



MARINE & OFFSHORE

General Product Catalogue



Facet
Filtration Group®

FILTRATION GROUP

The most comprehensive and advanced solutions in the industry.

We know that the most advanced solutions don't stay the most advanced for long. Which is why our engineers and innovation teams are constantly working toward what's next. We are committed to providing our customers with the best solutions available in Life Sciences, Process Technologies, Fluid and Indoor Air Quality.

Driven by a deep-rooted commitment to empower a safer, healthier and more efficient world, at Filtration Group we have the experience, resources and scale to accommodate any filtration need -standard or otherwise- with the most precise, advanced and efficient solutions around the globe.

We are the one global partner that truly understands that the success of our customers depends on responsiveness, quality of product and continuity of supply. We are Filtration Group.



Facet
Filtration Group®

About Facet

Facet is a leading manufacturer of filtration and separation products. The company is known for providing filtration solutions using innovative product designs and advanced testing and services.

Facet products include filter housings and aftermarket cartridges such as gas coalescers, dry gas filters, gas filter-separators, gas scrubbers, fuel/water separators and liquid filters. Also manufactured are oil water separators, filtration systems, sewage treatment units and electronic sensors for particle measurement.

The main aim of the company is to partner with its customers to understand their contaminant challenges and provide valuable solutions to save them money, improve their process performance and reduce environmental impact. In order to do that, Facet invests in research, development and technologically advanced testing facilities.

The engineers of the company design forward thinking products with the environment in mind. In addition, Facet manufactures several components that go into making the finished products such as media, end caps, cores, vanes, cyclotubes, risers, and closures. This ensures a high quality manufacturing process, closely monitored and maintained.



Marine & Offshore

Facet has a legacy of innovating products to provide solutions for its customer's difficult contaminant management problems.

This legacy of over 75 years has led to a broad array of filter cartridges for a wide variety of markets.

These solutions and technologies are diverse and run the gamut from providing effective ways to remove black powder from natural gas to removing proteins from serum. Our products provide clean water, process fluids, fuels, natural gas and so forth.

Facet is known for its wide array of quality filtration and separation products. Facet's great advantage is that we make not only the filter cartridges, but we also make the housings. However, we bring our innovative filter technology to a wide variety of filter housings and vessels.

Thanks to the development of high quality products for the naval sector, Facet has become the leader of the sewage and fuel treatment, closet vacuum systems and environmental equipment.

The many adaptation possibilities of Facet's units has made their installation easier in all kind of boats, from small patrol boats to huge passenger ships, ranging fishing boats, frigates, submarines or aircraft carriers.



Filter Cartridges

Facet Cartridges are manufactured using proprietary combinations of high performance filter media to get the best results.

Years of research and development have enabled Facet to create an expansive range of filter cartridges for the marine industry, ensuring exceptional filtration of marine equipment installed onshore, offshore and on board, meeting the most stringent requirements of marine applications.



Model M

High efficiency pleated paper filter cartridges



These cartridges are constructed to meet the demanding requirements of the industrial filter market. Media with high efficiency throughout the life of the cartridge is available in ratings of 0.5 to 75 micron.

- **Higher efficiency, longer service life. Lower operating costs**
- **Superior solids holding capacity**
- **Spirally wound core reduces cartridges weight = Lower freight costs**
- **Qualified to Military applications**

Model MG

Glass fiber filter cartridges



Facet's Model MG cartridges are manufactured for removing colloidal, slimy or sludge type solids 10 micron and larger or where compatibility problems exist with cellulose media.

- **Glass fiber depth filter cartridges**
- **Micron rating 10**
- **Dimensions: OD 6", ID 3½", Nominal Length: 14 ½"**
- **Qualified to Military applications**



Model CF

- **Carbon steel structural components**
- **pH range from 5 to 9**
- **Micron rating from 2 to 25**
- **Maximum differential pressure: 75 psi**
- **Dimensions: OD 6", ID 1½", Nominal Length 9" or 12"**
- **Qualified to Military applications**

Poroplate® Model PP

Diffusion bonded laminates

Poroplate laminates are multilayer composites of selected wire cloths, perforated sheets and fiber metal felts permanently bonded together through a proprietary diffusion bonding process.

- **High strength**
- **Corrosion resistant**
- **Stainless steel construction**
- **Filtration from 2 to 200 microns**
- **Easily fabricated into virtually any shape, size, or configuration**
- **Qualified to Military applications**



Coalescer Cartridges



Model CA

These coalescer cartridges offer the finest performance available removing ultra-fine solids and enhancing separation of water from various hydrocarbons and liquids.

- **Solids removal: 0.3 micron**
- **Removes water down to less than 5 ppm**



Model CB

Model CB coalescer cartridges provide high flow and low initial pressure drop. This model is widely used in turbine fuels, lube oils, and many other marine applications.

- **Qualified to Commercial & Military applications**
- **Solids removal: 5 μ , water removal down to 10 ppm**



Model CC

This model has been designed for applications where exacting performance is not required such as fuel oil, diesel, and many liquids of lighter specific gravity.

- **Qualified to Commercial & Military applications**
- **Solids removal: 25 μ , Water removal down to 40 ppm**



Model CR

This model has been designed for applications where exacting performance is not required.

- **Qualified to Military applications**
- **Solids removal: 2 micron**
- **Removes water down to less than 5 ppm**



CC-21 / CC-22 Series

- Qualified to Commercial & Military applications
- Fluid pH range from 5 to 9
- Maximum differential pressure: 75 psi (517 kPa)



CC-23-7 & CC-23-C

- Higher efficiency and longer service life = lower operating costs
- High efficiency cartridge provides superior solids holding capacity



Model EB

Facet Model EB coalescer cartridges are for removing oil from water.

- Multi-layered media for solids holding
- pH range from 5 to 9
- Treated metal components for corrosion protection



CAA Series 5

Qualified to EI 1581 6th Edition, Category C

Facet CAA Series 5 coalescer cartridges offer the finest performance available. This standard line of high flow coalescer cartridges removes ultra-fine solids and enhances separation of water from jet fuel.

- Multi-layered media for increased solids holding capacity
- Ultra-fine solids removal
- Maximum water coalescence



CM Model 5

Qualified to EI 1581, 6th Edition, Category M

Each coalescer cartridge CM Model 5 is a single piece construction of various combined media precisely arranged in many layers and pleats wrapped around a coated, perforated metallic tube to feature the best performance.

- Tested and qualified to the 6th edition of EI 1581, Category M
- Qualified to Military applications
- Ultra-fine solids removal

Separator Cartridges



CS-94 / 94-C / CS-98-2

SuperFlex Filter Separator Cartridges

- Provides two-stage coalescing and separation
- pH range from 5 to 9
- All metal components coated to protect against corrosion



ST Model

Facet manufactures cleanable and reusable separator cartridges of the highest quality in a variety of dimensional configurations.

- Cleanable and reusable
- Teflon® coated screen
- Designed for balanced flow through cartridge



SS Model

Facet synthetic separator cartridges feature a specially developed hydrophobic synthetic media which offers all the permanent features of Teflon® screen, combined with ease of repair and lower cost.

- Superior water repelling characteristics over Teflon® and paper
- More resistant to surfactants
- Qualified to Military applications





Monitor Cartridges



FG Model 2"

Qualified to EI 1583 6th Edition

- Absorb free and emulsified water, remove ultra-fine solids and shut down system flow when hit with a localized slug of water
- New conductive anti-static end caps
- Structurally withstands a minimum of 174 psid
- Not adversely affected by exposure to temperatures from -65°F to 160°F



FG Model 6"

Qualified to EI 1583, 6th Edition

- Multi-layered media for increased solids holding capacity, water removal and shutdown protection
- Heavy duty metal center tube and outer shell for extra structural strength
- Can be used to replace existing coalescers for into-plane fueling service



Go-No-Go

Absorptive Cartridges

- Absorb highly emulsified water to less than 5 ppm
- Ultra fine particulate removal efficiency
- Quick, easy cartridge change-out



Filter Housings

Facet, a trusted name in Marine filtration

One of our strengths is the fact that we engineer and manufacture the housings for use with our cartridge technologies. This provides for the effective marrying of the cartridge and internal technology with the housing in the most effective manner.

We offer the largest amount of qualified products to meet commercial and military test specifications.

Our filtering and separating products have been approved by IMO (International Maritime Organization) and by the main world registering entities (US Coastguard, Lloyds...). In the same way, our units destined for the military marine market have gone beyond the most exigent certifications for shockproof, soundproof and anti-magnetic products.



Basket Strainers Model BS

Model BS filter housings use Facet's stainless steel high efficiency basket strainers. A single pass of product through the system removes solids such as rust, dirt, scale, granules and other particles commonly found in liquid process streams.

Vessels are available in carbon steel or stainless steel with several standard sizes designed to meet specific flow, pressure (up to 900 psi) and temperature requirements; and designed and built according to the most commonly recognised codes.

- Available in several standard sizes
- ASME Code, Section VIII construction, stamped and certified or "CE" marked
- Head-lift furnished on 20" and larger



Microfilters Models M & MH

Facet Models M & MH housings are specifically designed to remove solid particles such as rust, dirt, pipe scales, sand and metal from fuel.

All are built to ASME Code, Section VIII, with many standard and optional accessories and connections available to facilitate individual installation requirements.

- EI 1596 Design & Construction
- Vertical & Horizontal configurations available
- Built to ASME Code, Section VIII, stamped and certified or CE marked
- Designed for 150 psi @ 250°F -higher pressure and temperature ratings available on request



Monitor Filters Models FG 2" & 6"

Eliminate the need for other water defense devices and receive maximum water removal, solids holding capacity and shutdown protection to assure clean, dry fuel delivery while meeting the latest Energy Institute (EI) specifications.

The new Facet Model FG monitor housings continually check the entire flow of fuel, for water or solids contamination. By performing three jobs, the FG monitors assure clean, dry fuel.

They absorb free and emulsified water, remove ultra-fine solids even when surfactants and fuel additives are present, and shut down the systems flow when hit with a localized slug of water.

- **EI 1596 Design & Construction**
- **Welded carbon steel, stainless steel, aluminum and cast aluminum construction**
- **Built to ASME Code, Section VIII, stamped and certified or CE marked**



Self-Cleaning Filters Model SCF

The Facet Self-Cleaning Filters, back-washing type, allow the continuous filtration of different fluids with a heavy solid contamination loading.

The functioning is fully automatic since the filtering cartridges are periodically cleaned by means of an automatic and sequential backwashing of the filtering cartridges themselves.

- **Self-Cleaning, back-washing type**
- **Suitable for hydrocarbons, process fluids, coolants, cooling/sea/well water, water for irrigation and fire systems**
- **Utilizes stainless steel tubular cartridges with a spiral wound triangular section wire**
- **Automatic dumping when water contains more than 4 ppm of salt**



Filter Water Separators Models VCS & HCS

Qualified to EI 1581 6th Edition

Facet models VCS & HCS two-stage coalescer separator housings are mechanical devices designed to efficiently filter solids down to 0.5 microns and separate two immiscible liquids.

They have been qualified after full-scale, witnessed testing to the 6th Edition of EI 1581, Category C & M, Type S & S-LW performance specifications.

- **EI 1596 Design & Construction**
- **Qualified to EI 1581, 6th Edition, Categories C, M & M100**
- **ASME Code, Section VIII construction, stamped and certified or "CE" marked**
- **Vertical & horizontal configurations available**
- **Easy service and reduced maintenance costs**



VF-21SB / 22SB

New design. Quick open swing bolt type closer

The Facet VF-21SB/22SB are versatile, compact, light-weight housings and provide superior in-line filtration protection.

This small, sturdy, single cartridge housing is easy to maintain and requires only 2" (51 mm) base clearance for cartridge change out.

- **Carbon steel body**
- **Aluminum head**
- **Small footprint**
- **Swing bolt quick open closure**
- **Design pressure: 150 psi**



Gas Filters

Facet has a reputation for manufacturing quality, reliable, long lasting filter housings to be installed in offshore plants.

The Facet Gas Filters permit easy access for inspection or change out of media. The baffle plates at the inlet remove a large amount of solid particulate matter which are collected in the quiescent sump. The impingement baffle enables extending cartridges lifetime and functioning more efficiently removing microscopic solids.

Most housings are built to ASME Code Section VIII Div. 1 or can be custom built to other International Codes.



MPak[®] Cleaning Wand

Facet MPak[®] oil-water separator plate packs are self-cleaning, but even self-cleaning packs can become plugged with solids under adverse conditions. For this reason, they are designed so that they can be cleaned in place to remove accumulations of solid particles.

Plate type separators that are provided in large modules must be lifted out of the separator by a crane when contaminated with dirt. This is inconvenient and expensive, and it is possible to damage the packs during removal or reinsertion.

Facet MPak[®] plates are designed to be cleaned in place using a special cleaning wand and city water pressure. The wand has a connection just like an ordinary garden hose and is equipped with a small conical strainer in the connection so that solids in the inlet water will not clog the cleaning holes.



MPak[®] Coalescing Plates

High-performance coalescing plates that provide superior efficiency in real-world environmental clean-up.



Facet's patented MPak[®] coalescing plates are designed to separate oil and solids from water using the differences in their specific gravities.

They have integral molding that ensures the spacing is accurately controlled while at the same time promoting the transfer of solids to the bottom of the installation. The plates can be assembled into packs which are securely held together by molded polypropylene supports with either stainless steel wires or rods.

The pack modules are designed to be supported in such a way as to provide integral sumps for solids retention. This construction makes them eminently suitable for use in retrofit as well as new applications.

MPak[®] coalescing plates are installed in Facet's Sewage Treatment Plants, Bilge Water Separators and Oil Water Separators.

- **Performance guarantee - reduces oil contamination to limits as low as 5 ppm**
- **Modular construction - retrofits existing separators and tanks**
- **Operating temperature 40 °F to 208 °F (4 °C to 98 °C)**
- **pH range from 2 to 12**
- **Oleophilic material**
- **Choice of spacing available using the same plate design**
- **The greatest surface area per plate in the market**

Sewage Treatment Equipment

Facet Sewage Treatment Plants treat sewage biologically. That means, these plants are of the active sludge aerobic and extended aeration type, without requiring any other kind of dosing or additive.

They are built in a single steel module to facilitate transportation and quick installation on board.

Facet's sewage treatment plants Model STP for marine applications are designed for the treatment of black waters and grey waters generated on board.

This treatment consists of the purification and later disinfection of water in order to achieve a quality effluent meeting IMO requirements. These plants treat sewage by biological means and thus are of the active sludge, prolonged aeration, aerobic type.



Model STP

Facet's sewage treatment plants Model STP for marine applications are designed for the treatment of black waters and grey waters generated on board.

This treatment consists of the purification and later disinfection of water in order to achieve a quality effluent meeting IMO requirements.

- **Meet IMO Resolutions MEPC-227(64) and MEPC-159(55)**
- **Certified by the Maritime and Coastguard Agency and the CE**
- **Sound Level <55 dB(A) at 3 m from the parcel limit**
- **No sludge generation**
- **No odor generation**
- **Automatic operation driven by PLC**



Model VTP

In addition to Model STP, Facet's Model VTP sewage treatment plants include built-in vacuum system, that takes charge of transportation of black waters along the vacuum system to the unit.

The vacuum in the circuit is achieved automatically with the ejector and circulating pump.

- **Meet IMO Resolutions MEPC-227(64) and MEPC-159(55)**
- **Certified by the Maritime and Coastguard Agency and the CE**
- **Vacuum ejectors**
- **Circulating pumps**
- **No sludge generation**
- **No odor generation**
- **Automatic operation driven by PLC**

Bilge Water Separators



CPS 3.2E + EMB

with ceramic membrane

New Facet's Model CPS 3.2E + EMB meets the IMO MEPC.107(49) standard. These equipment obtain an effluent 15 ppm or less than at a flow rate of 3.2 usgpm.

- **Meet IMO Resolutions MEPC.107(49)**
- **Homologated for a flow rate of 3.2 usgpm**
- **Design available for installation in submarines**



CPS 10B + EMB

with ceramic membrane

This compact, small footprint equipment separate emulsionated hydrocarbon water with an effluent less than 15 ppm at a flow rate of 10 usgpm (2.5 m³/h).

- **Meet IMO Resolutions MEPC.107(49)**
- **Homologated for a flow rate of 10 usgpm**
- **Compact, light weight and small footprint**



CPS B MKIII + EBM 14x

with disposable membrane

This model combines the Facet MPak[®] technology with innovative membranes that accomplish high efficiency removal in chemical and mechanical emulsion breaking.

- **Meet IMO Resolutions MEPC.107(49)**
- **Flow rates from 0.5 to 10 m³/h (2.2 to 44 usgpm)**
- **Total hydrocarbon in effluent: less than 15 ppm**



CPS 3.2E + EBM 14x1

with disposable membrane

This compact, small footprint equipment separate emulsionated hydrocarbon water with an effluent less than 15 ppm at a flow rate of 3.2 usgpm (0.73 m³/h).

- **Meet IMO Resolutions MEPC.107(49)**
- **Small footprint, light weight, low price**
- **Low maintenance**

Oil Water Separators

Model MAS

For offshore applications

Facet Model MAS Oil Water Separators are designed to treat hydrocarbon water. These equipment carry out separation by physical means, do not require consumables and have no mobile parts, therefore no maintenance is needed and their operation is free of failures.

- **MPak® plate packs to remove the oil from the water**
- **Computerized effluent predictions to get an accurate sizing**
- **Optional oil skimmers and storage chamber to separate and accumulate treated hydrocarbons**
- **Wide range of flow rates available**

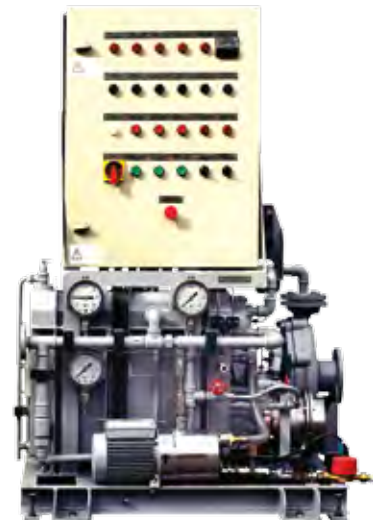


Potabilizers

Model F

Facet potabilizers are designed to meet the need on board ship to treat the water produced by evaporators, producing suitable drinking water.

- **Produces sterilized, suitable drinking water**
- **Re-hardening process**
- **Sterilization carried out using UV radiation**
- **Salinity: between 0.5 and 4 ppm of NaCl**



Fresh Water Generators

Model J

These units are designed to produce between 1.5 to 30 m³/day of fresh water to be used on-board. This water is monitored by the salinity control system.

- **Water monitored by salinity control system**
- **Automatic dumping when water contains more than 4 ppm of salt**
- **Produce between 1.5 to 30 m³/day of fresh water**

Lube Oil Conditioners Model V

Facet Lube Oil Conditioners Model V are designed to maintain the lube oil within the specifications of the engines and turbines manufacturers regarding the content of water and solids, extending the properties/life of the lube oil.

Removes, in continues operation, solids and free water up to concentrations below 20 ppm.

- **Automatic operation, controlled by a PLC**
- **No flow inlet adjustment is required**
- **Their design ensures a safe service and free of leaks or discharges**
- **Their features make this equipment to have a low maintenance and to be easy to operate**
- **Each equipment is tested before its shipment to ensure optimum start-up and highest service rates**



Turbo-Generator Fuel / Oil Modules

The Turbo-Generator Fuel/Oil Modules embrace the sum of Facet's know-how in microfiltration and separation, together with our experience in handling of fueling systems, providing fully automated pumping, filtration and conditioning of the fuel that is supplied to the turbo-generator.

Facet designs, manufactures and distributes a wide range of Turbo-Generator Fuel/Oil Modules depending on the specific needs of customers and in compliance with the most stringent specifications of the regulatory agencies.

