

M2

**WASHTECH**<sup>®</sup>  
PROFESSIONAL WASH SYSTEMS



# Operator Manual

**M2** High Performance Passthrough Dishwasher



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**WARNING**

Before installation and commissioning, you must read the safety instructions and warnings carefully and all the warning labels attached to the equipment.

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**IMPORTANT**

Failure to comply (even partially) with the instructions given in this manual will invalidate the product warranty and relieves the manufacturer of any responsibility.

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**IMPORTANT**

The alteration of machine operation, design or the replacement of parts not approved by the manufacturer may void warranties and approvals.

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We have checked that the contents of this document correspond to the model described. There may be discrepancies nevertheless, and no guarantee can be given that they are completely identical. The information contained in this document is reviewed regularly and any necessary changes will be included in the next edition. We welcome suggestions for improvement.

Document subject to change without prior notice.

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Parts 1 800 337 963

# Safety Instructions

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## **WARNING**

Equipment contains dangerous voltages and can be hazardous if installed or operated incorrectly. Non-compliance with **Warnings** or failure to follow the instructions contained in this manual can result in loss of life, severe personal injury or serious damage to property.

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### **Installation**

- ◆ Use qualified, skilled personnel
- ◆ Follow installation instructions
- ◆ Connect to correct voltage and supply current
- ◆ Provide fully accessible Electrical Isolation Switch & water supply valves

### **Training and Supervision**

- ◆ Read and Understand the Operating instructions and train all staff
- ◆ This appliance must not be operated by children or infirm persons
- ◆ Machine panels must only be removed by suitably qualified and trained personnel – internal hazards include live electrics and very hot surfaces
- ◆ This appliance is not intended for use as a stepladder

### **Hot Surfaces**

- ◆ Some surfaces may be hot or very hot

### **Chemicals**

- ◆ Commercial dishwashing detergents are hazardous – handle with care
- ◆ Read and follow the safety information found on the labels of detergent containers and Material Safety Data Sheets
- ◆ Use protective eyewear and clothing if decanting containers

### **Hot Water**

- ◆ Do not put hands in wash water which may be over 60°C and contain hazardous caustic detergent
- ◆ Rinse water can be over 90°C
- ◆ Door safety switches are designed for emergency use only

### **Cleaning**

- ◆ Do not hose down the machine or splash water over the exterior
- ◆ Watch for broken glass etc when cleaning the inside of the machine

### **Service/Repair**

- ◆ Under no circumstances the user should attempt to carry out repairs
- ◆ All service/repair work must be carried out by qualified personnel only

# Installation

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## **WARNING**

Installer must be suitably qualified and ensure compliance with all codes and standards including AS/NZS3500.1.

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Failure to comply even partially with installation instructions may void the warranty.

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### **Positioning**

Unpack machine, check for damage and complete delivery. Install machine on sound waterproof self-draining floor and use adjustable feet to level machine. Allow room for detergent to one side of machine or in adjacent cupboard. 20litre container requires about 450H x 250W x 350D, but smaller containers are available from many suppliers.

### **Benchwork**

In corner installations the front of the machine must face to the left of the corner. In corner installations high or angled bench return off wall may clash with door handle. Level and secure machine and benches. Adjust to ensure smooth travel of rack through machine.

### **Water Supply**

Hot water temperature	65°C ± 5°C
Connection	20 mm (3/4" BSP Male)
Flow rate minimum	15 litres per minute
Consumption per cycle	3 litres approximately
Backflow prevention	DCV = Dual Check Valve fitted standard
Pressure	100-350 KPa

Above this range fit pressure limiter. Don't use small diameter plastic supply lines especially below this range when optional rinse booster pump may be required. FLUSH supply line before connection. Poor quality supply or excessive water hardness may affect performance or damage machine – filtration and/or softening is recommended.

### **Waste**

Drain pump is fitted – refer installation diagrams.

### **Power**

15A 240V 50Hz via switched outlet adjacent to machine, which is supplied with cord set including 15A plug. Machine may also be installed on 3 Phase, Neutral and Earth, 415V 50Hz 15A/ph, permanently wired via wall switch mounted adjacent to machine – refer schematic diagram for this requirement.

### **Detergent**

Insert detergent pump inlet hose into container of commercial low foam detergent. The detergent hoses will be primed during filling of the wash tank. Detergent pump is set to operate for 12 seconds at the beginning of the wash cycle. This time can be adjusted by the keypad controller. Press both Up and Down keys on the keypad for a few seconds to access the User Setting menu and follow on screen instructions. Commercial detergents can be hazardous - read instructions and handle with care.

### **Rinse Aid**

Insert injector inlet hose into rinse aid container. Check amount of fluid rising up inside pipe during pulse at start of rinse cycle. Rotate adjusting screw clockwise to reduce flow and anticlockwise to increase flow.

### **Installation Checklist**

Complete attached Installation Checklist to ensure machine is installed and running correctly, and operator is familiar with operating procedures.

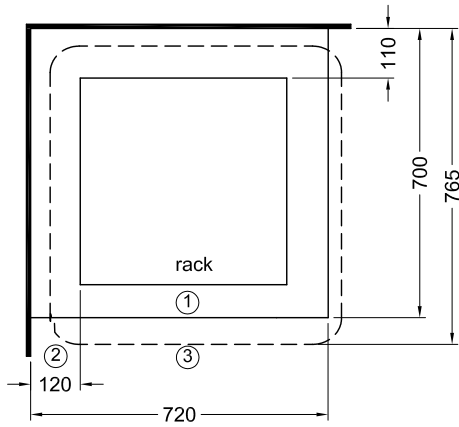
### **Troubleshooting**

If machine doesn't fill after switching on power, check & ensure that hot water supply tap is open, water supply pressure is not below specification & Dual Check Valve is correctly installed (arrow on the DCV body specifies water flow direction).

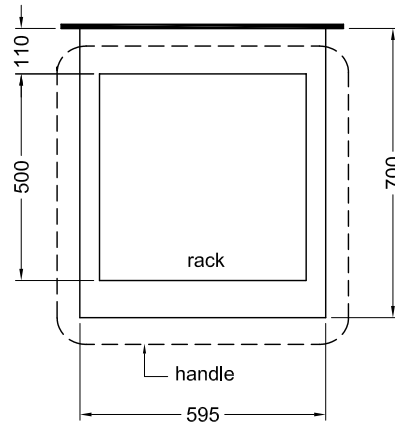
# M2(4) INSTALLATION DIAGRAM

M2(4) INST 30-08-13 3 A

benchwork minimum dimensions  
corner installation

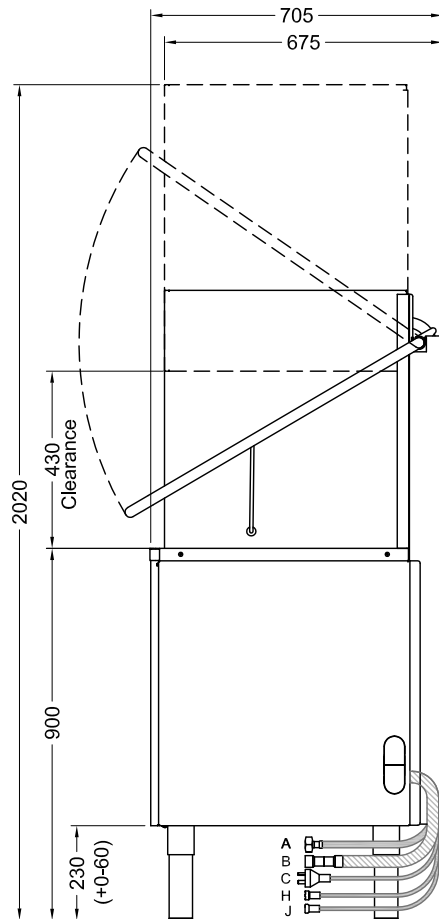
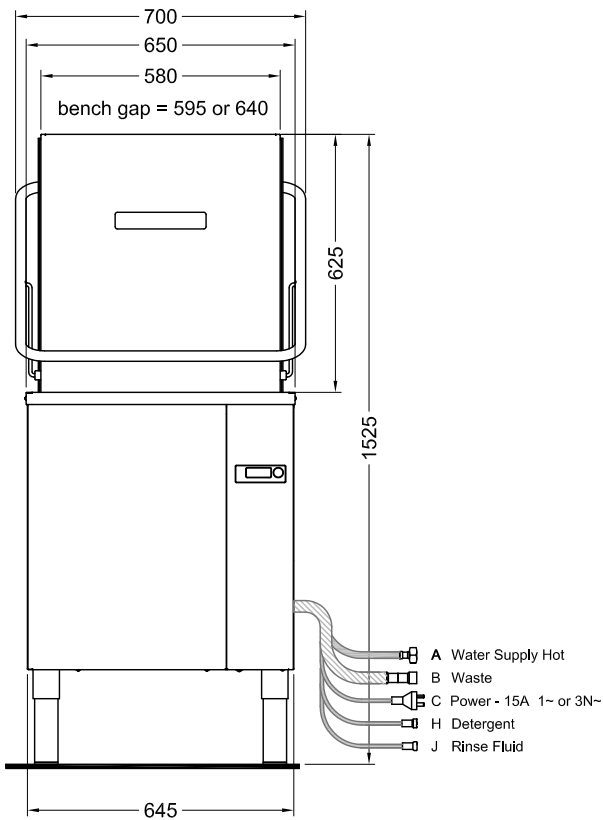


in-line installation



Corner installation

- ① machine must face left
- ② splashback return no higher than 150mm
- ③ allow 300 clearance beneath bench to front for service access

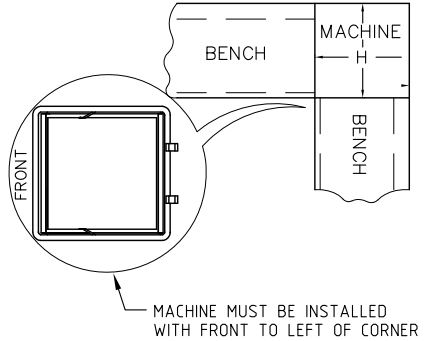


# PASSTHROUGH BENCH DETAILS

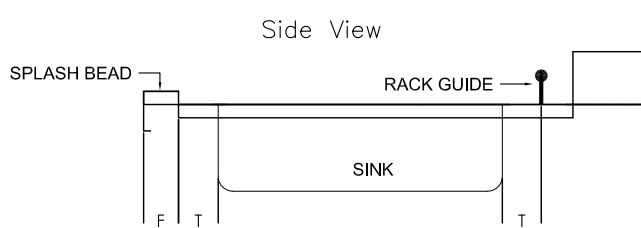
M2 0006 1-08-13 1 J

		M1	M2/XP	AL	AL8
M	BENCH DEPTH MINIMUM - for straight through only	600	700 (650)	750 (700)	750 (700)
R	RETURN MINIMUM - for straight through only	115	125 (90)	150 (125)	150 (125)
G	BENCH GAP	510	595	640	790
B	BENCH OPENING	460	535	550	550
F	SPLASH BEAD MINIMUM	25	40 (25)	50 (25)	50 (25)
D	RACK SIZE	435	500	500	500
E	RACK PATH	450	520	520	520
S	SINK WIDTH	350	450	450	450
T	CLEARANCE	35	35	35	35
H	DISTANCE TO WALL FOR CORNER INSTALLATION	620	720	760	N/A

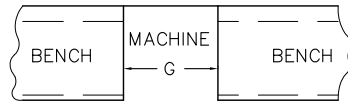
Corner Detail



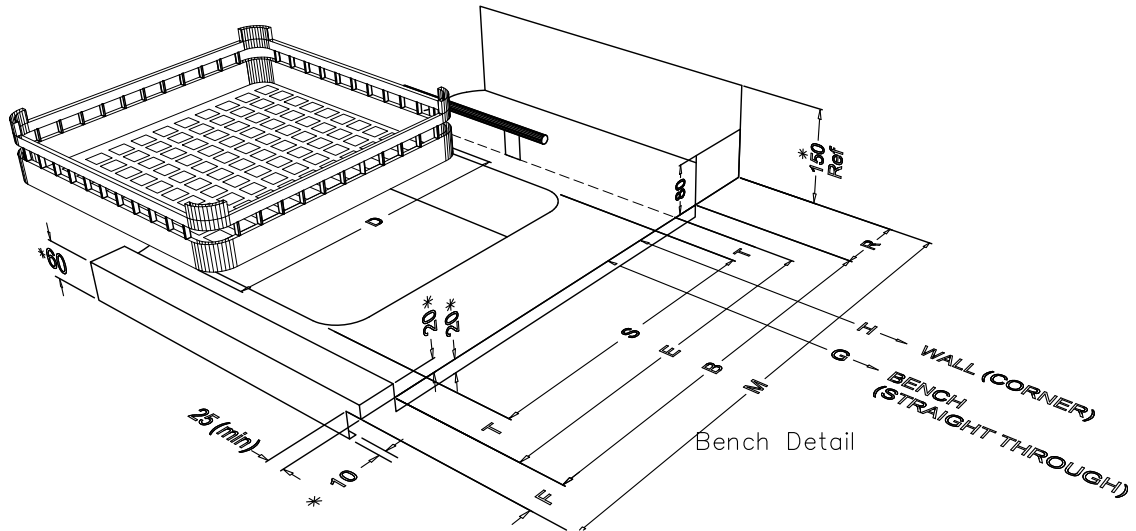
Side View



Straight through detail



All dimensions in millimetres



- Notes:**
1. These dimensions are recommendations. They apply to straight through or corner installations. They are designed to ensure that the dishrack slides over an adjacent sink directly into the dishwasher. We recommend use of the sink size shown and a rack guide to keep the rack up against the splash bead and prevent it from falling into the sink. This arrangement is particularly suitable when a pre-rinse gun is used (as recommended).
  2. Bench depth can be reduced by reducing the size of the splash bead and in straight through installations (only) dimension R can be reduced to the minimum shown.
  3. Drawing is for the left of the machine - other side is mirror image (sink may be to either side).
  4. Dimension with \* are suggestions only and not critical.

# Installation Checklist

CHECK OK / NOTES

## Delivery

Supplied complete  no transit damage

## Position

Level and stable  on sound, waterproof, self draining floor

## Water

Isolator valve fitted	<input type="checkbox"/>	Accessible, all fittings sound, no leaks
DCVs fitted (Washtech only)	<input type="checkbox"/>	Correct direction
Temperature	<input type="checkbox"/>	65 ± 5°C
Flow rate	<input type="checkbox"/>	Minimum 20 litres per minute
Pressure	<input type="checkbox"/>	200-350 kpa, limiter fitted if above this range
	<input type="checkbox"/>	Booster fitted if below this range
Cold water when required	<input type="checkbox"/>	Pressure not above 350 kpa
Hardness	<input type="checkbox"/>	Filter or softening if required

## Power

Isolating switch	<input type="checkbox"/>	Fitted, functional and accessible
Supply as specified	<input type="checkbox"/>	Voltage, current, circuit breaker

## Waste

Usually 40 mm	<input type="checkbox"/>	Sound, no leaks
Air gap on pumped drain	<input type="checkbox"/>	

## Chemicals

	product name	container	no leaks	primed	conc.OK
Detergent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rinse Aid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Machine operation

Run several cycles	<input type="checkbox"/>	
Confirm correct operation	<input type="checkbox"/>	Including correct fill levels

## Operator training

Confirm Operator has copy of Operator Manual and is familiar with procedures

Start-up	<input type="checkbox"/>	Model / Serial	<input type="checkbox"/>
Pre-rinse and racking	<input type="checkbox"/>	Owner	<input type="checkbox"/>
Machine operation	<input type="checkbox"/>	Location	<input type="checkbox"/>
Drain	<input type="checkbox"/>	Technician	<input type="checkbox"/>
Clean	<input type="checkbox"/>	Date	<input type="checkbox"/>
Shut-down	<input type="checkbox"/>	Signed	<input type="checkbox"/>



# Dishwashing Procedures

for best results

Note: these are general instructions to assist in getting the best performance from Washtech dishwashers – some comments and / or illustrations may not apply to every unit.

## Installation

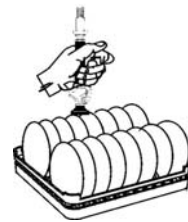


Read the Operator Manual. Correct installation, including an adequate supply of water at the correct temperature and pressure is essential for effective operation of your machine. Refer installation instructions for details. Drain hose outlet height is important on some models. Always install on a sound self-draining floor. Water softening is recommended in hard water areas - especially for glasswashing

## Pre-rinsing



Pre-scraping of dishes is required by hygiene regulations. The best method is to pre-rinse with a pre-rinse spray unit - or alternatively by scraping or dunking in water.



## Cutlery Procedures

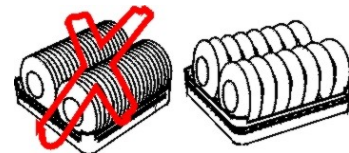


Pre-soak cutlery in warm water, preferably containing cutlery pre-soak compound - refer your chemical supplier.

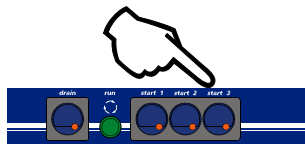
Do not overfill cutlery containers. Cutlery should be loose with handles down. Sort after washing rather than before. Cutlery of only one type nests together and obscures wash water.

## Racking Procedures

Do not overload racks, minimize the overlap of crockery. Cycle times are short and water consumption per cycle low - so there is no advantage in overloading racks.



## Cycle Times



For multi-cycle machine use the longest cycle whenever possible. Note that water consumption does not increase with longer cycles. Only choose shorter, faster cycles when necessary.



## Detergent

Use of correct type and quantity of low foaming detergent is essential to machine performance. Ask a professional chemical supplier to recommend the best types and concentrations of detergent, rinse fluid and cutlery soak for your situation. Note that detergents are hazardous. Poorly formulated detergents, particularly those containing chlorine, can shorten the life of dispensing systems and the machine itself.





# Dishwashing Procedures

for best results

## Drying

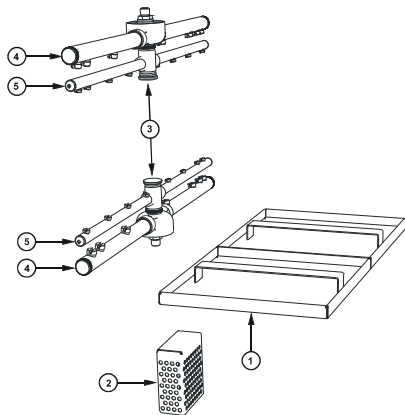


Single tank commercial dishwashers do not have a drying cycle. However, the machines do rinse at high temperatures which promote fast drying particularly when drying agents are used. We recommend prompt removal of the rack from the machine - leave the rack on the bench for 2 to 3 minutes before emptying. This time will be reduced with correct use of drying agent (rinse fluid) which reduces water surface tension and allows water to drain quickly from washware. For advice on drying agents and injectors refer to your chemical supplier.

## Daily Cleaning

It is essential that the machine is drained and cleaned at the end of each day. Drain the machine then remove, clean and replace filters as per the operating instructions. Regularly check the wash and rinse jets and clean them if necessary – see below.

## Regular Cleaning



Remove scrap trays<sup>①</sup> and wash pump inlet filter<sup>②</sup>, where fitted, and rinse or brush clean.

Remove wash and rinse arms by undoing the central thumbscrews<sup>③</sup>. If necessary, remove the end cap screws<sup>④</sup> from the wash arms and the end screws<sup>⑤</sup> from the rinse arms and flush the arms with water and/or use a toothpick or paperclip to clear jets.

Note: arms and filters vary with model and may appear different from this illustration e.g. those models with plastic wash arms have removable jets for ease of cleaning

## Regular Servicing

Regular servicing is essential for optimum performance and long machine life. Maintenance is recommended at least once every six months – especially when chemical injectors are fitted.

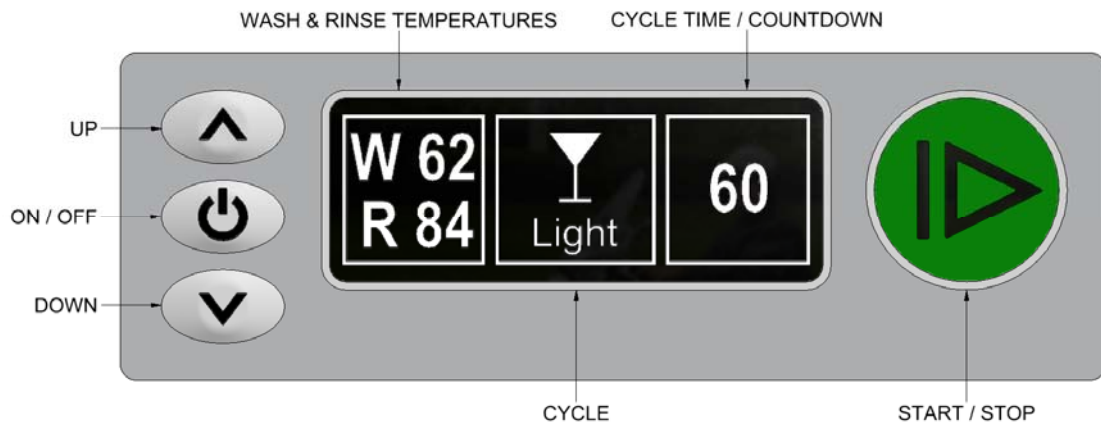
Please contact Moffat or your Authorised Service Provider to organize regular servicing of the dishwasher - discuss a Preventative Maintenance Agreement.



Note: these are general instructions to assist in getting the best performance from Washtech dishwashers – some comments and / or illustrations may not apply to every unit.

# M2 Operation

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## Start up

Fit scrap tray, wash pump filter and upstand, and shut door.  
Turn wall power switch on and press machine ON/OFF Button for 1 second.  
START/STOP button glows white and machine fills automatically.  
Machine starts heating when wash tank is full.  
START/STOP button glows orange while heating.  
START/STOP button glows green when machine ready for operation.

## Operation

Select Light, Medium, Heavy or Manual cycle by pressing UP or DOWN keys.  
Light, Medium and Heavy cycles correspond to 60, 120 and 180 seconds cycles accordingly.

Load rack into machine and shut door.

Press START/STOP button to start the cycle.

The START/STOP button glows red while machine operates.

Pressing the START/STOP button during operation will terminate the cycle.

When red light goes out, cycle is complete.

If Manual cycle is selected machine will continue washing until START/STOP button is pressed again. The following rinse will complete the cycle.

Remove rack. Close door.

NOTE: The cycle time might be longer than specified if water supply temperature is below required.

## Shut down every night

Select Drain cycle by pressing UP or DOWN keys.

Remove drain upstand, close door and press START/STOP button.

Machine will drain for 100 seconds with a cleaning rinse in a middle of cycle.

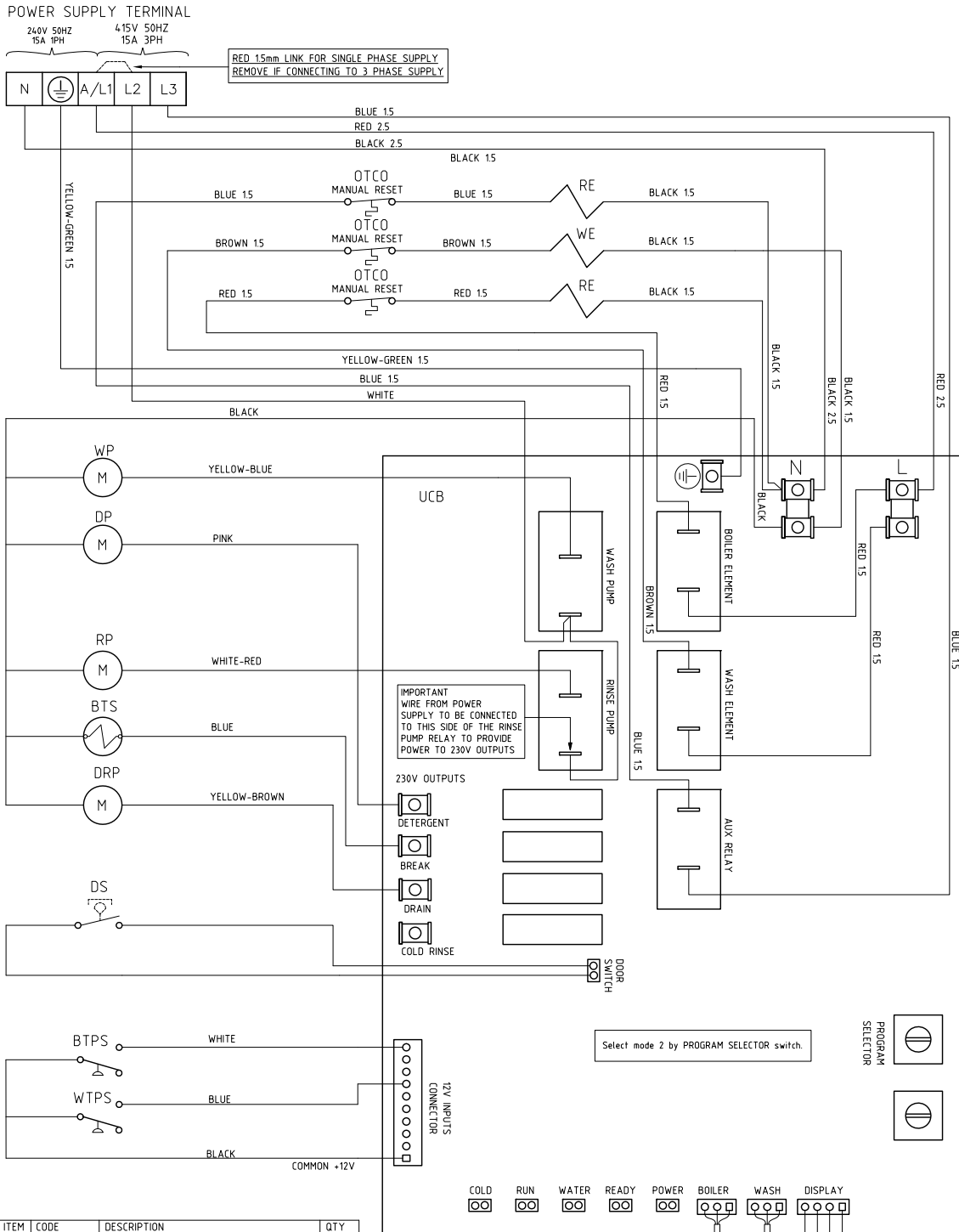
When drain & clean are complete machine will go in to standby mode.

Remove filter, scrap tray, and rinse clean.

Replace scrap tray, filter and drain upstand.

# M2(4) WIRING DIAGRAM

080311 30/07/13 1 A



ITEM	CODE	DESCRIPTION	QTY
BTPS	600 30266	BREAK TANK PRESSURE SWITCH 50/25MM	1
BTS	3342	BREAK TANK SOLENOID VALVE	1
DP	600 30094	DETERGENT PUMP PERISTALTIC 15L/H	1
DRP	600 60102	DRAIN PUMP B20-6 220-240V 50HZ	1
DS	600 30183	DOOR SWITCH REED STEM	1
KCB	600 30420	KEYPAD CONTROLLER BOARD	1
KCM	400 70160	KEYPAD CONTROLLER MEMBRANE	1
OTCO	600 30088	THERMOSTAT TY60/6-110C	2
RE	3007	ELEMENT 2 x 3000W 240V	1
RP	600 30327	RINSE PUMP 0.24kW	1
RTS	600 30430	RINSE TEMPERATURE SENSOR	1
UCB	600 40081	UNIVERSAL CONTROLLER BOARD	1
WE	600 30226	ELEMENT 2500W 240V WASH	1
WP	600 30299	WASH PUMP 1HP ZF320V SX	1
WTPS	600 30308	PRESSURE SWITCH METAFLEX 140/60MM	3
WTS	600 30429	WASH TEMPERATURE SENSOR	1



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