



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



## Village Marine Water Desalination & Purification Systems



# 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 Sub-

marine 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.



**Aegis Excellence Award**

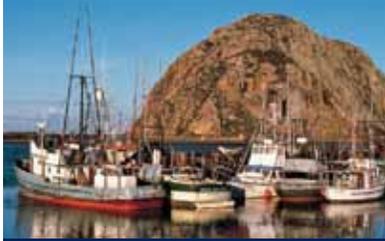
Global Water Technology®

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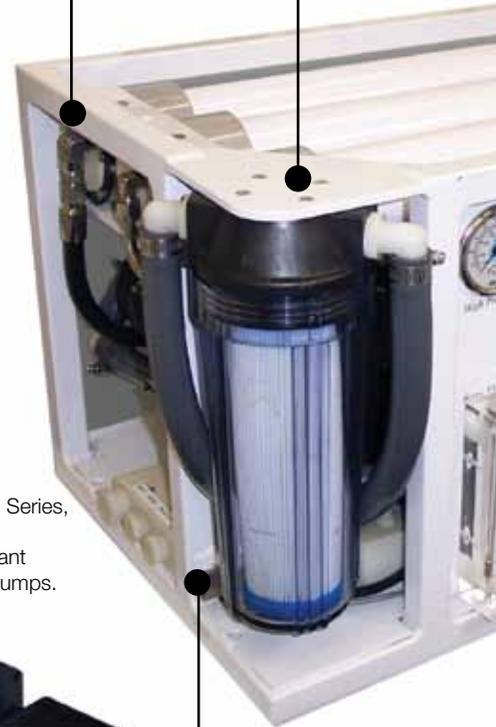
# The Inside

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

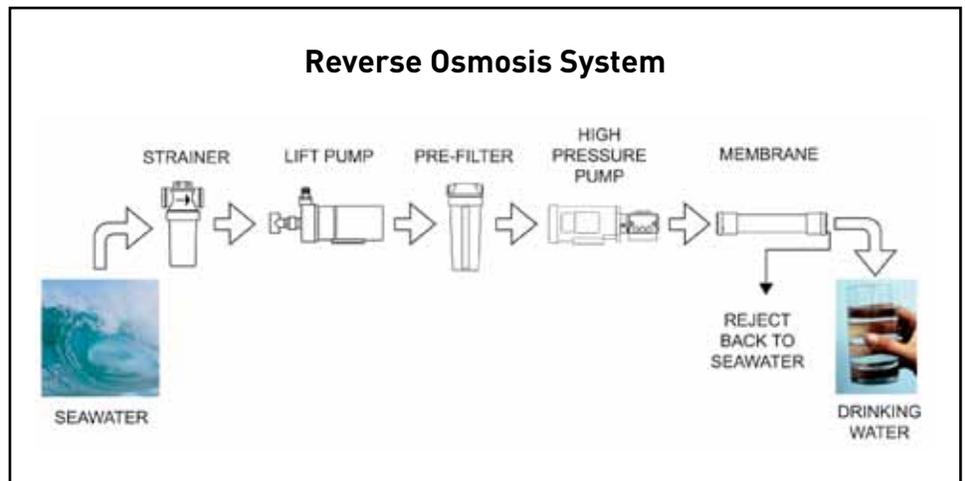
Aqua Pro, Titan Series, Titanium head, corrosion resistant high pressure pumps.



Aqua Pro, industrial grade, pleated pre-filtration



Convenient oil drain



# 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



Fiberglass pressure vessels



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



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



316 Stainless Steel Vibration isolation mounts

To maintain peak performance always use genuine Parker-Racor/Village Marine Tec. replacement parts. We reserve the right to change our specifications or standards without notice.



### Standard Features and Benefits include

- Monel mesh strainer and dual sediment prefilters.
- Maintenance-free air/oil separator allows operation while underway.
- Low RPM five plunger titanium pump for minimum vibration and noise with unsurpassed corrosion resistance.
- Magnetic drive low pressure pump provides up to 10 psi of boost pressure to the filtration system. No mechanical seal to reduce maintenance requirement.
- Stainless steel, glycerin filled pressure gauges.
- Freshwater flush system included. Optional automation of the flush system is available.
- 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 and allows high pressure bypass for start-up and low pressure flushing without readjustment of regulating valve.

## Pure Water Series

400-2,000 GPD (1,500-7,500 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.

Designed for 24/7, continuous-duty applications, where reliable fresh water supply is critical.

The fully framed unit is standard, however semi-modular and fully modular versions are also available.



VMT-PW 400-2,000 GPD (1,500-7,500 LPD)  
Horizontal Frame System (See bulletin no. 7783)



Manual Fresh Water Flush

VMT-PW 400-2,000 GPD (1,500-7,500 LPD)  
Modular System  
(See bulletin no. 7783)



Included Standard



VMT-PW 400-2,000 GPD (1,500-7,500 LPD)  
Semi-Modular System (See bulletin no. 7783)

# Pure Water Series

3,000-20,000 GPD (11,000-75,500 LPD)  
For Commercial Marine Applications

The PW Series reverse osmosis desalination systems are the preferred choice of fresh water generating equipment for the most discriminating marine operators (such as major oil companies, The United States Navy, The United States Coast Guard and The Cousteau Society).

Thousands of installations have proven this series to be the most reliable on the market. They are designed to provide performance and longevity under the most rugged conditions.



VMT-PW 3,000-20,000 GPD  
(11,000-75,500 LPD)  
Horizontal Frame System (See bulletin no. 7831)

Also available in explosion proof configuration  
for installation on oil and gas rigs.  
NEC rating, Class I, Division I, Group D  
(See bulletin no. 7857)



Optional modular configuration allows freedom to install components where space permits, and the modules are small enough to fit through hatchways for installation.



## Key Feature:



At the core of each PW series watermaker is the Aqua Pro® 3 or 5 plunger high pressure pump:

- Titanium head for maximum corrosion resistance.
- Balanced drive for lowest noise and pulsation.
- Ceramic Plungers and nylon valves for long service life.



## Pure Water Vertical Series

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



VMT-PWV2000 Vertical Frame System with front door open for maintenance access. (7,500 LPD) (See bulletin no. 7913)



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-PWV 800-1,200 GPD  
(3,000-7,500 LPD)  
Vertical Frame System  
(See bulletin no. 7913)



VMT-PWV 3,000-4,000 GPD  
(11,500-15,000 LPD)  
Vertical Frame System (See bulletin no. 7858)





# Squirt and Stowaway Series

400-1,300 GPD (1,500-5,000 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  
(See bulletin no. 7860)



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

VMT-Squirt Modular  
(See bulletin no. 7860)



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  
(See bulletin no. 7861)

## 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.
- Magnetic drive low pressure pump provides up to 10 psi of boost pressure to the filtration system. Never requires seal replacement.

Continued on page 9

- Glycerine filled pressure gauges
- Freshwater flush system included
- Optional automatic flush system is available.
- 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 Series

400-1,300 GPD (1,500-5,000 LPD)  
For Fishing Vessels and Work Boats



OML-Aegean Series  
(See bulletin no. 7874)

The full size Aegean watermakers are the flagship line of the OML series. They are designed to provide excellent service access, superior performance, and extended service life in the most rugged conditions.

Every Aegean model is designed for commercial duty applications, where reliable fresh water supply is critical.





## Little Wonder Series

145-200 GPD (550-760 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  
(See bulletin no. 7829)

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



VMT-LWM Modular with Pump/Motor  
(See bulletin no. 7829)

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



Standard Features:



Pre-Filter

Low Pressure  
Boost Pump

Manual Fresh  
Water Filter

VMT-LW-Vertical Frame System  
(See bulletin no. 7829)

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.
- Racor 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.
- 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.





## LT Series

400-1,800 GPD (1,500-6,750 LPD)  
For Power Boats, Sail Boats and  
Commercial Vessels Applications

### Standard Features:

- Compact stainless steel high pressure pump is resistant to the corrosive seawater environment
- Sediment prefilter at 5 micron rating
- Magnetic drive low pressure pump provides up to 10 psi of boost pressure to the filtration system. Never requires seal replacement
- Glycerin filled pressure gauges
- Flowmeter to monitor freshwater production
- Freshwater flush system included standard. Optional timed automatic flush with adjustable interval and duration for set-and-forget flushing
- 316 stainless steel pressure regulator is adjustable to allow operation in brackish or fresh water
- Electrical control panel Nema 4X with motor starter and pump controls
- Automatic diversion valve diverts water to overboard if quality drops below acceptable standards
- Digital water quality monitor displays purity of product water produced

The LT desalinator offers fresh water independence for ocean crossings, extended voyages or cruising where dock water supplies are unreliable.

The units feature a semi modular frame format, for installation flexibility. The frame is compact and can be above or below the water line. The boost pump and prefilters are supplied as loose items.



LT 1,800 (6,750 LPD)  
(See bulletin no. 7935)

### Key Features:



Models 400 and 600 can be configured with membranes mounted on top or back of frame, or with remote membrane rack extending height or depth by 4"/10cm. Please specify when ordering. Other LT models have remote membrane rack only.

## Sea Quencher Series

145-200 GPD (550-760 LPD)

For Power and Sail Boat Applications



OML-SQ 200  
Semi-Modular  
(760 LPD)

(See bulletin  
no. 7829)

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 (1,700-7,500 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 pressure vessels.



VMT-No Frills 450  
Modular  
(1,700 LPD)

(See bulletin  
no. 7853)





# Sea Water Series

24,000 - 93,000 GPD  
(91,000-352,000 LPD)

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

## OML- SW66 Modular



(See bulletin no. 7833)



Prefilter Skid



Optional Media Prefiltration



High Pressure Pump

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 (See bulletin no. 7832)



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.

# Purified Water for Disaster Relief

## The Problem

- The need to supply potable water to people after a disaster.
- When disaster strikes, a clean water supply must be established as quickly as possible.
- The longer a population is without a clean water supply the higher the incidence of disease and other complications.
- Relief agencies struggle to supply clean water in a timely manner.
- In the past, the solution has been to truck in bottled water.
- One tanker truck can only supply 8000 gallons of water. It would take numerous trucks to supply a large population of water.
- Moving this amount water is a resource intensive and costly task.
- The operation of moving this large amount of water on highways is a poor use of a critical logistic resources. The roads could be better used for other tasks in the resource constrained days following a disaster.



## The Solution

Provide water when and where it is needed.

Parker Racor Village Marine Tec. has provided disaster relief units to NASA (part of FEMA), EPA, US Navy, US Department of Interior, and the US Army.

### What makes these units unique is:

- Ease of deployment
- Self-contained power supply
- Simple operation
- Air and truck transportable
- Ruggedly built to withstand the harsh environment typical of a disaster situation.

### What is available from Parker:

- 200 to 250,000 gallons (.75 m<sup>3</sup> to 950 m<sup>3</sup>) per day systems.
- The smallest system comes in a back-pack format
- Larger systems are contained in standard ISO size shipping containers for easy transport on via Semi-trailer or C-130 airplane.

### Racor disaster relief units can effectively treat:

- Seawater and fresh water contaminated with nuclear, biological, chemical agents.

## Summary

The Parker Racor Village Marine Tec. reverse osmosis systems have proven to be a flexible and capable platform providing potable water to communities and hospitals in tough environments globally.



EUWP modules are designed for transport by C130 and other large cargo aircraft



EUWP  
Water Purification System  
(See bulletin no. 7851)





## 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.

(See bulletin no. 7905)



(See bulletin no. 7897)

# 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



(See bulletin no. 7885)

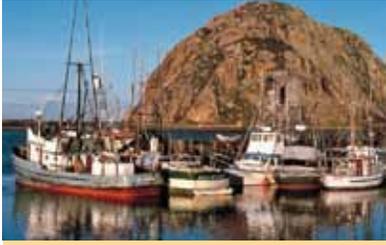


## Titan Series High Pressure Pumps

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.



# Accessories & Options

## RMF Remineralizer Systems



The Racor Village Marine Tec. Remineralizer Systems offer pH neutralization of RO water and are specifically engineered to operate with Village Marine PW and SW Series Watermakers. The media restores a buffer capacity to raise pH and reduce fresh water “aggressiveness” against metal pipes and fixtures. (See bulletin no. 7903)

## 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.

## Pressure Vessel Assemblies



Racor  
Village  
Marine RO  
membrane  
pressure  
vessels  
feature  
non-

metallic wetted surfaces for excellent corrosion resistance. Simple end plug design allows quick removal for element servicing.

If the size you require is not shown please contact us for custom builds. (See bulletin no. 7898)

## Ultraviolet Systems



Ultraviolet Systems 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

watermaker. An inexpensive option which provides an additional peace of mind. (See bulletin no. 7882)

## 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.

(See bulletin no. 7868)





Also Available From Racor

# 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.



Also Available From Racor

# crankcase

## 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.



### 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.**

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.

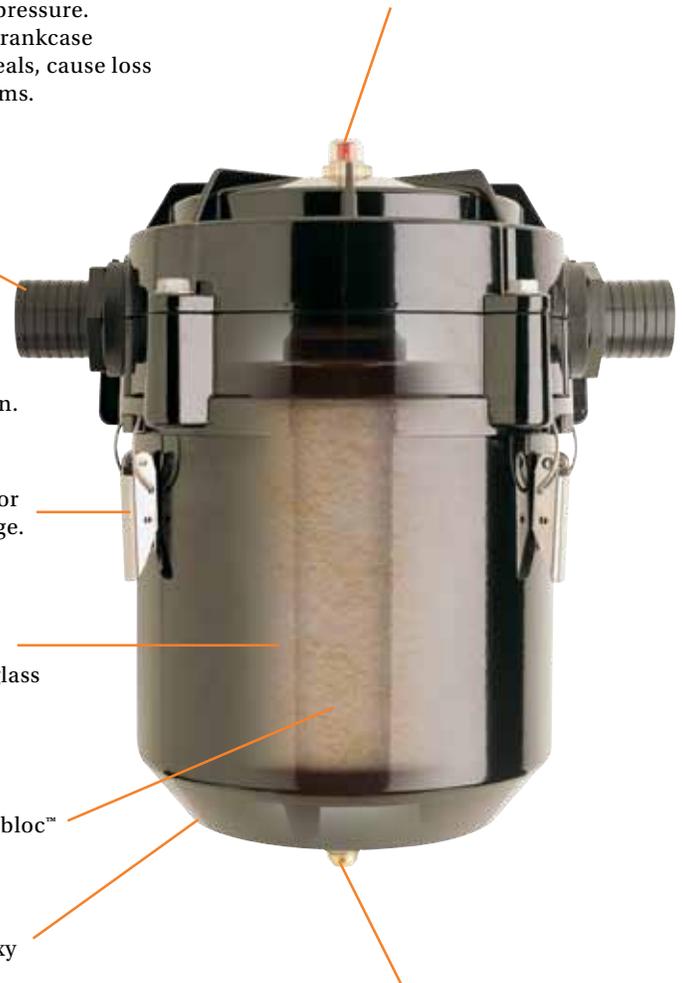
Replaceable high-performance filter with depth-loading, micro-glass fiber coalescing media.

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.



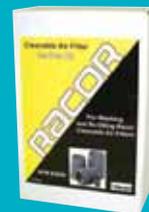
### Replacement Filters

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.



# 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, Racor Village Marine Tec. 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 Racor VMT to provide the toughest most reliable MIL-SPEC RO equipment.

## USN surface fleet installations

- ARLEIGH BURKE CLASS (DDG)
- SPRUANCE CLASS (DD)
- TICONDEROGA CLASS (CG)
- TARAWA CLASS (LHA)
- AVENGER CLASS (MCM)
- OSPREY CLASS (MHC)
- FREEDOM CLASS (LCS)
- CYCLONE CLASS (PC)
- SAN ANTONIO CLASS (LPD 24 AF)

## USN submarine fleet installations

- LOS ANGELES CLASS (SSN)
- OHIO CLASS (SSBN / SSGN)
- SEAWOLF CLASS (SSN)
- VIRGINIA CLASS (SSN)

## USN carrier fleet installations

- ENTERPRISE CLASS (CVN-65)

- GERALD R. FORD CLASS (CVN-78)

## USCG installations

- POLAR CLASS (WAGB)
- JUNIPER CLASS (WLB)
- KEEPER CLASS (WLM)
- MARINE PROTECTOR CLASS (WPB)
- ISLAND CLASS (WPB)
- RELIANCE CLASS (WMEC)
- FAMOUS CLASS (WMEC)

## 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

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

## Materials and processes

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

Technical support  
Technical assistance  
personnel who are factory trained to support the US Navy and USCG fleets.

Sales and Service Centers  
Located in Seattle, Honolulu, San Diego, Portsmouth, and three in Florida.

(See bulletin no. 7845)

# Racor VMT Sales Contacts

## Argentina

Ricardo Wall  
Buenos Aires  
+54 3327 44 4129  
rwall@parker.com

## Australia

Rex Barry  
Castle Hill  
+61 2 9634 5104  
RexBarry@parker.com

## Azerbaijan

Murad Jafarov  
Baku  
+ 994 50 2233 458  
parker.azerbaijan@  
parker.com

## Brazil

Marco Aurelio  
Cattaruzzi  
Office:  
+55 12 4009-3528  
Mobile:  
+55 12 8141-2677  
marco.cattaruzzi@  
parker.com

## Canada

Ed Wiebe  
Missauga Ontario  
209 247 6038  
ed.wiebe@parker.com

## Chile

Anny Haberland  
anny.haberland@  
parker.com

## China

James Wang  
Shanghai  
86 21 2899 5000  
JamesWang@  
parker.com

## Denmark

Mogens Kragh Jensen  
Ballerup  
+45 21 6158 35  
parker.denmark@  
parker.com

## Finland

Juuso Palmgren  
Vantaa  
358 (0)20 753 2500  
parker.fi nland@  
parker.com

## Germany

Eckhard Eisenmann  
Kaarst  
+49 (0)2131 4016 0  
parker.germany@  
parker.com

## Greece

Lambros Roussos  
Athens  
+30 210 933 6450  
parker.greece@  
parker.com

## Hong Kong

Albert Cheung  
Hong Kong  
852 2428 8008  
albertcheung@  
parker.com

## India

Dayanand Uppoor  
Mumbai  
+91 22 6513 7081-85  
dayananduppoor@  
parker.com

## Italy

Stefano Fogagnolo  
Corsico  
+39 02 45 19 21  
parker.italy@  
parker.com

## Japan

Kishio Hosaka  
Tokyo  
+81 3 6408 3901  
kishio.hosaka@  
parker.com

## Kazakhstan

Peter Hofer  
Almaty  
+7 7272 505 800  
parker.easteurope@  
parker.com

## Malaysia

Sheila Lim  
Singapore  
+65 6887 6300  
sheila.lim@parker.com

## Mexico

Vicente Cardenas M  
Monterrey  
+52 1 811 066 0804  
vcardenas@  
parker.com

## New Zealand

Armin Howard  
Auckland  
+64 9 574 1744  
armin.howard@  
parker.com

## USA

Racor VMT  
Sales Office  
Mike Karsmizki  
Gardena, CA  
1 310 516 9911  
mike.karsmizki@  
parker.com

Racor Sales &  
Service Center  
John Hay  
Seattle, Washington  
1 206 788-9595  
1 888 847 7472  
vmtwa@parker.com

Racor Sales &  
Service Center  
Steven Theus  
San Diego, California  
1 619 226 4195  
1 877 230 8935  
vmtsd@parker.com

Racor Sales &  
Service Center  
Harry Abeles  
Fl. Lauderdale, Florida  
1 954 523 4900  
1 800 625 8802  
vmtfl@parker.com

Racor Sales &  
Service Center  
Greg Newman  
East Riviera Beach, FL  
1 561 844 3320  
1 866 881 4168  
vmtwpb@parker.com

Racor Sales &  
Service Center  
David Martin  
Portsmouth, VA  
1 757 399 1350  
1 888 512 3167  
vmtva@parker.com

## Norway

Pal Otto Brouwer  
Oslo  
+47 64 91 10 00  
parker.norway@  
parker.com

## Panama

Francisco Lopez  
francisco.lopez@  
parker.com

## Phillipines

Francis Labayan  
Manilla  
+63 917 84 85945  
flabayan@parker.com

## Poland

Krzysztof Kornacki  
Warsaw  
+48 502 378 178  
parker.poland@  
parker.com

## Portugal

Pedro Lopes  
Leca da Palmeira  
+351 22 999 7360  
parker.portugal@  
parker.com

## Russia

Valentin Samorukov  
Moscow  
+7 495 645-2156  
parker.russia@  
parker.com

## Singapore

Sheila Lim  
Singapore  
+65 6887 6300  
Sheila.lim@  
parker.com

## South Africa

John Foley  
Kempton Park  
+27 (0)11 961 0700  
parker.southafrica@  
parker.com

## South Korea

Jae Cheon Kim  
Seoul  
+82 31 359 0890  
jae.cheon.kim@  
parker.com

## Spain

Victor de Miguel  
Madrid  
+34 629 903 410  
parker.spain@  
parker.com

## Sweden

Leif Reimelid  
Spanga  
+46 (0)8 59 79 50 00  
parker.sweden@  
parker.com

## Switzerland

Stephan Haechler  
Etoy  
+41 (0) 21 821 02 30  
parker.switzerland@  
parker.com

## Taiwan

Clark Lee  
Taipei  
886 2 2298 8987  
clark.lee@parker.com

## Thailand

Nisit Charoensuk  
Bangkok  
662 717 8140  
nisit.charoensuk@  
parker.com

## The Netherlands

Sander Bosch  
Oldenzaal  
+31 (0)541 585 000  
parker.nl@parker.com

## Turkey

Aygun Erol  
Istanbul  
+90 216 4997081  
parker.turkey@  
parker.com

## United Arab Emirates

Khalid Samhan  
Dubai  
97148127100  
parker.me@  
parker.com

## United Kingdom

Derek Martin  
Dewsbury  
+44 (0)1924 487000  
dzmartin@parker.com

## Venezuela

Gustavo Lezama  
Caracas  
+58 212 238 5422  
glezama@parker.com

## Vietnam

Sheila Lim  
Singapore  
+65 6887 6300

Parker Hannifin Corporation  
**Filtration Group**  
**Global Headquarters**  
 6035 Parkland Boulevard  
 Cleveland, OH 44124-4141  
 T 216 896 3000, F 216 896 4021  
[www.parker.com](http://www.parker.com)

## North America

**Compressed Air Treatment**  
**Filtration & Separation/Balston**  
 242 Neck Road  
 Haverhill, MA 01835-0723  
 T 978 858 0505, F 978 858 0625  
[www.parker.com/balston](http://www.parker.com/balston)

**Filtration & Separation/Finite**  
 500 Glaspie Street, PO. Box 599  
 Oxford, MI 48371-5132  
 T 248 628 6400, F 248 628 1850  
[www.parker.com/finitefilter](http://www.parker.com/finitefilter)

**Purification, Dehydration and**  
**Filtration Division**  
 4087 Walden Avenue  
 Lancaster, NY 14086  
 T 716 685 4040, F 716 685 1010  
[www.airtek.com](http://www.airtek.com)

Sales Office  
 5900-B Northwoods Parkway  
 Charlotte, NC 28269  
 T 704 921 9303, F 704 921 1960  
[www.domnickhunter.com](http://www.domnickhunter.com)

## Engine Filtration & Water Purification

**Racor**  
 3400 Finch Road, PO Box 3208  
 Modesto, CA 95353  
 T 209 521 7860, F 209 529 3278  
[www.parker.com/racor](http://www.parker.com/racor)

**Racor**  
 850 North West St., PO Box 6030  
 Holly Springs, MS 38635  
 T 662 252 2656, F 662 274 2118  
[www.parker.com/racor](http://www.parker.com/racor)

**Racor**  
 302 Parker Drive  
 Beaufort, SC 29906  
 T 843 846 3200, F 843 846 3230  
[www.parker.com/racor](http://www.parker.com/racor)

**Racor -- Village Marine Tec.**  
 2000 West 135th Street  
 Gardena, CA 90249  
 T 310 516 9911, F 310 538 3048  
[www.villagemarine.com](http://www.villagemarine.com)

## Hydraulic Filtration

**Hydraulic Filter**  
 16810 Fulton County Road #2  
 Metamora, OH 43540-9714  
 T 419 644 4311, F 419 644 6205  
[www.parker.com/hydraulicfilter](http://www.parker.com/hydraulicfilter)

## Process Filtration

**Process Advanced Filtration**  
 2340 Eastman Avenue  
 Oxnard, CA 93030  
 T 805 604 3400, F 805 604 3401  
[www.parker.com/processfiltration](http://www.parker.com/processfiltration)

## Europe

**Compressed Air Treatment**  
**domnick hunter Industrial**  
 Dukesway, Team Valley Trading Estate  
 Gateshead, Tyne & Wear  
 England NE11 0PZ  
 T +44 (0) 191 402 9000,  
 F +44 (0) 191 482 6296  
[www.domnickhunter.com](http://www.domnickhunter.com)

**Hiross Zander**  
**Padova Business Unit**  
 Strada Zona Industriale 4  
 35020 S. Angelo di Piove Padova, Italy  
 T +39 049 9712 111, F +39 049 9701 911  
[www.dh-hiross.com](http://www.dh-hiross.com)

**Hiross Zander**  
**Essen Business Unit**  
 Zander Aufbereitungstechnik GmbH  
 Im Teelbruch 118  
 D-45219 Essen, Germany  
 T +49 2054 9340, F +49 2054 934164  
[www.zander.de](http://www.zander.de)

**Parker Gas Separations**  
 Oude Kerkstraat 4  
 P O Box 258  
 4870 AG Etten- Leur, Netherlands  
 T +31 76 508 5300, F +31 76 508 5333

## Engine Filtration & Water Purification

**Racor**  
 Shaw Cross Business Park  
 Churwell Vale Dewsbury,  
 WF12 7RD England  
 T +44 (0) 1924 487000,  
 F +44 (0) 1924 487038  
[www.parker.com/rfde](http://www.parker.com/rfde)

**Racor Research & Development**  
 Parker Hannifin GmbH & Co KG  
 Inselstrasse 3 - 5  
 70327 Stuttgart Germany  
 T +49 (0)711 7071 290-0,  
 F +49 (0)711 7071 290 -70  
[www.parker.com/racor](http://www.parker.com/racor)

## Hydraulic Filtration

**Hydraulic Filter**  
 Stieltjesweg 8, 6827 BV  
 P.O. Box 5008 6802 EA  
 Arnhem, Holland  
 T +31 26 3760376, F +31 26 3643620  
[www.parker.com/eurofilt](http://www.parker.com/eurofilt)

**Ujala Operation**  
 Salmentie 260  
 31700 Ujala as Finland  
 T +358 20 753 2500, F +358 20 753 2501  
[www.parker.com/fi](http://www.parker.com/fi)

**Condition Monitoring Center**  
 Brunel Way Thetford,  
 Norfolk IP 24 1HP England  
 T +44 1842 763299, F +44 1842 756300  
[www.parker.com/cmcc](http://www.parker.com/cmcc)

## Process Filtration

**domnick hunter Process**  
 Durham Road, Birtley Co. Durham,  
 DH3 2SF England  
 T +44 (0) 191 410 5121,  
 F +44 (0) 191 410 5312  
[www.domnickhunter.com](http://www.domnickhunter.com)

## Asia Pacific

**Australia**  
 9 Carrington Road, Castle Hill  
 NSW 2154, Australia  
 T +61 2 9634 777, F +61 2 9899 6184  
[www.parker.com/australia](http://www.parker.com/australia)

**China**  
 280 YunQiao Road  
 JinQiao Export Processing Zone  
 Shanghai 101206 China  
 T +86 21 5031 2525, F +86 21 5834 3714  
[www.parker.com/china](http://www.parker.com/china)

**India**  
 Plot EL 26, MIDC, TTC Industrial Area  
 Mahape, Navi Mumbai 400 709 India  
 T +91 22 5613 7081, 82, 83, 84, 85  
 F +91 22 2768 6618 6841  
[www.parker.com/india](http://www.parker.com/india)

**Japan**  
 626, Totsuka-cho, Totsuka-ku  
 Yokohama-shi, 244-0003 Japan  
 T +81 45 870 1522, F +81 45 864 5305  
[www.parker.com/japan](http://www.parker.com/japan)

**Korea**  
 1-C Block, Industrial Complex of Jangan,  
 615-1, Geumui-Ri Jangan-Myeon,  
 Hwaseong-City Gyeonggi-Do, Korea  
 T +82 31 359 0771, F +82 31 359 0770  
[www.parker.com/korea](http://www.parker.com/korea)

**Singapore**  
 11, Fourth Chin Bee Road  
 Singapore 619 702  
 T +65 6887 6300, F +65 6261 4929  
[www.parker.com/singapore](http://www.parker.com/singapore)

**Thailand**  
 1023 3rd Floor, TPS Building  
 Pattanakam Road, Suanluang,  
 Bangkok 10250 Thailand  
 T +66 2717 8140, F +66 2717 8148  
[www.parker.com/thailand](http://www.parker.com/thailand)

## Latin America

**Parker Comercio Ltda.**  
**Filtration Division**  
 Estrada Municipal Joel de Paula  
 900 Eugenio de Melo,  
 Sao Jose dos Campos  
 CEP 12225-390 SP Brazil  
 T +55 12 4009 3500, F +55 12 4009 3529  
[www.parker.com/br](http://www.parker.com/br)

**Pan American Division - Miami**  
 7400 NW 19th Street, Suite A  
 Miami, FL 33128  
 T 305 470 8800 F 305 470 8808  
[www.parker.com/panam](http://www.parker.com/panam)

## Africa

**Parker Hannifin Africa Pty Ltd**  
 Parker Place, 10 Berne Avenue,  
 Aeroport Kempton Park,  
 1620 South Africa  
 T +27 11 9610700, F +27 11 3927213  
[www.parker.com/eu](http://www.parker.com/eu)