



**CLEAN OIL**  
**BRIGHT IDEAS**

# Hydraulic Oil Plastic Injection Moulder

## CJC™ Application Study

Application Study  
written by:

Bic Viorex  
Internaftiki  
Greece

And

Lars Bo Andersen  
C.C.JENSEN A/S  
Denmark

2003

### CUSTOMER

BicViorex S.A, 145 69 Anixi, Attica, Greece.

### THE SYSTEM

Kraus Maffei plastic injection moulding machine, type KM 150-700, producing parts for disposable shavers.

**Oil type:** BP Energol HLP HM 46.

### THE PROBLEM

The test was carried out in order to increase the lifetime of the components and the oil, and to reduce down time by removing particles and oxidation products from the oil.

### THE SOLUTION

A **CJC™ Fine Filter LG 15/25** that comes with a **CJC™ Filter Insert BG** with a flow of 300 ltr/h was installed. The dirt holding capacity of the filter insert is approximately 2 litres.

### THE RESULT

Before installing the filter an oil sample was taken, showing an ISO code of 16/15/13. After two months of filtration another sample was taken, showing an ISO code of 15/14/10 and the final sample, taken 4 months after installation of the filter, proved an ISO code of 13/12/8.

The oil samples were all taken at a sampling point before the CJC™ filter.

The above result is equal to reducing the amount of dirt going through the system pump from some 44 kg a year to approximately 5 kg (given that the oil passes through a 200 ltr/h pump 8 hours a day, 230 working days per year).

### COMMENTS

*The achieved improvement in oil cleanliness from ISO code class 16/15/13 to class 13/12/8 will, by experience, lead to an increase in oil and component lifetime by a factor 4.*



*The Kraus Maffei plastic injection moulding machine at BicViorex.*



*BIC, Greece, manufactures the world famous shavers in many varieties - all mainly produced by plastic injection moulding.*

### THE RESULT

Particle size	Sample No 1	Sample No 4
> 2 µm	48,741	7,583
> 6 µm	24,988	3,410
> 14 µm	4,915	206
ISO Code	16/15/13	13/12/8