



CLEAN OIL  
BRIGHT IDEAS

Application Study  
written by:

Jesper Knudsen  
C.C.JENSEN A/S  
Denmark

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# Gas Engine Oil (GEO) Combined Heat and Power Plant, CHP - CATERPILLAR

## CJC™ Application Study

### CUSTOMER

**E.ON Danmark A/S**, Combined Heat and Power Plant, CHP.

### THE SYSTEM

**System:** Caterpillar 3516  
Gas Engine, 1036 kW  
**Oil type:** Mobil Pegasus 905  
**Oil volume:** 450 L  
**Fuel:** Natural Gas  
**Engine hours:** Appr. 57,000 hours

### THE PROBLEM

Short oil change intervals, approx. 1,500 hours. The oil was condemned due to too high viscosity.

### THE SOLUTION

**CJC™ Fine Filters 2 x HDU 27/27 PV-E1PTV** with one **CJC™ Filter Insert EL 27/27** and one **A 27/27** with a filtration degree of 3 µm absolute and a flow of 30 L/h were installed. The **CJC™ Ion Exchange Inserts EL (Amberlyst)** are used for neutralising acidic compounds in fluids, e.g. gas engine oil, in order to keep the oil analysis parameters within limits.

### THE TEST

The filter is connected to the sump of the engine with inlet connection at the bottom of the sump and the outlet at a higher point, as far away as possible from the inlet connection. The filter is running continuously 24 hours a day.

**The test with CJC™ Off-line Filter increased the oil life from 1,500 hours to 3,997 hours, which is approx. two times normal oil life time.**

**The oil viscosity was reduced from 164 cSt to 150 cSt.**

The test was not terminated because any condemning limits had been exceeded, but only because a reasonable oil life had been achieved. 3,000 hours was the aim.



*E.ON Danmark A/S, Caterpillar Gas Engine and the CJC™ Fine Filters 2 x HDU 27/27 PV*

### THE RESULT

	BEFORE CJC™ Filtration	AFTER CJC™ Filtration
<b>Oil life time, hours</b>	1,490	3,997
<b>Viscosity 40°C, cSt *)</b>	164	150

*\*) ISO VG for new oil: 126 cSt*

### OIL SAMPLES

The oil samples were analysed by Spectro Oil in the United Kingdom. They have analysed the Gas Engine Oil (GEO) for Mobil Oil Danmark A/S since 1997.

The analysis reports are available on request.