



Oil Filtration Systems
INDUSTRY

Turbine Oil - Turbo-vane, Gas Boiler

CJC™ Application Study

Application Study
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In co-operation with:
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Project & Technical
Consultancy
Project Engineer Fluid,
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and
Power Station 'Centrale 2'
Equipment Manager
Mr. Piet Pepping

2004



CUSTOMER

CORUS Ijmuiden, The Netherlands. Power Plant 'Centrale 2'.

THE APPLICATION

Steam driven, turbo-vane that provides compressed combustion air for the boilers. The boilers produce steam as propulsion of turbines to generate power. The power plant is a vital part of the CORUS production line.

THE SYSTEM

Turbo-vane with an oil sump containing 60 litres of TOTAL Preslia 46 (ISO VG 46). Due to very high RPM of the moving components the oil endures high thermal load and requires high standard hydrodynamic lubrication.

THE PROBLEM

Steam/water ingress into the system causes very high water content in the oil. High water content deteriorates the oil condition and therefore frequent oil changes are necessary. Resins, sludge deposits, particle contamination and catalytic reactions are enhancing the evil circle.

THE SOLUTION

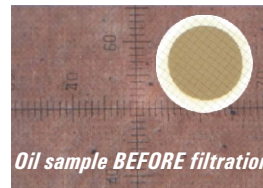
CJC™ FilterSeparator PTU 15/25 PV-D with manual motor starter, a pump flow of 30 litres/hour and CJC™ FilterInsert BLA 15/25 (3 micron absolute). The suction line is connected to the drain of the oil sump and returns clean oil back into the system. Water separation is done by the CJC coalescing element that is manually discharged during a weekly inspection. On average 500 ml of water is discharged from the CJC Filter Separator every week. From 29th August to 25th October 2004 a total of 3,920 ml water was discharged, measured and collected by CORUS employees under supervision of Mr. Piet Pepping.

THE RESULT

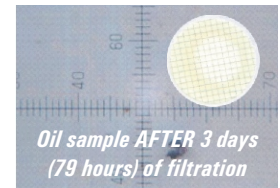
After 7 days the water contamination was under control and particle contamination was reduced to ISO Code 16/14/10. The first oil sample included a large quantity of sludge, resins and particles which coloured the oil dark brown. After 16 days the oil became clear and light coloured. Cost savings were made from extended service intervals, less manpower, less oil usage and most importantly less down time. The life of components, bearings and valves were extended by a factor of four. Return of investment within six months.



The Filter Separator PTU 15/25 PV-D



Oil sample BEFORE filtration



Oil sample AFTER 3 days (79 hours) of filtration

