



Energy optimization

Solution 7



Inland water – electric control valves

Replace wax-type valves on pushboats and towboats to eliminate internal leakage, stabilize engine temperatures, and cut fuel and maintenance costs.

Inland waterways present demanding operating conditions with shallow drafts, large temperature swings and frequent load cycling. Traditional wax-type thermostatic valves struggle in these environments, leading to internal leakage, sluggish temperature control and reduced engine efficiency.

The Clorius Electric Control Valve is purpose-built to replace legacy 3-way wax valves with a precise, electrically actuated alternative. It delivers faster warm-up, tighter temperature stability and minimal maintenance.

Designed specifically for inland towboats and pushboats operating on U.S. rivers, this solution improves fuel efficiency, uptime and overall reliability.

Key Features

- Compact retrofit design: Install into existing piping with no hot work or reclassification required.
- Universal 3-way compatibility: Replaces all legacy wax 3-way valves in the field.
- Smart ER2022 controller: Dynamically adjusts valve position to maintain target temperatures.
- Manual override lever: Ensures manual operational control during power loss.

Operating Principle

When traditional wax valves appear “closed,” they still allow internal leakage to pass to the keel cooler, gradually cooling down the engine while running at idle speed.

Under these conditions, black smoke may appear when the throttle is moved from idle to higher power.

This can be prevented if the engine temperature is kept higher and more stable.

Proper temperature control of older engines results in better engine performance, less carbon build-up in the system, and improved fuel economy.

Benefits

- Reduced thermal stress on engine components: A higher and more stable temperature improves fuel efficiency and helps comply with increasingly strict environmental regulations.
- Lower maintenance costs: Less wear, fewer failures, and simplified spare parts management.
- Fast ROI: Retrofit-friendly design minimizes installation costs, and performance gains begin immediately.
- Enhanced operational stability: Smoother temperature control reduces engine stress during load transitions.
- Simplified maintenance: Eliminates the need to drain the cooling system to service or maintain old thermostatic valves.

Ideal Applications

Engineered for U.S. inland barge operators, including vessels on the Mississippi, Ohio, and the Missouri rivers, this solution is especially valuable for aging fleets, frequent load-cycle operations, and operators facing rising fuel and maintenance costs.



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