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PTY LTD

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Front Loading Utensil Washer Disinfector

Model WDF-3020

Quensland Distributor
EVOCARE AUSTRALIA PTY LIMITED
A.B.N. 98 078 566 604
Trading as **EVOCARE** and **L&M EQUIPMENT**
P.O. Box 145, Everton Park Qld. 4053
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Operation, Maintenance and Installation Manual

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

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

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

Issue 5 **Device Software V4.0**

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Foreword

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

This device is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge.

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, however 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) Pty Ltd.

Certifications and Compliances

ARTG Identifier:	381412
Electrical Safety Cert:	CS10975N
Watermark Cert:	WMK26630

Quality Policy

Malmet's quality management system is certified to ISO 13485 and ISO 9001 and guarantees the quality of this device.

Important Warranty Reminder

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

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

Malmet Head Office and Factory Contact Details

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Website: www.malmet.com.au

Safety Instructions – Warnings

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

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

 **Be aware of 240V / 415V Voltage**

 **Disconnect power when servicing**

 **Mains power ISO switch must be in an accessible position easily reached and not obstructed so device can be isolated from mains power during service**

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

 **Failure to maintain device as per the requirements of this manual may impair performance**

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

 **Be aware of steam discharge**

 **Utensils and racks are hot to handle**

 **Safety gloves and goggles must be worn when changing detergent**

 **Be aware of hot surfaces, pipes and hoses from steam and hot water**

 **Machine to be serviced and repaired by trained personnel**

 **Safety critical devices must only be replaced by trained personnel**

 **Plumbing service connection must comply with AS/NZS 3500.1 & AS/NZS 3500.2**

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

Intended Use

The Malmet Front Loading Utensil Washer Disinfector is intended to be used by health service organisation personnel for the cleaning and disinfection of medical devices during an automatic cycle of the types intended to be re-used as listed in the design parameters section of this manual.

1.0 Design Parameters

The Malmet Front Loading Utensil Washer Disinfector has been designed within the following parameters:

a) To clean and disinfect during each automatic cycle a load comprised of the following re-useable medical devices.

   i) 345mm/305mm/240mm/210mm/185mm/140mm/110mm/100mm/80mm bowls, dishes and receivers.

   ii) 300mm/255mm/220mm/160mm Kidney dishes

   iii) Large (270mmx100mm) & Small (200mmx75mm) Procedure/Instrument trays

   iv) Utensils

b) Baskets & racks are designed to ensure that items being processed are not dislodged during the cleaning cycle; re-useable medical devices must be loaded in the appropriate holder as per the loading specifications in this manual to ensure correct processing.

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

d) The wash cycle is comprised of the following stages:

   i) Cold Rinse

   ii) Hot Wash

   iii) Hot Rinse

   iv) Disinfection

   v) Cool Rinse

e) The wash times and parameters are pre-set by factory but can be customized on request.

f) Disinfection cycle is factory pre-set to 90° for 1 minute, but is able to be set to any of the common holding times used to achieve an A_o of 600 in accordance with AS 5369:2023, Section 6.3, Table 6.1. Disinfection can also be set to achieve a target A_o between 600 and 5000 at a specified maximum temperature.

*The efficacy of disinfection can be impaired if soil removal is incomplete before the start of the disinfection process. Users should be aware that some medical devices might require pre-treatment such as soaking or brushing before processing. Please follow the manufacturer's instructions when processing re-useable medical devices.

**High disinfection temperatures may affect some heat sensitive reusable medical devices; ensure items are disinfected as per the manufacturer's instructions.

1.1 Operating Cycles

The Device has three Wash Cycle Options – Eco/Normal/Intense

Eco – Light Wash Cycle

1.	Cold Rinse/Hot Wash	2 Min
2.	Hot Rinse/Disinfection	(Disinfection Parameters Set)
3.	Cool down	20 Sec

Normal – Standard Wash Cycle

1.	Cold Rinse	2 Min
2.	Hot Wash	2 Min
3.	Hot Rinse/Disinfection	(Disinfection Parameters Set)
4.	Cool down	20 Sec

Intense – Heavy Wash

1.	Cold Rinse	2 Min
2.	Hot Wash	2 Min
3.	Hot Rinse	2 Min
4.	Disinfection	(Disinfection Parameters Set)
5.	Cool down	20 Sec

Note: These times are only the Stage specific holding times and do not include filling, heating or draining.

Wash Stages

Wash cycles are comprised of the following stages:

Cold Rinse: Initial Rinse using water below 45°C

Hot Wash: Hot Wash at 50°C with the addition of detergent

Hot Rinse: Hot Water Rinse

Disinfection: Disinfection Wash as per set disinfection parameters (Factory 1 minute @ 90°C)

Cool Rinse: Final Rinse to cool processed items below 75°C

1.2 Chemical Dosing System

The chemical dosing system ensures the correct amount of process chemicals are delivered at the correct stage during each operating cycle. Chemical addition is controlled by the automatic cycle controller and will display a fault if the incorrect amount of chemical is injected. The dosing system is designed for use with Malmet Chemical; other chemicals may impair the operation of the system.

1.3 Detergent

Malmet Washer Disinfectors are designed and tested using Malmet specific detergent. To ensure intended performance and trouble-free operation use only Malmet branded detergent, failure to use correct detergent may void warranty.

The detergent system delivers 30ml of concentrated detergent during the Hot Wash stage.

Detergent replacement procedure

WARNING!

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

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

Only use Malmet approved detergent (See technical data for detergent details)

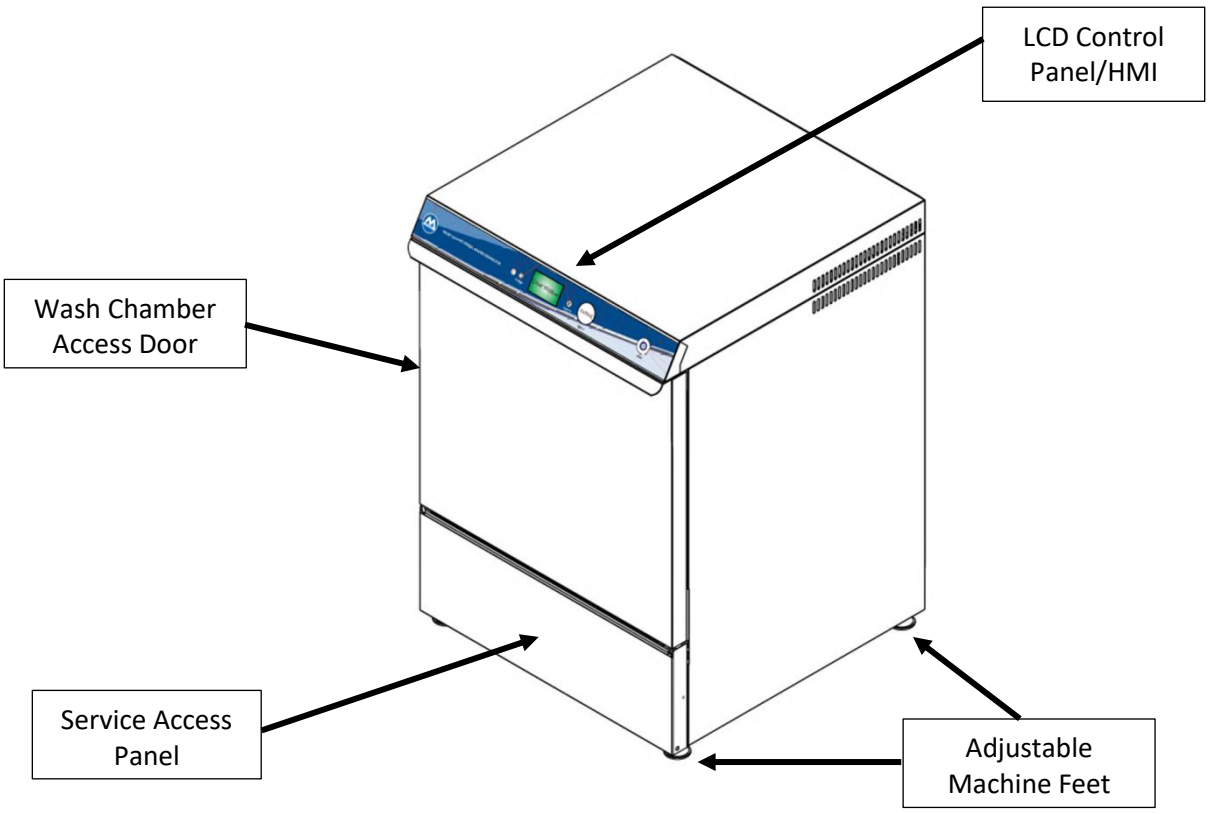
1. Ensure area is clear of any potential hazards
2. Ensure you are wearing appropriate PPE
3. Move new bottle as close as practical to unit's detergent storage location

   Note: Leave cap on new bottle until in position
4. Remove empty detergent container and sit beside new detergent container
5. Remove lid from new container, then carefully remove suction cap and hose from old container an insert into the new container and fasten cap
6. Place lid of old container onto empty container
7. Put new container back into position
8. Restart device operation as normal

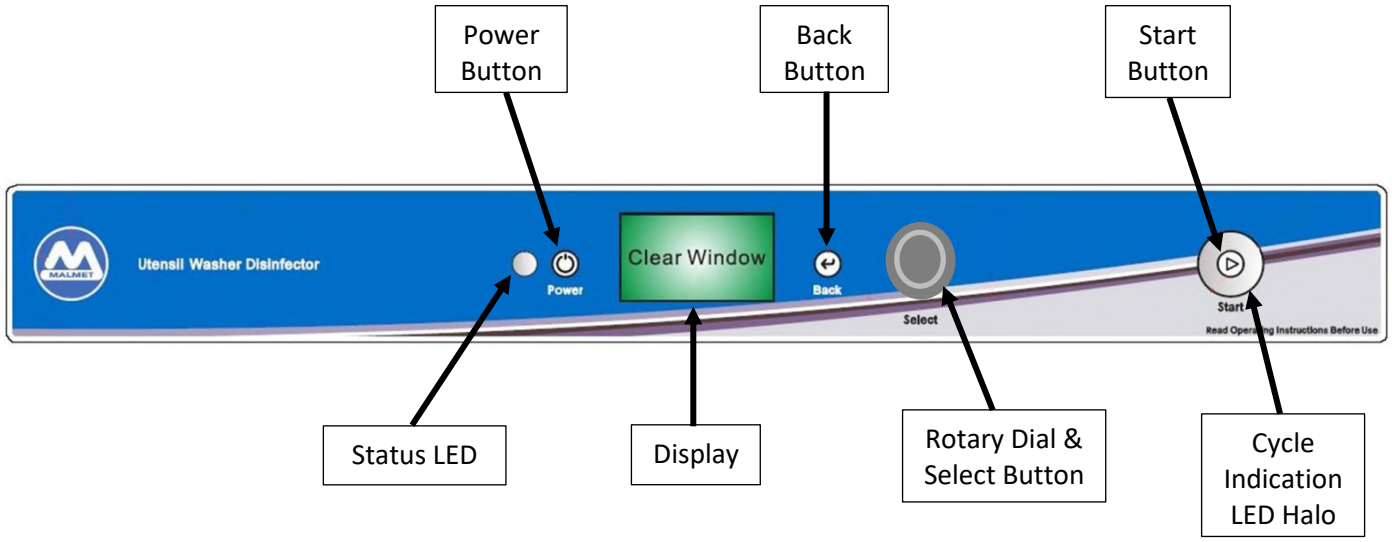
Disposal of Empty Detergent Bottles

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

1.4 Device Features



1.5 Control Panel



1.6 Buttons & Indicators

Status LED

RED = OFF
ORANGE = Power On & Door Open
GREEN = Power On & Door Closed

POWER — On/Off (Standby)

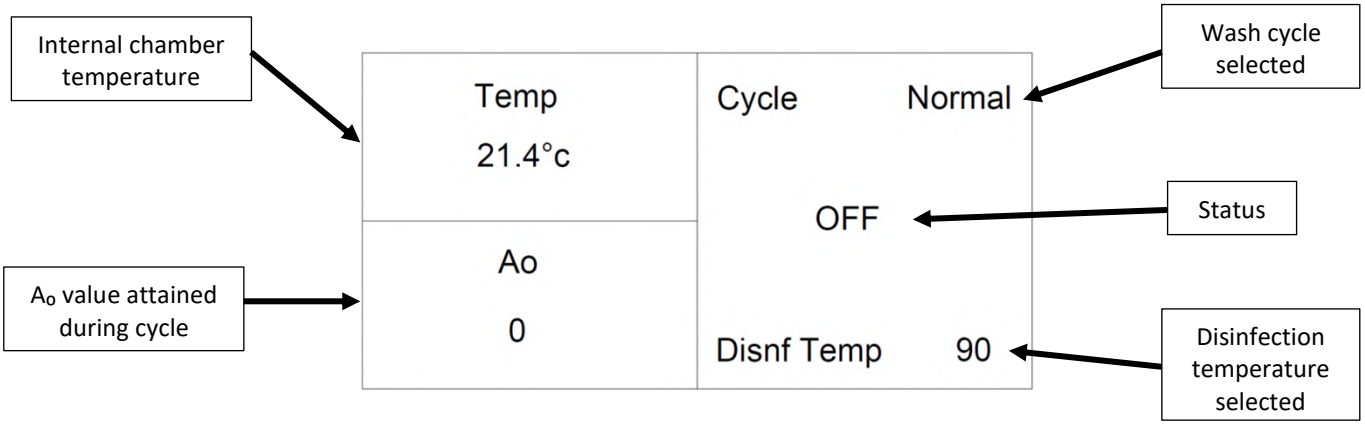
Cancel — Cancel selection or Exit to previous Menu

Select/Rotary Dial — Pushing Down in the Rotary Dial selects the highlighted item, rotating the dial navigates or changes selected fields

Start button — Commence selected cycle

Cycle Indication LED Halo — Flashes during cycle, displays solid at cycle completion

1.7 LCD Layout



2.0 Installation and Commissioning

2.1 Installation

For correct installation and to avoid problems with this device, please use the following Installation guidelines

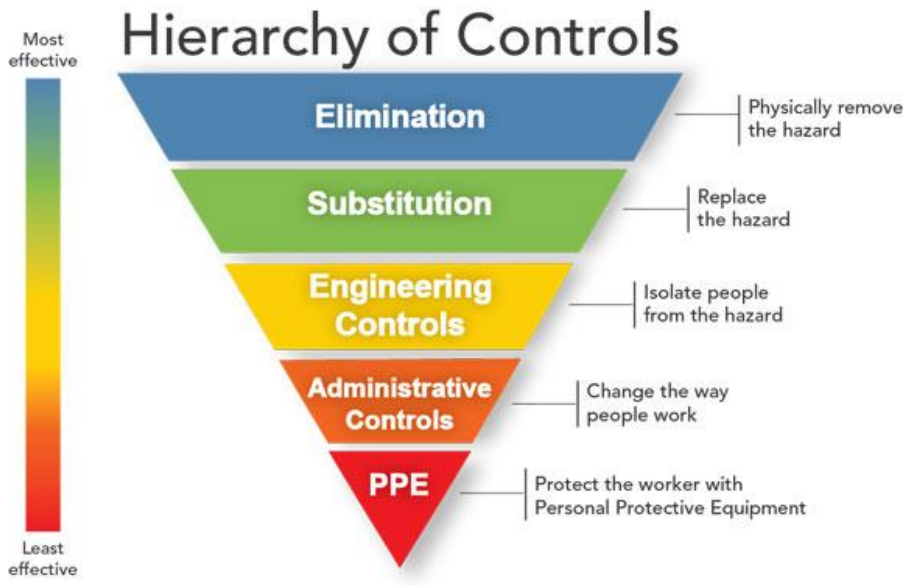
Installations **must** only be carried out by a qualified and licenced tradesperson.

Services as noted as required for installation of the device are to be provided by the facility and are not the responsibility of Malmet.

⚠ **Overcurrent protection device - A 20A circuit breaker or fuse must be installed in the building installation for the device.**

Risk Assessment

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



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

Handling

⚠ Weights of device: Net: 75 kg Shipping: 84 kg Shipping with crating: 117 kg.

- Handling of the device to installation site must be with fork lift or hand pallet truck whilst on pallet.
- Before unpacking device inspect carton for any damage relating to forklift forks and damage relating to device falling over or for evidence of top loading
- After unpacking the device, inspect all external panels for damage.
- Remove the 4 screws and plates holding the device to the pallet.
- Follow your internal manual handling guidelines to manoeuvre the device off the pallet. The device can then be placed into position by fork lift or hand pallet truck.

Disposal of Packaging

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

2.1.1 Positioning the WDF-3020

Model	Placement	Access Required	Device Dimensions		
			Height (mm)	Width (mm)	Depth (mm)
WDF-3020	Freestanding	Front	870	600	640
Please allow sufficient room at front of unit for servicing purposes.					

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 Front-Loading Utensil Washer Disinfector. Device drain hose is designed to fit onto an appliance waste spigot of a standard sink trap.
- Potential electromagnetic or other interference between other EQUIPMENT and other devices can possibly affect the operation. **Electromagnetic interference can be prevented by installing the device in non-patient areas of the facility (or similar).**

2.2 Service Connections

MODEL	COLD WATER	DRAIN	ELECTRICAL
WDF-3020	Solenoid valve GB¾ Male	22mm Flexible Drain Hose	415V 3 phase @ 20 Amps 50 hertz

The following service connections must be provided by the facility for installation of the device, services must comply with the specifications as per this section of the manual to ensure correct and safe operation of the device. See the Service Connection Layout Diagram 9.6 for details of device service connection points.

2.3 Plumbing Connections

These installation guidelines must be followed to ensure the device will operate as intended.

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

Water Supply – Note: Water Supply connections must comply with AS/NZS3500.1 and be Watermark Certified.

This device requires only a potable cold-water connection; the water entry point is on the lower rear right-hand side of the device when viewed from the front. Please refer to the Service connection layout diagram for exact location. A back-flow prevention device complying to AS 2845.1 is incorporated in the device.

Cold Water – Note: See device specifications table for water quality requirements

Pressure: 100-500kPa Temperature: 5-25°C

Nominal Flow: 10L/Min Connection: GB ¾" BSP

Note: Old hose sets should not be re-used; it is recommended new compliant hose sets are used on installation.

Waste Connection – Note: Waste service connection must comply with AS/NZS3500.2

The device comes fitted with a 2m drain hose, with a 22mm outlet designed to fit a standard sink trap spigot, and is high temperature rated. Do not install waste into an open sink as hot water may pose a burn risk to personnel. Ensure waste connection is rated for temperatures of not less than 90°C.

2.4 Venting

No external vent pipe work is required as the device is designed to condensate all visible steam internally.

2.5 Electrical Connection

These installation guidelines must be followed to ensure the device will operate as intended and must be carried out by a qualified, licensed electrical tradesperson. The device must be installed and serviced to national wiring rules AS/NZS 3000.

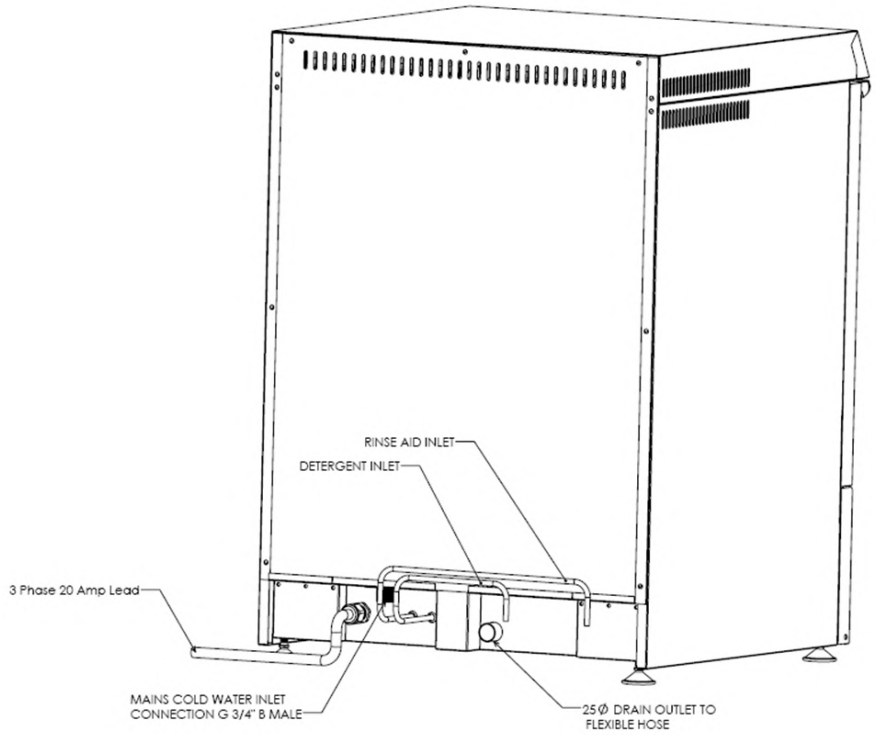
Model: WDF 3 Phase 415V 50Hz 20Amp

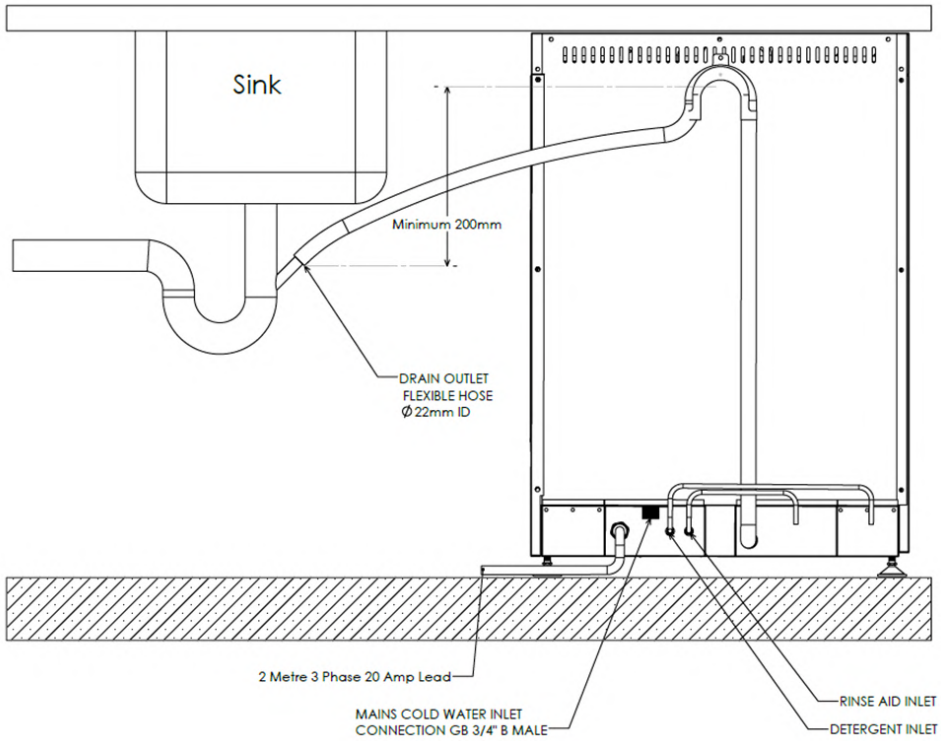
Overcurrent protection device: A 20A circuit breaker or fuse must be installed in the building installation for the device.

- Devices are supplied with 2000mm power supply cord extending from the bottom rear of the device for hard wiring into Mains ISO switch. Position switch approx. 1500mm above floor level.
- An ISO switch or circuit breaker must be included in the installation (not supplied by Malmet).
- Mains power ISO switch must be suitably located and easily reached, approximately 1500mm above floor level adjacent to device. The 2.0m mains power lead exits the device approximately 50mm above floor level on the left-hand side of the device (when viewed from the rear).
- Mains ISO switch must be marked as the disconnecting device for the equipment.
- Mains ISO switch must have contact disconnection of all poles to provide full disconnection.
- Mains ISO switch must be suitably placed so device will not obstruct safe access to the isolator once installed.
- Ensure isolator is suitably placed so device will not obstruct safe access to the isolator once installed.
- Device must be earthed.
- Malmet recommends having a 30mA RCD in the mains supply fixed wiring.

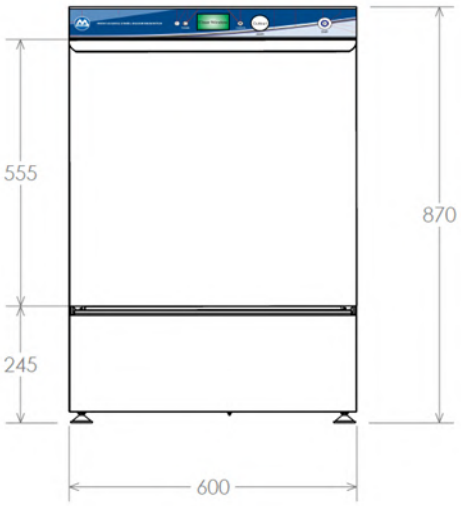
If the supply cord is damaged, it shall be replaced by the manufacturer or its service agent or similarly qualified person in order to avoid any potential hazard.

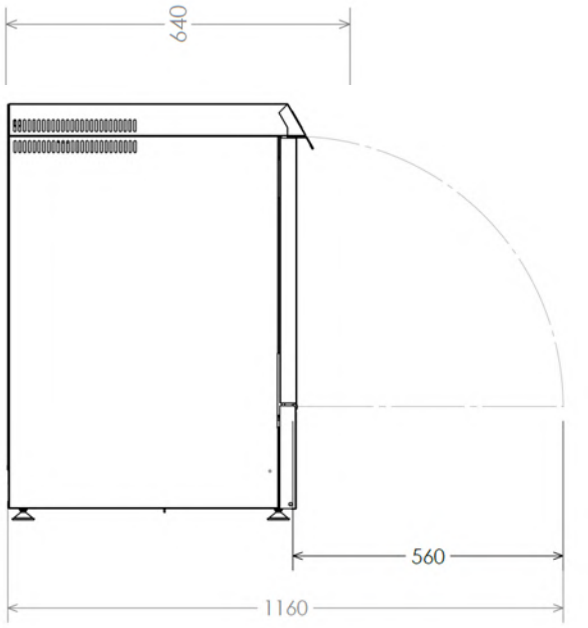
2.6 Service Connection Points



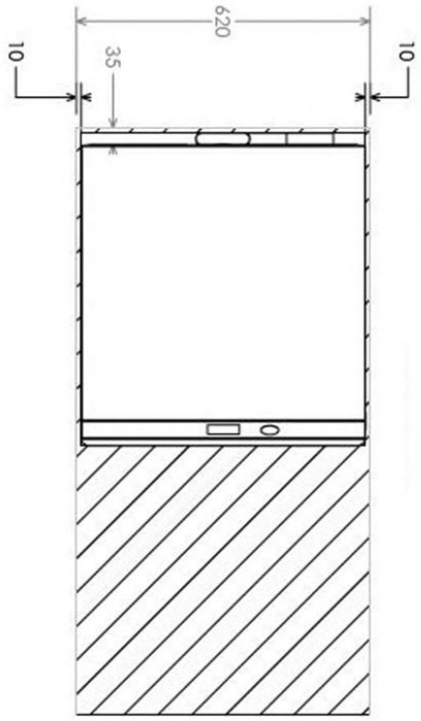


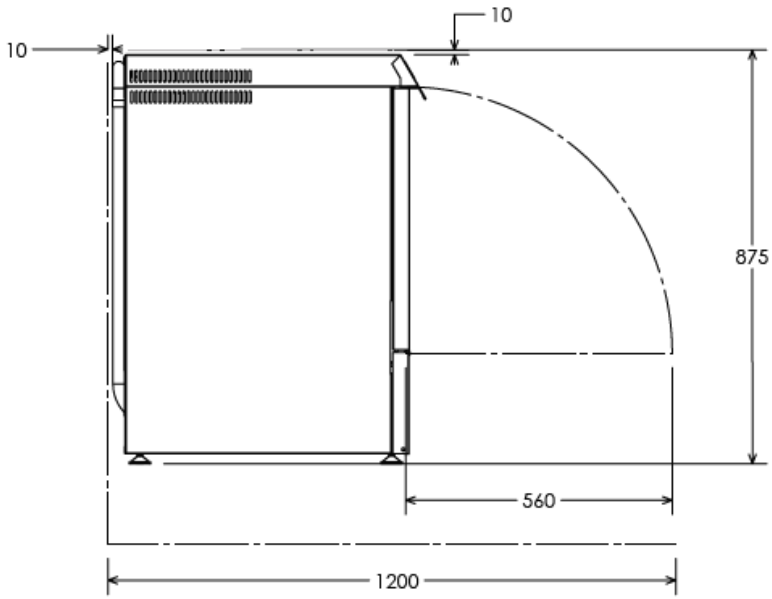
2.7 Device Dimensions





2.8 Installation clearances





2.9 Commissioning (To only be completed by qualified persons)

a) Before switching on the device make sure the **DEVICE IS LEVEL** and the **WATER SUPPLY IS ON**. Check that the **DRAIN HOSE** is connected.

b) Turn on the power at the isolation switch and wait for device to power up. Once device has completed powering up it will display “OFF”. Press the POWER button on the front panel to power on the device, the LCD display will illuminate and display ready.

c) Open the door and check that the chamber is clear and only contains the device baskets.

d) Check that the sump tank screen is in place and has not dislodged.

e) Check that the process chemical suction tubes have been installed into the detergent container and rinse aid container if fitted. Device will perform a priming sequence on start, if chemicals are not correctly fitted a fault will be triggered.

f) Once the above checks are completed it is recommended a cycle is run to ensure correct operation and to clean and disinfect the device prior to use. Ensure the door is closed, a positive click will be heard when the door is shut completely and “READY” will be displayed on the screen.

g) Press “Start” to commence the set cycle, the door lock will engage and cycle will commence.

h) The cycle will progress as per the sequence of operation steps in this manual, if the controller detects any faults during the cycle these will be displayed on the screen.

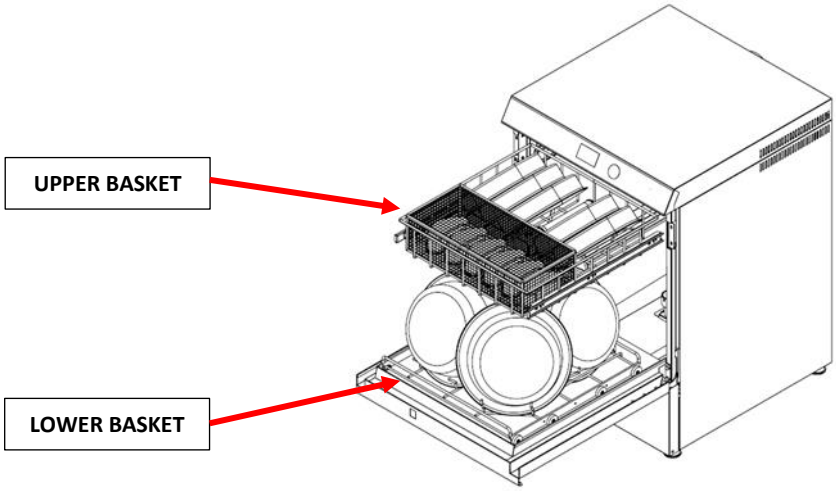
Note: It is recommended Installation Qualification test are performed as per the requirements of ISO 15883.1 prior to use of the device.

3.0 Loading

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

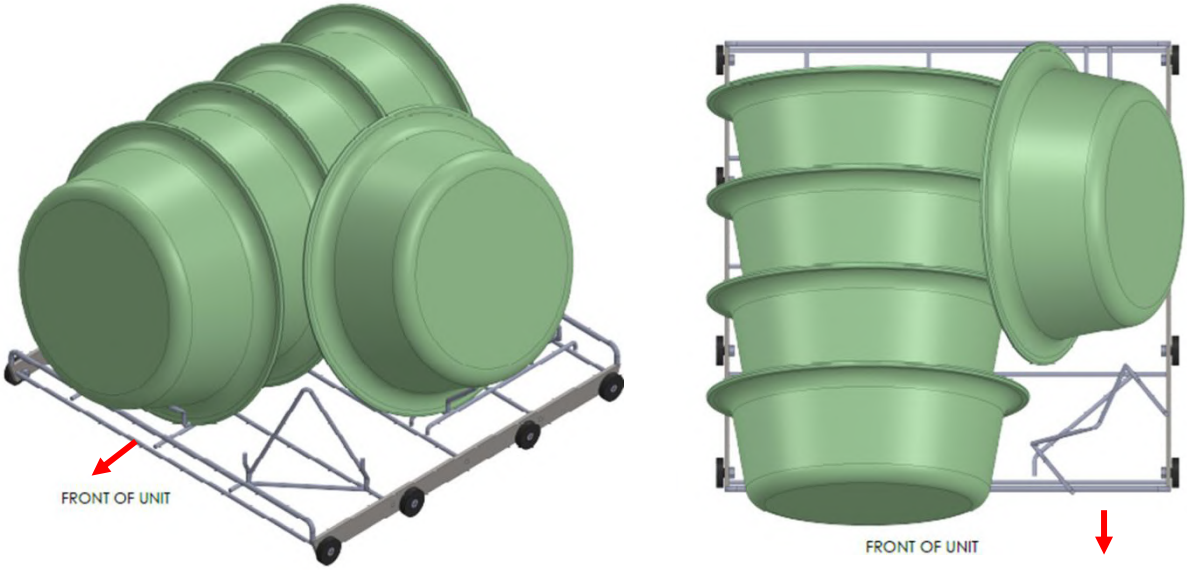
The Malmet Front Loading Utensil Washer Disinfector has two baskets for processing of re-useable medical devices of the type listed as per the design parameters. The lower basket is intended to process bowls of various sizes, while the top basket is intended to process a combination of kidney dishes and other small utensils.

Open door and pull out basket to be loaded.



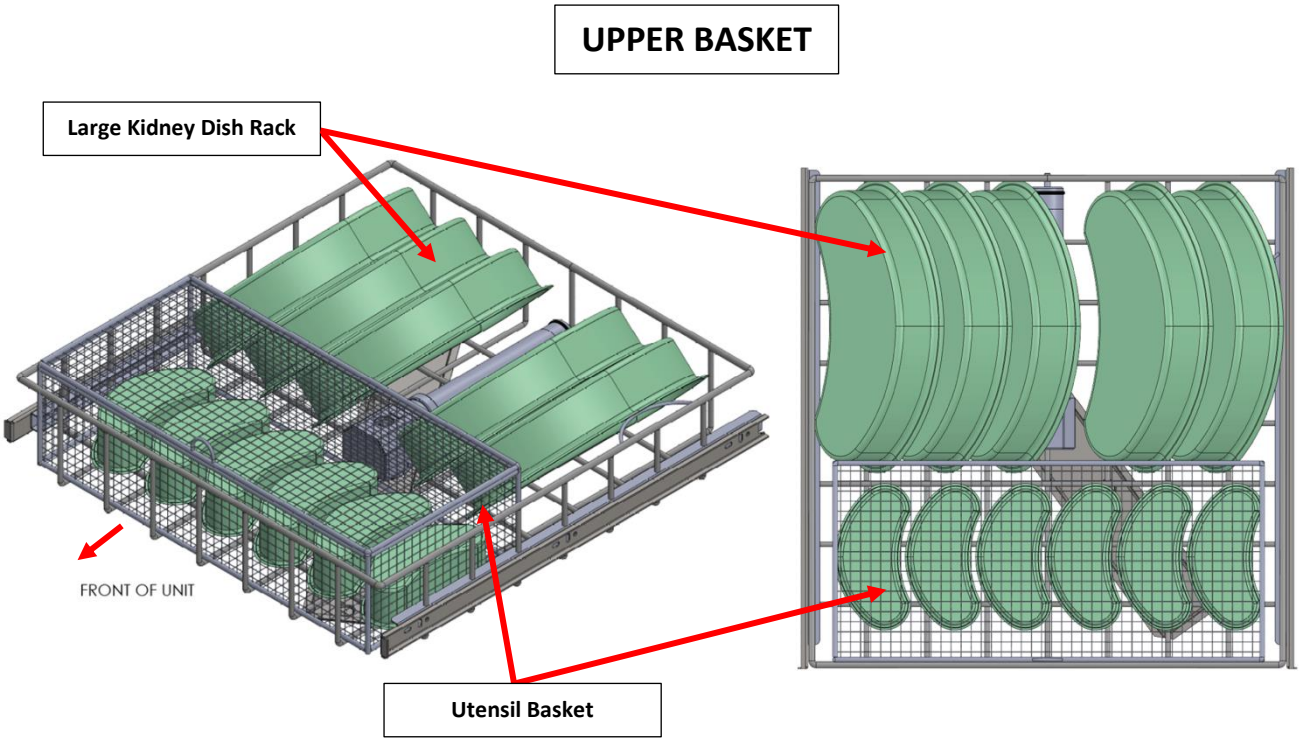
3.1 Lower basket configuration

LOWER BASKET



Bowls, dishes, or receivers of 185mm - 345mm in diameter with a depth not greater than 120mm can be loaded in the lower basket as per the above configuration

3.2 Upper basket configuration



The upper basket is split into two sections, a rack in the rear half for kidney dishes from 160-300mm. And a front section which can accommodate smaller bowls, gallipots and receivers. An optional utensil basket can also be used for smaller items.

NOTE: Take care when loading the top basket to ensure nothing protrudes below the basket that could potentially foul the wash arm and prevent it from turning.

4.0 Cycle of Operation

- The operation can be stopped at any time by pressing the Power button to the left of the display
- In an emergency power, off and isolate device at isolator/circuit breaker

1. Press the POWER button; to wake the device from Stand-by mode:

Stand-by

Temp 21.4°c	Cycle Normal OFF
Ao 0	Disnf Temp 90

After a short delay display will show READY

Ready

Temp 21.4°c	Cycle Normal Ready
Ao 0	Disnf Temp 90

2. Open door; and load items to be processed; display will show:

Door Open

Temp 21.4°c	Cycle Normal Door Open
Ao 0	Disnf Temp 90

3. When door is closed; display will show:

Ready

Temp 21.4°c	Cycle Normal Ready
Ao 0	Disnf Temp 90

4. To start cycle press the start button; the door will lock, the cycle indication LED Halo around the start button will begin to flash green and the display will show each cycle stage as the automatic cycle is completed:

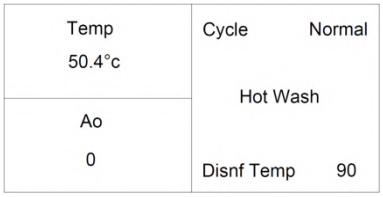
Cold Rinse

Temp 21.4°c	Cycle Normal Cold Rinse
Ao 0	Disnf Temp 90

Cycle of Operation cont'd

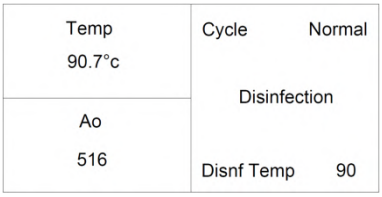
5. Hot Wash; display will show:

Hot Wash



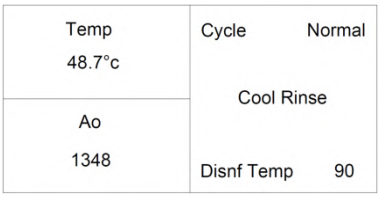
6. Disinfection; display will show:

Disinfection



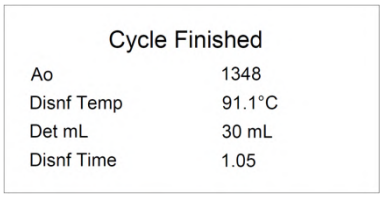
7. Cool rinse; display will show:

Cool Rinse



8. Cycle Completion; on successful cycle completion the door will unlock, the cycle indication LED Halo around the start button will display solid green; display will show:

Cycle Finished



Note: The cycle summary information will remain on the screen until the door is opened for manual recording purposes. This information can be accessed through the operator level menu for the previous 5 cycles if required.

4.1 Release of Processed items

On completion of the cycle, it is recommended that all processed items are unloaded and visually inspected as clean as per the requirements AS 5369. It is recommended all items are removed on completion of the cycle and stored in a designated area to prevent any risk of contamination or mixing with unprocessed items.

If the processing status of a load or item is unknown or in question, it should be treated as unprocessed and not released.

5.0 Maintenance

All maintenance; preventative or breakdown shall be carried out by a qualified person. Failure to comply with this condition may result in unsafe conditions.

Preventative maintenance must be completed as per instructions below. Failure to comply may result in warranty claims being rejected.

The Malmet Front Loading Utensil Washer Disinfector is self-cleaning; however, proper care should be taken to ensure that the device is cleaned and maintained in accordance with maintenance instructions, regulatory requirements and common-sense practices.

5.1 Daily Maintenance (Operator)

a) Run the device through a cycle to bring to operating temperature and disinfect the internal wash chamber area (do not load any items).

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

c) Wipe over external stainless-steel panels with a stainless-steel cleaner (do not get cleaner on the control panel).

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 tank mesh filter, remove and clean mesh filter of contaminates and dispose of as per facility biological waste disposal process. (Recommended minimum PPE: Gloves & Eye Protection)

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

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

5.2 Bi - Monthly Maintenance (Site Maintenance Technician)

WARNING 240/415 VOLTS!

ISOLATE DEVICE FROM ELECTRICAL SUPPLY BEFORE SERVICING

HOT SURFACES!

ALLOW DEVICE TO COOL PRIOR TO COMMENCING SERVICE WORKS

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

b) Check wash arms for free rotation.

c) Check spray nozzles in wash arms are not blocked, insert a small pin into the orifice of the spray nozzle to ensure no blockages are present. If a build-up or blockage is detected, a technician should clean nozzles as per cleaning instructions below to ensure adequate performance.

d) Remove temperature probe and clean off any residue or build up.

e) Visually inspect build-up of residue in 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.

Wash Arm Nozzle Cleaning Instructions

Ensure device is isolated prior to removing wash arms to ensure it cannot be inadvertently used while arms are removed for cleaning.

a) Remove wash arms from mounting bosses by unscrewing the retaining knob, and sliding wash arm off the axle

b) Check that the nozzle holes are clear and clean as necessary

c) Hold under tap and pressurise through the nozzle outlet in opposite direction of normal flow. In areas with hard water or high minerals in water supply, leaving wash arms to soak in a chemical de-scaler may be the quickest and easiest means to remove build-up of deposits

5.3 Recommended Preventative Maintenance Schedule (Qualified Maintenance Personnel)

It is recommended that preventive maintenance is performed by a qualified maintenance technician every **3 Months** for devices in high use, **6 Months** for medium use or **Annually** for low use devices.

WARNING 240/415 VOLTS!

ISOLATE DEVICE FROM ELECTRIC SUPPLY BEFORE SERVICING

HOT SURFACES!

ALLOW DEVICE TO COOL PRIOR TO COMMENCING SERVICE WORKS

1. Remove rear top and side panels and front lower panel.

   Note: Panel removal

   i) Remove 11 screws from the rear panel

   ii) Lift the top panel up and forwards to remove. Take care not to pull harnesses.

   iii) Remove the side panels by sliding towards the rear and then out to clear the bottom tabs.

   iv) Remove 4 screws from bottom corners of the front lower panel

2. Remove and clean the sprays as per *5.2 Monthly Maintenance – Wash Arm Nozzle Cleaning Instructions*
3. Check condition of baskets for damage
4. Check operation of centre wash arm check valve
5. Check condition of centre wash arm spigot O-ring
6. Check for scale build up inside wash tank sump. Remove and clean temperature probe.
7. Check for scale build up on element

8. Water inlet solenoids: Check filters for material build up, clean if necessary

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

10. Detergent pump: Check hose on pump and hoses in detergent lines for cracks or signs of leaks

11. Cycle verification: Run a cycle and check temperatures attained and wash cycle times are within the operating parameters

12. Replace battery on processor PCB every 12 months. Check time and date are correct, 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 device.

5.4 Post Maintenance or Repair Safety Checks

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

5.5 Door Safety Test

To check the correct functionality of the door safety and position sensors, open and close the door whilst watching the Status LED and LCD display on the device. Rest the door closed so it is not in the catched position, check the status LED displays orange and that "Door Open" is displayed on the LCD. Next push the door so it catches closed, and again check the Status LED is displays green and the LCD now shows "Ready".

5.6 Cycle Operation Check

After completion of the required checks above, a cycle operation check is to be completed. Run the device through a complete cycle ensuring correct sequence of operation as per section 4 of this manual. Inspect for fluid leaks from around the chamber door, rear service connections and beneath the device. If no faults are found during the inspection, and the device displays no faults at end of the cycle, the device is fit for return to operation.

5.7 Post Maintenance and Repair of Electrical Systems

Additional to the above safety tests if any repair or service work has been carried out that could affect the electrical safety of the device; it must be inspected and tested as per the requirements of AS/NZS 3760 prior to being returned to service.

Inspection

1. Check for obvious damage, defects or modification to the device that may affect its safe operation.
2. Check the main power cord is effectively anchored to device, that the outer sheath is not damaged and free of discoloration that may indicate exposure to excessive heat, chemicals or moisture, and that none of the internal cores are visible.
3. Check all guards are installed and secure, all ventilation inlets/outlets are unobstructed and that operating controls are in good working order.

Testing - An insulation meter or PAT with an accuracy of class 5 or better shall be used for the following tests.

1. An earth continuity test between the protective earth conductor and accessible earthed parts. Must not exceed 1Ω.
2. Insulation resistance test between the live supply conductors connected together and accessible earthed parts. During test equipment ON/OFF switch must be in the 'ON' position. Must not exceed 1Ω.

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

5.8 Replacement of Safety Devices

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

- Door Micro Switch
- Element Thermal Cut-out

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

5.9 Validation

It is recommended that Validation of the device is carried out in accordance with the requirements of AS 5369 & ISO 15883, consisting of 3 identified stages.

IQ – Installation Qualification

OQ – Operational Qualification

PQ – Performance Qualification

Installation Qualification

Performed upon installation of equipment to ensure equipment has been installed in accordance with applicable Standards and manufacturer's instructions.

Operation Qualification

Performed immediately after installation, relocation, change of a service to the device or after repair prior to device being put back in service in accordance with applicable Standards.

Performance Qualification

Performed immediately after IQ or OQ for new installs or relocated equipment, or change of a service to the device or repair that might adversely impact the quality of the RMD.

5.10 Requalification

It is recommended requalification of the process is performed annually in accordance with the requirements of AS 5369 and ISO 15883 applicable parts.

5.11 Device faults

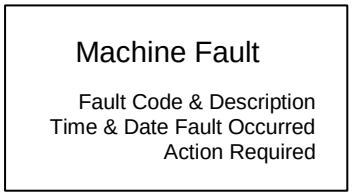
In the event of a fault or malfunction with the device during operation, abort the cycle by pressing the Power button on the control LCD. Once the device is off, isolate the mains power supply and water services. Notify maintenance or service provider of the fault and ensure device is not used until the fault is rectified.

5.12 Fault indication

In the event of a failure detected during or outside of cycle the device will go into fault. The display will show the fault code corresponding to the cause of the fault, a brief description, the time at which the fault occurred, and any actions required to resolve the fault.

If a fault occurs during a cycle access to the load will not be allowed until the cause of the fault has been fixed and a cycle has been successfully completed. Please refer to the Fault Codes section of this manual for a description of the fault code displayed.

Fault Screen Example

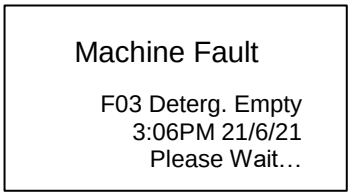


5.13 Operator resettable faults

Detergent dosing fault

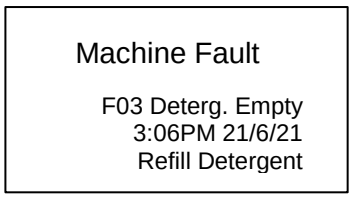
At the start of cycle the chemical dosing system performs a self-check to ensure detergent is present prior to commencing the cycle and checks the correct volume is delivered during the cycle. If detergent is not detected or the correct volume is unable to be achieved the display will show:

Fault 03 – Detergent Empty

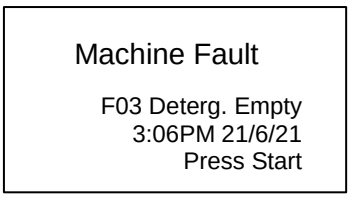


The device will then perform a drain step, once completed the display will cycle between:

Refill Detergent

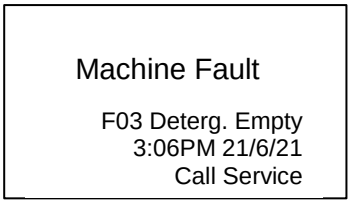


Press Start



Once the detergent has been replaced, (as per the detergent replacement procedure in this manual) Press the START button. The unit will then prime the chemical dosing system; if successful the device will automatically start the cycle. If priming is unsuccessful the device will remain in the fault condition. After 5 attempts if the device is unable to successfully prime it will lock out any further priming attempts and require service intervention to rectify. The display will show:

Call Service

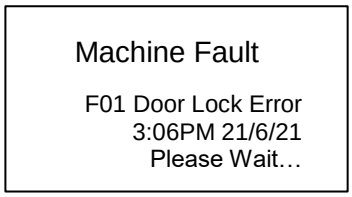


Operator resettable faults cont'd

Door lock Error

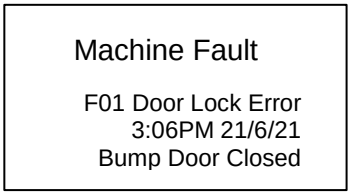
On pressing the start button to commence a cycle, the machine will lock the door. If the door lock is not successfully engaged a fault will be triggered. The display will show:

Fault 01 – Door Lock Error

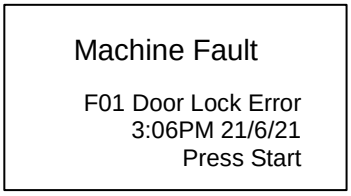


The device will perform a drain step, once completed the display will cycle between:

Bump Door Closed



Press Start



Check that the door is fully closed, once done press Start again. The device will attempt to engage the lock and start the cycle. If successful, cycle will commence; if unsuccessful device will remain in the fault condition. After 5 attempts, if the device is unable to successfully prime it will lock out any further priming attempts and require service intervention to rectify.

5.14 Fault list

The operation of the Malmet Front Loading Utensil Washer Disinfector is controlled by a micro-processor. The processor has fault detection capability and indicates faults by code on the LCD display

Fault 01	**Door Lock Error** (No lock signal detected when door lock engaged)	
	Cause	• *Door not shut completely* • *Lock out of alignment* • *Lock position switch faulty* • *Lock solenoid failed*
Fault 03	**Detergent Empty** (No detergent detected during dosing)	
	Cause	• *Detergent container empty or suction hose not immersed in chemical* • *Detergent suction foot valve blocked or jammed* • *Flow meter blocked or impellor jammed* • *Non-approved detergent used* • *Detergent pump squeeze tube broken* • *Detergent pump failed* • *Flow meter failed*
Fault 04	**Rinse Aid Empty (Where Fitted)** (No Rinse Aid detected during dosing)	
	Cause	• *Rinse Aid container empty or suction hose not immersed in chemical* • *Rinse Aid suction foot valve blocked or jammed* • *Flow meter blocked or impellor jammed* • *Non-approved detergent used* • *Rinse Aid pump squeeze tube broken* • *Rinse Aid pump failed* • *Flow meter failed*
Fault 06	**Hot Fill** (Incoming water temperature for Cold Wash above 45°C)	
	Cause	• *Incoming water supply is too hot/incorrectly connected to hot water*
Fault 07	**E-Stop** (Power button pressed during cycle)	
	Cause	• *Operator stopped cycle by pressing power button terminating operation*

Fault 08	**Power Interrupted** (Power loss during cycle)	
	Cause	• *Blackout or brown out* • *Faulty isolator* • *Blown control fuse*
Fault 09	**Syphon Fault** (Unit syphoning re-attempts attempts exceeded)	
	Cause	• *Drain Hose incorrectly installed* • *Negative pressure on drain hose connection*
Fault 11	**Detergent System Fault** (Detergent System dosing attempts exceeded)	
	Cause	• *Split or blocked suction tube* • *Split squeeze tube* • *Failed Rinse Aid Sensor*
Fault 12	**Detergent Over Dose** (Detergent volume delivered above allowed tolerance)	
	Cause	• *Detergent pump run on* • *Non approved detergent used* • *Controller error*
Fault 13	**Rinse Aid System Fault** (Rinse Aid System dosing attempts exceeded)	
	Cause	• *Split tor blocked suction tube* • *Split squeeze tube* • *Failed Rinse Aid Sensor*
Fault 14	**Rinse Aid Over Dose** (Rinse Aid volume delivered above allowed tolerance)	
	Cause	• *Blocked pump suction* • *Pump contactor failed* • *Wash pump failed*
Fault 15	**Filling Fault** (No water level increase detected during filling stage)	
	Cause	• *Water supply not turned on* • *Blocked inlet filter on water inlet solenoid* • *Water inlet solenoid failure* • *Blocked pressure sensing tube*
Fault 16	**Fill Timeout** (Water fill time exceeded)	
	Cause	• *Low incoming water pressure* • *Level sensor fault* • *Water syphoning from unit*
Fault 17	**Flood Protection** (Maximum water level exceeded)	
	Cause	• *Pressure sensor fault* • *Water inlet solenoid failure*
Fault 18	**Draining Fault** (No reduction in water level while drain pump operating)	
	Cause	• *Blocked drain pump inlet/outlet* • *Air lock in drain pump* • *Drain pump failed* • *Drain pump contactor failed*
Fault 19	**Water Level Low** (Water level dropped below minimum operation level during cycle)	
	Cause	• *Water syphoning from unit* • *Pressure Sensor Fault* • *Incorrectly loaded, container holding water*

Fault 20	**Element Fault** (Current draw exceeded allowable tolerance)	
	Cause	• *Failed Element Leg* • *Faulty Element*
Fault 21	**Heating Fail** (No temperature rise seen during heating stage)	
	Cause	• *Over temperature protection device tripped* • *Blown element*
Fault 22	**Hot Wash Over Temp** (Control temperature set point tolerance exceeded)	
	Cause	• *Element relay fault* • *Temperature probe fault*
Fault 23	**Hot Rinse Over Temp** (Control temperature set point tolerance exceeded)	
	Cause	• *Element relay fault* • *Temperature probe fault*
Fault 24	**Disinfection Over Temp** (Control temperature set point tolerance exceeded)	
	Cause	• *Element relay fault* • *Temperature probe fault*
Fault 25	**Door Open** (Door detected open during cycle)	
	Cause	• *Door lock fault* • *Door position sensor fault* • *Door position sensor out of adjustment*
Fault 26	**Door Lock Fault** (Door unlock detected during cycle)	
	Cause	• *Faulty Door Lock Position Sensor* • *Door lock fault*
Fault 27	**Machine Contactor Fault** (Contactor state does not change when switched)	
	Cause	• *Failed Contactor* • *Controller Output Failure*
Fault 28	**Wash Pump Low** (Low or No current draw detected)	
	Cause	• *Start capacitor failure* • *Motor Failure* • *Wash pump mechanical failure*
Fault 29	**Wash Pump High** (High current draw detected)	
	Cause	• *Pump impeller jammed* • *Start capacitor failure* • *Wash pump mechanical failure*
Fault 30	**Unknown Load** (Load Detected outside or cycle)	
	Cause	• *Pump impeller jammed* • *Start capacitor failure* • *Wash pump mechanical failure*
Fault 31	**Cycle Time Exceeded** (Maximum allowable cycle time exceeded)	
	Cause	• *Low water pressure* • *Element leg failure* •
Fault 32	**Disinfection Temp Fault** (Disinfection Temp not held)	
	Cause	• *Element Fault* • *Temp Sensor Fault* • *Phase dropped*

Fault 33	**Disinfection Time Fault** (Disinfection holding time not achieved)	
	Cause	• *Controller Failure*
Fault 34	**Level Sensor Fault** (Level sensor fault detected)	
	Cause	• *Split tube to pressure sensor* • *Water build up in pressure sensor tube* • *Pressure sensor failed*
Fault 35	**Control Temp Probe Fail** (Probe fault detected)	
	Cause	• *Broken or shorted out connection* • *Probe failed internally*
Fault 36	**Validation Temp Probe Fail** (Probe fault detected)	
	Cause	• *Broken or shorted out connection* • *Probe failed internally*
Fault 37	**Temp. Probe Differential** (Control & validation temperature probe measurement discrepancy)	
	Cause	• *Probe not installed correctly* • *Probe fowled or covered by foreign object* • *Intermittent probe fault* • *Probe Failure*
Fault 40	**Master Reset** (A master reset of the device has been performed)	
	Cause	• *Service intervention*

5.15 Making equipment safe after incomplete operating cycle

If an incomplete cycle has occurred, it is assumed that the load being processed has not been subjected to a complete cycle as per the set process parameters. For this reason, access to the load is restricted and will not be allowed until a full cycle has been completed.

At the end of an incomplete cycle or on powering up the device after an incomplete cycle, a fault code will display relating to the cause of the incomplete cycle (Please see section 5.3 Fault list for description of fault code). Depending on the nature of the fault an error reset may need to be completed; this can be done by following the instructions below. If the device does not allow an Error Reset to be completed, or the fault re-occurs after an Error Reset, it is recommended that the device is isolated and service is arranged to correct the fault.

The following functions must only be undertaken by trained service personnel.

5.16 Error reset

1. With the device in fault, press the both the Menu & Start Buttons simultaneously. A user login screen will appear.
2. Select User Level, Maintenance or Higher and enter 4-digit PIN.
3. Navigate to “Watch Pages” & press “Select”
4. Once in the “Watch Pages” menu, scroll down to “Machine Overview”
5. Once in the “Machine Overview” menu, scroll down to “Err Reset”
6. Select the highlighted field, and then change from “OFF” to “ON” using the rotary dial. Press dial in to “Select”

7. Once done press the “Cancel” button to exit each menu level until back at the Home screen.

   If fault has been corrected, device will display “Ready” or automatically recommence the cycle depending on the nature of the fault. If the fault recurs please Lock Out all services to the device and arrange for service to rectify.

5.17 Master reset (access to load in a fault condition)

1. With the device in fault, press the both the Menu & Start Buttons simultaneously. A user login screen will appear.
2. Select User Level, Maintenance or Higher and enter 4-digit PIN.
3. Navigate to “Watch Pages” & press “Select”
4. Once in the “Watch Pages” menu, scroll down to “Machine Overview”
5. Once in the “Machine Overview” menu, scroll down to “Master Reset”
6. Select the highlighted field, and then change from “OFF” to “ON” using the rotary dial. Press dial in to “Select”
7. Once done, while still in the “Machine Overview” menu. Scroll to “Err Reset” and select the highlighted field, then change from “OFF” to “ON” using the rotary dial. Press dial in to “Select”
8. Once completed, press the “Cancel” button to exit each menu level until back at the Home screen.

9. Device should now be idle with the door unlocked.

Caution: When performing a Master reset to access the load, items are to be treated as unprocessed as they have not been subjected to a complete cycle.

6.0 Technical Specifications

6.1 Power and Water Consumption

POWER AND WATER CONSUMPTION DATA					
MODEL	Disinfection Setting	Avg Cycles per/Hr	Avg Cycle Time min/sec	Avg kWh per cycle	CW Avg Lt Per cycle
WDF-3020	90°C x 1min	2	30	2.2	50
	80°C x 10min	1.6	37.5	2.0	50
	75°C x 30min	1.2	50	1.8	50

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

6.2 Device specifications

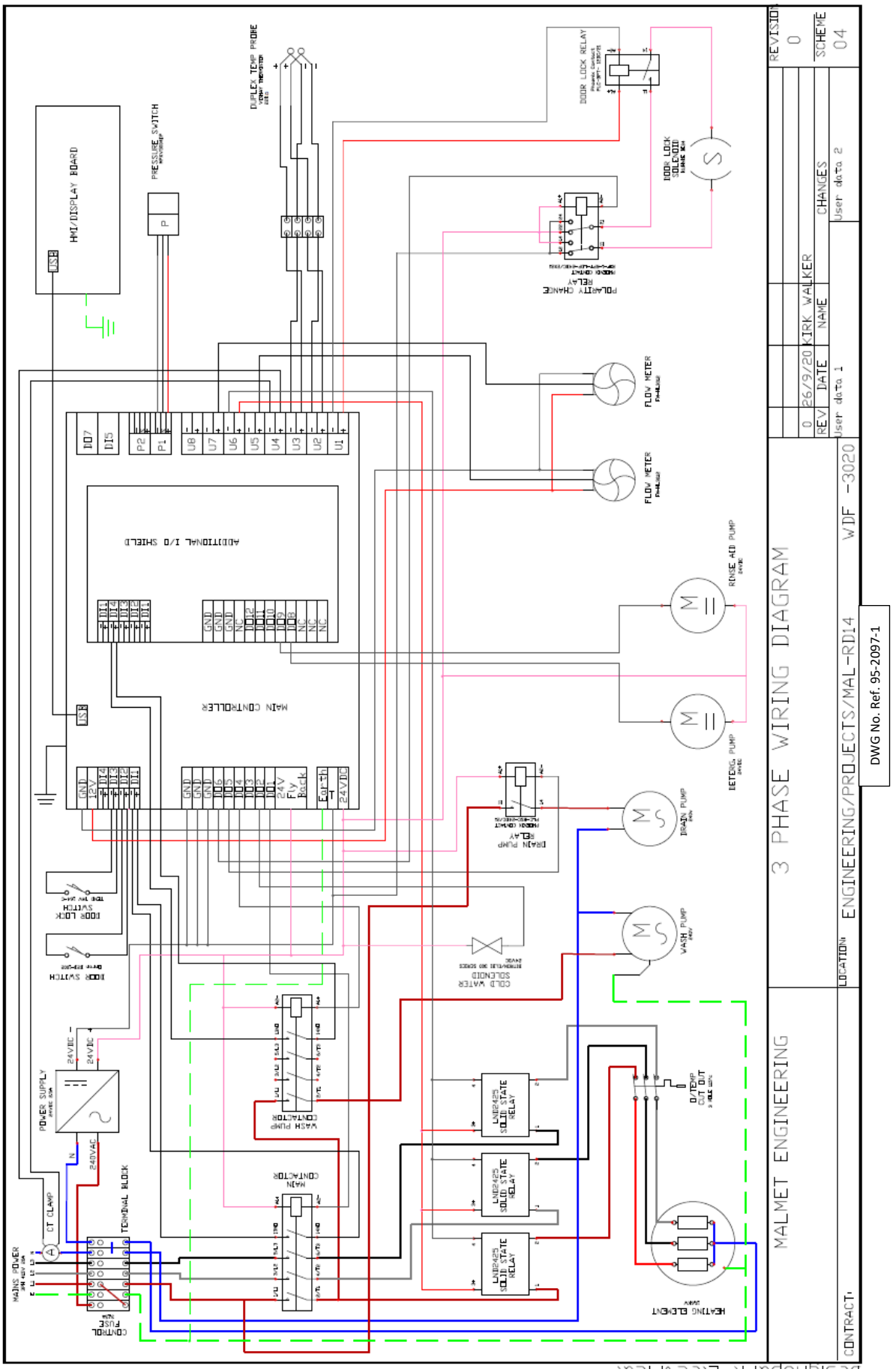
Electrical Rating	Volts	415V	APPROVALS
	Phase / Hz	3 ph / 50 Hz	
	Amps	20 Amps	
Element	Water Tank	10.6 kW	
Element over temperature cut-out	Water Tank	3 pole Thermal cut-out switch Set point 115°C Manual reset	
ELECTRICAL (Common components)			
Door Lock Solenoid	Bi-Stable Latching	24VDC	
Door Lock Position Switch	SPDT	16A 250V	
Door Micro Switch	SPST-NC	16A 250V	
Control Power Fuse	Cylinder type	5x20 250V 3.15A Slow Blow Fuse	
PCB HARDWARE			
PCB (Printed Circuit Board)	Main Controller	✓	
	HMI Display Board	✓	
Environment Operating Conditions	Location	Indoor Use	
	Altitude	<2000m	
	Temperature	+10°C to +25°C	
	Relative Humidity	+30% to +70%	
	Mains voltage fluctuations	240±10%	
	Overvoltage	Category II	
	Pollution	Degree II	
Wash Chamber			
Loading Configurations	See section 3.0 Loading of this manual for configurations		
Chamber Specification	Material	1.2mm Stainless	
	Design Life	Minimum of 10,000 cycles	
	Total Chamber Volume	190L	
	Total Usable Chamber Volume	137L	
Disinfection Temperature & Times * Factory setting	Target Ao Operation	600-5000 Target Value	ISO 15883-1:2006 Annex B
	Time & Temp Operation	75°C – 30 minutes 80°C – 10 minutes 90°C – 1 minute*	AS 5369:2023 – Table 6.1 ISO 15883-1:2006 Annex B
Detergent	Malmet specific (5Lt)	Detergent Concentrate Caustic Alkaline	ARTG Class 1
Detergent pump	Self-priming peristaltic pump	24VDC	
Backflow Prevention	DCV	Zurn Wilkins Model 700	AS 2845.1 WMKA1379
Water Supply Cold	pH	6.5-8.5	WMK26630

Potable Water (Final Rinse Water)	Water Hardness	<2.5mmol/L	
	Chloride	<30mg/L	
	Water Conductivity	<850 µS/cm	
	Temperature	5 - 25°C	
	Pressure (Static)	40-500kPa	
	Nominal Flow Rate	10L/Min	
Water Inlet Solenoid	Solenoid 24VDC	GB¾ male connection	WRAS Certified
Hoses – Mains Water Supply to Inlet Valve	S/Steel Braided	G¾ Hex Nut Each End 1.5M x 10mm	Certified to AS/NZS 3499-2006 (R2016)
Connection to Waste	22mm Drain Hose	2 Metres 150°C	
Operating Water Capacity	Per Fill	12 Litres	
CONSTRUCTION MATERIALS			
Materials	Wash chamber and external panels	304/4 stainless steel	
	Wash chamber	304 SS grade 4	
	Door	304 SS grade 4	
	Fasteners	304/316 SS	
	Thermal Insulation	6mm polyolefin Foam	
Principal Heavy Component	Main Wash Pump	3kg	
TRANSPORTATION			
HANDLING & STORAGE CONDITIONS.	 Fragile	 Keep away from rain	 Do not stack
	Temperature	-5°C to +50°C	

Weights Rounded up to nearest kilogram	**Net**	**Operating**	**Shipping**
	75kg	90kg	84kg
Dimensions (W x D x H)	600 x 640 x 870 (mm)		710 x 790 x 1100 (mm)

Floor Loading at Each Support as viewed from front of unit. * Loadings are a guide only & will vary between installations.	**Front Left**	**Front Right**	**Rear Left**	**Rear Right**
	23kg*	20kg*	24kg*	23kg*

6.3 Wiring Diagram (3 Phase)



Warranty Statement

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

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

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

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

Malmet Spare Parts
1 Year from Date of Purchase

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

CONDITIONS AND EXCLUSIONS

- Device must be installed and commissioned according to Malmet's instructions (outlined in Malmet Operation, Maintenance and Installation Manual) and operated to the purpose it was designed.
- Device must be serviced as instructed in the Operation, Maintenance and Installation Manuals.
- To the extent permitted by law, this warranty shall not cover damage, malfunction or failure resulting from accident, misuse or misapplication, improper or unauthorised repair, neglect or modification or use of unauthorised replacement parts or accessories, inclusive of detergent, or improper voltage. The warranty may be void if the serial number is removed or altered.
- Parts damaged in transit back to Malmet Leeton due to poor packaging could result in warranty claim being rejected in part or in full.
- Any part tampered with or which has been altered by unauthorised repairs and/or modifications will be rejected under a warranty claim to the extent permitted by law (to the extent the Australian Consumer Law applies, Malmet will assess the extent to which the tampering or unauthorised repairs contributed to the failure).
- Reasonable access must be allowed for maintenance. If any additional equipment is needed to provide access to the device, this must be provided (and paid for) by the owner.
- It is the owner's responsibility to provide safe access to the device. Malmet, or any of its authorised service agents, may refuse to perform maintenance or warranty work if access is unsafe, as determined by Malmet or any of its authorised service agents acting reasonably.
- Should a warranty claim be rejected you will be advised in writing with a full explanation of our reasons.
- Malmet have a Warranty Claim Procedure that is fair to our customers and provides an efficient system of replacement and/or repair of faulty parts. If at any time you believe we are not meeting our commitment to you please contact Malmet Head Office via email: info@malmet.com.au
- To the extent permitted by law, no responsibility will be accepted for outside elements including, but not limited to storms, pest and vermin that may cause damage to the device.

- To the extent permitted by law, no responsibility will be accepted for damage incurred as a result of, or incidental to, electrical surges or brown outs or for any other consequential damages.
- If there is no certificate of compliance for plumbing or electrical, Malmet reserves the right to refuse service on non-compliant installations.
- To the extent permitted by law, claims for damage to contents, carpet, ceilings, foundations or any other consequential loss either direct or indirect resulting from, power spikes, incorrect operation, incorrect installation, faulty product or any other cause, are excluded.
- This warranty, and to the extent permitted by law, any warranties owed by Malmet under the Australian Consumer Law or other applicable legislation, are not transferrable and cannot be sold, assigned or transferred in any other way from the purchaser to any other person.
- To the extent permitted by law, unauthorised use of any parts that were not supplied or approved for use in the applicable device by Malmet will result in this warranty and any warranty claims applicable to that device being void.
- Warranty labour (service work) shall not include devices located outside of city metropolitan areas of Melbourne, Sydney, Adelaide, Perth and Brisbane. Costs outside these areas shall be borne by the owner. The owner shall be notified of this prior to the warranty call out.
- Warranty labour (service work) shall be performed during normal business hours (Monday – Friday 7am – 4pm), excluding public holidays.
- Warranty labour (service work) performed outside of normal business hours, shall be charged at Malmet's or its authorised representative or agent's standard after-hour labour rates
- Warranty relating to spare parts covers parts only and does not include any associated costs.

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

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

How to make a claim under this warranty

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

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

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

Please complete details below:

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

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

E.&O.E.

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

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

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

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Quality Management - ISO 9001
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MALMET

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