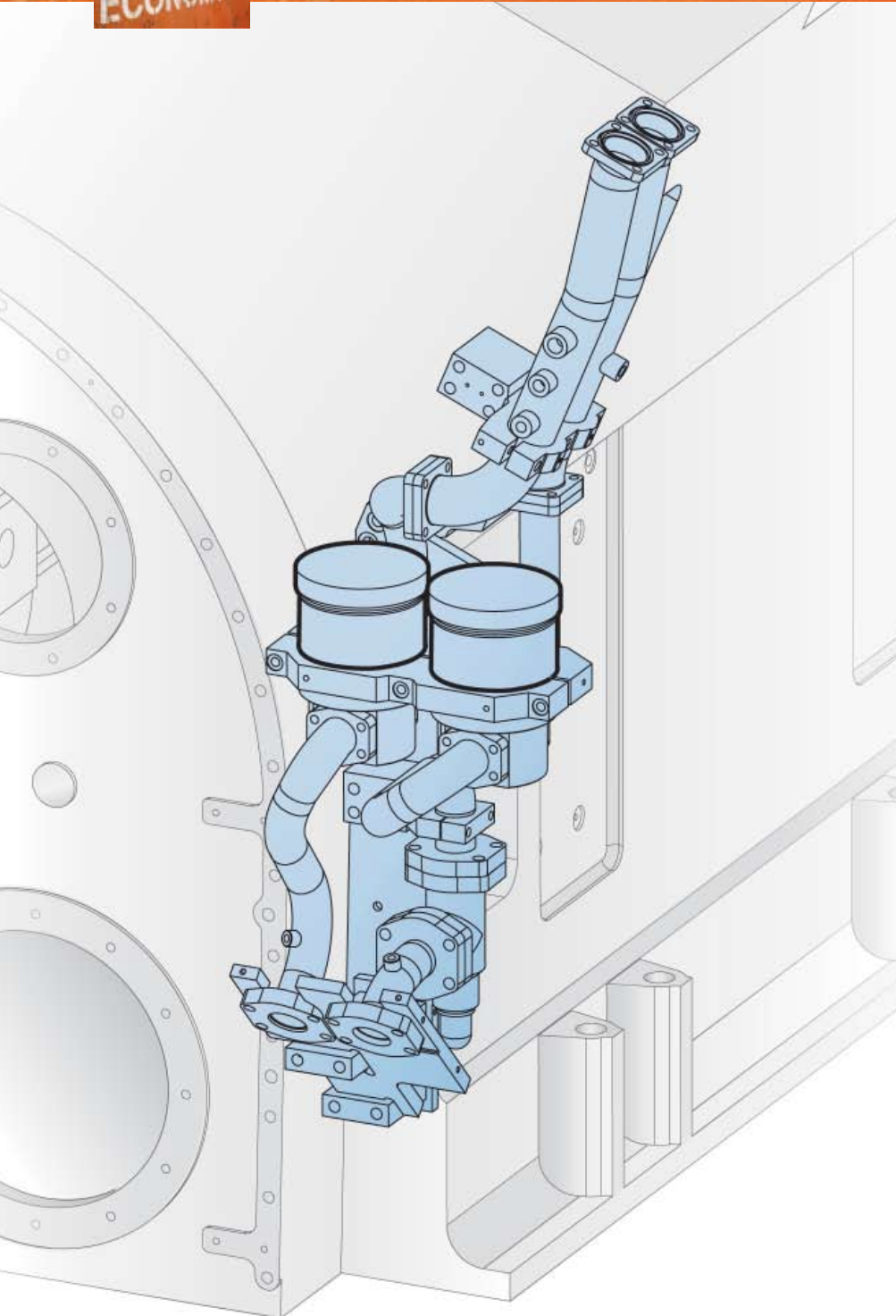


ENERGY  
ENVIRONMENT  
ECONOMY

## WÄRTSILÄ 46 FUEL OIL SYSTEM PULSATION DAMPER



### PRODUCT AT A GLANCE

The new pulsation damper system utilises a nitrogen filled metal bellow to moderate pulsations in the fuel system. Upgrading to this system is a straightforward procedure. Fuel pipes are replaced with a ready built package which includes the pulsation dampers, all required piping and protective shields.

## Pulsation dampers minimise stress on the fuel oil system

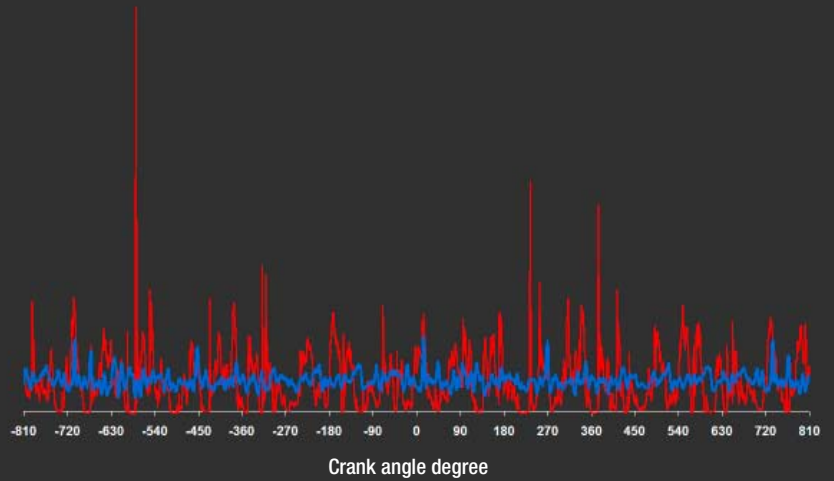
High pressure pulses in the fuel oil system can lead to fatigue of components in the system. Pressure pulses in the fuel oil system on large diesel engines is a well known phenomenon. It originates from the injection pumps, each of which generates high magnitude spill pressure followed by periods of reduced pressure.

Different solutions to minimise the pressure pulses have been tried in the past. None of them are as effective as the new pulsation damper system.

The fuel oil pulsation damper system mounted on a Wärtsilä 18V46 engine.  
Protective shields not shown in this illustration.

TECHNICAL DATA

Comparison between an engine without pulsation damper (red graph) and an engine equipped with the new fuel oil pulsation damper system (blue graph). Not only does the pulsation damper lower the amplitude of the pulsating pressure, it also eliminates pressure peaks.

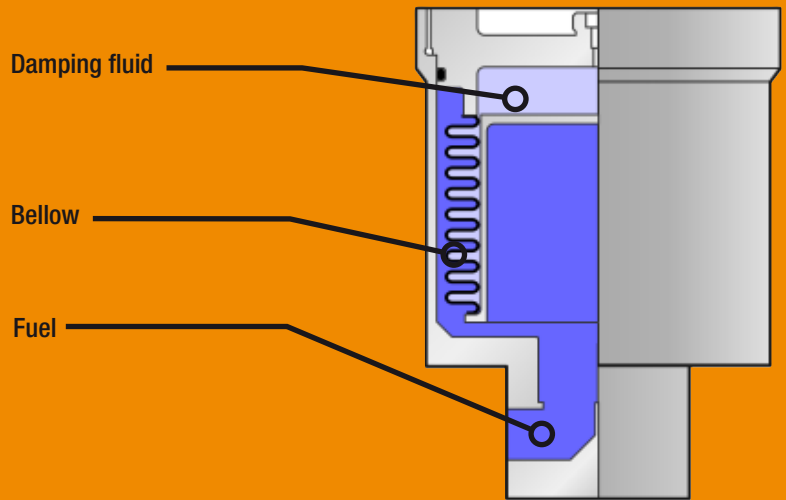


The fuel oil pulsation damper consists of a hydraulic accumulator with metal bellows to separate the compressible gas from the fuel oil. The dampers are compatible for use with HFO, MDO or LFO.

The damper is filled with nitrogen gas and pre-filled to 2.8 bar. Since the gas nitrogen losses from the accumulators are very small, the accumulators are basically maintenance free.

To accommodate the fuel oil pulsation damper system, one accumulator per inlet and outlet pipe is required. The fuel oil piping in the free end of the engine will be partly replaced with new piping and brackets.

The fuel oil pulsation damper is compliant with PED (Pressure Equipment Directives) 97/23/EC and is approved by DNV, GL, LR, BV and ABS classification societies.



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