

Requirements for Sanding/Painting Enclosure

Overview

1st Air Cavalry Brigade (ACB) has a requirement to ensure their Soldiers are conducting operations in a safe manner for their Soldiers as they prime their helicopters and apply certain adhesives to their helicopters. In order to do so they require an air filtration system to ensure personnel conduct operations safely.

Safety and Operational Requirements

The system shall verify accurate testing and sampling data that system will provide clean air below the Airborne Concentration of Chemical Substances (ACGIH) Threshold Limit Values (TLV's) of 0.0002mg/m³. The contractor shall provide data verifying testing and sampling by Industrial Hygiene certified personnel outside of bidding contractor, both before and after indicating thresholds were achieved in reference DA PAM 385-10 and AR 385-10 workplace inspections.

The contractor shall provide a yearly resupply of filters upon delivery and at the beginning of each option period in accordance with the contract schedule. The contractor shall provide unscheduled resupply to the Government upon request from the Government.

The system shall utilize three phase receptacles for electrical hookup utilize through a control panel. The system shall be interoperable with 110v-220v electrical inputs. The system shall have an interface to facilitate hookup to a minimum of a 15k generator.

The system shall allow for use in a field environment, minimizing the use of special tooling. The system shall be able to fit into a 20-foot container. This is not limited to one 20-foot container. They system may be broken down and fit into multiple 20-foot containers if necessary.

The system shall provide a standalone fire suppression capability. The system shall provide internal lighting to facilitate work in any environment.

Operator Training

The contractor shall provide operator training upon delivery. The training shall cover, at a minimum, initial setup, teardown, safety procedures, filter replacement, overall system operation, troubleshooting and repair operator level procedures.

The contractor shall provide refresher training in accordance with the contract schedule.

Retractable Enclosure

The system shall utilize cross draft method for filtering of air.

The system shall utilize negative pressure in the maintenance area of the air enclosure.

The system shall be portable and retractable.

The system shall have at least 100 Feet Per Minute (FPM) airflow at intake filters in accordance with Code of Federal Regulations 1910.94 (OSHA Ventilation).

The system shall be able to fit the following dimensions:

- Total size shall fit within 8-10'H x 16-17W' x 40-41'L for the total size. This facilitates the equipment going inside as well as the constraint of the external facilities.

The system shall be compliant with material National Fire Protection Association 701.

The system shall be able to fit in equipment that is 28 feet long and 32 inches wide.

The system shall have an entrance and exit.

The system shall have an interface for Class B airline/ports for technicians. This will provide the necessary air for required tools into the enclosure from outside the system.

The system shall have an interface for oxygen to facilitate air flow to operators within the enclosure.

The system shall provide at least four additional ports that can be multi-purpose depending on the operation being conducted. These ports shall be able to facilitate electricity (extension cords) and additional airlines for tooling.

Anteroom

The system shall be High Efficiency Particulate Air (HEPA) Filtered below the ACGIH TLVs of 0.0002mg/m³.

The system shall have a positive pressure system to reduce the amount of particles that are taken out of the anteroom.

The anteroom shall be large enough to fit a person inside it.

The system shall contain hazards from aerospace maintenance tasks within the anteroom.

If powered separately from the enclosure this room shall have utilize three phase receptacles for electrical hookup. The system shall be interoperable with 110v-220v electrical inputs. The system shall have an interface to facilitate hookup to a minimum of a 15k generator.

Exhaust System

The exhaust system shall achieve 18,000 cubic feet of air moved per minute (CFM) or higher to achieve ACGIH recommended TLVs.

The exhaust air shall be “returned to building” as per American National Standards Institute (ANSI) Z9.7 (No additional ventilation requirements to existing structures).

The system shall have a gauge to measure particulate filter loading and monitor when a new filter is required.

The system shall conduct multistage particulate filtration in accordance with National Emission Standards for Hazardous Air Pollutants (NESHAP) 319. The contractor shall provide data for this testing conducted.

The system shall have a volatile organic compound (VOC) monitor system to shut down spray air if OSHA allowable limits exceeded. The system shall meet the 40 Code of Federal Regulation 59 for volatile organic compound (VOC) monitoring exposure.

Fire Suppression

The system shall meet the National Fire Protection Association 17 Standard for Dry Chemical extinguishing systems. The fire suppression system shall have a 110v-220v electrical input with Audible and Visual Warning. The fire suppression system shall have a gauge to monitor the serviceability.