

WDS Washer Disinfector Sanitizer



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.*



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**Forward**

In order to obtain maximum life and efficiency from your Malmet WDS and to aid in the safe operation of the device, please read and understand this manual thoroughly and follow all instructions before operating the unit.

This device is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the unit by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the device.

The specifications supplied in this manual were in effect at time of publication. Due 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).

Certifications and compliances

ARTG listed:	ID 232450
Electrical Safety Cert:	CS10462N
Watermark Cert:	WMKA21156

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.

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SAFETY INSTRUCTIONS

WARNINGS



Be aware of 240V / 415V 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.



Utensils 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 thermal cut-outs correctly.



Not suitable for use in the presence of a flammable anaesthetic mixture with air or nitrous oxide and mode of operation as continuous.

1.0 DESIGN PARAMETERS

The WDS has been designed within the following parameters:

1.1 OPERATING CYCLES

Three available operating (cleaning, disinfection and sanitizing)



Urine / Bedpan

Load: capacity: 2 x Small slipper pans, 2 x Large slipper pans, 2 x Standard bed pans and 4 x Standard male and female urine bottles

Cycle:

- | | |
|----------------------------------|-----------------|
| 1. Flush | 8 to 12 sec |
| 2. Cold water wash | 2 min |
| 3. Hot water wash with detergent | 2 min |
| 4. Hot water rinse | 35 sec |
| 5. Disinfection/Sanitizing | 1 min at 90 deg |
| 6. Cool down | 20 sec |



Urine only

Load capacity: 4 x Standard male and female urine bottles

Cycle:

- | | |
|----------------------------------|-----------------|
| 1. Cold water | 2 min |
| 2. Hot water wash with detergent | 2 min |
| 3. Hot water | 35 sec |
| 4. Disinfection/Sanitizing | 1 min at 90 deg |
| 5. Cool down | 20 sec |



Bowl / Utensil

Load capacity: 2 x Large bowls (345Dia to 305Dia), 3 x Medium bowls (240Dia to 210Dia), 6 Kidney Dishes (sizes 300 x 50, 255 x 50 and 220 x 43 – held in kidney rack holder)

Smaller kidney dishes fit into a basket with a smaller open ended trays and utensils.

Cycle:

- | | |
|----------------------------------|-----------------|
| 1. Cold water wash | 2 min |
| 2. Hot water wash with detergent | 2 min |
| 3. Hot water rinse | 35 sec |
| 4. Disinfection/ Sanitizing | 1 min at 90 deg |
| 5. Cool down | 20 sec |



Note: These times do not include filling and heating. These times comply with AS 2945. See Technical data for full cycle times.


- a) Two bedpans with lid and four urine bottles can be emptied, cleaned and sanitized during each automatic cycle.
- 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 sanitizing ensures all internal surfaces are totally clean and safe.
- d) The Bedpan flush cycle:
 - i) Removes the heavy soil
 - ii) Clears the trap

1. 2 DETERGENT

The 5 litre detergent container is accessed by opening the bottom door. Only use Malmet approved detergent (See technical data for detergent details)

1. Pull handle 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, make sure suction hose is at bottom of bottle.
5. Close detergent door.
6. Restart machine operation as normal.
7. Check fill level indicator on display. Should show as 

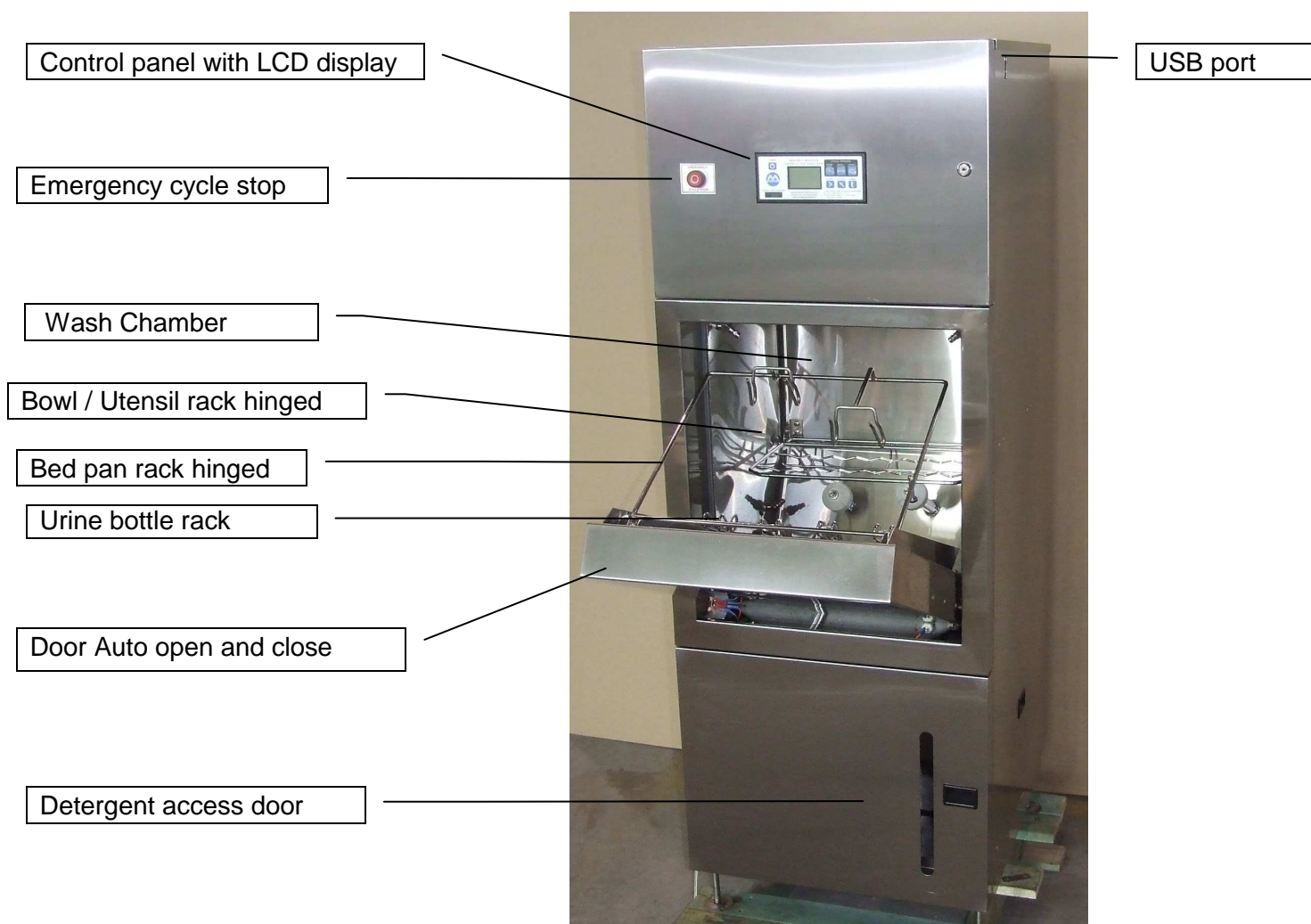


Note: Do not drop detergent container onto base plate. This may result in damaging the load cell.



Safety Gloves and Goggles must be worn when changing detergent.

1.3 DEVICE FEATURES



1.4 CONTROL LCD DISPLAY FEATURES



1.5 OPERATING FEATURES:



POWER: On/Off Standby

HANDS FREE SENSOR



HANDS FREE SENSOR: For hands free opening and closing door. To operate, place hand in front of sensor.



URINE ONLY: Select for Urine bottle only cycle



BOWL / UTENSILS: Select for Bowls / Kidney dishes etc



URINE / BEDPAN : Select for Urine bottles / Bedpans



DOOR: To manually open and close door



SCROLL: Menu scroll button **SERVICE ONLY**



SELECT: Menu select and enter button **SERVICE ONLY**



Detergent level indicator (only visible with power on)

Hands free operation

HANDS FREE SENSOR



By using the hands free option the door can be opened and close automatically. When the door is closed the cycle selected will start.

Place hand in front of window for approx 2 seconds, the door will open. To close the door the display will show Close door. Place hand in front of hands free window for approx 2 seconds and the door will close.

Manual operation of the door



Press the door button the door will open. To close the door the display will show door close. Press the door button and the door closes. When the door is closed the selected cycle will start.

2.0 INSTALLATION AND COMMISSIONING

2.1 INSTALLATION

- Before unpacking unit inspect carton for any damage relating to forklift forks and damage relating to device falling over or for evidence of top loading.
- Remove carton from device; inspect all external panels for damage.



Warning unit weight

- Shipping 163 kg
- Nett unpacked 140 kg with detergent.

2.1.1 Positioning the WDS

Freestanding Model

Model	Placement	Access Required	Unit Dimensions		
			Height	Width	Depth (mm)
WDS	Freestanding	Both Sides	1685	605	625
For Freestanding model, please allow sufficient room for servicing purposes. Recommended space requirements 300mm on either side and 150mm at the rear of the unit.					

Buildings

- Service connections are usually 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 WDS. If an existing soil line can be utilised this will represent a cost saving.
- The WDS is supplied with either an '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 hospital (or similar).**

Service Connections

MODEL	HOT WATER	COLD WATER	SOIL LINE	ELECTRIC AL
WDS 1ph	Solenoid valve GB $\frac{3}{4}$ Male	Solenoid valve GB $\frac{3}{4}$ Male	100mm 'S' or 'P' Trap Hot water discharge 75-80°C	240V 1 phase 20 amps 50 hertz
WDS 3ph	Solenoid valve GB $\frac{3}{4}$ Male	Solenoid valve GB $\frac{3}{4}$ Male	100mm 'S' or 'P' Trap Hot water discharge 75-80°C	415V 3 phase 20 amps 50 hertz

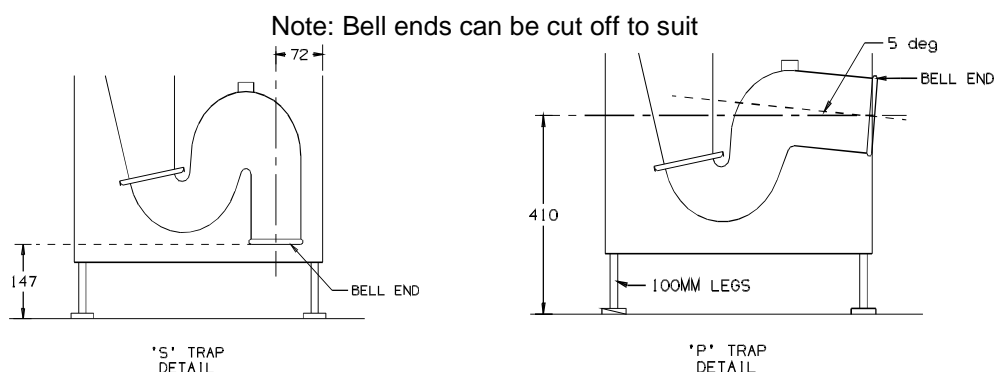


Diagram C2

For reasonable connection working space allow 150-200mm from rear of device to wall
The Machine is 600mm wide and the centre of the trap is 300mm from each side.

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 side service access, space soil line 600/700mm from side wall.

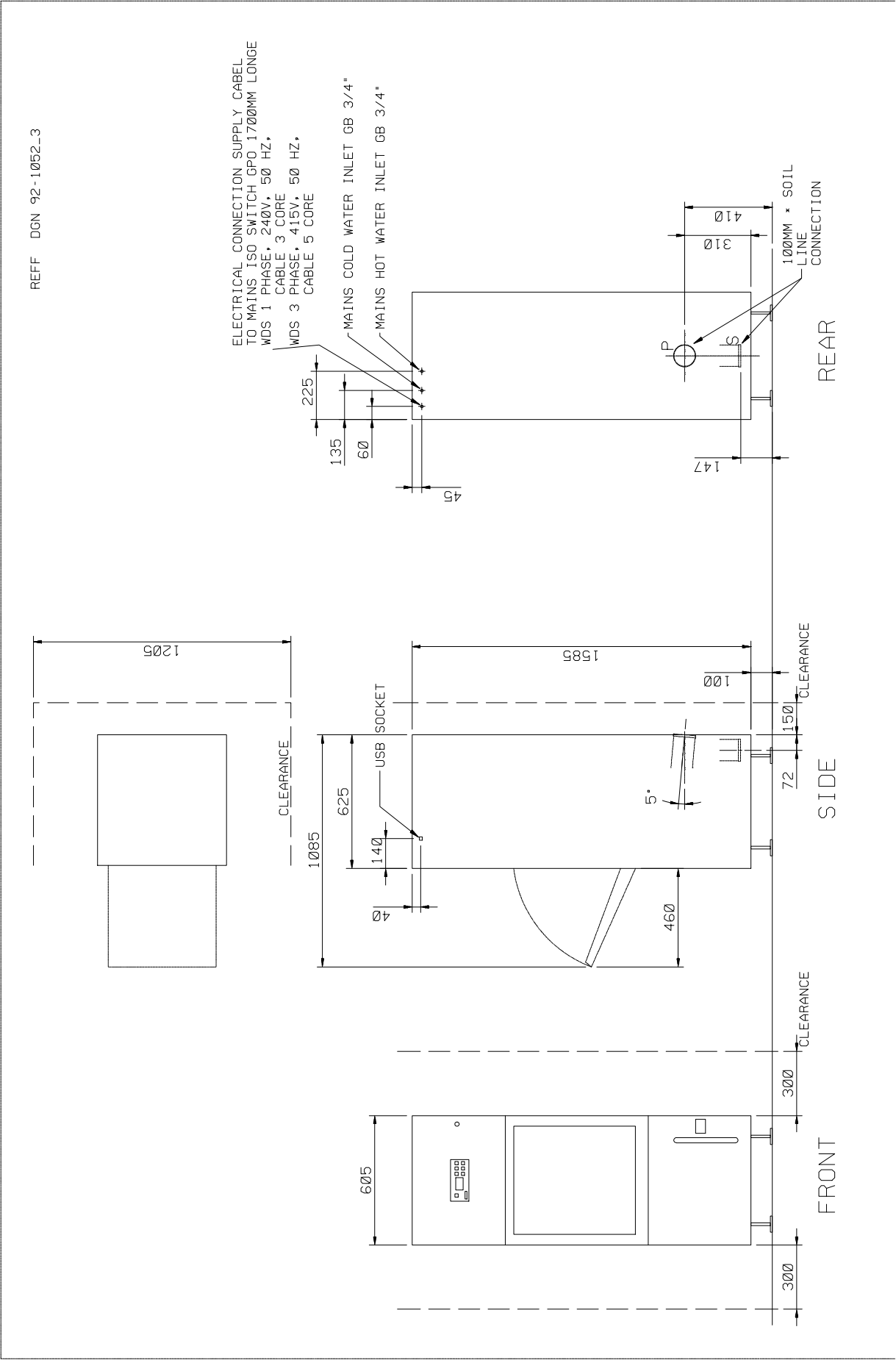
If space restrictions do not allow for recommended side service access, we suggest preference be given to providing the most space available on the right hand side as you look at the front of the machine. This will ease any difficulty in servicing the steam tank element and probe.

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.

Steam Venting

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



2.3 PLUMBING



These Installation Guidelines must be followed to ensure the unit will operate as intended.

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

Service Connections



NOTE: Plumbing connection must comply to AS3500 and Watermark Certified.

Waste connection

- HOT AND COLD WATER CONNECTIONS ARE REQUIRED. The machine can be connected to any normal mains pressure hot and cold water supply. A back flow prevention air gap is incorporated in the design of the water tank. Complies to AS 2845.2
- The water supply is to be connected to an isolating valve or cistern stopcock placed approximately 1200mm from the floor to the right-hand side of the machine. (Preferably not behind the machine)

Cold water: Flow pressure Kpa 100 min 350 max. Temperature 15° - 25° C

Hot water: Flow pressure Kpa 100 min 350 max. Temperature 55° - 60° C

If inlet water flow pressure is higher than 350 Kpa an inline pressure reducing valve should be fitted.

Soil Line

- Hot water. Discharge temp 75° – 80° C. Soil line to comply to AS3500
- Soil line connection is by a pan collar or other preferred method. If the belled 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 that some of the leg flanges are fixed to the floor via stainless self tapping screws to prevent sideways movements and damage to services and soil line connections.
- The soil line should protrude from the floor or wall at a minimum of 100mm

2.4 ELECTRICAL



These Installation Guidelines must be followed to ensure the unit will operate as intended.

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

Model: WDS 1ph 240V 50Hz 1 ph 20Amp

WDS 3ph 415V 50Hz 3 ph 20Amp

- Units are supplied with 1700mm power supply cord extending from the rear top right hand side of the device for hard wiring into Mains ISO switch. Position switch approximately 1500mm above floor level
- Mains power ISO switch must be in an accessible position so device can be isolated from mains power during service.
- We recommend having a 30mA RCD in the mains supply fixed wiring.
- If the supply cord is damaged, it shall be replaced by the manufacturer or its service agent or similarly qualified person in order to avoid any potential hazard.

2.5 COMMISSIONING

- a) Before switching the unit on make sure the **UNIT IS LEVEL** and **WATER TAPS ARE ON**. Check that the **DRAIN WASTE** is connected.
- b) Turn on the power at the isolation switch. Turn on circuit breakers inside electrical cover and press the standby button on the front display. The LCD display will illuminate and go to standby mode.
- c) Check that the water tank is filling with cold water and that it has fill to Level 3. Make sure the lid is put back on water tank.
- d) Check that the steam generator tank has filled to the full Level 3. The steam generator will pre heat to 85°C in standby mode or during cycle.
- e) Check that the 5 litre detergent bottle has been fitted. From the menu, run the DETERG/START to purge detergent through the line to flow sensor. This may need to be done twice if the line is empty on start up. See 5.6
- f) Flush approximately 1 litre of water down the steam generator tank overflow pipe. This will fill the 'S' Trap at the hose junction and prevent steam coming back up into the water tank.
- g) From the Menu, run Purge Reset three times. Check for any water leaks.
- h) Open the door and turn power off at the control. Check racks for freedom of movement. Check that Flush nozzles rotate freely. Check that all spray nozzles are tight. Turn power back on and close door by pressing the door button.
- i) Select the BEDPAN/URINE cycle and let it run through the cycle. Repeat the same procedure for the URINE and BOWL cycles.
- j) Replace all covers.

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

3.0 UNIT LOADING AND OPERATION

Refer to laminated WDS Instructions

3.1 URINE BOTTLE / BEDPAN LOADING AND OPERATING CYCLE

LOADING

1. To open door, use  or press 
2. Place racks into the correct positions

Lift bedpan rack up and lock into position.



Check that bowl rack is in the up position.

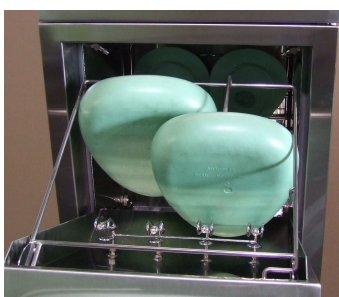
3. Place bedpan lids into back of Bowl rack



4. Place first bedpan onto top rack, or large/small slipper pan.



5. Place second bedpan onto bottom rack or large/ small slipper pan



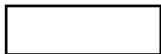




6. Place urine bottles into rack



3.1.1 URINE BOTTLE / BEDPAN LOADING AND OPERATING CYCLE

Refer to laminated WDS Instructions

OPERATING CYCLE

1. Open door, use  or press 
2. Select URINE / BEDPAN cycle press 
3. Close door, use  or press 

When door closes the cycle will start automatically.

Cycles will be shown on LCD display

1. Flush
2. Cold water wash
3. Hot water wash with detergent
4. Hot water rinse
5. Disinfection
6. Cool down
7. Completed

When the cycle is completed the display will show COMPLETED. OPEN DOOR


Open door, use  or press 

NOTE: If temperature inside the chamber is too high the display will flash, *WAITING COOLING*

When the temperature has dropped to a safe level the display will flash, *OPEN DOOR*

Open door, use  or press 

To run the same cycle repeat steps 1 to 3

If you don't need to run another cycle. Close door by pressing 



NOTE:

- When the cycle has started the operating cycle cannot be interrupted.
- In an emergency, if the cycle needs to be stopped press the EMERGENCY CYCLE STOP button.
- The display will show a Fault code 904 (See note below).



NOTE:

- If a FAULT code is displayed on LCD display contact the service engineer to rectify.

3.2 URINE BOTTLE ONLY LOADING AND OPERATING CYCLE

Refer to laminated WDS Instructions

LOADING

1. Open door, use HANDS FREE SENSOR or press 

2. Place racks into correct positions

Bedpan rack can be in the up or down position.



Check that the bowl rack is in the up position

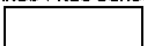




3. Place urine bottles into rack



3.2.1 URINE BOTTLE ONLY LOADING AND OPERATING CYCLE

Refer to laminated WDS Instructions

Operating cycle

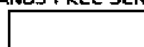

1. Open door, use  or press 
2. Select URINE / BEDPAN cycle press 
3. Close door, use  or press 

When door closes the cycle will start automatically.

Cycles will be shown on LCD display

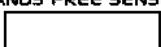

1. Cold water wash
2. Hot water wash with detergent
3. Hot water rinse
4. Disinfection
5. Cool down
6. Completed


When the cycle is completed the display will show COMPLETED OPEN DOOR


4. Open door, use  or press 


NOTE: If temperature inside the chamber is too high the display will flash, *WAITING COOLING*

When the temperature has dropped to a safe level the display will flash, *OPEN DOOR*

To open door, use  or press 

5. To run the same cycle repeat steps 1 to 3
6. If you don't need to run another cycle close door by pressing 

-  NOTE:
- When the cycle has started the operating cycle cannot be interrupted.
 - In an emergency, if the cycle needs to be stopped press the EMERGENCY CYCLE STOP button.
 - The display will show a Fault code 904 (See note below).

-  NOTE:
- If a FAULT code is displayed on LCD display contact the service engineer to rectify.

3.3 BOWL / UTENSIL LOADING AND OPERATING CYCLE

Refer to laminated WDS Instructions

LOADING

1. Open door, use **HANDS FREE SENSOR**  or press 

2. Place racks into the correct positions

Place bedpan rack into the down position.



Place the bowl rack in the down position

3. Examples of bowls and utensils placed onto racks

Large and medium size bowls



Medium size kidney dishes

Kidney dish rack placed onto bowl rack



Load kidney dishes into rack



Smaller items can be placed into accessory basket

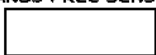


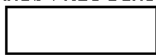

Basket placed onto bowl rack



3.3.1 BOWL / UTENSIL LOADING AND OPERATING CYCLE

Refer to laminated WDS Instructions

OPERATING

1. Open door, use  or press 
2. Select Bowl / Utensil cycle, press 
3. Close door by using  or press 

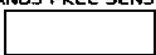

When door closes the cycle will start automatically.

Cycles will be shown on LCD display

Cold water wash

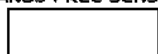

1. Hot water wash with detergent
2. Hot water rinse
3. Disinfection
4. Cool down
5. Complete


When the cycle is completed the display will show COMPLETED OPEN DOOR


4. Open door, use  or press 


NOTE: If temperature inside the chamber is too high the display will flash *WAITING COOLING*

When the temperature has dropped to a safe level the display will flash *OPEN DOOR*

To Open door, use  or press 

5. To run the same cycle repeat steps 1 to 3
6. If you don't need to run another cycle close door by pressing 

-  NOTE:
- When the cycle has started the operating cycle cannot be interrupted.
 - In an emergency, if the cycle needs to be stopped press the EMERGENCY CYCLE STOP button.
 - The display will show a Fault code 904 (See note below).

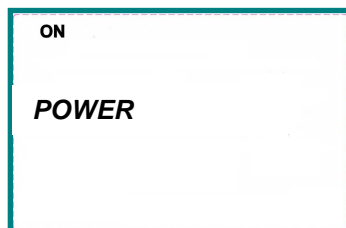
-  NOTE:
- If a FAULT code is displayed on LCD display contact the service engineer to rectify.

4.0 CYCLE OF OPERATION

1. Press POWER ON BUTTON

Display shows

POWER



After short delay display shows alternating

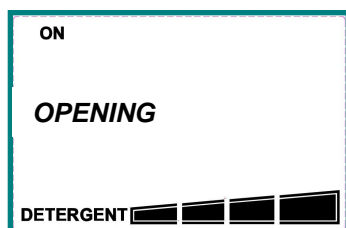
**OPEN
DOOR**



2. OPEN DOOR:

Display shows

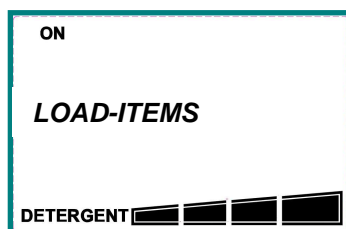
OPENING



3. WHEN DOOR IS OPEN:

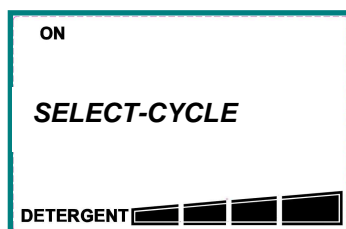
Display shows

**LOAD
ITEMS**



After short delay display shows

**SELECT
CYCLE**

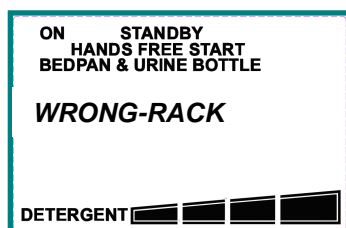


If the wrong cycle has been selected for the position of the racks.
Display shows briefly

**WRONG
RACK**

Then

**SELECT
CYCLE**



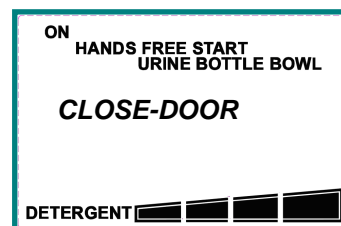
4 AFTER SELECT CYCLE: BEDPAN/URINE BOTTLE

Display shows

**CLOSE
DOOR**



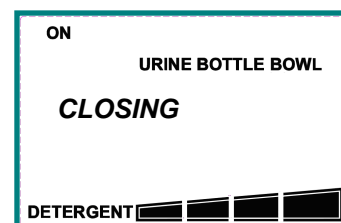
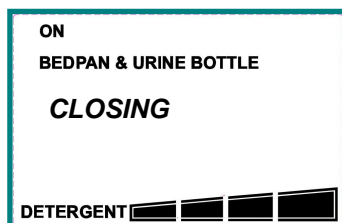
URINE ONLY OR BOWL



5 WHEN DOOR IS CLOSING

Display shows

CLOSING

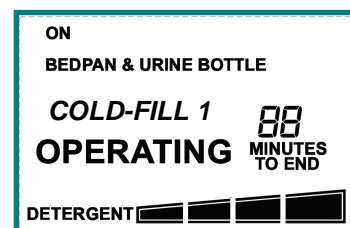


6. WHEN DOOR CLOSES UNIT STARTS OPERATING

CYCLE 1: COLD FLUSH

Display shows

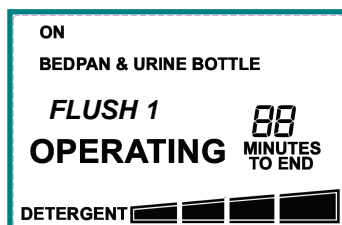
**COLD
FILL 1**



NOT USED

When filled to correct level then shows

FLUSH 1

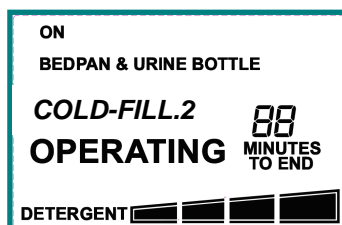


NOT USED

CYCLE 2: COLD WASH

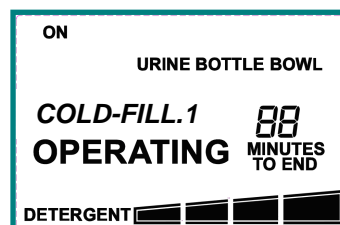
Display shows

**COLD
FILL 2**



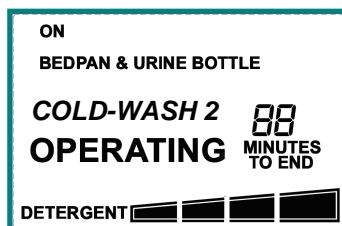
CYCLE 1: COLD WASH

**COLD
FILL 1**

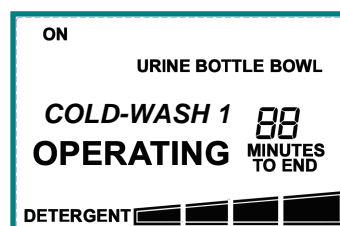


When filled to correct level then shows

**COLD
WASH 2**



**COLD
WASH 1**

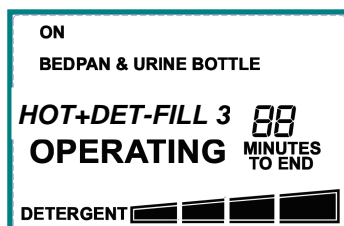


CYCLE 3: HOT WASH PLUS DETERGENT

DETERGENT

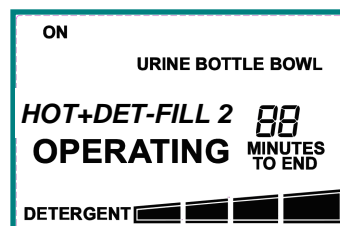
Display shows

**HOT+DET
FILL 3**



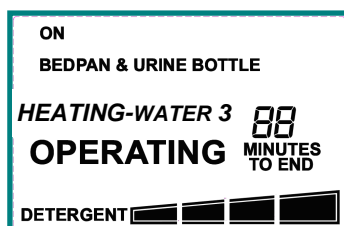
CYCLE 2: HOT WASH PLUS

**HOT+DET
FILL 2**

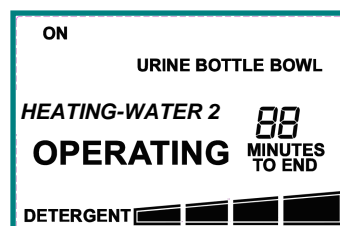


When filled to correct level then shows

**HEATING
WATER 3**

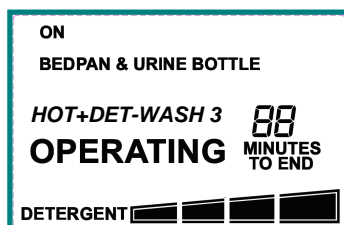


**HEATING
WATER 2**

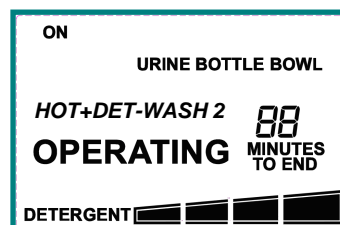


When water reaches temp then shows

**HOT+DET
WASH 3**



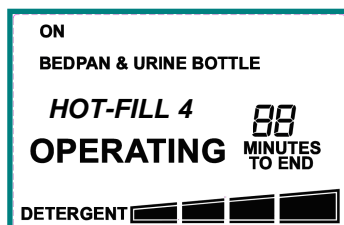
**HOT+DET
WASH 2**



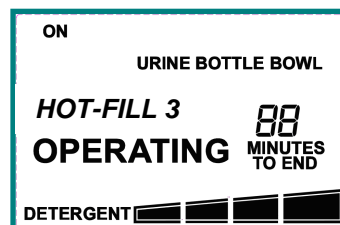
CYCLE 4: HOT RINSE

Display shows

**HOT
FILL 4**

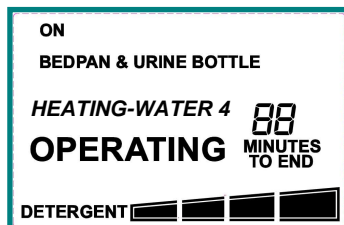


**HOT
FILL 3**

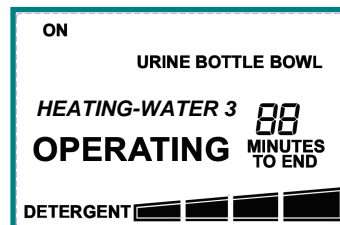


When filled to correct level then shows

**HEATING
WATER 4**

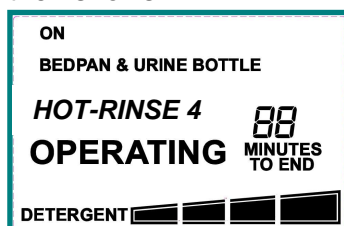


**HEATING
WATER 3**

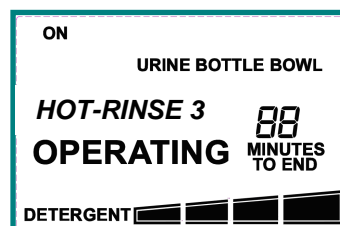


When water reaches temp then shows

**HOT
RINSE 4**



**HOT
RINSE 3**





7. DISINFECTION / SANITIZING

Display shows

TEMP 50° to 93°c

Steam heating chamber to 93°c

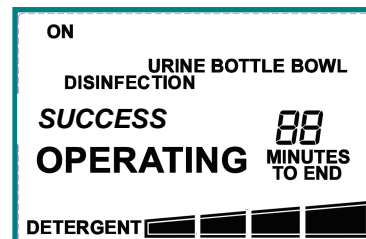
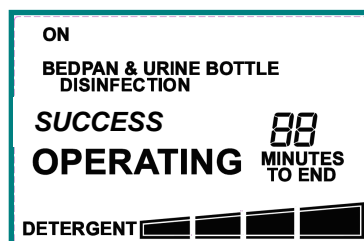
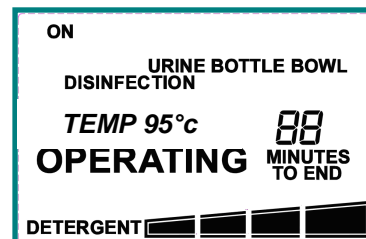
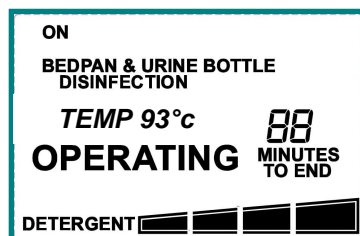
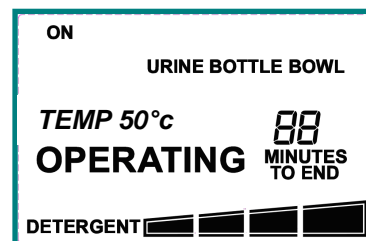
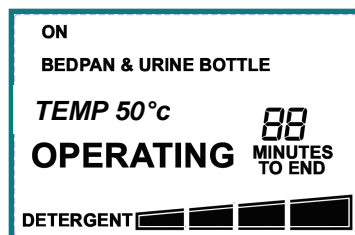
When chamber reaches 93°c

Disinfection for 1 min @ 93°c

TEMP 93°c

When Disinfection completes
then display shows briefly.

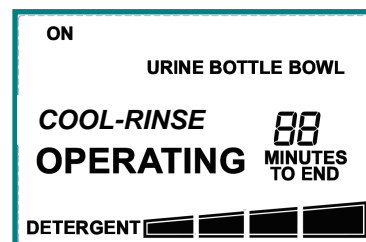
SUCCESS



8. COOL RINSE

Display shows

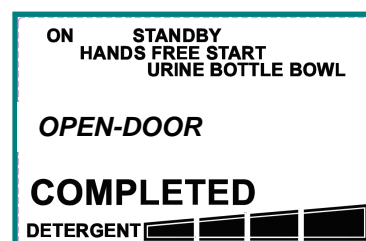
**COOL
RINSE**



9. COMPLETED

Display shows

**OPEN
DOOR**



To repeat or run an alternative cycle repeat steps 2, 3, and 4

⚠ When opening door if the temperature in the chamber is above lockout temperature.

Display will show

**COOLING
WAITING**

Then

**OPEN
DOOR**



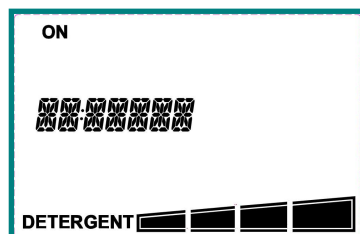
TO CLOSE DOOR WITHOUT RUNNING CYCLE

After the door is opened display shows

**LOAD
ITEMS**

Then

**SELECT
CYCLE**



- Manually press DOOR BUTTON
- Software will check that racks are in correct position before door closes. If racks have been moved, wrong rack will flash. Place rack or racks into correct position for any of the 3 cycles and press DOOR button.
- Door will close and go to standby.

Display will show

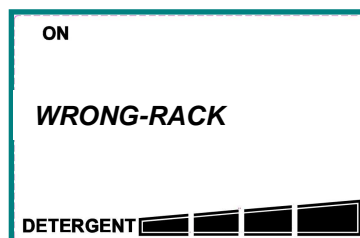
If racks are incorrectly positioned

**WRONG
RACK**

If racks are in correct positions

Then

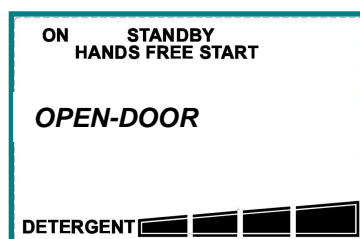
CLOSING



AFTER DOOR IS CLOSED WITHOUT RUNNING CYCLE

Display shows

**OPEN
DOOR**

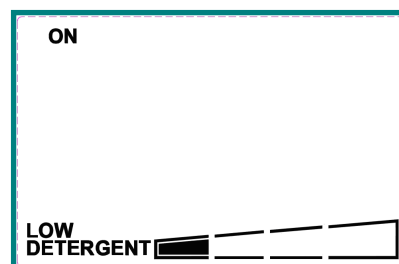


4.2 DETERGENT WARNINGS

First Warning

When last full segment is showing. LOW DETERGENT Flashing.

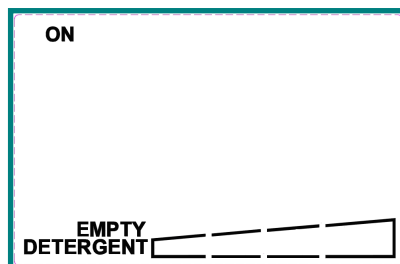
At this stage there is approx 1.5 to 1.6 lt in bottle.



Second Warning

When no full segments are showing EMPTY DETERGENT is flashing

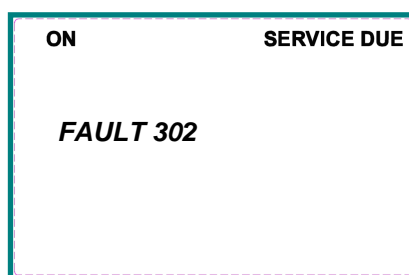
At this stage there is approximately 750mL to 1lt in bottle



Third warning

Fault 302 Detergent time out. No detergent in bottle

When full bottle is installed the detergent line will require purging (refer to page 31)

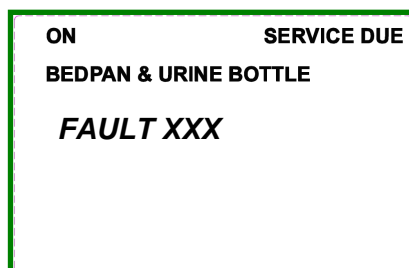


FAULT 302

4.3 FAULT INDICATION

In the event of a Power failure or operation failure during cycle the device will go to fault. The display will show the selected cycle the unit was operating in when power failed or operation failed. After fault has been rectified a Purge/Rest will be required to start the device.

FLT XXX flashing
Audible Buzzer will beep





5.0 MAINTENANCE

Maintenance, preventative or breakdown, is to be completed by a qualified person. Failure to comply with this may result in unsafe conditions.

The Malmet WDS is self-cleaning, however, proper care should be taken to ensure that the unit is cleaned and maintained. In accordance with maintenance instructions for Malmet WDS, regulatory and common sense practices.

Preventative Maintenance Schedule

5.1 DAILY MAINTENANCE (Operator or Maintenance Technician)

- a) Run the Bedpan urine cycle to bring the unit up to operating temperature and sanitize the internal wash chamber area. (Do not load any items)
- b) Wipe out the inside of the door and gasket with warm water and detergent. A wipe with disinfectant is also desirable.
- c) Wipe over outside stainless steel panels with a stainless steel cleaner. (Do not get cleaner into the opening of the USB port)
- d) 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. (Turn off power at control panel)
- e) Check level in detergent bottle, replenish as necessary

5.2 BI-MONTHLY MAINTENANCE (Maintenance Technician)

- a) Check for steam or water leaks. Tighten hose clamps where necessary.
- b) Check flush nozzles for free rotation.
- c) Remove level probe in steam generator tank and water tank, clean off any residue build up.
- d) Remove temperature probes in steam generator and chamber and clean off any residue build up.
- e) Visually inspect build-up of residue in steam tank, especially in locations with poor water quality.
- f) Check filter in the water inlet solenoid valve and clean as necessary.
- g) Check all electrical connections, and tighten if necessary.

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 a pad.



5.3 RECOMMENDED PREVENTATIVE MAINTENANCE SCHEDULE (to be performed by a qualified maintenance person)

To be performed **THREE TIMES YEARLY** for units in constant day and night use and **HALF YEARLY** or **YEARLY** for units in lesser usage situations.



WARNING 240-415 VOLTS

ISOLATE UNIT FROM ELECTRIC SUPPLY BEFORE SERVICING.

- a) Remove top and side panels and front bottom panel behind detergent door.

Note: Panel removal

- i) Remove 4 self-tapping screws on the top panel.
- ii) Lift the side panel up to remove.
- iii) Remove 2 x 3/16" screws from bottom front panel.

Note: Control lockout switches are mounted under the top panel and behind electrical access door. Device will not operate if switch is open circuit.

- b) Remove and clean the sprays in sequence (do not mix sprays with other spray groups). Chamber top to bottom. Cool down sprays x 2, Top sprays x 4, Bottom sprays x 4, Pan Tip sprays x 2 and rotary nozzles x 2. Door Urine bottle sprays x 4 – 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-scalar may be the quickest and easiest means to remove built up of deposits. Replace before removing next spray group.
- c) Check condition of Rack positioning magnets.
Note: Replace magnets annually.
- d) Check hinge screws for tightness on Pan Rack and Bowl rack.
- e) Check condition of door gasket.
- f) Steam generator: Check for scale build up inside element housing and water tank. Remove and clean temperature probe and water level sensors.
- g) Water Tank: Check for scale build up inside tank and on element. Remove and clean temperature probe and water level sensor.
- h) Remove and clean temperature probe at steam outlet.
- i) Water inlet solenoids: Check filters for material build up, clean if necessary.
- j) Make sure the water fill solenoids are completely shutting off and levels are not creeping up, if so, clean and/or replace the solenoid.
- k) Detergent pump: Check hose on pump and hoses in detergent lines for cracks.
- l) Load Cell detergent bottle: Remove detergent bottle, unscrew load cell mounting plate being careful that the wire to load cell aren't strained when inspecting load cell. Clean any detergent residue from under plate. Check load cell for corrosion, lightly spray with WD40.
- m) Before replacing panels run purge reset cycle three times to clear any airlocks in spray lines and check for leaks. Dust down components if necessary. Replace all panels.
- n) Cycle verification: Run the 3 cycle options starting with Bedpan/Urine bottles. Download logger data to PC, Print of report of the last 3 cycles. Check temperatures attained and wash cycle times are within the operating requirements.
- o) Replace battery on processor PCB every 12 months. Check time and date, adjust if required.

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.



5.4 FAULT CODES


The device is controlled by a sophisticated micro-processor. The processor has fault detection capability and indicates faults by code on the LCD display as well as an audible buzzer.

FAULT CODE	STATE	DESCRIPTION	POSSIBLE CAUSES
901	System	Blockage	P or S trap blockage to drain
902	System	Door Open	Top/Bottom door switch or actuator
903	System	Internal System Communications Error	Display unplugged, LINK J34 removed
904	System	Power interrupted during cycle	Note – cycle is state 300 to 500 Needs Service – Purge Reset procedure
905	System	Power button cycle aborted	Note – cycle is state 300 to 500 Needs Service - Purge Reset procedure
120	Power On	Blockage at Power On	P or S trap blockage to drain
141	Open Door	Door Overcurrent Trip	Door jammed / Faulty actuator
142	Open Door	Door Open Circuit	Check door top and bottom switches
143	Open Door	Door Timeout	Faulty actuator
181	Close Door	Door Overcurrent Trip	Door jammed / Faulty actuator
182	Close Door	Door Open Circuit	Check door top and bottom switches
183	Close Door	Door Timeout	Faulty actuator
220	Cold Flush Fill	Water Level Sensor Fail	Bad connection. Dirty probes
221	Cold Flush Fill	Water Fill Timeout	Low water fill rate. Water supply off, Blocked sol filter, Faulty fill solenoid
241	Cold Flush Run	Low Water Level during wash	Check Cycle Times
242	Cold Flush Run	Door Open	Check door top and bottom switches
243	Cold Flush Run	Pump run without solenoid	Check Cycle Times. Faulty solenoid
244	Cold Flush Run	Timeout before Level reached	Low pump water flow. Blocked sprays.
260	Cold Wash Fill	Water Level Sensor Fail	Bad connection. Dirty probes
261	Cold Wash Fill	Water Fill Timeout	Low water fill rate. Water supply off, Blocked sol filter, Faulty fill solenoid
281	Cold Wash Run	Low Water Level	Water level is not in contact with probe
282	Cold Wash Run	Door Open	Top/Bottom door switch or actuator
283	Cold Wash Run	Pump run without solenoid	Check cycle times
284	Cold Wash Run	Timeout before Level reached	Low pump water flow
300	Hot Wash+Det Fill	Water Level Sensor Fail	Bad connection. Dirty probes
301	Hot Wash+Det Fill	Water Fill Timeout during detergent	Low water fill rate. Water supply off, Blocked sol filter, Faulty fill solenoid
302	Hot Wash+Det Fill	Detergent Timeout	Out of detergent / Faulty flow switch
304	Hot Wash+Det Fill	Water Heating Timeout	Fill water temp low / Faulty element
305	Hot Wash+Det Fill	Water Heating Low Level	Water level is not in contact with probe
321	Hot Wash+Det Run	Low Water Level	Water level is not in contact with probe
322	Hot Wash+Det Run	Door Open	Top/Bottom door switch or actuator
323	Hot Wash+Det Run	Pump run without solenoid	Check cycle times
324	Hot Wash+Det Run	Timeout before Level reached	Low pump water flow
340	Hot Rinse Fill	Water Level Sensor Fail	Top/Bottom door switch or actuator
341	Hot Rinse Fill	Water Level Timeout	Low water fill rate. Water supply off, Blocked sol filter, Faulty fill solenoid
344	Hot Rinse Fill	Water Heating Timeout	Fill water temp low / Faulty element
345	Hot Rinse Fill	Water Heating Low Level	Faulty fill solenoid / Dirty probe
361	Hot Rinse Run	Low Water Level	LØ not reached in parameter set time
362	Hot Rinse Run	Door Open	Top/Bottom door switch or actuator
363	Hot Rinse Run	Pump run without solenoid	Check cycle times
364	Hot Rinse Run	Timeout before Level reached	Low pump water flow
401	Steam Heatup	Steam Water Level Timeout	Fill water temp low / Faulty element
403	Steam Heatup	Steam Water Low Level	Faulty fill solenoid / Dirty probe
404	Steam Heatup	Steam Water Temperature High	Faulty Temperature probe
405	Steam Heatup	Steam Timeout	Faulty element / Temperature probe / OT switch










FAULT	STATE	DESCRIPTION	POSSIBLE CAUSES
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CODE			
421	Steam Disinfect	Disinfect Water Low Level	Faulty fill solenoid / Dirty probe
422	Steam Disinfect	Disinfect Water Temperature High	Faulty Temperature probe
423	Steam Disinfect	Disinfect Timeout	Check cycle times
801	Purge flush	Low Water Level during wash	LØ not reached in parameter set time
802	Purge flush	Door Open	Top/Bottom door switch or actuator
803	Purge flush	Pump run without solenoid	Check cycle times
804	Purge flush	Timeout before Level reached	Low pump water flow
805	Purge Cold Fill	Water Level Sensor Fail	Bad connection. Dirty probes
806	Purge Cold Fill	Water Fill Timeout	Low water fill rate, Water supply off, Blocked sol filter, Faulty fill solenoid










 Purging must only be undertaken by Malmet service personal or Malmet trained facility maintenance personal.

5.5 PURGE RESET

1. Turn power OFF  at control LCD display
2. Turn power ON  at control LCD display
3. Hold down both SCROLL  and SELECT  buttons, when MENU is displayed, release buttons.
4. SCROLL  to SERVICE menu and press SELECT 
5. SCROLL  to RESET menu and press SELECT  "Confirm" should then display
6. Press SELECT  again to start Purge Reset cycle

When purge reset is completed the Display will resume normal operation






5.6 PURGE DETERGENT LINE

1. Turn power OFF  at control LCD display
2. Turn power ON  at control LCD display
3. Hold down both SCROLL  and SELECT  buttons, when MENU is displayed, release buttons.
4. SCROLL  to TEST menu and press SELECT  RELAY
5. SCROLL  to DETERG menu and press SELECT  START press SELECT  START/RUNNING.

The detergent pump will run for 5 seconds, if detergent line completely purged display shows PASS; then DETERG








If display shows FAIL then DETERG repeat steps SELECT  START; press SELECT 

To EXIT






1. SCROLL  to EXIT press SELECT 
2. SCROLL  to EXIT press SELECT 
3. SCROLL  to EXIT press SELECT 

LCD display goes blank.

5.7 DETERGENT LEVEL AND LOAD CELL CALIBRATION


1. **INSERT empty detergent bottle and also suction hose.** Also make sure that the bottle is centrally located over the sensor plate. Check that the supporting plate is correctly located and is not obstructed by the detergent hose and can pivot freely.
2. Adjust the Trimpot "POT1" located near top LHS of D134412 CONTROL module, so that the LEDs D19 **O** D20 are just at the point where it switches from one LED to the other, they may even both be just on at the same time.
3. **Enter the USER MENU**
 - Turn power OFF  at control LCD display
 - Turn power ON  at control LCD display
 - Hold down both SCROLL  and SELECT  buttons, when MENU is displayed, release all buttons
 - At first MENU press SELECT  then SCROLL  4 times to see "DISINF" and press SELECT 

The LCD alternately shows DISINF then current level (%)

 - Press SCROLL  to see EMTYCAL. Press SELECT  LCD returns to DISINF
3. **INSERT a FULL detergent bottle and suction hose.** Also make sure that the bottle is centrally located over the sensor plate. Wait approx 1 to 3 minutes until liquid is settled.
 - From DISINF screen press SELECT  The LCD alternately shows DISINF then current level (%) Note - % may also show as BLANK)
 - press SCROLL  2 times to see FULLCAL
 - Press SELECT  LCD returns to DISINF

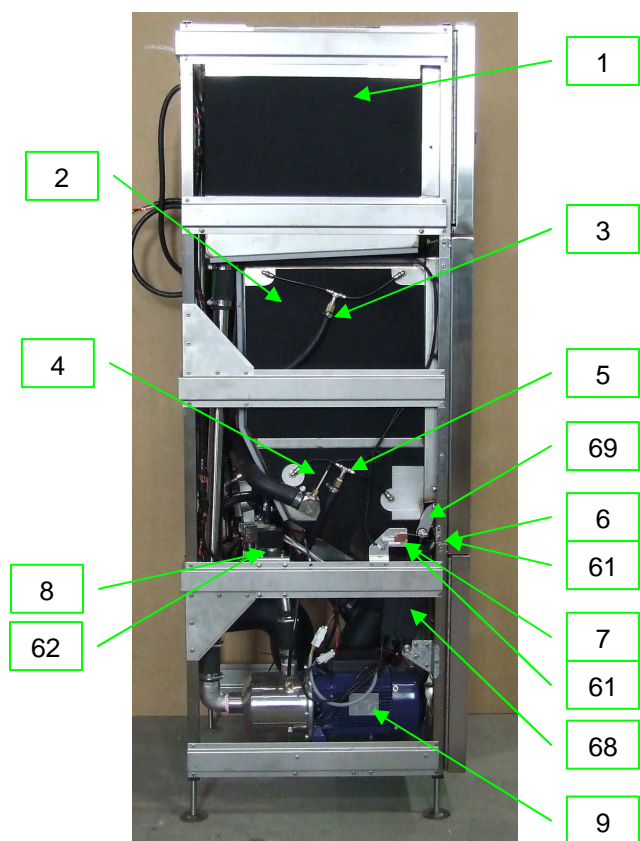
CALIBRATION IS COMPLETED

To return to normal operation mode there are 3 options

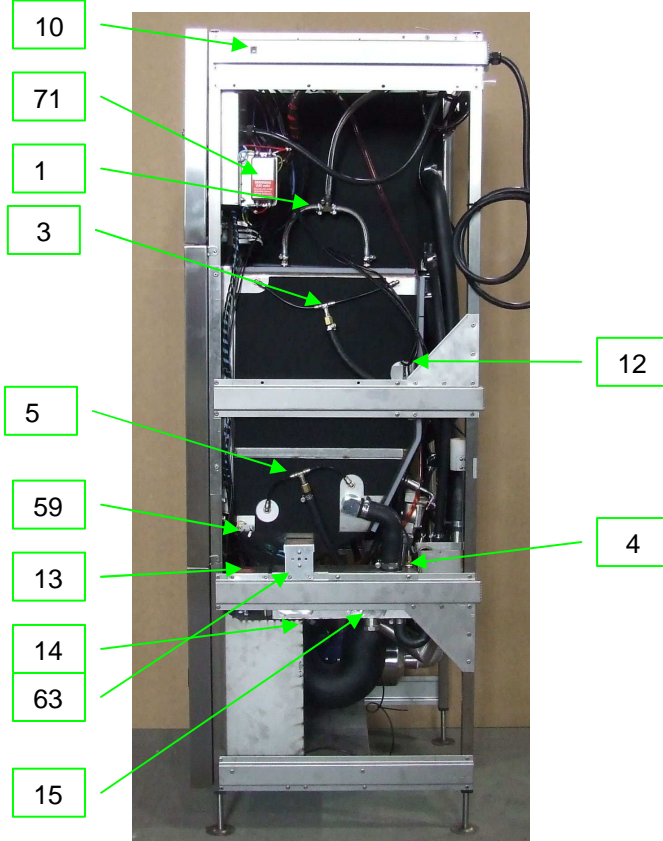
- A. Switch Power OFF  at the control
- B. Scroll to EXIT then press SELECT then at top level menu SCROLL to EXIT and press SELECT again.
- C. Wait for menu inactivity timeout. The unit returns to the power off state.

NOTE – If the load cell reading is less than zero level or the detergent level is greater than 105% then "DETERGENT" will flash and the level bars will all be off.

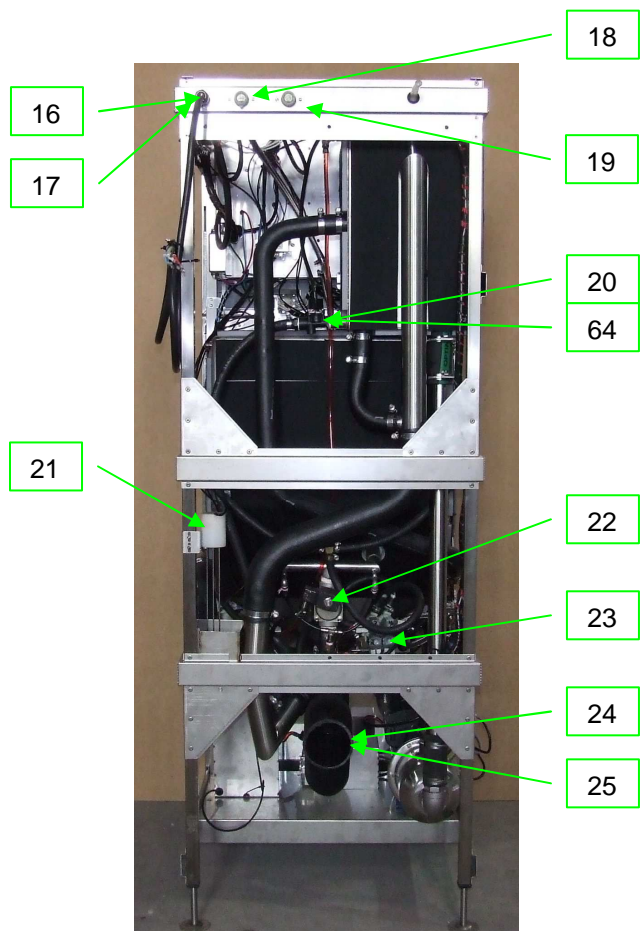
5.8 DEVICE SERVICE COMPONENT IDENTIFICATION AND PART LISTING



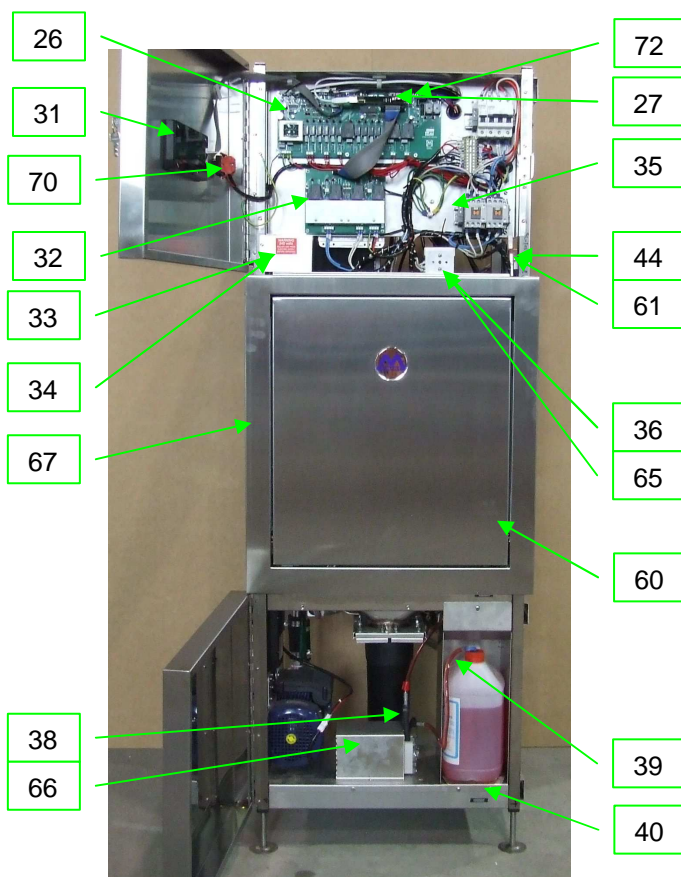
L/H SIDE VIEW



R/H SIDE VIEW

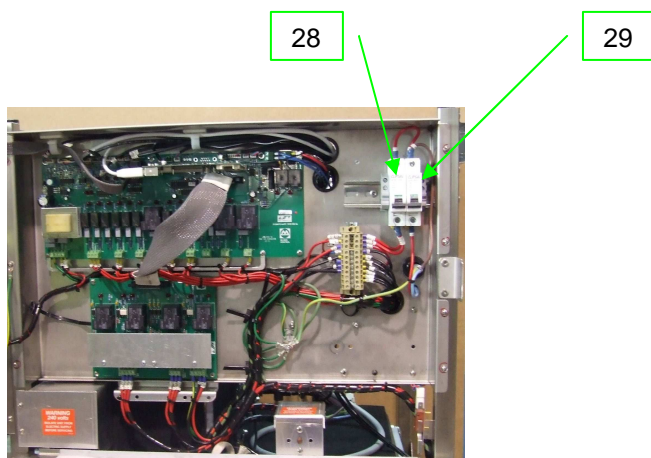


REAR VIEW

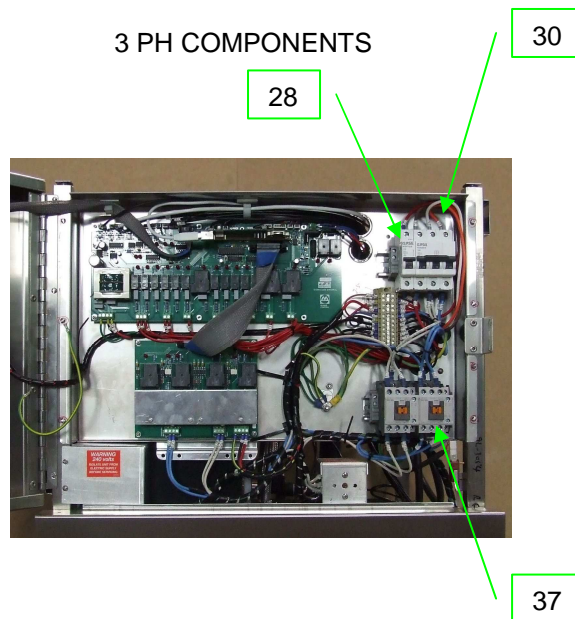


FRONT VIEW

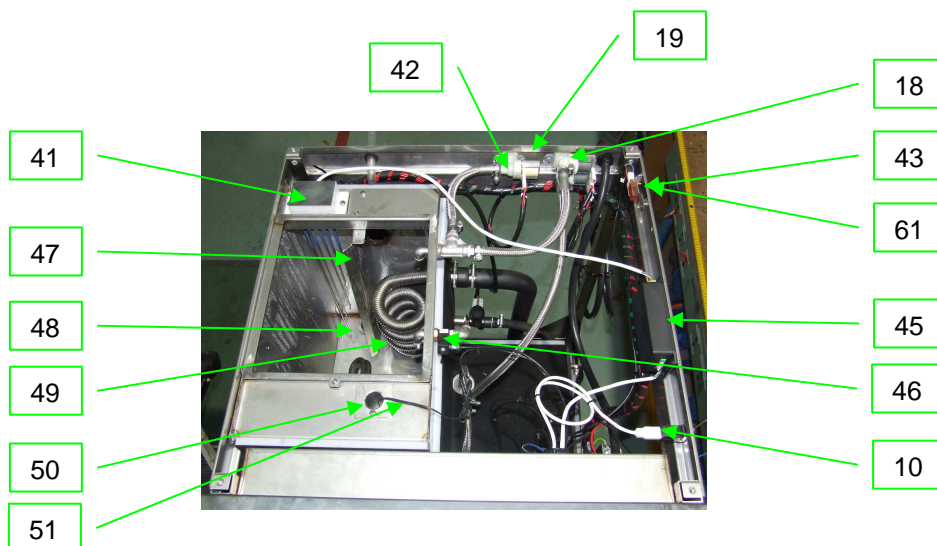
1 PH COMPONENTS



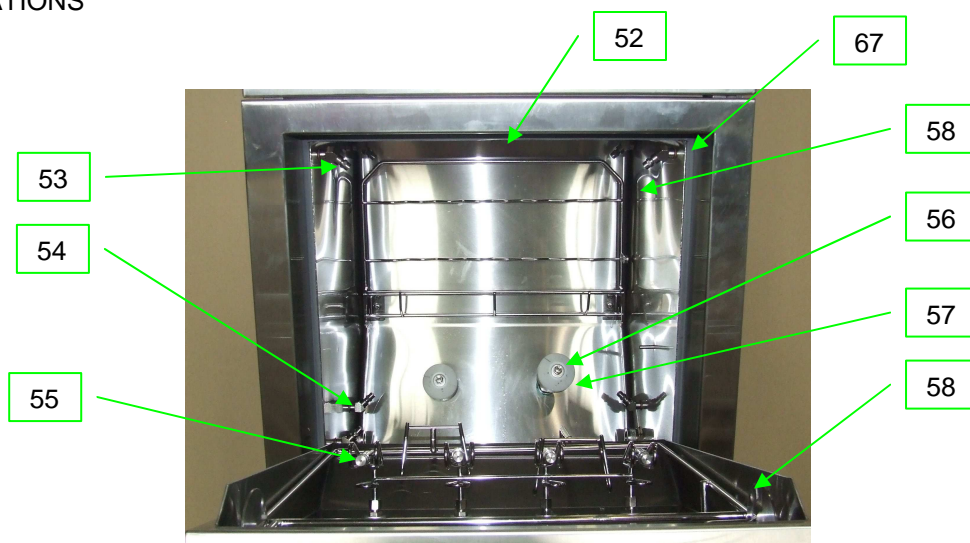
3 PH COMPONENTS



TOP VIEW



SPRAY LOCATIONS





Item	Description	P/N	Qty
1	Water tank assy	92-4019	1
2	Chamber assy	92-4001	1
3	Spray line top assy	92-4037	1
4	Temp probe	92-4084	2
5	Spray line bottom assy	92-4038	1
6	Door top switch assy	92-4079	1
7	Door bottom switch assy	92-4080	1
8	Pump drain line assy	92-4045	1
9	WDS Pump assy	92-4044	1
10	USB adaptor socket	92-3124	1
11	Spray line cool down assy	92-4040	1
12	Bowl rack sensor sw assy	92-4087	1
13	Heating Element 4.5kw	91-3040	1
14	O/T sw element (steam gen)	92-4083	1
15	Steam generator assy	92-4022	1
16	Cable power supply 1 ph assy	92-4090	1
17	Cable power supply 3 ph assy	92-4105	1
18	Cold water in solenoid 2 way	92-3012	1
19	Hot water in solenoid 1 way	81-2099	1
20	Steam gen fill line assy	92-4050	1
21	Fill level probe assy	92-4078	1
22	Flush nozzle solenoid	92-3015	1
23	Spray solenoid 4 way	92-3013	1
24	P trap	91-2029	1
25	S trap	91-2028	1
26	Control module	92-3005	1
27	Processor module	92-3006	1
28	Circuit breaker 10A 1 ph 3ph unit	92-3018	1
29	Circuit breaker 20A 1ph unit	92-3017	1
30	Circuit breaker 20A x 3 3ph unit	92-3126	1
31	Control display assy	92-4070	1
32	Heater switch module	92-3004	1
33	Heating Element 4.5kw 1 ph unit	91-3040	1
34	Heating Element 7.2kw 3ph unit	92-3128	1
35	Transformer assy at rear	92-4049	1
36	O/T sw element water tank assy	92-4080	1
37	Contactors 7.5kw 3ph unit	92-3127	2
38	Detergent pump/line assy	92-4046	1
39	Detergent bottle line assy	92-4047	1
40	Load cell mount assy	92-4076	1

Item	Description	P/N	Qty
41	5 level probe assy (water tank)	92-4075	1
42	CW/HW in line assy	92-4041	1
43	Lid lockout sw assy	92-4086	1
44	Control panel lockout sw assy	92-4085	1
45	Conductivity sensor	92-3007	1
46	Detergent flow sensor	92-3011	1
47	Water tank baffle assy	92-4043	1
48	Water tank screen assy	92-4042	1
49	Steam condenser coil	92-2092	1
50	Temp probe holder assy	92-4021	1
51	Temp probe	81-2405	1
52	Spray nozzle Cool down LW1 120°	92-3047	2
53	Spray nozzle Top WL1/4 90°	92-3046	4
54	Spray nozzle Bottom WL1/2 60°	92-2048	4
55	Spray nozzle Urine WL1/4 90°	92-3046	4
56	Spray nozzle Tip WL1/2 120°	92-3049	2
57	Flush nozzle Rotary	92-3063	2
58	Magnet rack position sensor assy	92-4055	2
59	Blockage sensor assy	92-4074	1
60	Pan rack sensor switch assy (inside door)	92-4089	1
61	Micro switch	82-2361	4
62	Pump drain solenoid	92-3014	1
63	O/T switch 115°C (S/G element)	91-3059	1
64	Fill solenoid (steam generator)	91-3063	1
65	O/T switch 100°C (W/T element)	92-3153	1
66	Detergent pump assy	92-4058	1
67	Gasket door seal	92-3113	1
68	Actuator (Door open/close)	91-3076	1
69	Axle bar assy (Door)	92-4036	1
70	Emergency cycle stop sw assy	92-4106	1
71	Power line RFI filter	92-3144	1
72	Battery	92-3200	1



5.9 USER MENU AND TEST MODE

After normal Power On mode (not restart attempt), the operator can place the system into the MENU and test mode.

To Enter the MENU model, press ENTER and simultaneously press SCROLL and hold for 5 seconds.

The display will show "MENU"

5.9.1 MENU LEVELS

Once into the menus, the SCROLL and SELECT / ENTER buttons generally become operative with the LCD displays in following way:

For LEVEL 0 and LEVEL 1

The SCROLL button moves the selection down within the Same Level.

The SELECT button the selects the option and moves to the next level down the chain

Pressing SELECT on the EXIT option moves the selection back up to the previous higher level

At the SELECT Level

The SCROLL button moves the selection down within the Same Level.

For incrementing fields SCROLL behaves as follows:

Short Press SCROLL – increments (or decrement) at slow rate 1 per second

Hold SCROLL (> 1 second) increments (or decrement) at fast rate 5 per second

Long Break (>5 second) reverses direction

The SELECT button then selects and SAVES the option and moves back up to previous higher level.

The table below indicates the Text displayed in the 7 Char Text Display Field

LEVEL 0 – just shows the Level Text

LEVEL 1 – alternates the Level 1 Text with the Current Set Value in the SELECT field

A general timeout of 180 seconds for no buttons pressed will EXIT the menus and return to the main POWER OFF state.

LEVEL 0	LEVEL 1	SELECT	COMMENTS
			(MENU changes to parameters are stored to EEROM)
MENU	BACKLIT	0(OFF) to 12(Max)	
	HANDS	OFF/ON	Option to disable H/Free Not Yet Available
	USEHOT	OFF/ON	Option to Disable Hot Water Filling
	BUZZER	ALL ON/OFF	
		KEYS ON/OFF	
		HAND ON/OFF	
		STAT ON/OFF	
		END ON/OFF	
		FLT ON/OFF	
	DISINF	nn	Curr % Level
		EMTYCAL	Calibrate – Empty
		FULLCAL	Calibrate – Full
		EXIT	
	EXIT		
DATE	CURRENT	ddmmmyy	Displays curr Date Only
	DAY	dd(Increment 1..31)	
	MONTH	mm(Increment 1..12)	
	YEAR	yy(Increment 2010..)	
	SAVE		
	EXIT		



LEVEL 0	LEVEL 1	SELECT	COMMENTS
TIME	CURRENT	hh:mm	Displays curr Time Only
	HOUR	hh(Increment 0..23)	
	MINS	mm(Increments 0..59)	
	SAVE		
	EXIT		
			(Press Enter Toggles ON/OFF)
TEST	RELAYS	OPEN ON/OFF	Door Open
		CLOS ON/OFF	Door Close
		COLD ON/OFF	Cold Tank Fill
		HOT ON/OFF	Hot Tank Fill
		STEAM ON/OFF	Steam Tank Fill
		DRAIN ON/OFF	Drain Solenoid
		SPR ON/OFF	Cool Spray
		DRY ON/OFF	Dryer Fan Heater
		LAMP ON/OFF	Lamp
		EXIT	
	PUMP	URIN ON/OFF	Urine Spray
		TIP ON/OFF	Tip Sprays
		TOP ON/OFF	Top Sprays
		BOTT ON/OFF	Bottom Sprays
		BEDP ON/OFF	Bedpan Sprays
		RUN ON/OFF	Main Flush Pump On (requires at least one solenoid on and min water level and door closed)
		EXIT	
	HEATERS	WH1 ON/OFF	Water Heater 1
		WH2 ON/OFF	Water Heater 2
		SH1 ON/OFF	Steam Heater 1
		SH2 ON/OFF	Steam Heater 2
		ENAB ON/OFF	Heaters Enable Relay
			Note (1) – requires min water and door closed
			Note (2) – can only select WH1&WH2 or SH1&SH2
	SENSORS	BLOC ON/OFF	Blockage
		DLOK ON/OFF	Door Lock
		DINT ON/OFF	Door Interlock
		PAN1 ON/OFF	Panel 1 Interlock
		PAN2 ON/OFF	Panel 2 Interlock
		RACK ON/OFF	Rack Sensor
		LEVW n	Water Level
		LEVS n	Steam Water Level
		TCH nnn	Chamber Temperature nnn DegC
		TWA nnn	Water Temperature nnn DegC
		TSW nnn	Steam Water Temp nnn DegC
		V5 nn	Supply Voltage 5V
		V12 nn	Supply Voltage 12V
		V24	Supply Voltage 24V
		EXIT	
	DETERG	START nn	Operates Det Pump for dosage – nn mL – Press Enter to Start
		EXIT	
	LCD	LCD TST	Press Enter to Start LCD Test. Displays all SEGs on for 3sec on the OFF
		EXIT	



LEVEL 0	LEVEL 1	SELECT	COMMENTS
	RUN	BP-UR	Select Cycle Mode 0
		URINE	Select Cycle Mode 1
		BOWL	Select Cycle Mode 2
		CF1	220: Cold Fill 1
		CFLUSH	240: Cold Flush
		CF2	260: Cold Fill 2
		CWASH	280: Cold Wash
		HFD1	300: Hot Fill + Detergent
		HWASH	320: Hot Wash
		HF2	340: Hot Fill 2
		HRINS	360: Hot Rinse
		STEAM	400: Steam Heatup and Disinfect
		COOL	500: Cool Down
		DRY	520: Drying
		START	START CYCLE- Cycle Mode (0 to 2) starting at Cycle (220 to 520)
		EXIT	
	EXIT		
SERVICE	DIAGNOS	PWRUPS	Number of Power-ups / Reset
		RUN HRS	Total Running Time (Hrs)
		RUN SEC	Total Running Time (Sec)
		PMP HRS	Pump Run Hours (Hrs)
		PMP SEC	Pump Run Hours (Sec)
		CYC STA	Cycle Starts
		CYC SUC	Cycles Successful
		CYC FLT	Cycles Faults
		EXIT	
	RESET		
	CONT TM	Enter nn==7 and then Confirm	Continuous Test Mode
	EXIT		



6.0 TECHNICAL DATA

6.1 POWER AND WATER CONSUMPTION

POWER AND WATER CONSUMPTION DATA						
MODEL WDS 1 ph	Sanitizing Time/ Temp	Avg Cycles per/Hr	Avg Cycle min/sec	Avg kWh	CW Avg Lt Per cycle	HW Avg Lt per cycle
Cycle						
Bed pan / Urine	1 min @ 90°C	3.9	15.15	0.62	35.6	21.6
Urine only	1 min @ 90°C	4.2	14.25	0.572	24.4	20.7
Bowl / Utensils						

POWER AND WATER CONSUMPTION DATA						
MODEL WDS 3 ph	Sanitizing Time/ Tem	Avg Cycles per/Hr	Avg Cycle min/sec	Avg kWh	CW Avg Lt Per cycle	HW Avg Lt per cycle
Cycle						
Bed pan / Urine	1 min @ 90°C	4.1	14.15	0.60	35.6	21.6
Urine only	1 min @ 90°C	4.5	13.15	0.574	24.4	20.7
Bowl / Utensils						

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



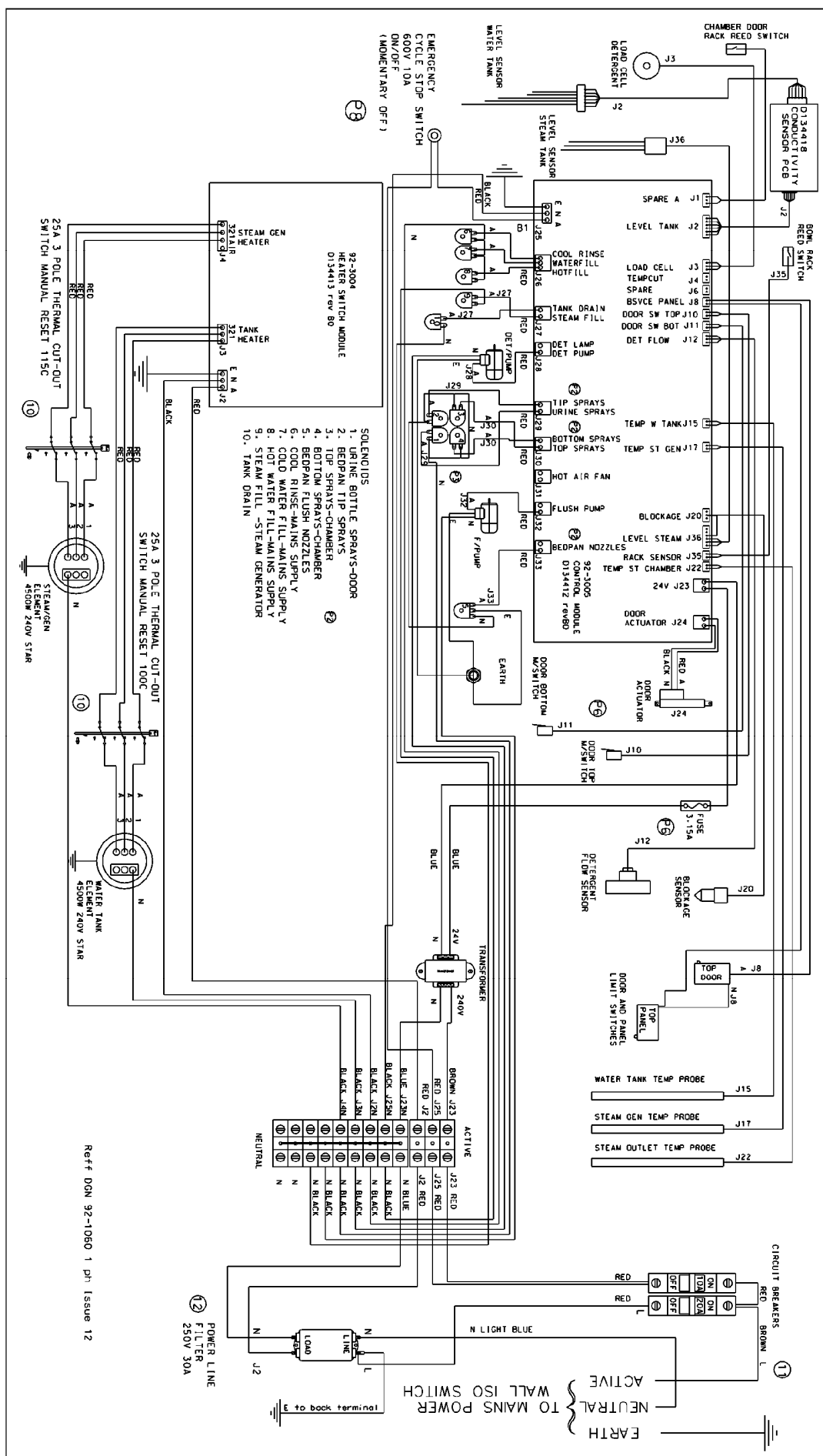
6.2 DEVICE SPECIFICATIONS

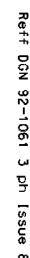
Electrical Rating Model WDS 1PH	Volts	240V	APPROVALS
	Phase / Hz	1 ph / 50 Hz	
	Amps	20 Amps	
Internal circuit breakers 1 ph	Heater power supply pcb	1 pole 20A 240Vac	
	Control power supply pcb	1 pole 10A 240Vac	
Heating Elements 1ph	Steam Generator	4500W 240V 3x6.25A Star	
	Water tank	4500W 240V 3x6.25A Star	
Electrical Rating Model WDS 3PH	Volts	415V	
	Phase / Hz	3 ph / 50 Hz	
	Amps	20 Amps	
Internal circuit breakers 3 ph	Heater power supply pcb	3pole x 20A 415V	
	Control power supply pcb	1 pole 10A 240Vac	
Heating Elements 3ph	Steam Generator	4500W 240V 3 x 6.25A Star	
	Water tank	7200W 240V 3 x 10A Star	
Contactors heating elements 3 ph unit	Steam heating element	3 pole 7.5kw	
	W/Tank heating element	3 pole 7.5kw	
ELECTRICAL Common components			
Element over temperature cut-out	Steam Generator	Capillary bulb thermal cut out Manual reset 115°C 25A	
	Water tank	Capillary bulb thermal cut out Manual reset 100°C 25A	
Fuse: Transformer	Cylinder type	F3.15AL 250V	
Processor module battery	Coin Cell	CR2032 Lithium 3Volts	
	Relative Humidity	+30% to 70%	
PCB HARDWARE			
PCB (Printed Circuit Boards)	Display LCD	D134411	
	Heating switch module	D132213	
	Control module	D134412	
	Processor module	D133447	
	Conductivity sensor	D134418	
Logger data download	Via	USB port	
Software loading	Via	USB port	
LOADING CAPACITY			
Wash Chamber Capacity	Bedpan / urine	4 x Urinal Bottles 2 x STD Bed Pan & Lid 2 x Small slipper pans & Lid 2 x Large Slipper Pan & Lid	
	Urine bottles only	4 x Urine bottles	
	Bowl / Utensils	2 x Large bowls 3 x Medium bowls Smaller bowls and kidney dishes in accessory basket 6 x Large kidney dishes 6 x Medium kidney dishes	
WASH SYSTEM			



Nozzles and Sprays	Flush nozzles	2 x Rotary Nylon	
	Tip Sprays	2 x WL1/2 120° 1/8 bsp ss	
	Top Sprays	4 x WL1/4 90° 1/8 bsp ss	
	Bottom sprays	4 x WL1/2 60° 1/8 bsp ss	
	Urine Bottle sprays	4 x WL1/4 90° 1/8 bsp ss	
	Cool Down sprays	2 x LW1 120° 1/4 bsp ss	
Wash pump	Horizontal multistage	750W 240V 1ph 4.6A 116.7L/Mins s/s impeller and housing	
Detergent	Malmet specific (5Lt)	Detergent Concentrate Caustic Alkaline	ARTGC Class 1
Detergent pump	Self priming peristaltic Chemical feed pump	72 rpm 240V 50Hz	
PLUMBING			
Soil line Connection	Type	'S' or 'P' Trap (6mm PE) 80°	Complies to AS 2887 & AS/NZS 3500.2:2003
	Size	100mm ID	
Backflow Prevention	Air Gap (RAG)	Water storage tank	AS 2845.2 - 1996
Cold water inlet Supply	Temp – Pressure (Flow)	15 – 25°C @ 100 – 350kpa	
	Solenoid Valve 1 in 2 out	240V - GB¾ male	WRAS Certified
Hot Water inlet supply	Temp – Pressure (Flow)	55 – 60°C @ 100 – 350kpa	
	Solenoid Valve 1 in 1 out	240V - GB¾ male	WRAS Certified
Hose – valve to Water Tank	S/steel Braided	10mm	WRAS Certified
Hoses – Mains Water Supply to Inlet Valve	S/steel Braided Assy H/C Water	G¾ Hex Nut Each End 1.5M x 10mm	Cert to AS/NZS 3499-2006
CONSTRUCTION MATERIALS			
Materials	Frame	25 x 25 x 1.6 tube s/steel	
	Wash chamber	316 S/S grade 4	
	Door	316 S/S grade 4	
	External panels	304 S/S grade 4	
	Water tank	316 S/S grad 2B	
	Steam generator	316 S/S grade 2B	
	Fasteners	304/316 S/S	
	Thermal insulation chamber and water tank	TBA	
ENVIROMENTAL			
Environment conditions Transport and Storage	 Fragile	 Keep away from rain	 Do not stack
	Temperature	-5°C to +50°C	
Environment operating conditions	Temperature	+10°C to +25°C	
	Relative Humidity	+30% to 75%	
Shipping details	Height x Width x Depth	1770 x 800 x 750	
	Weight = Packaging + Det	163 KG	

6.3 WIRING DIAGRAM 1PH







6.5 DATA LOGGING

The 2.16 MByte Flash memory can store up to 19,800 records.

If the average cycle generates 14 records, then around 1400 complete wash cycles can be logged.

6.5.1 Events Logged

STATE	DESCRIPTION
950	PROCESS ABORTED
951	SYSTEM POWER UP
952	DIAGNOSTICS MODE STARTED
953	DIAGNOSTICS MODE END
955	PROCESS FAULT
100	SYSTEM STANDBY
120	POWER ON
210	START CYCLE MODE=(state description)
240	COLD FLUSH STARTED
241	COLD FLUSH COMPLETED
280	COLD WASH STARTED
281	COLD WASH COMPLETED
320	HOT WASH+DETERGENT STARTED
321	HOT WASH COMPLETED T= nn DegC
360	HOT RINSE STARTED
361	HOT RINSE COMPLETED T= nn DegC
420	STEAM DISINFECT STARTED T= nn DegC
421	STEAM DISINFECT COMPLETED T= nn DegC
421	DISINFECTION TIME= nn Seconds
501	COOL RINSE COMPLETED
540	WASH CYCLE SUCCESS - DURATION=nnm: nns

6.5.2 PC Data Logging Application

The PC application F13447PC.exe is used to download the logged data and present it in a table to be viewed on screen.

The data can also be saved in CSV (Excel Compatible) format.

An option to Save Statistics generates a simple summary report.

The D13447PC.ini file allows store of site specific data (Company Name and Site Location) which is linked to the serial number saved in the WDS unit. This is then used to generate the header information at beginning of the printed reports.

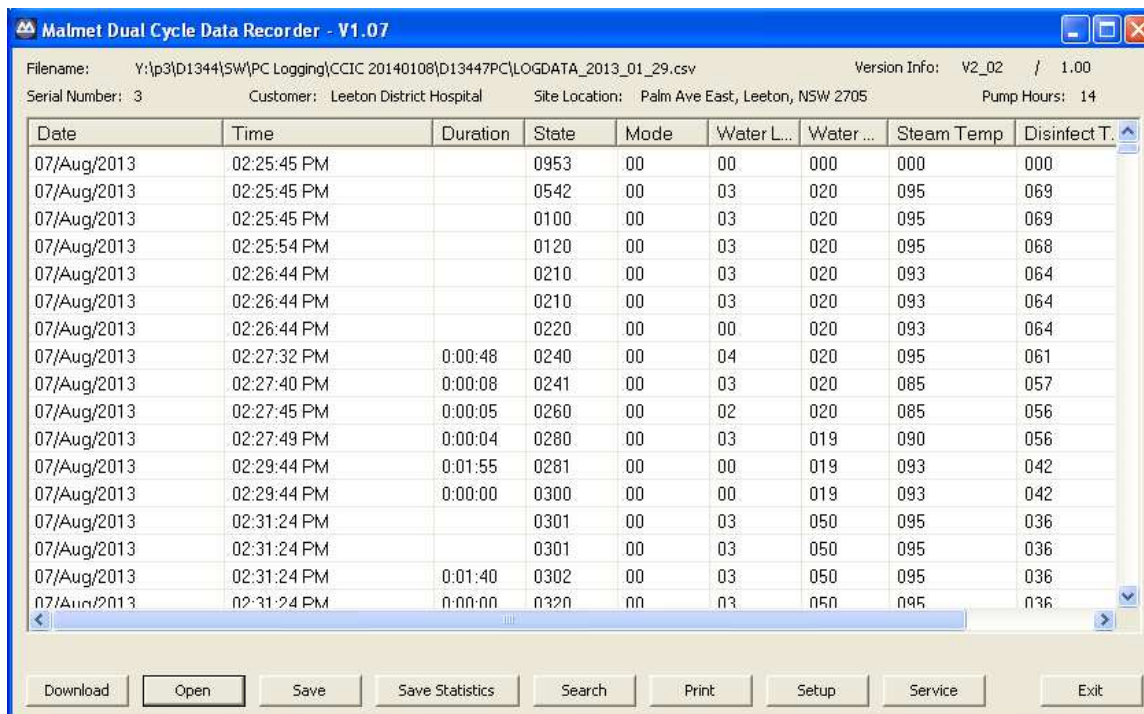
6.5.3 How to Install and Run Program

Copy the D13447PC.exe and P13447PC.ini files into the required folder.

Connect the USB port to the PC (This will require the driver files usbser.inf and usbser.sys if not already installed)

Run D13447PC.exe

The main screen view shows the following:

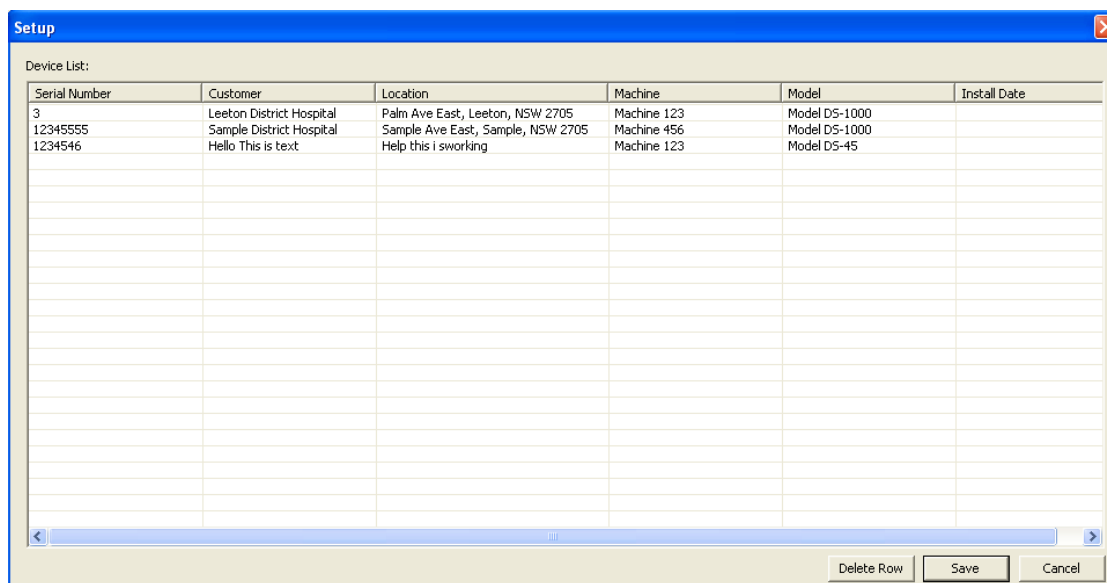


Date	Time	Duration	State	Mode	Water L...	Water ...	Steam Temp	Disinfect T.
07/Aug/2013	02:25:45 PM		0953	00	00	000	000	000
07/Aug/2013	02:25:45 PM		0542	00	03	020	095	069
07/Aug/2013	02:25:45 PM		0100	00	03	020	095	069
07/Aug/2013	02:25:54 PM		0120	00	03	020	095	068
07/Aug/2013	02:26:44 PM		0210	00	03	020	093	064
07/Aug/2013	02:26:44 PM		0210	00	03	020	093	064
07/Aug/2013	02:26:44 PM		0220	00	00	020	093	064
07/Aug/2013	02:27:32 PM	0:00:48	0240	00	04	020	095	061
07/Aug/2013	02:27:40 PM	0:00:08	0241	00	03	020	085	057
07/Aug/2013	02:27:45 PM	0:00:05	0260	00	02	020	085	056
07/Aug/2013	02:27:49 PM	0:00:04	0280	00	03	019	090	056
07/Aug/2013	02:29:44 PM	0:01:55	0281	00	00	019	093	042
07/Aug/2013	02:29:44 PM	0:00:00	0300	00	00	019	093	042
07/Aug/2013	02:31:24 PM		0301	00	03	050	095	036
07/Aug/2013	02:31:24 PM		0301	00	03	050	095	036
07/Aug/2013	02:31:24 PM	0:01:40	0302	00	03	050	095	036
07/Aug/2013	02:31:24 PM	0:00:00	0320	00	03	050	095	036

Note: The table is initially blank

6.5.4 Setup

Pressing Setup button displays the Setup table as below:



Serial Number	Customer	Location	Machine	Model	Install Date
3	Leeton District Hospital	Palm Ave East, Leeton, NSW 2705	Machine 123	Model D5-1000	
12345555	Sample District Hospital	Sample Ave East, Sample, NSW 2705	Machine 456	Model D5-1000	
1234546	Hello This is text	Help this is working	Machine 123	Model D5-45	

Numerous sites can be setup in the system.

These sites are linked to a particular WDS machine by the site reference number.



This information is printed on the Report Headers.

To enter a new record, just start typing the data on the next new line.

Press Save when completed.

The Reference / Serial Number needs to match the Serial Number of the respective machine. This can be viewed on the machine using Diagnostics Command '36 <Enter>'

The Machine Reference Number / Serial Number can be entered or changed with commands '36 nnnn 1892 <Enter>'

6.5.5 Changing the Report Titles

The D13447PC.ini file which resides with the C1344PC.exe can be edited with a text editor (eg Microsoft Notepad)

If the following lines are added to the .ini file, then the title test after the "=" can be edited and changed. When changes are made, save it with the same name ("D13447PC.ini")

```
[Print]
EventReportTitle=Event Report
StatisticsReportTitle=Statistics Report
CycleReportTitle=Cycle Report
```

6.5.6 How to Download the Log Data

Select "Download" button

If there is already data on the screen, there will be a prompt giving the option to save this data before loading in the new data.

Next, you will see the Download options window, select the comport for the ISB port.

Deselect "Download all records" to enter the Number of records if required, otherwise leave this selected to Download All Records

Note: Download all records could take considerable time (one or two minutes).

Press Download button to start the data transfer.

The progress number of records is shown in the lower LHS of the main window.

Once completed, the table should look something like shown in 6.5.3

6.5.7 How to Save and Open Files

The Save button allows the on screen data to be saved as CSV format file.

The Open button allows a previously saved file to be loaded and viewed on-screen.

6.5.8 How to Save Statistics

The Statistics button analyses the current log data and produces a summary file eg:

Report Date/Time:	23/02/2012 14:58:45
Site Reference:	12345678
Company Name:	Leeton District Hospital
Company Location:	Palm Ave East, Leeton, NSW 2705
Report Start:	28/08/2000 13:50:30
Report End:	28/08/2000 16:29:04
Total Number of wash process Starts:	2
Mode=0 wash process starts:	1
Mode=1 wash process starts:	1
Mode=2 wash process starts:	0
Total Number Completed – Success:	0
Total Number Completed – Failed:	3
Total Number Completed – Aborted:	0
Mode=0 Average Wash Time:	0.00 mins
Mode=1 Average Wash Time:	0.00 mins
Mode=2 Average Wash Time:	0.00 mins
Number of Power restarts:	3
Pump Run Hours:	0

6.5.9 How to Search

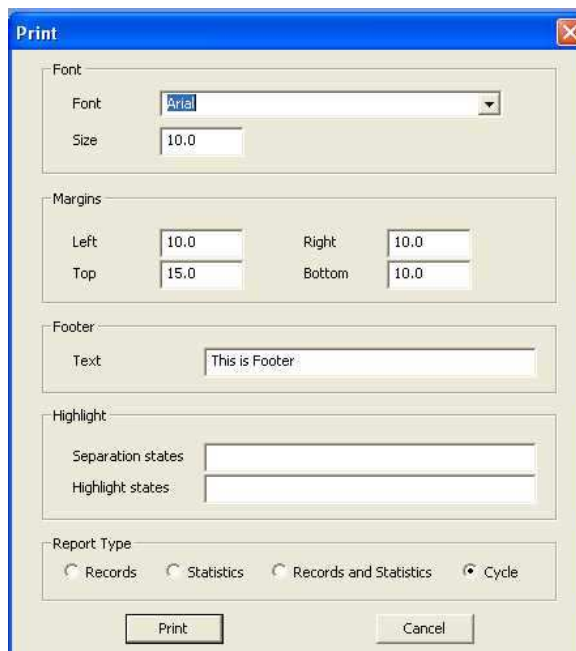
The button allows to search for entered text.

The records containing the search text are then highlighted.

6.5.10 How to Print

The Print button sends a copy to the selected printer.

A dialog window allows to select Font, Margins, Footer Text, Separate & Highlight states, and Type of report to print.



The image shows a 'Print' dialog box with the following sections:

- Font:** A dropdown menu set to 'Arial' and a text box for 'Size' set to '10.0'.
- Margins:** Four text boxes for 'Left' (10.0), 'Right' (10.0), 'Top' (15.0), and 'Bottom' (10.0).
- Footer:** A text box labeled 'Text' containing 'This is Footer'.
- Highlight:** Two empty text boxes labeled 'Separation states' and 'Highlight states'.
- Report Type:** Four radio buttons: 'Records', 'Statistics', 'Records and Statistics', and 'Cycle' (which is selected).
- At the bottom are 'Print' and 'Cancel' buttons.

Select the Report Type required:

Records – Prints all records

Statistics – Prints the following summary of the data

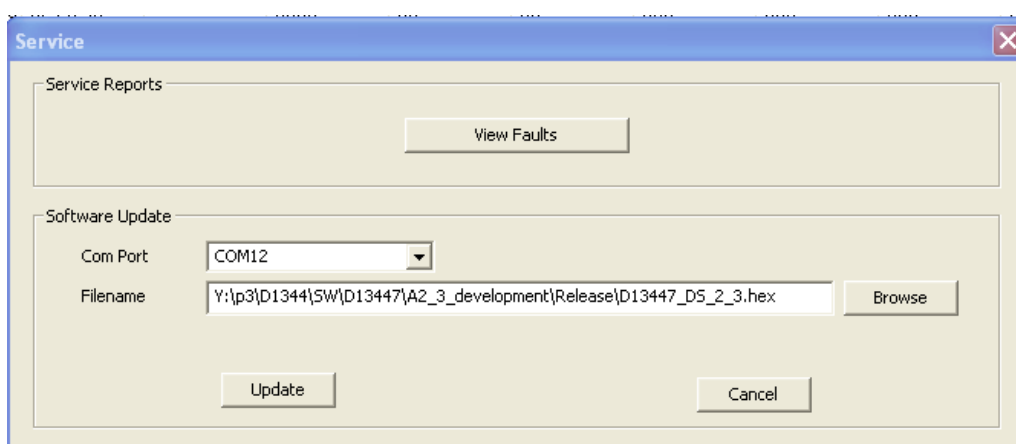
Report Start:	25/11/2000 13:00:21
Report End:	29/05/2012 15:43:35
Total Number of wash process Starts:	16
Mode=0 wash process starts:	16
Mode=1 wash process starts:	0
Mode=2 wash process starts:	0
Total Number Completed – Success:	4
Total Number Completed – Failed:	6
Total Number Completed – Aborted:	10
Mode=0 Average Wash Time:	2.52 mins
Mode=1 Average Wash Time:	0.00 mins
Mode=2 Average Wash Time:	0.00 mins
Number of Power restarts:	22
Pump Run Hours:	0

Cycle – Allow selection of one or more cycles to display the prints the Records for each cycle followed by a Signoff Footer Line

Press the Print button then shows the Print dialog window where can select the printer, preferences and number of copies.

6.5.11 Service Button

The Service Button opens to a new window. This allows viewing of the Service Fault Report and also uploading of system software.



The View Faults button presents a listing for each of the fault codes as shown below:

Cycles:					
Fault Code	Cycle	Mode	Date	Time	
146	414	BP-URIN	16/Aug/2013	10:01:10 AM	
142	414	BP-URIN	16/Aug/2013	10:30:41 AM	
181	414	BP-URIN	10/Sep/2013	01:51:24 PM	
181	414	BP-URIN	10/Sep/2013	01:52:06 PM	
181	414	BP-URIN	10/Sep/2013	01:52:50 PM	
903	421	BP-URIN	26/Sep/2013	07:22:08 AM	
905	422	URINE	03/Oct/2013	08:53:50 AM	
905	422	URINE	03/Oct/2013	09:07:00 AM	
905	422	URINE	03/Oct/2013	09:07:18 AM	
141	428	BOWL	08/Oct/2013	09:54:31 AM	
304	436	BP-URIN	21/Oct/2013	02:30:55 PM	
304	436	BP-URIN	21/Oct/2013	02:45:05 PM	
904	437	BP-URIN	21/Oct/2013	02:59:14 PM	
301	439	BOWL	22/Oct/2013	09:34:21 AM	
903	441	URINE	25/Oct/2013	06:22:47 AM	
904	454	BP-URIN	29/Oct/2013	09:32:10 AM	
904	454	BP-URIN	29/Oct/2013	09:40:08 AM	

**6.5.12 Clearing the System Log Data and Reset Cycle Counter**

The log data stored in the system FLASH memory can be cleared by connecting a PC with the USB port and setting the system to diagnostics mode.

To clear only the log data – Use command '34 4892 [Enter]'

To clean only the log data and reset the Cycle Counter – Use command '34 5903 [Enter]'



Malmart (Australia) Pty Ltd

Website: www.malmart.com.au



Warranty Statement

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.

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.
- Parts damaged in transit back to Malmart 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.
- It is our policy to 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 – Leeton by telephone on (02) 6953 7677 or in writing to PO Box 373, Leeton NSW 2705.
- 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. 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.

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 a letter ("**Notice of Defect**") to Malmet at PO Box 373, Leeton NSW 2705 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, and will be deemed to receive such Notice of Defect one business day (in the state of New South Wales) after you post the Notice of Defect.

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 Sold: Warranty Expiry Date:

Sold To:

For Service Contact:

PROOF OF PURCHASE

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

Please attach your proof of purchase. Your receipt/invoice is your warranty and will be required to validate any warranty.

MEIKO WARRANTY

All Meiko purchased products are covered by Meiko terms and Conditions and Warranty Statement. Refer to the Meiko website www.meiko.com.au

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.



Manufactured by
Malmet (Australia)
ABN 95 001 717 791

www.malmet.com.au

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