

# BLADE

## Commercial 2" Installation Guide



Work **Safer.** Breathe **easier.**

# What's In The Box?

## WIRING OPTIONS



24 VAC  
Power Adapter






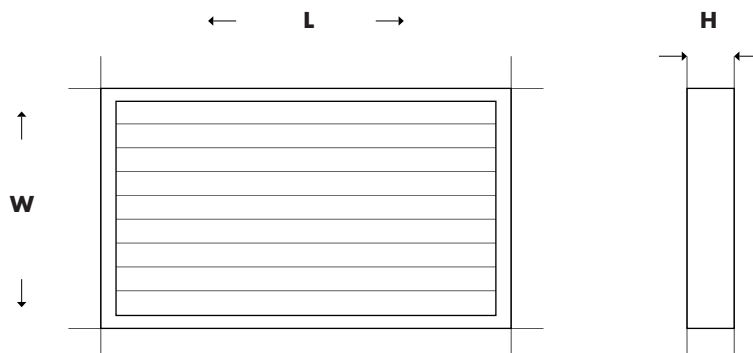
24 VAC  
Power Supply Cable



# Installation Instructions

## STEP 1: Confirm Filter Sizing

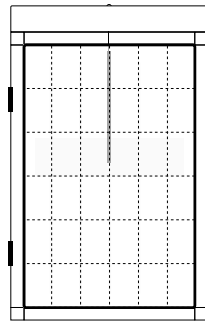
-  Confirm filter sizing by taking an exact measurement of the existing filter being replaced. Both standard and non-standard sizes are available. Please refer to sizing and pricing chart to select standard and/or non-standard sizing.
-  Filters are made from a rigid aluminum frame and cannot be bent to fit into a filter rack. Be sure to verify the sizing of the filter racks and that the Blade units can fit.
-  Filters are undersized by 1/4" from the listed nominal dimensions in length, width and height. For example a filter listed as 20"x20"x2" has true dimension of 19.75" x 19.75" x 1.75".



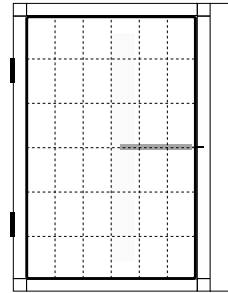
## 1a. \*Optional: Alternate Electronics Configuration.

- i** In irregular HVAC system arrangements filter configuration may need to be adjusted to fit the application. Electronics are built on the first dimension, and can also be built on the adjacent edge as shown below in the alternate section.

### Electronics can be adjusted to accommodate the HVAC system



**Standard  
(preferred)**



**Alternate  
electronics configuration**

Electronics will be built on the first dimension listed



## STEP 2: Confirm Face Velocity

- i** Confirm system face velocity is less than 500 FPM per filter. If the FPM is above 500 please contact the Blade team.

## STEP 3: Determine Electrical Load

- i** In order to determine filters total electrical load, multiply the # of units being installed by 2 Watts. See Fig 1. for example.

**Fig. 1**

$$\text{Electrical Load} = \# \text{ Units} \times 2 \text{ Watts}$$

$$\text{Electrical Load} = 10 \text{ Units} \times 2 \text{ Watts}$$

$$\text{Electrical Load} = 20 \text{ Watts}$$

## STEP 4: Supplying Power To Filters

### 4a. Supplying power to filters via direct wiring to air handler unit

- Most commercial HVAC systems have a 24 VAC control circuit transformer to which the filters can be safely connected. Before connecting the filters to this power source, positively identify that it is a 24 Volt (max 30 Volts) AC source. This is usually best accomplished with a test meter. If the existing air handler can handle the additional electrical load, wire filters directly into the 24VAC wiring terminal on the air handler using 24 VAC Power Input Cable wire below. See Fig. 2.

**Fig. 2**

**24 VAC  
Power Supply Cable**



#### IMPORTANT

This unit is designed to operate from a supply of 24 Volts AC at 2VA

~~DONOT CONNECT TO 110 VOLTS AC POWER~~

Connecting the filter to a higher voltage than specified may cause damage and/or failure of equipment.

110 Volt to 24 Volt adapters or transformers are available from Blade or your local wholesaler.

### 4b. Supplying power to filters via transformer

- If a separate transformer is required, or ON-OFF capability is desired, bring 120VAC to the installation point and select a transformer to convert 120VAC to 24 VAC. See suggested Transformers below.



**PSC40AB10**



40VA Power Supply  
120 to 24 VAC

**PSC100AB10**



100VA Power Supply  
120 to 24 VAC

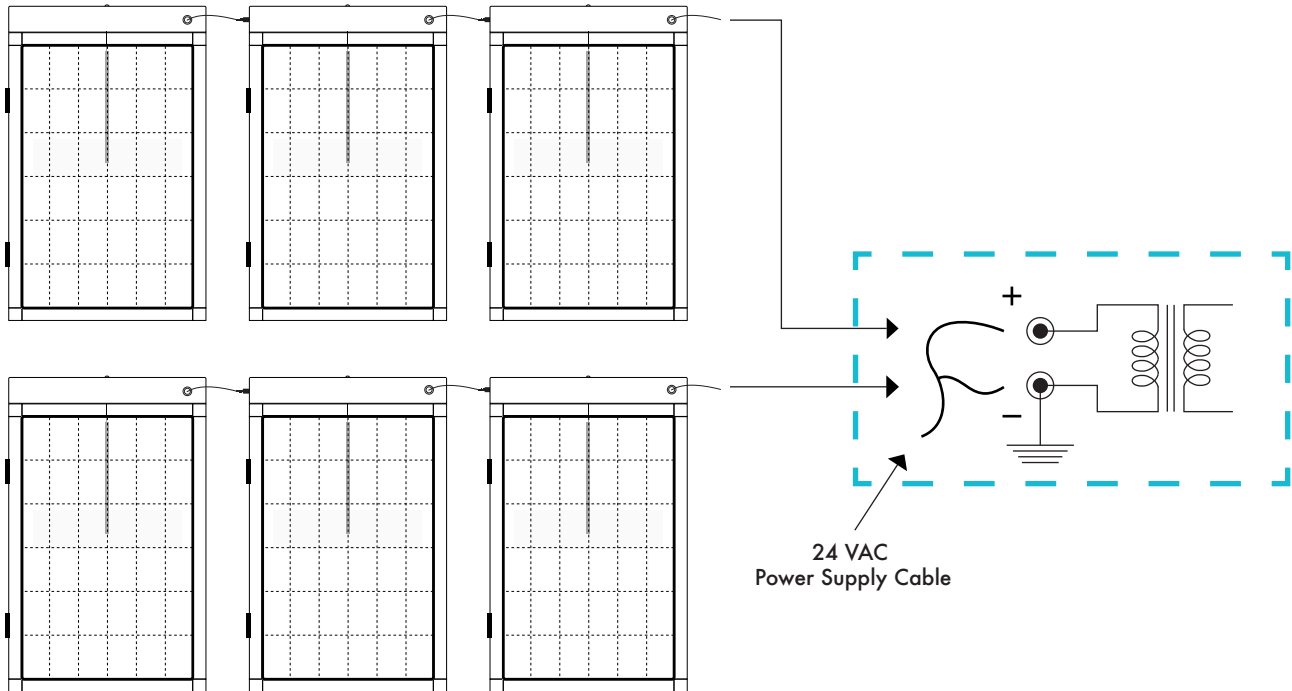
# of filters required	Transformer/power supply
<b>1 unit</b>	Plug in filter to 120V receptacle or wire into air handler
<b>2-19 units</b>	Select Model PSC40AB10, 40 watt control box
<b>20-49 units</b>	Select Model PSC40AB10, 100 watt control box
<b>50+ units or is there another supply voltage other than 120V?</b>	Contact Blade Team

Note: A common/typical selection is one box per air handler

## STEP 5: Connecting the units via Daisy Chain

- When installing multiple units in the same filter rack, individual filters in a single row should be connected in series with each other using the daisy chain configuration. Each row of units should be wired to the power source in parallel to adjacent rows. See fig. 3.

Fig. 3



## STEP 6: Power On Units.

- Power up the units and ensure that the green power indicator light is on for each filter. Setup is now complete!

## General Maintenance

- As the air cleaner operates, the glass filter pads in the air cleaner will become embedded with dirt. Approximately every 2-3 months, remove filters from the heating or cooling unit, disconnect the power cord, and vacuum any heavy dust accumulation from the outside screens or with a soft brush and wipe clean with a damp cloth. When the time comes to replace the filter pads, you can contact.
- If the indicator light is not 'ON' when the air cleaner is connected, the filter is not working. Check your connections and power source. If these appear correct, contact Blade. Neither the housing or the filter pads can be cleaned by washing or immersing in water. If you wish to clean the frame disconnect the power cord and wipe gently with a damp cloth.

## **Warranty**

Blade Filters Inc. warrants the filters for a period of two (2) years from the date of purchase to the original purchaser. Blade Filters will repair free of cost to the customer any part of the product which after examination is found to be defective in workmanship or material. Shipping charges to and from Blade Filters Inc. and/or its authorized agent shall be borne by the purchaser. This warranty does not apply to mechanical or structural damage such as may be due to but not limited to dropping, improper handling, misuse or abuse during installation and usage. No person or representative of firm is authorized to commit Blade Filters Inc. to further liability or obligation.

**USE ONLY GENUINE FILTER PADS**