



Case study: Air Treatment
VOC Abatement for Aerospace Paint Finishing
Montreal, Canada

Quick facts

By installing a Munters zeolite rotor concentrator along with a single regenerative thermal oxidizer (RTO), aerospace manufacturers have been able to:

- Capture and destroy organic solvents efficiently, while saving energy
- Achieve > 95% VOC destruction removal efficiency
- Provide high reliability and steady flow exhaust with minimal pressure fluctuations
- Realize considerable savings in operating costs

Zeol VOC Abatement Technology Saves on Operating Costs for Aerospace Paint Finishing

For over 10 years, a Canadian aircraft manufacturer has saved over \$500,000 annually in fuel and electricity consumption by using Munters rotor concentrators to control solvent emissions from its facility's paint booths.

Before purchasing Munters equipment in 2002, the manufacturer struggled with the inconvenience of having their aircraft systems

flowed to be painted in subcontracted paint hangers. This affected production and lead times so the company decided to build new paint hangers adjacent to their assembly plants.

Why Munters was selected

The exhaust stream from each of the paint hangers required treatment to remove volatile

organic compounds (VOCs) in order to meet the local regulatory requirements.

Typically, aerospace paint hangers exhaust large volumes of air with a relatively low concentration of VOCs. The end user's equipment selection criteria included meeting VOC abatement performance, low capital costs, low cost of ownership, reliability and

application experience. Munters zeolite rotor concentrator abatement system met all the criteria.

The main benefits of using a zeolite rotor concentrator system are high reliability, steady flow exhaust with minimal pressure fluctuations and considerable operating cost savings. A Munters' system concentrates a large exhaust volume containing a low concentration of VOCs into a small concentrated stream using zeolite Honeycombe® media. Therefore, the concentrated VOCs can be efficiently and cost-effectively destroyed in an oxidizer. Pressure drop through the system is low which helps reduce exhaust fan electricity use.

Building profits on Munters' unparalleled experience

In 2013, this same manufacturer was expanding operations and building a new paint hanger. Again, they came to Munters to supply the abatement equipment.

Munters designed new equipment that consisted of a dedicated zeolite rotor concentrator along with a single regenerative thermal oxidizer (RTO) that was used to destroy the VOCs. The concentrator had to be designed to fit inside the building adjacent to the paint hanger and the RTO was located outside. The new hanger was designed to exhaust 100,000 scfm. The system concentrated the total 100,000 scfm down to only 10,000 scfm which was then

sent to the RTO for VOC destruction. The overall system VOC destruction removal efficiency (DRE) was greater than 95%. The manufacturer will now save an additional \$267,000 annually on their new system compared to the competing technology, a stand-alone RTO.

By utilizing Munters technology, the company has saved more than \$5 million over the years.

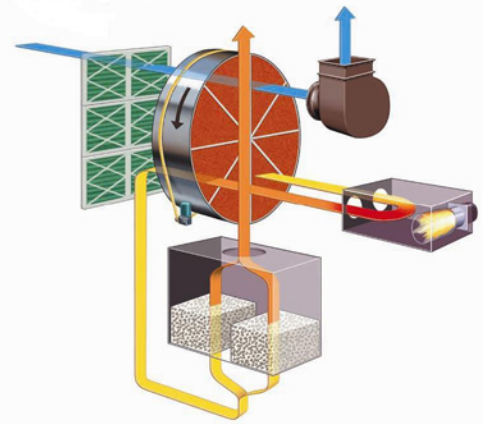
Munters – Leading the world in VOC Abatement

Munters pioneered desiccant rotor technology over 60 years ago. Munters Zeol rotor concentrator systems are the leading technology for abatement of VOCs.

Munters' install base includes some of the world's most respected companies. For example, Munters is a two-time award recipient of Intel's Supplier Continuous Quality Improvement Program.

Munters systems are engineered, manufactured and tested in the company's ISO 9001:2008 certified manufacturing facility. Munters is the only supplier in the world that controls all aspects of rotor concentrator system manufacturing, including rotor structure and assembly of complete VOC abatement systems.

Shipped worldwide, Munters equipment is supported by an internal service organization available 7-days-a-week, 24-hours-a-day, with technicians and critical parts inventories located all over the globe.



Rotor/RTO with Desorption Heater Configuration
Large airflow applications for aerospace or automotive finishing can be abated most cost effectively by taking advantage of the concentrator technology and fuel efficient regenerative thermal oxidation.

Specifications

Model No.	IZS-DP3546-RTO
Flow Rate	100,000 scfm
Inlet temperature	77° F
Rel. Humidity	50 %
Inlet Pressure	-2 in W.C.
VOC Loading	50 lb/hr
Zeolite Rotor	3546 mm diameter 400 mm deep
Prefilter	30% paper 95% bag
Thermal Oxidizer	10,000 scfm
CR	10:1
System Size	31'5" x 12' (concentrator) 23'5" x 10'11" (RTO)
System Weight	35,930 lb (concentrator) 68,630 lb (RTO)
Natural Gas	2.9 mm Btu/h
Electrical Usage	180 kW
DRE	> 95%



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