

Arctic Walk-In Enclosure Guide Spec

Sound Attenuation

- Custom fabricated, arctic grade, walk-in enclosure to be sound attenuated to **65dBA @ 7m** in free field conditions.

Building

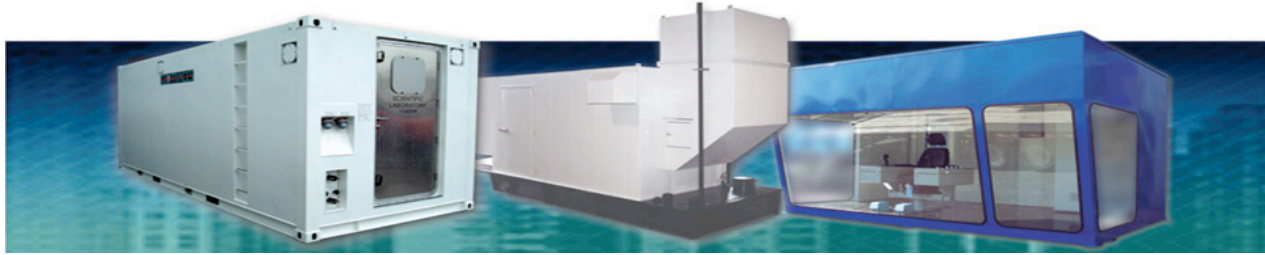
- Walls shall be **5"** thick, made of formed 12 gauge satin coat panels to ASTM A653
- Walls shall be insulated with mineral wool insulation to **R20** insulation value and lined with 22 gauge galvanized steel perforated sheets (liner to be riveted, teck screws are not permitted)
- Walls shall be stitch welded and caulked before paint
- Roof shall be fully seam welded, **5"** thick, 12 gauge satin coat to ASTM A653
- Roof shall be insulated with mineral wool insulation to **R20** insulation value and lined with 22 gauge galvanized steel perforated sheets
- Roof shall have a 2" slope to reduce ponding of water
peaked roof available if required
- Enclosure to be designed as walk-in with **1 metre** clearance at rear and **36"** on both sides. Note: side clearance to be from edge of skid base, not including radiator width.
- Enclosure to be designed to meet **Yukon Building Code**
- Enclosure shall come with two (2) only man doors c/w freezer-style panic door hardware, bulb seal and drip-edge rain gutter
- Enclosure shall come with ice rakes and eaves trough
- All fabrication shall be performed in a CWB Certified facility, by CWB Certified welders

Ventilation

- Intake hood shall be lined, complete with motorized (power close, spring open), insulated dampers and bird screen at opening
- Discharge hood shall be lined, complete with motorized, insulated dampers and thermostatically controlled warm air recirculation system w/ bird screen at opening
- Gooseneck snow hood included, removable for shipping

Heated & Insulated Fuel Tank Base

- Fuel tank, sized for **24hrs** of run-time at **100% load**, shall be double-walled and CAN/ULC S601 certified complete with the following:
 - Emergency relief fittings
 - Normal vents, extended 12' above grade for code compliance
 - Fuel supply (with check valve) and return lines
 - Mechanical fuel gauge
 - Float switches for high/low fuel level and leak detection



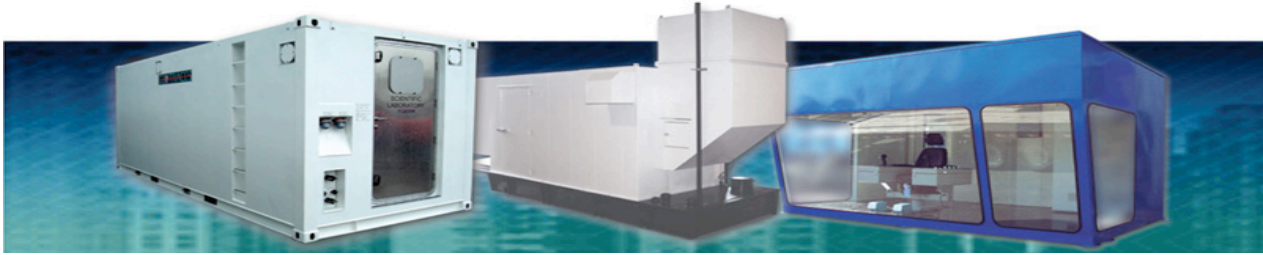
- 2" Camlock fill with 5 gallon spill containment bucket
- Electrical stub-up area(s)
- Lifting eyes
- 75mm containment sill around the perimeter
- Genset Support Rails shall be provided, running longitudinally with engine skid to eliminate potential tripping hazards of mounting cross-members
- Fuel tank base shall serve as the floor of walk-in enclosure, therefore there shall be no generator mounting cross-members allowed across enclosure floor – this is to prevent tripping hazards
- Fuel tank base shall be manufactured in Canada by the same manufacturer as the enclosure package to ensure optimal QA/QC and integration between fuel tank base and generator
- Fuel tank shall be insulated to R21 insulation value with 3" fire retardant spray foam insulation
- Fuel tank sides shall be covered with bolt-on skirting plates
- Fuel tank shall be heated with Kim Hotstart immersion fuel tank heaters (**heater quantity to be determined based on volume of fuel tank**)

Electrical

- House electrical loads shall be powered via one (1) only 30CCT, 120/208V, three phase, 100 Amp distribution panel board connected to the following items
 - **Four (4)** only 120V vapor proof fluorescent lights
 - Two (2) only 3-way light switches
 - Two (2) only 120V, 20A GFCI convenience receptacles installed inside enclosure
 - **Two (2)** only 4kW fan-forced space heaters
 - Circuits for block heater(s), anti-condensation heater & battery charger
- Two (2) only emergency lights c/w 1hr battery back-up, installed inside enclosure
- All electrical enclosure wiring is in surface mount EMT, up to 6' away from the genset, where liquid tight flex will be used to provide a non-rigid connection between the engine and the enclosure
- All components are CSA or ULC listed and bear the CSA or ULC Label
- All electrical work to be performed by ticketed (journeyman) electricians
- CSA Special Inspection to SPE-1000 is required for all enclosure electrical work with certification by approved inspection body

Paint System

- Enclosure & Fuel Tank Base Surface Preparation shall be to SSPC-SP1
- Primer shall be International Paints Epoxy
- Top Coat shall be International Paints Polyurethane, enclosure exterior colour to be determined by **customer**, colour matching to be available if required



Exhaust System

- Exhaust silencer shall be installed inside enclosure c/w flex, exhaust piping, roof penetration and rain cap. Silencer shall meet sound level specified above.
- Insulation blankets shall be installed on interior-mounted silencer and interior exhaust piping

****Note (FYI): silencer may need to be roof-mounted depending on generator kW/physical size...also, if sound level is extreme – we may need a dual silencer system, which includes one internal and one roof-mounted silencer****

Manufacturing

- All major components in the enclosure manufacturing process (enclosure, hoods and fuel tank/base) must be designed and manufactured by a single, Canadian company

Packaging

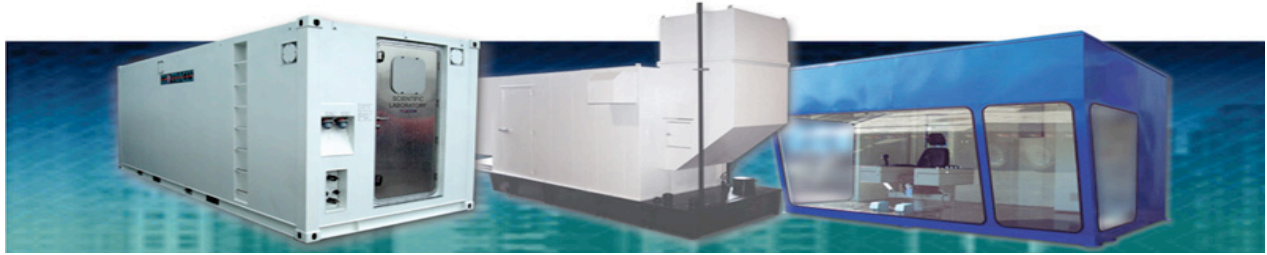
- Generator set to be installed in enclosure on generator manufacturer supplied vibration isolators
- Radiator flexible coupling shall be installed between radiator and air discharge duct
- Battery charger shall be wall-mounted inside enclosure and wired to distribution panel
- Generator heaters (block heater, anti-condensation heater etc.) shall be wired to distribution panel
- Fuel tank alarms (level and leak float switches) shall be wired to the generator control panel

Quality Control, Testing, & Project Management

- Structural Design by Structural P.Eng Licensed in **Yukon Territory**
- All fabrication and packaging to be performed by an ISO 9001:2008 certified company
- Fabrication to be performed in a CWB Certified Facility by CWB Certified Welders to IAW and CWB Standards
- Mechanical Installations to be inspected by In-House Project Manager
- All Electrical Installations shall be by Licensed Electricians, supervised by in House Electrical Engineer.
- QA Inspection reports to be provided if required
- Progress reporting shall be provided as required, complete with digital pictures and MS project schedule.

Optional Items:

- **Two (2) OSHA Compliant Stair Sets c/w Landing, Platform and Hand Railing (if required)**
- **Fire Alarm panel c/w (2) heat detectors, (2) pull stations and (3) horn/strobes**
- **Automatic Transfer Switch installed inside enclosure and wired back to generator circuit breaker**



- **Radiator Duct-Mounted Load Bank installed inside enclosure and wired back to generator-mounted circuit breaker**

Best Regards,



Dave de Ste Croix, Vice President

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