

MT COOLANT CHECK (patent pending)

Non-Chemical Approach to Engine Cooling System Predictive Maintenance

The MT COOLANT CHECK is designed and developed for regular on-site assessment of the engine coolant quality in the global shipping sector and beyond. It offers a completely novel, **non-chemical and environmentally friendly** approach to engine cooling system predictive maintenance that is not yet available on the market. The conventional engine coolant testing (e.g., the test kits of Martechnic COOLANT AND LUBE OIL and MT COOLING WATER CHECK) requires complex physical and/or chemical analyses of individual parameters (pH, chlorides, nitrite additives etc.) to determine whether the anti-corrosion effect of the coolant in use is still sufficient. In contrast, the measurement method of MT COOLANT CHECK is based on an electrotechnical apparatus with constant (corrosion resistant) and working/changeable (corrosion-prone) electrodes in a simulated cooling system. By applying electrical voltage, both electrodes are subjected to corrosion stress. Thereby, instead of determining the content of anti-corrosion additive in "ppm" or "mg/l", the test device directly assesses the overall effectiveness of the anti-corrosion protection on the metals used in the cooling system.



Technical Features:

- Measuring range: water-based coolants in maritime sector
- Measured sample: one coolant sample in a simulated cooling system
- Measuring time: up to 15 min.
- Measurement unit: "MT unit" ("Lagner")

Benefits:

- Replaces a series of individual tests
- No (hazardous) chemicals for testing
- Environmentally friendly

To quantify the remaining corrosion protection, a new unit of measurement is created: an abstract value referred to as "MT unit" ("Lagner"). In order to provide the accurate recommendation/ guidance for the user (i.e., the engine coolant is fit for further use or attention / action is required), the test result in "MT units" ("Lagner") is to be assessed in relation to the following factors in the **Recommendation Chart**:



When all the factors are considered together, the accurate dosing rate of the chemical additive to be added can be calculated.