

Action code: **WHEN CONVENIENT**

### Cooling Water Inlet Temperature at Scavenge Air Cooler

SL2014-589/MTS  
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#### Concerns

Owners and operators of MAN B&W two-stroke marine diesel engines.

#### Summary

MAN Diesel & Turbo recommends a 10°C setpoint on the 3-way temperature control valve.

Dear Sirs

To achieve an optimal engine performance with regard to fuel oil consumption and cylinder condition, it is important to ensure the lowest possible cooling water inlet temperature at the scavenge air cooler.

This Service Letter specifies the recommended settings for the central cooling water system and the seawater cooling system, and describes the relevant factors that should be noted when adjusting the settings for the individual system.

Yours faithfully

  
**Mikael C Jensen**  
Vice President, Engineering

  
**Stig B Jakobsen**  
Senior Manager, Operation



3-way control valve

**Head office (& postal address)**  
**MAN Diesel & Turbo**  
Teglhølmegade 41  
2450 Copenhagen SV  
Denmark  
Phone: +45 33 85 11 00  
Fax: +45 33 85 10 30  
info-cph@mandieselturbo.com  
www.mandieselturbo.com

**PrimeServ**  
Teglhølmegade 41  
2450 Copenhagen SV  
Denmark  
Phone: +45 33 85 11 00  
Fax: +45 33 85 10 49  
PrimeServ-cph@mandieselturbo.com

**Production**  
Teglhølmegade 35  
2450 Copenhagen SV  
Denmark  
Phone: +45 33 85 11 00  
Fax: +45 33 85 10 17  
manufacturing-dk@mandieselturbo.com

**Forwarding & Receiving**  
Teglhølmegade 35  
2450 Copenhagen SV  
Denmark  
Phone: +45 33 85 11 00  
Fax: +45 33 85 10 16  
shipping-cph@mandieselturbo.com

**MAN Diesel & Turbo**  
Branch of MAN Diesel & Turbo SE,  
Germany  
CVR No.: 31611792  
Head office: Teglhølmegade 41  
2450 Copenhagen SV, Denmark  
German Reg.No.: HRB 22056  
Amtsgericht Augsburg

For both the central cooling water system and the seawater cooling system, we recommend applying a 10°C setpoint on the 3-way temperature control valve. This ensures that the cooling water is always as cold as possible. For the central cooling system, this means that the freshwater temperature will follow the seawater temperature when the seawater temperature exceeds approx. 6°C.

One of the benefits of the above-described setting is an approx. 0.7-1.0 g/kWh lower fuel oil consumption per 10°C lower cooling water temperature, see Fig 1.

Furthermore, with a lower cooling water temperature, the air cooler and water mist catcher will remove more water from the compressed scavenge air when operating in warm humid areas. This has a positive effect on the cylinder condition as the humidity level in the combustion gases is lowered and, thereby, the tendency for condensation of acids on the liner wall.

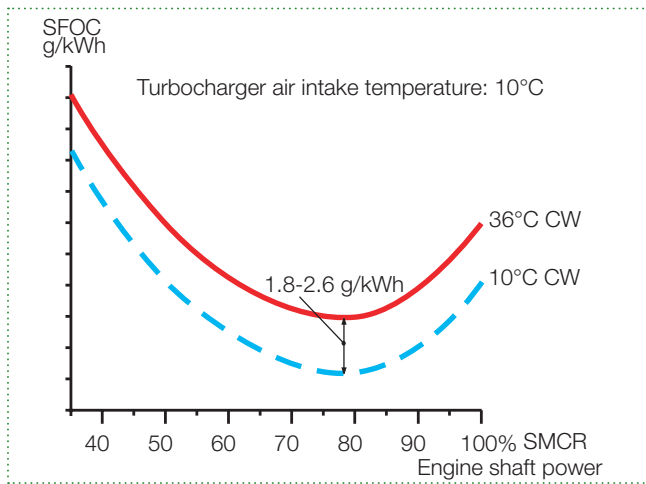


Fig. 1

We do not recommend adjusting the temperature below 10°C, because the water from the same system is also used as cooling water to the lubricating oil cooler, which could experience problems at lower temperatures.

It is important to note that some shipyards have designed the central cooling system to operate at a fixed high temperature, for example 36°C. In some of these systems, there might be other components that are cooled by the same system, and these components may not be able to handle such low temperatures as recommended. In such a case, we recommend that you identify those components and make them capable of handling the above-described recommendation, or alternatively cool them by another system.

For central cooling systems where the seawater flow capacity is being controlled to keep a constant temperature in the freshwater cooling system, we recommend that the seawater flow is controlled in such a way that the freshwater temperature is kept 4°C above the seawater temperature.

However, it is important to note that in hot and humid ambient conditions, lowering the cooling water inlet temperature may lead to a massive increase in the water condensation in the scavenge air after the cooler. For this reason, the proper operation and capacity of the water mist catcher and drains must be confirmed. Water carry over from the scavenge air system to the cylinders has a detrimental effect on the cylinder condition, see also earlier service letters SL2003-416, SL2007-484 and SL2011-542.

Questions or comments regarding this SL should be directed to our Operation Department LEO (e-mail: [leo@mandieselturbo.com](mailto:leo@mandieselturbo.com)).