

Precision Cooling
For Business-Critical Continuity

Liebert XDA™ Air Flow Enhancer

User Manual



 **Liebert.**


EMERSON
Network Power

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1.0 PRODUCT DESCRIPTION

The Liebert XDA Air Flow Enhancer increases the airflow through densely populated enclosures, breaking up hot spots within the enclosure that can threaten the uptime of your critical systems. Equipment fans often produce insufficient flow to push air through the masses of data communication wiring at the rear of the enclosure. With an XDA placed on the exhaust side of the enclosure (the five high-static fans ensure positive air flow), the heat is moved out of the enclosure and into the room where it can be removed by the room air conditioning system.

The Liebert XDA is also available as a factory-installed option on Liebert Foundation™ cabinets.

1.1 Features & Benefits

- Improves extraction of heat from high heat density equipment cabinets
- Permanently attached dual power cords to prevent accidental disconnection and increase up-time
- Hot-Installable: No shutdown or removal of rack equipment is required
- Serves the entire cabinet
- Easily installed with common tools
- No drilling required for most installations
- Narrow enough to allow use of two units per rack for extreme heat density situations
- Can be mounted on the outside or inside of the cabinet door
- Consumes zero “U” of rack space
- Can be used with or without a raised floor

Keep these instructions for future reference. Please take a moment to complete the enclosed startup survey card.



CAUTION

Fans have moving parts that can cause personal injury.

Keep clothing and fingers away from fan openings.

System contains hazardous electrical voltage. Disconnect BOTH power cords before working within.

Follow all local codes.

2.0 INSTALLATION

The Liebert XDA can be attached to most equipment cabinet doors 60" tall or taller. The unit typically is installed on the outside of a cabinet's rear door, generally used to discharge heat generated from the cabinet.

If aisle space is insufficient for exterior mounting, and space is available inside the cabinet, the XDA may be installed on the inside of the door.

2.1 Equipment Inspection

Immediately after receiving the shipment, remove the XDA and all components from the shipping carton and inspect each item for damage. Check to see that all parts are included:

User Manual

Unit with mounting angles attached

Mounting bracket

Mounting hardware:

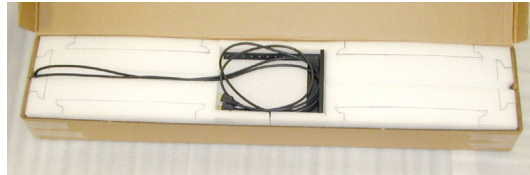
Screws - 10

Nuts - 10

Cable ties - 10

Blocking material

Power Cord Bushing



XDA as shipped - in foam packing material

2.2 Pre-Installation Considerations

- Verify that the XDA unit voltage matches the available utility power. The nameplate with this information is located on the top of the unit.
- Note the XDA's appearance: the front of the unit bears the Liebert logo (or label) and long, horizontal slots across the fans; the rear of the unit has smaller slots over the fans.
- The XDA is attached to the cabinet door using screws and nuts. In most cases, existing holes in perforated cabinet doors can be used to mount the XDA. Horizontal slots in the XDA mounting angles provide easy alignment with existing holes in the cabinet door.
- If the desired mounting position places mounting holes over the solid portion of the door, mark and drill holes as needed in the solid portion of the door, using a 3/16" drill bit.



NOTE

Check for interference with the cabinet's handle/latch. If the handle swings toward the center rather than toward the outside of the door, it may limit positioning options for the XDA.

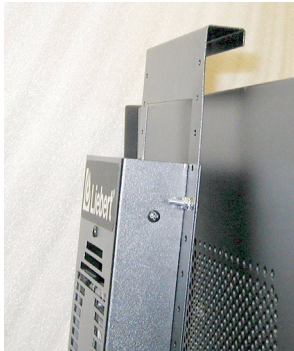
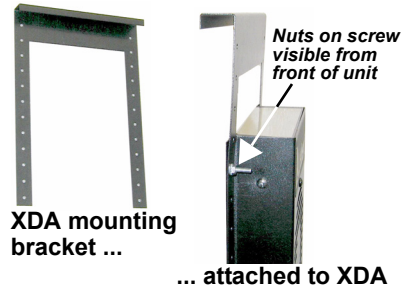
2.2.1 Required Tools

- Phillips screwdriver
- Pliers
- Scissors

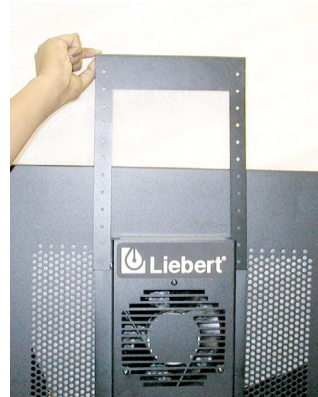
2.3 Mounting the XDA on the Exterior of the Rear Cabinet Door

2.3.1 Prepare to Install the Unit

1. Determine the desired mounting position on the door.
2. Attach the mounting bracket to the top of the XDA, positioning the bracket to obtain the desired mounting height.
3. Position the hanging support of the bracket toward the rear of the unit, with the tabs of the bracket down and in front of the mounting angles.
4. From the rear of the unit, place screws through the XDA mounting angles, then through the bracket.
5. Place nuts on the screws and tighten them. The nuts should be visible from the front of the unit.



XDA with mounting bracket being hung on door



Lifting mounting bracket off XDA

2.3.2 Mount the Unit and Attach it to the Cabinet

1. Lift the unit with bracket attached and hang it on the door, as shown at right. Ensure that the bracket rests safely on top of the top edge of door.
2. Move the unit sideways into the desired position. Ensure that the unit does not interfere with operation of the door latch.
3. Place screws through the middle and lower mounting holes of the XDA mounting angle and then through the door. Place nuts on the screws and tighten them.
4. Remove the nuts that attach the bracket to the unit and remove the bracket.
5. Lean the top of the unit slightly away from the door and remove the screws.
6. Install screws in the top holes in the same manner as in the middle and bottom holes. Tighten all nuts and screws.

2.4 Mounting the XDA on the Interior of the Rear Cabinet Door

2.4.1 Prepare to Install the Unit



NOTE

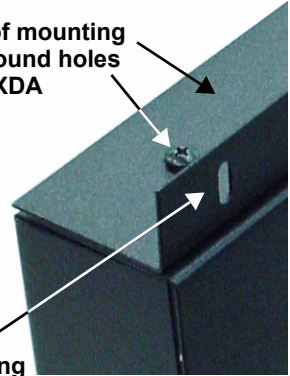
For mounting inside the cabinet, the mounting angles must first be reversed, as described in Steps 1 through 4 below.

1. Remove the screws on the sides of the XDA that secure the mounting angles to the unit.
2. Remove the mounting angles.
3. Position the angles so their mounting surfaces are near the front of the XDA. (This is the air discharge side, which has the Liebert logo and longer, horizontal slots over the fans.) To reverse the position of the mounting angles properly, rotate them vertically so that the tops of the angles are at the bottom of the XDA and the bottoms are at the top.
4. Reattach the angles using the screws removed in **Step 1** above.
5. Determine the desired mounting position on the door. Place the bracket on the top of the door with the tabs on the outside. (The mounting bracket will be used to determine the correct holes for screws attaching the XDA to the cabinet door.)
6. Locate the desired mounting holes on the door for the unit.
7. From the outside of the door, place screws through the bracket, then through the door. Place nuts on the screws and tighten them. The nuts should now be visible on the inside surface of the door.

Wider side of mounting angle with round holes fits against XDA

Slotted holes must face mounting surface

Mounting angles attached for interior mounting



2.4.2 Mount the Unit and Attach It to the Cabinet

1. Lift the unit onto the door, placing the two mounting holes on the top end, over the two screws attached to the door and bracket. Place nuts on the screws to hold the unit in place.
2. On the middle and lower mounting holes, place screws through the door and then through the mounting angle. Place nuts on the screws. Tighten all nuts.
3. Remove the nuts from the two top screws (the ones through the bracket and door).
4. Lean the top of the unit slightly away from the door and remove the remaining nuts from the top two screws.
5. Pull out the top two screws and remove the bracket from the door.
6. Install the screws in the top holes in the same manner as in the middle and bottom holes.
7. Tighten all nuts and screws.

2.5 Eliminate Bypass Air

Air that passes through the XDA but not through the heat-producing equipment is known as *bypass air*. Bypass air reduces the effectiveness of your XDA, and should be eliminated. Take the following steps to minimize bypass air and maximize heat removal from the equipment cabinet:

1. Ensure that the cable openings in the raised floor beneath the cabinet are properly sealed. Cool air from precision air conditioning units should be provided to the inlet side of equipment in the cabinet.
2. Ensure that unused rack mounting positions are blocked off using blanking plates. This helps ensure that air entering the cabinet flows through the heat-producing equipment.
3. Block off the remaining open perforated area of the rear door with the supplied material. The material provided is 10 mil thick, clear polycarbonate plastic and has an adhesive backing. The material is in the shipping carton, on top of the protective foam packing.
4. Ensure that the inside of the door is clean. Do not use general purpose cleaners or window cleaners—they may leave a residue that will prevent the air-blocking material from adhering to the door. Use plain water or rubbing alcohol.
5. Cut the material to the size necessary—it is easily cut with scissors.
6. Remove the protective paper from the adhesive side, and apply the material to the inside surface of the door. Ensure that all open perforations are covered.

3.0 POWER CONNECTIONS

Connect the power cords to separate power sources (as specified in **Specifications on page 9**), to keep the XDA operating if there is a power failure on one circuit. Route the power cords under or over the cabinet as needed to the nearest available receptacles. If only one power source is available, connect both power cords to this source. Separate electrical circuits are recommended. Ensure adequate length of the power cords when the door is fully opened. Secure the power cords using the cable ties provided.

3.1 Routing the Power Cords Through the Door - Optional

The power cords may be routed through an additional hole cut in the cabinet door. **Special tools are required for this.**

1. At a point several inches below the unit and centered between the two power cords, cut or punch a 2-inch diameter hole in the door.
2. Install the 2-inch plastic power cord bushing to protect the power cords from damage.
3. Route the power cords through the cabinet to the desired connection points.

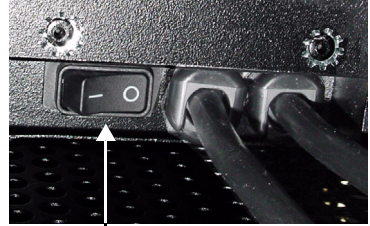
4.0 OPERATION & MAINTENANCE

The XDA is activated by turning on the ON/OFF switch on the bottom of the unit, near the power cords. All fans operate continuously to remove the maximum amount of heat from the cabinet.

If a power failure should occur on the primary power source, the XDA will operate from the secondary source until the primary power source is restored.

The XDA will continue to operate as long as either of the two power sources is available.

The Liebert XDA is essentially maintenance-free. An occasional vacuuming at the same time other cabinet equipment is cleaned is adequate.



**ON/OFF switch
(seen from below the XDA)**

5.0 SPECIFICATIONS

Nominal Capacity	1000 CFM @ 60Hz
Dimensions W x D x H, in (mm)	8 x 2.25 x 56 (203.2 x 57.2 x 1422.4)
Weight, lbs (kg)	25 (11.3)
Electrical Specifications	120V-1-50/60Hz 230V-1-50/60Hz
Amp Draw	1.5 A @ 120V 0.8 A @ 230V

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Technical Support / Service

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