

Energy optimization

Solution 6



Replace wax valves and move to electric valves

Proper temperature control of older engines can lead to higher engine performance, less carbon build-up in the system and better fuel economy.

For many years, thermostatic control valves with wax have been used to regulate engine fluid temperature in applications such as jacket water cooling, lube oil cooling and LT cooling control.

New demands for better regulation have opened up for electrically actuated control valves.

The new Clorius valves offer significant advantages compared to mechanically controlled valves and can help make traditional wax valves a part of the past.

Typical challenges with existing thermostatic control valves

In many marine installations, older thermostatic temperature control valves are still in operation, and over time they tend to create a range of operational and maintenance challenges.

Engine temperatures may fluctuate, average temperatures often remain too low, and existing valves can suffer from

high leakage rates. Spare parts can be difficult to source, internal thermostats need replacement after running time, and overall maintenance costs increase, adding extra workload for the crew. In addition, the manual override procedures on these valves are often complicated.

Together, these issues can lead to downtime, breakdowns, thermal stress on engine components and a heightened risk of engine failure, as well as visible pollution such as black smoke emission.

Clorius offers

- Complete valve & controller set, easy to install
- Automatic regulated steam valves ranging from DN15 up to DN300
- Can be delivered with actuators for electrical or pneumatic controls
- Sized based on actual system pressure & flow data
- Low investment cost with good savings to be achieved.

Key benefits of moving from wax to electric

Electric control valve sets from Clorius provide a number of advantages when modernizing your marine engine and cooling system:

- Drop-in or plug-and-play replacement, valve delivered with spacers and bolts
- No hot work required on the piping system during installation
- No class recertification required when replacing existing thermostatic control valves
- Reduced maintenance costs for new thermostats and minimum maintenance work in general
- Unnecessary draining of the cooling system to maintain the old thermostatic valve is avoided
- Risk of total engine failure significantly reduced
- Visible pollution reduced by lowering black smoke emission
- No docking of the vessel required for installation
- Higher average engine temperature possible, supporting better fuel efficiency
- In addition to remote temperature sensing capabilities, electric actuated valves increase engine efficiency by reducing engine warm-up times
- Stable temperature in all operating conditions, leading to better engine running conditions
- Easy manual control in the event of electrical failure - manual handle on actuator, no tools required
- No issues with adjusting manual override due to failure on wax element on some applications
- Minimum need for spare parts and unnecessary inventory of wax valve components
- One-stop shop. Clorius can deliver the full valve and controller package
- Higher engine temperature prepared for new heat recovery energy solutions in the future

Retrofit of existing thermostatic control valves

Existing thermostatic control valves are widely used for essential temperature-regulating applications such as jacket water, lube oil and LT cooling. These valves can be retrofitted with Clorius COMPACT low leakage electric control valves to achieve faster engine warm-up and improved overall efficiency.

Clorius offers complete replacement packages from DN80 to DN400, including compact 3-way valves, spacers, bolts and a controller with sensor. The flexible, one-piece slider design fits all types of installations and helps prevent malfunction.

Combined with the ER 2022 controller series, the solution reduces temperature fluctuations, thermal stress and maintenance, supporting faster heat-up times and higher engine efficiency.

Take control of your engine temperature and maintenance

By replacing existing wax or thermostatic temperature control valves with Clorius electrically actuated low leakage control valves, you can:

- Improve temperature control and engine performance
- Reduce maintenance and spare parts handling
- Minimize downtime, black smoke and the risk of severe engine failures
- Prepare your vessel for future energy recovery solutions.



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