



THE CM-1000 SERIES:

SMART TECHNOLOGY TO OPTIMIZE VESSEL PERFORMANCE



MORE EFFICIENT VESSEL OPERATION

The demands for efficiency have never been greater on those who own, operate and build Commercial Marine vessels. You're tasked with reducing costs while maintaining peak performance, crew safety and compliance with environmental regulations. To help you address these challenges, CIRCOR offers Smart Technology that optimizes sea water cooling systems. Traditional system design runs pumps continuously at full speed for worst case conditions: 32° Celsius sea water, full load of all equipment and a bypass control. Now, you can count on the Smart Technology CM-1000 Series. This smart pump controller leverages condition and operation monitoring with variable speed operation and CIRCOR's unique Active Valve Control, to enhance the overall reliability of your complete sea water cooling system and to:

- › Maximize shipboard pumping efficiency
- › Reduce operating and maintenance costs
- › Minimize downtime
- › Support sustainability with green vessels
- › Make the best use of your crew's time

We call this value to you **Total Savings of Ownership.**

RESULTS THAT ADD UP IN SAVINGS ON ENERGY, MAINTENANCE, LABOR AND FUEL

The CM-1000 Series not only provides new capabilities for vessel efficiency, reliability and performance but delivers significant cost reductions.

ENERGY SAVINGS UP TO 85%

Variable Speed Operations and Active Valve Control, unique to CIRCOR, maintain pump motor speed in the optimal range

MAINTENANCE SAVINGS UP TO 50%

Condition Monitoring prevents catastrophic breakdowns through early detection

INCREASED UPTIME

Operation Monitoring extends mean time between failures (MTBF) by avoiding overload and part load operation

INCREASED PRODUCTIVITY

The **Smart Controller** frees your crew to concentrate on other tasks with continuous, real-time status information and alert alarms

FAST PAYBACK

CM-1000 delivers short-term ROI and long-term savings by extending the service life of your pumps and minimizing fuel consumption year after year



HOW THE SMART TECHNOLOGY CM-1000 SERIES OPERATES

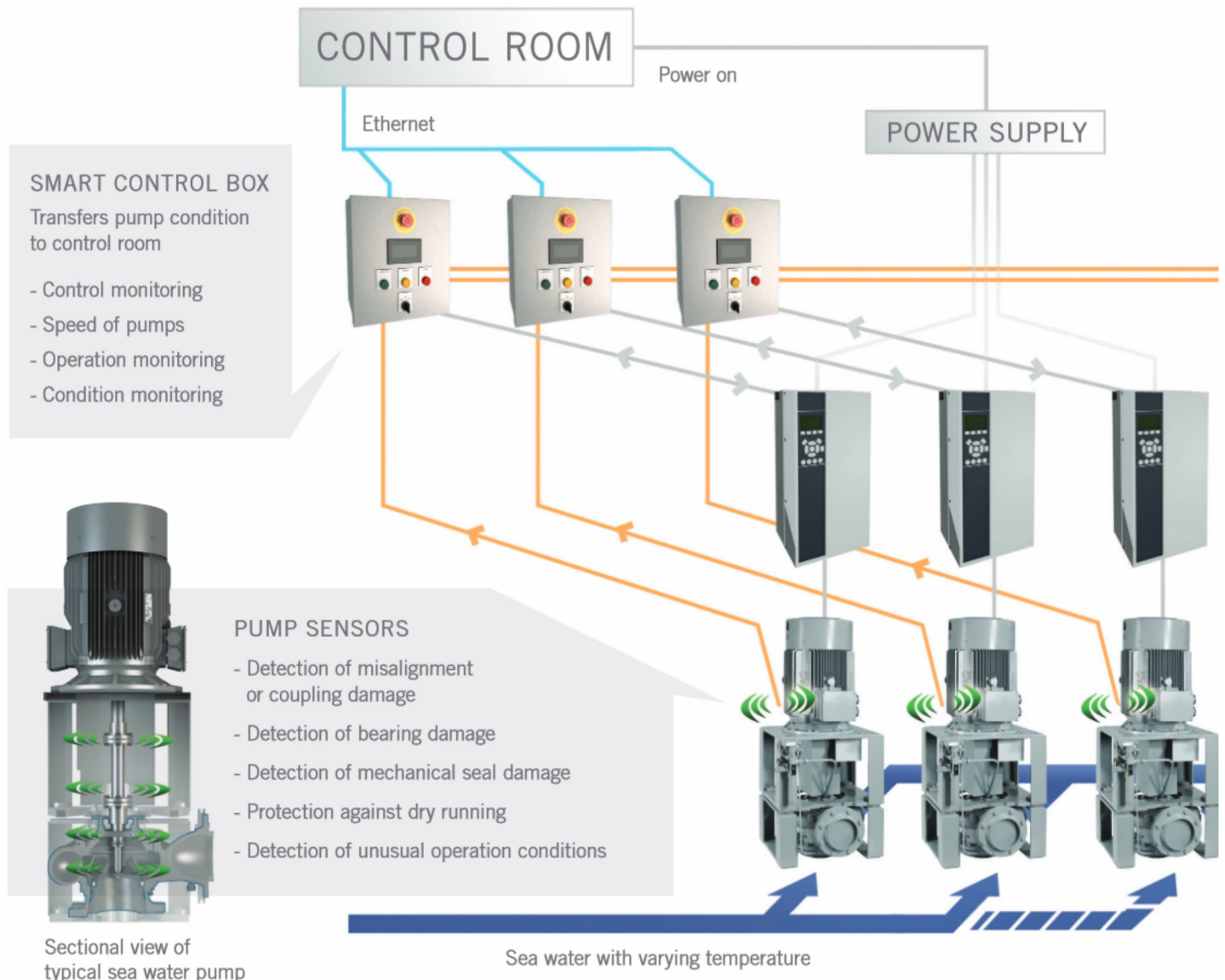
NO OVERCAPACITY. NO NEED FOR BYPASS CONTROL. NO WASTED ENERGY!

CIRCOR designed the CM-1000 Series to operate sea water pumps only as fast as needed for prevailing conditions and to provide the exact flow required for cooling. As temperature conditions change on the fresh water side, the CM-1000 Series varies the operation of sea water cooling system electric motors and pumps, using only the speed and energy required to provide optimal cooling conditions. The result: reduced hydraulic loads and enhanced equipment life.

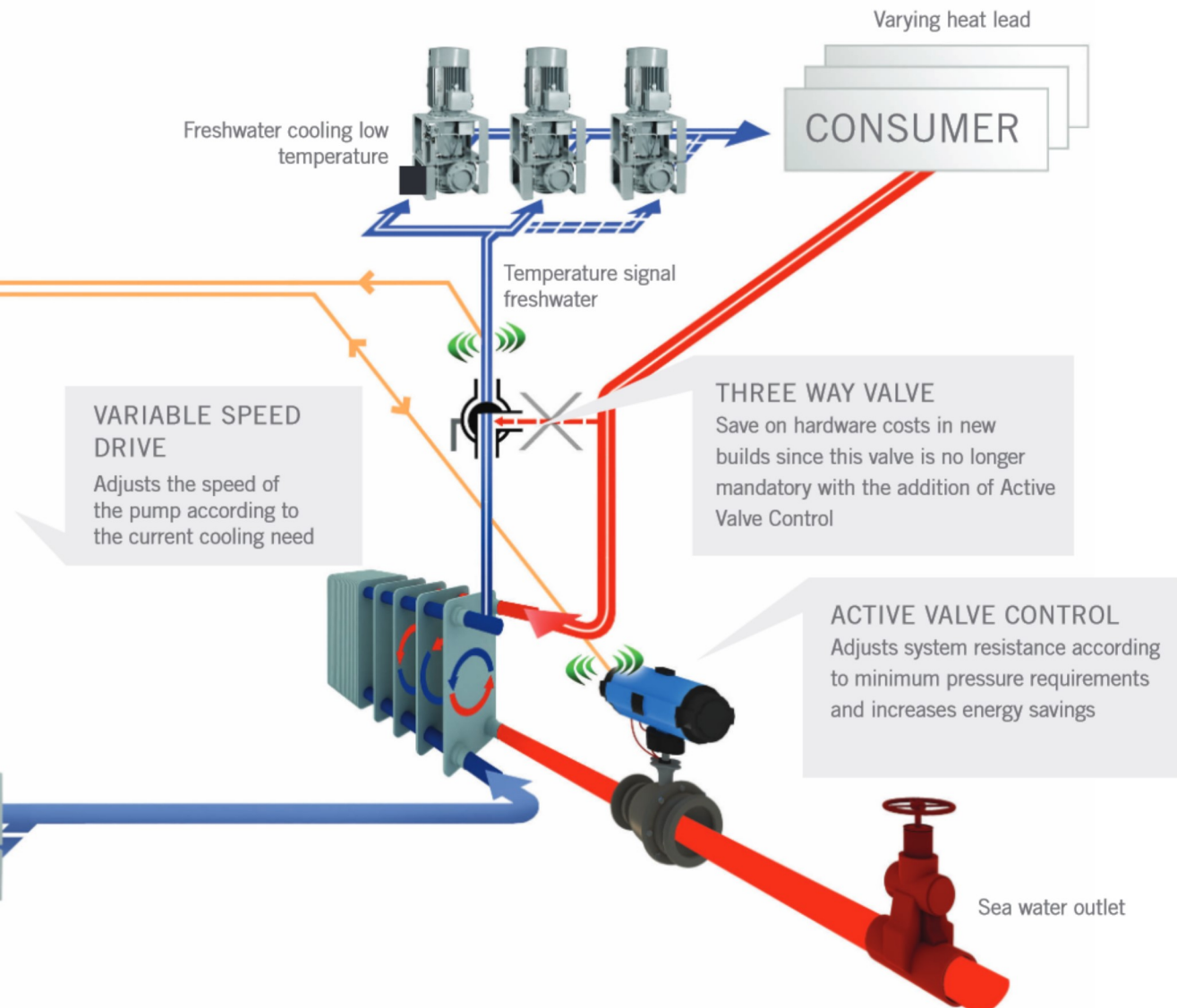
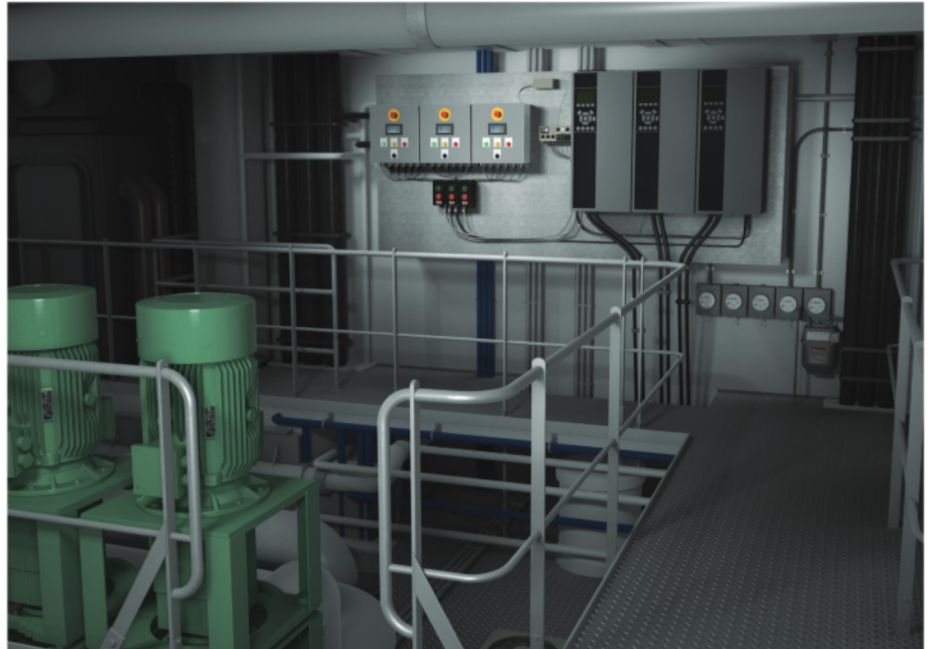
The Active Valve Control function, unique to CIRCOR, provides incremental energy savings by automatically opening and closing valves in the cooling system based on operating conditions. This provides optimum pump performance, eliminates the risk for incorrect manual valve settings and allows for system bypass simplification to reduce equipment and maintenance costs.

CM-1000 SERIES AT WORK

OPTIMIZED 3x50% SEA WATER SYSTEM SET UP (2x100% SEA WATER SYSTEM ALSO AVAILABLE – NOT SHOWN)



The CM-1000 Series uses sensors to monitor equipment and operating conditions of each pump and valve. Data is exchanged via an Ethernet to provide real-time information and status indications to the control room. Warning and alert alarms are delivered visually and audibly to allow necessary system adjustments or service to occur.





REDEFINING EFFICIENT OPERATION

The CM-1000 Series combines a smart controller with condition and operation monitoring, variable speed operation and Active Valve Control functionality, unique to CIRCOR, to optimize the performance of your sea water cooling system.

Our commitment to you also includes unmatched understanding of your business challenges and global responsiveness to your needs. Our team of experts bring significant marine experience, quality design and engineering, efficient processes and full aftermarket service and support.

CALCULATE YOUR SAVINGS



THE CM-1000 OFFERS:

- › ENERGY SAVINGS OF UP TO 85% by reducing power consumption
- › MAINTENANCE SAVINGS OF UP TO 50% by preventing breakdowns through early detection
- › ENHANCED LIFETIME/MTBF by reducing loads
- › HIGHEST EFFICIENCY BEST NPSH PERFORMANCE by using full impeller diameter & lower speed operation
- › SAFER OPERATION by avoiding operation outside the limits
- › HIGHEST SYSTEM AVAILABILITY by detecting problems early

Visit circorpt.com/CM1000 to calculate your real-world energy savings and CO2 emissions reduction with the CM-1000 Simulator Calculator.



CIRCOR is a market-leading, global provider of integrated flow control solutions, specializing in the manufacture of highly engineered valves, instrumentation, pumps, pipeline products and services, and associated products, for critical and severe service applications in the oil and gas, power generation, industrial, process, maritime, aerospace, and defense industries.

Excellence in Flow Control

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