



EP-BAK-40/100 Series: UVC Air disinfecting system for HVAC systems Installation and Maintenance Manual

THREE YEAR WARRANTY

- EP Lighting will replace or repair BAK-40/100 series as long as it was not damaged during installation or damaged from faulty installation.
- EP Lighting warranty registration card must be filled out and received by EP Lighting within 15 days of installation.
- This warranty is for the repair or replacement of damaged EPL products only.
- EP Lighting accepts no liability, written or expressed, for the damage that may have occurred to any other equipment; nor does EP Lighting warranty cover any labor cost associated with replacement of such product.

WARNING

ALWAYS have a professional electrician/HVAC professional with proper safety equipment perform the installation. Warning – Risk of electrical shock – Disconnect power before installing and servicing.

EPL Technical Support: techsupport@eplightinc.com

4220W 2100S, Suite N,
Salt Lake City, UT 84120
844.500.7436

PACKAGE CONTENTS

The patented technology of the BuildingAirKleen (BAK) is a high-intensity UV disinfecting fixture for building HVAC systems. The BAK series is designed to disinfect the air almost instantaneously when passing at close proximity of the lamp, sending sterilized air back into the room.

The contents of the package include:

- 1) UV-KLEEN™ lamps
- 2) Pre-installed Ballast Box consisting ballast(s), circuit breaker and wiring
- 3) Lamp mounting hardware
- 4) Relay to connect the blower fan (optional)

EP-BAK-40/100 Series is available in three different models

BAK-1-W40: 1 lamp of 40W

BAK-1-W100: 1 lamp of 100W

BAK-2-W40: 2 lamps of 40W

BAK-2-W100: 2 lamps of 100W

BAK-3-W40: 3 lamps of 40W

BAK-3-W100: 3 lamps of 100W

Depending on the model, the number of lamps and the lamp mounting hardware in the package will change.

SAFETY FIRST

Even though the EPL units are designed for common installation, electricity is dangerous, and only qualified personnel should attempt installation.

1. Read and understand the entire contents of the installation manual before installation.
2. Make sure to supply the 110-277VAC 50/60Hz power source to the installation of ballasts.
3. If the model number of the BAK-40/100 unit does not match with your order, please do not install it.
4. Turn off electrical supply to the HVAC system before any installation or servicing.
5. Verify with the voltage meter that the electricity is off.
6. Ensure all connections at the power source, at the control board of HVAC, are secure and all tools and equipment have been removed from the job site and panels before energizing the system.

EP-BAK-40 SERIES INSTALLATION PROCEDURE

Caution: *The complete installation of the BAK unit has to be performed by a certified HVAC professional with the help of a certified electrician. UV lamps are made up of glass material. Please follow additional precautions in handling the bulb.*

Each HVAC and duct system is different from the others and may require custom installation procedures. Please contact EPL technical support for any installation questions you may have. The following pictures visually demonstrate the installation of the BAK series to a standard duct system. These pictures may not give you accurate installation instructions but help to understand the system in general.

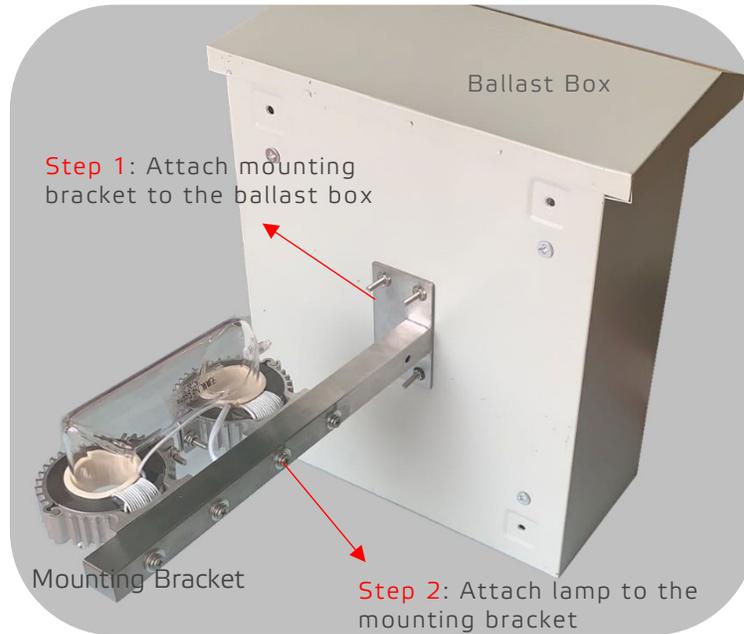
PRE-INSTALLATION PREPARATION:

1. Read entire contents before performing the installation.
2. Verify the voltage configuration of the power supply. It should not exceed 5% of the rated nominal voltage of the EP-BAK specification sheet.
3. Check all the fuses and circuit breakers of the electrical system before installing EPL units.
4. Give ample workspace area at the job site to assemble the BAK unit.

The installation of one lamp model (BAK 1 W40/ BAK 1 W100) is different from multiple lamps (BAK 2 W40/ BAK 3 W40 and BAK 2 W100/ BAK 3 W100) installation.

ONE LAMP (BAK 1 W40/ BAK 1 W100) INSTALLATION:

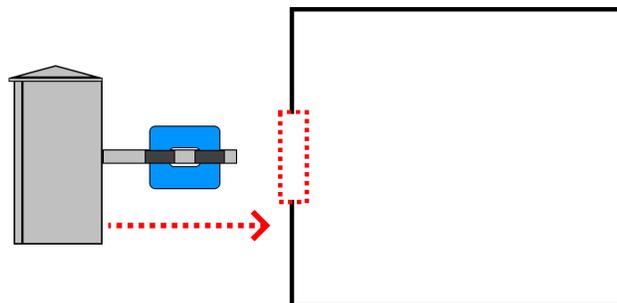
- 1) Make sure that the package consists of *1 unit of 40W or 1 unit of 100W UV lamp*
- 2) Attach the mounting brack to the ballast box. And then, attache the UV lamp to the mounting bracket using the provided hardware.



- 3) Cut the airduct by 14 x 14 cm (5.5x 5.5 inch) or even smaller to fit the lamp with the bracket.

Cut a rectangular hole on the duct work, just large enough to slide the UV lamp with the supporting rod.

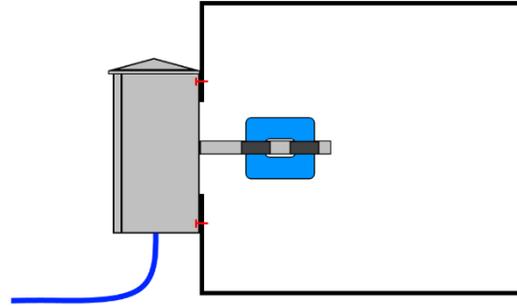
Carefully slide the pre-assembled ballast box into the duct.



Step 2: Screw the ballast box to the duct.

Seal the gaps on the duct using an approved sealant.

Connect the AC power to the source.



TWO/THREE LAMP (BAK 2 W40 AND BAK 3 W40) INSTALLATION:

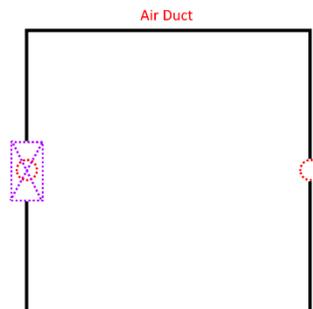
- 1) Identify if it's a 2 lamp or 3 lamp installation. Make sure enough lamps are in the package
- 2) Install the UV lamp to the bracket and then to the supporting rod using the provided mounting mechanism.



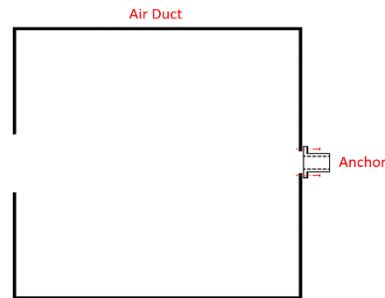
- 3) The supporting rod with the UV lamp(s) needs to be firmly installed to the ballast box using the provided hardware.
- 4) Ballast box: The ballast box is pre-wired for your requirement. However, it is recommended for the installation professional to check the wiring connections. Each lamp will have its dedicated ballast in the ballast box.
- 5) Each HVAC and duct system is different from the others and may require custom installation procedures. Please contact EPL technical support for any installation questions you may have. The following pictures visually demonstrate the installation of the BAK series to a standard duct system. These pictures may not give you accurate installation instructions but help to understand the system in general.

Cut the ductwork to fit the pre-assembled lamp system. Use the following 6 steps for your reference.

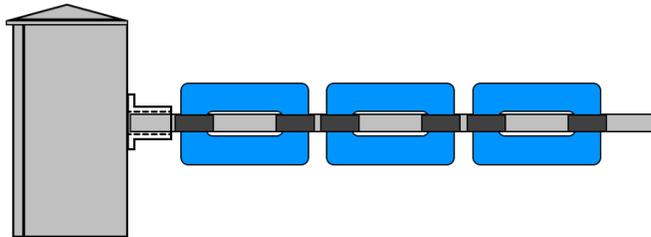
Step 1: Drill open two perfectly horizontally aligned holes, that can fit the pre-assembled UV lamp + supporting rod.



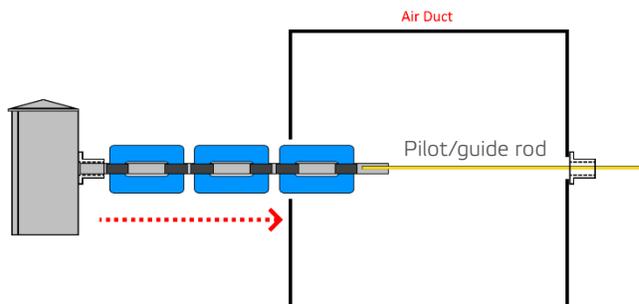
Step 2: Position the Anchor/Lock and screw it tightly with the self-drilling screws.



Step 3: Make sure the pre-assembled ballast box and lamps is secured enough to slide down the duct work.

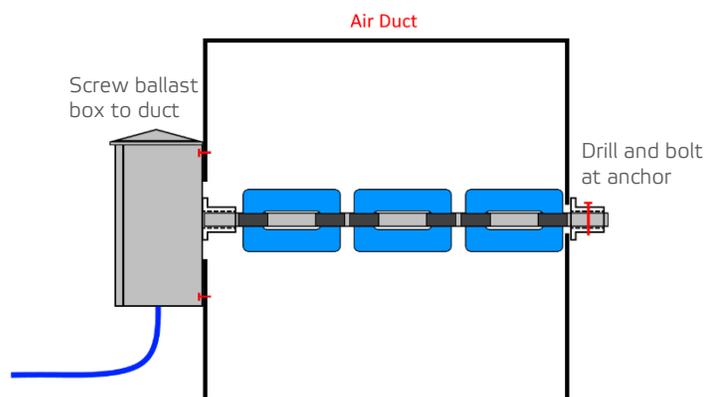


Step 4: Use a pilot/guide rod from the "anchor end" to Make sure the BAK assembly safely slides through the duct work. Contractor can use other safe methods to perform this step safely and securely.



Step 5: Screw the ballast box to the duct. Drill and bolt the other end to the "anchor", so that the supporting rod wont slide or rotate.

Apply sealant to cover any gaps on both ends of the duct work.



6) Wiring of the ballasts:

CAUTION: All the electrical connections must be made by a certified licensed electrician, otherwise the procedure could damage the personnel and the equipment.

- a) **Without** the current sense relay: Install a dedicated power source to the feed the ballasts. Connect the Hot, Neutral and Ground of the ballast box to the corresponding terminals on the power source.

- b) **With** the optional current sense relay: Install a dedicated power source to the feed the ballasts. Install the current sense on the HVAC control board's blower fan circuitry. The current sense is a magnetic ring that can be wrapped around the ballast power wire.

Note: Current sense can be tapped onto the 24VAC control board if the installation doesn't have access to the 110-277VAC blower fan source. To accommodate 24VAC control board wiring, a relay is needed to turn on the ballasts. Please consult EPL for any relay recommendations.

Note: It is good electrical practice to tighten all of the bolts in the electrical panel. Electrical leads should be connected securely to prevent fire or electrical damage.

MAINTENANCE:

EPL products do NOT require periodic maintenance. The viewer can be used to check UV light periodically. It is also good practice to inspect the connections of the power supply wiring to the BAK series monthly.

SERVICING:

EPL units contain no serviceable parts and require no adjustments. All EPL products are designed to provide many years of air disinfection without any need for servicing. If the EPL unit does malfunction, have a professional HVAC professional and electrician inspect the wire connections. If the problem persists, contact your EPL sales representative to discuss obtaining a replacement unit.

EPL TECHNICAL SUPPORT:

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Salt Lake City, UT 84120
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eplightinc.com
uvkleen.us

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