



Hydraulic Oil Plastic Injection Moulders

CJC™ Application Study

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 unit 15/25 with CJC™ Fine Filter insert J, B and BG with a filtration ratio corresponding to 3 µm absolute.

Dirt holding capacity: approx. 1.1 kg
Water absorption capacity: approx. 400 - 500 mL

THE TEST

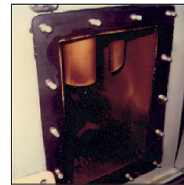
11 different filter systems were tested under equal operation conditions over a period of 12 months - various pressure filters, return filter and CJC™ Off-line Fine Filters. The tested filters varied from 3 to 100 µm absolute.

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.

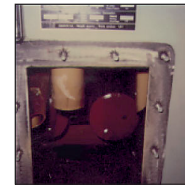
THE RESULT

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

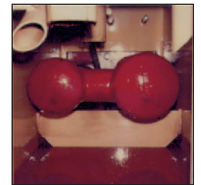
AFTER 12 MONTHS



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



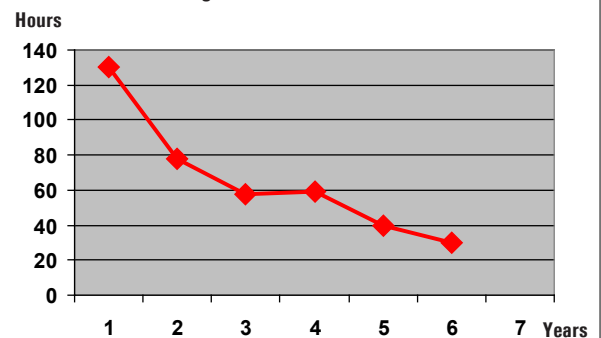
Machine with 6 µm pressure filter:
Oil change and tank cleaning required



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

HOURS OF PRODUCTION

lost through breakdown and maintenance



Based on the above information the documented pay back time of the CJC™ Fine Filter unit is 5½ months. - The rest is pure profit...

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 | 127.5 hours/year | 36 hours/year |
| Service intervals | 1 year | 6 years |
| Life time of hydraulic oil | 15,000 hours | 45,000 hours |

*) Further information on cleanliness classes are available on request.

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".