MARINE SYSTEM SOLUTIONS

Efficient solutions for maritime decarbonization

GEA Engineering for a better world.

GEA.com

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ENGINEERING FOR A BETTER WORLD.

Explore further

Navigating the future with energy efficient and sustainable solutions. Leading the way with innovative technologies and a strong commitment to sustainability.

The shipping industry is changing rapidly to meet the increasingly complex requirements of the IMO's decarbonization target (zero greenhouse gas emissions by 2050). There is a significant trend toward energy efficiency, future fuel in new builds and related OEMs, and intelligent maintenance. As a steadfast and long-term partner to the marine sector, GEA facilitates the achievement of these objectives through its product innovation pipeline, robust global network of services, spare parts, and expertise.

Heading for new shores

Our Climate Strategy sets ambitious targets to meet the 1.5°C limit, reflected in our cost-effective, environmentally friendly products and services. With 115 years of experience in marine separators and expertise in natural refrigerant-based refrigeration systems and screw compressors, we provide sustainable solutions today and are committed to future investments.

MARINE SYSTEM SOLUTIONS

Expertise for maximum performance, profitability and environmental protection

Fuel oil & lube oil treatment
GEA centrifugal separators specialize in fuel and lube oil purification and effective cat fines removal. With their high g-force, the separators reliably ensure high performance and economical operation of marine engines and extend their service life even under extreme conditions.

Bilge water treatment
Every ship, whether a container carrier, oil tanker or freighter, faces a common challenge – bilge water disposal. This by-product poses a significant environmental problem and requires a responsible and effective solution. Designed to meet stringent regulations, GEA bilge Separators ensure that bilge water can be safely discharged into the sea with a residual oil content well below the strict 15 ppm limit.

Water treatment in Exhaust Gas Recirculation (EGR)
Exhaust Gas Recirculation (EGR) technology has proven to be a highly effective method of reducing nitrogen oxide (NOx) emissions on marine vessels, ensuring compliance with stringent environmental regulations. GEA provides solutions for the treatment of EGR bleed water prior to discharge overboard.

Fresh water generation
Storing large quantities of fresh water on board a ship is costly and takes up valuable space. GEA offers an alternative solution with a seawater desalination process and technology that can produce up to 30 tons of fresh water per day.

Marine refrigeration
GEA specializes in marine refrigeration solutions and compressors for ships where these systems are an essential part of the customer's operation, such as fishing vessels, reefers, cruise ships and LNG-fueled vessels.

Our solutions focus on sustainability, reliability and low maintenance, based on natural refrigerants such as ammonia and CO_2.

APPLICATION RANGE

Successful shipping companies rely on GEA's expertise in the engine room.

Clarification and purification of fuel and lube oil

Fuel treatment

Bilgewater treatment

EGR wash water treatment

Scrubber water treatment

Sea water desalination

Smart solutions for performance improvement

Heat recovery

Screw compressor packages for standard and customized solutions

Screw compressors for refrigeration & gas applications

Valves and components for refrigeration solutions and NH_3 fuel supply

Service solutions throughout the entire life cycle

FUEL OIL & LUBE OIL TREATMENT

Fuel oil treatment

Centrifuges protect engines through efficient fuel oil purification

Fuel oil treatment is indispensable for preserving the efficiency and durability of marine diesel engines. Contamination by water and solids in low-grade fuels poses a significant risk to critical engine components like cylinder liners and pistons. To combat this issue, vessels utilize advanced separation systems, ensuring impurities are efficiently removed to maintain a consistent flow of clean fuel to the engine. This pivotal maintenance practice optimizes engine performance and minimizes wear by effectively purifying the fuel.

Charting a greener course: sustainable shipping with biofuels

Ocean-going vessels predominantly rely on heavy fuel oil or diesel oil, collectively contributing to approximately 3% of global CO_2 emissions. Transitioning to sustainable fuel sources is imperative to mitigate this environmental impact. Biofuels emerge as a promising alternative, characterized by lower carbon emissions and alignment with sustainability standards, often without necessitating significant engine modifications. Serving as a transitional fuel, biofuels facilitate immediate energy and CO_2 savings for existing vessels, thereby supporting the International Maritime Organization's (IMO) goal of zero greenhouse gas emissions by 2050.

Lube oil treatment

Efficient operation and extended oil life

During daily operation, diesel engine lube oils become contaminated with metal impurities from rotating or sliding parts, residues from the combustion process, and condensed water decomposition products settling in the oil sump. These oils may also contain acids that, combined with foreign substances, accelerate oil aging. Additionally, combustion process residues and incombustible constituents from the cylinder can infiltrate the lube oil circuit, leading to wear symptoms at critical points such as bearing points, pistons, and cylinders. Thus, effective separation of unwanted substances is essential to prolong oil service life and prevent wear on engine components.

OVERCOMING CHALLENGES IN ACHIEVING EXCELLENT PURIFICATION.

GEA marine Separator
GEA marine Separators are reliable and sustainable equipment for the purification of fuel and lube oil on board ships. With its integrated direct drive, the GEA marine Separator is a revolutionary solution that offers more performance per square meter of space, an extremely simple service concept, and smart connectivity.

Explore further

GEA ecomarine Separator
The GEA ecomarine Separator is designed to deliver high-efficiency lube oil treatment with a focus on sustainability and cost savings. This manual cleaning centrifuge stands out by cutting energy expenses and providing a more economical, eco-friendly alternative to conventional filter systems. Engineered for peak operational performance, it significantly lowers environmental impact and reduces total life cycle costs, making it a smart choice for environmentally friendly operations.

Explore further

GEA biofuel Separator
GEA biofuel Separators are specifically designed to handle the unique characteristics of biofuels. They efficiently remove water and impurities to meet industry standards. Whether managing the acidity of FAME or the lower density of HVO, GEA biofuel Separators excel at meeting the diverse specifications of biofuels. They ensure compatibility with all types of biofuels, supporting the evolving sustainable energy landscape.

Explore further

A CLEAR DECISION FOR SUSTAINABILITY

The design of the GEA marine Separator sets a new standard in separator efficiency.

Resource-efficient solution

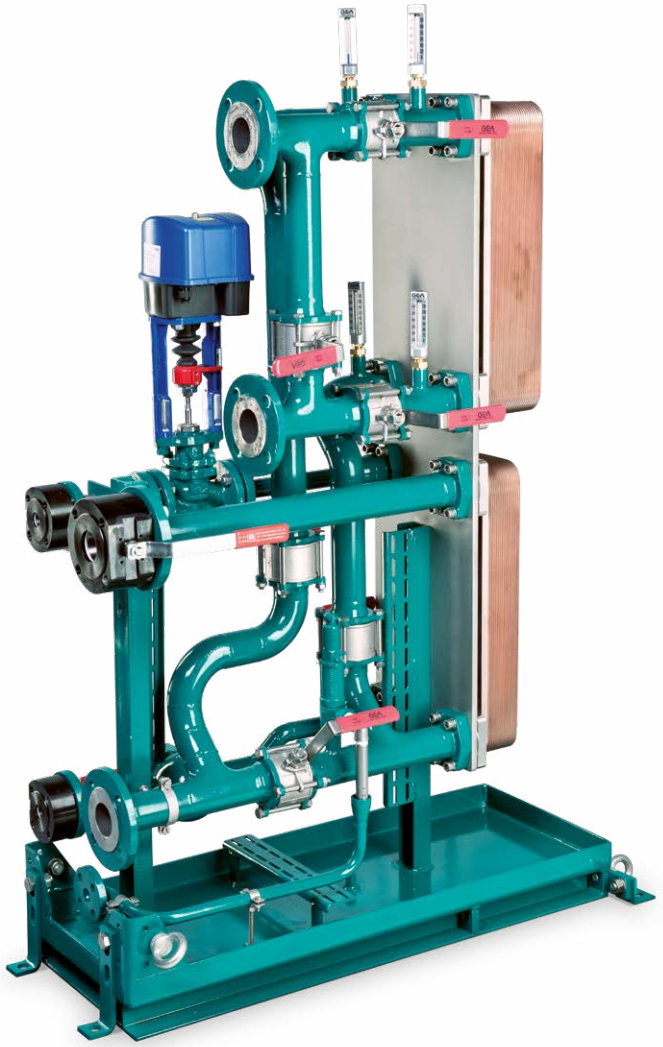
As one of our most resource-efficient solutions, our GEA marine Separator carries the Add Better label.* The high-efficiency motor transfers energy directly to the bowl without the use of belts and clutches. This reduces the energy consumption of the GEA marine Separator by 9% compared to the predecessor model and results in energy savings of up to 30,000 kWh per year per vessel.The GEA marine Separator has also extended the service interval from 8,000 hours to 16,000 hours and reduced the workload for regular cleaning by 95 percent.

Explore further

*The Add Better label relates to the serial product GEA marine Separator, released in September 2018. The comparison refers to its predecessor model, the GEA OSE Separator.

GEA ENERGY MASTER

Cost-effective and environmentally friendly solution



Implementing cost-saving measures onboard ships is increasingly appealing, with economic efficiency and reduced fuel consumption essential for competitiveness and environmentally friendly operations.

The GEA Energy Master, an integral component of the lube oil treatment system, offers a compact solution designed for optimal energy recovery. At its core lies the meticulously engineered recovery heat exchanger, a brazed plate heat exchanger ensuring efficient heat transfer and maximizing energy recuperation.

With the Energy Master as the cornerstone of your ship's operations, you can achieve unparalleled cost savings and promote a greener, more sustainable maritime journey. Protect the environment with this cutting-edge energy recovery solution.

GEA Energy Master is available as

- integrated part of the heater unit
- retrofit package for existing heaters

The payback period is extremely short, even for retrofit systems.

GEA UNITROL & GEA HYDROSTOP

Fuel & lube oil water monitoring and sludge space monitoring systems

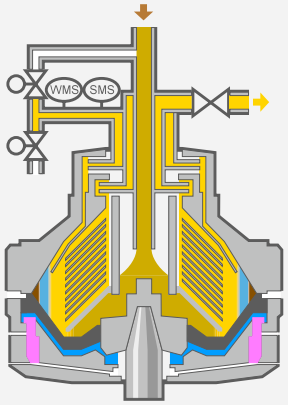
GEA offers advanced lube and fuel oil treatment plants that ensure ease of operation and optimum separation efficiency, even under difficult conditions. At the heart of these systems are innovative, self-cleaning separators featuring GEA Unitrol technology. The separators operate without the need for regulating rings and are suitable for various lube and fuel oils with densities up to 1.01 kg/l.

Key features include continuous oil monitoring for water content and solids space monitoring for optimal solids removal in a single stage. Automatic monitoring eliminates the need for manual adjustments, reducing the risk of operating errors.

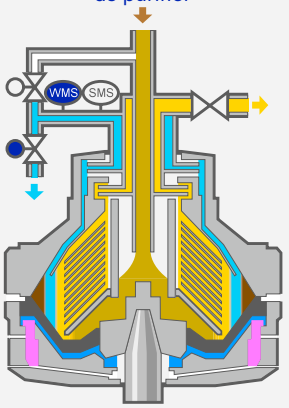
The Water Monitoring System (WMS) continuously checks and removes water from the oil, while the Sludge Space Monitoring System (SMS) monitors and clears solids such as cat fines, sand, abrasives, and rust. The oil displacement before bowl ejection minimizes oil losses, thanks to a precisely defined displacement volume.

GEA separators also feature GEA Hydrostop, a system that allows extremely short ejection times and maximizes the concentration of solids, simplifying disposal and reducing costs. Environmental considerations are fully addressed, and the disc stack is cleaned during total ejections, eliminating the need for labor-intensive cleaning procedures.

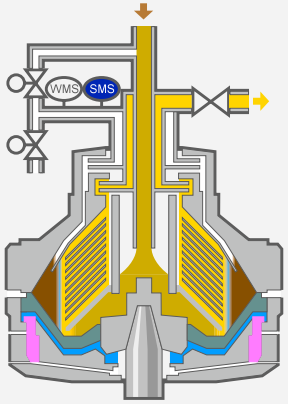
Operation as clarifier



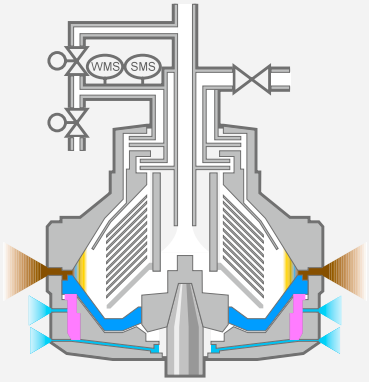
WMS actuated operation as purifier



SMS actuated



Ejection



GEA SEPARATORS FOR MOTOR YACHTS

The smart solution to separate small volumes

GEA OTC Separator

GEA OSD Separator

GEA marine Separator

GEA BilgeMaster

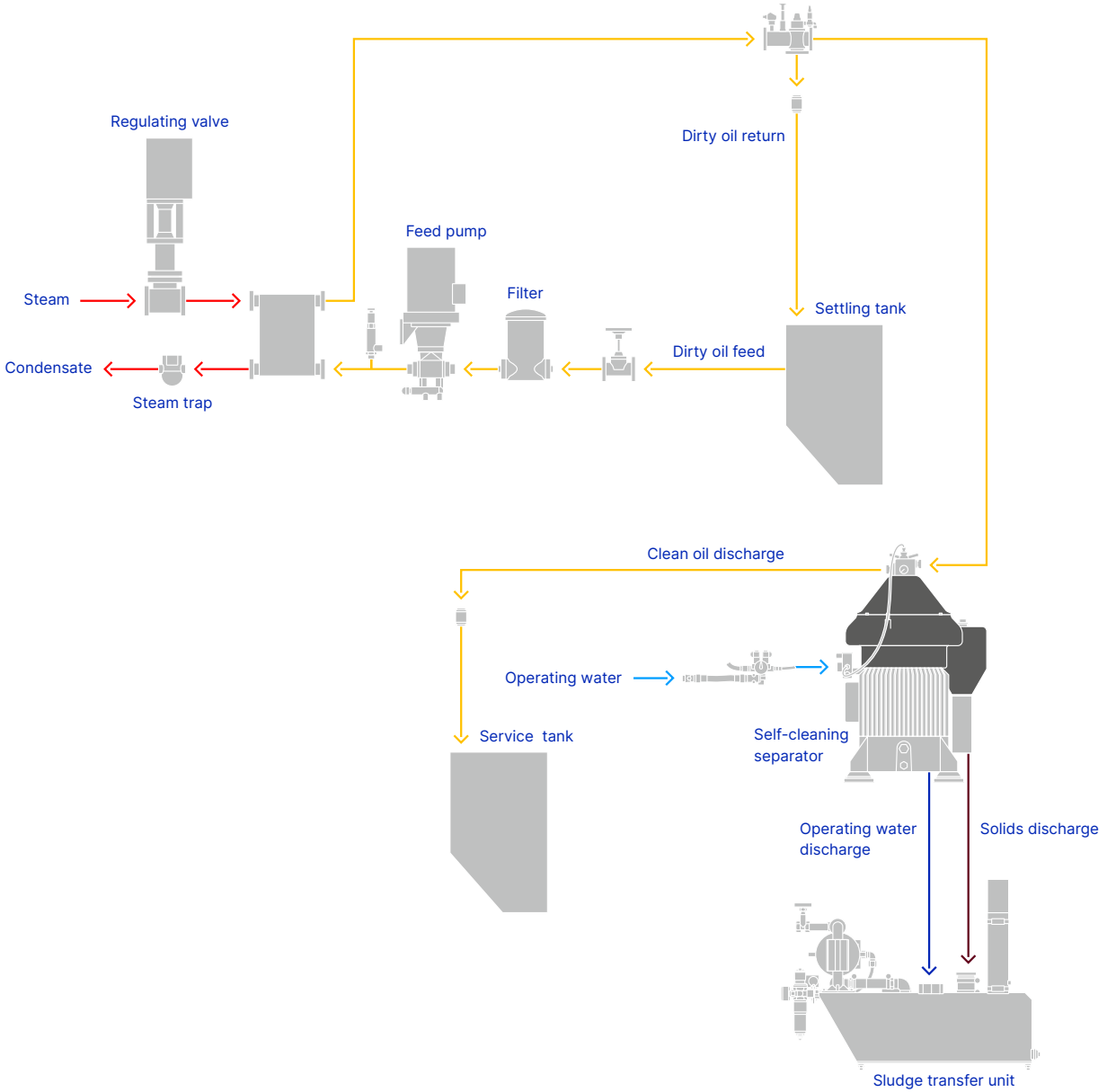
GEA centrifugal separators for motor yachts specialize in the purification of fuel, lube and hydraulic oil, as well as bilge water treatment and effective cat fines removal. They are space-savingly designed for continuous operation and the special requirements on board yachts. With their high g-force, the purifiers reliably ensure high performance and economical operation of yacht engines.

Benefits

- Superior product quality and safety under extreme conditions
- High standards of separation efficiency and economy
- Compact design - low weight and small footprint
- Simple plug and play installation
- No filter aids required
- Low maintenance and service intervals up to 16,000 hours

Explore further

Heavy fuel oil and ultra low sulphur fuel oil treatment

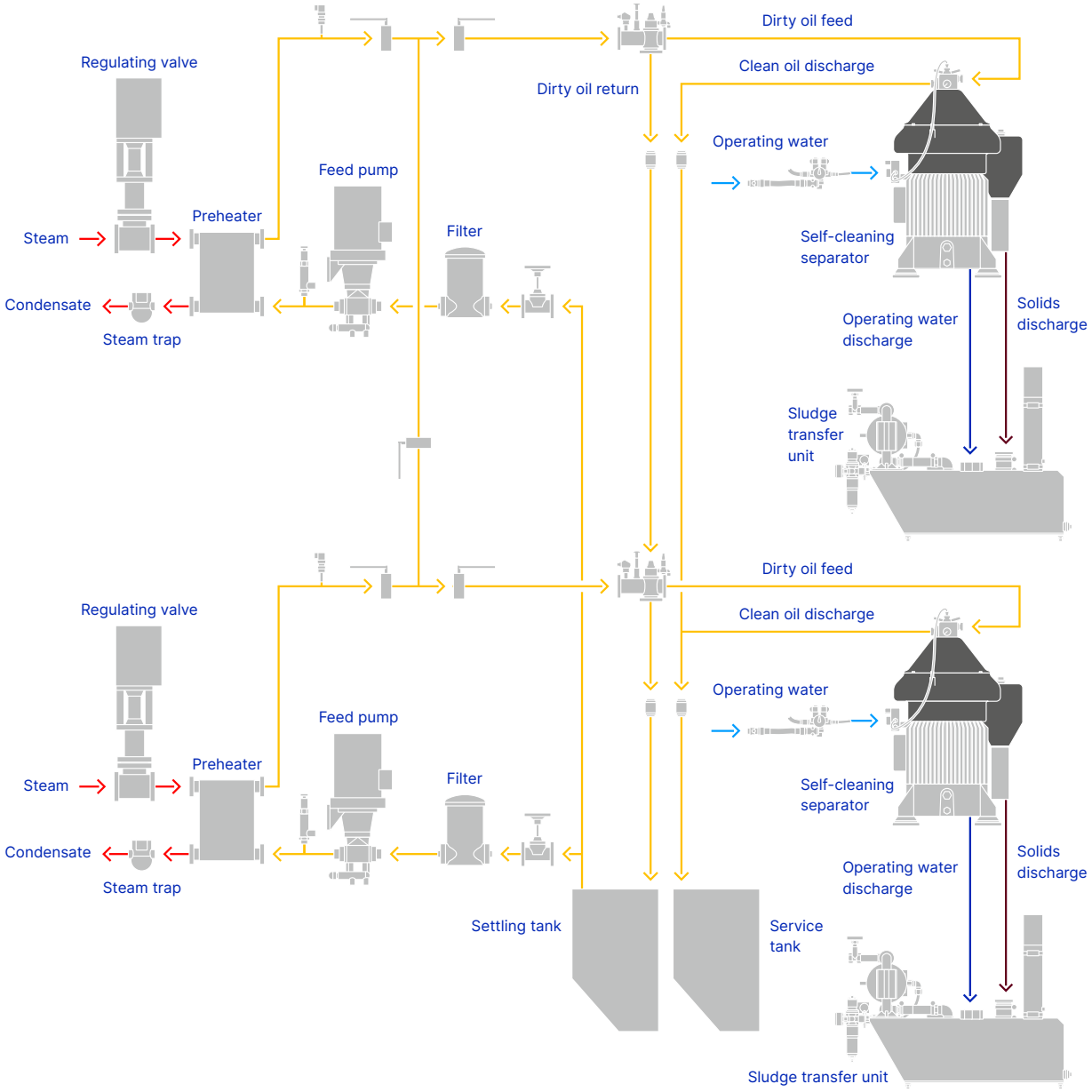


In typical scenarios, GEA recommends single-stage treatment for heavy fuel oils with the GEA marine Separator. Our GEA Unitrol WMS/SMS offers high separation efficiency in a single step, reducing engine wear significantly.

Thanks to its high reliability and long maintenance intervals, operating costs are kept low and the plant can run automatically for months without monitoring.

Heavy fuel oil and ultra low sulphur fuel oil treatment
Single-stage treatment plant for fuel oil with GEA marine Separator with GEA Unitrol

Heavy fuel oil treatment – parallel operation

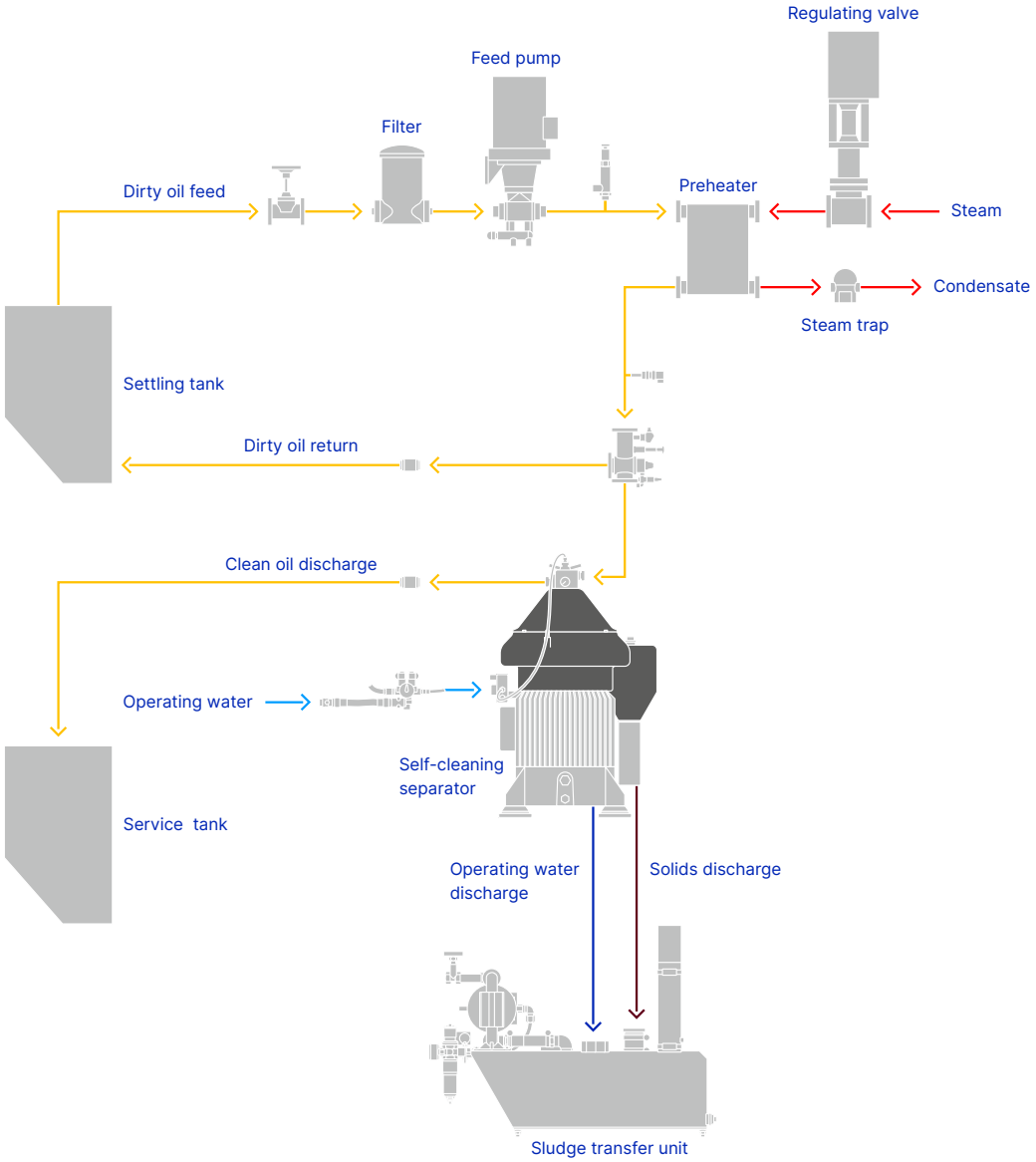


In emergencies where the water content of the fuel exceeds 10% by volume, using a standby GEA marine Separator in parallel is recommended. To ensure effective purification, reduce the throughput of each machine to 50%, doubling the dwell time in the centrifuges.

This setup, equipped with GEA Unitrol and an activated standby separator, offers advantages such as automatic total discharge of both centrifuges, longer intervals between discharges, reduced water consumption, and lower sludge disposal costs.

Heavy fuel oil treatment
Fuel oil treatment plant with GEA Unitrol and activated stand-by separator for parallel operation.

Diesel oil & biofuel treatment

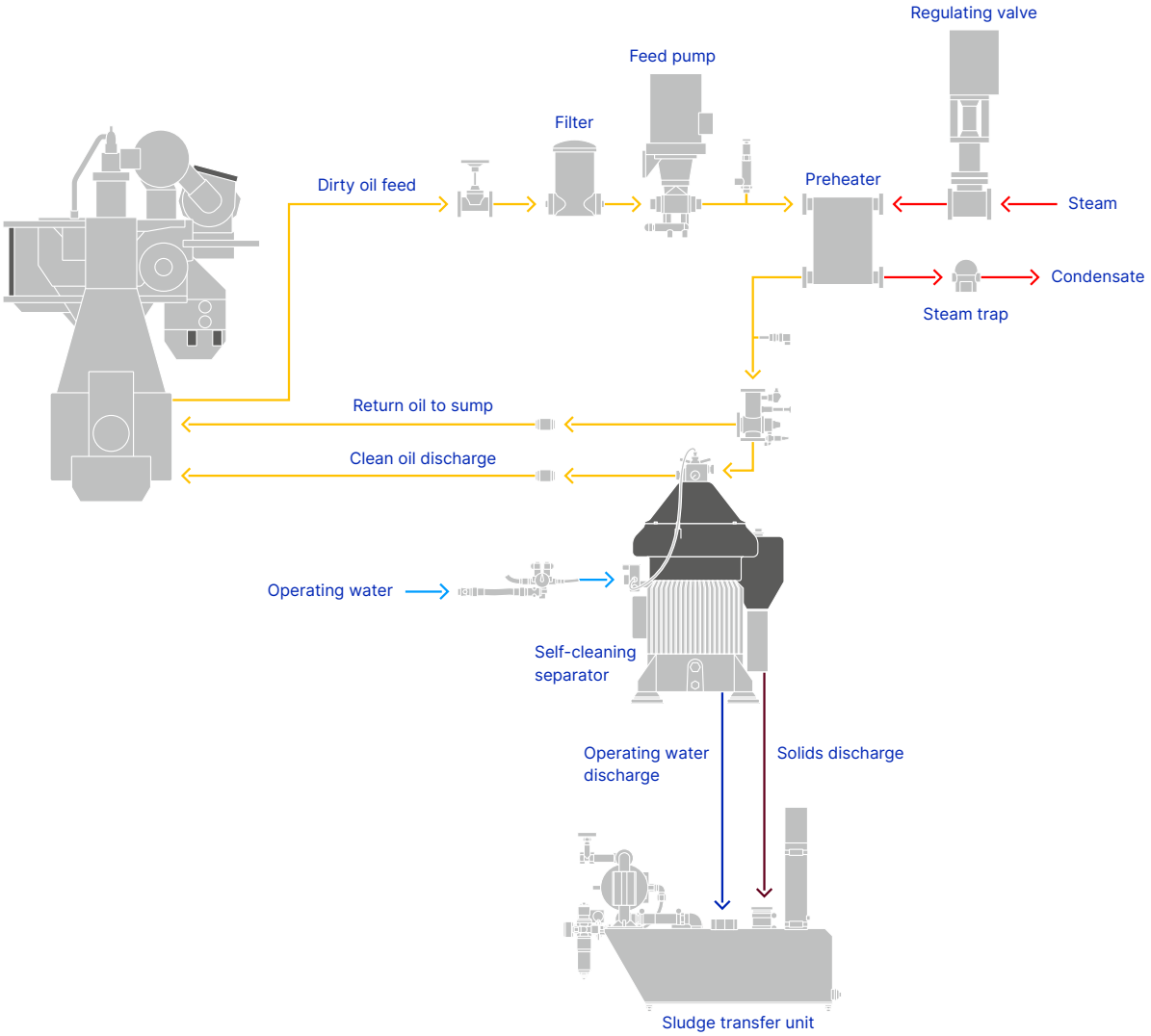


Efficient treatment protects vital components of the diesel engine, including cylinder liners, pistons, piston rings and the injection system.

Biofuels are emerging as a promising alternative that reduces carbon emissions and meets sustainability standards, often without requiring significant engine modifications. As a bridge fuel, biofuels provide immediate CO_2 savings for existing ships, helping to meet the IMO's CII (Carbon Intensity Indicator) reduction target.

Diesel oil and biofuel treatment
Marine diesel oil and biofuel processing system with GEA marine Separator with electric heater.

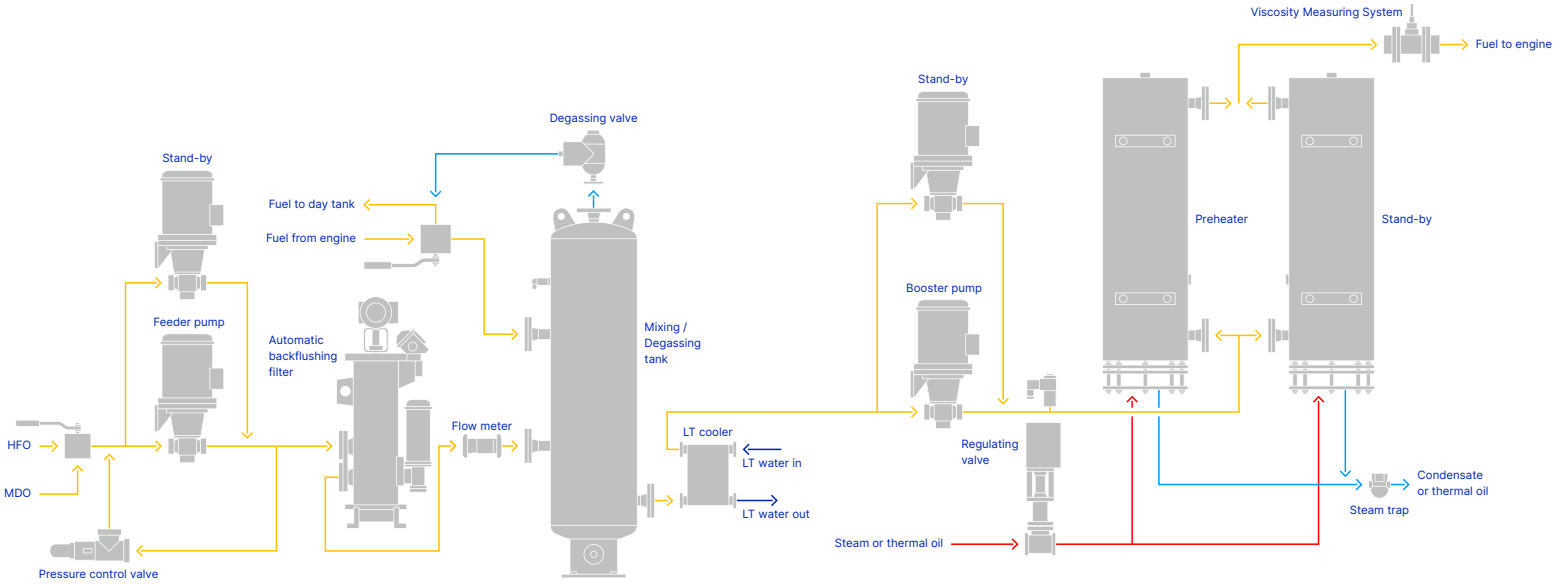
Lube oil treatment



Centrifugal separators are the most common method of lube oil treatment. The separator is in a bypass loop within the lube oil treatment system.

Lube oil treatment plant with GEA marine Separator

Fuel oil conditioning
GEA Visco Booster Unit



Vico Booster Unit for marine application

The efficient operation of ship engines requires on optimal fuel supply. This key requirement is met by GEA Visco Booster Units for fuel conditioning.

The units consist of a treatment system that meets the fuel requirements between the clean oil tank and the injection system for the main and auxiliary engines in terms of required injection viscosity and temperature. Feed and booster pumps are provided to maintain a stable system pressure.

GEA Visco Booster Units are supplied as package systems. They can be supplied as separate systems or as a complete module for the main engine and auxiliary engines for heavy fuel oil and diesel oil.

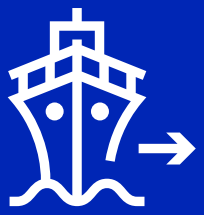
The modules are designed for different engines and for the required injection viscosity (approx. 10 – 24 cSt) and corresponding temperature (approx. 135 – 150° C). They are designed for 24-hour unattended operation and meet the requirements of the classification societies.

BILGE WATER TREATMENT

Ship bilgewater treatment is strictly regulated by national and international laws. Prior to discharge into the sea, bilgewater must undergo de-oiling with approved treatment systems, ensuring oil content remains below 15 ppm, and even lower (5 ppm) in special areas.

Bilgewater is a mixture of the following constituents:

- Sea and cooling water leakages
- Fuel and lube oil leakages
- Drainages from settling and sludge tanks
- Effluent from various cleaning processes
- Soot and dirt particles



GEA BILGE SEPARATOR

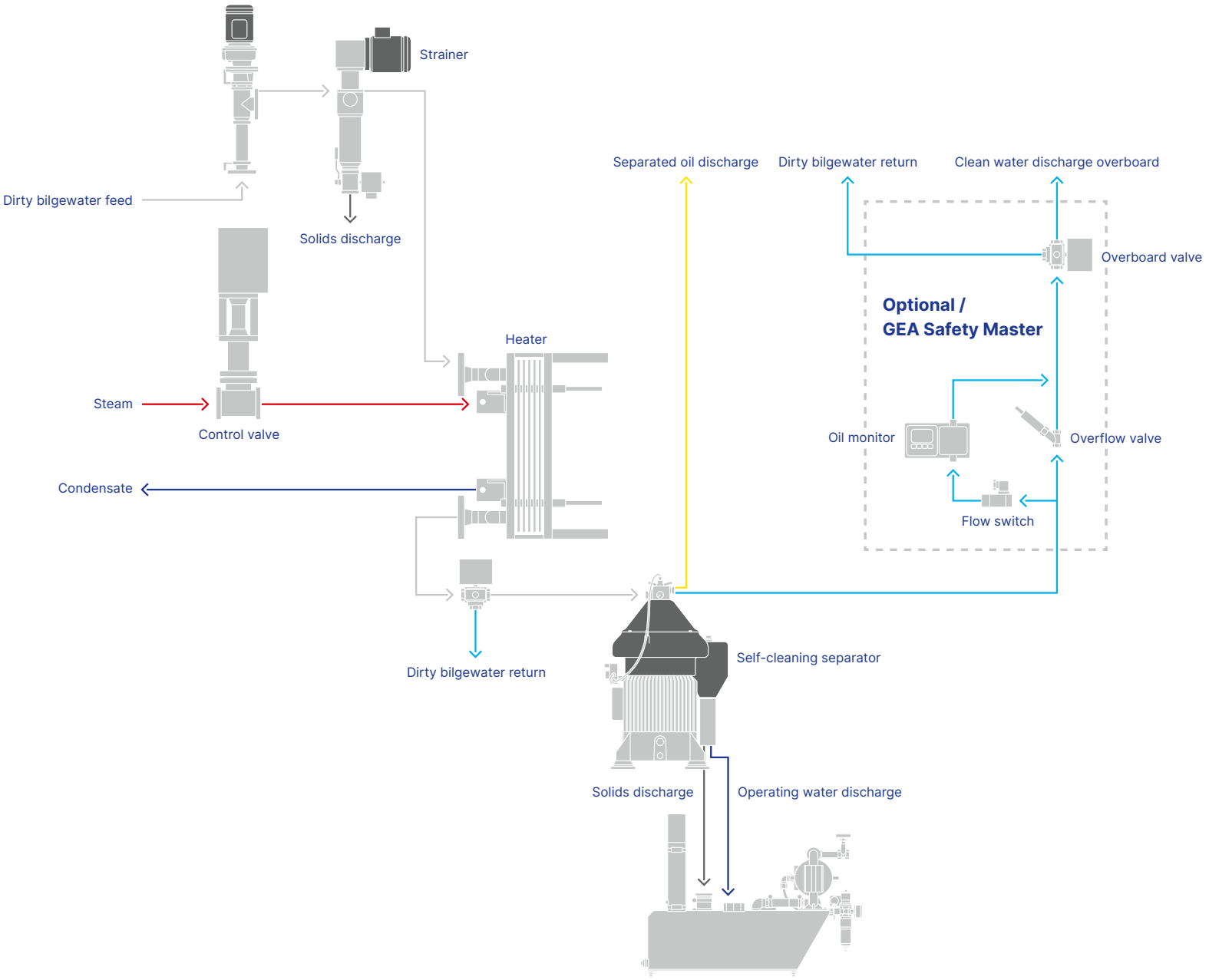
Separator performance above IMO standard

GEA bilge Separators are designed to purify oily water and produce a residual oil content of 15 ppm in all performance classes. Without an additional adsorption filter, without chemicals. This is achieved by modifying the product feed of the bowl and the disk stack, resulting in a gentle product feed and a larger clarifying area.

GEA bilge Separators have a modular design. The main components: Feed pump, automatic filter, preheater, self-discharging separator, oil monitor and control panel are installed on two modules. These modules are assembled to form a complete unit and can also be supplied as individual modules on request. This allows the system to be optimally adapted to local conditions, even where space is limited. A dynamic speed control of the feed pump adapts the system to the highly variable feed conditions of the product.

Explore further

Bilge water treatment plant



Bilge water treatment plant
with GEA bilge Separator and optional in combination with Safety Master

GEA SAFETY MASTER

Comprehensive oil discharge protection and monitoring system

The GEA Safety Master provides extra protection against accidental discharge of oil-contaminated bilge water, exceeding MARPOL regulations. Housed in a lockable stainless-steel box, it integrates sampling, monitoring and overboard discharge control.

Key features include flow monitoring to the oil monitor and monitoring of the overboard valve. A built-in data recorder logs system status, vessel position and discharged water volume for the past 18 months.

The Safety Master can be used as part of a GEA bilge Separator or as a stand-alone unit.

It includes:

- An oil monitor
- Sample taking and return connections
- A constant pressure valve
- A sample water cooler
- A flow switch in the sample water line
- An overboard valve controlled by the oil monitor

Safety measures include alarms triggered if the oil content exceeds 15 ppm or if the overboard valve is not fully closed. Inputs to the Safety Master include power supply, separator status, compressed air, cleaning water, and cooling water. Outputs to the separator control include oil monitor readings and alarm status.

A flow meter measures discharged water volume and monitors the feed pump, bowl condition, and oil content. All data, including ship position, are recorded in a comprehensive data log.

WATER TREATMENT IN EXHAUST GAS CLEANING

Reducing ship emissions for a cleaner future

The combustion of fossil fuels on ships not only generates power but also releases harmful emissions, including carbon dioxide (CO2), sulphur oxides (SOx), nitrogen oxides (NOx) and soot. These pollutants contribute to environmental issues such as global warming, smog, acid rain and increased levels of fine particles. The impacts have far-reaching consequences for our planet and health.

To combat this, international regulations like IMO Tier II and Tier III have been implemented to control NOx emissions from ships operating on different fuel types. Ships operating outside and inside NOx emission control areas must adhere to specific NOx limits, especially when using low-sulfur (<0.1%) and high-sulfur (>0.5%) fuels.

Exhaust Gas Cleaning with Scrubbers

Exhaust gas scrubbers offer an alternative to meet global sulfur cap regulations. Using fresh water and NaOH, they neutralize SOx in exhaust gases. The closed-loop system cleans the small bleed-off, meeting IMO quality and monitoring standards. Clean effluents can be safely discharged overboard or stored in a holding tank for zero discharge mode.

In EGR operation, recirculated water increases due to condensation from the combustion process. This water absorbs particles from the exhaust gas, which remain as suspended solids. For engines using Low Sulphur fuels, the low particle concentration and surplus water mean internal EGR water circulation maintains sufficient quality without cleaning. Excess water overflows into an EGR drain tank. To prevent buildup, this water can be processed and safely discharged to the sea.

MEETING EMISSION STANDARDS

As environmental regulations on exhaust gases become more stringent, the shipping industry is under pressure to reduce emissions of nitrogen oxides (NOx), sulfur oxides (SOx), and fine particulates.

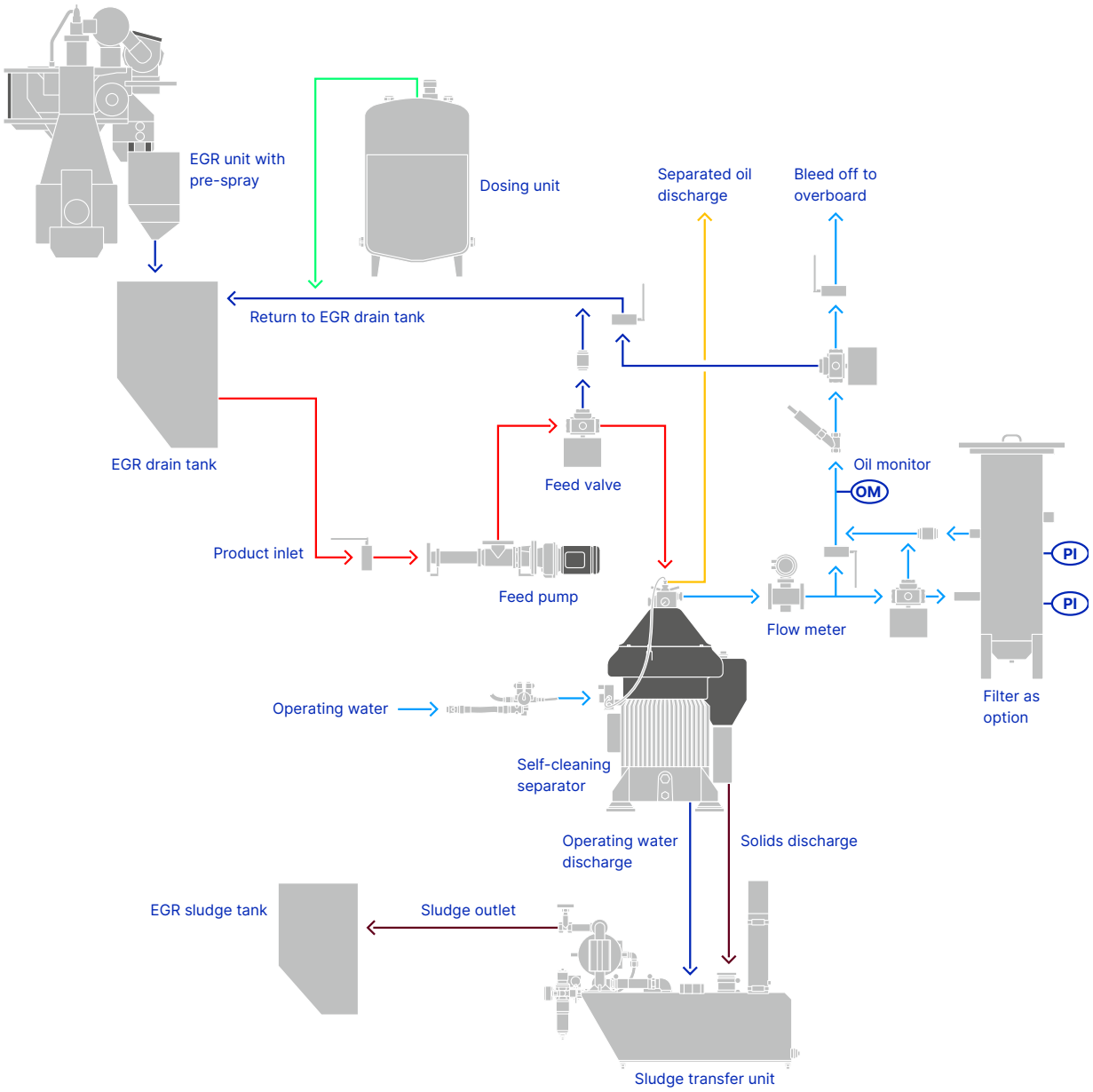
Ensuring Compliance with MARPOL Annex VI with GEA SOx Separator
MARPOL Annex VI regulates global and regional SOx emissions by limiting fuel sulfur content, achievable with an exhaust gas scrubber. GEA SOx Separator cleans scrubber wash water before it is pumped overboard. This allows ships to continue using cost-effective heavy fuel oil instead of more expensive low sulfur fuel or even marine diesel oil.

EGR Water Treatment with GEA NOx Separator
When incorporating EGR technology into marine engines, it is crucial to treat EGR wash water before discharging it into the ocean. During the EGR process, recirculated exhaust gas can interact with contaminants such as soot, sulfur compounds, and acidic substances.

The GEA NOx Separator is specifically designed to purify bleed-off water before discharge, complying with MEPC.307(73) and optionally MEPC.259 (68) standards.

Explore further

EGR water treatment plant



EGR water treatment plant
with GEA NOx Separator

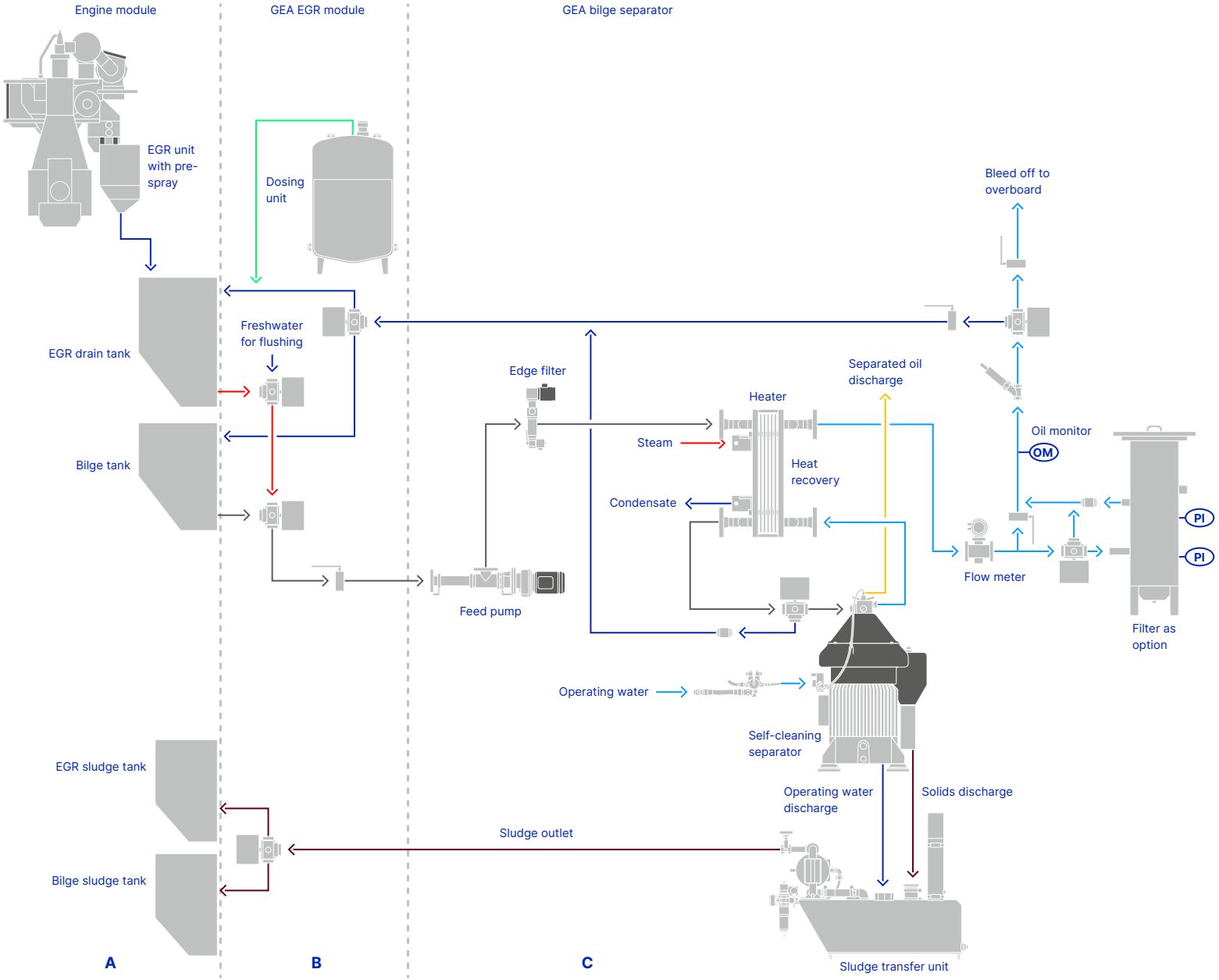
GEA BILGEGR SOLUTION

Revolutionary two-in-one solution

The GEA bilgEGR Solution is a unique offering on the market. This innovative two-in-one product combines the treatment of oily bilge water and EGR bleed-off water into a single separator module. By integrating these functions, the bilgEGR Solution ensures full compliance with environmental regulations and meets the DNV class type approval requirement.

Explore further

GEA bilgEGR Solution



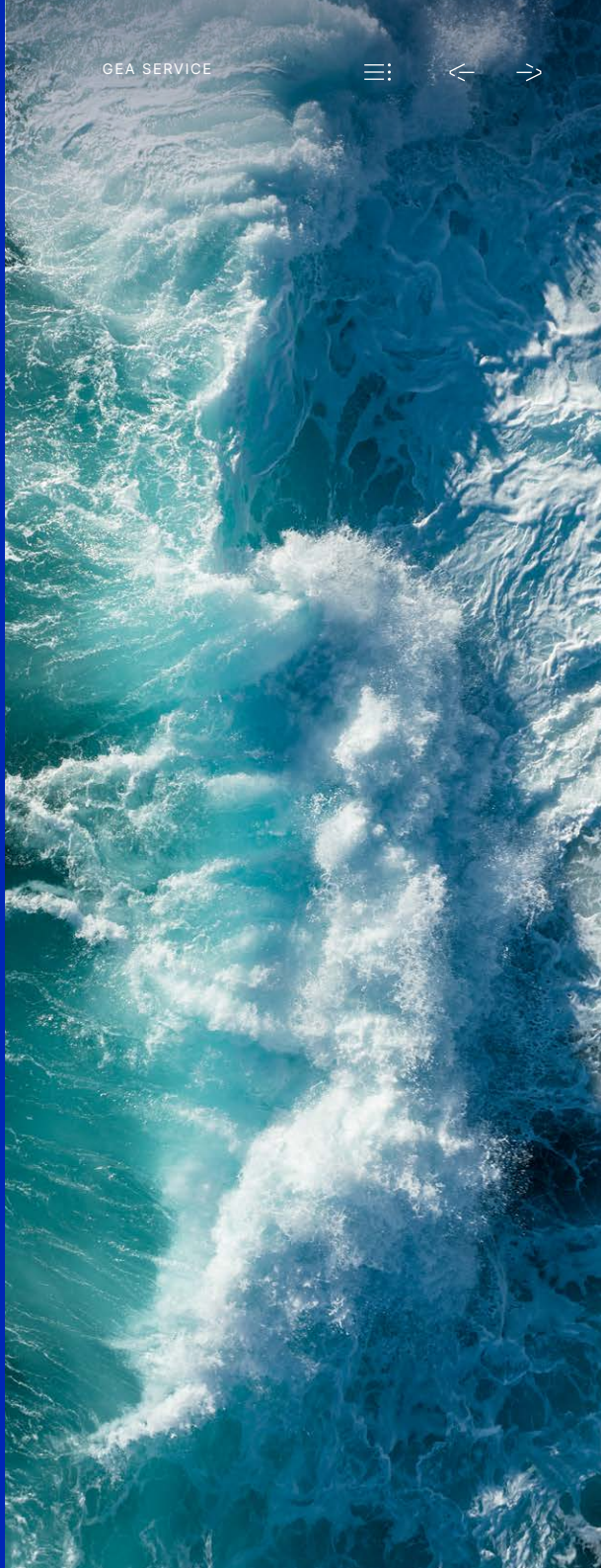
To meet the stringent environmental standards set by the International Maritime Organization (IMO) for EGR water treatment, it is essential to ensure that EGR bleed-off water is thoroughly treated before being discharged overboard. Proper treatment of this water is crucial for protecting marine ecosystems and minimizing environmental impact.

FRESH WATER GENERATION

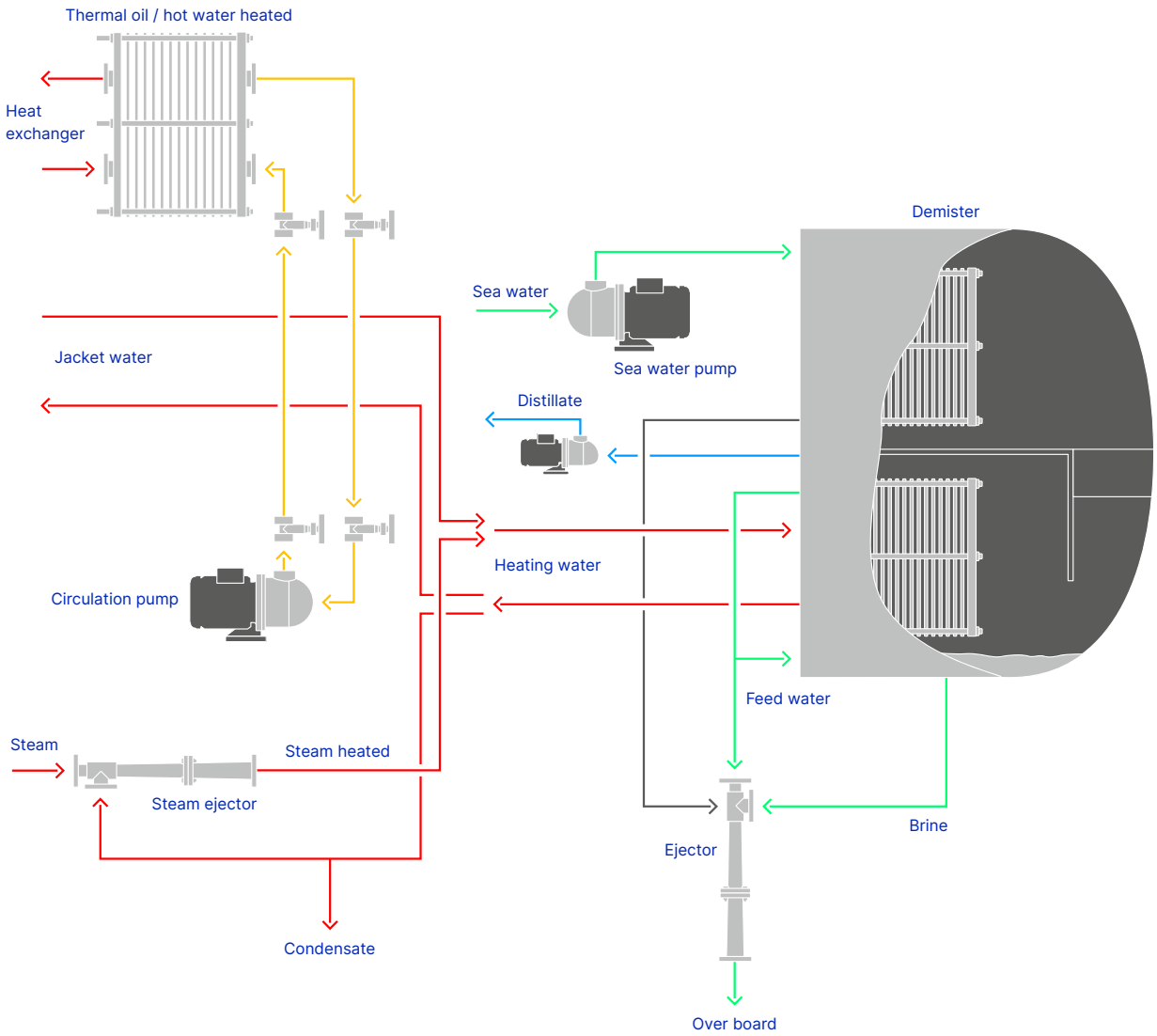
Efficiently transforming sea water into fresh water

Storing large quantities of fresh water on board a ship is not only costly but also consumes valuable space. To address this challenge, GEA provides an efficient alternative with its advanced seawater desalination technology. This innovative process can produce up to 30 tons of fresh water daily, significantly reducing storage needs and operational costs while ensuring a reliable supply of fresh water at sea.

Explore further



GEA Sea Water Distiller



Water desalination system

GEA Sea Water Distiller provides shore-independent freshwater generation on board using single-stage evaporation technology. Seawater is fed through the condenser, absorbing the latent heat from condensing vapor. A portion of the seawater is used as feed water for the evaporator, while the remaining brine and non-condensable gases are discharged by a combined ejector.

In the evaporator, seawater is heated to the saturation temperature corresponding to the vacuum maintained by the ejector, causing partial evaporation. The evaporator typically uses waste heat from the main diesel engine jacket water, but other heating sources like steam or thermal oil can also be used. The produced vapor passes through a demister to remove water droplets and then goes to the condenser.

The distillate is extracted from the condenser by a pump and passed through a salinity measuring unit. Based on the residual salt content, the distillate is either sent to the distillate tank or, if it exceeds the allowable salt content, returned to the evaporator. All seawater-contacting parts are made of corrosion-resistant materials (PP, stainless steel), with plates constructed of titanium.

MARINE COMPRESSION

Future-proof products & solutions for marine refrigeration and gas compression

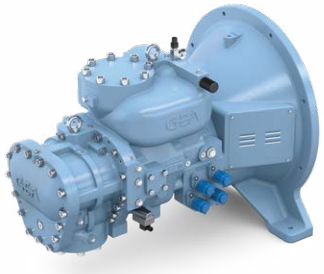
GEA Heating & Refrigeration Technologies is a global specialist in industrial refrigeration, heating and sustainable engineering solutions for a wide array of industries including food, beverage, dairy and marine. These proven technologies provide GEA customers with what they value most – reliability, operating efficiency, sustainability and long equipment life cycles that reduce their total cost of ownership.

The compressors & compressor packages are designed to meet precise temperature requirements. GEA's comprehensive service programs support customers throughout the full life cycle of their plant and equipment to ensure peak performance.

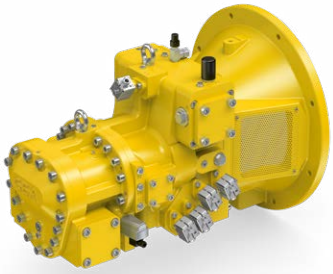
GEA COMPRESSORS

For sustainable & natural refrigerants

GEA Grasso LT series
Comes in sixteen sizes and covers a swept volume from 805 to 11,467 m³/h (at 2940 rpm).



GEA Grasso M series
Comes in eight sizes with a swept volume ranging from 231 to 870 m³/h (at 2940 rpm).



GEA screw compressors
Optimized for compressing natural and industrial gases.

GEA Grasso M packages
Single-stage screw compressor units are the choice for your cooling capacity demands.

GEA compressors and packages have already fulfilled high maritime demands for many years. With a broad product range of screw compressors, we have the right equipment for nearly all refrigeration, ammonia, CO_2 and LNG applications.

Products and solutions at a glance:

- Screw compressor packages: suitable for natural refrigerants
- Screw compressors: available for refrigeration, boil-off gas and carbon capture systems
- Control: for innovative control & monitoring to ensure maximum efficiency and reduce system downtime
- Valves and fittings: particular applications with maximum permissible pressures

Explore further

GEA SERVICE

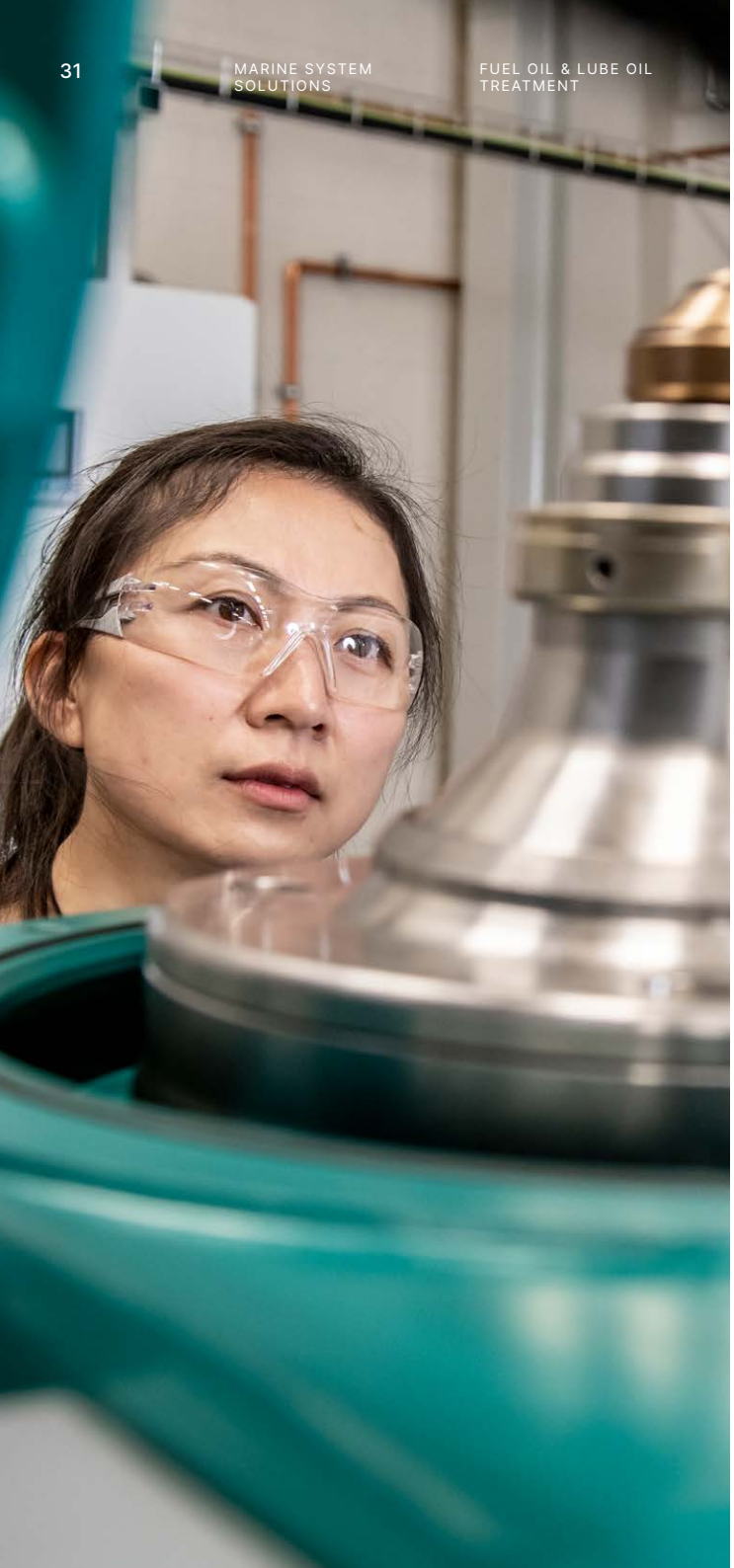
Keep your equipment fit with GEA Service

Consulting and Enhanced Operations
Together with you

Beginning of Life Services
Getting you started

Extended Life Services
Constantly improving

Lifetime Services
Keeping it running



BEGINNING OF LIFE SERVICES: GETTING YOU STARTED

Ensuring peak performance from day one.

Installation & Commissioning
We ensure your equipment performs at its best from the start. By thoroughly understanding your equipment, vessel processes, and goals, we guarantee a safe and efficient commissioning that maximizes performance from day one.

Our experienced experts are skilled in setting up your equipment for optimal safety, reliability, and quality output, so you can trust that your system is ready for success.

Training
Knowledge is essential for maximizing efficiency and minimizing downtime. To support this, we offer flexible training options tailored to your needs.

Choose from comprehensive training at your location or at one of our learning centers.

Our standard packages cover:
- Safety training
- Operator training
- Technical/maintenance training
- Machine process training

Our aim is to equip your team with the skills necessary to keep your operations running smoothly and efficiently.

LIFETIME SERVICES: KEEP IT RUNNING

Ensure cost-efficient operation while maintaining safety and reliability.

Original Spare Parts
Original spare parts maintain the performance of your GEA equipment and plant, ensuring safety, reliability, minimized downtime, and maximized productivity.

When we say “Made in Germany,” we mean made by GEA! All main bowl parts are meticulously designed and manufactured in our own factory, backed by years of expertise and precision.

We coordinate all our warehouses to ensure 24/7 availability of over 85,000 different parts, housed in one of our three international logistics hubs.

International spare part hubs

Naperville, USA

Hannover, Germany

Singapore

Corrective maintenance

Even the best equipment on well-maintained vessels, operated by skilled crews, can occasionally experience faults and breakdowns.

GEA service technicians are available around the clock, worldwide, to ensure that a breakdown doesn't escalate into a major issue. No matter where you are, our skilled technicians will be there to get you up and running quickly and safely – minimizing downtime and maximizing productivity. We offer repair services on-site, at our own facilities, or through our network of 17 authorized and certified workshops.

Remote Services

In a fast-changing world, GEA is committed to staying within your reach, helping you navigate the new normal with ease.

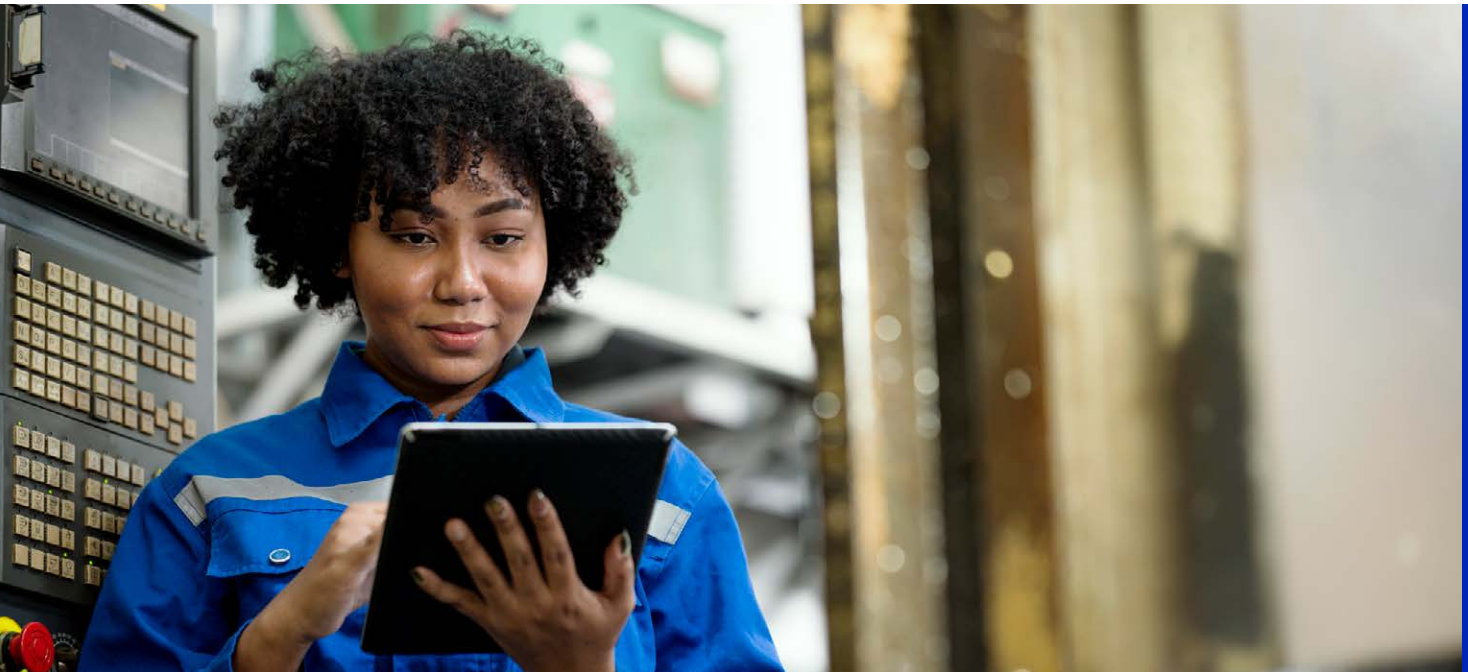
With GEA Remote Support, our experts are instantly available via video, without the need for any pre-installed software or new IT infrastructure.

Recognize Your Benefits:

- Cost-effective support, eliminating travel expenses and reducing scheduling delays
- Quick and flexible availability of a field service technician, reducing downtime
- Easy setup – no need to install a separate application
- Fast communication and support with no physical intervention
- Bi-directional streaming of information

Preventive maintanance

Prevention is always better than cure. Our experienced service engineers plan maintenance to prevent breakdowns and reduce costs. We assess your vessel's unique needs to repair or replace parts at the right time, helping you avoid unscheduled breakdowns, ensure safety, control costs, and extend the lifespan of your equipment.



Seven seas.
One revolutionary service concept.

Ultra-simple servicing thanks to quick and easy drive replacement.

Revolutionary concept

All drive parts captured in one drive unit
The exchange concept, based on 16,000 running hours, takes away the need for interim maintenance, and risk of crew mistreatment.

Runs 16,000 hrs

Doubled running time
The IDD extends the standard 8,000-hour service interval to 16,000 hours.

No risks, full warranty

No unexpected costs
During the 16,000-hour service interval, the Integrated Direct Drive (IDD) is under full warranty.

Exchange in 30 min

Reduced maintenance downtime
Order a fresh IDD in harbor A, exchange it during the journey, and deliver it back from harbor B to GEA. (Free shipment from 20 major ports.)

Easy as 1-2-3

Exchange drive unit
To exchange the drive unit, it's just three simple steps: lift the hood (1), remove the bowl (2), exchange the drive unit (3).

Drive exchange in 5 simple steps

1. **Order your exchange drive**
2. **Receive drive at the harbor of your choice**
3. **Exchange during sailing**
4. **Return your old drive***
5. **Receive your deposit**

Easy to swap drives
With the latest GEA generation of separators, it is no longer necessary to remove and replace individual parts when doing scheduled drive maintenance. Instead, all you need to do is order an exchange drive and swap the unit – a process that takes no time at all. In addition to time savings, the new technology radically extends service intervals and makes cleaning the separator a breeze. Exchange drive units are overhauled to OEM standards and do away with the need to carry replacement parts on board.

Your benefits at a glance
- Service simplicity
- Extended service interval for the drive
- Maximum machine uptime
- No specialist required
- No special training required
- Reduced maintenance time and costs
- No unexpected costs
- Reduced risk of assembly errors

***send your return with free shipment from:**
Europe: Hamburg, Rotterdam, Antwerp, Marseille, Piraeus | Asia: Shanghai, Shenzhen, Hong Kong, Ningbo, Qingdao, Tianjin | USA: Los Angeles – Long Beach, New York – Newark, Savannah, Houston, Seattle | Singapore: All harbors | UAE: All harbors

Explore further

EXTENDED LIFE SERVICES: CONSTANTLY IMPROVING

We optimize processes and offer upgrades to reduce energy, cut costs, and enhance safety.

GEA marine Upgrade Kit
The GEA marine Upgrade Kit is designed to automatically control various separator processes. It significantly enhances the functionality of our marine separators, making them more efficient and environmentally friendly. The upgrade kit comprises additional software and a sophisticated, easy-to-install hardware kit. Also available as a retrofit to your installed base.

Explore further

FuelGuard
During bowl discharging, unnecessary oil loss may occur. FuelGuard reduces this to a minimum.

BowlGuard
BowlGuard optimizes the ejection interval based on permanent bowl volume control. This reduces the sludge volume and saves disposal costs.

FlowGuard
FlowGuard adjusts fuel processing to the actual demand of the main (ship's) engine. This leads to more efficient separation and makes the process more energy-efficient.

CatfineGuard
CatfineGuard ensures maximum cat fine removal for highest fuel quality and main engine protection.

EffiClean
EffiClean cleans the separator's disks stacks in only 20 minutes. This CIP (cleaning in place) saves precious maintenance time, increases centrifuge reliability, availability and efficiency.

GEA EffiClean

In-situ disk cleaning for centrifuges in mineral oil applications

Save valuable maintenance time and enhance the reliability, availability, and efficiency of your marine centrifuges with GEA EffiClean. Specially designed for cleaning marine centrifuges, GEA EffiClean features an innovative cleaning trolley, a highly efficient cleaning agent, and an easy-to-handle process.

Clean disks in 20 minutes
On-site tests show that in just 20 minutes of semi-automated cleaning, centrifuge disks are thoroughly cleaned and ready to deliver optimal separation performance.

The GEA EffiClean unit comes fully equipped with all necessary components, tools, and accessories, ready for immediate use.

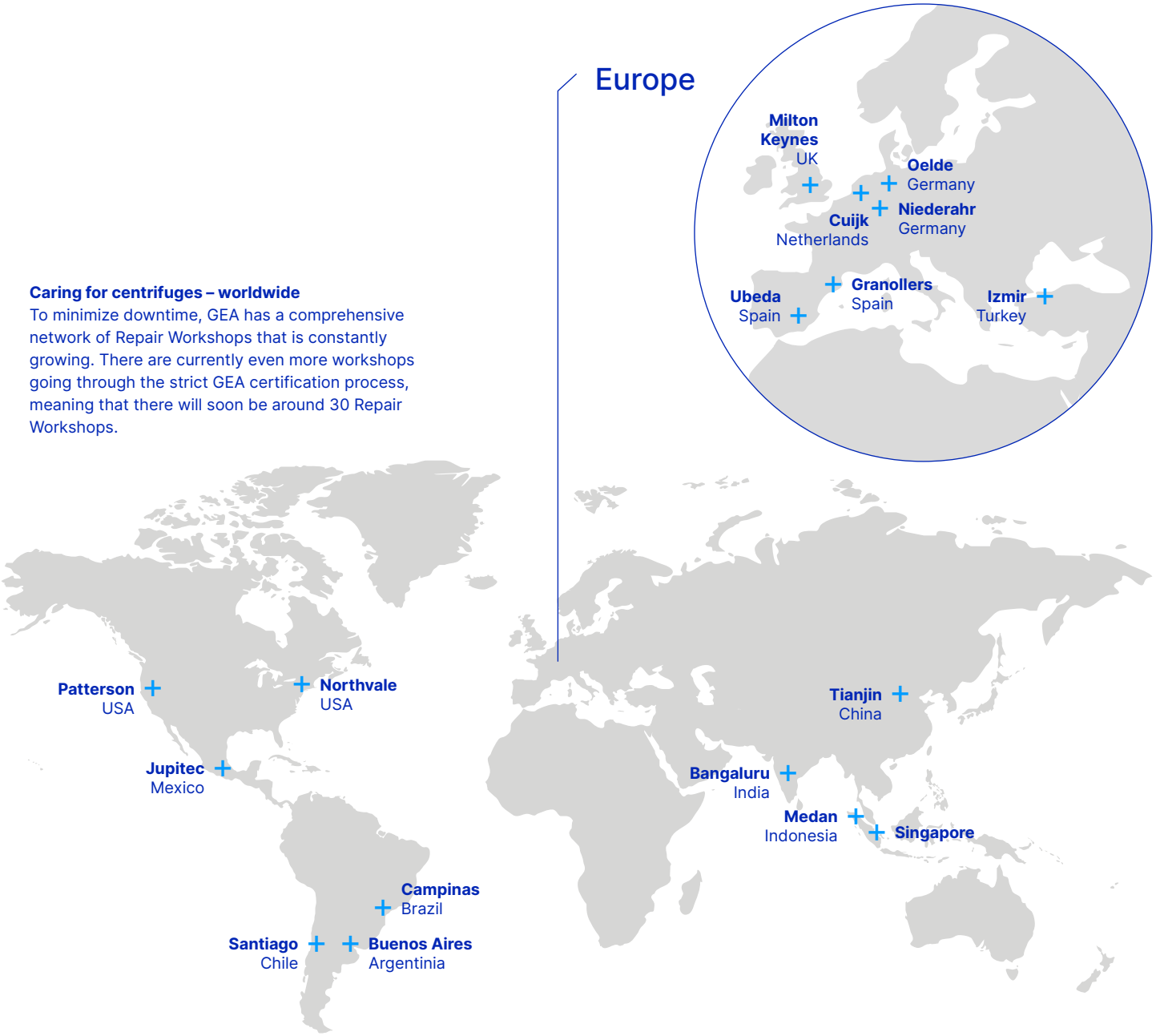
Key features include:
- Compact stainless-steel construction (0.5 × 0.8 m, 70 kg)
- Integrated 70-liter tank compatible with all GEA marine centrifuges
- Automated dosage and mixing directly from the EffiClean 1090 container
- No manual handling of chemicals required

EffiClean advantages
- Drastically reduced cleaning times – minimized machine downtime
- Longer bowl maintenance cycle – reduced spare parts consumption ($)
- Elimination of manual cleaning effort – reduced labor
- Increased convenience for maintenance personnel – Improved working conditions
- Optimum separation efficiency – positive effect on downstream equipment
- Environmentally friendly cleaning solution – easy disposal of residual products

Explore further

Worldwide repair workshops

Caring for centrifuges – worldwide
To minimize downtime, GEA has a comprehensive network of Repair Workshops that is constantly growing. There are currently even more workshops going through the strict GEA certification process, meaning that there will soon be around 30 Repair Workshops.



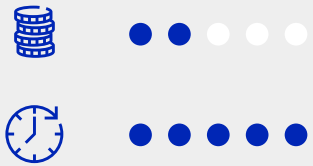
Repairs and factory-rebuilt equipment
A “good is good enough” repair or a factory rebuild (refurbishing machines to their original condition) can be done at any of our 17 workshops or various factories.

All factory rebuilds and repairs come with a GEA warranty and are supported by our global service teams, ensuring years of trouble-free operation with the same performance, safety, and quality that GEA equipment is known for.

Marine repair options

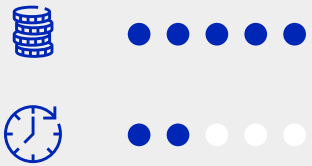
Marine fast exchange

Fixed price, no production stop
A quick and convenient repair solution: In exchange for your own bowl, you will receive a refurbished bowl that is very often immediately available from our warehouses. This delivery is ready to be used for many years to come (subject to stock availability).



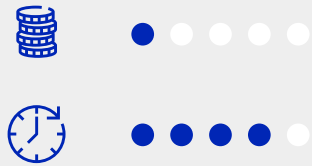
Marine prime exchange

Fixed price, completely new
No compromise on quality: In exchange for your own bowl, you will receive a completely new bowl.



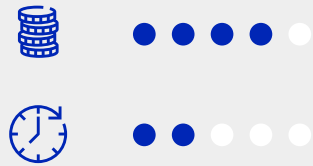
Marine fast repair

Short lead times, cost effective
GEA quality with immediate availability: Our service experts repair your bowl in our Marine Service Competence Center by using refurbished original parts. Return the repaired bowl as quickly as possible at a very attractive price level (depending on the condition of the bowl).



Marine prime repair

Factory rebuilt, like new
The “as good as it gets” repair: Your bowl is repaired at our Center of Competence to the highest possible quality standards. The bowl is rebuilt at the factory to a top-quality standard with new genuine parts and is almost indistinguishable from a new bowl.



Price Speed