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Bedpan Washer Disinfector

Models ES910, ES930

Energy Saver

***Detergent Model
With Hands Free Operation***



Operation, Maintenance and Installation Manual

Serial Number:	Supplied to:
Date Installed:	Installed by:

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



Operation, Maintenance and Installation Manual

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Operation, Maintenance and Installation Manual

Foreward

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

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

Quality Policy

Malmet (Australia) Pty Ltd is Quality Certified to ISO 9001, AS 3902, NZS 9002 and guarantees the quality of this product. Should you have any problems with your machine, contact the company from whom you purchased it, or Malmet (Australia) Pty Ltd.

Certification

Electrical Safety: Cert No. CS10082N

Watermark: Cert No. WMKA21156

EMC Cert of Compliance T130119

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Operation, Maintenance and Installation Manual

Safety Instructions

WARNINGS



Be aware of 240V Voltage



Disconnect power when servicing



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



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 pipes and hoses from Steam and hot water



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



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Design Parameters

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

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

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

- i) Standard size bed pans
 - ii) Standard commode bowl
 - iii) Standard male and female urine bottles
 - iv) Most plastic urine bottles including male non-spill and female cervex
 - 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 and detergent 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 Washer Disinfector and six (6) minutes and thirty (30) seconds for the 10 Amp Bedpan Washer Disinfector

Note: Dependant on ambient air temperature.

Note: The first cycle will take longer as the machine has to reach the operating water temperature to 90°C.

- f) Malmet Door Obstruction Feature

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



Disconnect power when servicing



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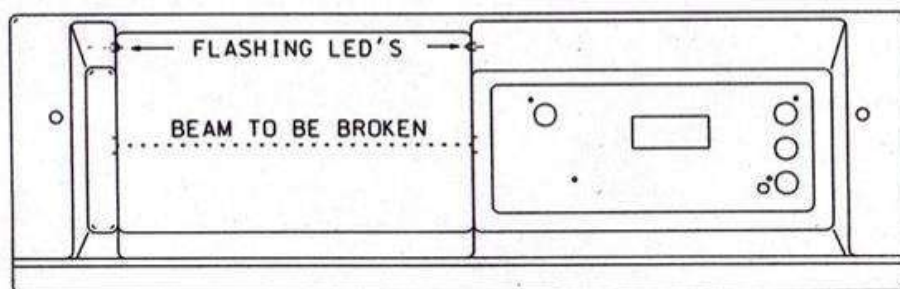
Section A – Unit Operation

Hands Free Operation

Zero Contamination – Totally Hands Free

The Malmet “Energy Saver” is fully automatic.

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



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.



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Detergent

A detergent system is available that delivers 30ml of concentrated detergent in the initial wash.

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



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

Detergent Out Condition

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



Low Level mark, replace detergent.



Operation, Maintenance and Installation Manual

Changing the Detergent Bottle



WARNING

SAFETY GLOVES AND GOGGLES MUST BE WORN WHEN CHANGING DETERGENT

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

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

Note: Leave cap on new bottle until in position.

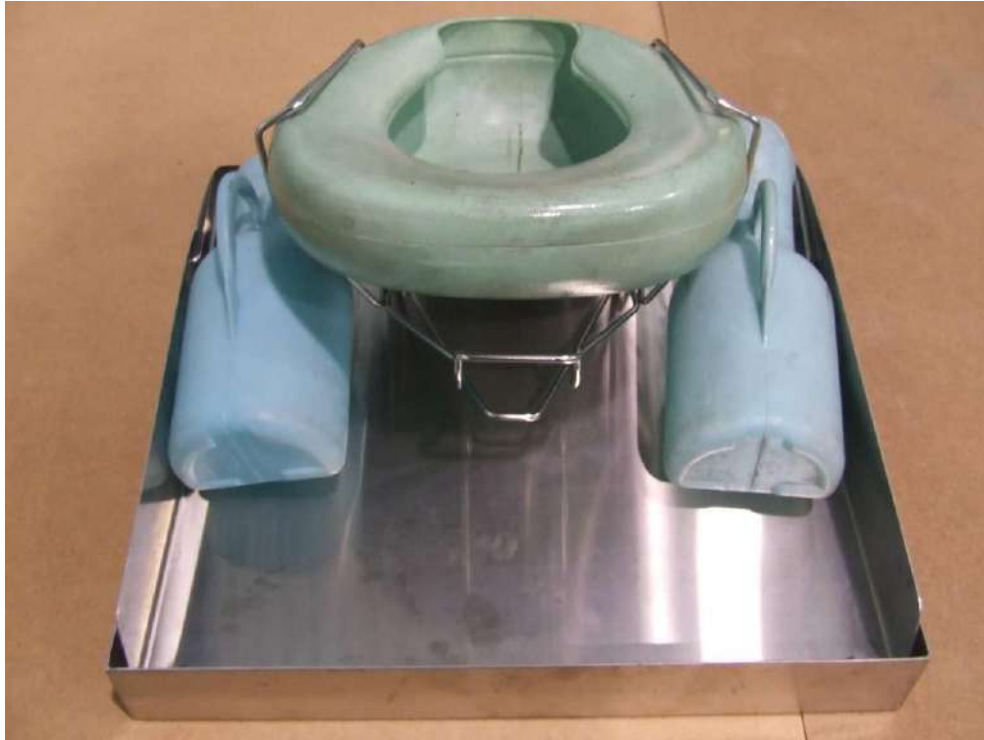
4. Remove cap on new bottle and fit existing hose and cap.
5. Close detergent door.
6. Restart machine operation as normal.





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Bed Pan + Urinal Bottles



Slipper Pan + Urinal Bottles



Push down Slipper
Pan until it locks into
position



Operation, Maintenance and Installation Manual

Standard Commode Bowl + Urinal Bottles



Large Commode Bowl + Urinal Bottles





Operation, Maintenance and Installation Manual

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 2437-1987, ISO 15883-1, ISO/TS 15883-5

Thermal Disinfection

AS 2437-1987, AS/NZS 4187:2003, ISO 15883-1

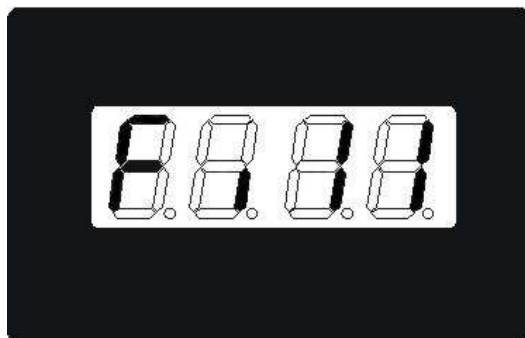


Operation, Maintenance and Installation Manual

Sequence of Operation

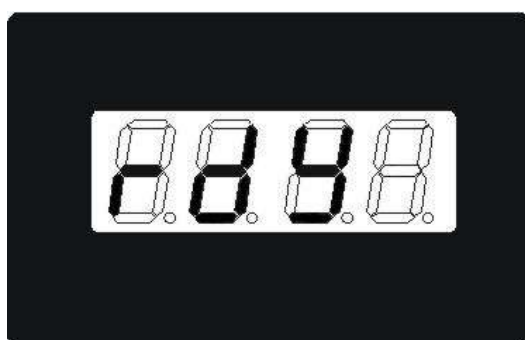
1. Providing machine is installed into position with power and water connected push power on button.
2. When the unit is turned on via the display panel the **display shows fill** indicating steam generator and cold water tanks are filling to the high water level.

At this stage the unit 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 machine is now ready to commence a cycle.

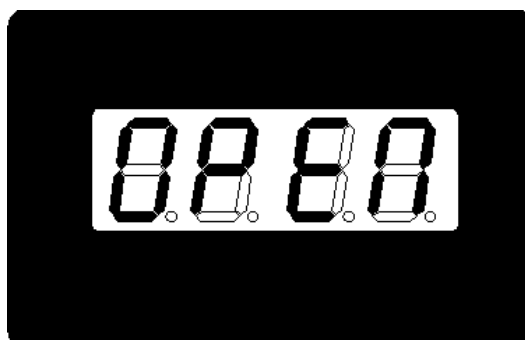
The display shows rdy (ready).



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.

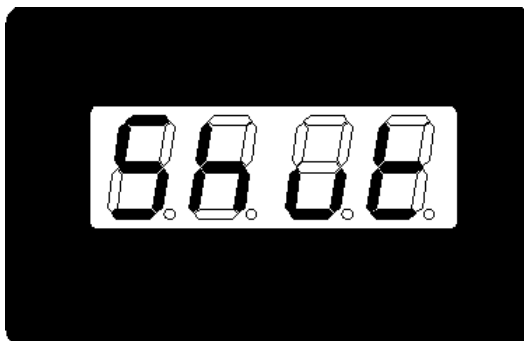




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6. Once the machine is "loaded" the operator breaks the infra-red beam to close the door.

The display shows Shut



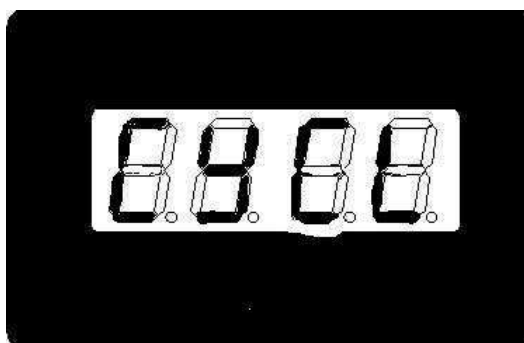
7. When the door is fully closed 2 GREEN LED's will flash in the infra-red sensor area for 8 seconds to advise the user to break the beam again to start a cycle.

The display shows rdY

If the 8 seconds has elapsed the flashing LED's will stop and the unit 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.

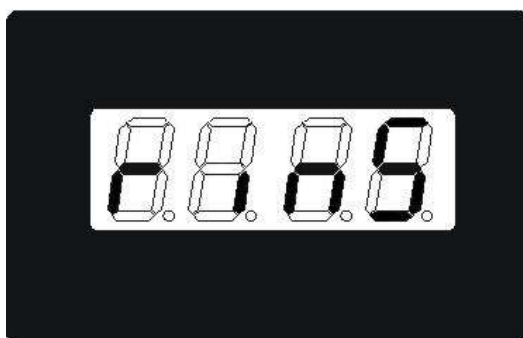
Note: On 10A models if the steam generator temperature is not at 90°C after the beam has been broken or the manual start button pressed. The display will show "CYCL", the green LED's will stop flashing and stay on. When the steam generator had reached temperature the display will show rinS the wash cycle 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 rinS

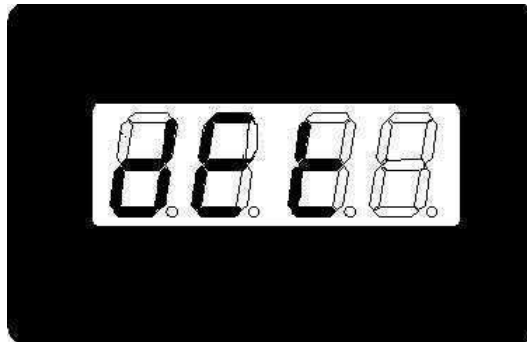




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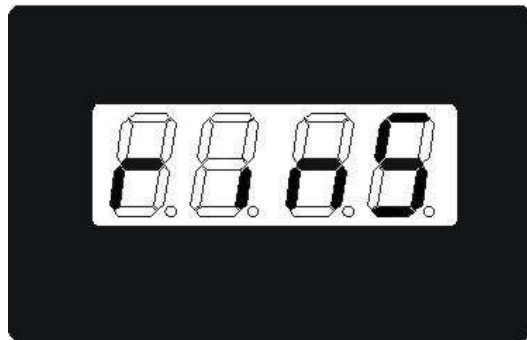
9. Detergent pump comes on delivering 30ml of concentrate to rinse pump.

The display shows dEt



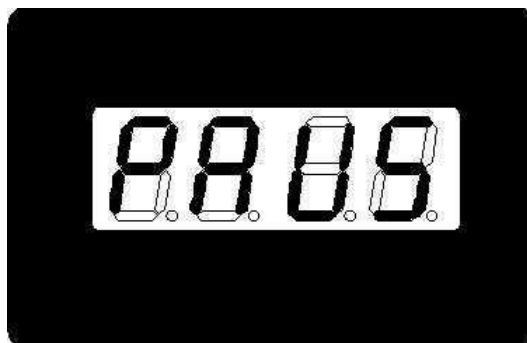
10. Rinse pump comes on to distribute detergent over and inside items

The display shows rinS



11. Pause for 40 seconds so detergent can take effect

The display shows PAUS

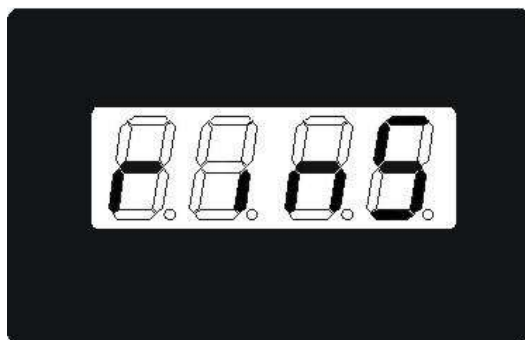




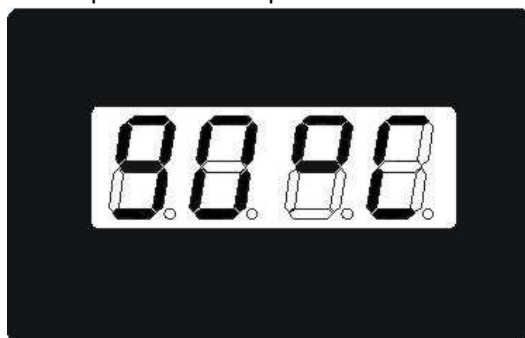
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12. Rinse pump comes on for 10 seconds to rinse detergent from items

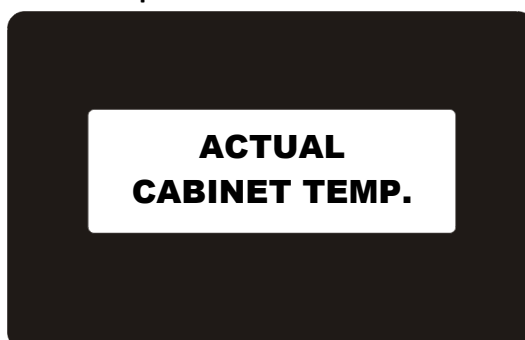
The display shows rins



13. Once the wash cycle is complete the display will flash 90 (indicating 90°C). This is the critical temperature that must be reached before the disinfection cycle can commence. At this point the fill solenoid is disabled and will not operate unit Step 12.



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 disinfection cycle will commence. **This display shows the actual cabinet temperature.**



16. All 3 elements on 20amp models and all 2 elements on 10amp models will continue to heat during the disinfection cycle until the internal cabinet temperature reaches 91°C.
17. At 91°C one element will turn off and at 92°C another element will turn off, on 20amp models, on 10amp models at 91°C one element will turn off. 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 is turned back on the third respectively if the cabinet temperature falls below 91°C.

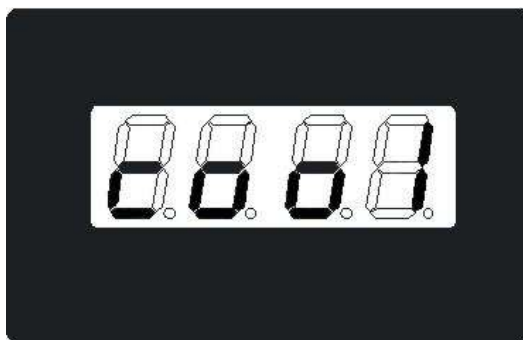


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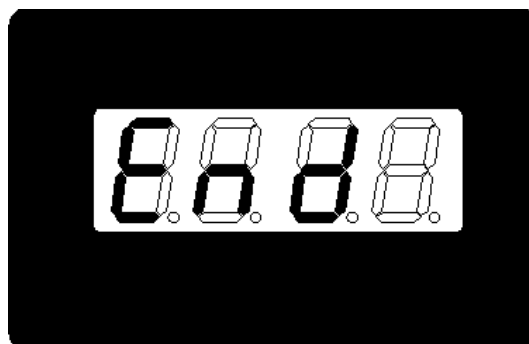
Note: Regardless of element combinations 15 seconds before the end of the cycle ALL elements will turn off. This is to overcome the effects of overshoot in the steam generator producing steam at the end of the disinfection cycle.

18. The maximum time allowable for the disinfection cycle is 10 minutes. If this time is exceeded then the machine 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.



21. If not used the unit steam generator temperature will be kept at the temperature of 85°C-90°C for a period of 15 minutes. If the unit 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.



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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	<i>Flashing</i>	90°C
Disinfection Temperature Reached		'actual' temp °C
Cool Down Final Rinse		cool
End Of Cycle		End
Yellow LED illuminates on Control Panel		Overflow
2 flashing Green LED in Activation Area (8 Seconds)		Cycle Can Be Started



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Section B – Unit 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 'Energy Saver' is self-cleaning, but proper care should be taken to ensure that the unit is cleaned and maintained in accordance with the maintenance instructions for Malmet Bedpan Washer Disinfectors and in accordance with all other regulatory and commonsense 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.

Bi-Monthly (Maintenance Technician)

- a) Check for steam or water leaks. Tighten union, hose clamps and glands where necessary.
- b) Remove and clean out sprays and bottle hooks (unscrew from inside chamber). Clean in ultrasonic cleaner if available.
- 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 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.



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Recommended Preventative Maintenance Schedule

To be performed by a qualified maintenance person.

To be performed **THREE TIMES YEARLY**.

WARNING 240 VOLTS

ISOLATE UNIT FROM ELECTRIC SUPPLY BEFORE SERVICING.

- 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 and clean as necessary (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 product.



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Fault Finding Guide

The unit is controlled by a sophisticated micro-processor. The processor has fault detection capability and indicates faults by code on the digital display; Table B1 indicates these faults. For a more detailed description of these fault conditions see Appendix A – Faults.

Fault No.	Description
01	Door Open Fault – Not Confirmed Door Closed
02	Wash / Disinfection Cycle Time Out
03	Fault Hot Water Probes
04	Door Motor Activation Time Out
06	Hot Water Tank Fill Time Exceeded
07	Hot Water Tank Low Water Level Sensing During Cycle
08	Door Closure Fault – Not Confirmed Door Open
09	Failed To Reach Disinfection Start Temperature Resulting In Time Out
10	Disinfection Temperature Not Maintained Resulting In Cycle Time Out
12	Hot Tank Short Circuit Temperature Sensor
13	Hot Tank Open Circuit Temperature Sensor
14	Disinfection Chamber Short Circuit Temperature Sensor
15	Disinfection Chamber Open Circuit Temperature Sensor

Table B1

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



Operation, Maintenance and Installation Manual

Appendix A – Faults

Diagram B1 (below) shows an example of fault mode display (Fault 01 indicated).

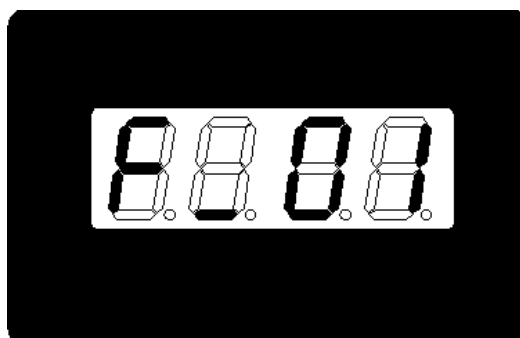


Diagram B1

Following is a more detailed list of fault conditions and most likely causes.

Fault 01	Door Open Fault – Not Confirmed Door Closed (i.e. Door switch still indicates open) <i>Cause</i> Door limit switch stuck out/broken
Fault 02	Wash / Disinfection Cycle Time Out (taking too long to complete cycle) <i>Cause</i> 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) <i>Cause</i> Faulty water level probe
Fault 04	Door Motor Activation Time Out (taking too long to close or open door) <i>Cause</i> 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) <i>Cause</i> Faulty fill solenoid Faulty water level probe Cold water tank empty or not filling quick enough Low water pressure



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Fault 07 Hot Water Tank Low Water Level Sensd 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 overtemp 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
- Fault temperature sensor – chamber

Fault 12 Hot Tank Short Temperature Sensor

Fault 13 Hot Tank Open Circuit Temperature Sensor

Fault 14 Disinfection Chamber Short Circuit Temperature Sensor

Fault 15 Disinfection Chamber Open Circuit Temperature Sensor

Cold Water Overflow Indication

The Yellow LED is used for Cold Tank Overflow.

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



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Appendix B – Additional Faults not detected by controller

Section 1 – Faults

These are other faults that may occur which the controller cannot detect (the controller may however indicate a fault with the following conditions).

Not Washing Pans

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.



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Loading Bed Pans

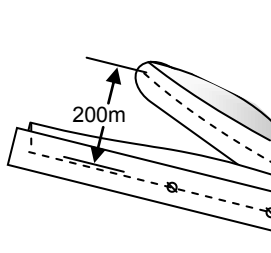


Diagram B2



Side View

Diagram B3



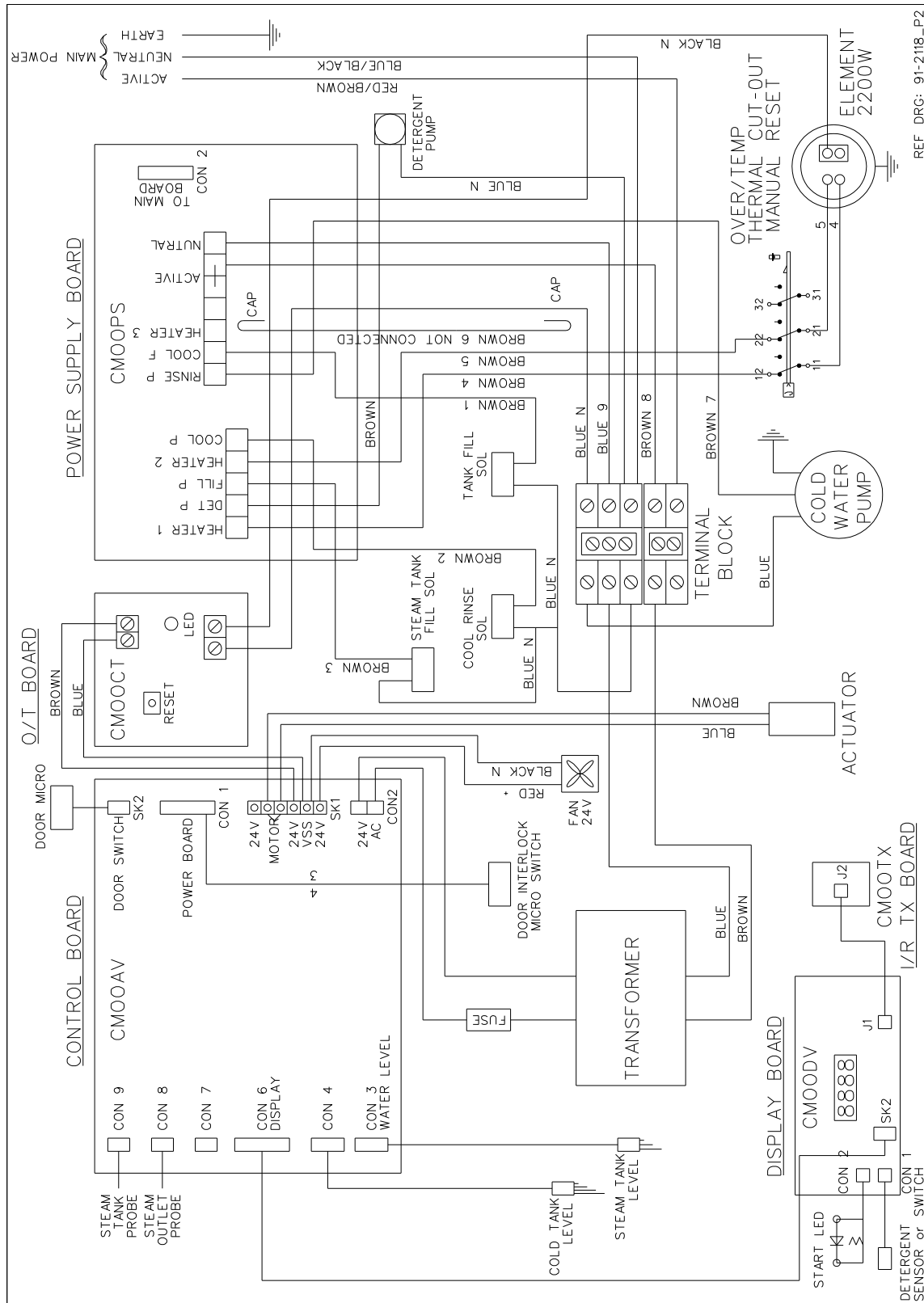
Top View

Diagram B4



Operation, Maintenance and Installation Manual

Electrical Diagram – Energy Saver Detergent 10 Amp Models– ES930



REF. DRG: 91-2118_P2

DRG: 91-2118_P2



Operation, Maintenance and Installation Manual

Section C – Unit Installation

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

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

All units must be earthed.

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

Service Connections

Service Connections for Energy Saver Model:

NOTE: Plumbing connection must comply to AS3500

MODEL	COLD WATER	SOIL LINE	ELECTRICAL
ES910	GB¾ Male	100mm 'S' or 'P' Trap	240V 1 phase @ 20 amps 50 hertz
ES930	GB¾ Male	100mm 'S' or 'P' Trap	240V 1 phase @ 10 amps 50 hertz

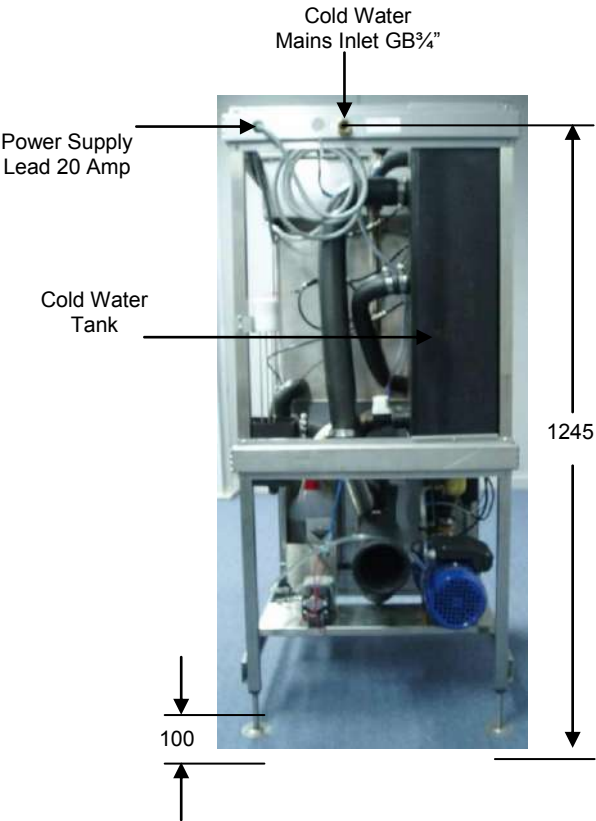


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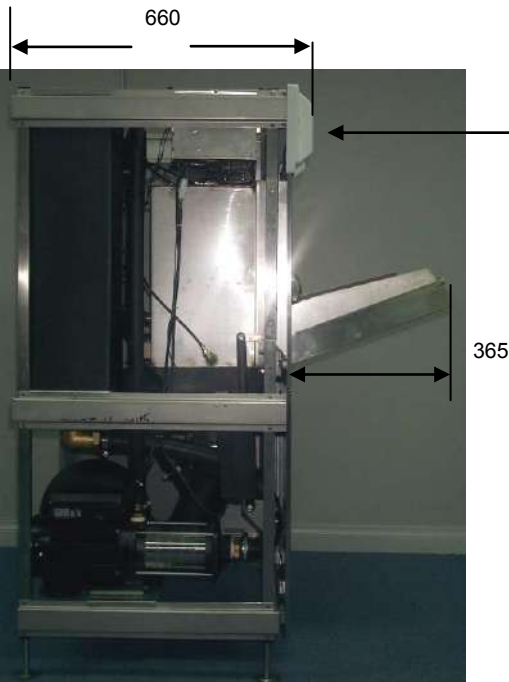
Dimensions and Service Entry Points



Front View



Rear View

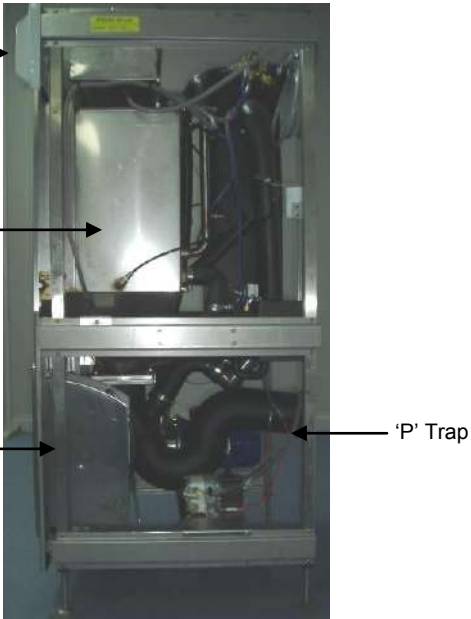


Left View

Control Panel

Chamber

Detergent Door



Right View

Diagram C1



Operation, Maintenance and Installation Manual

Electrical

The Energy Saver machine requires only single phase 240 volts and 50 hertz.

10 Amp Unit – To be hard wired to a lockout isolation switch.



Switch must be wired to 10A max Circuit breaker at main SW Board

20 Amp Unit – To be hard wired to a lockout isolation switch.



Switch must be wired to 20A Circuit breaker at main SW Board

Hard wired ISO switch should be placed on the wall approximately 1500mm above floor level adjacent to the machine. The power electrical lead exits the machine approximately 1200mm above floor level on the right hand side of the machine.

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

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

ALL MACHINES MUST BE EARTHED.

If a three-phase isolation switch is already in position you can use one phase and the neutral for connection.



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

Note  The maximum permissible system impedance Z_{sys} :

$$Z = 0.220 \text{ Ohm} + j 0.137 \text{ Ohm} (0.220 \text{ Ohm} + 437 \mu\text{H})$$

Post Installation Precautions

- Before switching the unit on make sure the water tap is on.
- Turn on the power at the isolation switch and press the standby button on the front display. The digital display will illuminate.
- 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.

- 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.
- The machine will display ‘**rdY**’ (ready) when the water levels are reached.

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



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Positioning of Bedpan Washer Disinfector

Freestanding Model

Model	Placement	Access Required	Unit Dimensions		
			Height	Width	Depth (mm)
ES910 ES930	Freestanding	Both Sides	1305	595	660

For Freestanding model, please allow sufficient room for servicing purposes. Recommended space requirements 200mm on either side and 150mm at the rear of the unit.

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 Washer Disinfector.

The Bedpan Washer Disinfector is supplied with either a 'S' or 'P' Trap as nominated at the time of purchase. 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 hospital (or similar).**



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Note: Bell Ends can be cut off to suit

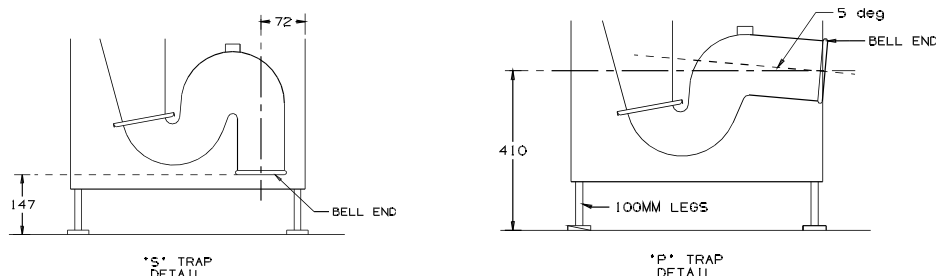


Diagram C2

FOR REASONABLE CONNECTION WORKING SPACE ALLOW 150-200mm FROM REAR OF MACHINE 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 machine. This will ease any difficulty in servicing the steam tank element and probe.

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

Steam Venting

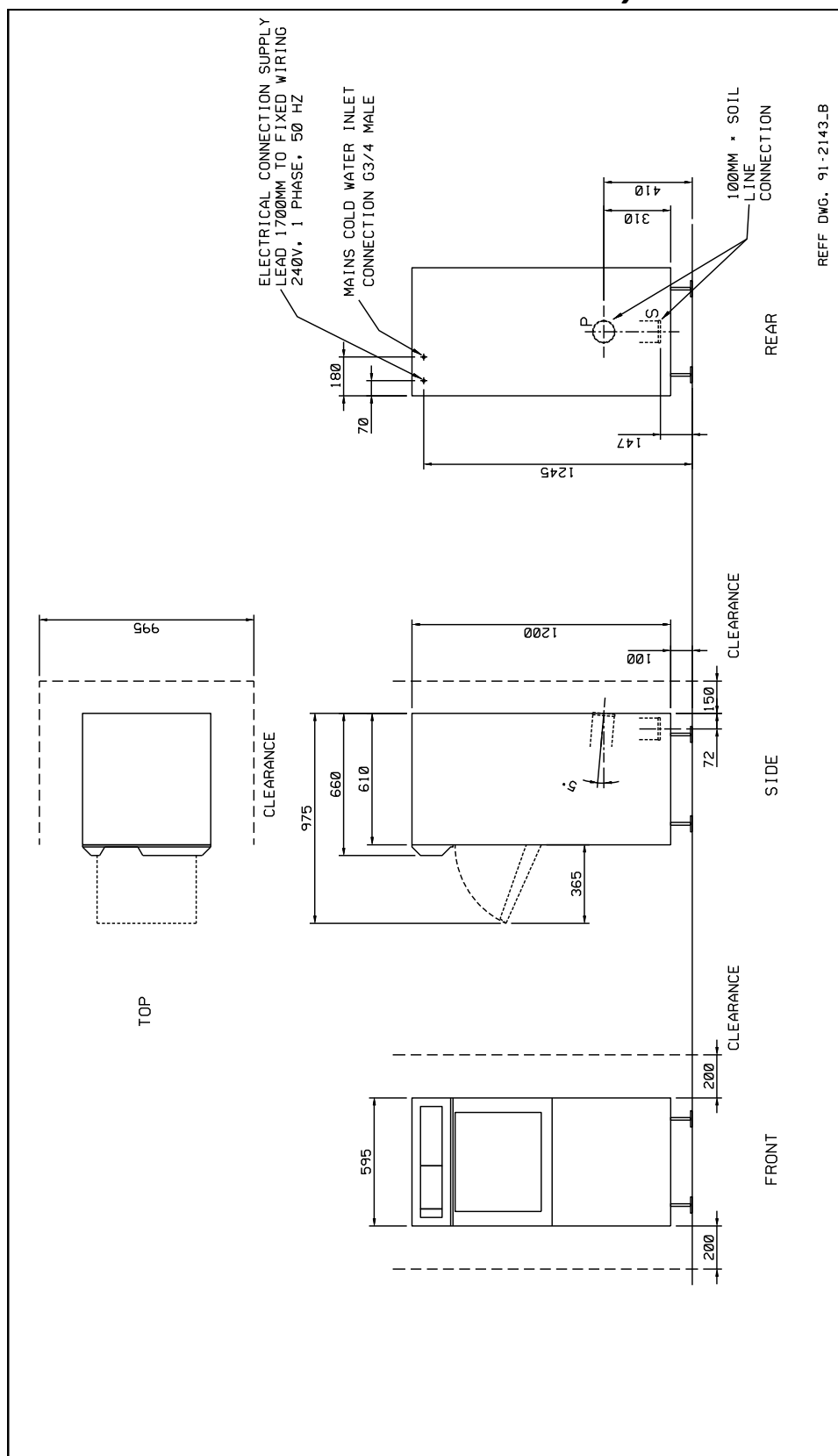
No external vent pipework is required as the machine is designed to condensate all visible steam within the machine.

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 unit is positioned 150mm from the wall. Because this pipe is graded to 5° this measurement will vary as the unit is installed closer or further away from the back wall.

Installation and Service Connection Layout Details





Operation, Maintenance and Installation Manual

Plumbing

Soil Line

There is no high temperature water discharged from this machine 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 unit by using the flanged screw in legs and if possible maintain approximately 100mm floor clearance for ease of floor cleaning. We recommend some of the leg flanges are fixed 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 machine can be connected to any normal 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 machine. (Preferably not behind the machine)

Minimum water pressure 95 Kpa.

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
ES 910 20A DET	11	5.3	0.300	36
ES930 10A DET	7.7	7.5	0.236	35.5

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



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Unit Specifications

Electrical Rating Models ES910	Volts	240V	APPROVALS
	Phase / Hz	1 ph / 50 Hz	
	Amps	20 Amps	
Environment operating conditions	Temperature	+10°C to +25°C	
	Relative Humidity	+30% to 70%	
Element	Rated	4.5kW	
	Overtemp protection	Thermal cut-out switch 3 pole set point 115°C Manual reset	
Electrical Rating Models ES930	Volts	240V	
	Phase / Hz	1 ph / 50 Hz	
	Amps	10 Amps	
Element	Rated	2.2kW	
	Overtemp protection	Thermal cut-out switch 3 pole set point 115°C Manual reset	
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	
	Capacity	2 x Urinal Bottles and one of the following: 1 x Bed Pan & Lid 1 x Commode & Lid 1 x Small Commode & Lid 1 x Small Slipper Pan & Lid 1x 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	Temp – Pressure (Static)	5 – 25°C @ 100 – 400kpa	
Water Inlet Valve connection	Solenoid 240V	GB¾ Male	WRAS Certified
Hose – valve to Cold Water Tank	s/steel Braided	10mm	WRAS Certified
Frame	Material	stainless steel	
Detergent	Malmet specific (5Lt)	Detergent concentrate Caustic Alkaline	ARTGC Class 1
Environmental conditions Transport and Storage	 Fragile	 Keep away from rain	 Do not stack
	Temperature	-5°C to +50°C	



Operation, Maintenance and Installation Manual



Malmart (Australia) Pty Ltd

Website: www.malmart.com.au



Warranty Statement – Australia Only

Subject to the following conditions, we provide, from the date of purchase, the following warranty on Malmart units and spare parts:

- Functional components found within the unit to be defective in workmanship or material will be repaired or replaced free of charge subject to the periods of warranty specified.
- A decision regarding whether the defective components will be repaired or replaced will be determined at the sole discretion of Malmart (Australia) Pty Ltd (“**Malmart**”) or its authorized agents or representatives.
- The structural warranty covers any structural components within the unit, which fail to perform their intended function due to faulty manufacture or deterioration within the warranty period.

This warranty only covers products manufactured by Malmart.

This warranty covers Australia Only.

Parts replaced in units under warranty are warranted for the balance of the original warranty period for that unit.

Malmart Units	
Unit Components	Parts & Labour
Structural Guarantee	1 Year from Date of Purchase
All other components	1 Year from Date of Purchase of unit
Malmart Spare Parts	
1 year from Date of Purchase	

This warranty is provided, and operates in addition to, the statutory warranties Malmart provides you as a consumer under the Australian Consumer Law or by virtue of any other applicable legislation.

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

- Equipment must be installed according to our instructions (outlined in our Operation, Maintenance and Installation Manual) and operated to the purpose it was designed.
- 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 shall be void if the serial number is removed or altered.



Operation, Maintenance and Installation Manual

- Parts damaged in transit back to Malmet Leeton due to poor packaging could result in warranty claim being rejected.
- Any part tampered with or which has been altered by unauthorised repairs and/or modifications will be rejected under a warranty claim.
- Reasonable access must be allowed for maintenance. If any additional equipment is needed to provide access to the unit, this must be provided (and paid for) by the owner.
- It is the owner's responsibility to provide safe access to the unit. Malmet, or any of its authorised service outlets, may refuse to perform maintenance or warranty work if access is unsafe, as determined by Malmet or any of its authorized service outlets at their sole discretion (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 unit.
- 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 unit by Malmet will result in this warranty and any warranty claims applicable to that unit being void.
- Warranty labour (service work) shall **not** include units located outside of city metropolitan areas of Melbourne, Sydney, Adelaide, Perth and Brisbane. Costs outside these areas shall be borne by the Customer. The Customer 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 unit, as determined by Malmet or its authorized representative or agent at their sole discretion (acting reasonably).
- The defective operation of the unit is due to failure of electricity or water supply.
- Defects are caused by neglect, incorrect application, abuse or by accidental damage of the unit.
- An unauthorised person has attempted to repair the unit.
- Harsh environmental situations including, but not limited to, water quality that may cause the water tank damage cannot be considered warranty.



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HOW TO MAKE A CLAIM UNDER THIS WARRANTY

If you believe there is a defect in a unit 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.

Date Commissioned:

Warranty Expiry Date:

Sold To:

For Service Contact:

PROOF OF PURCHASE

Please retain your proof of purchase. Your receipt/invoice or commissioning certificate is your warranty and will be required to validate any warranty.

E.&O.E.

In the interest of continued product improvement, Malmet (Australia) Pty Ltd reserves the right to alter specifications without notice.

AUSTRALIAN CONSUMER LAW DISCLAIMER:

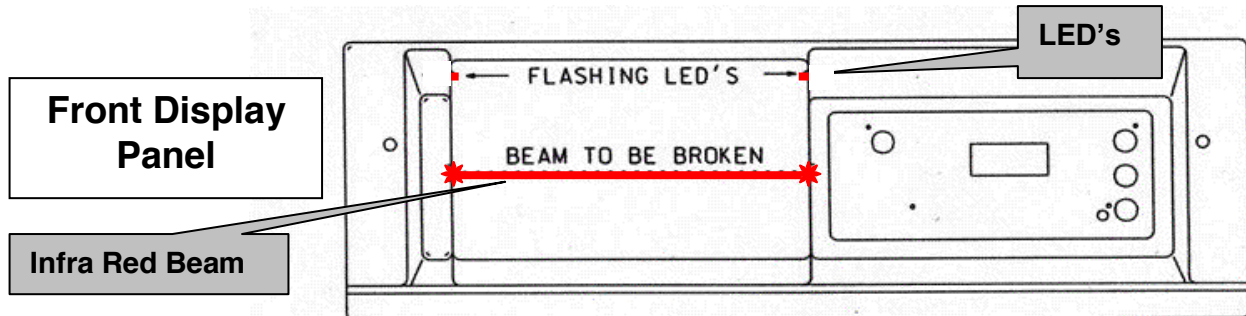
Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods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



MALMET ES-D BEDPAN WASHER DISINFECTOR

Quick Reference Guide

For Complete Instructions please refer to the
Operation, Maintenance and Installation Manual for this unit.



OPERATING MACHINE

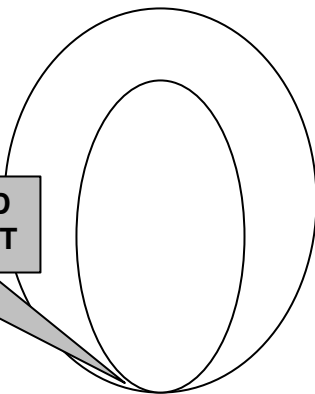
1. **OPEN** DOOR – BREAK BEAM WITH **CLOSED FIST** or **PAN/BOTTLE**
2. **LOAD** PAN & BOTTLES AS PER INSTRUCTIONS (Page 9)
3. **CLOSE DOOR & START CYCLE** - BREAK BEAM WITH **CLOSED FIST**
 - a. DOOR WILL CLOSE Machine displays **rdY**
 - b. **BREAK BEAM** within 8 seconds with **CLOSED FIST** and cycle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

If not broken in 8 seconds beam must be broken **TWICE** to reopen.

BEDPAN INSERTION

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

INSERT THIS END
OF BEDPAN FIRST

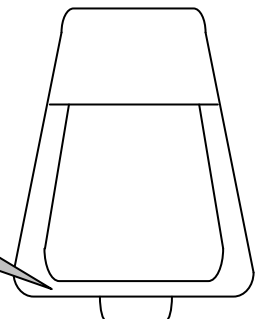


STANDARD SLIPPER PAN INSERTION

Pan must be firmly pushed down and locked into rack.

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

INSERT THIS END
OF SLIPPER PAN
FIRST





EVOCARE AUSTRALIA PTY LIMITED

A.B.N. 98 078 566 604

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

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