



## **GEA Westfalia Separator FuelCoolingMaster**

Safe engine running on low-sulphur fuels

# Equipped for the Future

GEA Westfalia Separator **FuelCoolingMaster** – reliable viscosity adjustment for all distillates

## High-sulphur heavy fuel oils are a thing of the past

International regulatory bodies such as the IMO (International Maritime Organization) have decided to drastically reduce the sulphur fractions in ship's fuels, in order to make shipping even more environmentally friendly. From 2012, the sulphur content is to be reduced worldwide, from the present day 4.5 to 3.5 percent, then from 2020 to 0.5 percent. More stringent limits already exist for so-called sulphur emission control areas (SECAs) such as the English Channel, the North Sea and Baltic Sea and the coast of California. Short-term extension of these SECA zones to include the whole coast of the USA and the complete Mediterranean is already being planned. In practice, this means: ships have to change over from standard heavy fuel oils (HFO), which do not fulfil these requirements, to distillates such as low-sulphur marine gas oil (MGO) or marine diesel oil (MDO).

## Minimum viscosity

However, this changeover poses special requirements for the fuel viscosity: it must not fall below the minimum limit set by the manufacturers for safe engine or boiler running. According to the standard, the viscosity range of the distillates must be between 6.0 and 1.4 cSt at 40° C. With the GEA Westfalia Separator **FuelCoolingMaster**, a cooling system has been developed which always reliably ensures that the viscosity never falls below the value of, for example, 2.0 cSt regardless of the quality of the gas or diesel oil used. Equipped in this way, ships with the GEA Westfalia Separator **FuelCoolingMaster** system are already geared up for all present day and future requirements regarding the use of low-sulphur fuels and can be deployed worldwide with maximum engine and boiler reliability.

# Individual, economical, reliable

For newbuildings or as cost and space-saving retrofit systems

With the **FuelCoolingMaster**, GEA Westfalia Separator Group has developed a fuel cooling system with which the changeover from heavy oil to marine gas oil, optionally with marine diesel oil as an intermediate stage, without any damage to the machinery, is possible at any time, with temperature and viscosity reliably controlled – for both main and auxiliary engines and for boilers.

In addition, the system can also be extended with a chiller. Depending on the system configuration, it is therefore possible to use the following coolants, individually or combined:

- Cooling water
- Cold water
- Seawater
- Cooling water/cold water
- Seawater/cold water

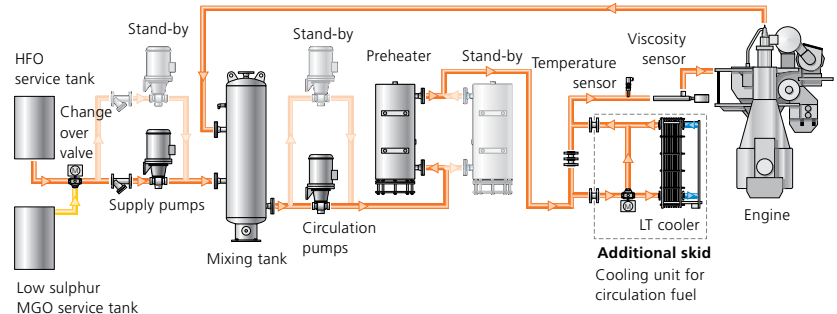
## Individual solutions with a guaranteed future

Apart from complete systems for newbuildings, GEA Westfalia Separator Group is specialised in providing cost and space-saving retrofit systems based on a cooler and/or chiller as individual solutions for ships already in service.

All GEA Westfalia Separator **FuelCoolingMaster** system solutions offer shipping companies and ship operators the security of being ideally equipped and ready for use of all current and future low-sulphur fuels specified by IMO MARPOL.

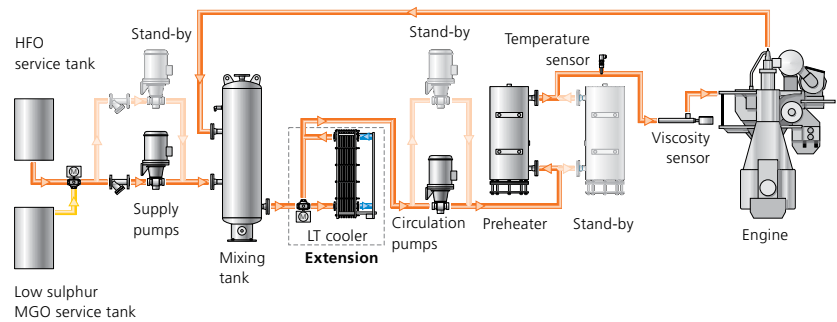
## Retrofit – GEA Westfalia Separator **ViscoBoosterUnit**

When a **ViscoBoosterUnit** is retrofitted with a **FuelCoolingMaster**, all the components are first checked for MGO compatibility. Any necessary software modifications are easy to implement. The add-on of the **ViscoBoosterUnit** requires minimum changes, even the existing control can usually continue to be used. The system's configuration options allow for all kinds of different type variations, from manual to fully automatic.



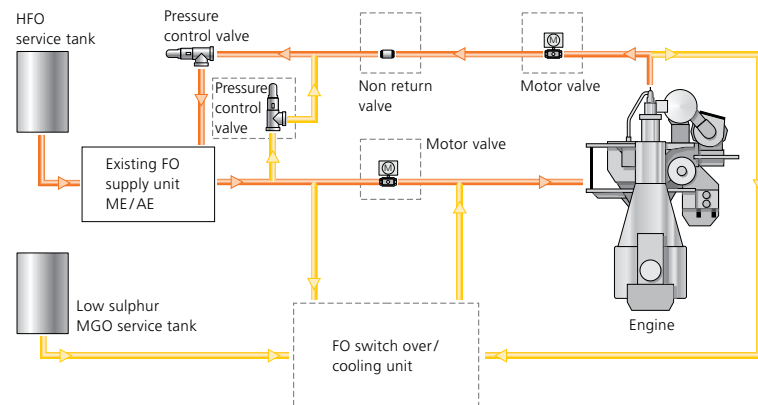
## GEA Westfalia Separator **ViscoBoosterUnit** extension for new building

The **ViscoBoosterUnit** with integrated **FuelCoolingMaster** provides a compact solution with complete process control on only one skid – especially designed for new buildings. The fuel cooling system for maintaining the minimum viscosity has a fully automatic, machine-protecting, HFO-MGO or MGO-HFO changeover switch, with which the maximum temperature change is two degrees per minute. It is easy, fast and safe to control using an E40 touchpanel.



## Retrofit – other Fuel Oil Supply Unit manufacturer

Retrofitting another manufacturer's „Fuel Oil Supply Unit“ with a **FuelCoolingMaster** is possible without any changes to the existing system. The **FuelCoolingMaster** is connected between the two as an independent changeover/cooler module, without the old unit, designed for heavy oil, including the sensitive fuel pumps coming into contact with the MGO. Numerous options for individual adjustments, e.g. viscosity monitoring and consumption measurement, enabled tailor-made solutions for every requirement.





*We live our values.*

Excellence • Passion • Integrity • Responsibility • GEA-versity

GEA Group is a global engineering company with multi-billion euro sales and operations in more than 50 countries. Founded in 1881, the company is one of the largest providers of innovative equipment and process technology. GEA Group is listed in the STOXX® Europe 600 Index.

## **GEA Mechanical Equipment**

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