# CJC™ Filter Separator

Solutions for separation of water, removal of particles, adsorption of oxidation by-products and varnish from oils



80% of all breakdowns in oil systems are related to particle and water contamination of the oil

## Your Challenge

80% of all breakdowns in oil systems are related to particle and water contamination of the oil

## In-line filters do not keep the oil system clean

Particle and water contamination of an oil system will lead to various problems which can cause machinery breakdowns, frequent repairs of equipment and reduced oil lifetime. This will result in inefficient production, unnecessary expenses for repairs and frequent oil changes.



Contaminated Oil



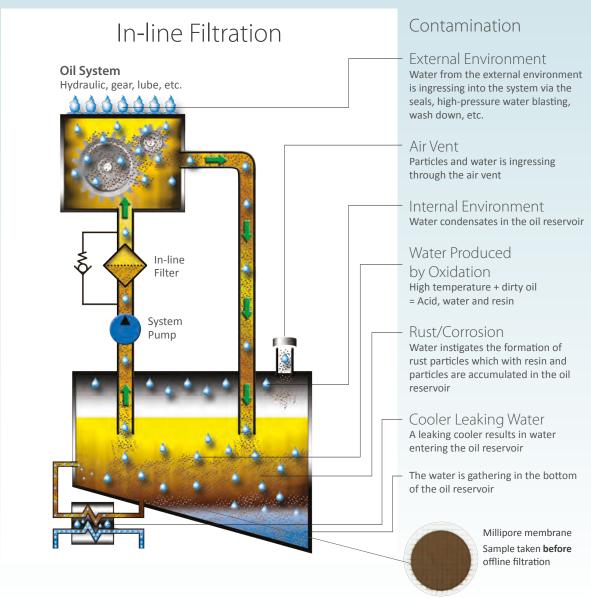
Abrasion



Corrosion/Rust



Resin/Varnish



## The most common types of wear caused by contamination

### "Sand blasting"

When particles are transported with the high oil flow, the particles collide with metal parts, destroying the metal surface and forming new particles.

### Cavitation & pitting

Occurs in areas where water is present and oil is compressed; the water implodes, causing the metal surfaces to crackle and release more particles.

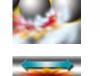
When clearance size particles are wedged between















movable metal parts, they destroy the metal surface.

## **Our Solution**

Water and particle free oil through offline filtration and separation

### 1 Filter - 4 Solutions

The benefits that you get when implementing a CJC™ Filter Separator will have a positive effect on your maintenance budget as well as increase your productivity and reduce your energy consumption.



PTU 15/25



PTU2 27/27



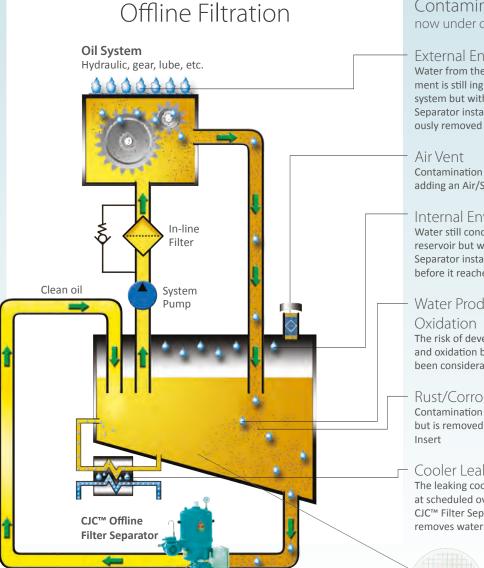
PTU1 27/54







Marine Diesel Purifier



### Contamination now under control

### External Environment Water from the external environment is still ingressing into the system but with the CJC™ Filter Separator installed, it is continu-

Air Vent Contamination can be reduced by adding an Air/Silica Gel filter

### Internal Environment Water still condensates in the oil reservoir but with the CJC™ Filter Separator installed, it is removed

## before it reaches the oil system Water Produced by Oxidation

The risk of developing water, acids, and oxidation by-products has been considerably reduced

### Rust/Corrosion Contamination is still being created but is removed by the CJC™ Filter

Cooler Leaking Water The leaking cooler can be repaired at scheduled overhauls as the CJC™ Filter Separator continuously removes water in large volumes

> Millipore membrane Sample taken after offline filtration

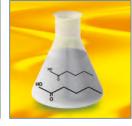
### The most common types of contamination sources



Removal of Particles Particles down to 0.8 µm are retained in the filter mass



Separation of Water The filter insert and coalescer element separates the water



Removal of Acid Special inserts neutralise acidic components in the fluid



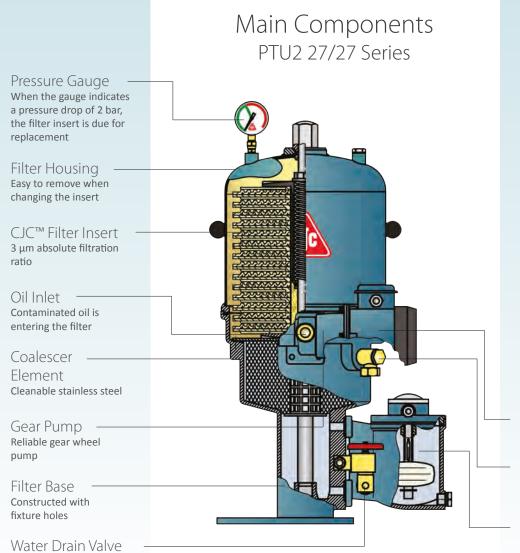
Adsorption of Oxidation Sludge/varnish in the oil is attracted to the polar sites of the filter mass and is retained there

## **Our Product**

CJC™ Filters - Simple, Efficient and Low Maintenance

## Key Features of the CJC™ Filter Separators

The CJC™ Filter Separators are depth filters for diesel, hydraulic and lubricating oils for all sizes of oil systems.





Coalescing of Water in the CJC™ Fine Filter Insert The coalescing process starts in the filter insert. On their way through the cellulose fibres, microscopic water particles

aggregate into water droplets, sinking down into the coalescing element



the CJC™ Coalescing Element The droplets aggregate (coalesce) in the coalescing element and settle in the bottom of the housing and filter base

**Electrical Motor** Low energy consumption

Oil Outlet Clean oil is returning to the reservoir and oil system

**Automatic Water** Discharge Unit Simple, mechanical level control and discharge unit















(27/81)



(27/108)

## **Your Benefits**

Reduce your maintenance cost, fewer breakdowns, fewer oil changes - install a CJC<sup>™</sup> Filter Separator!

> The cleanliness level achieved and maintained by offline filtration means that the predicted lifetime of machine components and oil is expected to be extended 2-10 times! The benefits that you can achieve when implementing CJC™ Offline Filter Separators will have a positive effect on many parameters such as:

### Financial Benefits / Increased Productivity

- Increased uptime
- Reduced maintenance budget
- Fewer unplanned breakdowns and stops of production
- Enhanced operational precision
- Leaking coolers can be repaired at schedule overhauls

### Less Maintenance

- · Less wear and increased lifetime of components, oil and filter inserts
- Longer time between service intervals
- Enhanced operational precision



### Lower Energy Consumption

- Lubricating capabilities remain intact
- Reduced friction
- Reduced pressure drop over in-line pressure filters
- Viscosity index is kept stable and efficiency is maintained

### **Environmental Benefits**

- Fewer oil changes
- Reduced top-up of oil
- Less waist oil less use of natural resources

-all advantages to the total economy!

## Satisfied Customers

### MARINE:

Mr. Bjørn Helge Amundsen Tech. Superintendent Gulf Offshore Norway, North Truck, Norway Application: Supply vessel / work boat Solution: CJC™ Filter Separator PTU2 27/27



"After having tested nearly every piece of water removing equipment on the market in order to solve our water and contamination problem, we went for the CJC™ Filter system, because it was simply the best. The filters did the job to our greatest satisfaction, removing particles, water and other waste products.

CJC™ Filter systems for oil maintenance are a very good investment. The return of investment is very short."

### POWER:

Mr. Javier Gonzales Mech. Maintenance Department C.N. Vandellós II Tarragona, Spain Application: Main Turbine, Nuclear Power Plant Solution: CJC<sup>™</sup> Filter Separator PTU3 5x27/108

"We bought this filter as a substitute for a centrifuge to remove the large amount of water that is generated in the turbine at start-up. But, unexpectedly, we have gained more benefits. Before installing the filter it was necessary to clean the varnish deposits off the walls in the heat exchanger at each stop of the plant. Now we just look at the system to verify that it is clean. We have never seen the oil so clean. The reliability of the equipment is increasing with time."



Mr. Dave J. Gamble Senior tribologist Anglo American, South Africa Application: Crusher

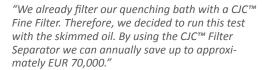
Solution: CJC<sup>™</sup> Filter Separator 27/108

"The CJC™ Filter will release benefits as reduced downtime for maintenance, greatly reduced wear and consequent failures, increased availability, utilisation and production. All together, this results in extended oil life time.

This filter can easily clean the oil according to my recommendations, which is 16/14 on this type of application."

### **INDUSTRY:**

NIEDS(CHIR)(O)EF Mr. Sylvester Kapias Manager Heat Treatment Nedschroef Altena GmbH Application: Quench washing bath Solution: CJC<sup>™</sup> Filter Separator PTU1 27/108



C.C.JENSEN will back you up

- we have 60 years of experience!





## C.C.JENSEN

## - contact us today!





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