



# Automatic Grease Removal Unit

## INSTALLATION OPERATION MAINTENANCE

Models GGX15, GGX25, GGX35



MANUFACTURED BY FM ENVIRONMENTAL

[www.greaseguardian.com](http://www.greaseguardian.com)



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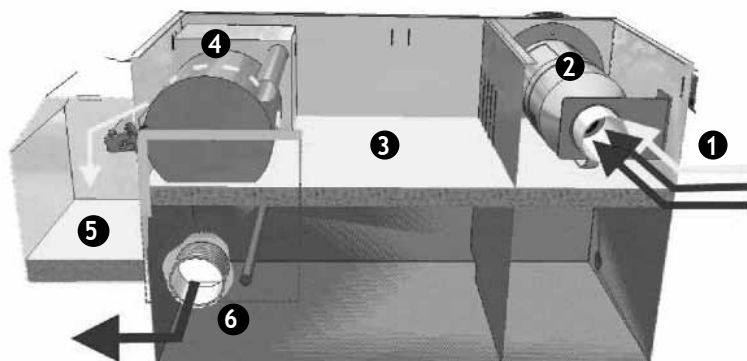
# Grease Guardian X Series

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The FM Environmental Grease Guardian X series automatic grease removal unit (GRU) is a totally engineered system for separating free floating grease and oils from drain water flows. The separated grease and oils are trapped within the stainless steel tank and are automatically recovered by the system. Only the “cleaned” water is allowed to pass through the system into the drain lines. Each unit also separates solid food waste into a removable basket. The Grease Guardian can be used in a wide variety of applications from restaurants and food processing operations to many types of industrial operations.

Use of the Grease Guardian assures that costly sewer surcharges and fines are minimised or eliminated through efficient separation and removal of the grease and oil. In addition, rapidly escalating pumping and disposal costs, which are associated with conventional grease traps or interceptors are also reduced or eliminated. The recovered grease and oils are virtually water free so they can be collected by a local rendering Company or recycler.

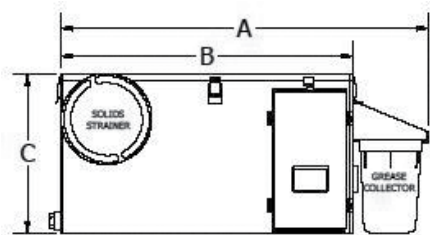
# How it Works



**Rear view section**

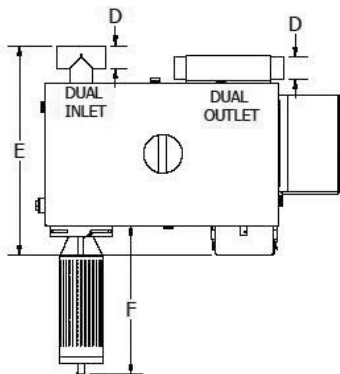
- ➊ Grease, solids and wastewater from the kitchen enters the Grease Guardian.
- ➋ Solid food waste is caught in a removable cylindrical strainer.
- ➌ A cycle is set normally lasting 2-3 hours. The grease passes into the middle chamber through slots in the baffle wall where it remains trapped. With the assistance of a heater the grease separates from the wastewater and rises to the surface.
- ➍ The liquefied grease adheres to the rotating skimming drum.
- ➎ The grease passes down a scraper blade into a collection container where it can be removed and disposed hygienically.
- ➏ The treated water exits under a baffle wall and through the outlet to drain.

# Product Dimensions & Specification



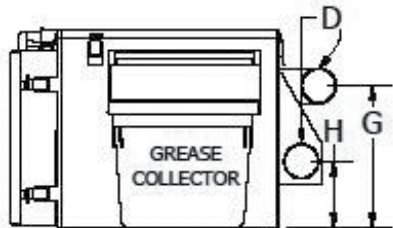
Front view

(Inches)								
MODEL	A	B	C	D	E	F	G	H
15GPM	31 1/8	24 1/2	13 3/8	2 3/8	22	15 3/4	9 5/8	4 1/2
25GPM	32 1/2	25 7/8	16 1/2	2 3/8	22	15 3/4	12 3/4	7 1/2
35GPM	40 3/4	34 1/2	16 1/2	3 1/2	24	15 3/4	12 3/4	9



Top view

MODEL	15 GPM	25GPM	35GPM
Hydraulic Flow gal/min	15.00	25.00	35.00
Strainer Basket Cap, lb	5.50	5.50	5.50
Grease Collector Cap, gal	1.18	1.18	1.18

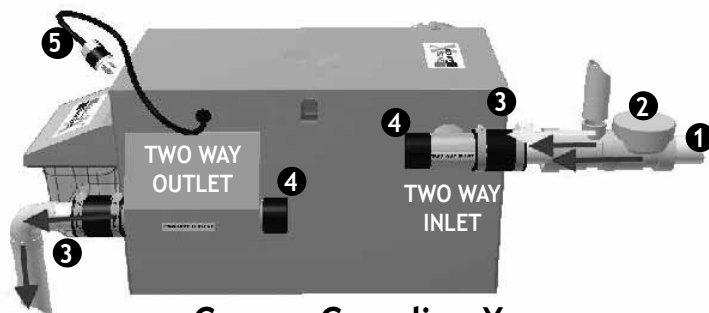


Side view outlet end

Casing Material (all models)	16 Gauge 304 Stainless Steel; Bright finish
Motor (all models)	25 Watt, 110v, 60 Hz 4.5 µF capacitor
Heater (all models)	600 Watt, cartridge, 110v, Thermal cut-out inc.
Time Control (all models)	Logic Controller: Backlit display Inputs 110 VAC Outputs 110 VAC Battery back up
Skimming (all models)	Skimming drum is nominally capable of skimming 5 litres or 11 lb per hour

# Installation

## Part I



### Grease Guardian X

REAR VIEW - STRAIGHT THROUGH EXAMPLE

To plan a suitable location for the GGX first refer to "Product Dimensions and Specification" page in this manual to check available clearances.

## Connection Sequence:

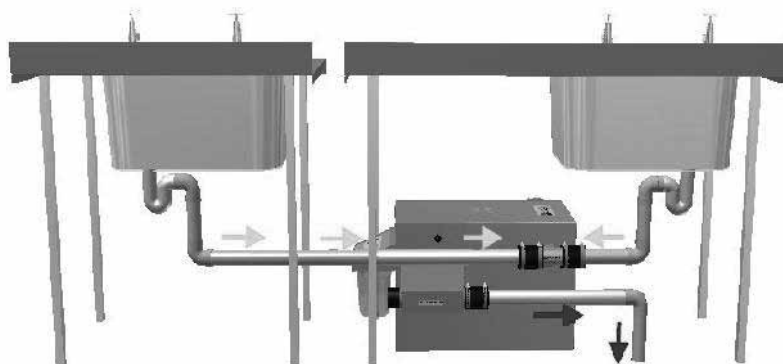
- ① Sink/oven pipe-work. 2 inch Ø wastewater pipe minimally must be used for plumbing to and from this system. Ensure a slight fall in all pipe-work entering/exiting unit. Minimise bends in the pipe-work after outlet.
- ② Plumbing Drainage Institute Flow Control with Air Intake (Included)  
 15 GPM units, part reference: Canplas 3922115  
 25 GPM units, part reference: Canplas 3922125  
 35 GPM units, part reference: Canplas 3933135  
 To comply with PDI requirements the above component must be fitted on the inlet piping entering any GRU type Grease Interceptor. Suitable air intake pipework should be routed to the top of this component and connected to a vented waste stack within the building.
- ③ Inlet and Outlet piping connections. Rubber Couplings with screw clasps are included.
- ④ Rubber blanking caps - included, for sealing off disused inlet/outlet ports.
- ⑤ Single Phase Three Pin Plug - connect to water proof socket. To provide continued protection against risk of electric shock, connect to properly grounded outlets only.

### Trapping requirements:

Install "P" or "U" Traps before the GGX inlet on sinks as normal. Do not install these traps on kitchen plumbing after the unit outlet; this unit is self trapped. Downstream sewer pipe traps and vents should be fitted as normal.

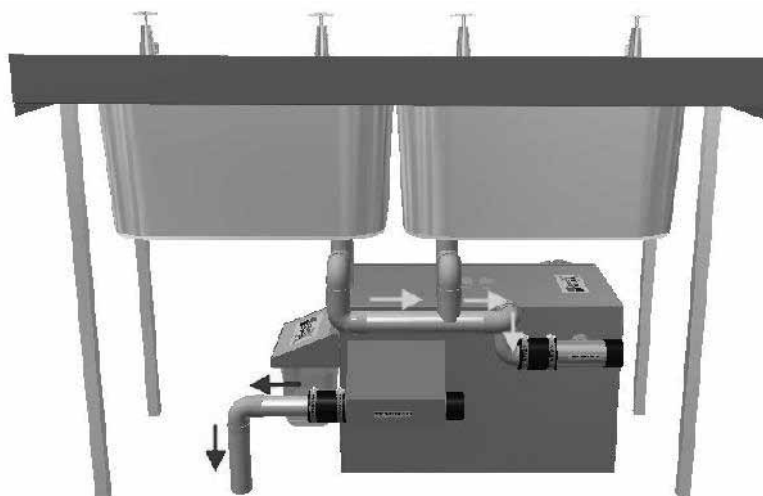
## Part I: Further Plumbing Arrangements

Refer to specification page in this manual for minimal clearances before finalising unit location and orientation



### REAR VIEW

Double entry from left and right. Outfall to right



### REAR VIEW

Single entry on left. Outfall on left



## Part II: Pre start up checks

- ① Ensure unit is positioned on a level surface only and is plumbed in securely.
- ② Ensure electrical outlet is waterproof and is fitted with or supported by a dedicated ground fault circuit breaker/interrupter (GFCI).

**Points 3 and 4 below should normally be carried out by your market representative as part of a formal unit commissioning:**

- ③ Prior to mains switch-on ensure the unit is filled with water to the correct settlement level which occurs when the inflowing water stabilises at the base of the skimming drum. Ensure strainer basket is fully closed.
- ④ Set the controller time of day and appropriate cycle programme in accordance with timer setting instructions detailed in this manual. Observe all maintenance requirements.

### HEALTH, SAFETY AND EFFICIENCY

- Never turn unit on before filling with water as instructed above
- Disconnect unit from mains before accessing any electrical components
- Unit requires daily housekeeping. Quarterly service by approved engineer recommended.
- Unit will lose efficiency if not maintained
- The unit is designed to trap and remove free floating grease oils and fats only
- The “secondary” solids basket provided protects the unit from solid food waste build up. To help ensure the highest efficiency reduce solid foodwaste by installing primary strainers or scraping waste into bins
- Consult your supplier in the event of increased loadings to the Grease Guardian
- Do not use Hazardous detergents to clean unit
- Do not install unit externally unless weather proof cover is used
- Do not install unit in any manner except as tested and rated under ASME A112.14.3 and ASME A112.14.4
- Do not connect a macerator or similar device upstream from the Grease Guardian
- Ensure unit is level and installed flat on the ground or frame where specified
- Remove blockages and grease build up from drains before installing the Grease Guardian

# Timer

## Time of Day and & week day setting

### Time of the day



From the main display access the above display by pressing OK and ESC together. Choose “Miscellaneous” using - or + keys then press OK.



In the follow on display use the + and - keys to move the flashing bar to select “CLOCK”. Press OK to confirm.



Next, use the + and - keys to select “DATE/HOUR SETUP”, and press OK.



Use the + and - keys to move the flashing bar to select current hour and minutes blocks. Enter and change these digits by pressing OK, then use + and - keys to increase/decrease values. Press OK to confirm current value. Press ESC to save and return to home display.

## Week Day Setting

Note: The controller is factory set with all 7 days set to active.

Only reprogram if this is not suitable



From the main display access the above display by pressing OK and ESC together. Choose "Parameter" using - or + keys then press OK.



The above display will show. To initiate week day settings the value FBD 027 must be changed to FBD "082" by accessing the value with "OK" Button then "+" to increase to "082". Confirm with "OK".



The above display will show. Next using only the "-" key move the cursor to the "D:MTWTFSS" block (days of week). To access particular day value press OK. Then press "-" to cancel any day. Pressing OK confirms cancellation and moves the cursor to the next day. On reaching final day value, S, press OK to confirm all.



Example:

Controller set to OFF at weekends; the display is configured as above. Press ESC to exit to home display.

# Grease Guardian Controller

## Cycle Programming



Main display

*Initial Note: if no user adjustments are made a factory setting from 8am-12pm starts the unit on a LOW cycle daily. This is adequate for smaller applications including out of town delis, or small restaurants. Refer to appendix 1 at back of this manual for recommended settings for your application.*

After machine switch-on, the home screen appears displaying the controller software version (in this case U for USA and version date ddmmyy). The current time of day, and cycle mode are also displayed. The unit displays “Standby” when not in cycle.



To change a cycle first choose from one or more of the 4 hour programs 08:00-12:00, 12:00-16:00, 16:00-20:00, and 20:00-00:00, accessed by pressing the OK and A buttons together. Then advance through the time slots available by re-pressing A.



Any time-slot can be set to ON/OFF by pressing the B button. On completion press ESC to return to the home Screen.



Finally in the home screen press and hold either the + or - keys for 1 second to fine tune the cycle duration. The display will indicate the adjustment made from 3 options:

- LOW Cycle Mode
- MEDIUM Cycle Mode
- HIGH Cycle Mode.

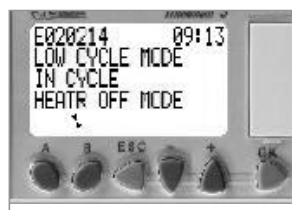
**See Appendix 1 for suggested example settings for your application.**

The time control displays the following information at various stages of a cycle.



During a cycle the heating element and skimmer motor are activated intermittently to heat up and skim fats oils and greases. The main display flashes the message **IN CYCLE**. The full cycle sequence is shown in Appendix 2 for program options available.

## Additional features

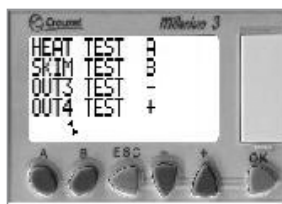


### Heater Off Mode

When wastewater entering the unit is sufficiently hot or if light oils are being intercepted the heater element may not be required. With this in mind there is an option to run cycles with the heating element deactivated. This feature will also provide savings on energy bills.

To disengage heating element: from the Home Screen hold in button “**B**” for 10 or more seconds. The display appears as shown. In this mode the system runs any cycle with only the skimmer motor running at its normal pre-set operation. This cycle sequence is also shown at the bottom of Appendix 2.

To re-engage the heater simply hold in the **B** button again for 10 seconds until The “**HEATER OFF MODE**” is cleared.



## Test Mode

A test of electrical components can be carried out. Press - and + together to access this screen from the Home display. Next press any of the Test mode keys to activate the corresponding output:

Press **A** key to activate Heater.

Press **B** key to activate motor/skimmer.

Press **-** key to activate Output 3.

Press **+** key to activate Output 4.

Return to main menu by pressing **ESC**.



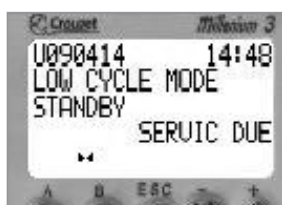
## Lid Off Alert

If the main tank cover is removed from the unit at any time both the heater and motor will be stopped automatically for safety reasons. The display will flash a **LID OFF** alert until the lid is replaced. Power is restored to the heater and motor after the lid is replaced.



## Daily Maintenance Access Time; Standby Mode

1 or 2 times daily both the solids strainer and plastic grease collection container should be checked and emptied. It is preferable that these tasks are only carried out when the unit is **NOT** in cycle and is in **Standby** as shown on the display.



## Scheduled Service Reminder

The Grease Guardian unit requires periodic service inspection and pump out by qualified personnel. To assist, the controller is pre-set to display a service due reminder as shown on the due date. Please contact your Service Provider when this display appears. The reminder will normally flash at least once every 90 days in line with service and pump out requirements for this product.

# Engineer settings

## Commissioning and Service



### “Commissioned on” date Logger

A basic reference display is used to log the commissioned date for the unit. The display can be checked or changed at any time by accessing the menu as shown.

#### To Check:

From the main display press OK and the “B” button together. The Day, Month and Year values will appear. Press ESC to return to the main display after checking.

#### To Set a “Commissioned on” date:

In this display select the day, month or year by pressing either + or - keys to move the flashing bar through these fields. To lock onto a specific field, press OK. The bar icon is dimmed out. Next use + and - keys to increase or decrease the date value. When the value is set press OK to store, and then move to the next field and repeat. Finally press ESC to return to the main display.



### “Last Service” date Logger

A basic reference display is used to log the last service date for the unit. The display can be checked or changed at any time by accessing the menu as shown.

#### To Check:

From the main display press OK and the “B” button together. Then Press B again to reach the Service menu. The Last service day, month and year will appear. Press ESC to return to the main display after checking.

**To Change:**

In the “serviced (last)” display select the day, month or year by pressing either + or - keys to move the flashing bar through these fields. To lock onto a specific field, press OK. The bar icon is dimmed out. Next use + and - keys to increase or decrease the date value. When the value is set press OK to store, and then move to the next field and repeat. Finally press ESC to return to the main display.

**Service Reminder. Interval Setting**

This feature sets the interval for the flashing service reminder display.

**To Check:**

From the main display press OK and the “B” button together. Then Press “B” twice again to reach the Service menu. The current interval in month will appear. Press ESC to return to the main display after checking.

**To Change:**

In the “service interval” display select the month by pressing OK. The bar icon is dimmed out. Next use + and - keys to increase or decrease the month value. When the value is set press OK to store. Finally press ESC to return to the main display.



# User Maintenance

## Part I: Daily Strainer Maintenance, 1-2 times daily

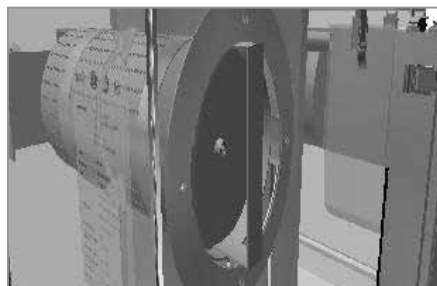
Attention: Ensure sinks are fully emptied before accessing strainer basket!



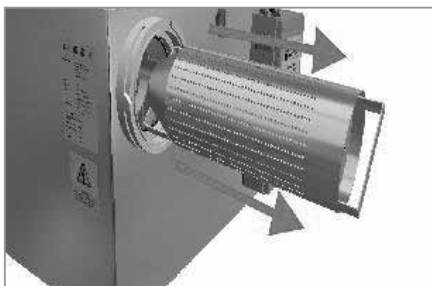
Strainer cap shown in the locked or closed position.



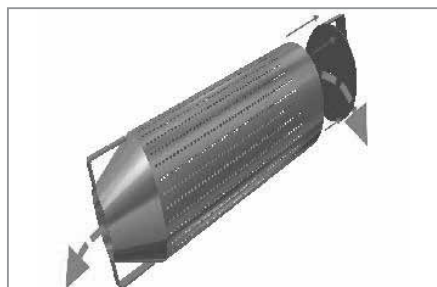
To unlock the cap rotate it counter clockwise using the hand grips.



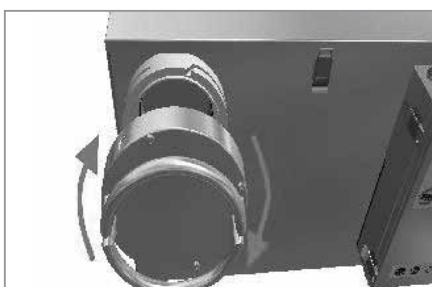
Shake off excess water before removing strainer by turning it while still in its internal cage mount.



Next remove the strainer by simply sliding it forward.

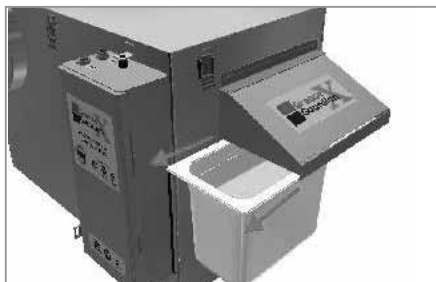


The strained food waste can be disposed from the front, and also back of strainer by unscrewing the back plate.

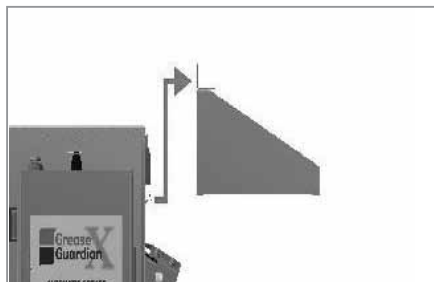


After cleanout replace the strainer inside the tank and replace the screw cap back into its locked position.

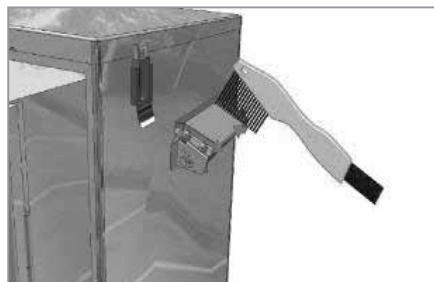
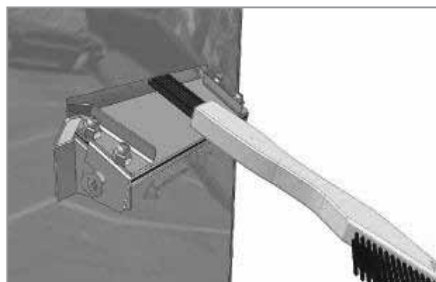
## Part II: Daily Grease Collection Maintenance, 1-2 times daily



When the grease container is about 3/4 full remove it by sliding it outwards as shown. Dispose contents to an on site oil recycling bin or bulk oil waste container. Replace

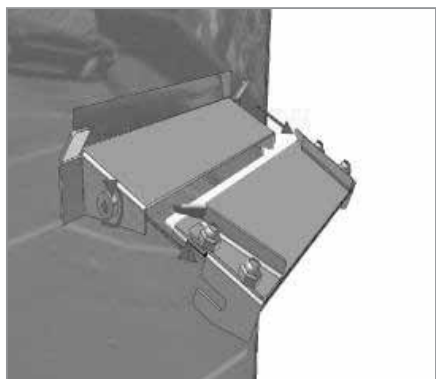


Check and clean the wiper blade. Access is gained to the blade by removing the container hood from its hanging bracket as shown.



The wiper slot and wiper blade should be cleaned of congealed grease or sediment daily using the wiper brush provided or similar brush implement.

### Additional Maintenance – Wiper Blade Weekly Check



If required the wiper blade can be removed completely and cleaned more thoroughly. Loosen the side screws and slide the blade forward. After cleaning, reposition the blade ensuring that the white plastic edge makes contact with the skimming drum. This can be visually checked internally by removing the main GGX lid (as shown on next page). Once in position replace the main lid, container hood and grease container.

# Tri-Monthly (90 days) Service

## By approved Service Partner

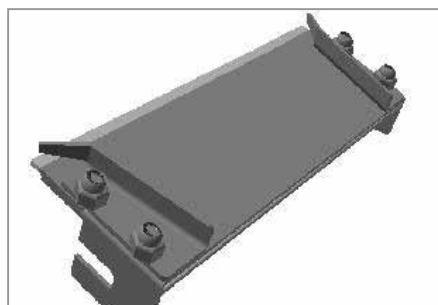
To ensure correct longterm performance and to comply with our warranty terms all units **must** be serviced tri-monthly. This must be carried out by an FM Environmental approved service partner in possession of the necessary waste carriers licence for your area.



1. The mains supply to the unit must be first switched off!. The main Lid is removed by unclipping the 4 fasteners highlighted in diagram.



2. The internal chamber walls are power/steam cleaned. Both chambers are then pumped out completely. The heating element should be checked and cleaned using a plastic brush. The unit is refilled using the water flow from the sink.



3. Inspection of wear and tear parts. Including wiper blade, lid seal gasket and strainer seals. Replacement of any parts found to be worn or defective.



4. Electrical checks including controller, heater and motor checks. Optimisation of components should be made if necessary.

# Troubleshooting

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## ► PROBLEM: Unit not removing grease

### Is the power on?

Check that the power is on and that the time control is set correctly. If the power is being supplied and there is no display check fuses or contact your supplier.

### Is wiper blade and wiper slot clean?

Clean any build-up present on the wiper blade assembly and the grease exit slot. Use the brush provided (see user maintenance part 2). Ensure the wiper blade is bolted in place and makes proper contact with skimming drum. Remove the main lid to check this if necessary. Replace wiper blade rubber if worn.

### Check the cycle status

First check that "IN CYCLE" is displayed at the start of a cycle. Later in the cycle the skimming motor should be audible. Should there be no skimmed grease emerging during the cycle a further test can be conducted by entering TEST mode as described earlier in this manual. With the main lid removed and **with hands kept clear of the skimming drum** use this feature to check that the motor is running by pressing the B button when in the TEST mode.

### Inadequate Heating?

With the lid removed press the B button when in TEST mode. If the drum is turning but grease is not being removed it may not be dissolving or separating out. If the grease appears hard or crusted, the GGX heater may require inspection or replacement as the grease may not be dissolving under heat.

### Emulsified/starchy foods, or soaping problems in the waste flow?

If the surface grease layer is liquid or foam-like in appearance and grease is still not skimming out then it may contain high volumes of dairy waste such as mayonnaise, or starchy waste from rice or pasta. Ensure to reduce volumes of this waste entering the GGX unit. Also ensure to reduce the use of aggressive detergents and do not dispose any bleaching agents into the unit. Only neutral handwashable detergents should be used at the sink. Heavy oven cleaning agents can adversely affect performance if ovens are connected to GGX.

### Check the main Lid and Lid-switch

The unit will not operate with the lid removed. This is a safety feature.

With the exception of some maintenance tasks the lid must be fastened in place correctly at all times so that the pushbutton switch is depressed by the lid pressure tab. If this is not the case then the controller display will blink a LID OFF message.

If the message continues to show but the lid seems secure then there may be a fault with the lid switch or magnet.

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## ► **PROBLEM: Standing water inside the grease collection container.**

### Check Timer Settings

The unit will skim off water if there is little or no grease left in the main tank. Excessive water will typically settle below the grease layer in the collector. Check the timer settings for excessive ON times. The ON time should be scaled back to reduce water being skimmed into the collector. The HIGH or MEDIUM Cycle Modes can be toggled back to LOW Cycle mode for example as described earlier in this manual.

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## ► **PROBLEM: Surge Water in grease collector and/or spillages onto floor**

In rare cases an obstructed exit from the unit may lead to level rises in the main tank which can spill into the grease collector suddenly and in turn onto the floor, if left unchecked.

Ensure the outlet pipe-work from the Grease Guardian is at a gravity fall and that there are no more than 3 x 90 degree bends in the above floor pipe work before the floor termination. Ensure the outlet pipes from the unit are minimally 2 inch in diameter. In some cases model 35GPM unit may require 3 inch diameter pipework. In no circumstances should the outlet pipe-work diameter be less than 2 inch diameter at any point.

Ensure that the water flow to the unit does not exceed its rated flow in gallons per minute.

Also ensure that there are no drain line blockages downstream from the unit. Ensure the unit is pumped out at least once quarterly so that sludge does not obstruct the passageways within the main tank.

Do not remove the strainer basket when there is flow entering the unit. Ensure the Strainer is in the correct locked position after each daily maintenance.

## ► **PROBLEM: Sink flow rate is suddenly reduced**

### **Check Strainer Basket**

Too much build-up in the strainer basket can effect the sink flow. Ensure that the strainer basket is emptied 1-2 times daily and the mesh cleaned. This maintenance frequency should be increased if solids disposal to the grease guardian is excessive.

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## ► **PROBLEM: Odor reported**

### **Has maintenance been carried out?**

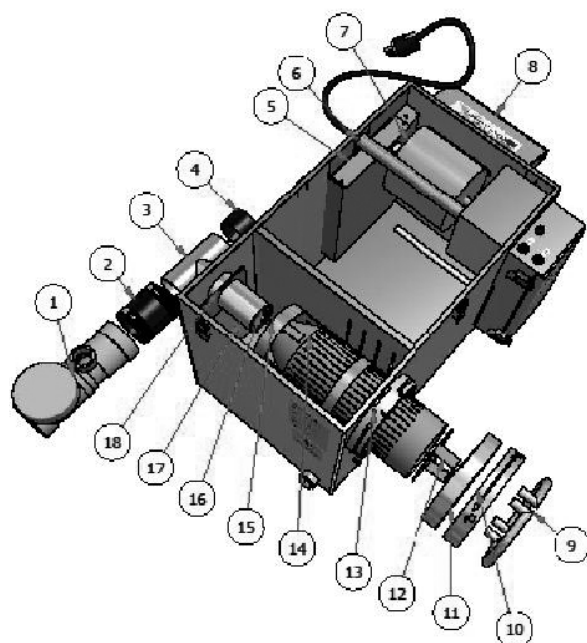
Ensure the daily strainer maintenance is carried out. Ensure the tri-monthly pump out (every 90 days) is carried out so that any standing sludge is removed. Also seek to prevent any non-skimmable waste from entering the unit as already advised earlier.

Scrape visible plate waste to bin rather than rinsing this entirely into the Grease Guardian.

### **Stagnant Water**

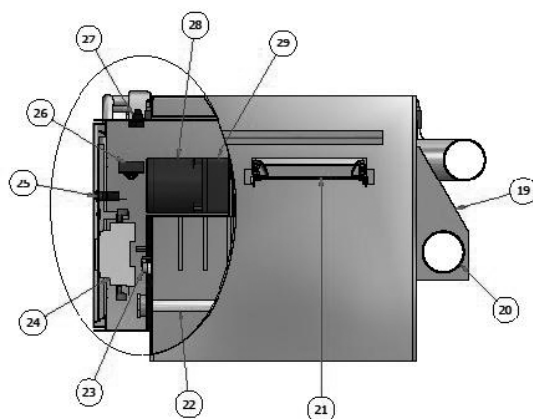
For applications where a connected sink or oven has a very low flow ensure to flush the Grease Guardian unit with fresh water weekly to reduce stagnant water.

# Components overview



**Diagram 1:**

- 1 External Flow Control
- 2 Inlet coupling
- 3 Dual Inlet
- 4 Blanking cap
- 5 Outlet baffle
- 6 Power cord
- 7 Skimming roller
- 8 Grease container & hood
- 9 Strainer cap grip
- 10 Strainer cap
- 11 Strainer cap insert
- 12 Strainer back grip
- 13 Strainer cap lock
- 14 Strainer body
- 15 Strainer cradle
- 16 Internal flow control
- 17 Inlet pipe
- 18 Buffer plate



**Diagram 2:**

- 19 Outlet box
- 20 Dual Outlet connection
- 21 Wiper blade

**Control Panel Section View:**

- 22 600 watt heater
- 23 thermal cut out
- 24 Logic controller
- 25 Panel Mount Fuse
- 26 Motor capacitor
- 27 Lid switch
- 28 Drive Motor
- 29 Gear head

# Appendix 1

## Medium Grease Output

## High Grease Output

### Daily meals/covers

50	35
100	70
150	105
200	140
250	175
300	210
350	245
400	280
450	315
500	350
550	385
600	420

### Suggested program setting

1xLOW
1xLOW
1xLOW
1xMEDIUM
1xMEDIUM
1xMEDIUM
1xHIGH
1xHIGH
2xMEDIUM
2xMEDIUM
2xMEDIUM
2xHIGH

### Low/Medium Grease Output:

Café, Pizzeria, Grocery Store hot serve(no fryer), Cafeteria (no food prep), Japanese, Fast Food family restaurant (disposable plates), Greek, Care home, school (external food prep/ catering).

### High Grease Output: (mainly internal food prep with use of table ware)

Hotel Restaurant, Public House restaurant, Hospital, Cafeteria, Family Restaurant (tableware), Fine Dining restaurant, Steak House, Chinese, Buffet, Indian, Mexican, Sea- food, Fried Chicken restaurant, Grocery Store hot serve (w/fryer), Barbeque, School (internal food prep).

### Example setting 1

*Based on grocery hot serve (no fryer) serving 35 covers.*

*Setting required: 1 x Low setting. Set 1 time slot per day (eg: 8:00-1200) and set main display to LOW CYCLE MODE. Refer to controller settings in this manual for steps.*

### Example setting 2

*Based on Family Restaurant (table ware) up to 300 covers*

*Setting required: 2 x medium setting. Set 2 time slot per day (eg: 8:00-1200 & 1600-2000) and set main display to MEDIUM MODE. Refer to controller settings in this manual for steps.*

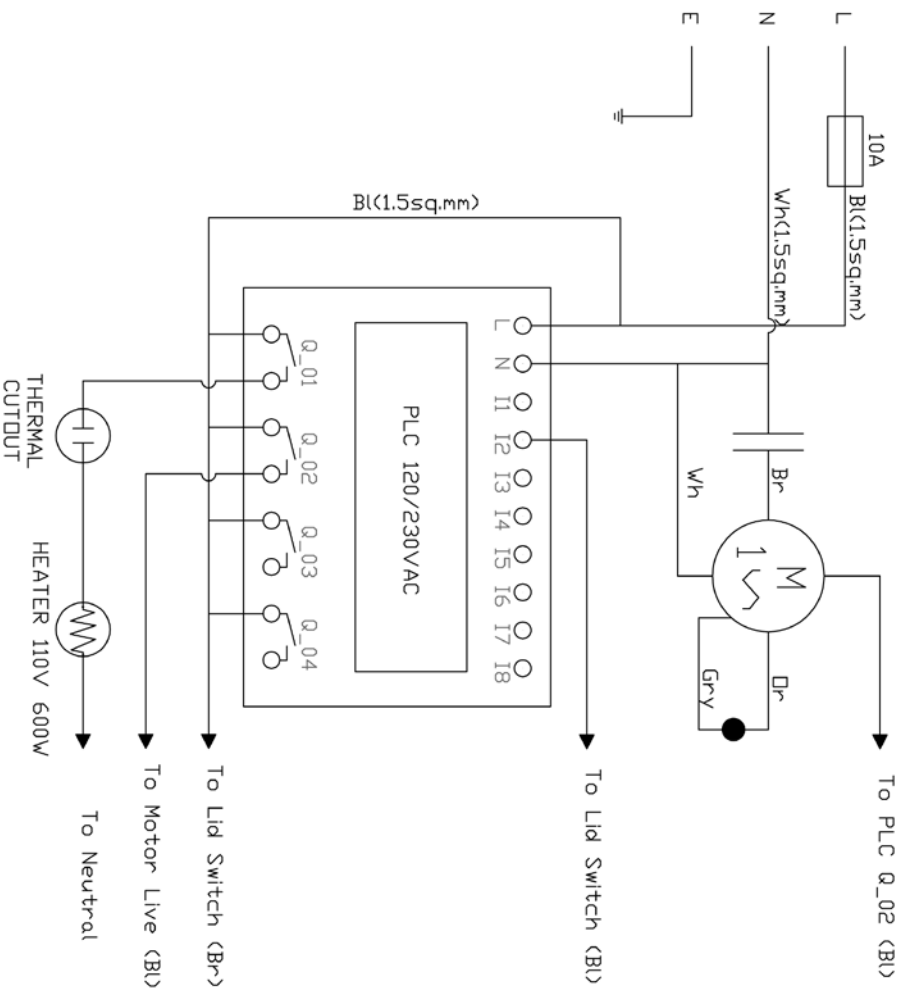


## Appendix 2

CYCLE ON/OFF TIMES FOR HEATER & MOTOR. LOW, MEDIUM, HIGH MODES ALL MODELS

KEY:			H = HEATER ON										M = MOTOR ON										p = PAUSED																				
		Hours	1										2										3																				
Heater size	mins		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	
600 W GX15	HIGH		H	H	H	H	H	H	H	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
600 W	MEDIUM		H	H	H	H	H	H	H	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
600 W	LOW		H	H	H	H	H	p	p	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
600 W GX20	HIGH		H	H	H	H	H	H	H	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
600 W	MEDIUM		H	H	H	H	H	H	H	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
600 W	LOW		H	H	H	H	H	p	p	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
600 W GX25	HIGH		H	H	H	H	H	H	H	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
600 W	MEDIUM		H	H	H	H	H	H	H	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
600 W	LOW		H	H	H	H	H	p	p	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
600 W GX35	HIGH		H	H	H	H	H	H	H	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
600 W	MEDIUM		H	H	H	H	H	H	H	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
600 W	LOW		H	H	H	H	H	p	p	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
HEATER OFF	HOURS																																										
MODE	MINS		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	
	HIGH		p	p	p	p	p	p	p	M	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	
	MEDIUM		p	p	p	p	p	p	p	M	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	
	LOW		p	p	p	p	p	p	p	M	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	p	M	M	

APPENDIX 3:  
WIRING DIAGRAM



## Standard Warranty

FM Environmental warrants, to the original user, that those products supplied by it and used in the service and in the manner for which they are intended shall be free from defects in materials and workmanship for a period of 1 YEAR.

- a) The warranty period commences from the date goods are dispatched to original user or from the date unit is commissioned provided that commissioning form or other receipt is supplied with claim and that commissioning is carried out within three months of equipment being dispatched.
- b) All warranty claims must be processed through the Dealer from whom the equipment was purchased. The Dealer will co-operate with the purchaser throughout the warranty claims procedure and will arrange any necessary repairs using genuine Grease Guardian parts.
- c) If the original Dealer is no longer able to fulfill their obligations please contact FM Environmental Limited with full details of the claim and proof of purchase or commissioning so that this may be processed without delay.
- d) Any warranty claim can only relate to a specific part that is proven to be at fault and for which a replacement will be supplied but cannot be extended to constitute a claim against the complete appliance.
- e) FM Environmental Ltd will supply the Dealer with any warranty parts required subject to the claim being validated after return of the faulty items.
- f) All replacement parts have a 60 day replacement warranty. Clean defective parts shall be returned, within the warranty period, with proof of purchase, to FM Environmental, transportation charges prepaid, for warranty evaluation. At FM Environmental option, based on the determination of the warranty evaluation, FM Environmental may repair or supply a replacement part from its factory. Any and all items which may be returned shall include the serial number of the unit from which the item was removed, and a return goods authorization number issued by FM Environmental.
- g) This warranty is void if the product has been damaged by its customer prior to acceptance or as a result of unreasonable use, neglect, flooding, alteration, improper installation, improper tri-monthly (4 times yearly) service, maintenance neglect, improper electrical service, installation and/or operation without timer controls, or other causes not arising out of defects in material

or workmanship. Equipment must be installed according to manufacturer's guidelines. This warranty is void if equipment is used in excess of rated flow. FM Environmental products are intended to remove only free floating oils and grease. FM Environmental products do not remove emulsified fats and oils. FM Environmental shall not be responsible for damage to equipment which results from vault flooding, sewer line back-up, pumping or lift station failure, ambient water flow or other sources of water damage. This warranty is void if the serial number on the product has been altered or defaced. FM Environmental will not replace electrical parts which have been installed in under-ground vaults. This warranty is void should use, installation and application be contrary to a written agreement between FM Environmental and the user,

- h) FM Environmental does not make any other representations or warranties, express or implied, including, but not limited to, any implied warranty or merchantability and any implied warranty of fitness or performance for a particular purpose.
- i) The sole and exclusive remedy with respect to the above limited warranty or with respect to any other claim relating to defects or any other condition or use of the product supplied by FM Environmental, however caused, and whether such claim is based upon warranty, contract, negligence, strict liability or any other theory, is LIMITED to the repair or replacement of the part or product, excluding labour or any other cost to remove or install said part or product or, at FM Environmental option, to repayment of the purchase price. Notice of any such claim must be given in writing to FM Environmental within 15 months after the fault installation and / or use of the product
- j) In no event shall FM Environmental be liable for special, direct, indirect, incidental, personal, property or consequential damages, including but not limited to, loss of use or profits or to interruption of business activity. FM Environmental neither assumes nor authorizes any representative or any other person to assume any liability in connection with the sale of its products. FM Environmental makes no warranties, express or implied, with respect to parts, accessories, components or other goods not in FM Environmental scope of supply. Alteration and/or substitution of FM Environmental parts, assemblies, accessories including electrical and/or mechanical components voids FM Environmental warranty.

## **10 YEAR ANTI - PERFORATION WARRANTY ON GREASE GUARDIAN STAINLESS STEEL TANK**

FM Environmental warrants, to the original user, that The Grease Guardian main tank (location in which grease is trapped) supplied and used in the service and in the manner for which it is intended shall be free from defects in materials and workmanship for a period of 10 YEARS This Warranty is void should the product be damaged by its customer prior to acceptance or as a result of unreasonable use neglect, alteration, improper installation, improper service, maintenance neglect, installation or other causes not arising out of defects in material or workmanship. The warranty will also be void should the stainless steel tank be found to be in direct contact with copper, brass, or corrosive chemicals (acidic or alkaline), saline water (PPM > 1000) for excessive periods.





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