

株式会社 ディーゼル ユナイテッド
DIESEL UNITED, LTD.

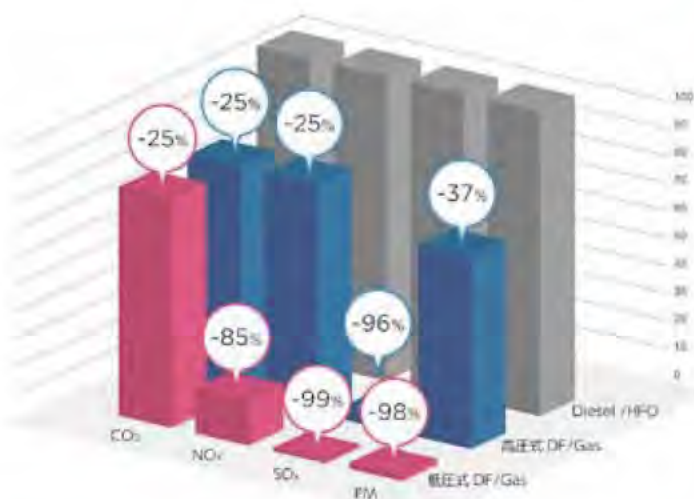
DU-Wärtsilä Dual Fuel Engine "X-DF"

Overview

Diesel United Ltd, has worked on the development of the dual fuel engine "Wärtsilä X-DF" with Winterthur Gas & Diesel (WinGD) and IHI.

X-DF is the Wärtsilä 2-stroke dual-fuel engine which is designed to inject gas at low pressure. This engine is applicable to large LNG carriers and also various type of merchant ships. Since January 2015, a full scale dual fuel engine "W6X72DF" has been installed at DU - Aioi works to enhance the development of X-DF engine scale-up.

In April 2015, DU held a successful demonstration of W6X72DF and has received positive feedback from customers who were impressed with X-DF. DU has already delivered the first commercial X-DF engine "5RT-flex50DF" in November 2015. As of the end of 2015, all WinGD licensees have received orders for over 33 sets of X-DF engines. DU is focusing on X-DF engine development to fulfill customer needs.



Advantages of the X-DF Engine :

- ① Meet IMO Tier-3 NO_x requirements without any after treatment by pre-mixed lean burn technology
- ② Lower CAPEX and OPEX due to no requirement of high pressure compressor.
- ③ Low-pressure gas injection provides benefit of safety for marine use (<16bar)
- ④ Smooth transfer from gas mode to Diesel mode
- ⑤ In case of accidental situation, switch to Diesel mode quickly.
- ⑥ Based on the conventional two-stroke Diesel engine which proven and trusted in marine use.



DIESEL UNITED, LTD.

2-8 Kanda Suda-cho, Chiyoda-ku, Tokyo, 101-0041, Japan

Tel.: +81-3-3257-8222 Fax: +81-3-3257-8220

<http://www.ihi.co.jp/du/>