



## WÄRTSILÄ RECEIVER TEMPERATURE DEW POINT CONTROL (RTDC)

The Wärtsilä RTDC improves the efficiency and reliability of engine operation while lowering fuel consumption and emissions. By automatically controlling the charge air temperature in relation to the ambient air humidity, it prevents condensation and the risk of corrosion.

### THE IMPORTANCE OF DEW POINT CONTROL

Ships operating in variable ambient conditions often run their engines with an unnecessarily high charge air temperature. This can result in condensation in the charge air system, which can cause corrosion and reduce the operating lifetime of the engine.

A conventional control system keeps the charge air temperature constant without taking humidity into account. The Wärtsilä RTDC is a fully automated solution that dynamically adjusts the LT water flow for the optimal charge air temperature. This prevents condensation in the charge air receiver, thus preventing corrosion and reducing the risk of engine damage.

Dew point control systems have demonstrated their effectiveness in Wärtsilä land-based power plants. They are now available as a retrofit for marine installations.



### Benefits of Wärtsilä RTDC include

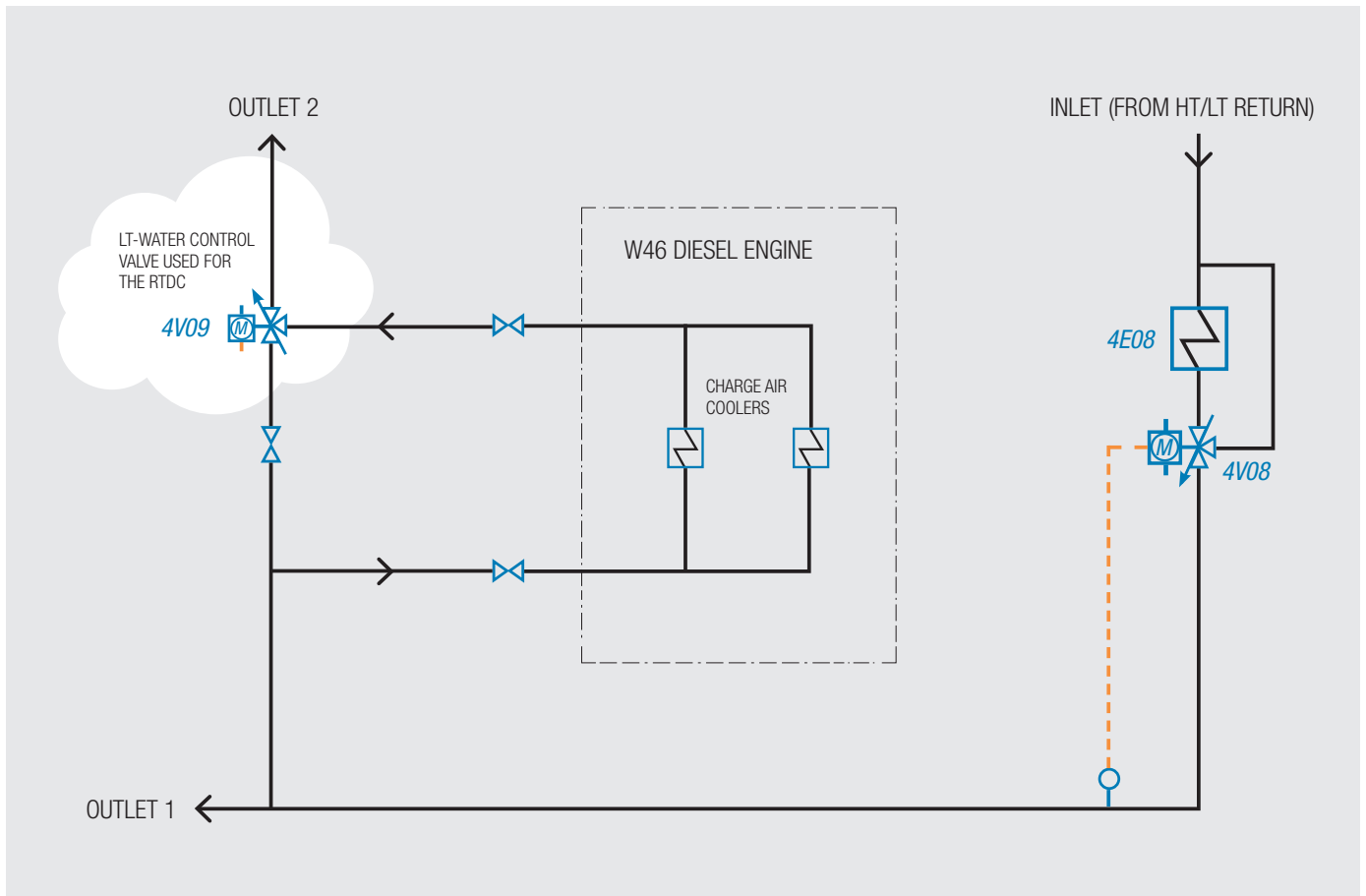
- Reduced risk of corrosion in charge air system and inlet valves
- Increased lifetime of equipment
- Improved fuel economy by up to 1.0%
- Decreased CO<sub>2</sub> and NO<sub>x</sub> emissions

### Wärtsilä RTDC is suitable for

- Wärtsilä 46 engines in cruise ships and car ferries
- Other 4-stroke engines as a customised solution

### Wärtsilä RTDC is easy to install

- Designed with standard components
- Can be installed during vessel operation



The Wärtsilä RTDC prevents condensation by automatically adjusting the LT water flow for the optimal charge air temperature for variable load and ambient conditions.

### EASY INSTALLATION DURING VESSEL OPERATION

To minimise engine downtime, the Wärtsilä RTDC can be installed while the vessel is in operation. It is designed with standard components to cover various Wärtsilä 46 engine configurations and water control systems. In installations with a controllable 3-way LT valve, the unit can be connected directly. In installations with wax element thermostatic valves, the valve and piping need to be modified to include a controllable 3-way valve.

### RTDC OPERATIONAL INTERFACE

You can view the trending curve of the engine parameters on the screen of the RTDC cabinet. The length of the trending curve is 60 minutes.

There are several adjustable process parameters, including a Low load filter, for smoke limiting purposes, and Minimum temperature, when the RTDC follows the dew point set point curve. You can also adjust the Proportional Gain and Integral time of the valve controller output in order to tune the regulation response characteristics.

### SCOPE OF SUPPLY

The key components of the Wärtsilä RTDC are the control cabinet, a humidity sensor, and a tri-way signal. The solution can be supplied as a basic delivery or a turnkey solution.

**The basic delivery** includes hardware and commissioning. Cables and installation work are the responsibility of the customer.

**A turnkey solution** includes all required hardware, cables, installation and commissioning.