

Update of X-DF2.0 with iCER diesel Tier III variant

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1 Introduction

WinGD introduces the next variant of the X-DF2.0 with Intelligent Control by Exhaust Recycling (iCER) technology, which is the iCER diesel Tier III variant. This option enables engine operation in liquid fuel mode fulfilling IMO Tier III NO_x compliance without additional exhaust gas aftertreatment.

The iCER technology was first introduced in TIN 018 and has already been launched for most of the X-DF portfolio. The iCER technology offers significantly reduced energy consumption in both gas and diesel mode operation. The methane slip is reduced up to 50%.

The iCER diesel Tier III variant was already introduced for the X72DF-2.1 and X72DF-2.2 engines (see TIN 021-1) and is now available for all XDF-2.0 engines (except for the X52DF-2.1, which will be released in 2022-Q2).

2 Main engine parameters

The engine parameters and engine performance data in gas and diesel Tier II mode remain unchanged with the introduction of the iCER diesel Tier III variant. The performance data for the diesel Tier III mode operation has been included in the GTD 2.16 release. The low-pressure SCR option has been removed.

3 iCER diesel Tier III (combined gas & diesel operation)

The combined iCER system is capable of handling both gas and liquid fuel (diesel) mode and ensures full IMO Tier III compliance in both operating modes without an SCR system. The option of the iCER diesel Tier III variant can be selected in WinGD's GTD program.

Compared to the iCER gas mode variant, there are certain changes required for an application with the iCER diesel Tier III variant:

- Due to increased soot contamination (from liquid mode operation) an Exhaust Gas Cooling (EGC) circulation water treatment system is required (see Figure 3-1)
- Engine design changes are limited and affect mainly:
 - The Scavenge Air Cooler (SAC) specification
 - The turbocharger compressor wheel must be configured according to the TC maker's recommendations

Note: The iCER diesel Tier III variant is only applicable for distillate fuels with <0.10% m/m sulphur.

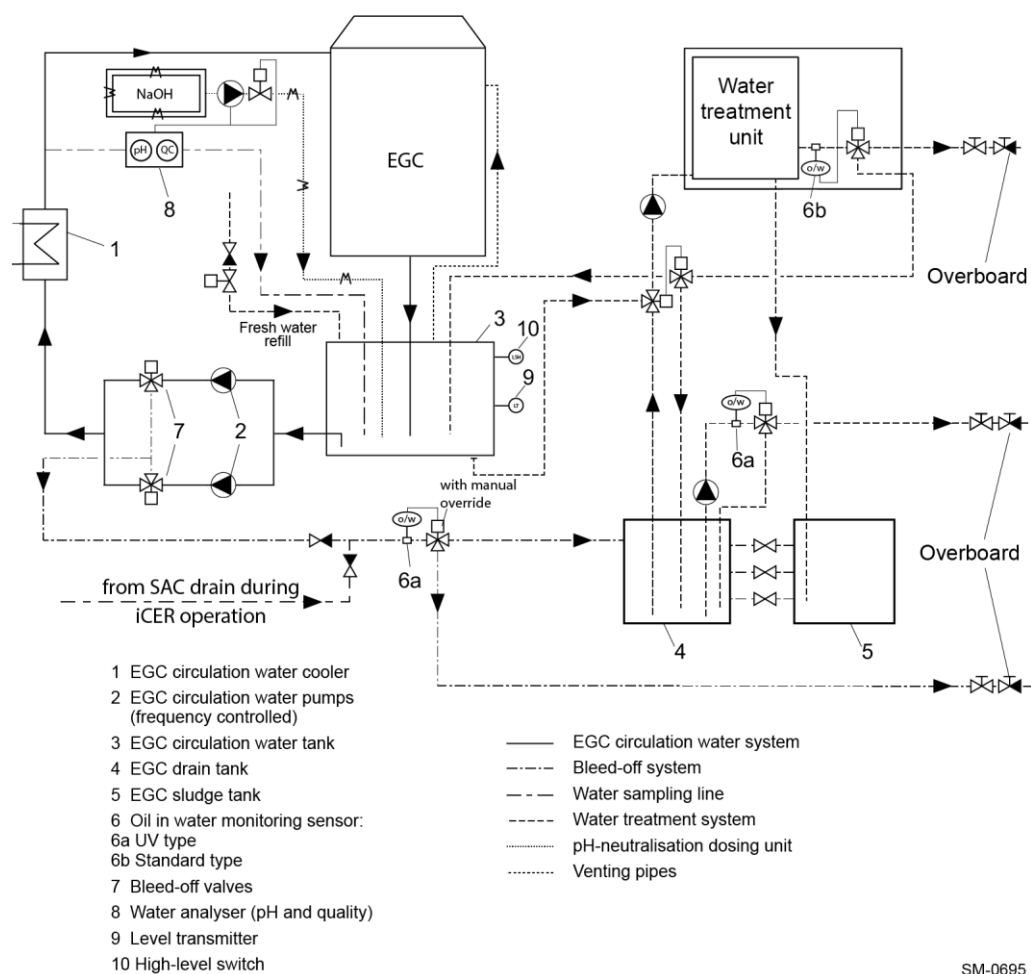


Figure 3-1: The iCER drainage system for installations with gas and diesel Tier III mode operation