General Opti Rack
SOP - Fail-safe Fan

Scan or click to watch video demonstration

Introduction

The fail-safe fan allows facilities to maintain airflow through any Animal Care Systems racks in the event of HVAC system failure. Eight D-cell batteries power a fan that pulls air through the rack . The life of the battery pack ranges between 60 and 72 hours (depending on battery quality) **at 46 cubic feet per minute** (1.3 cubic meters per minute). The fan is 4.5 inches tall, so if moving among rooms, check to ensure the fan clears the doorway. The loaded battery pack weighs 2.9 pounds.

If you would prefer a power supply solution, the fail-safe fan can be plugged directly into an electrical outlet. Please contact Animal Care Systems for details.

Flange Cap   Fan

Rack-top view

Installation

1. Lock the two brake casters. Use a ladder to access the top of the rack; do not attempt to tip the rack to access the top of the rack.
2. Remove the exhaust hoses from the rack; do not connect them to the fail-safe fan.
3. Twist the bottom flange of the fan onto one of the two rack hose flanges on the top of the rack; ensure the teeth interact with the rack exhaust port (Figure 1).

⚠️ **Do not use your exhaust hoses with the fail-safe fan.**

Figure 1

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Animal Care Systems employs former facility managers and veterinarians who can provide assistance with any questions regarding animal housing and procedures.

4. Cover the unused exhaust port with a flange cap (Figure 2).

Figure 2

⚠️ **The unused exhaust port must be covered with a flange cap.**

5. Remove the empty battery pack from the metal canister; use the contoured lid for grip.
6. Install the eight D cell batteries into the battery pack; do not mix battery chemical compositions (keep alkaline with alkaline and nickel-metal hydride with nickel-metal hydride).
7. Carefully lower the full battery pack slowly into the canister (Figure 3) and gently push on the top until the lid is flush with the canister (Figure 4).

⚠️ **Do not mix batteries with different chemical compositions.**
Do not mix rechargeable and non-rechargeable batteries.
Never use batteries with Lithium chemical compositions.

Figure 3

Figure 4

⚠️ **The canister will be heavy with a full battery pack inside.**

8. Attach the battery-pack canister to the upper half of one of the uprights (Figure 6) by twisting firmly against the upright while pushing until the upper and lower latches capture the upright; click here to view a demonstration video for attaching the canister.
9. Guide the cable from the fan assembly to the top of battery pack then plug cables together (Figure 7).
10. Toggle the switch beside the plug port to turn on and off the fan (some units have switches, and some do not have switches).
11. Hold a tissue above the fan opening while it is operating to ensure air flow; if none, verify the batteries are installed correctly.
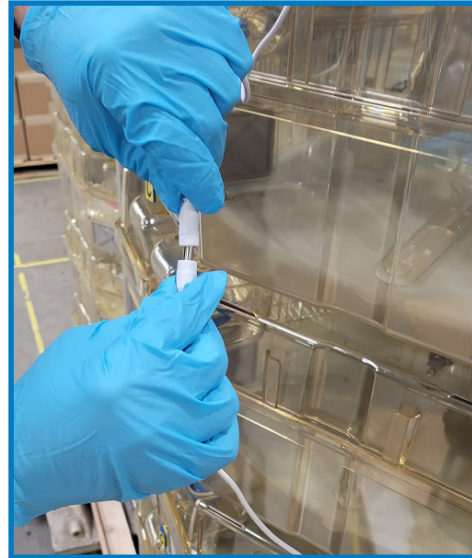

Figure 6

Figure 7

⚠ **Do not use the battery-pack cable as a handle to remove the battery pack. Use the grooved lid to remove the battery pack.**

Removal

1. Unplug the cable from the fan.
2. Lift the battery pack out of the canister using the contoured lid for grip. Do not pull out the battery pack using the cable as a handle because that will damage the cable.
3. Grasp the upright with one hand to brace the rack and the canister's body with the other hand.
4. Pull and twist the canister firmly away from the rack to remove it from the upright.
5. Remove the batteries from the pack to preserve their charges.
6. Using a ladder to access the top of the rack, remove the fail-safe fan by untwisting it from the exhaust port.
7. Remove the exhaust port flange cap.
8. Reconnect to the building system using both exhaust hoses.