



aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



# Village Marine Water Desalination & Purification Systems



ENGINEERING YOUR SUCCESS.

# Village Marine Tec.

## Forward Thinking in Reverse Osmosis Engineering

For over 30 years, Village Marine Tec. has developed innovative water desalination and purification plants for some of the most challenging environments – the middle of the ocean, 800 feet below the sea, offshore oilrigs, deserts, and disaster areas.

NASA and FEMA relied on VMT to develop a self-contained reverse osmosis plant for its disaster relief program. The Navy asked VMT for water so pure, it could be used with the nuclear reactors on its submarines. Catalina Island sought our help to ensure a steady water supply in drought conditions. When Hurricane Katrina hit New Orleans, the Army counted on us to keep a hospital open. The research required for high-profile government projects has enabled Village Marine engineers to develop innovative ways to produce the most reliable RO systems in the world.

### **Always ready to respond.**

Village Marine's entire team is prepared to meet the needs of its customers and distributors at any time. VMT's flexibility quickly takes ideas from concept to reality and enables the development of field-proven systems to meet the requirements of any application, in any environment, around the world.

### **A legacy of performance.**

Village Marine Tec. received the prestigious Aegis Excellence Award as the only RO supplier to excel in quality and delivery, surpassing U.S. Navy expectations. After the first VMT reverse osmosis system was designed and installed on the U.S. Navy Submarine USS Dolphin in 1983, the systems had to undergo

rigorous testing before additional installations could be approved. Passing every test, VMT's plants worked flawlessly, 24 / 7 for 90 days straight.

### **Fresh water for every vessel.**

Our customers enjoy all of the luxuries of home – drinking water, ice, showers, dishwashers, and laundry – onboard. A complete range of reliable, power-efficient watermakers for sailboats, motorboats and yachts, as well as custom equipment, is available for quick delivery and allows our customers to cruise with confidence.

### **Without the noise.**

Village Marine's experience in designing RO systems for Navy submarines has helped us create the quietest pleasure and commercial watermakers on the market. A five-plunger pump, a pressure regulation system and other carefully chosen components are engineered in as standard in many of the systems to reduce noise and vibration.

### **The ultimate barrier to impurities.**

Salts, minerals and organics are no match for Aqua Pro® spiral wound membranes, which remove impurities from seawater, brackish water, fresh water and tap water. Nano and ultra filtration membranes are also available. Proven processes are used in the design, development, testing and manufacturing of Aqua Pro spiral wound membranes. This dedicated attention to detail includes using the highest grade of polyamide thin-film composite materials for standard and custom membranes to ensure their ultimate performance and integrity. VMT also manufactures

cartridge and string filters to fit standard and custom filter housings.

### **Quality at the source.**

The superior quality components that go into Village Marine and Offshore Marine Systems ensure that each one is built to the highest standards for safety, maintainability and reliability. The highest grades of raw materials are precisely machined and thoroughly tested to exacting customer requirements and industry specifications. By controlling the source and processes from the raw material to the final product, lead times are reduced to achieve on-time delivery, every time.

Providing the most innovative and reliable RO purification systems for seawater, brackish water and tap water, from energy-saving 160 GPD watermakers to high-performance 100,000 GPD system is what has established Village Marine Tec. as a leader in industry.

Meeting the fresh water requirements of military ships to working marine vessels to luxury yachts to seaside properties has always been the mission of Village Marine Tec. Their development of energy-saving 160 GPD water makers to high-performance 100,000 GPD systems has established VMT a global leader in the innovative application of reverse osmosis technology.



Global Water Technology®

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Cover photo was provided by Nordhavn Yachts,  
a division of Pacific Asian Enterprises,





# The Inside

Aqua Pro, magnetic drive, low pressure pumps



Corrosion resistant, powder coated, aluminum frame and mounting brackets

All 316 Stainless Steel mounting hardware



TRUE 316 Stainless Steel high pressure regulator – Eliminates risk of over pressurization

Aqua Pro, Titan Series, **Titanium head**, corrosion resistant high pressure pumps.

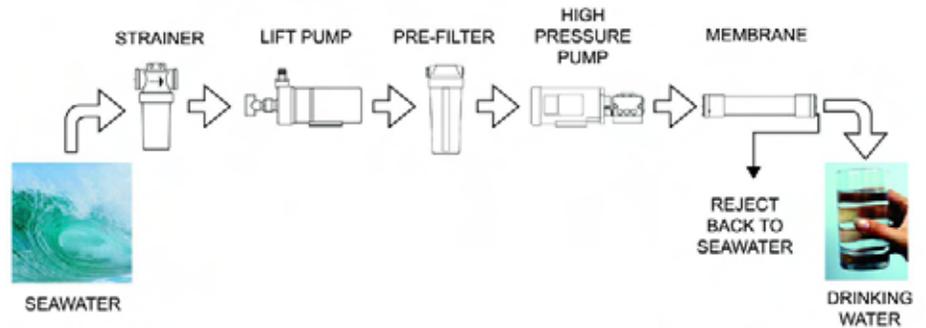


Aqua Pro, industrial grade, pleated pre-filtration



Convenient oil drain

## Reverse Osmosis System



# de Story



Fresh water automatically diverted to tank

**VMT-Squirt 600**  
**Plug and play, Self contained model.**

Integral, closed loop cleaning system

Corrosion resistant fresh water and brine flow meters



High pressure bypass valves, 316 Stainless Steel



Water Quality Monitor – LCD readout displays fresh water quality and sea water temperature, adjustable set point, high salinity alarm, hour meter on a corrosion resistant Inconel panel



Master Control Panel – LCD readout, push button operation, low pressure protection, high salinity warning, check system indicator for diagnosis and maintenance on a corrosion resistant Inconel panel

Glycerin filled, high and low pressure gauges



Custom made seawater membranes



**Lifetime Guaranteed –**  
 Fiberglass pressure vessels



Corrosion resistant, machined nylon end caps and manifolds



Air/Oil separator–  
**Maintenance FREE!**  
**No Filters to Replace**



Remote Control Panel – Push button operation, LCD ppm display, audible high salinity alarm and warning lights on a corrosion resistant Inconel panel



Industrial Strength reinforced high pressure hose with Titanium wetted fittings



316Stainless Steel Vibration isolation mounts



## Titan Series

### High Pressure Pumps

Quiet and durable, Aqua Pro Titan Series Pumps are dependable and specifically designed for reverse osmosis applications. Specific pump components are made of titanium which is impervious to sea water corrosion. The positive-displacement pump design uses less energy than most pumps.

Key features of the Titan Series High Pressure Pumps:

- Titanium pump heads ensure reliable operation and minimal maintenance.
- Titanium fluid ends and titanium-backed nylon valves are impervious to sea water corrosion.
- Heavy-duty industrial drive end and corrosion/wear-resistant plungers extend service life in high pressure applications.
- The combination plunger pump and pressure regulation design reduces noise and vibration to provide quiet, smooth operation.

# Aqua Pro® Pumps

Innovative engineering  
Solid material choices



Magnetic Drive  
Dual Voltage  
Pump  
788-1

Titan Series  
High Pressure  
Titanium Pump  
708-3



Titan Series  
High Pressure  
Titanium Pump  
708-5

Titan Series  
High Pressure  
Titanium Pump  
3P20



Titan Series  
High Pressure  
Titanium Pump  
5P50HD  
and  
5P100HD

Titan Series  
High Pressure  
Titanium Pump  
10P200HD



# Aqua Pro<sup>®</sup> Membranes and Filters

Unmatched design capabilities  
Proven manufacturing and  
quality processes

Salts, minerals and organics are no match for Aqua Pro spiral wound membranes. They remove impurities from sea water, brackish water, fresh water and tap water. Selecting the highest grade of materials and thoroughly testing their performance and integrity, results in unmatched membrane quality and efficiency. Flexibility in design and manufacturing capabilities allows maximum quality control and quick response to unique, custom fabrication.

Pleated filters are designed for reverse osmosis application and offer superior service life to wound or polyspun cartridges. The cartridge size to flow rate ratio is lower than most filters on the market.



A wide range of in-stock sizes and micron ranges fit most standard filter housings on the market today.





## Pure Water Series

400-18,000 GPD (1,514-68,137 LPD)

For Commercial Marine Applications

The Pure Water (PW) Series is designed to provide installation flexibility, superior performance, and extended service life in the most rugged conditions. Typically used in 24 / 7, continuous-duty applications, the PW Series is fully operational from an optional remote control.



Manual  
Fresh Water Flush

VMT-PW 400-2000 GPD (1,514-7,571 LPD)  
Modular System



Included  
Standard



VMT-PW 400-2000 GPD  
(1,514-7,571 LPD)  
Semi-Modular System



VMT-PW 400-2000 GPD (1,514-7,571 LPD)  
Horizontal Frame System

## Pure Water Series

### Standard Features and Benefits include

- Monel Mesh Strainer and Dual sediment prefilters.
- Maintenance-free Air/Oil Separator allows operation while underway.
- 3 or 5 Plunger Titanium Pump for low vibration and noise with unsurpassed corrosion resistance. Lifetime guarantee on pump head to original owner.
- Magnetic Drive Low Pressure Pump provides up to 10 psi of boost pressure to the filtration system. Never requires seal replacement.
- 316SS, Glycerine Filled Pressure Gauges.
- Freshwater Flush System included. Optional automation of the flush system is available.
- Lifetime Guaranteed FRP Pressure Vessels, to original owner.
- Adjustable 316 SS Pressure Regulating Valve allows us in fresh, brackish or seawater.
- Easy to operate 316 SS High Pressure Bypass Valve controls the operating mode from cleaning/rinse to R.O. allows high pressure bypass for start-up and low pressure flushing without readjustment of regulating valve.
- Automatic Diversion Valve diverts water to discharge if water quality drops below acceptable standards.
- Digital Water Quality Monitor displays purity of product water output. Also displays temperature and total hours for accurate service log.
- Cleaning Valve for easy cleaning or sterilization of the system including membranes.



VMT-PW 3000-18000 GPD  
(11,356-68,137 LPD)  
Horizontal Frame System





## Pure Water Vertical Series

800-4,000 GPD (3,028-15,142 LPD)  
For Large Yachts, Commercial Marine  
Applications and Seaside Properties



VMT-PWV2000 Vertical Frame System with front door open for maintenance access. (7,571 LPD)



With the same high-quality features of the horizontal Pure Water Series, the vertical frame Pure Water Series offers a more compact foot print for flexible installation options and optimal use of space. All components are on a single skid, in one frame, and include a multi-media pre-filter and flush system.

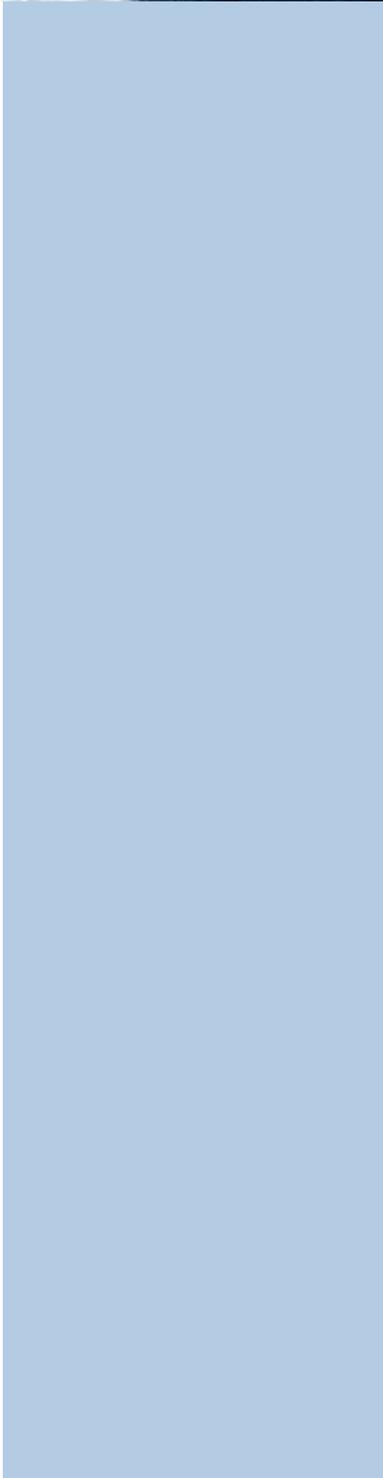
If the requirement is high volume potable water, delivered on a reliable basis, in a harsh environment, the Village Marine Pure Water Series in either configuration meets the requirements.



VMT-PWV800-1200  
(3,028-7,571 LPD)  
Vertical Frame System



VMT-PWV 3000-4000 GPD  
(11,356-15,142 LPD)  
Vertical Frame System





## Aegean Series

400-1,300 GPD (1,514-4,921 LPD)  
For Fishing Vessels and Work Boats



OML-Aegean Series

## Baltic Series

400 - 1,300 GPD (1,514-4,921 LPD)  
For Fishing Vessels and Work Boats



OML-Baltic Series

The OML-Baltic Series modular design allows for flexible installation where space constraints need taken into consideration.

Fresh water is the last thing fishermen hauling in their catch or offshore workers performing their duties should have to worry about at any time. Reliable reverse osmosis systems onboard commercial marine vessels aren't a luxury, they are a necessity – to provide drinking water, showers, laundry – and also supply the needed water to process the catch and keep equipment operating smoothly for weeks and months at a time.

The Offshore Marine Aegean, Baltic and Caspian Series are designed to withstand the punishment of the big rollers.

Keeping fresh water in their tanks, keeps the working mariners from distractions and allows them to focus on the task at hand.

Ruggedly built for a long-service life in severe conditions, standard features and benefits of the Aegean, Baltic and Caspian Series include

- Aqua Pro corrosion-resistant titanium pump heads
- Heavy duty pressure vessels, hardware and fasteners to prevent leaks, wear and tear.
- Pumps and motors are

shock-mounted to isolate and minimize vibration transfer to a ship's hull.

- With the crew's safety in mind at all times, the OML systems have built-in safeguards like low-voltage protection to keep motors from overheating.
- Water-diversion valves prevent tanks from salting.
- Under and over safety switches prevent catastrophic system failure.
- All pressure hoses have a 4:1 safety factor.

## Caspian Series

400 - 1,300 GPD (1,514-4,921 LPD)

For Fishing Vessels and Work Boats



OML-Caspian Series

- The Caspian Series has all of the features and benefits of the Aegean Series and Baltic Series plus
  - Designed for use in waters where particulate levels are higher than normal; for example, a fishing vessel operating in waters with a high level of plankton.
  - The integrated multimedia filtration system is cleanable without consumable elements.
  - The electronics package is in a NEMA enclosure to assure a moisture-free environment.
  - The Caspian system is virtually maintenance free, saving time and money on replacing pre-filter cartridges.



# Squirt and Stowaway Series

400-800 GPD (1,514-3,028 LPD)

For Power Boat Applications



Frame mounted system for quick and easy installation. Can be operated and monitored from the included remote control.

VMT-Squirt Horizontal Frame



Complete modular system for maximum installation flexibility. Fully operational from the included remote control.

VMT-Squirt Modular



Compact size with separate boost pump and filter allows installation flexibility above or below waterline. Fully operational from the included remote control.

VMT-Stowaway Semi-Modular

## Standard Features and Benefits include

- 5 micron sediment prefilter.
- Maintenance-free Air/Oil Separator allows operation while underway.
- 3 Plunger Titanium Pump for low vibration and noise with unsurpassed corrosion resistance. Lifetime guarantee on pump head to original owner.
- Magnetic Drive Low Pressure Pump provides up to 10 psi of boost pressure to the filtration system. Never requires seal replacement.

Continued on page 13

- Glycerine Filled Pressure Gauges
- Freshwater Flush System included. Optional automatic flush system is available.
- Lifetime Guaranteed FRP Pressure Vessels, to original owner.
- Adjustable 316 SS Pressure Regulating Valve allows use in fresh, brackish or seawater.
- Easy to operate 316 SS High Pressure Bypass Valve controls the operating mode from cleaning/rinse to Reverse Osmosis. Allows high pressure bypass for start-up and low pressure flushing without readjustment of regulating valve.
- Automatic Diversion Valve channels the water to discharge if water quality drops below acceptable standards.
- Digital Water Quality Monitor displays purity of product water output. Also displays temperature and total hours for accurate service log.
- Cleaning Valve for easy cleaning or sterilization of the system including membranes.



## Aegean Sub-Compact Series

400-800 GPD (1,514-3,028 LPD)

For Power Boat Applications

The OML Aegean Sub-Compact Series has unique features and benefits which make it an industry best seller include:



OML-Aegean Sub-Compact

- Exclusive framed design.
- Enclosed control panel for protected electronics with manual freshwater flush, allowing for shut down without chemical preservatives for up to three weeks.
- Custom Titan series high-pressure, positive displacement pump with a titanium head. ( 2.3 GPM )
- This compact package is available in 400 to 800 GPD, (110/220 volt system).
- Easy to install in the most compact of engine rooms or lazarette.



## Little Wonder Series

160-200 GPD (606-757 LPD)

For Sail Boat Applications

The Little Wonder (LW) is the watermaker of choice for the experienced sailor. The Little Wonder comes equipped with a corrosion resistant, single piston, belt driven, low RPM high-pressure pump. Result is the most reliable, field serviceable, quiet, efficient and economical source of fresh water available in the industry. Available in self contained frame, semi-modular or completely modular configurations with water output ranging from 160 to 200 GPD.



VMT-LW Horizontal Frame System

Little Wonder fully-contained water makers are the compact, efficient fresh water source for cruising sailors.



VMT-LWM Modular with Pump/Motor

The modular Little Wonder watermakers are designed for cruising sail boats where space is limited and reliability is required.



VMT-LW-Vertical Frame System

Standard Features:



Pre-Filter

Low Pressure Boost Pump

Manual Fresh Water Filter

The Little Wonder vertical systems are in compact frame for easy installation and simple operation. Operating on DC power, they are ideal for sail boats or as back up watermakers on larger yacht.

Standard Features and Benefits include

- Raw Water Boost Pump provides extra feed pressure.
- Village Marine Tec's Exclusive Titanium High Pressure Pump is impervious to the corrosive sea water environment and designed for maximum efficiency, producing more water with less battery power. The Titanium manifold is guaranteed for life.
- Adjustable 316 SS Pressure Regulating Valve provides constant pressure. No fluctuating pressure and low noise.
- Product Flowmeter to monitor gallons per hour of product water being produced.
- Glycerine Filled High Pressure Gauge to assure accurate reading of pressure from high pressure pump.
- Easy to operate High Pressure Bypass Valve controls the operating mode from cleaning/rinse to reverse osmosis.
- Supplied with Cleaning and Preservative Chemicals to keep your system in prime working condition, plus a Spare Pre-filter Cartridge.
- 12V, Permanent Magnet Motor has significant reserve capacity for long life (on DC powered units).
- Special Hi-Rejection Aqua Pro Membrane(s).
- Manual Fresh Water Flush.
- Product Sample Valve.
- Cleaning Valve.





## Sea Quencher Series

160-200 GPD (606-757 LPD)

For Power and Sail Boat Applications



OML-SQ 200 Semi-Modular  
(757 LPD)

The Offshore Marine Sea Quencher (SQ) Series offers durable, high value desalination systems. Driven by AC or DC power, the Sea Quencher models use low electrical consumption in relation to their water production. The SQ Series is a best value for the investment and are in operation around the world.



# No-Frills Series

450-2,000 GPD (1,703-7,571 LPD)

For Sail Boats and Motor Boats

Applications

The No Frills Series offers all of the best of Village Marine engineered components while operating independently of any electrical connections or requirements. Driven by AC or engine power, the modular configuration comes with an Aqua Pro membranes and titanium pump and fittings. Integral to the No Frills Series are a stainless steel pressure regulator and connectors and lifetime-guaranteed pressure vessels.



VMT-No Frills 450 Modular (1,703 LPD)





## Sea Water Series

24,000 - 93,000 GPD

(90,850-352,043 LPD)

For Offshore Rigs, Work Camps,  
Seaside Properties and Cruise Ships

The Sea Water Series reverse osmosis desalination systems are designed to provide potable water in demanding environments. Its rugged, efficient design allows high through-put of water with minimum electric power use. The Sea Water Series systems are quiet because the mounting of the motors and Aqua Pro pumps isolates and minimizes vibration transfer to the vessel's hull or the RO system enclosure.



VMT-SW32 Skid Mount



Aqua Pro Pump  
5 Plunger  
Titanium Head

The VMT-SW32 Model is installed on a single skid with two complete, independent RO systems. The two trains can run together or can be operated on a duty/stand by basis. Top quality components, manufactured by Village Marine, provide maximum corrosion resistance. Straight-forward, easy to understand controls, result in reliable operation.



OML- SW66 Modular



Prefilter Skid



Optional Media Prefiltration



High Pressure Pump



# The Leader in MIL-SPEC Reverse Osmosis Desalination Systems



For over 30 years VMT has been the leading supplier of RO Desalination Equipment to the US Navy and US Coast Guard. We are proud that our steadfast commitment to the design, engineering and manufacture of the worlds most advanced RO equipment has helped improve the quality of life while underway for the men and women who serve. From Potable Water for drinking and showers to High-Purity Permeate for Reactor-Grade applications, Village Marine is your choice for Fresh Water from the sea.



Our in-house design, manufacturing and testing capabilities coupled with our synergistic family of companies are unequalled in the industry and uniquely position VMT to provide the toughest most reliable MIL-SPEC RO equipment.



## US Navy Installations

- Arleigh Burke (DDG 51) Class
- Spruance (DD 963) Class
- Ticonderoga (CG 47) Class
- Tarawa (LHA 1) Class
- Los Angeles (SSN 688) Class
- Ohio (SSN 726) Class
- Avenger (MCM1) Class
- Osprey (MHC51) Class
- Freedom (LCS1) Class
- Virginia (SSN774) Class



## US Coast Guard Installations

- WAGB-11 Polar Sea
- WLB 225' Class
- WMEC 270' Class
- WPB 87' Class
- WMEC 210' Class
- WPB 110' Class



# Design, Manufacturing & Technical Support

## Design Engineering Standards

- MIL-STD-901 (Shock)
- MIL-STD-167 (Vibration)
- MIL-STD-461 (EMI)

## Quality Assurance

- MIL-I-45208A
- T9074-AS-GIB-010/271
- Dye Penetrant
- Magnetic Particle
- Ultrasonic

## Fabrication and Weld Standards

- NAVESSEA S9074-AH-GIB-010/22
- NAVESSEA S9074-AR-GIB-010/278
- NAVESSEA S9074-AQ-GIB-101/248

## Materials and Processes

- SMAW/GMAW/GTAW
- NiCu 400
- Titanium
- Hastelloy C276
- CuNi (70/30 90/10)
- A36 Carbon Steel
- Alumium
- 300 Series SS

## Technical Support

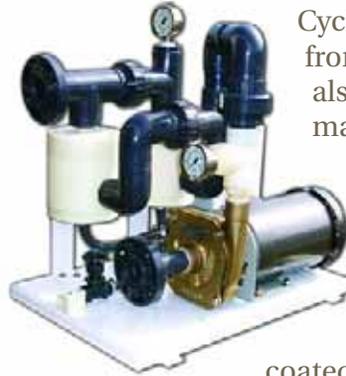
Technical Assistance Team of factorytrained personnel to support US Navy and USCG Fleet





## Accessories & Options

### Cyclone Separation System



Cyclone Separator Systems - Made from durable, non-corrosive materials, Cyclone Separator Systems are maintenance free and designed for operation in silty waters.

Designed for stand-alone operation or in combination with media filtration, the CS systems include boost pump, controls, gauges and valving on a powder-coated skid. A CS system will lengthen maintenance intervals and reduce overall operation costs by minimizing cartridge filter and membrane replacement. With no moving parts to wear out, a Cyclone Separator system will virtually last forever.

### Spares and Consumables



Village Marine Tec. manufactures and stocks 100% of consumables and spare parts at every location. Protect your investment and warranty by using only authorized

spares. Order by phone, fax, email or simply walking in to one of our six factory store locations.

### Remote Control Panel



Operate and monitor all of the major functions of your watermaker from the comfort of a bridge or salon. No more trips to the engine room to turn valves or push buttons. The Village Marine Remote Control uses a true pressure regulator that can actually start and stop the system.

## Dock Side Reverse Osmosis



Fill your tanks with fresh drinking water from any dock with VMT's Dockside Reverse Osmosis system. Manufactured with 316SS pressure vessels, ultra low pressure high-flow membranes, corrosion resistant flow meters, 316SS pressure regulating valve, 316SS mounting hardware and plumbing, and powder coated mounting brackets. Makes up to 3,000 GPD with 100 PSI inlet pressure.

## Ultra Violet Sterilizer



UV Sterilizers made of 316SS kill bacteria and viruses at 99.9% effectiveness. Install on the outlet of the fresh

water tank for total protection or in line with the water-maker. An inexpensive option which provides an additional peace of mind.

## Commercial Media Filtration Systems



Extend micron filter life and reduce maintenance cost by adding a commercial media filter. Designed for commercial operation but practical for private operation. The media filter uses a back-washable, reusable media, which effectively removes particulate matters down to 10 microns, as well as, soluble Iron. System comes complete with boost pump, control box, pressure gauges and valves for easy installation and operation.





# Oily Water Separator

Simple To Operate

Easy Maintenance

VMT Oily Water Separators meet the IMO resolution MEPC.60(33) and MARPOL 73/78 standards of 15 ppm limits for discharge from the machinery bilge spaces of ships. Heavy-duty construction, non-corrosive materials, fail-safe monitoring, permanent oil attractant media, quiet operation and smooth flow result in an easy to use, high quality, affordable solution to your oil separation needs.

The Village Marine Oily Water Separators (OWS) combine simplicity and reliability to produce a fully automatic system that operates continuously with virtually no maintenance.

The VMT OWS utilizes permanent media - which is self cleaning through the flushing cycle - in a unique, two-pass design to produce effluent with exceptionally low oil levels.

The OWS Series is available in 2.2 gpm, 4.4 gpm, 8.8 gpm and 11 gpm flow rates.



Oily Water Separators  
USCG Approval  
Information available  
upon request.

# Parker's Motion & Control Technologies

At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further info call 1 800 C-Parker (1 800 272 7537).



## AEROSPACE

### Key Markets

- Aircraft engines
- Business & general aviation
- Commercial transports
- Land-based weapons systems
- Military aircraft
- Missiles & launch vehicles
- Regional transports
- Unmanned aerial vehicles

### Key Products

- Flight control systems & components
- Fluid conveyance systems
- Fluid metering delivery & atomization devices
- Fuel systems & components
- Hydraulic systems & components
- Inert nitrogen generating systems
- Pneumatic systems & components
- Wheels & brakes



## CLIMATE CONTROL

### Key Markets

- Agriculture
- Air conditioning
- Food, beverage & dairy
- Life sciences & medical
- Precision cooling
- Processing
- Transportation

### Key Products

- CO<sub>2</sub> controls
- Electronic controllers
- Filter driers
- Hand shut-off valves
- Hose & fittings
- Pressure regulating valves
- Refrigerant distributors
- Safety relief valves
- Solenoid valves
- Thermostatic expansion valves



## ELECTROMECHANICAL

### Key Markets

- Aerospace
- Factory automation
- Food & beverage
- Life science & medical
- Machine tools
- Packaging machinery
- Paper machinery
- Plastics machinery & converting
- Primary metals
- Semiconductor & electronics
- Textile
- Wire & cable

### Key Products

- AC/DC drives & systems
- Electric actuators
- Controllers
- Gantry robots
- Gearheads
- Human machine interfaces
- Industrial PCs
- Inverters
- Linear motors, slides and stages
- Precision slides
- Stepper motors
- Servo motors, drives & controls
- Structural extrusions



## FILTRATION

### Key Markets

- Food & beverage
- Industrial machinery
- Life sciences
- Marine
- Mobile equipment
- Oil & gas
- Power generation
- Process
- Transportation

### Key Products

- Analytical gas generators
- Compressed air & gas filters
- Condition monitoring
- Engine air, fuel & oil filtration & systems
- Hydraulic, lubrication & coolant filters
- Process, chemical, water & microfiltration filters
- Nitrogen, hydrogen & zero air generators



## FLUID & GAS HANDLING

### Key Markets

- Aerospace
- Agriculture
- Bulk chemical handling
- Construction machinery
- Food & beverage
- Fuel & gas delivery
- Industrial machinery
- Mobile
- Oil & gas
- Transportation
- Welding

### Key Products

- Brass fittings & valves
- Diagnostic equipment
- Fluid conveyance systems
- Industrial hose
- PTFE & PFA hose, tubing & plastic fittings
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects



## HYDRAULICS

### Key Markets

- Aerospace
- Aerial lift
- Agriculture
- Construction machinery
- Forestry
- Industrial machinery
- Mining
- Oil & gas
- Power generation & energy
- Truck hydraulics

### Key Products

- Diagnostic equipment
- Hydraulic cylinders & accumulators
- Hydraulic motors & pumps
- Hydraulic systems
- Hydraulic valves & controls
- Power take-offs
- Rubber & thermoplastic hose & couplings
- Tube fittings & adapters
- Quick disconnects



## PNEUMATICS

### Key Markets

- Aerospace
- Conveyor & material handling
- Factory automation
- Food & beverage
- Life science & medical
- Machine tools
- Packaging machinery
- Transportation & automotive

### Key Products

- Air preparation
- Compact cylinders
- Field bus valve systems
- Grippers
- Guided cylinders
- Manifolds
- Miniature fluidics
- Pneumatic accessories
- Pneumatic actuators & grippers
- Pneumatic valves and controls
- Rodless cylinders
- Rotary actuators
- Tie rod cylinders
- Vacuum generators, cups & sensors



## PROCESS CONTROL

### Key Markets

- Chemical & refining
- Food, beverage & dairy
- Medical & dental
- Microelectronics
- Oil & gas
- Power generation

### Key Products

- Analytical sample conditioning products & systems
- Fluoropolymer chemical delivery fittings, valves & pumps
- High purity gas delivery fittings, valves & regulators
- Instrumentation fittings, valves & regulators
- Medium pressure fittings & valves
- Process control manifolds



## SEALING & SHIELDING

### Key Markets

- Aerospace
- Chemical processing
- Consumer
- Energy, oil & gas
- Fluid power
- General industrial
- Information technology
- Life sciences
- Military
- Semiconductor
- Telecommunications
- Transportation

### Key Products

- Dynamic seals
- Elastomeric o-rings
- EMI shielding
- Extruded & precision-cut, fabricated elastomeric seals
- Homogeneous & inserted elastomeric shapes
- High temperature metal seals
- Metal & plastic retained composite seals
- Thermal management



# fuel



## Fuel Dispensing

The new FBO-10-MA and FBO-14-MA filter assemblies are designed to meet the toughest hydrocarbon refueling conditions and provide easy filter change-outs. The FBO assembly can flow from 25 GPM (95 LPM) to 75 GPM (230 LPM) depending on the model, the filter installed, and the fuel being filtered.

For additional information, request brochure number 7694.

## Marine Turbine Series

High-grade aluminum components and powder coat paints mean corrosion is never a worry.

A durable mounting bracket doubles resistance to vibration fatigue.

Polymer bowl withstands impact and temperature extremes.

Aquabloc®II media sheds water and keeps engines waterproof, rustproof, and dirtproof.



75900MAX

For additional information, request brochure number 7780.

## High-Capacity RVFS Series

RVFS Series filter vessels offer a versatile, economical alternative to competitor's vessels. Industry applications include removing liquid and solid contaminants from diesel fuel, gasoline, kerosene, aviation gas, jet fuel, and other lubricating or hydraulic oils. RVFS vessels utilize proven filter design technology and can be used as coalescers, pre-filters, monitors or separators by changing internal components or flow direction, or by selecting optional filter cartridges when ordering. For additional information, request brochure number 7648.



# oil



## DOC19 and DOC Plus, Patented Maintenance Systems

DOC19 and DOC Plus patented maintenance systems automatically change oil while the engine is running. The DOC19 systematically removes small amounts of oil from the engine, blends it into the return fuel line, and burns it as fuel—in a simple, efficient closed loop system to keep your vehicle out of the maintenance shop and on the job.

The DOC Plus incorporates Racor's proven gravity-based Never Lo oil replenishing system to continuously replace the oil withdrawn from the engine and burned by the action of the DOC for the ultimate in hands-off oil maintenance. Reduced downtime for engine maintenance means quick payback.

## Never Lo Oil Replenishing Systems

Never Lo Oil Replenishing Systems, automatic or manual, provide a constant supply of fresh, clean oil to the engine.

- The AFG Automatic Gravity System continuously monitors engine oil and automatically maintains it at a pre-adjusted level. The system requires no electrical connections and is easy to install.
- The Push-Button Manual Pressurized Remote Fill Oil Replenishing System allows an operator to add oil to the engine by simply depressing a valve button until the desired amount of oil has been added. The amount of oil needed is determined by routine dipstick checking. The site gauge is calibrated at two-quart intervals for easy makeup.
- When used in conjunction with the DOC19, the Never Lo Oil Replenishing System provides a constant supply of fresh oil to the engine.



## LFS 800 Series Bypass Oil Filtration

Now, engine owners have the opportunity to combine the Racor Full-Flow Lubrication Filtration System with a highly efficient, environmentally safe Bypass Oil Filtration System.



- 1 Extends the miles between oil changes
- 2 Saves maintenance costs and downtime
- 3 Keeps oil cleaner longer, reducing oil consumption and disposal
- 4 Extends engine life and "re-build" intervals
- 5 Keeps engines better lubricated which means reduced wear
- 6 Removes damaging water

For additional information on all Racor oil filtration products, request brochure number 7460.



# crankcase



## CV Systems

In an open system, the crankcase breather is connected to the Crankcase Ventilation (CV) filter assembly. The CV outlet is open to atmosphere. This configuration is simple to install and is an effective oil mist removal system for applications which allow crankcase venting to atmosphere.

The only routine maintenance required for the CV system is filter replacement. Typical service life of the high-performance filter in diesel applications is 750 hours.

CV units are designed to handle various crankcase flow rates up to 50 CFM.

**For additional information, request brochure number 7790.**

## Closed Crankcase Ventilation (CCV) Systems

The outlet of a CCV system is returned to the engine intake system for re-combustion instead of polluting the environment. There are several models available to handle crankcase flow rates from 1 to 50 CFM.

Unique crankcase pressure regulator with integral bypass valve minimizes variation in crankcase pressure. Excessive variation in crankcase pressure can damage seals, cause loss of oil, and other problems.

Pop-up style indicator alerts of bypass condition and need for filter change.

Choose left or right-hand inlet. Available with or without bypass indicator.

High-efficiency oil separation to 0.3 micron.

Stainless steel latches for tool-less element change.

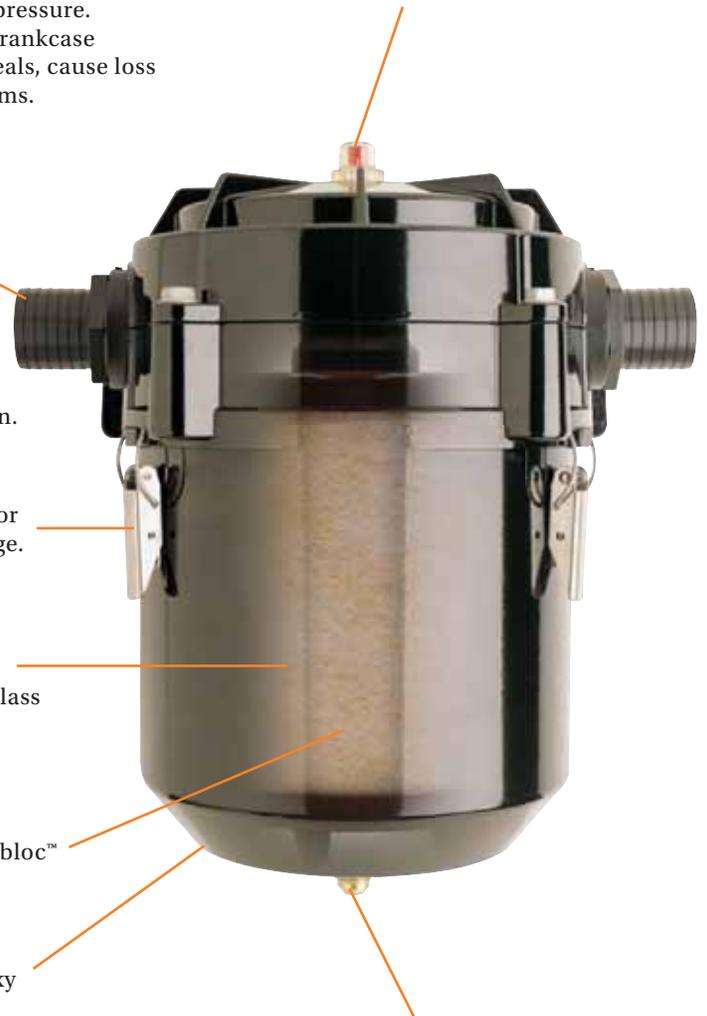
Replaceable high-performance filter with depth-loading, micro-glass fiber coalescing media.

Extended filter service interval from the Vaporbloc™ element.

Steel housing with epoxy powder coating.

Continuous operating temperature range: -40°F to +240°F (-40°C to 116°C).

Drain check valve allows collected oil to return to crankcase. This eliminates frequent draining and significantly reduces oil consumption.



# air



## Marine Air Filter/Silencers

Reduce Emissions, Clean Up Engine Rooms and Engines

Racor Marine Air Filter/Silencers remove contaminants introduced into the air from both outside and inside the vessel. Sand, salt, carpet fibers and other contaminants are trapped in the oil-impregnated Vaporbloc™ filter media. Turbo noise is reduced by the unique design of the housing. An integral hose connection on the housing routes the clean blow-by from the CCV back into the engine.

- Pop-up style indicator alerts operator of a bypass condition and need for CCV Vaporbloc™ filter change
- Air Filter/Silencer is standard with an integral venturi port for CCV connection

- Air filter media is washable
- Optional tap sleeves are available for easy connection of existing air cleaner to CCV assembly
- Prevents turbo and intercooler from fouling.

### How the System Works

The engine crankcase breather is connected to the inlet of the Racor CCV assembly. The CCV outlet is connected to the engine's combustion air inlet via an air intake connector where filtered blow-by gas is recycled through the combustion process. Oil collected in the CCV sump is returned to the crankcase through a hose and a drain check valve.



### Replacement Filters

Racor offers direct replacements for the intake air filter operation of competitive air filters/silencers. Also available is the replacement filter for the vacuum limiter air separator.

The filter media for all replacement filters is an oil-impregnated cotton gauze and is sandwiched between pleated, epoxy-coated aluminum wire-mesh polyurethane sealed surfaces. This product is cleanable and must be oiled before using.

### Air Filter Cleaning Kit

For washing and re-oiling Racor cleanable air filters—part number AF M82006.



For additional information, request brochure number 7539.



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