL SUPPLY BEFORE SERVICING

HOT SURFACES!

ALLOW DEVICE TO COOL PRIOR TO COMMENCING SERVICE WORKS

a) Inspect for steam or fluid leaks, tighten unions, hose clamps and glands where necessary.

b) Remove and clean out all sprays and bottle hooks (unscrew from inside chamber). Clean in ultrasonic cleaner if available; use an appropriate sized Oxy-Acetylene tip cleaner pin to clean out spray nozzle orifices.

c) Remove level probe in steam generator tank and clean off any build-up of residue.

d) Remove temperature probes in steam tank and chamber and clean off any build-up of residue.

e) Visually inspect build-up of residue in steam tank, especially in areas of poor water quality.

f) Check filter in the water inlet solenoid valve and clean as necessary.

g) Check and tighten, if necessary, all electrical connections.

Stainless Steel Maintenance/Care

Under normal usage, stainless steel products require regular cleaning with a soft clean rag moistened with a mild detergent followed by a water moistened clean rag and then a dry rag.

The #4 satin finish stainless steel should be protected against Muriatic acid and caustic or abrasive materials and harsh cleaning detergents. In the event such agents cause discoloration, polish with a stainless steel cleaner such as 3M Stainless Steel Cleaner & Polish and 3M Scotch Brite pad.

Recommended Preventative Maintenance Schedule

To be performed **THREE TIMES YEARLY**.

WARNING! 240 VOLTS

ISOLATE DEVICE FROM ELECTRICAL SUPPLY BEFORE SERVICING

HOT SURFACES!

ALLOW DEVICE TO COOL PRIOR TO COMMENCING SERVICE WORKS

a) Remove top and side panels and front bottom panel.

Note: Panel removal

i) Remove 2 self-tapping screws on the top panel.

ii) Push the side panel back then lift up to remove.

iii) Remove 2 x 3/16” screws from bottom front panel.

b) Remove three sprays, two bottle hooks and rotary nozzle from inside the chamber – check that the holes are clear. Clean as required use an appropriate sized Oxy-Acetylene tip cleaner pin to clean out spray nozzle orifices (hold under tap and pressurise or clean in ultrasonic cleaner). In areas with hard water or high minerals in water supply, chemical de-scaler may be the quickest and easiest means to remove built up deposits. Replace sprays and bottle hooks.

c) Start cycle and check that cold water pump is working, 17 seconds of the cycle.

d) After ascertaining that the pump is working properly, check the solenoid operation in the cold water tank. Check steam sensor (steam generator) maintenance.

e) Make sure the solenoids are completely shutting off and levels are not creeping up, if so, clean and/or replace the solenoid.

f) Tighten the screws retaining the pan rack on the door.

ONLY IF NECESSARY AFTER VISUAL CHECK

g) Clean dust and grit off components.

Malmet will make available on request circuit diagrams, component parts lists, descriptions, calibration instructions, or information which will assist the user’s appropriately qualified technical personnel to repair those parts of the device.

Malmet recommends performance qualification shall be performed annually

Safety Checks

After servicing or repair the device shall be checked to confirm correct cycle operation and that the device is in a safe operating state before being returned to service.

Door Safety Test

To check the correct functionality of the door safety and position sensors, open and close the door using the manual door open button. During operation the device will conduct a self-check for correct operation of these switches. Once complete, check door is firmly closed and is flush with outer panel and then press the cycle "Start" button. If the wash pump starts, the self-check has been completed successfully and the door safety devices are functioning correctly.

Cycle Operation Check

After completion of the required checks above, a cycle operation check is to be completed. Run the device through a complete cycle ensuring correct sequence of operation as per page 12 of this manual. Inspect for fluid leaks from around the chamber door, rear service connections and beneath the device. If no faults are found during the inspection, and the device displays no faults at end of the cycle the device is fit for return to operation.

Post Maintenance and Repair of Electrical Systems

Additional to the above safety tests if any repair or service work has been carried out that could affect the electrical safety of the device; it must be inspected and tested as per the requirements of AS/NZS3760 prior to being returned to service.

If device fails any of the above tests it is not safe for operation, and cannot be put into service until the cause of the fault has been rectified and successful completion of tests.

Replacement of Safety Devices

The following safety devices must be replaced and tested by a Malmet trained technician, failure to do so may impair the protection by the device.

- Door Actuator
- Door Micro Switch
- Element Thermal Cut-out

Information on replacement of these devices can be found in the Service Technicians Manual.

Fault Finding Guide

The device is controlled by a micro-processor. The processor has fault detection capability and indicates faults by code on the digital display; Diagram B1 (below) shows an example of fault code displayed.

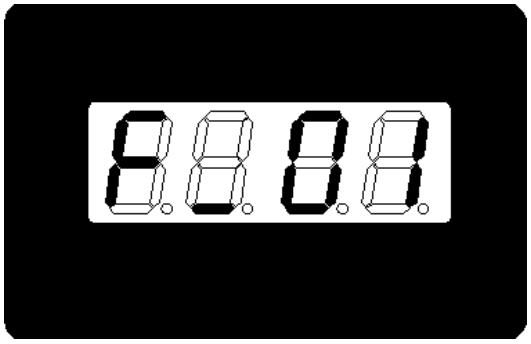


Diagram B1
(Fault 01 indicated)

Please see table in Appendix A for a full list of fault codes along with their description and possible cause.

Note: If a fault is displayed on the LED display, turn device off and turn it back on, press START to try to complete a cycle. If a fault persists contact a Service Technician. Record the fault code that has appeared for the Service Technician.

Table B1 indicates these faults. For a more detailed description of these fault conditions see Appendix A – Faults.

Appendix A – Faults

Following is list of fault conditions and most possible causes.

Fault 01	**Door Open Fault – Not confirmed door closed** (i.e. door switch still indicates open)	
	Cause	• *Door limit switch stuck out / broken*
Fault 02	**Wash / Disinfection Cycle Time Out** (taking too long to complete cycle)	
	Cause	• *Steam leak* • *Final rinse solenoid stuck open* • *Faulty temperature sensor hot water tank* • *Blown element leg* • *Steam condensate leaking cold water into chamber* • *Faulty temperature sensor - chamber*
Fault 03	**Faulty Hot Water Probes** (high indicates water, but low does not indicate water)	
	Cause	• *Faulty water level probe*
Fault 04	**Door motor activation time out** (taking too long to close or open door)	
	Cause	• *Faulty door actuator* • *Door axle bar sticking*
Fault 06	**Hot water tank fill time exceeded** (high level not reached during pre-fill, resulting in time out)	
	Cause	• *Faulty fill solenoid* • *Faulty water level probe* • *Cold water tank empty or not filling quick enough* • *Low water pressure*
Fault 07	**Hot water tank low water level sensed during cycle**	
	Cause	• *Faulty water level probe* • *Cold water tank empty or not filling quick enough* • *Leaking tank or hose* • *Element stuck on* • *Condensing coil blocked*
Fault 08	**Door closure fault – not confirmed door open** (door switch still indicates closed)	
	Cause	• *Door limit switch stuck on*

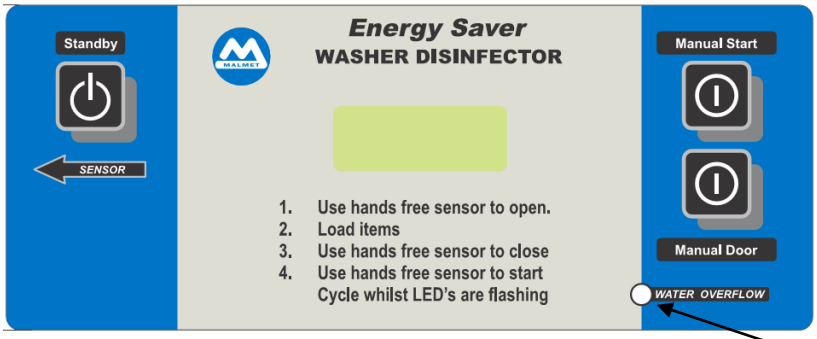
Fault 09	**Failed to reach disinfection start temperature, resulting in time out**	
	Cause	• *Steam leak* • *Final rinse solenoid stuck open* • *Faulty temperature sensor hot water tank* • *Blown element leg* • *Steam condensate leaking cold water into chamber* • *Faulty temperature sensor chamber* • *Door not reaching interlocking micro switch* • *Door not fully closed* • *Over temperature board (power to element open circuit)* • *Element over temp protection manual reset thermal cut-out switch open circuit*
Fault 10	**Disinfection temperature not maintained, resulting in cycle time out**	
	Cause	• *Steam leak* • *Final rinse solenoid stuck open* • *Faulty temperature sensor hot water tank* • *Blown element leg* • *Steam condensate leaking cold water into chamber* • *Faulty temperature sensor - chamber*
Fault 12	**Hot tank short temperature sensor**	
	Cause	• *Faulty temperature sensor steam generator*
Fault 13	**Hot tank open circuit temperature sensor**	
	Cause	• *Faulty temperature sensor steam generator*
Fault 14	**Disinfection chamber short circuit temperature sensor**	
	Cause	• *Faulty temperature sensor - chamber*
Fault 15	**Disinfection chamber open circuit temperature sensor**	
	Cause	• *Faulty temperature sensor - chamber*
Fault 30 **dEt**	**Insufficient detergent last wash**	
	Cause	• *Empty detergent bottle* • *Faulty detergent pump* • *Blocked detergent line*
Fault 31 **HEAt**	**Disinfection temperature not maintained on 2nd probe**	
	Cause	• *Steam leak* • *Final rinse solenoid stuck open* • *Faulty temperature sensor hot water tank* • *Blown element leg* • *Steam condensate leaking cold water into chamber* • *Faulty temperature sensor – chamber* • *Faulty temperature sensor – chamber 2*
Fault 32 **CFSd**	**Unsupported fault** (cycle did not follow supported order)	
	Cause	• *Interrupted power* • *Processor glitch*
Fault 33 **bLOC**	**Chamber blockage present – flood sensors** (Sensors are detecting a build-up above the bottom of the door inside the chamber)	
	Cause	• *Blocked trap* • *Blocked / backed up drain* • *Dirty sensors*
Fault 34 **dEtH**	**Extra detergent injected last wash** (the volume of detergent injected during the cycle was greater than necessary)	
	Cause	• *Faulty flow meter* • *Faulty detergent pump relay* • *Failed check valve*

Fault 35 **PobE**	**Temperature discrepancy – temperature difference >5˚C between probes**	
	Cause	• *Faulty temperature sensor/s* • *Fluctuating temperatures*
Fault 38 **FPri**	**Failed priming – exceeded allowed priming attempts**	
	Cause	• *Detergent bottle not changed* • *Detergent line split / leaking* • *Flow meter faulty* • *Check valve failed*

Cold Water Overflow Indication

The yellow LED is used for cold water tank overflow.

Overflow is indicated by a STEADY ON LED, whenever the overflow level is detected.



Should the cold water tank overflow into the soil line the water overflow YELLOW LED will illuminate.

Appendix B – Additional Faults not detected by micro-processor

Faults

These are other faults that may occur which the micro-processor cannot detect (however, it may indicate a fault with the following conditions).

Not washing bedpans

1. Check that the cold water pump is working.
2. Check that there is cold water in the tank.
3. Check sprays.
4. Check bedpan position in door cradle. (Diagram B2)

No power to control box

1. Check main power.
2. Check power to control boards.

Leaking water onto the floor

1. Check all hose fittings.
2. Check water levels and water probes.
3. Check pump seals.
4. Check door seal.

Loading Bed Pans

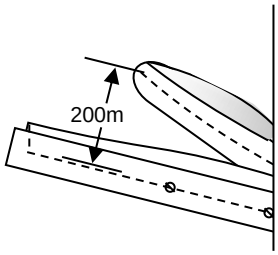
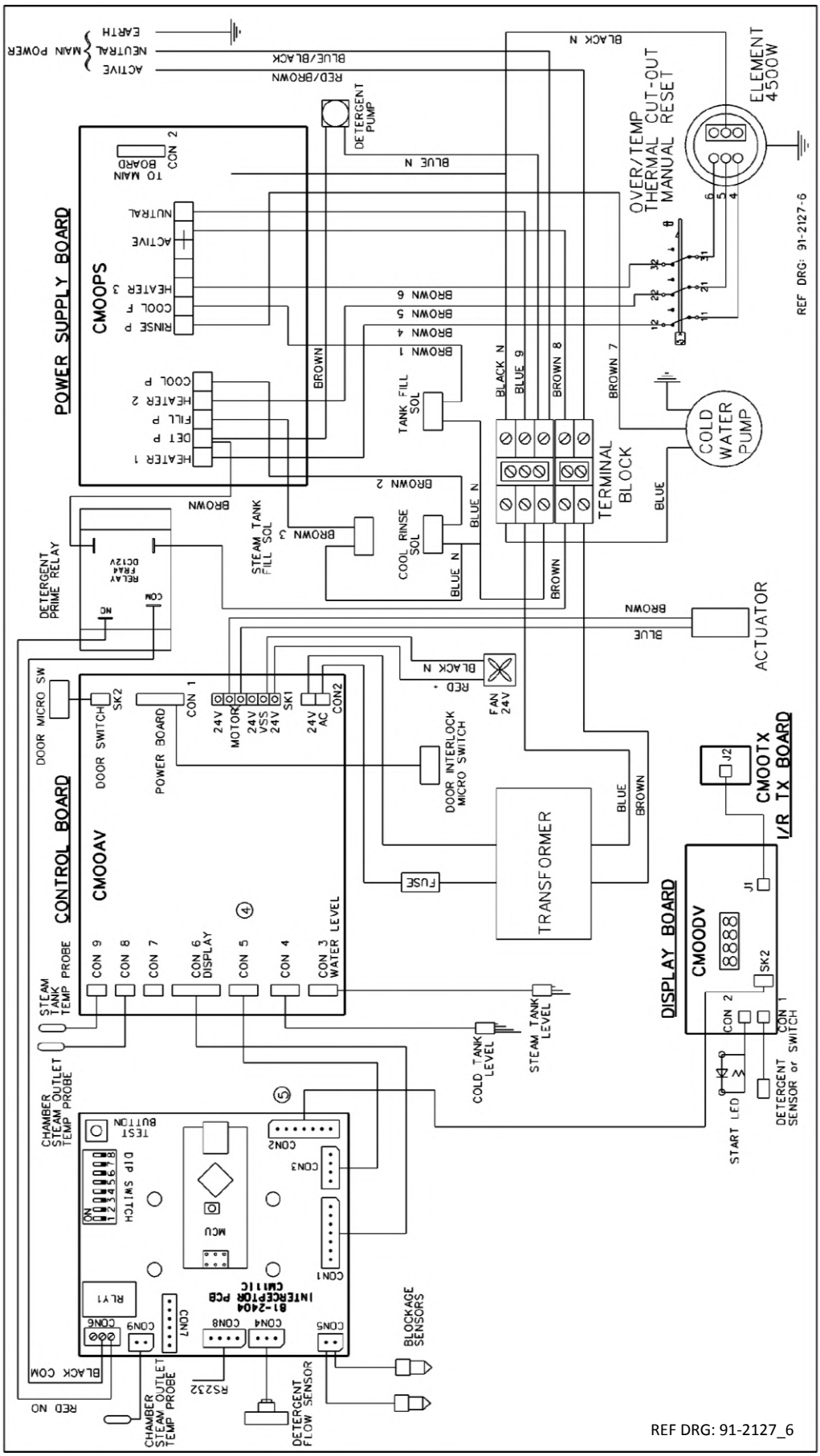


Diagram B2

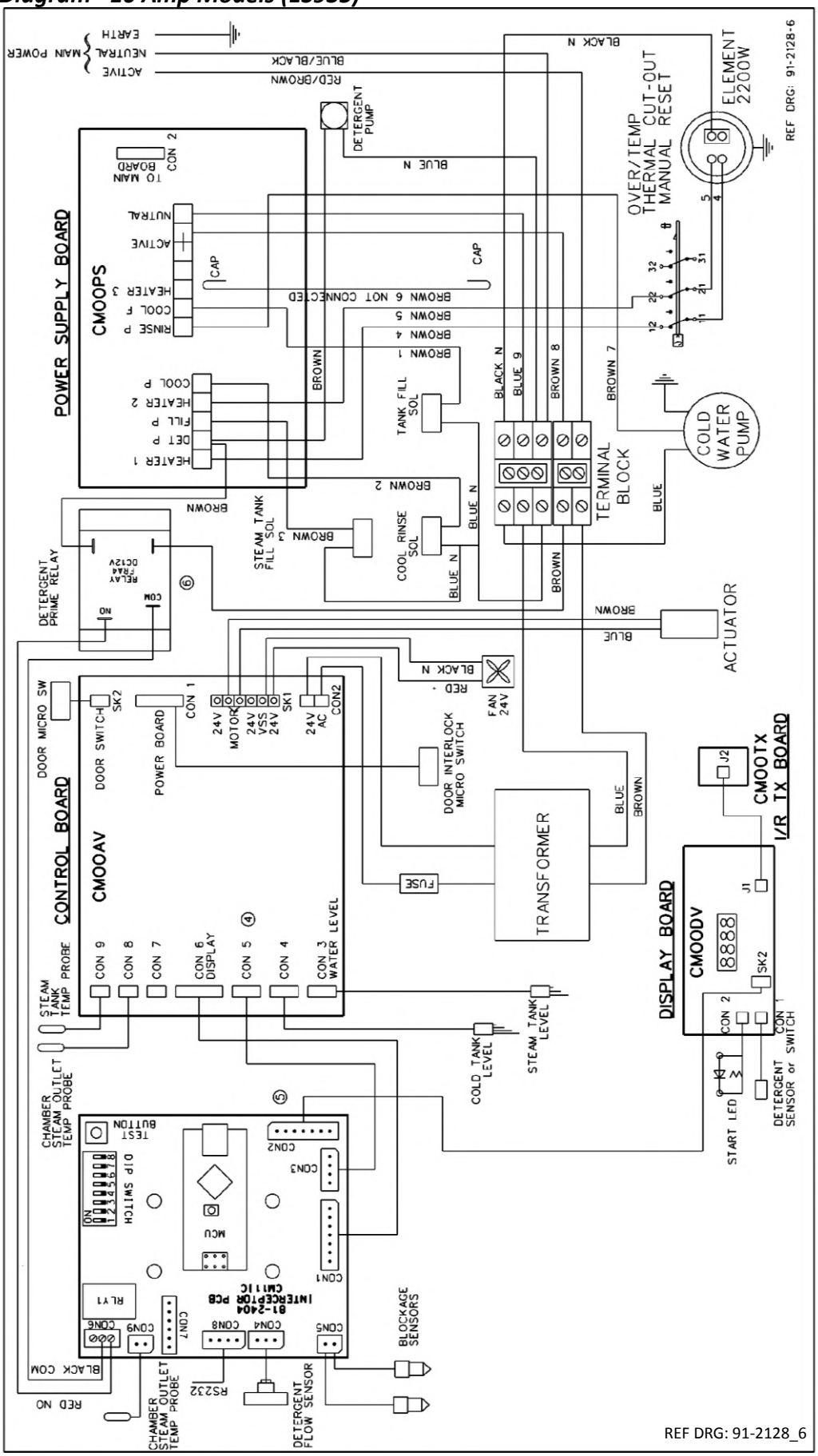
Side View
Diagram B3

Top View
Diagram B4

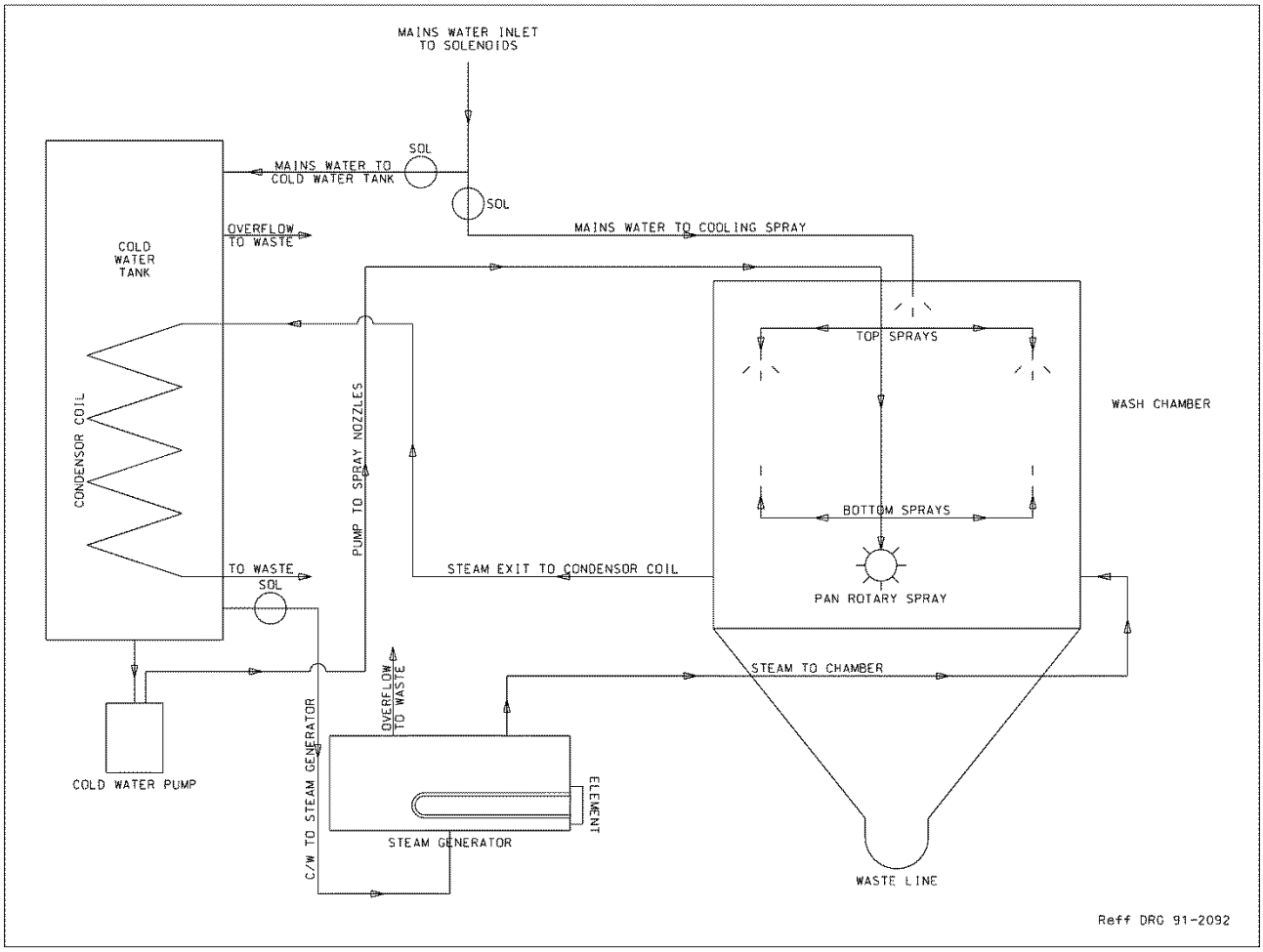
Electrical Diagram – 20 Amp Models (ES915)



Electrical Diagram –10 Amp Models (ES935)



Hydraulic Circuit Diagram - ES915/935



Section C – Device Installation

To avoid problems with this device, these Installation Guidelines should be followed.

Installations must be carried out by a qualified and licenced tradesperson.

All devices must be earthed.

The device must be affixed to the building structure to ensure mechanical stability prior to use. The device can be affixed to the building structure via the holes provided in the device feet, or use of an appropriately rated appliance safety strap.

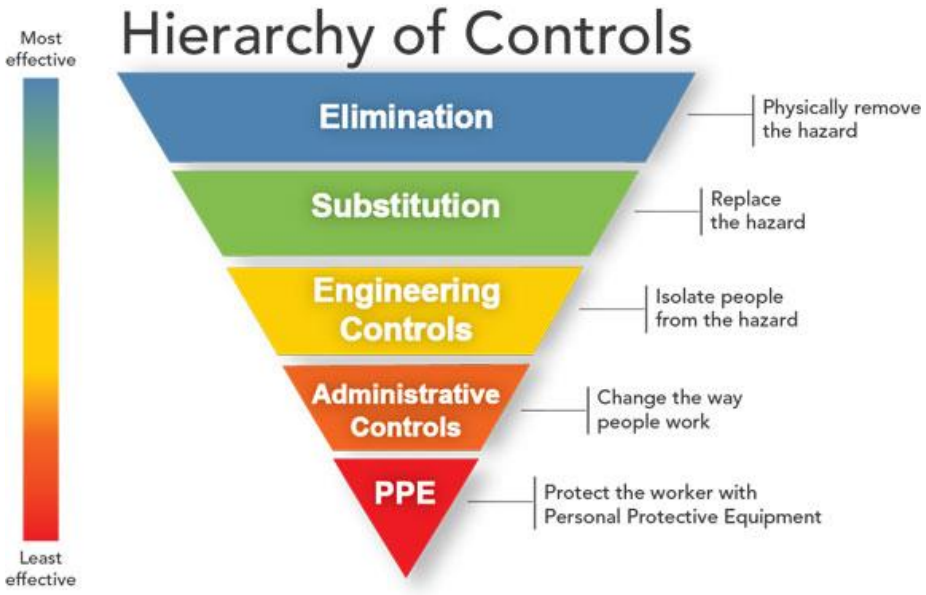
Prior to installation of the device, services as noted are to be provided by the facility. It is not the responsibility of Malmet to provide these service connections.

⚠ **Overcurrent protection device-**

- **A 10A circuit breaker or fuse for 10A rated models must be installed in the building installation.**
- **A 20A circuit breaker or fuse for 20A rated models must be installed in the building installation.**

Risk Assessment

It is recommended a risk assessment is conducted by the user both prior to and after installation and any risks identified mitigated to an acceptable level using the hierarchy of control;



https://commons.wikimedia.org/w/index.php?curid=55610678

Handling

Weights of Device: Net: 92 kg Shipping: 110 kg Shipping with crating: 151 kg

Handling of the device to installation site must be with a fork lift or hand pallet truck. After unpacking the device, remove the 4 screws holding the device to the pallet. 2 people will be required to manoeuvre the device off the pallet. The device can then be placed into position by fork lift or hand pallet truck.

Disposal of Packaging

Please dispose of packaging as per facility procedures or local government requirements.

Service Connections

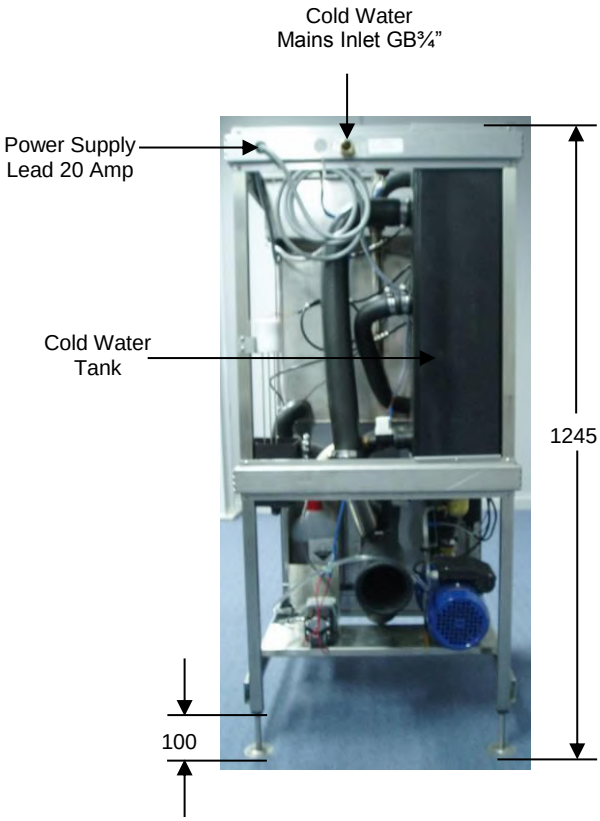
MODEL	COLD WATER	SOIL LINE	ELECTRICAL
ES915	GB¾ Male	100mm 'S' or 'P' Trap	240V 1 phase @ 20 Amps 50 hertz
ES935	GB¾ Male	100mm 'S' or 'P' Trap	240V 1 phase @ 10 Amps 50 hertz

Water and Drain waste services

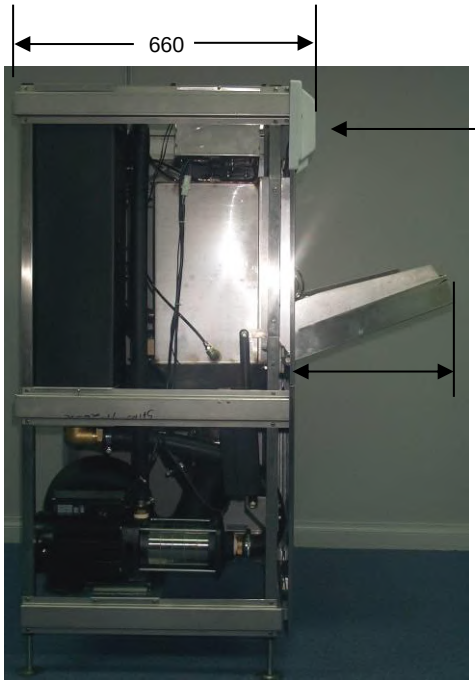
Note: Plumbing service connection must comply with AS/NZS3500

Dimensions and Service Entry Points

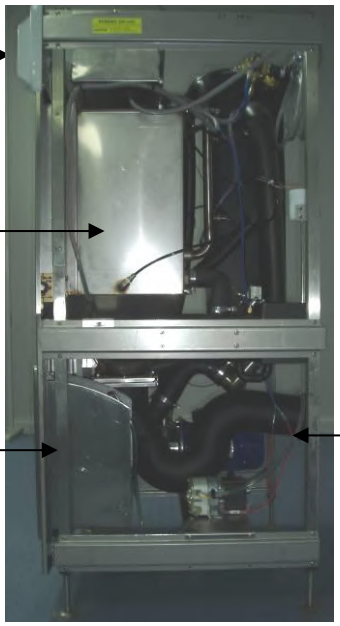
Front View



Rear View



Left View



Right View

Diagram C1

Electrical

The Malmet Bedpan / Urinal Bottle Washer Disinfector requires only single phase power (240 Volts 50 Hertz). The device must be installed and serviced to national wiring rules AS/NZS 3000.

Note: Mains power connection

- An ISO switch or circuit breaker must be included in the installation. (Not supplied by Malmet)
- It must be suitably located and easily reached, approximately 1500mm above floor level adjacent to device. The 1.7m mains power lead exits the device approximately 1200mm above floor level on the right hand side of the device.
- It must be marked as the disconnecting device for the equipment.
- It must have contact disconnection of all poles to provide full disconnection.
- Ensure isolator is suitably placed so device will not obstruct safe access to the isolator once installed.

10 Amp Device – To be hard wired to a lockout ISO switch or Circuit breaker.

Switch must be wired to 10A max circuit breaker at main switch board

20 Amp Device – To be hard wired to a lockout ISO switch or Circuit breaker.

Switch must be wired to 20A circuit breaker at main switch board

10 and 20 Amp devices are supplied with an electrical power lead for hard wiring to an isolation switch.

If the supply lead is damaged, it shall be replaced by Malmet; its authorised service agent or similarly qualified person in order to avoid hazard.

Mains power ISO switch or circuit breaker must be in an accessible position so device can be isolated from mains power during service.

ALL DEVICES MUST BE EARTHED.

The maximum permissible system impedance Zsys:

Z = 0.220 Ohm + j 0.137 Ohm (0.220 Ohm + 437 µH)

Post Installation Precautions

a) Before switching the device on make sure the water tap is on.

b) Turn on the power at the isolation switch and press the standby button on the front display. The digital display will illuminate.

c) The water in the steam tank is heated to the required temperature. In the first instance there will be a delay as cold water is heated to 90°C.

This delay will not re-occur while the power remains switched on.

d) Flush approximately ½ a litre of water down the cold-water tank overflow pipe. This will fill the 'S' Trap at the hose junction and prevent steam coming back up into the cold water tank.

e) The device will display 'rdY' (ready) when the water levels are reached.

Note: DO NOT USE THE DEVICE WITHOUT THE WATER SUPPLY TURNED ON.

Positioning of Bedpan Washer Disinfector

Model	Placement	Access Required	Device Dimensions		
			Height (mm)	Width (mm)	Depth (mm)
ES915 models ES935 models	Freestanding	Both Sides	1305	595	660
Please allow sufficient room for servicing purposes. Recommended space requirements 200mm on either side and 150mm at the rear of the device.					

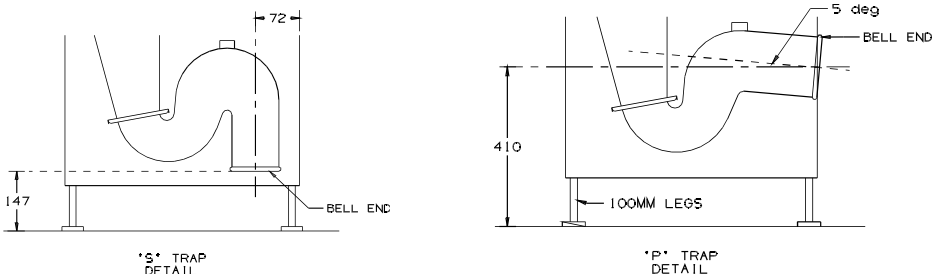
New Buildings

Service connections are normally pre-placed after planning and consultation with all interested parties. Installation is by connection to the services provided.

As the soil line (sewerage outlet) is the least flexible of all the connections, this usually influences the decision as to where to place the Bedpan / Urinal Bottle Washer Disinfector. If an existing soil line can be utilised this will represent a cost saving.

The Bedpan / Urinal Bottle Washer Disinfector is supplied with either a 'S' or 'P' Trap as nominated by the Purchaser. The 'S' Trap connects through the floor and the 'P' Trap connects through the back wall. The trap section is easily removed if the wrong trap has been ordered. Refer to Diagram C2 for trap connections.

Potential electromagnetic or other interference between other EQUIPMENT and other devices can possibly affect the Infra-red hands free operation sensor. It is advisable to check all the equipment and devices in the intended installation area that have infra-red operation. **Electromagnetic interference can be prevented by installing the device in non-patient areas of the facility (or similar).**



Note: Bell Ends can be cut off to suit

Diagram C2

FOR REASONABLE CONNECTION WORKING SPACE ALLOW 150-200mm FROM REAR OF DEVICE TO WALL

FREE STANDING
'S' TRAP PIPE POSITIONING

The centre of the soil line to receive the 'S' Trap should be approximately 272mm from the back wall. To allow for normal recommended minimum service access, space soil line 600/700mm from side wall.

If space restrictions do not allow for recommended side service access, Malmet suggest preference be given to providing the most space available on the right hand side as you look at the front of the device. This will ease any difficulty in servicing the steam tank element and probe.

FREE STANDING
'P' TRAP PIPE POSITIONING

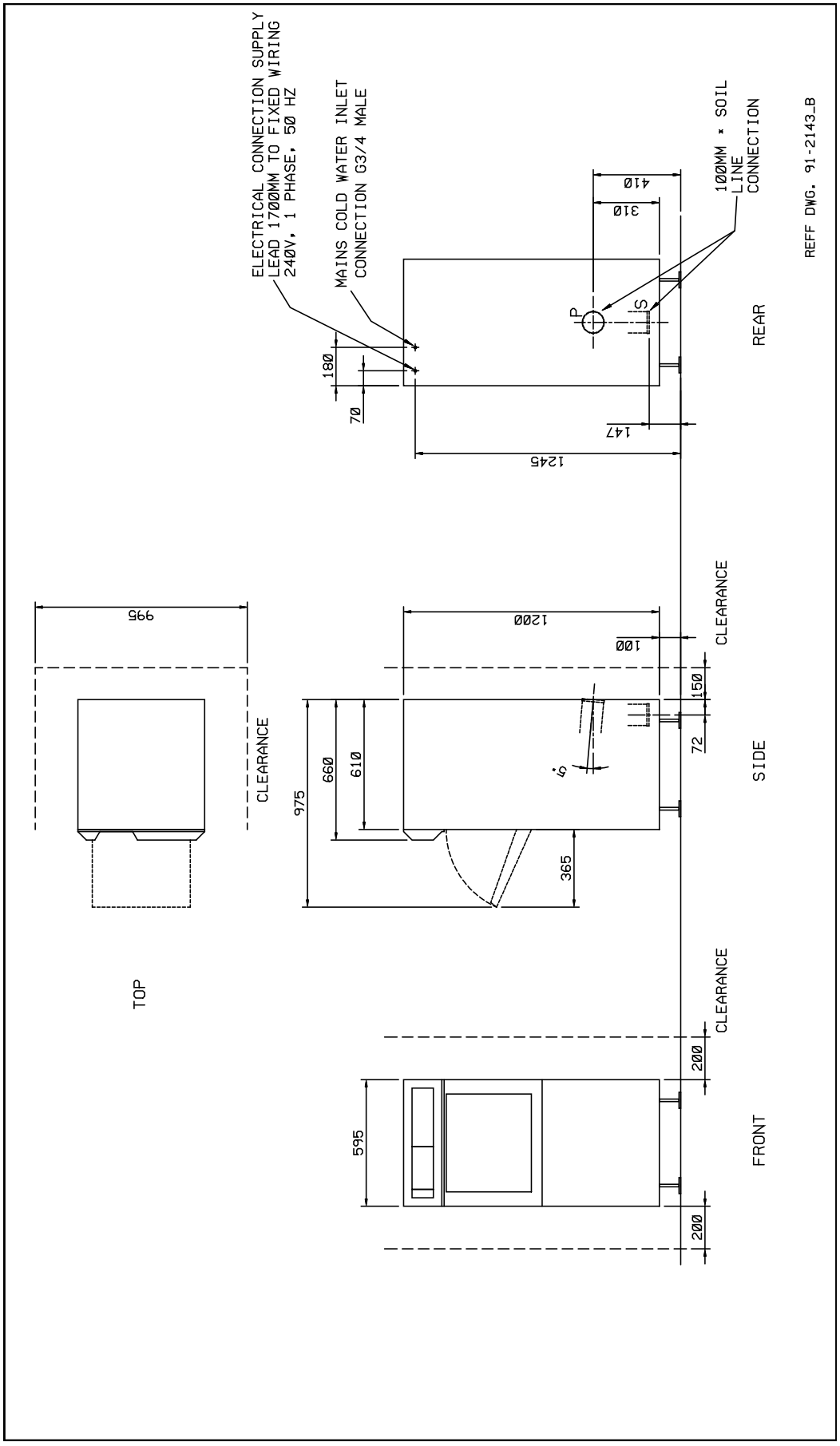
The centre of the soil line to receive the 'P' Trap should be approximately 410mm from the floor when the device is positioned 150mm from the wall. Because this pipe is graded to 5° this measurement will vary as the device is installed closer or further away from the back wall.

The device is 600mm wide and the centre of the trap is 300mm from each side.

Steam Venting

No external vent pipework is required as the device is designed to condensate all visible steam within the device.

Installation and Service Connection Layout Details



Plumbing

Soil Line

There is no high temperature water discharged from this device so no special high temperature pipework is necessary.

Soil line connection is by a pan collar or other preferred method. If the bell end on the polyethylene moulded trap is not required it can easily be cut off to provide a straight pipe connection.

Level the device by using the flanged screw in legs and if possible maintain approximately 100mm floor clearance for ease of floor cleaning. Malmet recommends fixing some of the leg flanges to the floor via stainless self-tapping screws, dyna bolts or similar to prevent sideways movements and damage to services and soil line connections.

Soil line to protrude from the floor or wall at a minimum of 100mm.

Water

ONLY COLD WATER CONNECTIONS IS REQUIRED. The device can be connected to any potable mains pressure cold water supply as an AIRBREAK is incorporated in the design of the cold water tank.

The water supply should be connected to an isolating valve or cistern stopcock placed approximately 1200mm from the floor to the left-hand side of the device (preferably not behind the device).

Minimum water pressure: 100kPa

Recommended nominal flow rate: 10L/Min

Recommended Maximum Water Hardness: 2.5mmol/L

Recommended Water pH: 6.5-8.5

Recommended Maximum Water Conductivity: 850µS/cm

Technical Specifications

POWER AND WATER CONSUMPTION DATA				
Model	Avg Cycles per/Hr	Avg Cycle min/sec	Avg kWh per cycle	CW Avg Lt per cycle
ES915S-D / ES915P-D 20 Amp Model	11	5.3	0.300	36
ES935S-D / ES935P-D 10 Amp Model	7.7	7.5	0.236	35.5

Note: Values may change due to operating and supply service conditions.

Device Specifications

ES-D915 Models	**Electrical Rating**	Volts	240V	APPROVALS
		Phase / Hz	1 ph / 50 Hz	
		Amps	20 Amps	
	Element	Rated	4.5kW	
		Overtemp protection	3 pole Thermal cut-out switch Set point 115°C Manual reset	
ES-D935 Models	**Electrical Rating**	Volts	240V	
		Phase / Hz	1 ph / 50 Hz	
		Amps	10 Amps	
	Element	Rated	2.2kW	
		Overtemp protection	3 pole Thermal cut-out switch Set point 115°C Manual reset	
Environment Operating Conditions		Temperature	+10°C to +25°C	
		Relative Humidity	+30% to 70%	
Door Actuator		Type LA12 Self-Locking	24VDC	
Door Micro Switch		531C-3H	15A/250V	
Fuse: Transformer		Cylinder type	F3.15AL 250V	
Fuse F1 : Power supply PCB		Cylinder type	T315mA 250V	
PCB (Printed Circuit Board)			✓	
Spray System		Main Wash	1 x Rotating 180° Nozzle 2 x Fixed 60° Nozzles 2 x Fixed 0° Nozzle	
		Cool Down	1 x Fixed 60° Nozzle	
Wash Chamber		Material	1.2mm Stainless Steel	
		Design Life	Minimum of 10,000 Cycles	
		Total Chamber Volume	60 L	
		Total Usable Chamber Volume	50 L	
Loading Capacity		2 x Urinal Bottles and **<u>One (1)</u>** of the following:		
		• Bed Pan & Lid	• Commode & Lid	
		• Small Commode & Lid	• Small Slipper Pan & Lid	
		• Large Slipper Pan & Lid		
Soil line Connection		Type	'S' or 'P' Trap (6mm PE)	Complies to AS 2887 & AS/NZS 3500.2:2003
		Size	100mm ID	
Backflow Prevention		Air Gap (RAG)		AS 2845.2 - 1996
Water Supply Cold Potable Water (Final Rinse Water)		pH	6.5-8.5pH	
		Water Hardness	<2.5mmol/L	
		Water conductivity	<850 µS/cm	
		Temperature	5 – 25°C	
		Pressure (Static)	100 – 400kpa	
		Nominal Flow Rate	10/L Min	
Water Inlet Valve connection		Solenoid 240V	GB¾ Male	WRAS Certified
Hose – valve to Cold Water Tank		s/steel Braided	10mm	WRAS Certified
Principal Heavy Component		Main Wash Pump	11kg	
Detergent		Malmet specific (5Lt)	Detergent concentrate Caustic Alkaline	ARTG Class 1

Continued over page

Device Specifications Cont'd

Environment & Conditions for Transport and Storage	 Fragile	 Keep away from rain	 Do not stack	
	Temperature	-5°C to +50°C		
Weights Rounded up to the nearest Kilogram	**Nett**	**Operating**	**Shipping**	**Shipping (Crated)**
	92kg	122kg	110kg	151kg
Dimensions (W x D x H)	595 x 660 x 1300 (mm)		710 x 790 x 1520 (mm)	710 x 790 x 1520 (mm)
Floor Loading at Each Support as viewed from front of unit. * Loadings are a guide only & will vary between installations.	**Front Left**	**Front Right**	**Rear Left**	**Rear Right**
	31kg*	33kg*	37kg*	21kg*

Warranty Statement

This warranty is provided, and operates in addition to, the statutory warranties Malmet (Australia) Pty Ltd ("**Malmet**") provides to any consumer under the Australian Consumer Law (if applicable) or by virtue of any other applicable legislation.

Subject to the following conditions, we provide, from the date of purchase, the following warranty on Malmet devices and spare parts for products manufactured by Malmet and sold in Australia:

- Functional components found within the device to be defective in workmanship or material will be repaired or replaced free of charge subject to the periods of warranty specified in the table below.
- A decision regarding whether the defective components will be repaired or replaced will be determined at the sole discretion of Malmet or its authorised agents or representatives.
- The structural warranty covers any structural components within the device, which fail to perform their intended function due to faulty manufacture or deterioration within the warranty period.
- Parts replaced in devices under warranty are warranted for the balance of the original warranty period for that device.

Malmet Devices	
Device Components	**Parts & Labour**
Structural Guarantee	2 Years from Date of Purchase
All other components	2 Years from Date of Purchase

Malmet Spare Parts
1 Year from Date of Purchase

The installer is responsible for the correct installation, start up and demonstrating the operation of the product. They are also responsible for issuing the relevant certificates of compliance (these may differ from state to state).

CONDITIONS AND EXCLUSIONS

- Device must be installed and commissioned according to Malmet's instructions (outlined in Malmet Operation, Maintenance and Installation Manual) and operated to the purpose it was designed.
- Device must be serviced as instructed in the Operation, Maintenance and Installation Manuals.
- To the extent permitted by law, this warranty shall not cover damage, malfunction or failure resulting from accident, misuse
- or misapplication, improper or unauthorised repair, neglect or modification or use of unauthorised replacement parts or accessories, inclusive of detergent, or improper voltage. The warranty may be void if the serial number is removed or altered.
- Parts damaged in transit back to Malmet Leeton due to poor packaging could result in warranty claim being rejected in part or in full.
- Any part tampered with or which has been altered by unauthorised repairs and/or modifications will be rejected under a warranty claim to the extent permitted by law (to the extent the Australian Consumer Law applies, Malmet will assess the extent to which the tampering or unauthorised repairs contributed to the failure).
- Reasonable access must be allowed for maintenance. If any additional equipment is needed to provide access to the device, this must be provided (and paid for) by the owner.
- It is the owner's responsibility to provide safe access to the device. Malmet, or any of its authorised service agents, may refuse to perform maintenance or warranty work if access is unsafe, as determined by Malmet or any of its authorised service agents acting reasonably.
- Should a warranty claim be rejected you will be advised in writing with a full explanation of our reasons.

- Malmet have a Warranty Claim Procedure that is fair to our customers and provides an efficient system of replacement and/or repair of faulty parts. If at any time you believe we are not meeting our commitment to you please contact Malmet Head Office via email: info@malmet.com.au

- To the extent permitted by law, no responsibility will be accepted for outside elements including, but not limited to storms, pest and vermin that may cause damage to the device.
- To the extent permitted by law, no responsibility will be accepted for damage incurred as a result of, or incidental to, electrical surges or brown outs or for any other consequential damages.
- If there is no certificate of compliance for plumbing or electrical, Malmet reserves the right to refuse service on non-compliant installations.
- To the extent permitted by law, claims for damage to contents, carpet, ceilings, foundations or any other consequential loss either direct or indirect resulting from, power spikes, incorrect operation, incorrect installation, faulty product or any other cause, are excluded.
- This warranty, and to the extent permitted by law, any warranties owed by Malmet under the Australian Consumer Law or other applicable legislation, are not transferrable and cannot be sold, assigned or transferred in any other way from the purchaser to any other person.
- To the extent permitted by law, unauthorised use of any parts that were not supplied or approved for use in the applicable device by Malmet will result in this warranty and any warranty claims applicable to that device being void.
- Warranty labour (service work) shall not include devices located outside of city metropolitan areas of Melbourne, Sydney, Adelaide, Perth and Brisbane. Costs outside these areas shall be borne by the owner. The owner shall be notified of this prior to the warranty call out.

To the extent permitted by law, a charge will be made for work done or a service call made where:

- There is no default apparent with the device, as determined by Malmet or its authorised representative or agent acting reasonably.
- The defective operation of the device is due to failure of electricity or water supply.
- Defects are caused by neglect, incorrect application, abuse or by accidental damage of the device.
- An unauthorised person has attempted to repair the device.
- Harsh environmental situations including, but not limited to, water quality that may cause the water tank damage cannot be covered under this warranty.

How to make a claim under this warranty

If you believe there is a defect in a device you have purchased from Malmet, you must notify Malmet in writing of such defect, by sending an email (**Notice of Defect**) to info@malmet.com.au prior to the expiration of the applicable warranty period set out in this warranty.

For the avoidance of doubt, Malmet must receive your Notice of Defect prior to the expiration of the warranty period.

To the extent permitted by law, Malmet will not reimburse you for any expense you incur in claiming or attempting to make a claim for repair or replacement of a component under this warranty.

Please complete details below:

Date Purchased:	**Warranty Expiry Date:**
Sold To:	**For Service Contact:**

PROOF OF PURCHASE
Please retain your proof of purchase (receipt, invoice or commissioning certificate is accepted).

E.&O.E.

In the interest of continued product improvement, Malmet reserves the right to alter specifications without notice.

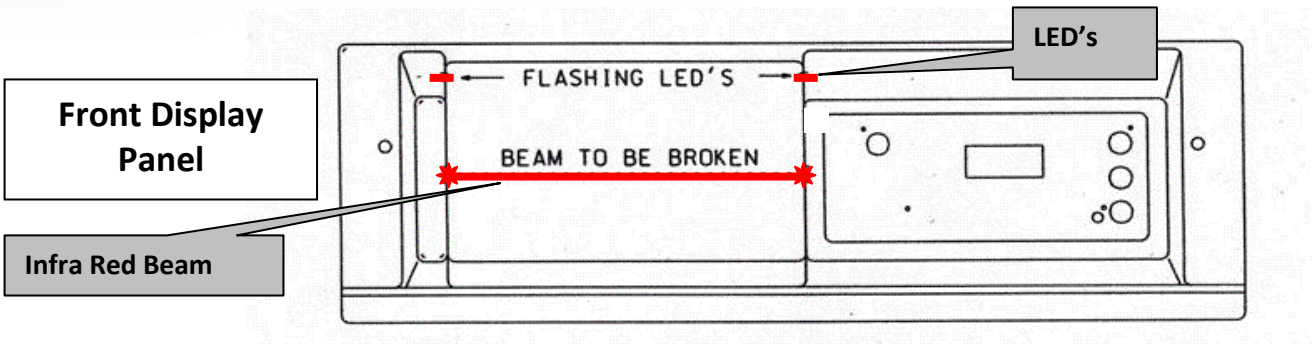
AUSTRALIAN CONSUMER LAW DISCLAIMER (APPLIES ONLY TO THE EXTENT YOU ARE A 'CONSUMER' WITHIN THE MEANING OF THE AUSTRALIAN CONSUMER LAW):

Malmet goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure

MALMET (AUSTRALIA) PTY LTD

MALMET ES-D BEDPAN /URINAL BOTTLE WASHER DISINFECTOR QUICK REFERENCE GUIDE

For complete instructions please refer to the Operation, Maintenance and Installation manual for this device



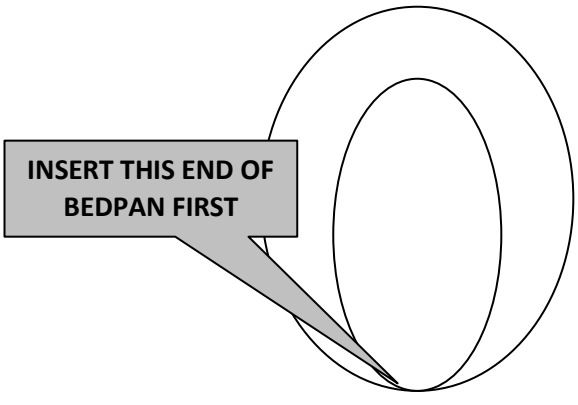
OPERATING DEVICE

1. OPEN DOOR – BREAK BEAM WITH CLOSED FIST or PAN/BOTTLE
2. LOAD PAN & BOTTLES AS PER INSTRUCTIONS (Page 9)
3. CLOSE DOOR & START CYCLE - BREAK BEAM WITH CLOSED FIST
   a. DOOR WILL CLOSE Device displays rdY
   b. BREAK BEAM within 8 seconds with CLOSED FIST and cycle will start.

If not broken within 8 seconds, beam must be broken TWICE to re-open.

BEDPAN INSERTION

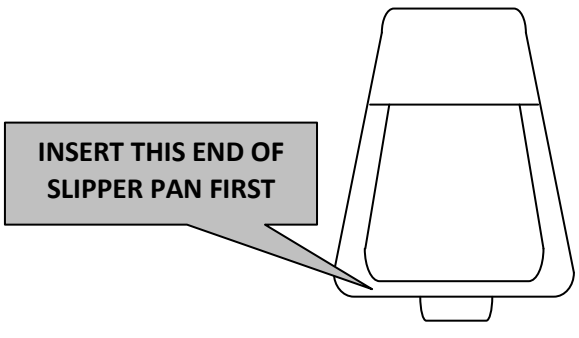
Refer Page 9 in the Operation, Maintenance and Installation Manual.



STANDARD SLIPPER PAN INSERTION

Pan must be firmly pushed down and locked into rack.

Refer Page 9 in the Operation, Maintenance and Installation Manual.



Queensland Distributor

EVOCARE AUSTRALIA PTY LIMITED

A.B.N. 98 078 566 604

Trading as **EVOCARE** and **L&M EQUIPMENT**

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Quality Management - ISO 9001

Global-Mark.com.au®

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