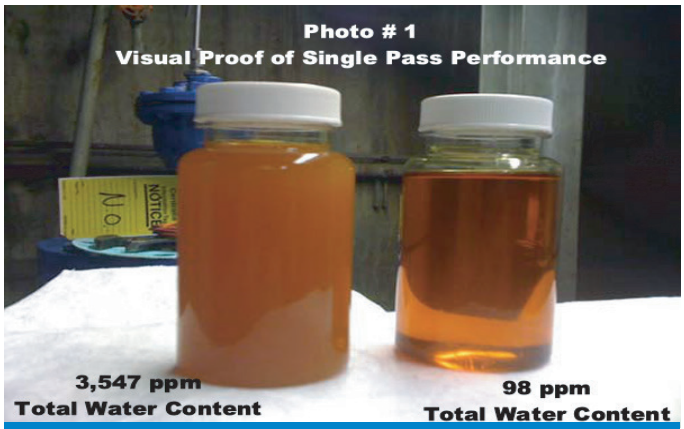
KL10 TURBO-TOC®

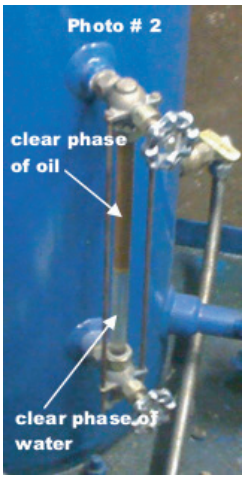
APPLICATION BULLETIN
Visible Performance

A Model KL10 Turbo-TOC® turbine oil conditioning system was installed at a large power plant in the northwest United States. The application for the KL10 was a 1,000 gallon boiler feed pump turbine oil reservoir at 130F using Chevron ISO 32 turbine oil. The oil reservoir was experiencing a high level of water ingression and the plant contacted Kaydon Filtration for a solution. As you can see in Photo #1, the highly emulsified water in the turbine oil was removed to produce “clear and bright” oil.



Studies show that bearing life is reduced by 48% with water-in-oil content of 200 ppm and improved to 100% with less than 100 ppm.

With the technical advances in the coalescer and separator design, this occurrence of high single pass efficiency has been common. The pleated and multi-layered K2100 coalescer element is capable of breaking the most persevering water/ oil emulsions and creating large and heavy coalesced water droplets. In addition, the K3100 separator element with the new synthetic separator barrier prevents small coalesced water droplets from passing downstream. The combination of the Model K2100 coalescer and Model K3100 separator consistently delivers oil to less than 100 ppm.



Another visible indicator of the KL10 system performance is the water sight glass on the side of the coalescer vessel. Shown in Photo # 2, the sight glass clearly shows the accumulation of coalesced water that has been removed from the oil, and a clear phase of oil. Shortly after this photo was taken, the water further accumulated to about 3/4 up the sight glass, and the automatic water drain discharged the water.

Features and benefits

Longer Turbine Life

Using Kaydon Turbo-TOC® will keep the oil system flushed and harmful contaminates removed. Oil reliability is increased.

Reduced Bearing Failure

When both water and particulate are brought down to acceptable levels, bearing failures will decrease or be eliminated.

Fewer Forced Outages

A continuous flow filtration system can quickly remove the contamination, thus preventing a forced outage.

Less-Costly Turbine Rebuilds

Clean turbine oil increases turbine dependability and helps in the reduction of repair costs that are directly associated with the contaminated oil.