



**CLEAN OIL**  
BRIGHT IDEAS

# Hydraulic Oil Plastic Injection Moulders

## CJC™ Application Study

Application Study  
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### CUSTOMER

One of the largest European Plastic moulding companies with approximately 700 hydraulic injection moulding machines in operation 7,500 hours a year.

### THE SYSTEM

ENGEL, BATTENFELD and FERROMATIK MILACRON injection moulders.  
Standard ISO VG 46 type hydraulic oil.

### THE PROBLEM

The customer wanted to increase the oil change intervals.

### THE SOLUTION

CJC™ Fine Filter HDU 15/25 PM and LG 15/25 L with CJC™ Filter Insert A, B and BG with a filtration ratio corresponding to 3 µm absolute.

### THE TEST

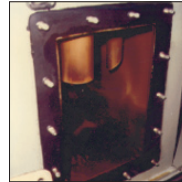
11 different filter systems were tested under equal operation conditions over a period of 12 months - various pressure filters, return filter and CJC™ Off-line Fine Filters. The tested filters varied from 3 to 100 µm absolute.

The machines had been in operation in an average of 7,500 hours prior to the test. No oil changes were carried out before or during the test period.

### THE RESULT

It was decided to install CJC™ Fine Filters on all of the 700 injection moulding machines within the company.

### AFTER 12 MONTHS



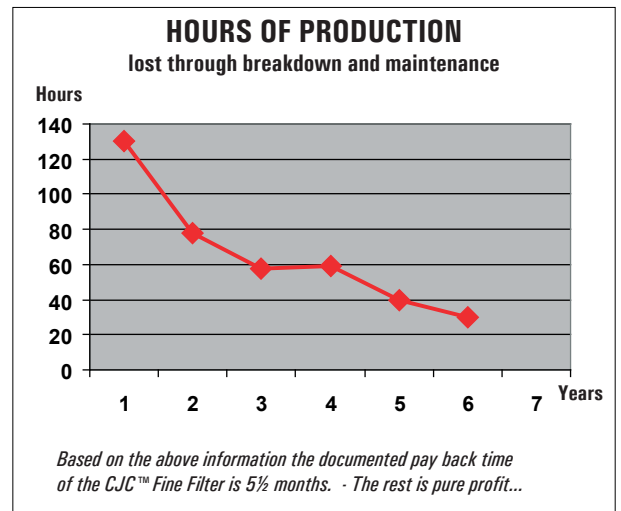
Machine with suction filter only:  
Oil change and tank cleaning required



Machine with 6 µm pressure filter:  
Oil change and tank cleaning required



Machine with 3 µm CJC™ Off-line Filter:  
No oil change and no tank cleaning required



### THE RESULT

	Before CJC Filtration	After CJC Filtration
Particle content, ISO code	18/16	13/10
Maintenance cost per machine	1,900 Euros	964 Euros
Life time of pumps	15,000 hours	40,000 hours
Unplanned stoppage, hrs/yr	127.5	36.0
Service intervals	1 year	6 years
Life time of hydraulic oil	15,000 hours	45,000 hours

### COMMENTS

**Former Maintenance Manager, Mr. Lars Ryo:**

"Installing CJC™ Off-line Filters is the single best preventive maintenance element we ever implemented. We never had unplanned stops caused by resin or other debris in the valves, nor was cleaning of the hydraulic tanks necessary any longer".