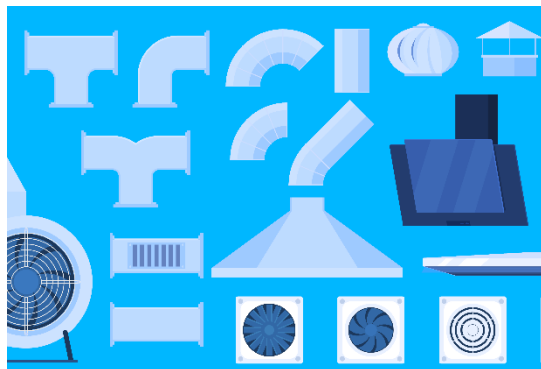


# LOCAL EXHAUST VENTILATION SYSTEMS



A Local Exhaust Ventilation (LEV) system is an engineering control intended to reduce exposure to airborne contaminants such as dust, mist, fume, vapour and gas in a workplace. This control measure includes any form of ventilation system where the extraction is located at the point of release of the emission source. LEV systems are generally operated with a central ventilation system that captures the air contaminant before dispersion into the workplace air - using a hood or enclosure and transports contaminated air with ducts and hoses to be filtered. Local ventilation can be divided in different types including enclosing hoods, receiving hoods and capturing hoods.

Alternatively, LEV systems may consist of a (mobile) unit or vacuum cleaner connected with hoods or shrouds fitted on hand-held tools and equipment.

## RMM SPECIFICATION

Enclosing hoods  
Receiving hoods  
Capturing hoods  
Air cleaners

### Effectiveness

Mean: 84%

40% ————— 99%

### Implementation

- Ready to use
- Development required
- Without any maintenance
- With regular maintenance

### Cost

Small unit    Large unit



### Target group

- Workers
- Consumer
- Environment

### Lifetime



Years of use

## ADVICES TO ENSURE THE MAXIMUM EFFECTIVENESS

A wide variety of LEV systems are available for different workplace processes and activities and customized depending on a specific workplace scenario. Various factors should be considered for this purpose, including the product properties (e.g. dustiness, volatility, corrosiveness) and operational conditions (e.g. rotational speed, level of agitation, temperature). If emission sources are mobile, LEV hoods can be equipped with flexible hoses that moves along with the process.

To ensure state-of-the-art application and effectiveness of LEV, the following elements should be considered:

1. Technical design and specifications, e.g. capture velocity, hood design, distance of hood to the point of release, adequate filtering systems
2. Optimal use, e.g. compliance with use instructions, positioning of the operator
3. Testing, maintenance and cleaning of the system, e.g. filter cleaning or replacement, testing of flow rates
4. Studies have shown that a well maintained and optimally used LEV system can result in a high efficiency to remove nanoparticles



## To know more

- Best practices effectiveness, prevention and protection measures for control of risk posed by engineered nanomaterials ★★★★★
- Current Strategies for Engineering Controls in Nanomaterial Production and Downstream Handling Processes ★★★★★
- Compilation of NM exposure mitigation guidelines relating to laboratories ★★★★★☆

