



Mechanical Ventilation – Hazardous Areas

Purpose:

To ensure the mechanical ventilation used is effective at diluting contaminants by supplying fresh air into the confined space and moving contaminated air out of the space.

Application:

Continuous mechanical ventilation must be initiated for the following situations:

- ▶ Possibility of a hazardous atmosphere
- ▶ Welding or burning processes
- ▶ Solvent use such as glues and cleaners
- ▶ When ambient temperatures may create a heat stress hazard

Other situations may require the use of mechanical ventilation. If you are not sure whether mechanical ventilation should be used, please contact your supervisor.

General Procedure:

1. Ensure that the appropriate ventilator has been selected for the confined space. Please contact your supervisor to review the ventilator specifications needed for the particular confined space.

The number of air changes per hour that are required will depend on the work to be performed and the conditions of the confined space.

Information on the amount of air that is moved by a ventilator is found on a sticker that is placed on the unit by the manufacturer. The manufacturer will provide information on ventilator specifications (i.e., friction loss, etc.) that should be used to ensure that the airflow delivered to the confined space is adequate.

2. Ensure there is a fresh air source outside of the confined space that can be maintained for the duration of the work (i.e., area will not become contaminated). Position the ventilator to capture the fresh air.
3. Turn the ventilator on to ensure it is operating properly prior to placing the airline in the confined space.
4. Place the end of the airline within 10 feet of the work area and into approximately 75% of the distance to the bottom of the confined space. If there is a secondary opening in the confined space, ensure that the fresh air is circulated throughout the full space.
5. Maintain a 10-foot diameter clear space around the openings of the confined space when diluting a toxic environment. Ensure that any contaminated air exhausting from the space is not recirculated into the confined space.
6. Always test the atmosphere in the confined space before entering to ensure it is acceptable, even if mechanical ventilation is provided.
7. To ensure an acceptable atmosphere is maintained in the confined space, continue to ventilate the area while it is occupied.
8. Always remove or retract the ventilation airline before the ventilator is turned off. This will keep gases from moving into the hose, across the motor and possibly igniting.