



EP Lighting, Inc.

BuildingAirKleen (BAK) Series
UVC Air Sanitizing System for HVAC systems

Installation and Maintenance Manual

BAK-300: BAK-600

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

Table of Contents

Package Contents.....	3
SAFETY FIRST.....	3
EP-BAK series installation procedure	3
Installation of the BAK into the duct work:	5
WIRING of the BAK series:.....	6
Maintenance:.....	6
Servicing:.....	6

FIVE YEAR WARRANTY

- EP Lighting will replace or repair BAK 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.

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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
- 3) Lamp mounting hardware
- 4) Pre-installed relay, pilot lamp hardware

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 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 SERIES INSTALLATION PROCEDURE

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.

PRE-WORK ON BAK SERIES:

The pre-work involves assembling 1) Pilot Lamp 2) UV lamp 3) Ballast box 4) Viewer

- 1) Pilot Lamp: For efficient ignition of its UV lamps under all conditions, EP BAK units use an LED lamp as a "pilot lamp". The purpose of the pilot lamp is to spread light across the UV lamp 4 seconds before



the UV lamp ignition. This process ensures that the BAK series is very effective to turn on even a compacted duct system. The pilot lamp holder is pre-installed to the ballast box as shown in the picture.

- 2) UV Lamp: 300W models will have one UV lamp and the 600W models will have two UV lamps.

Caution: UV lamps are made up of glass material. Please follow additional precautions in handling the bulb.

- a) Install the UV lamp to the bracket and then to the supporting rod using the provided mounting mechanism.



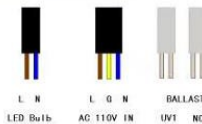
- b) The supporting rod with the UV lamp(s) needs to be firmly installed to the ballast box using the provided hardware.

- 3) Ballast box: The ballast box is pre-wired for your requirement. However, it is recommended for the installation professional to check the wiring connections. 300W BAK will have one unit of ballast, and the 600W BAK will have two units of ballasts. The following pictures show the ballast box and its proper wiring diagram:

- a) 300W system – One Ballast installation:



One Ballast + Relay

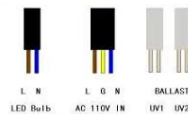


Ballast wiring panel

- b) 600W system – Two Ballast installation:



Two Ballasts + Relay



Ballast wiring panel

The front panel of the ballast box and the inside pic looks like the following:



Front panel of the ballast box



Ballast Box

- 4) Viewer: Viewer is an optional pre-installed feature on the BAK series that let the customer look at the blue shade from the UV light. The viewer can only be used for a periodic check of the UV lamp for its functionality. Personnel must wear UVC protective goggles when using the viewer.

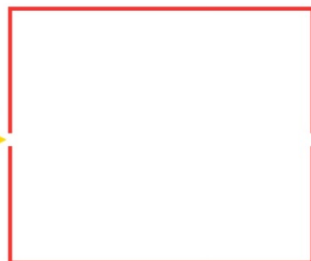
INSTALLATION OF THE BAK INTO THE DUCTWORK:

Caution: The complete installation of the BAK unit has to be performed by a certified HVAC professional with the help of a certified electrician.

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.

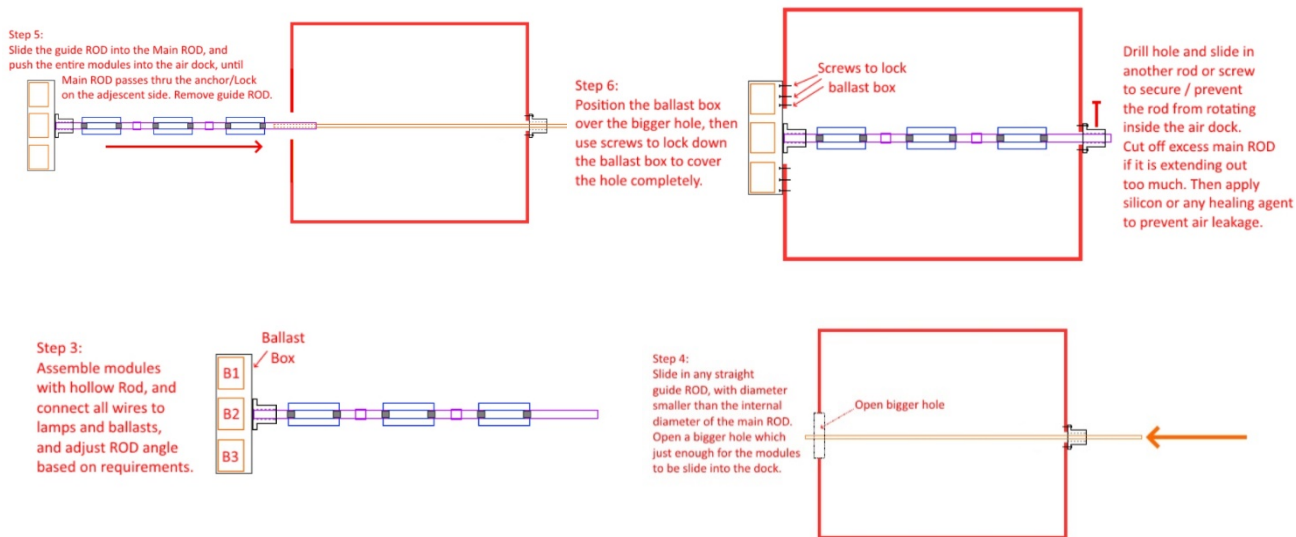
Cut the ductwork to fit the pre-assembled lamp system. Use the following 6 steps for your reference.

Step 1:
Drill open two holes with diameter slightly bigger than the Main ROD diameter. Making sure the holes are perfectly horizontal or properly positioned, based on the requirements / designs made by local engineers.



Step 2:
Position the anchor/Lock over the hole just opened and screw it tight to panel.





WIRING OF THE BAK SERIES:

Wiring of the BAK series involves two steps 1) Wiring the ballast 2) Wiring the current sense relay.

BAK series is designed to run when the blower fan of the HVAC system energizes. Follow these instructions in wiring the BAK series.

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

- 1) Install a dedicated power source to feed the ballasts.
- 2) 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.

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