

Ductless Fume Hoods

Date reviewed: 11/03/2103

Description of Technology

Ductless Fume Hoods are used in lab environments, where harmful exhaust is presence. Unlike the conventional technology of Ducted fume hood, where the exhaust air is emptied outdoors (with or without filtration), ductless fume hoods are designed to recirculate filtered air back into the immediate environment. Ductless fume hoods use the properties of activated carbon combined with catalysts and certain neutralizers in order to filter toxic molecules

Energy Saving Opportunity

Sector(s):	<input checked="" type="checkbox"/> Residential
	<input checked="" type="checkbox"/> Commercial & Industrial
Applicability Criteria:	Labs (with low solvent quantity usage)
Efficiency Improvement:	Less fans, Electricity savings
Energy (%) Savings Potential:	50% per hood
Demand (%) Reduction Potential:	Highly variable

Strengths

- Hazardous particulate are trapped in a designated filter before entering into the immediate environment. The filter can be cleaned or disposed of properly.
- Eliminating the need for make-up air system and therefore less complicated fan system
- Simpler construction lay out in labs

Weakness

- Education and training are required to operate and maintain due to the need change the filter at a regular basis.
- There is concerns with the hood's ability to handle high concentrations of chemical vapor, since it relies on the filter and the air gets recirculate back into the lab environment
- The face velocity is normally below 80 feet per minute, therefore disruption of turbulence may occur causing unfiltered air leakage

**Third Party Analysis/
Previous MTAC Reviews**

NYSERDA has a done a study and offers rebates for this type of technology

**Suppliers Known
to MTAC**

Sentryair
erLab
Terra universal

MTAC Status

Acknowledged to have energy savings potential and referred to individual PA for their own EE program consideration

Market Development Issues

Cost:	\$4,000-\$8,000/unit
Market Risk and Barriers:	Low ability to handle extremely high concentration of hazardous chemical vapor
Time to Market:	Currently on market
Simple Pay-back: (Years)	Varies

