NEW

Ship-Wide Ventilation Systems

Fans, Blowers, Mist Eliminators, Dampers & Controls

Fan controls, mist eliminators, smoke and fire dampers, fans, and blowers for ship-wide ventilation systems

Dometic offers ship-wide ventilation products for the commercial and pleasure boat markets, including axial fans, centrifugal blowers, smoke and fire dampers, mist-eliminating grilles, and electronic fan controls.

Commercial-grade axial fans and centrifugal blowers provide cooling and/or combustion air for marine machinery spaces. Materials are chosen with corrosion resistance and weight in mind. Blades are constructed of high-strength PPG glass-reinforced polyamide, with standard powder coating of the fan housing. Fan motors are high efficiency, direct drive, and reversible. All hardware is either marine-grade aluminum or 316 stainless steel.

Smoke and fire dampers close off the engine space in the event of a fire. The lack of fresh air in conjunction with the release of fire retardant can snuff out a fire and save a boat from possibly burning to the waterline. Dampers come in both marine-grade aluminum and stainless steel.

Mist-eliminating grilles stop corrosive salt mist and water from entering the engine room. Each mist eliminator is custom designed for maximum air flow and minimum restriction for a given machinery package, keeping air flow and dimensional restrictions in mind. There are four mist eliminator drainage options: bottom draining, face draining, horizontal and sump draining.

Pressure- and temperature-monitoring fan controls are available for three-phase fans and blowers, as well as 24 VDC fans. They can be manual variable speed, temperature controlled, pressure controlled, or pressure and temperature controlled. DC controls are temperature based. All controls come standard with fire system shutdowns. Three-phase systems can also have fire damper control. Interface with central monitoring systems is optional.

3-phase axial fans available in 12-48 in. (30.5-61 cm) diameter range, with high-strength PPG glass-reinforced polyamide blades.

Mist eliminators are custom designed to maximize air flow, with four drainage options: Bottom, face, horizontal, or sump.

Smoke and fire dampers are available in marine-grade aluminum or stainless steel with manual, pneumatic (shown), or electronic operation.

Key Benefits

- Custom solutions for protecting marine machinery spaces
- Pressure- and temperature-monitoring fan controls with fire system shutdown as standard
- Fan controls available for 3-phase and 24V DC fans and blowers
- Optional central monitoring interface available for fan controls
- Smoke and fire dampers are available in marine-grade aluminum or stainless steel
- Dampers can be operated manually, pneumatically, or electronically
- Mist-eliminating grilles (demisters) are custom designed for maximum air flow and minimum restriction
- Demisters have four drainage options: Bottom, face, horizontal, or sump
- Commercial-grade fans and blowers built for optimal corrosion resistance and weight
- Blades are constructed of high-strength PPG glass-reinforced polyamide
- AC fans have powder coated housing
- Fan motors are high efficiency, direct drive, and reversible
- Marine-grade aluminum or 316 stainless-steel hardware

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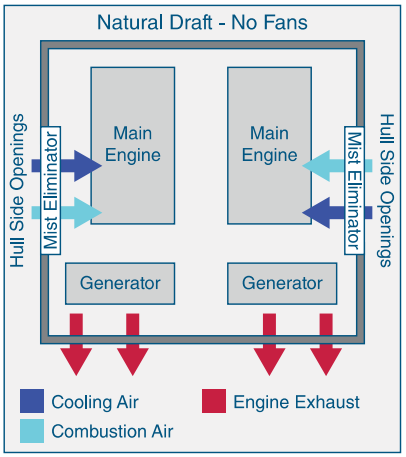
Types of Engine Ventilation Systems

Natural Draft – No Fans

A Natural-Draft ventilation system is the most basic. The main engines pull air through the mist eliminators mounted in plenum boxes just inside the hull openings. As the combustion air is exhausted, it removes heat from the space and no fans are used. A Natural-Draft system is typically used on small boats with small engine spaces.

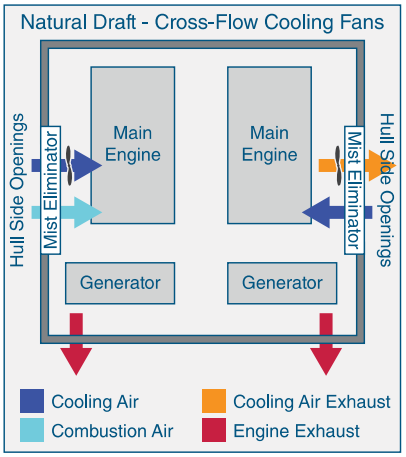


Advantages: Simple, inexpensive, lightweight, no electrical load

Disadvantages: High temperatures at low RPM, no control of temperature, large openings and mist eliminators are needed as engine size increases to provide an acceptable pressure drop for proper engine operation

Natural Draft – Cross-Flow Cooling Fans

Commonly found on sport-fish boats from 30-80 ft. (9-24 m), a cross-flow fan arrangement is used to control the temperature of the space, and the engines pull the necessary combustion air through the mist eliminators. This system typically uses two or four DC fans or small single-phase AC fans. Four-fan systems typically use the forward fans as intakes and aft fans as exhaust which helps maintain uniform temperatures at the engine intakes. On larger vessels the fans may be 3-phase variable speed with a control that is capable of automatic temperature management.

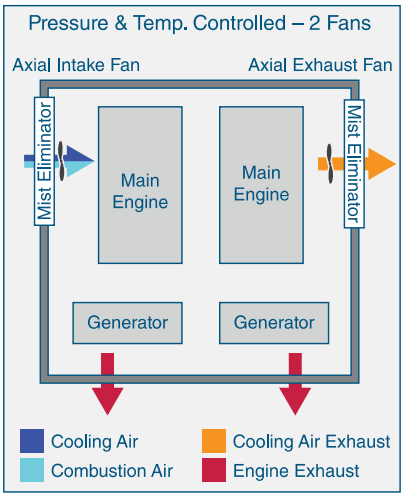


Advantages: Simple, cost effective, lightweight, temperature is controlled during trolling and low RPM

Disadvantages: Uncontrolled fans can be noisy, with high DC current draw in some cases

Pressure and Temperature Controlled

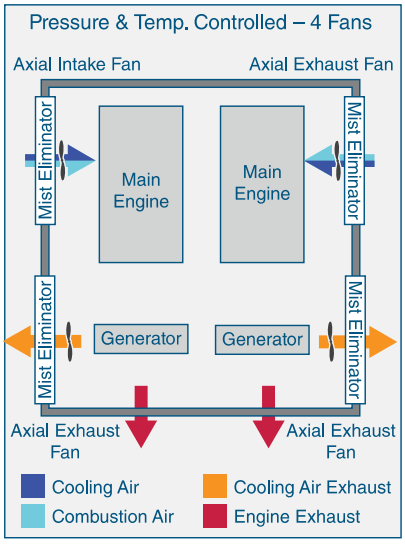
At a certain point a vessel becomes too large for small fans to be effective, and the intake and exhaust openings required for a natural-draft intake start to cause design issues because of open area needed for proper function. When this happens it's time to step up to 3-phase AC fans with variable-speed drives and a fan control.



By using intake and exhaust fans capable of supplying the required combustion and exhaust air, the static pressure created by the mist eliminators and grilles can be overcome. In addition, smaller openings relative to engine size and natural draft configuration can be used. However, an advanced Dometic pressure- and temperature-monitoring fan control must be employed to maintain optimal air pressure in the engine space.

Advantages: Precise control of pressure and temperature, reduced opening and moisture eliminators size, lightweight, automatic operation both underway and dockside

Disadvantages: Fan sizing becomes critical, significant cost, complexity, large fans present packaging issues, large electrical loads



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L-3283 Rev. 20150213