Facet Filtration Technology

Facet
Filtration Group®

Facet Filtration

Global Leader in High-Spec Solutions

Aviation

Commercial - Military
SAF Refining - Terminals

Power

Offshore Wind Farms
Backup Power - Power Plants

Industrial

Agriculture - Construction
Mining - Oil & Gas

Fuel Storage & Transportation

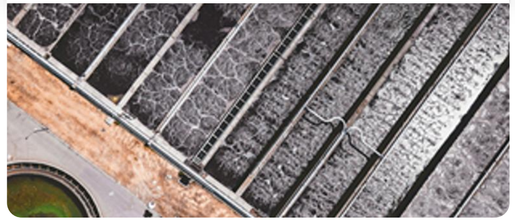
Pipelines - Rail Cars - Tank Farms

Marine

Commercial - Military
Offshore - Land Facilities

Water & Wastewater

Industrial Wastewater
Light Manufacturing Sites



Proven ability to deliver on aggressive project timelines

Expertise in designing equipment that meets the most rigorous specifications

80+ years of expertise in mission-critical applications

Facet Filtration

Global Footprint

Donaldson to Acquire Facet

Expanding Global Leadership in High-Performance Filtration Solutions

Donaldson FILTRATION SOLUTIONS + Facet Filtration Group®

February 2, 2026

Facet Filtration

Our Applications

Jet Fuel Filtration

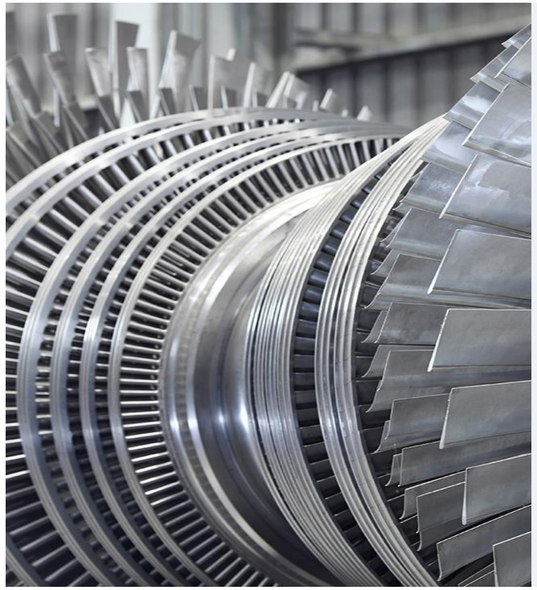
Specialized systems for aviation and tactical operations, ensuring clean, efficient fuel delivery across critical applications:

- **Aviation Refueling:** Filtration and transfer for aircrafts and farm tanks
- **Tactical Refueling Systems:** Rugged systems for field operations
- **Portable Refueling Systems:** Compact, on-demand solutions for drones and aircrafts

Diesel Polishing

High-efficiency systems that remove contaminants and water, protecting engines and critical equipment:

- **Packaged Systems:** Clean fuel for bulk storage and engines
- **Portable Units:** On-the-go filtration with pump/nozzle integration
- **Turbine Filtration:** Contaminant-free fuel for marine vessels
- **Critical Fuel Systems:** Customizable solutions for backup diesel



Oil Conditioning

Advanced systems for complete water removal and particulate control, maintaining ISO-grade oil cleanliness in critical applications:

- **Stationary Systems:** High-capacity, continuous conditioning for large reservoirs (up to 24,000 gal)
- **Portable Carts:** Mobile units delivering identical performance for smaller systems (up to 1,800 gal)

Oil-Water Separation

Engineered systems for reliable oil-water separation and contaminant removal ensuring compliance and sustainability:

- **MPak® Coalescing Plates:** Separate oil/solids from water
- **Stormwater Separators:** Remove hydrocarbons via gravity separation
- **Bilge Water Separators:** Remove oil from water in marine applications

Jet Fuel Filtration

Facet
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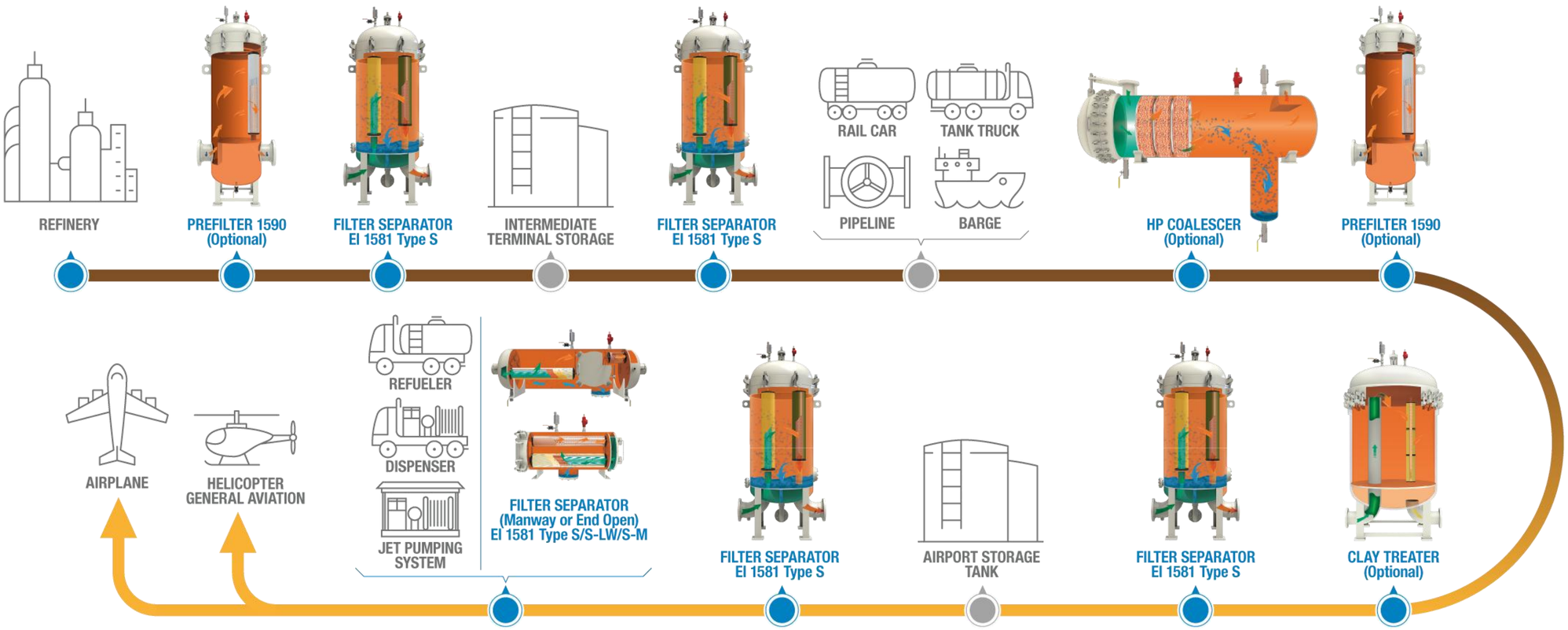
Jet Fuel Filtration

Complete Value Chain Protection

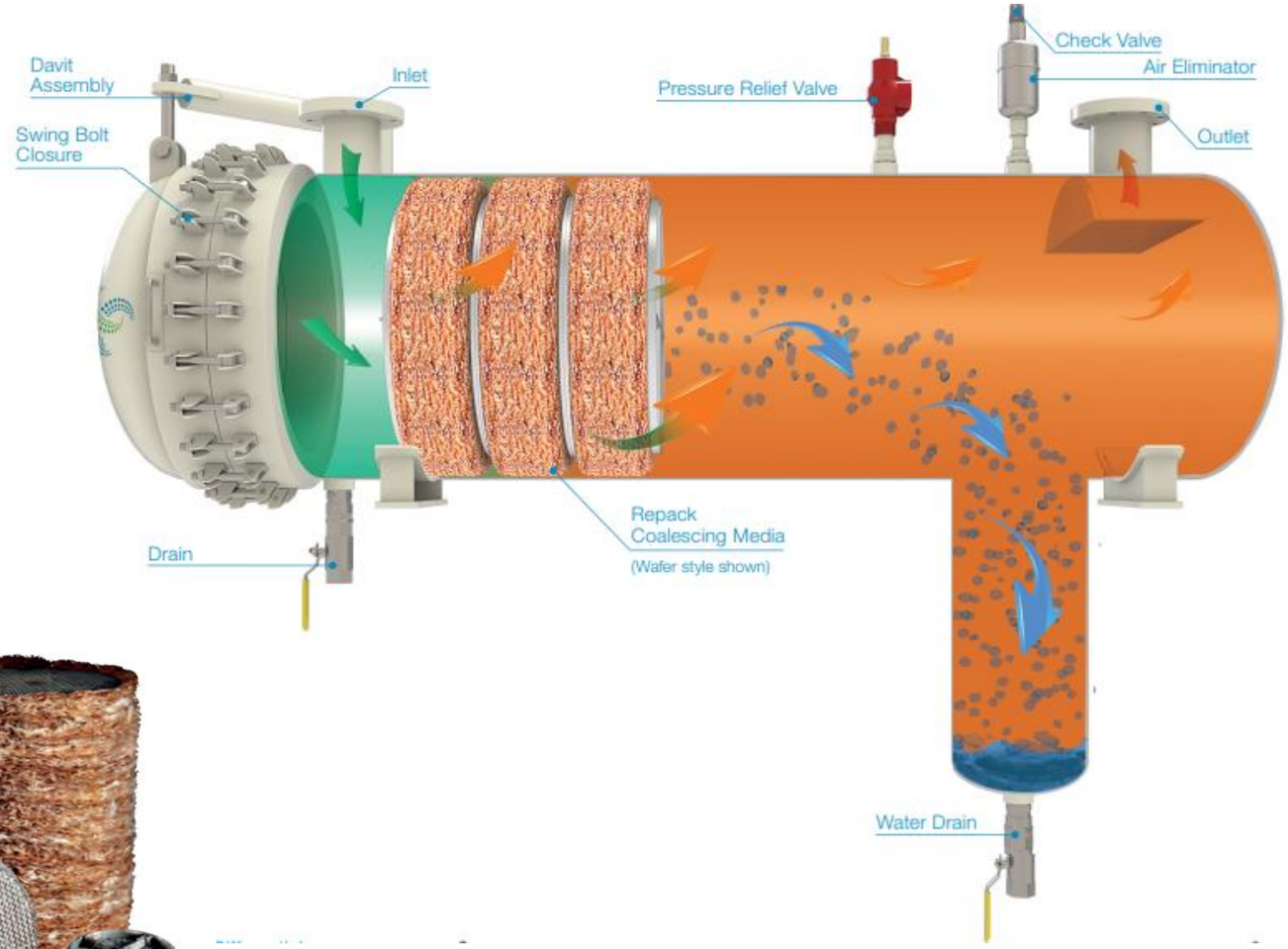


600+ Energy Institute-Qualified SKUs

Jet Fuel Filtration

Single Stage Coalescer (Hay Pack)

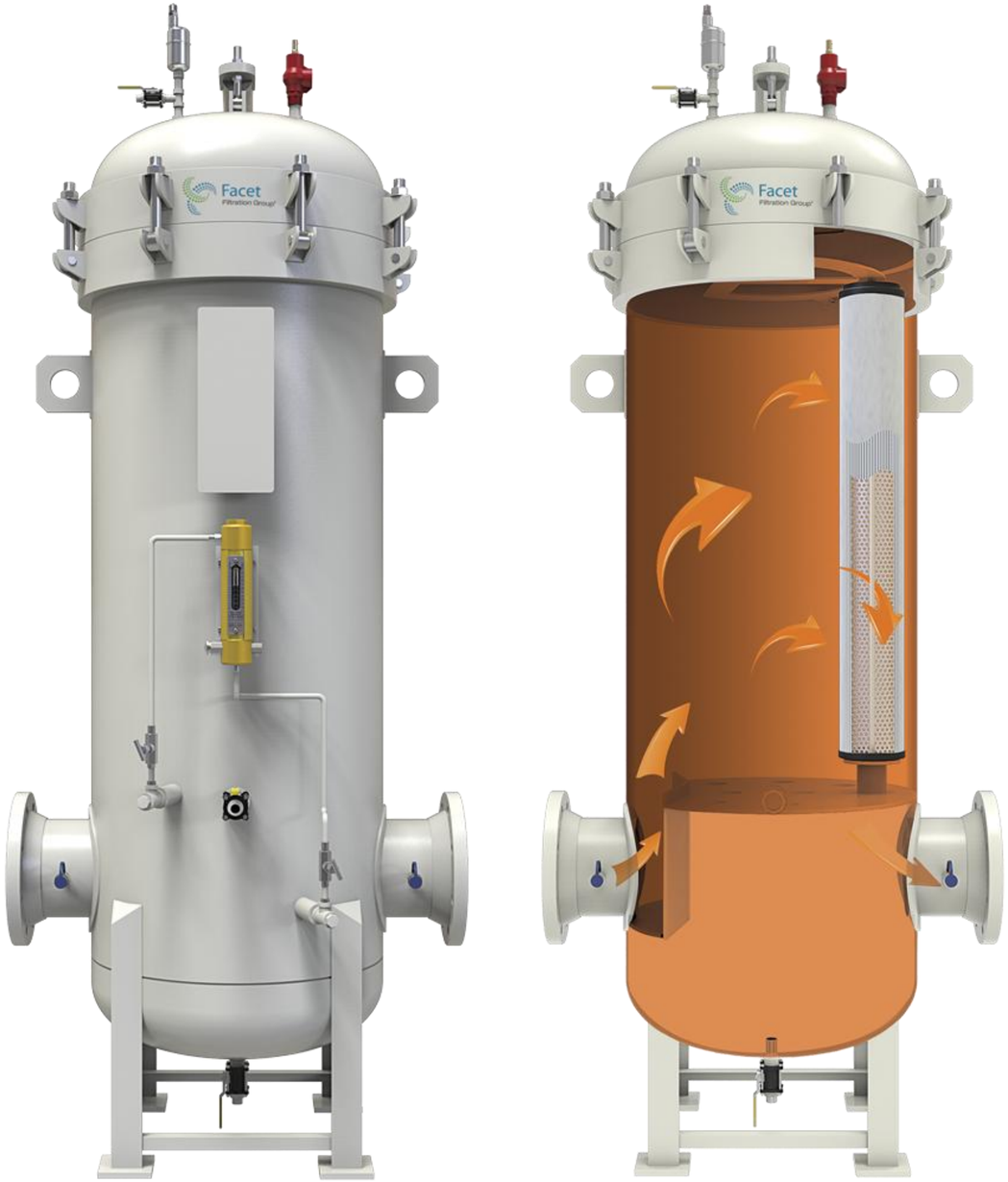
- Typically used where large amounts of water and contaminant are present
- 50 to 100 ppm water removal efficiency
- Bonded and unbonded glass fibers, metallic wool of various types and treated wood fibers (excelsior)
- Vessel construction complies with ASME BPVC Section VIII – Division 1



Jet Fuel Filtration

EI 1590 Microfilters

- Designed to remove particulate to protect more expensive filter water separators downstream.
- Qualified to the latest edition of EI 1590 for:
  - 1 micron
  - 2 micron
  - 3 micron
  - 5 micron
- Available both as tradition FA cartridges and as coreless FA-CIF designs
- Vessel construction complies with ASME BPVC Section VIII – Division 1 and EI 1596



New Product

FA-CIF

Efficiency Meets Sustainability: The FA-CIF Advantage

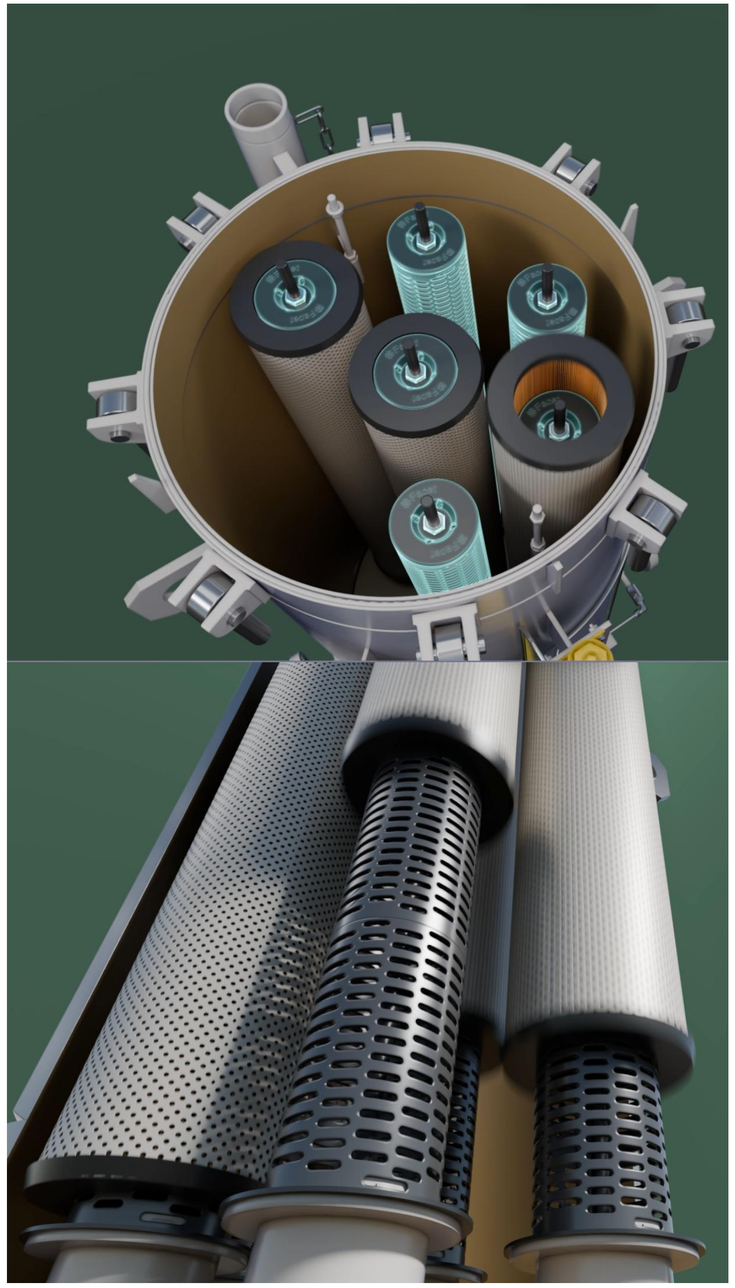
FA-CIF Series Microfilters are engineered for sustainable operations. Their **metal-free, coreless design** delivers EI 1590-qualified performance with dramatically **lower operational costs and environmental impact**.

Up to 45% lighter than standard microfilters, reducing transportation costs

Metal-free and fully incinerable, crushing to 20% of original size for easier disposal

Faster, easier, and safer to install, saving up to 4 hours per changeout

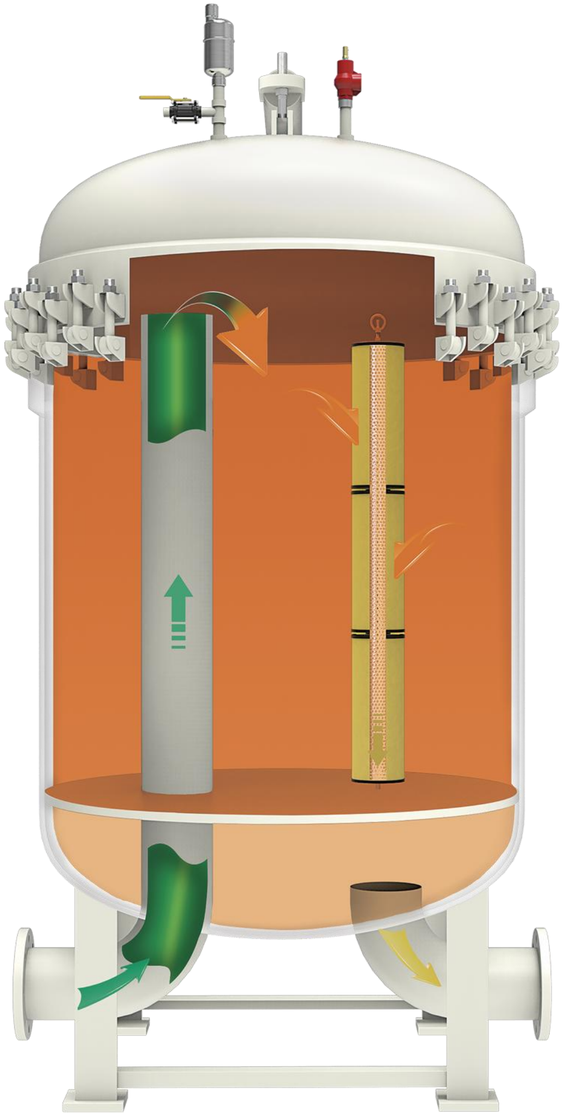
Up to 80% less waste volume, reducing both disposal costs and environmental footprint



Jet Fuel Filtration

Clay Treaters

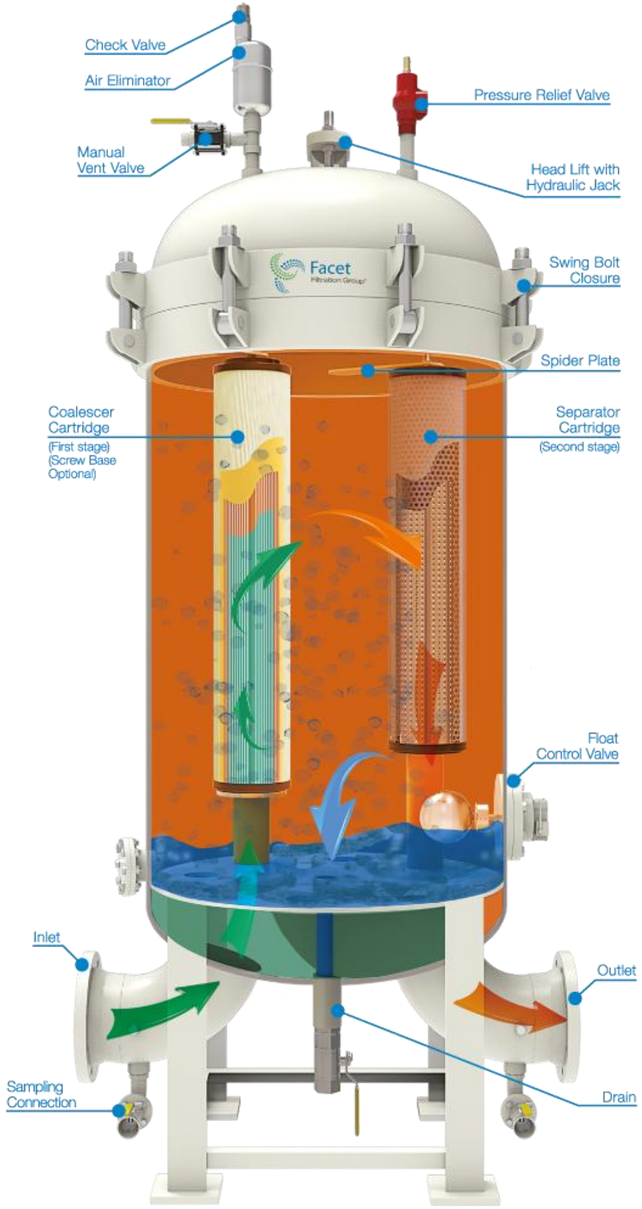
- Typically found where fuel is received by pipeline
- Removes surfactants (Surface Active Agent)
- Helps prevent filter water separator disarming
- Vessels built to ASME BPVC Section VIII – Division 1



Jet Fuel Filtration

EI 1581 Filter Water Separators

- Required throughout the value chain
- Types:
  - Upstream:
    - **Type S:** where significant levels of free water and particulate can be expected (upstream)
  - Into Plane:
    - **Type S-LW:** for mobile applications where minimal levels of free water can be expected (into plane)
    - **Type S-M:** where minimal levels of free water and minimal particulate can be expected (certain into plane applications only)
- Categories:
  - **Category C** (commercial jet fuel)
  - **Category M** (military jet fuel)
  - **Category M100** (military with thermal stability additive)



Defending Against Water

How Coalescing Works

The process by which small droplets combine to form larger ones

1. Water Contamination Enters as Microscopic Droplets

Water exists in the contaminated fluid as tiny, suspended droplets too small to settle by gravity.

2. Coalescing Element Captures Droplets

The fluid passes through a coalescing element that attracts and traps these microscopic water droplets.

3. Droplets Merge and Grow

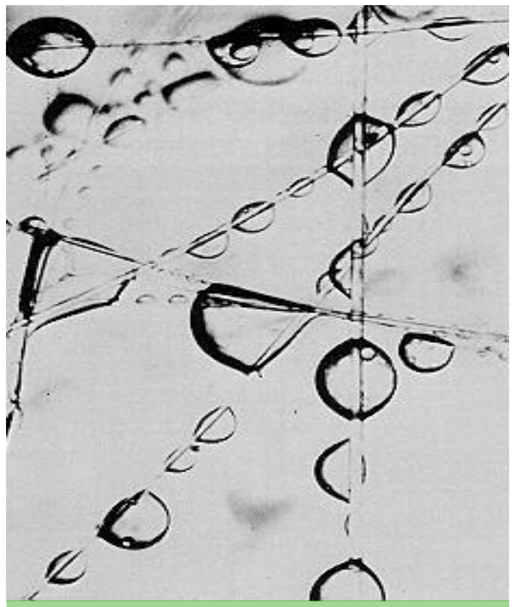
Captured droplets collide and combine on the element surface, forming progressively larger drops.

4. Large Droplets Settle Out

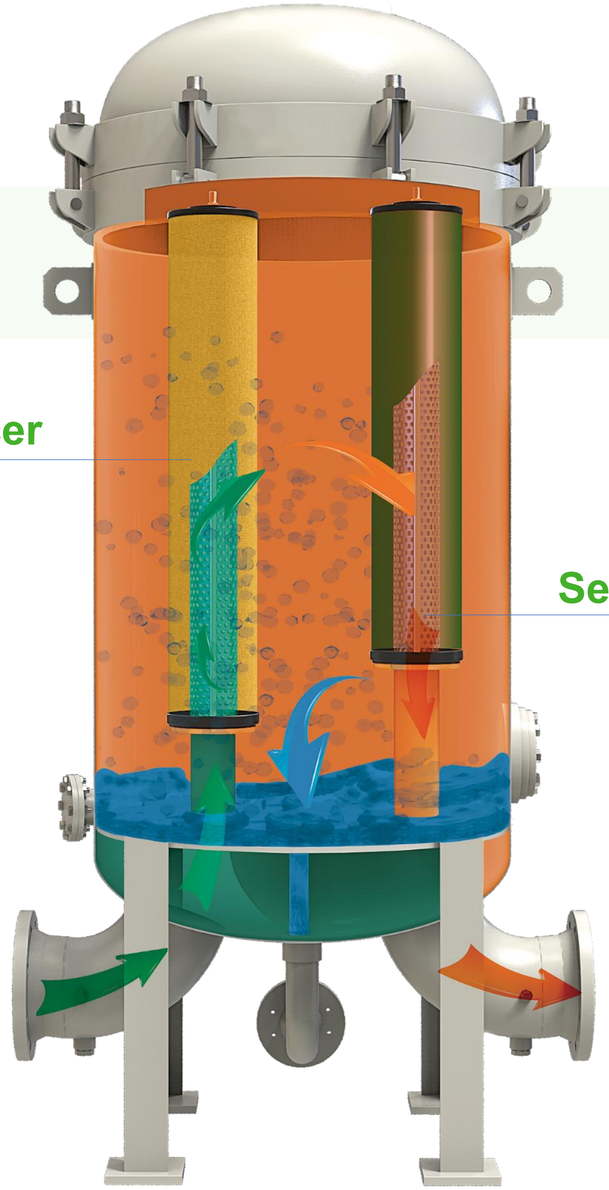
As droplets grow heavier, gravity pulls them out of the flow into a water collection area.

5. Separator Blocks Residual Water

A separator element allows clean, water-free oil or fuel to pass through while blocking any remaining water droplets.



Fibers of a coalescer trapping water within its matrix



New Product

CMHF / SMHF

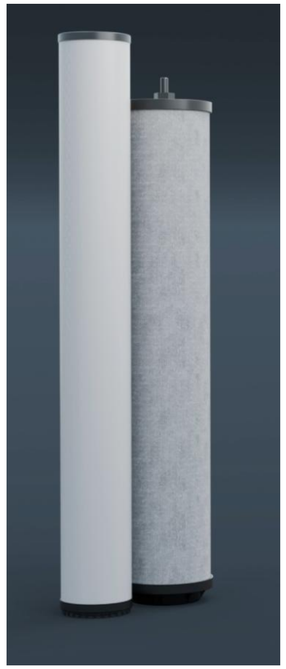
Qualified to the Current Edition of

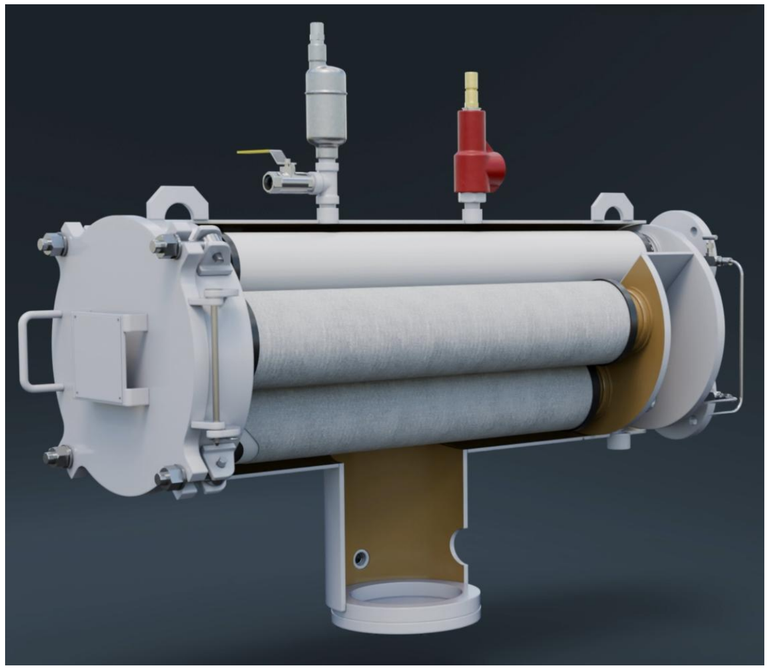
EI 1581

Category M

Type S-LW

in Horizontal Configurations





Industry-Leading Flow Rates

Up to 300 gpm (1135 lpm) in 33” Vessels

Up to 3x More Dirt Holding Capacity Over Type S-M Options

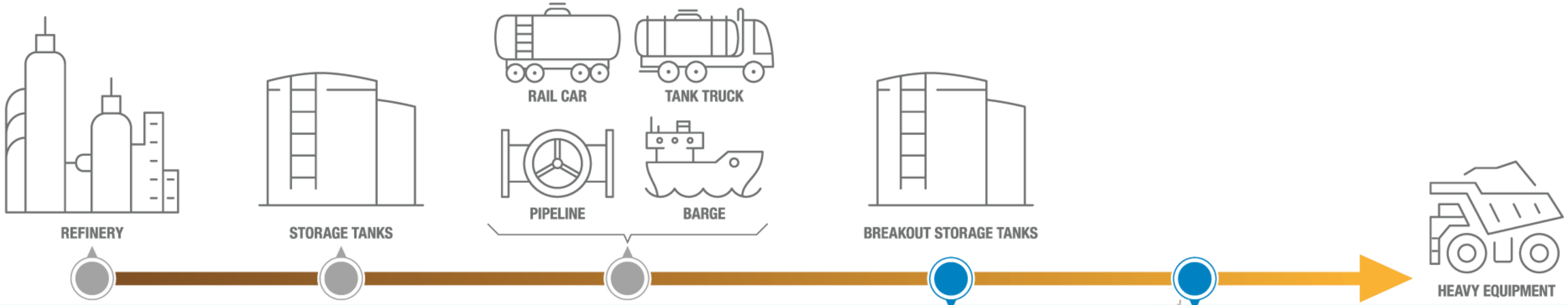
Enabling Longer Life and Fewer Changeouts

Diesel

Facet
Filtration Group®

The Importance of Clean Diesel

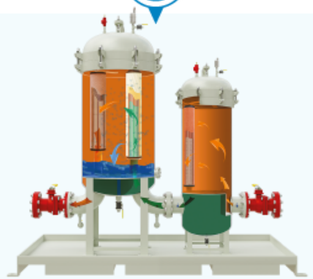
Protecting at Point of Use



Frequent transfer and intermittent storage along the diesel value chain **promotes particulate and water contamination.**

Failure to remove these contaminants will result in interruptions to operations, premature failure of components, and expedited spoilage of diesel fuel stores.


RECIRCULATION SKID


DIESEL FILTRATION SKID

Protecting Against Particulate

Defending Against Harmful Particulates

Modern Fuel Systems Demand Microscopic Cleanliness

- A 15 µm dirt particle is roughly 3x larger than the clearance in a common rail injector

On-Engine Filters Lack Sufficient Capacity for Primary Protection

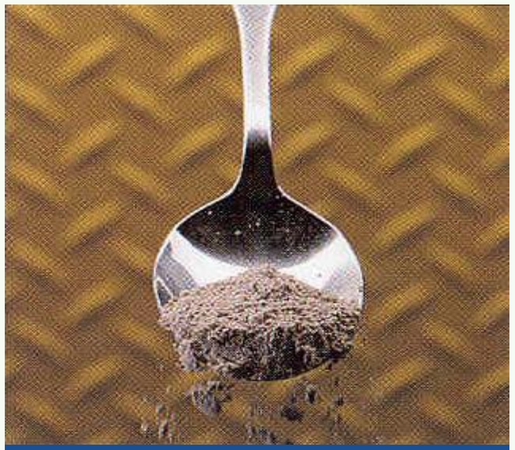
- Frequent change-outs and particulate bypass
- Undersized dispensing units plug quickly and require lower efficiencies or frequent change-outs to avoid pressure drop rise

Particulate Pre-Filtration is Essential for Efficient Water Separation

- Dust and dirt loading degrades coalescing media effectiveness

Particulate Causes Multiple Failure Modes

- Coke buildup on injector nozzles
- Inefficient spray patterns increase emissions and reduce the efficiency of catalytic reducers



As little as one spoonful of dirt in a fuel tank can ruin a fuel injector in only 8 hours

Defending Against Water

Why Water Removal is Critical

Free water content continuously fluctuates over the storage life of diesel, primarily due to environmental factors and poor handling practices

- Even if fuel is water-free when delivered, outside temperature fluctuations lead to condensation in the tanks and fuel lines

Biodiesel can hold up to 10x more water than 100% petroleum diesel

- ASTM D975 allows for up to 5% biodiesel blends, significantly increasing risk of contamination

Microbes live at the fuel/water interface and metabolize hydrocarbons

- The metabolizing of fuel by microbes creates bio-products that further degrade the fuel and reduce shelf life
- Biofilms and sludge can settle in tanks, plug fuel lines, and foul filtration equipment

Continuous water removal can help prevent microbe growth and extend filter life

- Continuous polishing and agitation of stored diesel recommended for customers with significant microbe issues

Versatile Solutions

Upstream Vessels

Filter Vessels

- 50 - 3000 gpm
- Micronic and absorptive
- Vertical and Horizontal configurations
- ASME code and non-coded vessels available
- βμ ≥ 200 available in 1-25μ
- Swing bolt and Davit Arms available
- Design Pressures up to 150 PSI
- Material: Epoxy coated carbon steel

Coalescer/Separator Vessels

- 20 - 2500 gpm
- Vertical and Horizontal configurations
- Compact systems available
- Swing bolt and Davit Arms available
- Design Pressures up to 150 PSI
- Marine-grade vessels option
- Sump with manual or automatic water drain options
- Haypack/Bulk water removal vessels available
- ASME code vessels
- Material: Epoxy coated carbon steel

Versatile Solutions

Point-of-Use Systems

Recirculation Systems (kidney-loop)

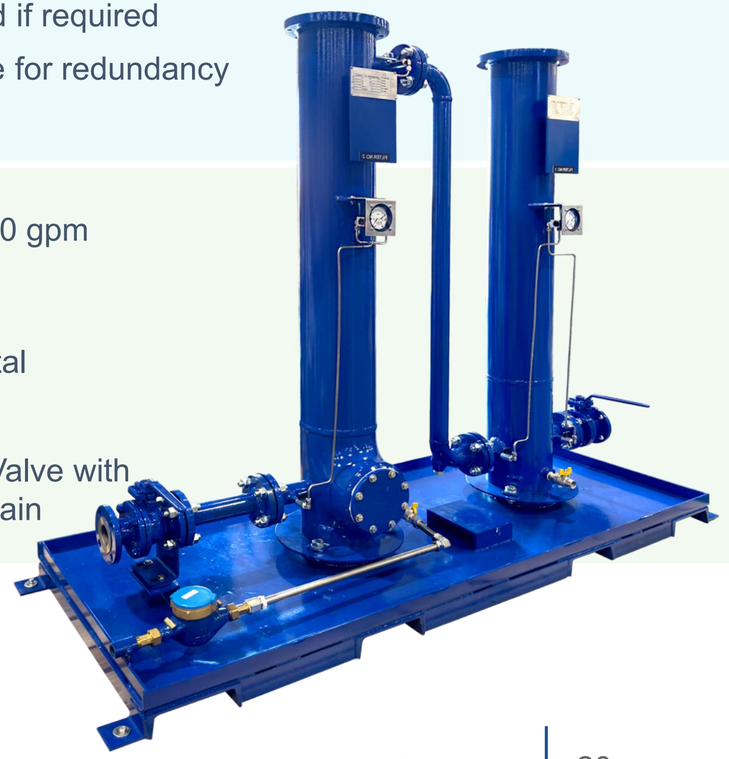
- Skids or carts that draw fuel from storage, pass it through filter and water separation vessels, and return it to the storage tank
- Require integrated pump
- Can be permanently installed or portable
- Can be field installed and piped without skid if required
- Design Pressures up to 150 PSI

- **Flow Rates Available:** 10 - 30 gpm
- **ISO Cleanliness:** 15/13/11
- **Water Removal:** 100% free water removal
- **Manual Start/Stop Control**
  - Optional PLC with Touch Screen HMI
- **Manual Water Drain**
  - Optional Auto Water Drain

In-line Systems

- Installed on fuel transfer lines between storage tanks and other assets
- Single-pass particulate and water removal only
- No skid mounted pumps or controls (passive system)
  - Pumps can be installed if required
- Duplex arrangement available for redundancy

- **Flow Rates Available:** 50 - 300 gpm
- **ISO Cleanliness:** 18/16/13
- **Water Removal:** <100 ppm total
- **Manual Water Drain**
  - Optional Dynamic Control Valve with flow shut-off & automatic drain



Military Applications

Facet
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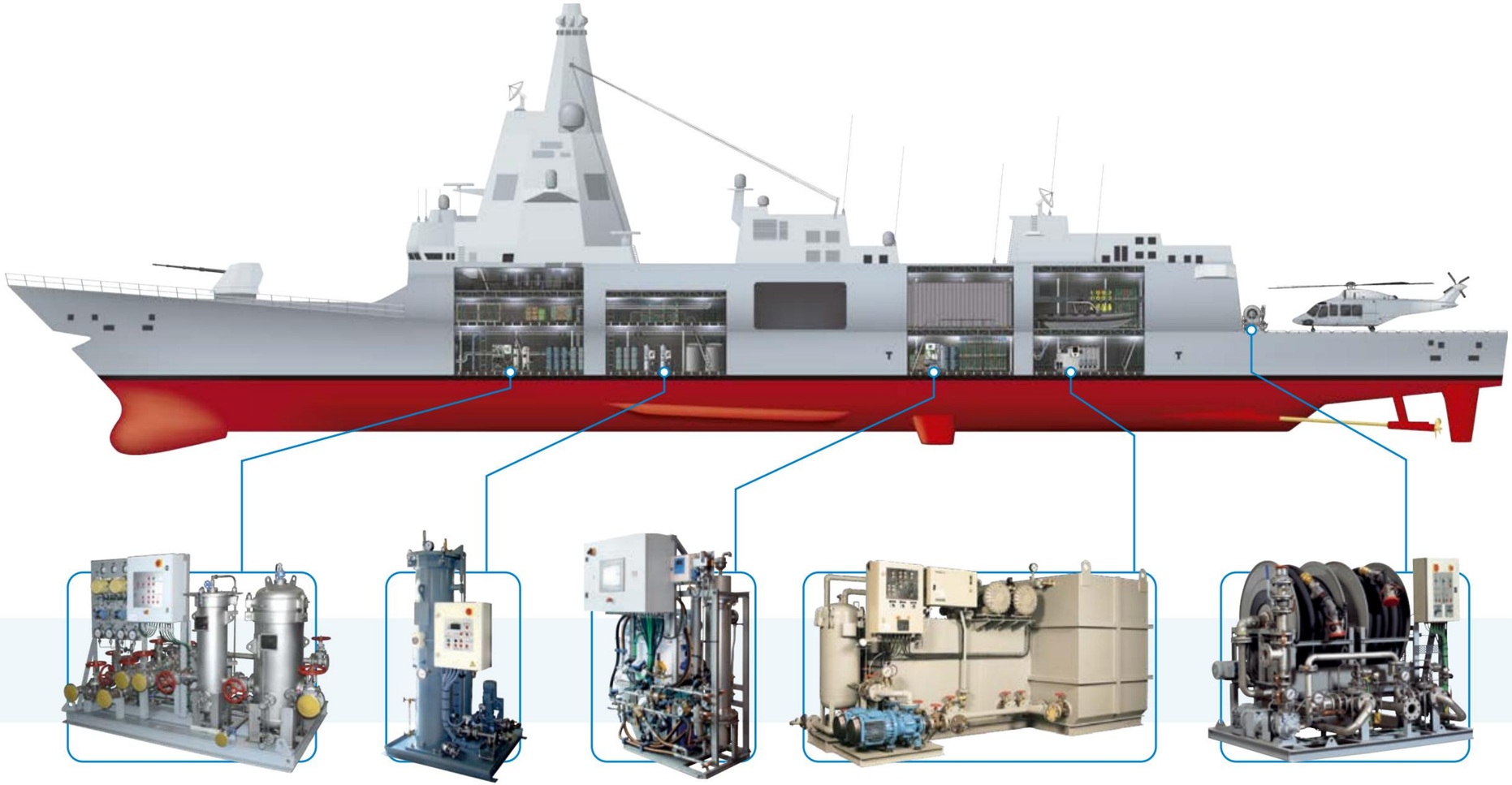
Military Applications



Fuel Filtration Systems

Lube Oil Conditioners

Bilge Water Separators

Sewage Treatment Plants

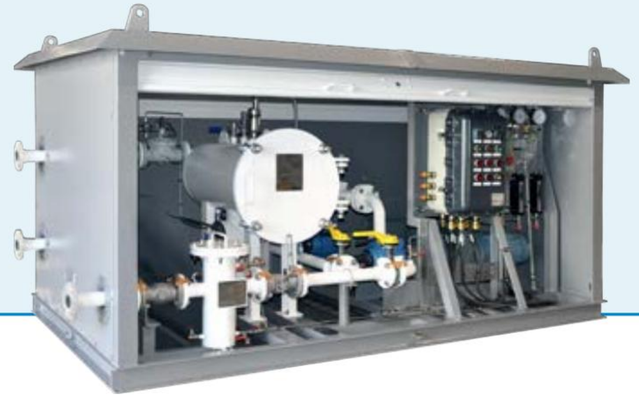
Aviation Refueling Systems

Military Applications

Aviation Refueling

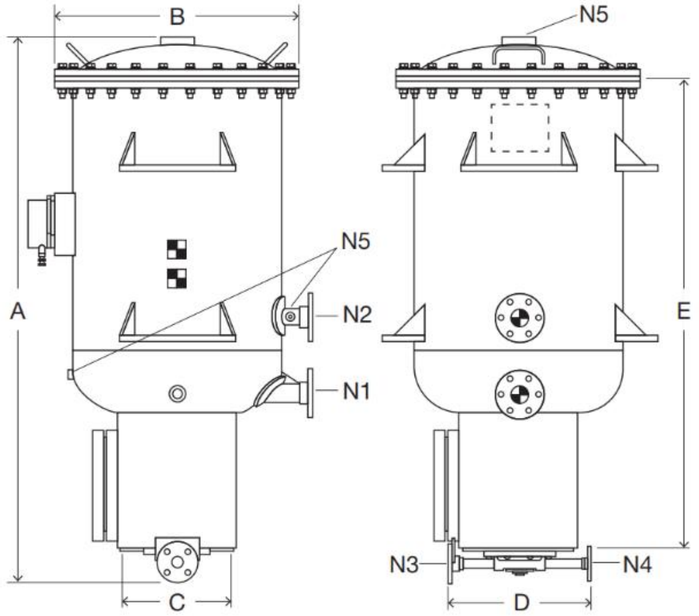
Aviation Fuel Filtration Systems

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.



Military Applications

Lube Oil Conditioning



Designed to meet the specifications for US Navy and Coast Guard ships and submarines, our lube oil systems feature robust construction and mission-critical performance.

Key Features

- Designed for 150,000 hours of operation
- Disposable coalescer and cleanable separator elements minimize maintenance downtime
- Automatic water drain with control valve assembly
- Solids removal down to 100 ppm and water content removal down to 300 ppm
- Compliant with military specifications for shock and vibration

Military Standards and Specifications*
Electric Boat Div. Spec. 3512
PPD-802-6445704
MIL-STD-278
MIL-STD-792
NAVSEA 0900-LP-001-7000
MIL-STD-167-1
MIL-STD-810
MIL-STD-1371

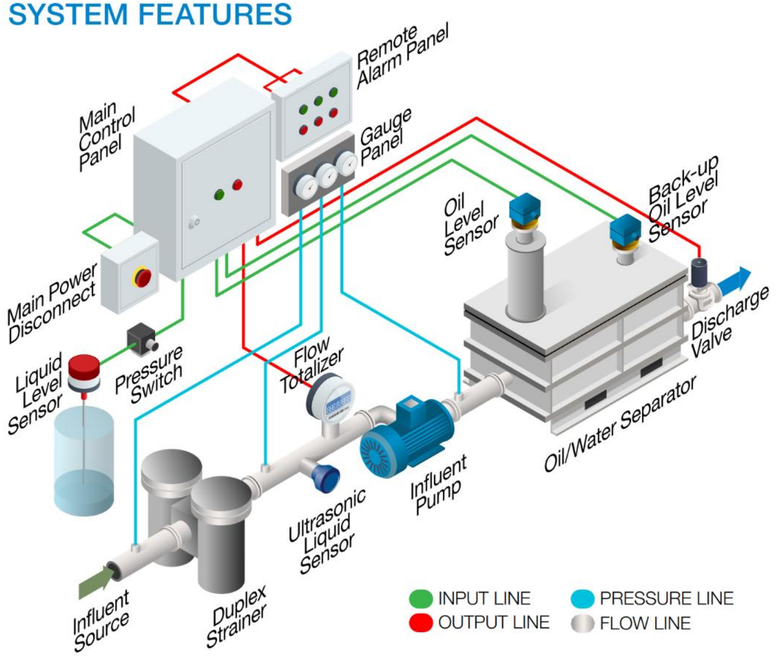
Connections				
	Size	Rating	Type	Quantity
Inlet (N1)	1 ½"	150#	MIL-F-20670	1
Outlet (N2)	1 ½"	150#	MIL-F-20670	1
Automatic Drain (N3)	1"	150#	MIL-F-20670	1
Manual Drain (N4)	½"	150#	7/16-2OUNF-2B	1
DP Gauge Port (N5)	¼"	-	-	2
Studding Flange (N6)	½"	150#	-	1

Specifications	
Design Flow Rate (gpm)	8.33
Fluid Compatibility	MIL-L-17331 Lubricating Oil
Material of Construction	Cu-Ni 90-10
Aproximate Weight (lbs)	Dry: 735 Wet: 1175
Working Pressure (PSIG)	50
Max Pressure (PSIG)	75
Oil Operating Temperature Range	4°F - 180°F
Operating Ambient Temperature Range	40°F - 122°F

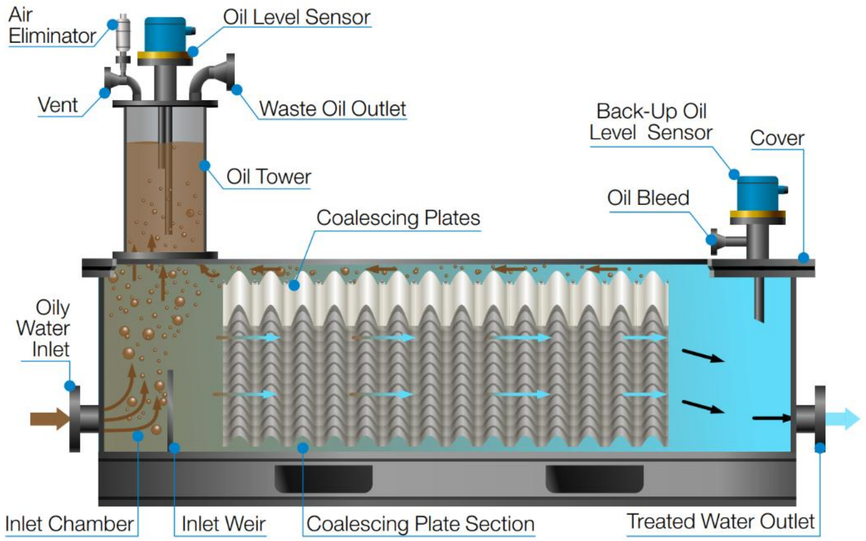
Military Applications

Bilge Water Separation

SYSTEM FEATURES



Specifications		
Effluent PPM Concentration	<15 ppm	
Design Flow Rate (Continuous Duty)	10 gpm	
Ambient Operating Temperature Range	40°F to 140°F	
Water Operating Temperature Range	28°F to 110°F	
Water Salinity Range	Fresh to Sea Water	
Minimum Droplet Size Removed	20 µm	
Material of Construction	Steel	
Interior/Exterior Coating	Epoxy	
Approximate Weights	Dry: 1250 // Wet: 2700	
Approximate Tank Dimensions	Length: 70" // Width: 30" Height (Without Oil Tower Installed): 24" Height With Oil Tower Installed: 49"	
Reliability	500 hr. mean time between failure at 90% confidence	
Maintenance	95% Repair Times <3 hours	
Ship Movement	Unit will continuously operate under the following: Pitch: 5° (11s) Roll: 15° (10s) List: 5° Trim: 5°	Unit will not spill or sustain damage under the following: Pitch: 10° Roll: 45° List: 15° Trim: 5°
Shock	Meets MIL-STD-901C	
Vibration	Meets MIL-STD-167	
Influent Oil Type	MIL-L-17672 (Hydraulic Oil) MIL-F-16884 (Marine Diesel) JP-5-MIL-J-5624 (Jet Fuel) MIL-L-17331 (Lubricating Oil) MIL-L-9800 (Lubricating Oil) or any combination thereof	



Versatile Solutions

Expert Service & Support

Technical Expertise

- Dedicated applications engineering team ready to solve complex challenges
- Deep applications expertise with decades of experience across multiple markets
- Comprehensive technical training programs delivered on-site or virtually

Field Return Analysis & Testing

- Inspection and testing of used elements to diagnose in-field performance issues
- Root cause analysis of contamination sources, system conditions, and operational factors
- Customized solutions tailored to your specific application and environment

Facet
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Thank You

Glenn Benner
VP Engineering
glenn.benner@facetfiltration.com

Darren Jones
Government Sales
darren.jones@facetfiltration.com