



Hydraulic Oil LASCO Drop-Forging Hammer

CJC® Application Study

THE CUSTOMER

Albert Pielhau GmbH & Co. KG, Halver, Germany. Their customers are large companies working for the automobile-, construction-, agricultural- and mining industry and companies from the general mechanical engineering sector.

THE SYSTEM

LASCO drop-forging hammer
Oil volume / type: 1,200 L hydraulic oil ISO VG 46

THE PROBLEM

During the machining processes the surrounding area is heavily contaminated, especially with dust, sand and metal particles which easily get into the oil via the mold section of the drop-forging hammer. A first oil analysis showed a cleanliness class of 21/19/13. With such a high contamination level the life time of the hydraulic components is reduced by one quarter to one half (source: Noria corporation). Wear and tear, maintenance and repair costs are the result. In addition, due to the construction of the drop-forging hammer each oil change is associated with large efforts.

THE SOLUTION

Albert Pielhau GmbH & Co. KG decided to make a test run with a **CJC® Oil Care System 27/27** for continuous depth filtration in the off-line circuit.
Filter material: 100 % renewable raw material
Filtration degree: 3 µm absolute
Dirt holding capacity: up to 10 Kg
Water absorption capacity: > 0.9 L

THE RESULT

The oil cleanliness class improved from 21/19/13 to 15/12/9, i. e. the oil is approx. 63 times cleaner than the unfiltered oil and even cleaner than new oil. The oil can be further used, respective repair and maintenance costs are avoided. Breakdowns are minimized, the runtime of the machine increases. An extended life time of the hydraulic components can be expected due to wear reduction by more than factor 2 (source: Noria Corporation).

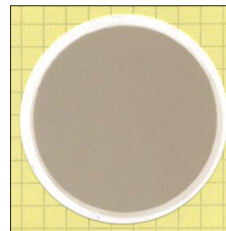
COMMENTS

**Mr. Bitzer, Production Manager,
Albert Pielhau GmbH & Co. KG:**
"The results are so convincing that we equipped another drop-forging hammer with a CJC off-line Filter."

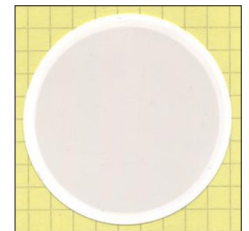


LASCO drop-forging hammer with CJC® Fine Filter unit 27/27

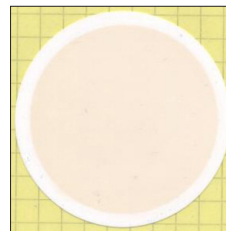
OIL SAMPLES



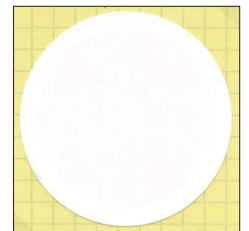
Oil sample No. 1 - 1st Feb.: **WITHOUT** filtration
Cleanliness class: 21/19/13



Oil sample No. 2 - 16th Feb.: **AFTER 2 weeks** of filtration
Cleanliness class: 18/16/13



Oil sample No. 3 - 14th April
AFTER 10 weeks of filtration
Cleanliness class: 19/16/9



Oil sample No. 4 - 1st June:
AFTER 4 months of filtration
Cleanliness class: 15/12/9

Cleaned oil is always able to dissolve and absorb the deposits already formed in the system (flushing effect). With a continuous fine filtration not only the oil is cleaned but also simultaneously the whole oil system (compare oil samples no. 2 - 4).

THE RESULT

	Particles > 4 µm	Particles > 6 µm	Particles > 14 µm	ISO Code 4406 *)
01. February	1,934,707	281,902	5,411	21/19/13
16. February	202,410	60,626	6,457	18/16/13
14. April	450,135	42,176	393	19/16/9
01. June	31,196	3,778	309	15/12/9

Further information on cleanliness classes are available on request.