

Donaldson®
Facet™

MILITARY MARINE FILTRATION SOLUTIONS



Advancing Filtration for a Cleaner World

Donaldson[®]

Facet[™]

Facet's military filtration legacy began in 1943 with the development of the first aviation fuel coalescer used by the U.S. military during World War II. More than 80 years later, naval and defense organizations worldwide rely on Facet's filtration and separation solutions for mission-critical operations.

Across onboard systems, Facet technologies provide aviation and diesel fuel filtration, lube oil conditioning, bilge-water separation, and wastewater treatment, helping protect equipment and maintain operational readiness. Facet combines specialized military and marine application expertise, rigorous testing, and global support to deliver solutions engineered to meet demanding requirements and perform reliably when failure is not an option.



Engineered to meet your unique challenges

The marine industry faces unique challenges with a range of contaminants from salt and seaborne elements.

That's why we partner with our customers to specifically engineer filtration and separation products that not only solve these challenges but provide long-term operational and environmental benefits.

Whether you need to ensure clean and dry fuel, treat wastewater or separate water-oil emulsions from bilge water, we will help you find the best-fit solution.

Quality backed by industry expertise

Get the advantage of innovative advanced cartridge technology with a quality seal.

The quality of our products is backed by the International Maritime Organization (IMO) and main world registering entities including the U.S. Coast Guard and Lloyds of London.

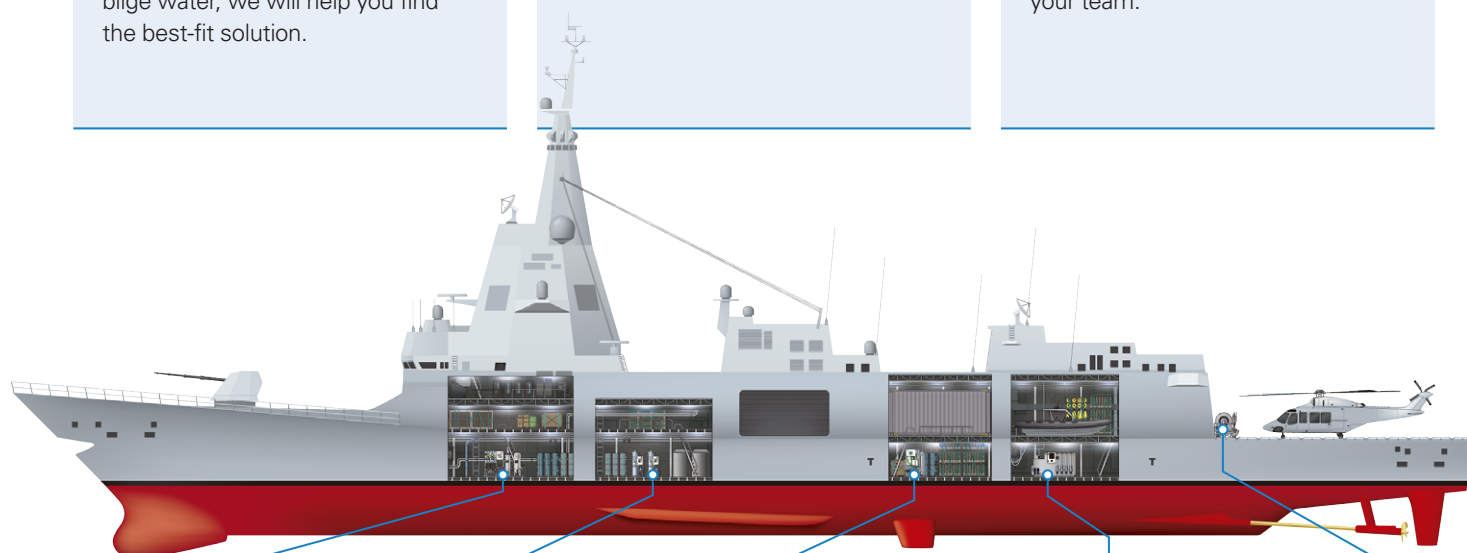
We build our housings to meet ASME Code Section VIII Div.1 and routinely custom design housings that meet international codes.

Lower costs and higher performance

Improve the performance of your equipment with the right filtration and separation products.

Our products are designed to separate and treat fluids containing a mixture of water, hydrocarbons and solids.

This is especially important for marine equipment. Clean fuel and lube oil improve the reliability of equipment, which reduces downtime, saves maintenance costs, and ensures the safety of your team.



Fuel Filtration
Systems



Lube Oil
Conditioners



Bilge Water
Separators



Sewage Treatment
Plants



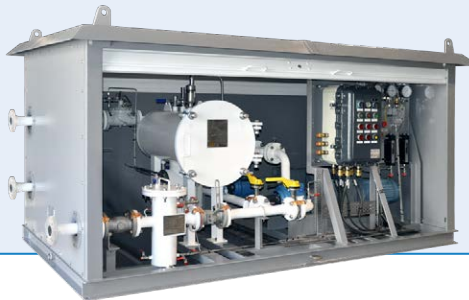
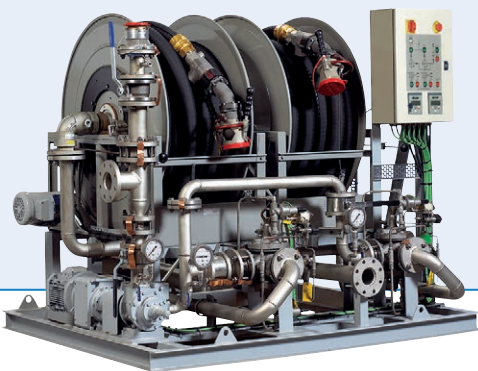
Aviation Refueling
Systems

FUEL FILTRATION SOLUTIONS



Aviation Fuel Filtration Systems

Facet provides a comprehensive range of fuel filtration systems specifically tailored for the marine market, meticulously engineered to meet the industry's exacting standards. Crucial for optimizing military aviation operations, particularly for naval aircraft, our filtration equipment ensures fuel purity at every stage of the fueling process, safeguarding aircraft from water particles and solid contaminants.



Portable Refueling Package

DEVELOPED TO SUPPLY CLEAN, DRY FUEL TO HELICOPTERS, DRONES AND LIGHT AIRCRAFTS

Fitted with a Facet VF-21/22-SB filter separator, differential pressure gauge, electric pump, and hoses, this compact unit runs on a 12V vehicle battery. Its small footprint (0.2 sqm) and light weight (38 kg) facilitate easy movement and installation onboard.



SKID MOUNTED SOLUTIONS

We specialize in designing custom skid filtration solutions tailored to the unique needs of each facility, whether onboard or onshore.

The versatile adaptation capabilities of our range of products enable us to meet or exceed NATO regulations.

Lube Oil Conditioners

V SERIES

This system is designed to maintain lube oil within the specifications established by engine and turbine manufacturers for water and solid content, effectively extending the life of the lube oil.

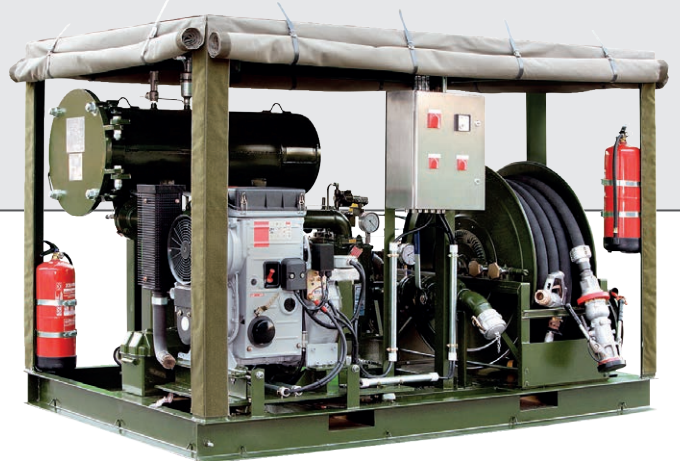
- PLC-controlled automation
- Flow inlet adjustment not needed
- Low maintenance, easy to operate



Tactical Refueling Systems

These systems include specialized equipment such as portable fuel tanks, hoses, pumps, and filtration systems to ensure the safe and reliable transfer of fuel in challenging environments.

Our advanced filtration guarantees peak performance and reliability, even in harsh environments.



Turbo-Generator Fuel/Oil Modules

The Turbo-Generator Fuel/Oil Modules integrate Facet's expertise in microfiltration and separation with our experience in fueling systems, ensuring fully automated pumping, filtration, and conditioning of the fuel supplied to the turbo-generator.



Turbine propulsion diesel filtration

These systems ensure clean fuel, which is essential for optimal turbine performance, efficiency, and lifespan.



FILTER CARTRIDGES

Years of experience, research, and development have led to an extensive range of filter cartridges that meet the most stringent requirements.

Our filter cartridges offer effective methods for removing contaminants efficiently and cost-effectively while safeguarding the environment.

The marine industry faces unique demands due to the range of contaminants resulting from salt and seaborne elements. We collaborate closely with our customers to understand each challenge and provide tailored solutions, whether onshore, offshore, or onboard.



Solids removal

Designed to effectively remove solid contaminants such as rust, dirt, scale, granular and other types of solids.



Coalescers

Facet coalescer cartridges provide superior performance in removing ultra-fine solids and enhancing the separation of water from various hydrocarbons and liquids.

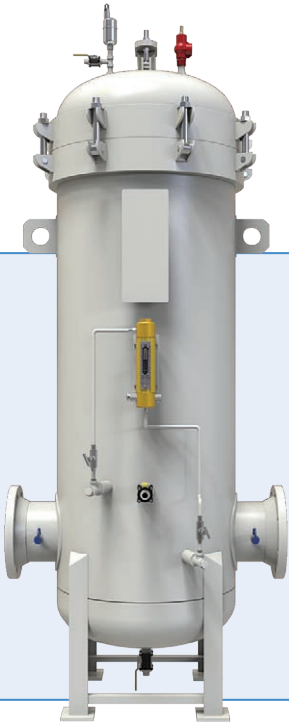


Separators

The Facet separator cartridges have been developed to provide improved separation of fine water drops.

FILTER HOUSINGS

Our filter housings seamlessly integrate cartridge and internal tech, meeting safety and environmental needs reliably for our customers.



Microfilters

M SERIES

Facet M Series microfilters are designed to protect equipment and prolong cartridge life by accommodating high-efficiency filter cartridges. They are available in vertical and horizontal configurations, with various styles and sizes to be adapted to our customer's needs.

- Solids like rust, dirt, pipe scale, sand and metal removed from fuel in a single pass
- Compatible with high-efficiency filter cartridges for continuous solid removal
- Easy servicing, low maintenance design
- ASME Code, Section VIII stamped and certified
- Reliable performance meets the most stringent industry requirements

Filter Water Separators

VCS & HCS SERIES

Filter Water Separators ensure high-quality fuel for aircraft engines via a two-stage process. Qualified to current edition of EI 1581, they assure reliability and compliance. VCS & HCS Series deliver robust performance, safeguarding engine integrity and safety.

- EI-1581 Qualified
- EI-1596 Compliant
- Efficient Contaminant Removal
- No Internal Moving Parts
- Customizable Housing
- Easy Servicing and Maintenance



Multipurpose Housings

Fuel-Gard® VF-21/22 SB Series

- Versatile, compact, light-weight housings
- They may be used as microfilters or filter water separators depending on the cartridges installed
- Small footprint
- Swing bolt quick open closure

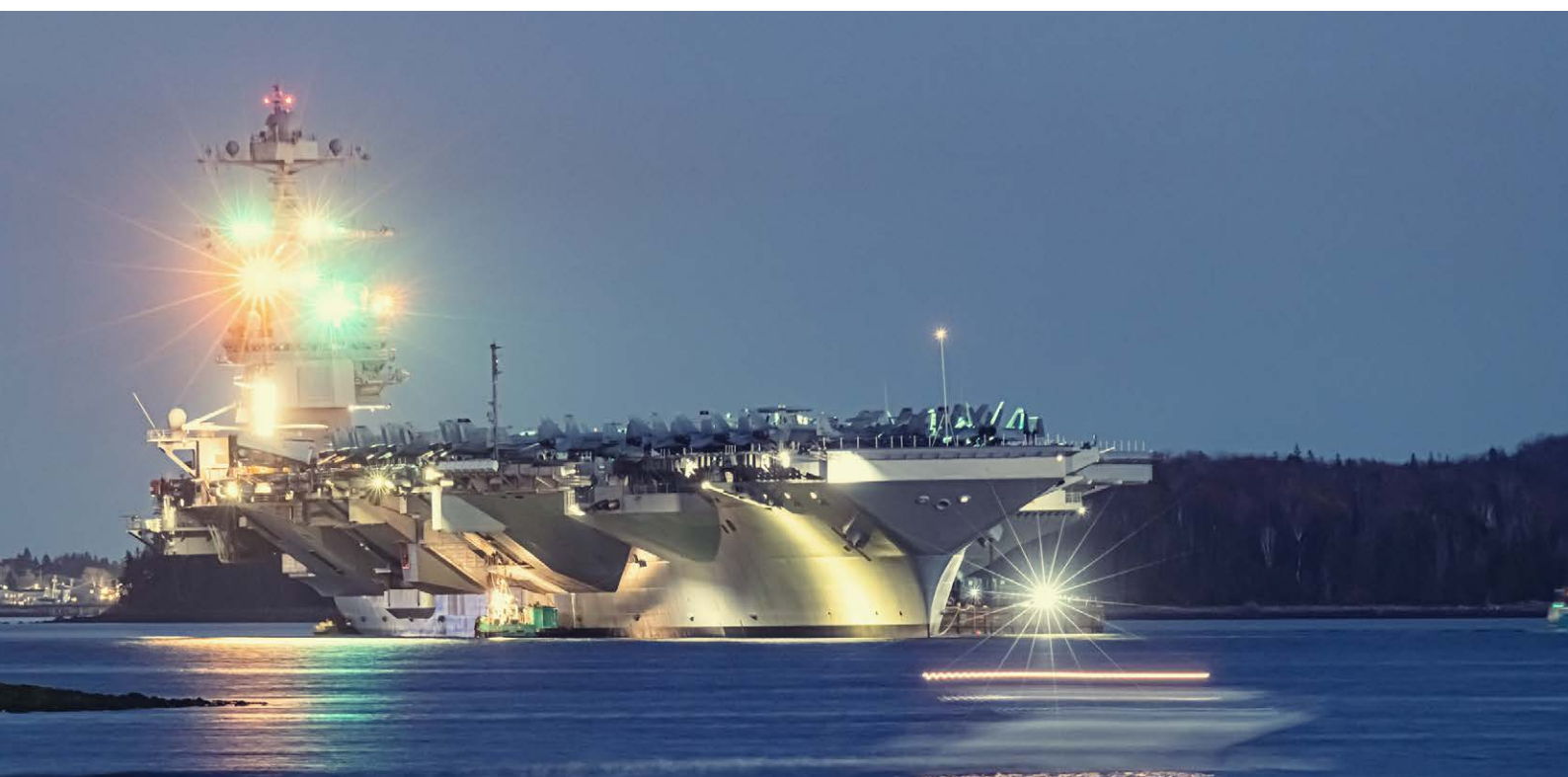


Multipurpose Housings

SuperFlex™ Series

- Small, economical carbon steel housings
- They may be used as microfilters or filter water separators depending on the cartridges installed
- ASME Code, Section VIII, stamped and certified

WATER TREATMENT



Sewage Water Treatment

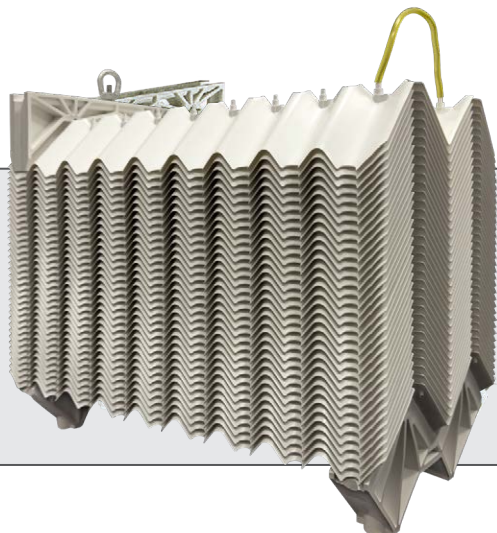
STP & VTP Series

Designed specifically for marine applications, Facet's Sewage Treatment Plants efficiently treat black and gray water generated onboard without the need for additional dosing or additives.

Housed in a single steel module, these systems are engineered for easy transport and quick installation on vessels.

For added convenience, our VTP Series features a built-in vacuum system, ensuring seamless operation and optimal performance in maritime environments.

Facet Sewage Treatment Plants meet stringent IMO requirements and are certified by both the Maritime and Coastguard Agency and the CE.

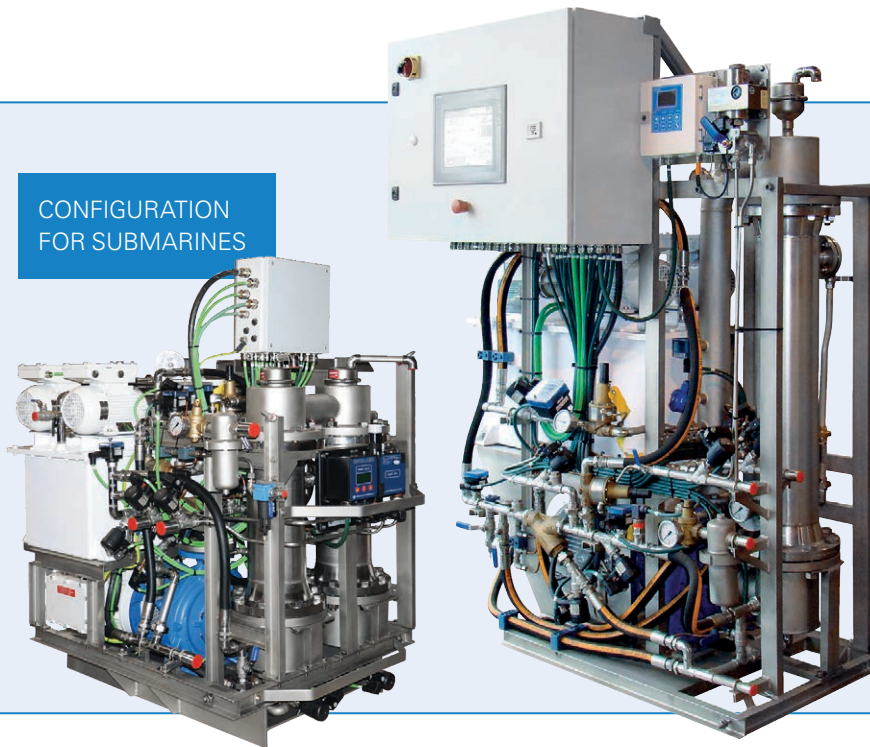


MPak™ Coalescing Plates

These high-performance plates, essential to our Bilge Water Separators, and Oil Water Separators, are designed to effectively separate oil and solids from water based on their specific gravities. With integral molding for precise spacing control and efficient solids transfer, our MPak™ plates deliver optimal performance in real-world applications.

BILGE WATER SEPARATORS

CONFIGURATION FOR SUBMARINES



Bilge Water Separators with Ceramic Membrane

CPS 3.2E + EMB

These compact, space-saving units combine Facet's traditional MPak™ coalescing plates with the latest generation of ceramic membranes, enabling efficient separation of emulsified hydrocarbons from water to produce effluent with less than 5 ppm at a flow rate of 3.2 USGPM.

Tested, approved, and certified to meet IMO MEPC.107(49) requirements, a special configuration is also available for installation in submarines.



Bilge Water Separators with Disposable Membrane

CPS 3.2E + EBM 14x1

- Compact design: suitable for limited spaces on board
- Meets IMO MEPC.107(49)
- High treatment capacity:
17.28 m³/day (4,565 usg/day)
- Low maintenance
- Fully automatic operation: Controlled by PLC
- Effluent hydrocarbon content less than 15 ppm
- Cost-effective: high treatment capacity



Bilge Water Separators with Disposable Membrane

CPS B MKIII + EBM

- Compact: Fits small onboard spaces
- Automatic Operation: Controlled by PLC
- Meets IMO MEPC 107(49)
- Flow Range: 0.5 m³/h to 10 m³/h
- Efficient Hydrocarbon Removal: Utilizes coalescing plates and membranes for high efficacy
- Two-Stage Hydrocarbon Removal: less than 5 ppm

REFERENCES



Over 5,000 Facet units and systems have been installed worldwide, meeting the most stringent requirements and regulations while delivering optimal performance across all types of vessels.

NAVIES

Throughout 80 years of history, many of the greatest navies in the world have relied on our filtration solutions, such as:

Algeria	Germany	Portugal
Argentina	India	Singapore
Australia	Indonesia	Spain
Belgium	Italy	Thailand
Chile	Kenya	The Netherlands
Colombia	Malaysia	Turkey
Ecuador	Mexico	United Kingdom
Egypt	Morocco	USA
France	Norway	Venezuela

Dedicated to Unwavering Quality

Delivering top-tier filtration solutions requires a strong partnership commitment. We work closely with you to understand your business and its challenges, offering advanced, customized solutions. With decades of combined experience, we consistently exceed expectations by providing quality and value. Our approach includes lean manufacturing techniques and proactive problem-solving to ensure smooth operations and minimize downtime.



ENGINEERING SERVICES

Consultancy & Analysis
-System Optimization-

Process Engineering Package (PEP)

Existing Vessel Evaluation

New Vessel Design



FIELD SERVICES

Field Service Support

Site Inspections

On-site (operator) training



LAB SERVICES

Equipment and Process Optimization

Upgrades and Overhauls

Fluid Quantification

Quick Scan Laboratory Test

Extensive Laboratory Test

Certifications

QUALITY

ISO 9001-2015

PECAL / AQAP 2110

BILGE WATER SEPARATORS

MED

UKCA

USCG

LUBE OIL

Mil-DTL-17331

Mil-DTL-32353

FILTER & FILTRATION EQUIPMENT

EI 1581

EI 1590

Mil-PRF-52308

Mil-PRF-32148

Mil-PRF-15618

Mil-F-8901E

UFGS 33 52 43.28

STANAG 3967

DEF STAN 49-3

DEF STAN 49-4

EQUIPMENT ENVIRONMENTAL TEST REQUIREMENTS

Mil-DTL-901 Shock Test High Impact
-Shipboard Machinery-

Mil-STD-167 Vibration

Mil-STD-810 Lab and
Environmental Testing

FUEL

Mil-DTL-5624 NATO F-44 (JP-5)

Mil-DTL-16884 NATO F-76 Naval Distillate

Mil-DTL-83133 NATO F-34, F-35, F-37
(JP-8, JP-8 w/o FSII, JP8+100)

ASTM D 1655 NATO F-24 JAA



Cyber Essentials Plus certification, showcasing our commitment to robust cybersecurity, ensuring operational security and sensitive information protection.

DONALDSON COMPANY, INC.

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Brochure No. F1109-2026-WW-Military Marine brochure

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