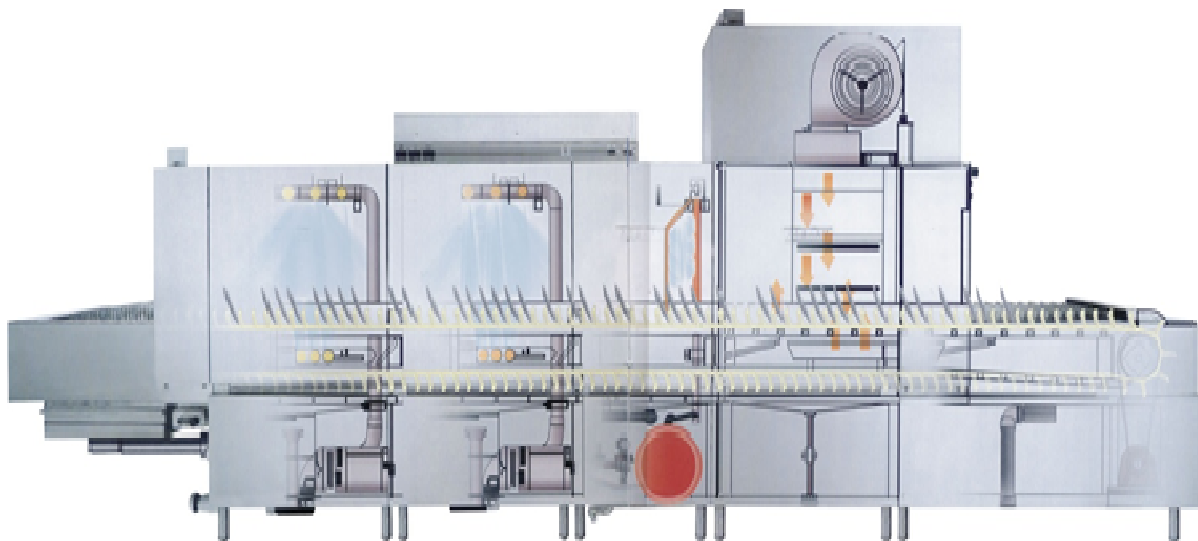


**Global-Tek (Singapore) Pte. Ltd.**

**Installation and Operation Manual**

**Model : GT-FTC/MF**



## **UNPACKING**

Immediately after unpacking the dishwasher, check for possible shipping damage. If the machine is found to be damaged, save the packaging material and contact the transporter within 15 days.

Before installation, test the electrical service to make sure it agrees with the specifications on the machine data plate located on the control box. The electrical diagram is located inside the control box.

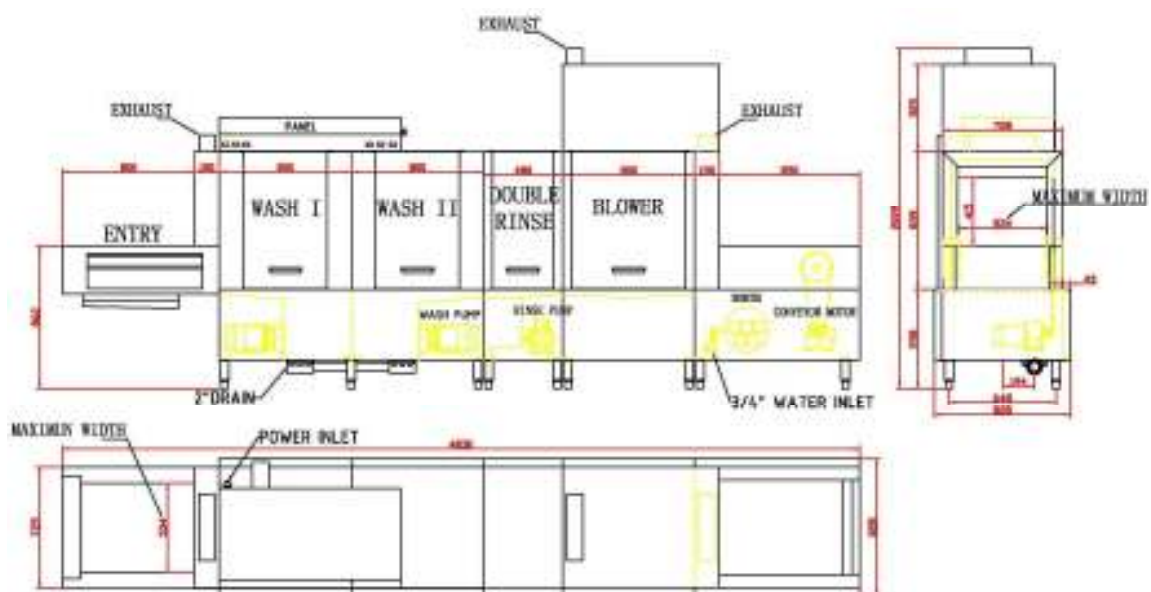
Strainer baskets, strainer pans, pump inlet strainers and wash arms are taped and shipped in place. Remove tape, but retain all parts in their proper places. If any parts are temporarily removed during installation, return them to their proper place after installation is completed. Before installing, check to make sure that necessary electrical, plumbing and exhaust accommodations are provided at the installation location. Take measurements of site's plumbing, electrical and exhaust connections; then take corresponding measurements of the machine to make sure all connections are correctly mated. If necessary, to lower control box during move-in, slotted holes are provided on the control box shipping supports to allow adjustment for clearance height.

### **REMOVING EACH SECTION FROM ITS SKID**

**Caution: DO NOT use a forklift to remove or unskid machine sections. Doing so may result in damage to the machine.**

1. Remove the lag bolts that are securing the crossmembers to the front and rear runners.
2. Remove the lag bolts from the leg shipping brackets.
3. Carefully raise one end of the section just enough to slide the skid rails from under it and remove the leg shipping brackets.
4. Repeat steps 1 through 3 at the other end.
5. Thread the feet into the legs as far as possible; then back out three full turns. Standard legs have 20 mm thread studs for maximum adjustment.
6. Open all inspection doors and remove all wrapped parts and boxes from inside each machine section.
7. Remove any packaging, tape, wire and bracing from each section. Remove all rear and lower panels.

NOTE: Do not throw out any loose parts. These may be required for installation or operation.



## **LOCATION**

Allow adequate space for machine installation and operation. Place the machine sections close to their final position. Allow space to work on the ends of the center section.

Review, but do not remove, tags or labels. Remove tags after installation is complete.

## **POSITIONING THE CENTER SECTION**

Use a chalk line on the floor to align the machine along its complete length.

With each section in its approximate final position, determine which section is at the high point on the floor. Machine assembly begins after the center section has been leveled to a height that compensates for the floor height of the other sections.

## **LEVELING THE CENTER SECTION WITH SLIDING DOORS**

With the center section is in its final operating position, it must be leveled at a height that allows the other sections to be level. Level the center section along its length by placing the level at various points along the tank support rails and threading the feet in or out as required. Level the center section front to back by placing the level on top of the chamber at each end.

## **ASSEMBLY**

### **PREPARATION**

Wash Section: Open the door, take out all curtains, scrap trays. Disconnect the bolts of the rails.

Rinse Section: Open the door, take out the upper and lower rinse arm and curtains. Disconnect the bolts of the rail.

Drying Section: Open the door, disconnect the exhaust vent, take out the catch pan and curtains. Disconnect the bolts of the rail.

Out-section: Take out the curtain, disconnect the bolts of the rail.

## **INSTALLING FOAM TAPE ON CHAMBER FLANGES AND CONTROL BOX MOUNTING SURFACE**

Cut strips of vinyl foam tape to fit the top, bottom and sides of the chamber flanges of the center section (at both ends) to make a good seal. Apply foam tape, provided, to unload section where the rear perimeter of the control box will be mounted.

## **POSITIONING THE ADJACENT LOAD OR UNLOAD SECTIONS**

Move the adjoining (load or unload) section to within 200 mm of the prepared end of the center section. Adjust the feet of the section adjacent to the leveled center section so tank supports are the same height. Peel the protective paper from the vinyl foam tape and move the second section to its final position. Be very careful that mating components connect and fit together properly.

## **LEVELING THE LOAD AND UNLOAD SECTIONS**

The tank support rails should be level across the entire length of the machine. Both sections should be level front to back.

- Abutted sections are parallel; the foam tape line is vertical.
- All adjoining components of the two sections are exactly in line with each other.
- Top corners of adjoining sections are the same height.

## **JOINING THE SECTIONS TOGETHER**

Use drift pins to align the holes in the horizontal and vertical chamber flanges of the mated sections. Use C-clamps to hold the sections in position while bolting the chamber front and back flanges together. Exercise care to avoid tearing the foam tape seal.

**CAUTION: When installing a blower-dryer unload section, remove the air deflector pans. Do not stand, sit or lie on them. Blower-dryer performance could be compromised.**

## **INSTALLING THE CURTAIN BAFFLES - TOP OF CHAMBER FLANGES**

Install one curtain baffle on each side of the top of the chamber flanges where sections are being joined, using appropriate fasteners and Permagum.

## **ELECTRICAL CONNECTION(S)**

**WARNING:** ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.

**WARNING:** DISCONNECT THE ELECTRICAL POWER TO THE MACHINE AND FOLLOW LOCKOUT / TAGOUT PROCEDURES. THERE MAY BE MULTIPLE CIRCUITS. BE SURE ALL CIRCUITS ARE DISCONNECTED.

Refer to the electrical diagram attached to the inside of the control box door. Some machines may require more than one electrical power supply connection. All electrical supply lines to the machine must be disconnected when disconnection is required.

## **REMOTE START/STOP JUNCTION BOX (OPTIONAL)**

One or more remote junction boxes with Start and Stop switches are available and can be installed in suitable and convenient locations according to local code and the machine electrical diagram.

## **PLUMBING CONNECTIONS**

**WARNING:** PLUMBING CONNECTIONS MUST COMPLY WITH APPLICABLE SANITARY, SAFETY AND PLUMBING CODES.

Check all water lines, particularly unions. Tighten if necessary.

## **WATER SUPPLY**

The water supply must be within the recommended hardness range of 4 to 6 grains per gallon. Lower hardness can promote corrosion; higher hardness may cause excessive formation of lime scale. Recommended water pressure should be 20 to 25 psig (flowing) at the dishwasher. If the water pressure is higher than 25 psig, a pressure-regulating valve with internal thermal expansion bypass must be supplied (by others) in the water supply line to the dishwasher.

**CAUTION:** The water pressure regulator must have a relief bypass. Failure to use the proper type of pressure regulator may result in damage to the unit.

## **Fill**

All machines have a single G3/4 female connection point for the fill and/or booster heater. The minimum water temperature for the fill connection is 10 to 60° C. Machines equipped with the prewash temperature control option require a connection to cold water at a female pipe fitting at the load end.

## **Incoming Water Pressure Regulating**

After fill, adjust the pressure regulator to 0.1~0.12 Mpa during final rinse.

## **Final Rinse**

A water hammer arrestor meeting ASSE-1010 standard or equivalent should be supplied (by others) in the final rinse water supply line at the service connection. The required minimum water temperature for the final rinse is 140°F when an electric or steam booster heater is supplied, the booster

heater is plumbed to the final rinse at the factory. Machines without booster heater require 180°F water to be connected to the 3/4" NPT female fitting at the final rinse connection point.

## **Electric Booster Heater (When Equipped)**

The electric booster heater is equipped with a pressure temperature relief valve that has a female pipe fitting that must be piped to an open drain receiver in the floor.

## **Drain**

Connect the drain at the threaded fitting located at either the unload end or the load end of the machine, as specified on the order.

**NOTE:** The plug fitting and the threaded drain fitting can be interchanged to reverse the drain end of the machine by loosening the stainless steel clamp fitting. The molded arrows must all point in the same direction on all molded drain T-connectors.

If a grease trap is required by code, the drain should have a flow rate of 150 liters per minute.

Do not over-tighten the fittings.

## **Line Strainers**

Line strainers on the machine should be cleaned after installation and within the first week of operation. The line strainers will collect cutting oils and other contaminants. Clogged line strainers will cause restrictions to the flow of steam or water and will reduce overall performance of the machine.

## **CONVEYOR ASSEMBLY**

Prior to installing the conveyor, a quick check should be made to verify that the sprockets are set correctly at both the load and unload ends of the machine. The take-up units on both the front and rear of the load section must be completely retracted towards the load platform so that the conveyor shaft is as square as possible with the machine before attempting this procedure. Then, place a level or combination square across the inside face of the rear sprocket and the inside edge of the rear track. Both parts should be aligned or set with the sprocket just slightly to the inside of the track. The inside face of the sprocket should never be set outbound of the inside edge of the track. Once this has been confirmed or properly adjusted, check the inside dimension between the front and rear sprockets; it should be  $27.938 \pm 0.063$ . If it is not, loosen the set screw on the front sprocket and slide it forward or backward until the proper dimension is achieved and then retighten the set screw on the sprocket. When you have completed this procedure at both ends of the machine, you will now be ready to load the conveyor.

## **LOADING THE CONVEYOR SECTIONS**

Each dishwasher is supplied with the correct amount of conveyor. The conveyor sections must be connected together.

1. Some conveyor sections are numbered: ROLL 1, ROLL 2, etc. When so numbered, install them in numerical sequence.
2. Raise the loading platform and place a piece of cardboard under, around and above the platform to protect it from being scratched during conveyor installation.
3. Loosen the take-up units (Fig. 34) at the front and rear sides of the load end by loosening the locknuts and threading the adjusting bolts as far out as possible.
4. Remove the drive chain from the conveyor gear motor so that conveyor sprockets are free to rotate.
5. Position the first section of conveyor in line with the machine at the load end. The flight links must point toward the load end of the machine.
6. Tie a rope to the first conveyor rod and feed it through the machine, following the desired path of the conveyor (flight links up). Make sure conveyor rollers do not feed under tracks.



## **JOINING THE CONVEYOR SECTIONS**

Remove the last conveyor rod from the first section, thread rod back through the flight links of both sections and the conveyor links on both sides and assemble a conveyor roller and retaining ring at each end. **Always use a new retaining ring to secure a tight grip on the conveyor rod.** Make sure flight links are angled or pointed toward the load end.

Pull the conveyor through the machine starting at the load end, around the freed conveyor sprockets at the unload end, down to the top of the lower track and back through the machine. Make sure conveyor rollers do not feed under tracks.

Join the ends of the conveyor by threading the final conveyor rod through both rows of flight links and the conveyor links on both sides. Conveyor links alternate with both ends of the link on the inside followed by both ends of the next link on the outside, except for the conveyor offset link (only used on AA or BB type of conveyor).

## **CONVEYOR OFFSET LINK**

Conveyor offset links are supplied for use with both the AA and BB style conveyors and are to be used, if necessary, when making the final connection to join the two conveyor ends. When the proper length of conveyor has been determined pull the two ends together to examine the side bar patterns. If both sections end with the side bars in the same inside or outside position, you must replace the last links on one of the sections with the offset links to maintain the pattern. However, if the sections end such that the inside to outside pattern of the side bars will be maintained, they can be joined without the use of the offset links.

Once the conveyor is installed, reinstall the conveyor drive chain to the conveyor gear motor.

**NOTE:** The proper length of conveyor, when adjusted, will have the flight links close to or engaging the load fingers at the load platform. **NOTE:** Each time a conveyor roller is installed or replaced a NEW retaining ring must be used.

## **ADJUSTING THE CONVEYOR TAKE-UP UNIT**

Align the conveyor sprockets or tighten the tension on the conveyor by turning the adjusting bolt on the take-up units. Alignment can be gauged by centering the large diameter hub of the conveyor rollers on the conveyor tracks.

If too much gap is on the left sprocket, tighten the take-up unit on the right side.

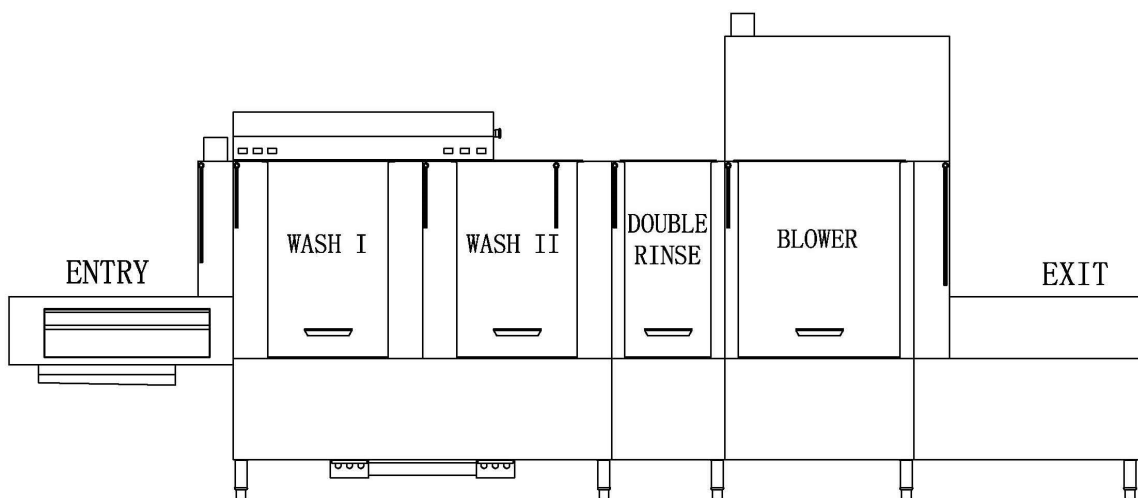
If too much gap is on the right sprocket, tighten the take-up unit on the left side.

After running the conveyor for 15 minutes, check the tension. Proper tension is achieved when the conveyor rollers run on the bottom track freely and, by grasping a conveyor rod near the middle, the conveyor can be lifted 250 mm to 450 mm vertically from the top track on the unload end.

If additional tension is needed on the conveyor (after it has been centered), tighten both of the take-up units the same amount. After the proper conveyor tension is achieved, tighten the locknuts on the take-up units on both sides.

With the take-up units properly adjusted, there is a possibility of the sprocket shaft not being square with the conveyor track. This will not diminish operation, provided the conveyor rollers are centered on the track.

Check the set screws in the bearing collars (two each) to make sure they did not loosen during shipment.



ENTRY	WASH I	WASH II	SINGLE RINSE	DOUBLE RINSE	BLOWER	EXIT
Medium Curtains	Short Curtains	Short Curtains	Short Curtains	Short Curtains	Short Curtains	Long Curtains
Splash Panel	/	/	/	/	/	/

## **MISCELLANEOUS**

Check all bolts and connectors to make sure they are tight.

### **FINAL RINSE**

The nozzle angle of the final rinse arms is critical if makeup water is to be properly distributed. Install the upper and lower final rinse arms with the tab aligned in the slot on the hub at the rear of the chamber. For standard size flt machine, the upper final rinse arm typically have four nozzles, the lower final rinse arm have seven nozzles, (may have more depending upon the machine configurations).

**CAUTION:** Do not step on top of chambers when installing vent duct.

### **PREWASH, WASH AND POWER RINSE ARMS**

The upper and lower prewash, wash and power rinse arms must be installed in their correct locations. To install each of the upper or lower arms, rest the manifold on the support brackets, slide into position and latch the arm in place.

### **CURTAINS AND DRAINBACK PANS**

Curtains must be in their proper places.

1. Hang a short curtain on the unload side of each upper prewash, wash and power rinse arm.
2. Hang a long curtain on both sides of every section divider.
3. Hang two long curtains at the load end.

### **LOWER TRIM PANELS (FRONT)**

Hang lower front trim panels from two (or more) hanger brackets under the front tank support rail. Slots in bottom of panels should be inserted into panel bracket retainers. Lower panel bracket retainers may project from the lower rails of the machine or may be attached to an adjacent panel. Each panel must be located in its proper position.

When installing lower trim panels, butt each panel end to end and then adjust the end wrap panel so there is approximately 1.5 mm clearance between it and the adjacent panel. This clearance, spread over the entire length of the machine, will provide optimum appearance.

## **REAR PANELS**

Hang rear panels from two upper hanger brackets at the top and insert slots in bottom of panels into panel bracket retainers. Lower panel bracket retainers may project from the lower rails of the machine or may be attached to an adjacent panel. Each panel must be located in its proper position. Each rear panel and chamber is numbered to identify position.

## TROUBLE SHOTROUBLE-SHOOTING

**Note : Manual reset of the wash pump is located on the overload relay inside the control box.**

**Note : If problem persist after checking, please consult our service department.**

SYMPTOM	POSSIBLE CAUSE
Machine not operate when on button is pressed	<ol style="list-style-type: none"> <li>1. Fuse of the power or circuit breaker defected</li> <li>2. Door is open</li> <li>3. Tank is filling</li> <li>4. Limit switch at the end is activated</li> <li>5. Conveyor belt blocked</li> <li>6. Overload switch of wash pump has not been reset</li> </ol>
Ware not clean	<ol style="list-style-type: none"> <li>1. Drain is blocked</li> <li>2. Wash arm end cap missing</li> <li>3. Wash nozzles are blocked</li> <li>4. O-ring of the wash arm defected causing leaking</li> <li>5. Wash pump motor is blocked causing pressure reduces.</li> <li>1. Wash temperature too low. Check breaker or steam valve, make sure it is fully open.</li> <li>2. Inadequate detergent. Consult chemical supplier.</li> </ol>
Spotting of Ware	<ol style="list-style-type: none"> <li>1. Improper loading of ware.</li> <li>2. Improper final rinse temperature.</li> <li>3. Wash pump motor is blocked causing low wash pressure.</li> <li>4. Wash nozzles are blocked.</li> <li>5. Water condition is too high.</li> <li>6. Detergent does not cope with water condition.</li> <li>7. Rinse nozzles are blocked.</li> <li>8. Improper position of rinse arm.</li> </ol>
Inadequate rinse	<ol style="list-style-type: none"> <li>1. Line strainer is blocked</li> <li>2. Incoming water pressure too low</li> <li>3. Rinse nozzles are blocked</li> </ol>
Continuous rinse operation	<ol style="list-style-type: none"> <li>1. Rinse solenoid is blocked</li> <li>2. Infrared is blocked</li> </ol>

	3. Infrared device defected
Tank not heating  此 機 器 如 此	1. Machine installed low level switch. Check water level in wash tank if it is too low 2. Wash tank heater overloaded 3. Check if float switch moves freely 4. Steam valve not open fully 5. Over-heat overloaded
No fill or slow fill  請 任 何 維	1. Line strainer partially blocked 2. Doors open 3. Check all incoming and outgoing valves are fully open 4. Pressure regulator defected. Consult service department 5. Solenoid valve defected. Consult service department
Improper timing of rinse, dryer and auto-stop	Consult service department

**Q****PRERARATION****Machine operation—Check before operation**

Open the door, make sure all components are in correct position.

- Pump intake screens must be put on holders at each pump intake
- Strainer pans must be in place on top of each tank
- Strainer baskets must be in place Strainer pans
- End caps must be correctly installed at ends of all wash arms
- Wash arms must be properly installed and latched in place
- The flush arm at load end must be properly installed
- The final rinse arm(and Dual rinse arm when present) must be properly installed
- All curtains must be properly in place

**TANK FILLING**

Assure proper water hardness. Recommended water hardness is between 25~75 ppm. Higher hardness may cause excessive formation of lime scale. Chlorides must not exceed 50 ppm.

All water(and steam, if equipped) supply valves must be opened and the electric supply turned on before the machine will function.

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Close all drains and doors. Switch on Start button, all tanks will begin to fill automatically. When the tanks are filled, filling will stop. During machine in operation, the tanks will be filled when necessary.

According to soil level, select conveyor speed. Speed 1 is high and 2 is low .Press the green button of the control box or the loading/unloading section. The conveyor will run then the wash pump. Press the red button of the control box or the entrance /exit section, the conveyor and wash pump will stop, but the tank heat is still in operation. Final rinse solenoid valve and dryer will start when wares go through. They will stop when wares have cleaned.

NOTE: Start the machine earlier before operation and operate only when the OK light is on.

NOTE: It is necessary to restart the machine after the speed of the conveyor has changed.

## **DISHWASHING**

Start the motors for the conveyor, pumps and blower dryer(if equipped) by pressing the green button on the control box or loading/unloading section. The machine will operate only if the tanks have filled to the proper level and all doors are closed. Press the red button to stop the conveyor, pumps and blower dryer. If the wares on the conveyor belt have been collected and no more wares going in the machine, the machine will stop automatically. The time setting of the auto-stop depends on the length and the speed of the machine.

If ware reaches the unload end of the machine and trips the dish limit switch, the conveyor and final rinse shut off.

## **EMPTY SCRAP TRAYS AND PUMP INTAKE SCREEN DURING OPERATION**

Clean the scrap trays and pump intake screen periodically during operation to prevent them from over filling, which would adversely affect dishwasher operation and cleaning results. Stop the machine and open the access doors and take out the scrap trays and pump intake screen and flush away the food soils or left-overs.

## **LOADING**

**Pre-scrap dishes thoroughly to remove large food particles and debris. Never use steel wool on ware to be loaded into the dishwasher; this could introduce surface corrosion which could eventually interfere with machine operation.**

All plates, saucers, trays, etc. should be loaded on the conveyor in an inclined position. Bowls should be loaded upside down. Silverware must be washed in racks to prevent loss of items unless

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the optional silverware conveyor is used; failing to do so could cause the conveyor to jam and damage ware or machine components.

DO NOT attempt to wash large items such as pots, pans, trays, etc. without first checking to make sure they will fit through the machine opening. Such items must not be washed in this dishwasher unless they easily pass through it.

Do not allow foreign objects to enter the unit, especially metallic contaminants.

## **UNLOADING**

Remove dishes from the conveyor, If a dish pushes against the conveyor trip arm, the conveyor stops and the pump run for one minute before shutting off.

Unloading the conveyor starting with the ware furthest from the trip arm. Remove the dish that is striking the trip last. The machine automatically restarts. If the dishes are not taken away from the trip arm, the trip arm will stop after 10 minutes.

## **RECOMMENDED MINIMUM TEMPERATURES**

Check the temperatures of the machine at all times.

Recommended wash temperatures is 60° C and final rinse temperature is 82° C.

## **CLEANING**

The dishwasher MUST be thoroughly cleaned at the end of each working shift or after each meal. Push the Power button to turn off the machine.

Open the doors, lift up the drain handle and drain all the water inside the tanks. Remove and clean all curtains. Before moving the scrap trays and baskets, clean the interior and all tank shelves using a good hose with spray nozzle. Flush all debris towards the strainers.

Remove the wash arms by first releasing the latches. Slide upper arms forward, swinging front of arm down. Slide lower arm forward, tilt front of arms upwards to allow water to drain. Remove arms. Remove end caps. Clean wash arms in a sink.

Remove the flush arm at the load end of the machine. Remove end cap. Clean flush arm and nozzles in sink. Remove the strainer basket and pans. Also remove the dual rinse strainer if present. Empty strainers in trash receptacle or food waste disposer. DO NOT STRIKE STRAINER BASKETS OR PANS ON SOLID OBJECT TO DISLODGE DEBRIS. Scrub strainer pans and baskets in a sink.

When tanks are empty, remove pump intake screens and clean them in a sink. Remove, clean and



replace the strainers from drainback pans in the power rinse and/or wash section where present.

Clean debris from nozzles and arms using a straightened paper clip.

Flush tanks with a water hose, removing any accumulation of food soil.

Reinstall all end caps; do not over-tighten. Reinstall all arms in their proper location and orientation.

The arm nozzles must point horizontal. Upper arm nozzles point downward, and lower arm nozzles point upward.

To install arms, slide manifolds on the guides toward the rear of the machine. Then latch arms in place.

Replace the pump intake screens, strainer baskets and pans. Rehang the curtains. Leave the machine door open to allow the interior to air out and dry.

Clean machine exterior like any other stainless steel appliance. Use damp cloth and mild soapy water

DO NOT attempt to clean the sensor with any metallic object as damage can occur.

## **Appendix: GT-FTC/MF Wiring Diagrams (Electric Heated)**

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## **DISCLAIMER**

Global-Tek (Singapore) Pte. Ltd. does not accept responsibility for the mishandling, misuse, or non-performance of the described items when used for purposes other than those specified in the instructions. Global-Tek (Singapore) Pte. Ltd. products are not for use in potentially explosive environments. Any use of our equipment in such an environment is at the risk of the user, Global-Tek (Singapore) Pte.Ltd. does not accept any liability in such circumstances.

## **WARRANTY**

Global-Tek (Singapore) Pte. Ltd. warranted against defects in material and workmanship for a period of ONE year. Warranty applies only to the replacement or repair of such parts when returned to factory with a given reference number, freight prepaid, and found to be defective upon factory authorized inspection. Bearings and pump seals or rubber and synthetic rubber parts such as “O” rings, diaphragms, and gaskets are considered expendable and are not covered under warranty. Warranty does not cover liability resulting from performance of this equipment nor the labor to replace this equipment. Product abuse or misuse voids warranty.

## **FOOTNOTE**

The information and specifications included in this publication were in effect at the time of approval for printing. Global-Tek (Singapore) Pte. Ltd. reserves the right, however, to discontinue or change specifications or design at any time without notice and without incurring any obligation whatsoever.

Global-Tek (Singapore) Pte. Ltd. Headquarters

Tel: + 65 8127 6268

Fax + 65 6481 7123

e-mail : [sales@global-tek.com.sg](mailto:sales@global-tek.com.sg)

WWC Global Tek (Malaysia) SDN BHD

Tel: + 60 3 7962 7178

e-mail : [sales@global-tek.com.sg](mailto:sales@global-tek.com.sg)