

TURBO-TOC[®] Performance

TECHNICAL BULLETIN

The performance of the Kaydon TURBO-TOC involves four important components:

- Installation
- Oil Temperature
- Element Change-Out every 6-months
- Complete Drainage of System Once per Year

Installation

The TURBO-TOC performance is dependent upon the location of the feed line (see Illustration # 1). Installation of the feed line at the bottom of the reservoir helps draw in both solid contamination and water that has settled to the bottom.

A recent example of an incorrect feed line location occurred at the NRG-Indian River plant. A KL30H TURBO-TOC was installed and operating for about a year. After a year's operation, excessive water began to enter the oil. However, the KL30H feed line was drawing in clean oil. The reason was the location of the feed line pick-up point at the reservoir. It was determined that the feed line had valves installed to either draw from the top or bottom of the reservoir. The valves were in a position to bring oil in from the top, so it was changed to bring oil in from the bottom.

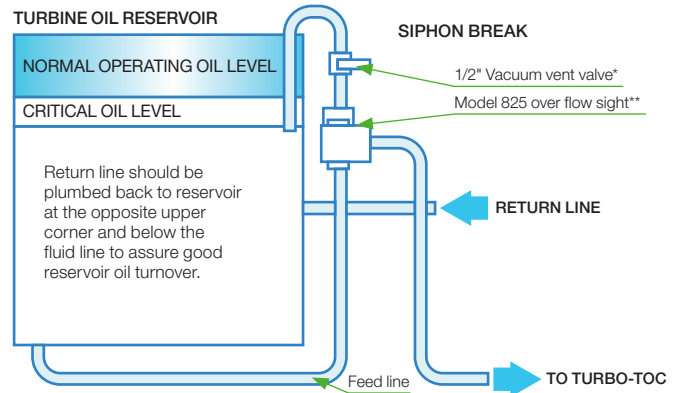
When this change was made to draw the oil from the bottom, the KL30H removed about 250 gallons of water in 48 hours.

Oil Temperature

Cold oil (less than 70F) is too cold for the TURBO-TOC to remove water. The range of 70F-90F will provide nominal water removal performance, and temperatures 90F and above will provide good water removal performance. The optimum temperature for the TURBO-TOC system is in the range of 120F-140F.

Element Change-Out every 6-Months

The number one cause of non-performance of a TURBO-TOC is due to elements that have been in the system too long (12 months or more). The consistent practice of changing all elements every six months will allow the system to work at its maximum level.



* 1/2" vacuum vent valve is normally open, closed only for draining tank. Vent line inlet must be at Critical Oil Level (C.O.L.) inside tank.

** Kaydon Model 825 Safety Overflow Sight (top of inlet pipe/bottom of glass) must be installed slightly higher than the C.O.L. (about 6" above C.O.L. is best)

Illustration #1: Proper Turbo-TOC Installation



Photo A



Photo B

Complete Drainage - Once per Year

At least once per year, the TURBO-TOC needs to be completely drained.

This is required for two reasons: (1) It helps remove the large contaminate that settles to bottom of the filter vessels, and (2) it eliminates bacteria growth in the water removal filter.

The water removal filter always holds water in the bottom (after the first accumulation of water) and therefore creates an atmosphere for bacteria to grow at the interface of the oil and water.

Growth normally does not begin until after 12-18 months, so a yearly drain of the system will keep the bacteria from growing.

Photo A is an example of a system that was not completely drained in over three years. It took a Kaydon Field Service Engineer a full day to clean out the water removal filter vessel (Photo B - holddowns & elements not shown).



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+ 1 800 241 2342
filtration@kaydonfiltration.com
www.kaydonfiltration.com