



# FISH TALES



As the largest commuter, tourist and commercial ferry system in the United States, Washington State Ferries maintains a busy schedule transporting over 26 million people and vehicles in its 28-vessel fleet, 400 times per day. Riding the ferries is the shortest and most economical distance between Washington's



coastal topography that includes the many islands and peninsulas of Puget Sound. Washington State Ferries' largest vessels can accommodate 2,500 passengers and

202 vehicles. With the engine room and control centers located beneath the busy car decks, polypropylene air filters are utilized within the vessels' HVAC equipment for machinery cooling and indoor air quality for the crews' quarters and passenger areas. Beginning in the early 80's, Permatron's Model IN air filters were installed in specific areas such as the propulsion alternator intake air (to four 2mw General Electric air-cooled alternators), propulsion console cooling air supply, and panels that contain vital electronic equipment. Staff engineers found that the 2" thick polypropylene filters performed exceptionally well for protecting the costly, sensitive machinery that kept the vessels running smoothly. On a monthly basis, and once the vessel is docked, crews remove the easily accessible, dirt-loaded air filters and replace these with a clean set as part of the operation's regular maintenance schedule. Cleaning is simple: warm water and soap are used to back flush the filter media. Drain holes in the frames ensure thorough removal of captured particulate matter.

Matthew's Marine A/C, Inc., based in Ft. Lauderdale, Florida, has been a premier provider of air conditioning and refrigeration equipment to the yachting community for many years. They've been installing Permatron's PreVent® Model U polypropylene air filter with a flexible vinyl frame into the return air grills and air handlers in private yachts their company services on a regular basis. The interior of a vessel can have self-contained A/C units in each room, split A/C units with ductwork and chilled water air handlers or evaporators. The number of air handlers generally depends on the size of the

vessel. A 150' yacht can have as many as 35-45 total air handler units, with 4 located in the main salon, 2 in the dining salon and 1 in the captain's stateroom. Smaller 50' vessels usually require 4-5 total. The air handlers are a tight fit in areas throughout the vessel with locations in cabinets, under beds and closets. The flexible variation of the PreVent® filter allows for ease of removal during preventative maintenance. The units they have used Permatron's polypropylene filters on have been protected better than the cut-to-fit aluminum, poly-synthetic or hogs hair filters used in past. The overall quality, long lasting efficiency and proper fit have worked great. They also found that a washable type filter is better for the environment, because there is no disposal waste and on a yacht, replacement filter storage is not necessary.

Commercial Filters Sales, based in Seattle, Washington was hired by Cruise West to solve their onboard filtration needs. As a premier small group cruise line for over 60 years, Cruise West has always put their guests' top-of-mind. Their luxurious, smaller ships enable travelers to explore remote locals, from Europe, the Antarctica and Alaska to Mexico Sea of Cortez, the Panama Canal and Cost Rica, not accessible to larger cruise ships. At a time when Bird Flu and Swine Flu have travelers on edge, Cruise West requested an all plastic filter that could be taken to their laundry room and thoroughly cleaned on a regular basis in chlorine bleach to ensure that all bacteria, mold and viruses were eliminated. Commercial Filter Sales and Permatron developed a 1" thick filter containing washable polypropylene media and foam mix encased in a rigid polypropylene netting for support and a durable plastic frame. All elements are UV protected, rot resistant, weather resistant and corrosion resistant.

Maritime environments can be very unforgiving places when it comes to operating costly equipment and maintaining occupant safety and comfort. Tightly sealed vessels in a dark, damp atmosphere with wide temperature differentials can be an HVACR technician's worst nightmare. Extreme weather conditions, sudden wind gusts and sea salt sprays all add to the corrosive environment. Space and weight are design problems for vessels, requiring heating, ventilation and air conditioning equipment are kept to a minimum. Make-up air or fresh outside air is limited, especially down narrow halls and

stairwells leading to closed off lower rooms. Stagnate old air has no place to go and needs constant ventilation for recycling. Airborne dust particles, bacteria, molds, yeasts and VOC's can build up to be a serious problem. Finding the right air filtration solution begins by taking into account the airflow, the operating environment, the space constraints and the maintenance requirements. Washable polypropylene media works extremely well in such an environment. Still air, moisture and a food source, all elements readily available on a ship, create a perfect atmosphere for growing molds. Because the woven media of polypropylene is manufactured as a mono (single strand) filament extruded plastic, it does not have a porous surface. This means that it will not absorb or retain moisture, and does not encourage the growth of mold, bacteria, viruses, yeast or fungi, which are all common complaints in the boating/shipping industry. Synthetic foams can be added to marine filters for greater arrestance efficiency. The ethers hold up very well in wet environments including salt water, and have historically been used for pond and fish filters for many years. A variety of durable frame options are available for corrosive environments, like rigid plastic, stainless steel or flexible vinyl edging. Permatron has a complete line of filter designs for corrosive environments. Call us at 1-800-882-8012.



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