

Grease Management at Sea



www.greaseguardian.com

The Grease Guardian® Range



CORPORATE VIDEO

About Us

The FM Environmental Group, incorporating its Ireland, UK, Malta, Malaysia and United States sales offices is one of the world's longest established water and wastewater engineering companies.

Headquartered in Northern Ireland, FM Environmental (FME) exports its products and services worldwide; constantly evolving its technologies to suit the diverse and demanding international marketplace.

Established in the early 1970s, FME is internationally recognised for the design, manufacture, installation, and servicing of advanced grease management technologies.

Today, Grease Guardian® stands as a global success in drainage and grease management, with close to 40,000 installations worldwide.

THROUGH OUR CHAIN OF DISTRIBUTORS,
WE CAN OFFER A PERSONALISED SERVICE AND
INDIVIDUALLY DESIGN UNITS TO SUIT YOUR NEEDS

Global Presence



MILITARY VESSELS
LHD, FREMM



SUPER/MEGA YACHTS
UP TO 150M



SPECIALISED VESSELS
AMERIGO VESPUCCI



WORK BOATS
SERVICE, FIRE, COASTGUARD



RIVER BOATS
BATEAUX MOUCHES
BATOBUS



FERRIES & CRUISE SHIPS
WORLDWIDE

AND THOUSANDS OF UNITS WORLDWIDE





Compact AGRD (AUTO-SKIM)

Be Compliant at Sea

Grease is an inevitable by-product of cooking in the galley of a ship. When left unmanaged, this grease can lead to costly blockages, environmental harm and operational disruptions. To address these concerns, vessels rely on effective grease management solutions such as Marine Guardian.

The Marine Guardian's four-stage system ensures regulatory compliance while supporting sustainable grease and oil management. We aim to protect the marine ecosystem, enhance operational efficiency, and contribute to a cleaner, more sustainable future for the maritime industry.

MARITIME LAW

Marpol 73/78 ANNEX IV and V: 5.4.4 Galley wastes state:

"All galley wastes that may contain grease should flow through grease traps to a retaining box prior to discharge overboard with a distance of 3 N.M. from the closets line of land (territorial sea – 12 N.M.) or to treatment aboard ship"

BENEFITS OF MARINE GUARDIAN

- ✓ Compliant with Regulations
- ✓ Environmental Protection
- ✓ Maintains Kitchen Efficiency
- ✓ Cost Savings
- ✓ Sustainable Practices
- ✓ Reduces Downtime
- ✓ Compact, Marine-Grade Design
- ✓ Maintain Wastewater Treatment Plant (WTP) efficiency

How Marine Guardian Delivers a Superior Solution

Space is limited on any vessel, and downtime is costly. Marine Guardian's **Automatic Grease Recovery Devices** are engineered to maximise space efficiency while drastically reducing the need for frequent dock visits.



GREASE MANAGEMENT, SIMPLIFIED.

Stay At Sea Longer

Capture and store grease efficiently so operations can continue without unnecessary interruptions.



Hassle Free Maintenance

An external collection container allows quick emptying, saving time, labour, and operational cost.



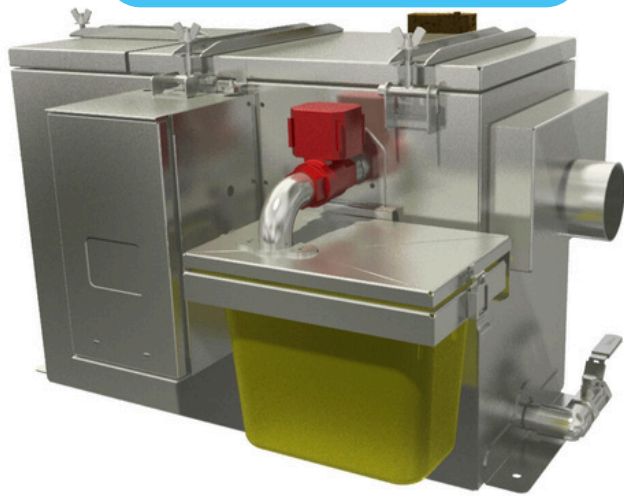
Space Efficient Design

Compact units retrofit seamlessly into existing galleys or below-deck, ensuring every inch of space is used effectively.



Marine Guardian Product Range

COMPACT (AUTO-SKIM)

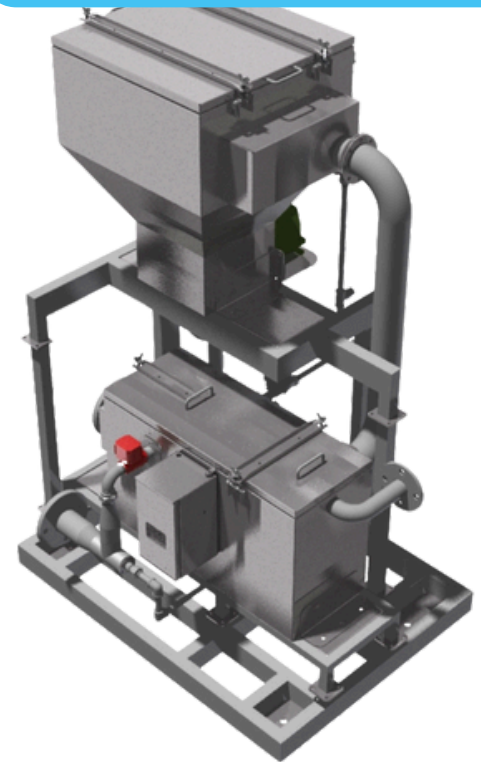


MGD1 - 4

FLOW: 0.75 to 2.25 l/s

Compact Grease Removal Unit with manual solids handling.

CENTRALISED (AUTO-SKIM)



How Does Marine Guardian Work?

FOUR STAGE OPERATION SYSTEM

STAGE 1



SOLIDS FILTRATION AND TRANSFER (ASRD)

Kitchen waste water enters the unit and large food particles are trapped by the hopper, where they settle at the bottom. The settled solids are periodically pumped away by pump into a secondary tank on board for storage (usually available on the ship).

STAGE 2



GREASE & OIL SEPARATION

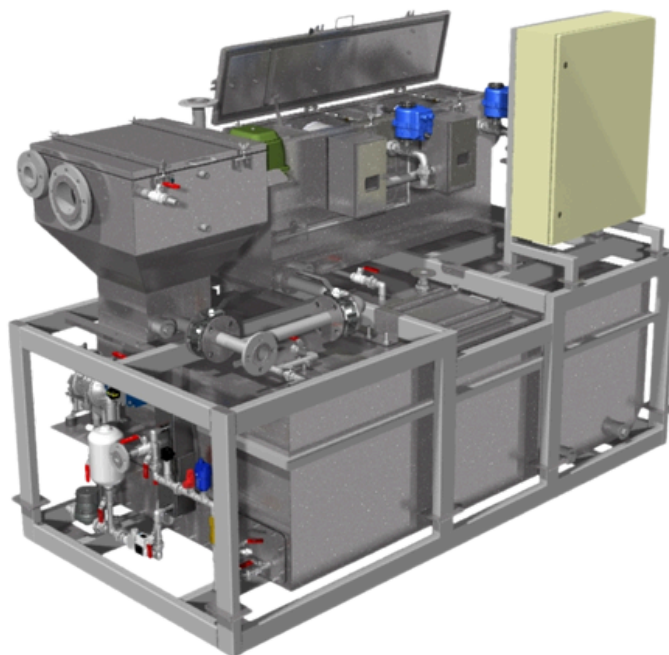
After entering the main tank, grease which is lighter than water, separates naturally and remains trapped. The heavier clean water leaves the tank under a baffle before being discharged to drain.

CENTRALISED (AUTO-SKIM)

MGD4 ASRD Stackable

FLOW:
2.25 to 5 l/s

D4 Grease Removal Unit with automatic solids handling system stacked.

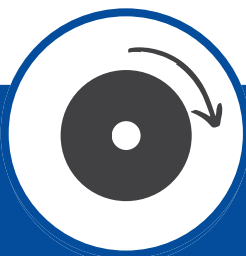


ASRD with Oil Tank

FLOW:
3.5 to 20 l/s

Centralised ASRD (Automatic Solids Removal Device) is an automatic handling system with liquids waste heated storage unit and a Grease Removal Unit.

STAGE 3



GREASE REMOVAL PROGRAMME

A pre-programmed removal cycle starts by first agitating the trapped grease waste using diffused air. This helps suspended grease globules to further separate and directs the waste towards the skimming mechanism. The waste is then heated and the grease liquefies. The liquefied grease is then skimmed and transferred to external receptacles to await recycling.

STAGE 4



SELF CLEANING & AUTOMATIC SPRAY SYSTEM

A wash down system is automatically activated to ensure the system remains clean.

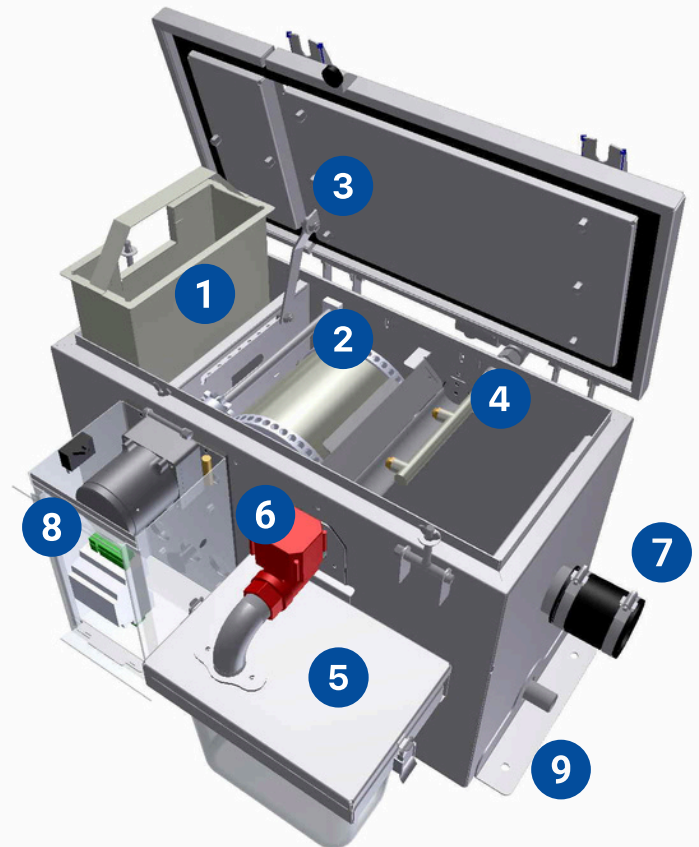
Separate water supply needed.

Marine Guardian Features

Auto-Skim



- 1 Food Strainer**
Collects Solid Food Particles
- 2 Grease Removal Drum**
Automatically skims grease from wastewater.
- 3 Marine Lid**
Designed to limit smell, avoid spillages, in 316 S/S, 14 and 16 gauge according to the model.
- 4 Automatic Spray System**
Self Cleaning System.
- 5 Grease Collection Container**
Secure lid and motorised valve stops the removal of grease in high seas.
See upgrade option.
- 6 Motorised Valve**
Designed to open during skimming cycle.
- 7 Outlet**
Flanged kit and upgrade options available.
Client to specify PN rating.
- 8 Control Centre - PLC**
Plug and Play.
- 9 Anchoring Points**
Ground anchors secure the unit.



MARINE UPGRADE KITS

**MOST
POPULAR**

We offer a range of upgrade kits for our marine units, enhancing functionality at the source and within centralised systems.

Additional features are outlined on page 13. These enhancements improve performance and help protect your marine infrastructure from potential issues.

SCAN ME



Grease Collection Kit

-  A set of three 25-litre jerry-can grease collection containers
-  Flange Set
-  Anchor Base Spare Parts (2-5 years) for autonomous sailing
-  Powder Coating Paint Application

Not sure which Marine Guardian is right for your vessel? **We offer bespoke solutions.** For needs like higher flow rates, monitoring systems, shock-mounted units, or sludge handling, contact your supplier for details.



Selection Guide



SPACE

If space is limited, our **Compact options** are perfect, allowing installation at the source; such as the galley or below deck, for better pipe protection. If you have more room, you can consider a centrally located grease trap.



SIMPLICITY

For the **simplest option**, choose **"Manual."** These traps require no power and are emptied with a wet vac or by a licensed grease trap cleaning company.



EMPTYING

If emptying the grease trap is problematic due to the trap's location, facilities at port or safety on board, then **select the Auto-Skim option.** This removes the trapped grease into an easy to transport / store collection container.



STORAGE

If the vessel has onboard food waste storage tanks for holding waste during long voyages, select the **Automatic Solids Transfer options. (AST)**

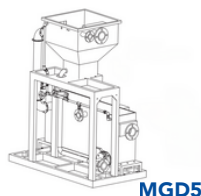


NAVAL VESSELS

For naval vessels with specific needs, contact your supplier to discuss options.

MGD5:

5 l/s in line or stackable with sludge handling for easy installation in restricted space.

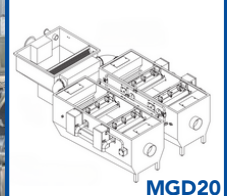


MGD5



MGD20:

20 l/s in line Automatic Solids Removal Device (ASRD)



MGD20



For larger flow layouts, sludge handling options and combinations such as MGD5, MGD10 and MGD20 Marine, Contact your supplier.

Grease Recovery Units

COMPACT

MANUAL / AUTO-SKIM



Product Features

- Galley and centrally located grease traps for vessels
- Manual emptying or automatic grease removal options
- 316 stainless Steel
- High efficiency levels
- 0.75 L/s to 2.25 L/s options
- Easy to install including retrofit
- Designed for open seas
- Compact footprint for confined spaces
- Internationally tested and certified
- 3mm solid filtration included
- Service log and reminder alarms as standard



Grease Management Solutions at Sea

We are the leading provider of grease management solutions for superyachts, commercial ships, cruise liners, and naval vessels worldwide.

Recognising the vital importance of environmental sustainability in the maritime sector, we have designed advanced grease recovery units that efficiently capture and separate grease and oil from wastewater, helping vessels maintain compliance with strict regulatory standards.

Case Study

An 85-meter superyacht struggled to optimise the onboard wastewater treatment system due to a build-up of fats, oils, and grease, which reduced efficiency and increased maintenance demands.

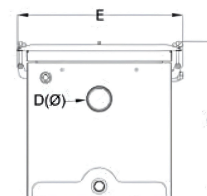
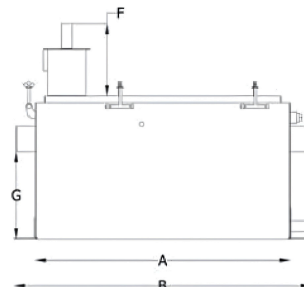
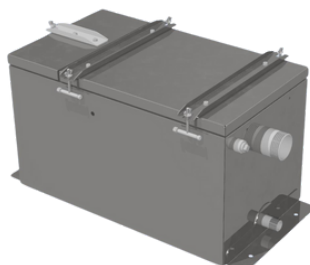
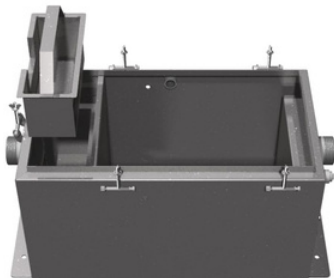
SCAN ME



COMPACT GREASE TRAP (MANUAL)

- 316 Stainless steel grease traps from 0.75 to 1.75 l/s for under-sink or compact locations.

- Traps grease and solids allowing only cleaner water through.



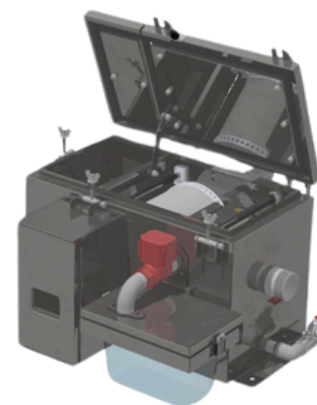
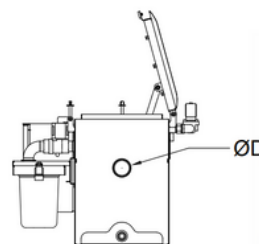
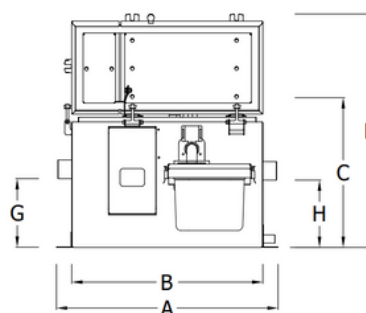
Model	Length (A)	Length (B)	Height (C)	Inlet/ Outlet (D)	Width (E)	Basket (F) CLEARANCE NEEDED	Inlet Height (G) INLET	Outlet Height (H) OUTLET	Max Flow
TANK ONLY									
MGT1	600	700	370	60.3 DN50	381	170	205	205	0.75 l/s
MGT2	657	757	460	60.3 DN50	381	210	300	300	1 l/s
MGT3	700	800	493	60.3 DN50	396	260	340	297	1.25 l/s

All dimensions in mm. Inlet / outlet height from the bottom of the pipe.

All drawings in this brochure are guidelines and are subject to change. Always request the latest drawings from your suppliers

COMPACT GREASE TRAP (AUTO-SKIM)

- 316 Stainless steel grease traps from 0.75 to 2.25 l/s for under sink or compact locations.
- Traps grease and filters solids allowing only cleaner water through.
- Captured grease automatically skimmed to external collection point.



Model	Length (A)	Length (B)	Height (C)	Inlet/ Outlet (D)	Width (E)	Basket (F) TOTAL CLEARANCE NEEDED	Inlet Height (G) INLET	Outlet Height (H) OUTLET	Max Flow
INCLUDES MOUNTING TANK ONLY INCLUDES PANEL									
MGD1	672	543	362	60.3 DN50	580	712	150	150	0.75 l/s
MGD2	750	623	450	60.3 DN50	585	800	224	219	1.25 l/s
MGD3	812	664	489	88.9 DN80	578	839	312	265	1.75 l/s
MGD4	1000	854	489	114.3 DN100	574	839	312	265	2.25 l/s

All dimensions in mm. Inlet / outlet height from the bottom of the pipe.

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Grease Recovery Units

CENTRALISED

MANUAL / AUTO-SKIM



Product Features

- Centrally located grease traps for vessels
- Manual emptying or automatic grease removal options
- 316 Stainless Steel
- High efficiency levels
- 1 L/s to 20 L/s options
- Easy to install including retrofit
- Designed for open seas
- Compact footprint for confined spaces
- Internationally tested and certified
- 3mm solid filtration included
- Additional feature options



Internal Components of Centralised Auto Skim AGRD

Marine Guardian's centralised units bring powerful, fully automated grease removal to vessels that demand efficiency and reliability.

These systems connect multiple fixtures to one central grease removal/recovery device. Constructed with marine-grade materials, our systems deliver consistent FOG separation to a central container, simplifying onboard operations.

Additional Features are featured on page 13.

Case Study

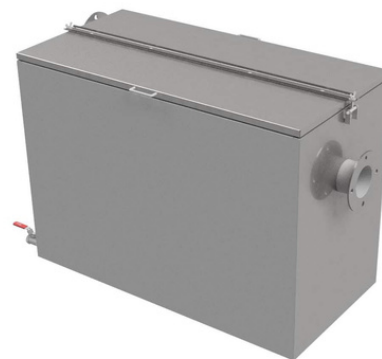
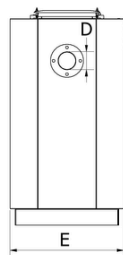
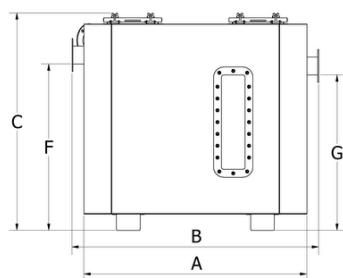
Learn how the Marine Guardian helped a naval fleet manage FOG, safeguard onboard wastewater systems, and operate efficiently in tight, space-restricted environments.

SCAN ME



CENTRALISED GREASE TRAP (MANUAL)

- 316 Stainless steel grease trap for centrally located applications on vessels.
- Traps grease and solids allowing only cleaner water through.



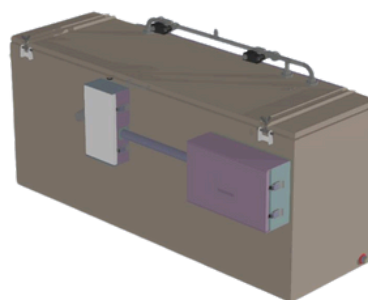
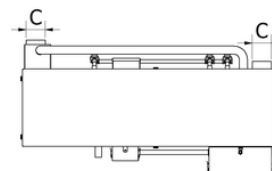
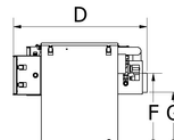
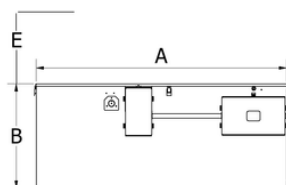
Model	Length (A)	Length (B)	Height (C)	Inlet/ Outlet (D)	Width (E)	Inlet Height (F) INLET	Outlet Height (G) OUTLET	Max Flow
TANK ONLY								
MGNS1	1204	1352	892	114.3 DN100	600	602	532	1 l/s
MGNS2	1415	1565	1381	114.3 DN100	720	1057	987	2 l/s

All dimensions in mm. Inlet / outlet height from the bottom of the pipe.

All drawings in this brochure are guidelines and are subject to change. Always request the latest drawings from your suppliers

CENTRALISED GREASE TRAP (AUTO-SKIM)

- 316 Stainless steel grease traps from 3.5 to 20 l/s.
- Traps grease and solids allowing only cleaner water through.
- Captured grease is automatically skimmed to external collection point.
- Automatic Solids Transfer (AST) option.

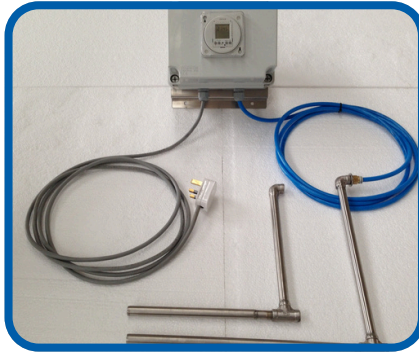


Model	Length (A)	Height (B) TANK ONLY	Inlet / Outlet (C)	Width (D) INCLUDES PANEL	Lid (E) CLEARANCE NEEDED	Inlet Height (F) INLET	Outlet Height (G) OUTLET	Max Flow
MGD5	1251	1395	114.3 DN100	870	936	407	334	3.5 l/s
MGX75*	1200	565	114.3 DN100	953	457	309	233	4.7 l/s
MGX125*	1600	650	114.3 DN100	953	457	387	315	7.9 l/s

All dimensions in mm. Inlet / outlet height from the bottom of the pipe. All drawings in this brochure are guidelines and are subject to change. Always request the latest drawings from your suppliers.

* Available with Solid Strainer Basket (IS) or Solid Removal Pump (AST).

For higher flow rates, solids and sludge handling, contact your supplier.



BLOWER KIT

Blower kits are installed on higher flow models to assist with the oil recovering process by moving the oil towards the skimming wheels. This will be at timed intervals during the recovery process.

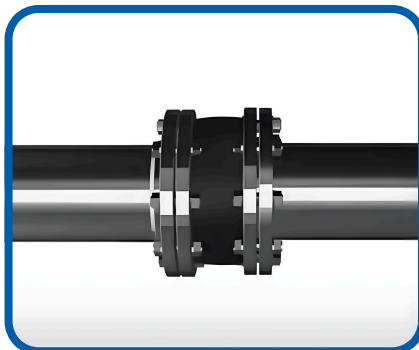
Available for units larger than the MGD4.



TELEMETRY CONTROL

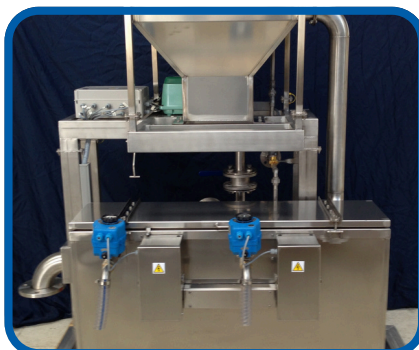
Telemetry control collects, stores and transmits data in real time. There is a volt free terminal available only for 110 volt BMS - Building Management System.

Available on 110 Volt only.



SHOCK MOUNTS & FLEXIBLE JOINTS

Advanced technical solutions are recommended for navy installations. Shock absorbing mounts and flexible joints can be incorporated to effectively endure motion and physical stress.



COMPACT SOLUTIONS

A compact modularised system that can be disassembled for easy transport on board with possibility of stackable version, skid mounted, with manual or automatic solid removal options.



SINK SCREEN

Sink screens, crafted from stainless steel, act as the first line of defence for pipeline efficiency. They function as in-sink food strainers, collecting food waste and safeguarding plumbing from clogs caused by food debris, ensuring smooth drainage and preventing blockages.



Register Your Account with Grease Guardian

Scan the QR Code to register for a Grease Guardian account on www.greaseguardian.com
This will give you access to a personalised dashboard and extend your warranty by 6 months.
You will also receive a monthly newsletter with **sales and offers**.



FME's corporate vision is to be a company that continuously inspires, innovates and excels at everything it does.

INNOVATION

FM Environmental Ltd. (FME) will apply an innovative approach to its products and processes in an effort to gain and maintain a competitive advantage over other companies. This will involve: inventing new and better ways of providing value and service to employees and customers; reinventing ourselves and how we do things to give a fresh and competitive edge to our daily operations; stimulating and liberating a culture of innovation within the organisation that will enable us to face the challenges of a rapidly changing and developing marketplace.

Explore The Full Range

Discover our full range of automatic grease removal systems, perfect for any commercial kitchen, from small cafes to high-volume operations. The Grease Guardian range offers reliable, efficient solutions tailored to your kitchen's needs.

Visit our website to learn more.





* Please consult Grease Guardian for specific models tested, certified and/or listed by these organisations.

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