



CLEAN OIL
BRIGHT IDEAS

Application Study
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Tersus Industria



Open Joint Stock Company "NAFTAN"
POLYMIIR
The plant "POLYMIIR"

Hydraulic Oil Hydraulic Press, Monomers for Fiber Production & Chemical Industry

CJC™ Application Study

CUSTOMER

POLYMIIR, JSC Naftan, Belarus.
Productions in the plants: high/low-density polyethylene of various brands. Also monomers for fiber production and chemical industry, modacrylic fiber and consumer goods (clothing, plastic films, polypropylene bags, etc.) for the global market are produced at factories in Belarus and Russia.

THE SYSTEM

System: Hydraulic press
Oil Type: Hydraulic oil IGP-38 68
Oil Volume: 1,000 L

THE PROBLEM

The hydraulic press works in an industrial environment with unplanned stops. Oil changes are made at least once per year and still the cleanliness of the oil is very poor. This results in high operational costs and high maintenance requirements, etc.

THE SOLUTION

A CJC™ Fine Filter HDU 15/25 PV2 with a pump flow of 120 L/h and a 400 V 50Hz motor was installed. The filter is equipped with a 3 µm absolute CJC™ Filter Insert BG 15/25 with 1.5 litre dirt holding capacity. The filter will retain 1 kg of oil degradation products and removes water up to 750 ml.

FINANCIAL BENEFITS

With constant offline filtration, the oil will always be clean and almost no oil changes will be needed. 80% of all breakdowns in oil systems are related to contamination of the oil. Unplanned stops due to dirty oil will be minimised. **Pay-back of the investment is less than one year when considering all aspects.**

ENVIRONMENTAL BENEFITS

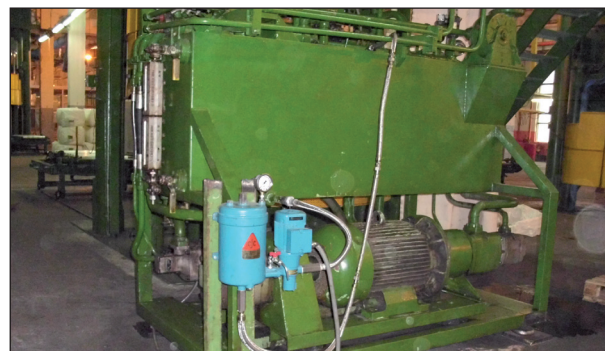
Due to longer oil change intervals, an estimated 1-2 m³ of hydraulic oil will be saved annually. The oil will be reused and the cost and carbon footprint is minimized.

THE TEST

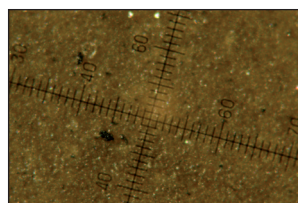
Three separate oil samples were taken and sent to Filtrex in The Netherlands for analysis. The sample points were at start, after 2 weeks and after 6 weeks.

THE RESULT

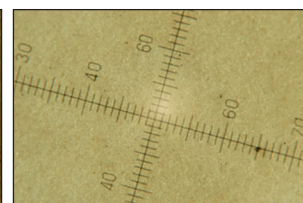
Six weeks after the installation and start-up, the **particle contamination had been reduced 107 times**. The oil is now maintained at a cleanliness level, that will make the **life of the hydraulic components 6 times longer** (acc. to Noria Corporation 2002). The oil degradation products (oxidation) had also been removed, reducing the risk of sticking valves.



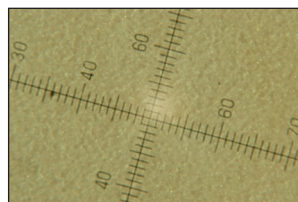
CJC™ Fine Filter HDU 15/25 PV2
installed on the hydraulic press at Polymir



Oil Sample, BEFORE



Oil Sample, AFTER 2 weeks



Oil Sample, AFTER 6 weeks

THE RESULT

	Before	After 2 weeks	After 6 weeks
ISO Code	20/18/10	16/15/10	14/12/9
Particles, > 2 µm *)	885,041	50,986	8,245
Particles, > 5 µm *)	239,361	17,316	3,298
Particles, > 15 µm *)	875	540	283
Life Extension Factor	-	3	6

*) Number of particles per 100 ml
Oil samples analysed by Filtrex, The Netherlands