

WSO Mist Collector: Low Maintenance, High Efficiency on Smoke from Gear Hobbing

INDUSTRY: Gear Hobbing

PROBLEM: The electrostatic precipitators collecting oily smoke were inefficient and required weekly maintenance

SOLUTION: A Donaldson Torit WSO Mist Collector, ducted to two hobbers, has required no maintenance for over 250 24-hr-days or 750 8-hr-shifts

This manufacturer had been using electrostatic precipitators (EP) for several years to deal with the oily smoke generated by gear hobbing CNC machinery. Gear hobbing is a technique that is employed to precisely create gear teeth, in this case for power-train and chassis components for motorsport vehicles.

There were two problems: (1) the EP units needed weekly maintenance just to keep them running, and (2) even then, the EP's were not efficient enough to remove the smoke.

Donaldson suggested they do a trial with the Donaldson Torit WSO Mist Collector on one of their hobs. The WSO has 3-stage filtration designed to overcome the special challenges of oily smoke.

Donaldson recommended a WSO with:

- * a high efficiency pre-filter,
- * a Synteq® XP-S primary filter for Smoke, and
- * a 95% DOP afterfilter

The WSO was intended for one machine, but with the differential static pressure across the 2nd and 3rd stage filters (XP-S filter & 95% DOP after filter) remaining low, the customer ducted the WSO to a second machine (see photo).



Monitoring showed the WSO operating at steady state even after 3000 hours/125 days of continuous use on the primary filter — stabilized and without any maintenance.

The crew is happy that they don't have to fiddle with the filtration system and they don't have to worry about smoke — "the WSO just works." Evaluations have shown that they can expect 4,000 to 6,000 hours of filter life (250 24-hr-days or 750 8-hr-shifts) between maintenance intervals.

This manufacturer has ordered 3 more WSO Mist Collectors.

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