UltraPURE

ION Array Installation Guide

PD 07/07/2022 - v 1.01
PN IOM-0020

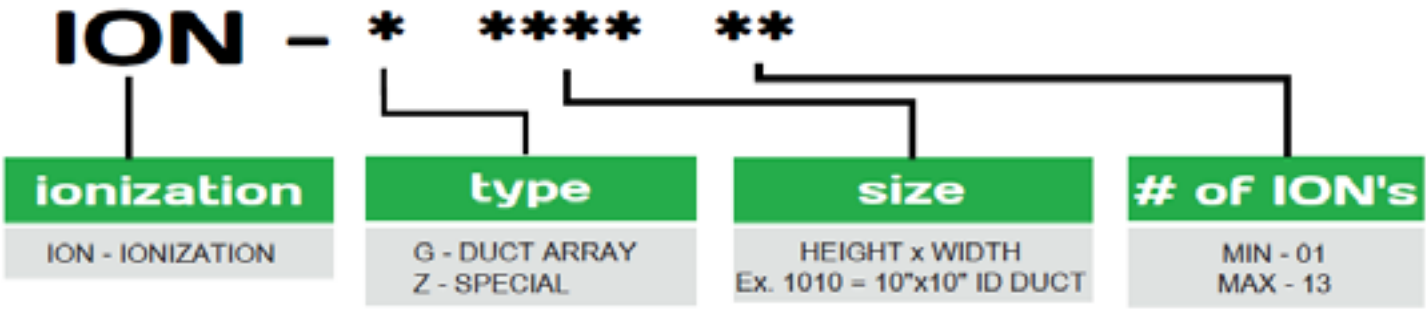
Table of Contents

ION Array Overview

Designed to be installed in ductwork or air handling units and to actively clean air and provide a dry contact closure letting you know that the air is being cleaned. Arrays can be sized for almost any size ductwork and range from 1,000 CFM – 100,000 CFM. A predetermined slot is cut into the side of the ductwork. The array is slid into the ductwork and fastened into place. Power is connected to the control panel and if you desire feedback on operation you can bring the signal back to any building management system.

iAIRE has designed several predetermined CFM and array sizes, but any size and CFM combination can probably be achieved by contacting the factory. As with the standard ionization product, please make sure you inform us if this device is used in a smoking or kitchen environment so that the amount of ionization can be properly sized. If you are in a standard indoor air environment (no smoking or not a kitchen where there is fried foods), you would size each ionization block to do 2,000 CFM/block. If you are in a smoking or a kitchen environment, each ionization block will only do 1,000 CFM/block.

Ionization Array Part Number Scheme



ION Array Installation

The ion array is designed to be installed in HVAC ductwork. A rectangular hole is cut into the side of the ductwork based on the size of the array. See submittal for the whole opening size to cut. Make sure the array will fit into the ductwork prior to cutting the whole. Once the whole is cut, the array can be inserted into the opening of the duct.

The array is expandable to fill the entire width of the ductwork. Prior to inserting the array in the duct, stretch out the array to the width of the duct and lock the array width. Take the cover off the control panel. Insert the array in rectangular opening in the duct. The array should be installed so the brush tips on the ion blocks are pointing slightly down. This will help prevent the ion blocks from building up as much carbon on the tips and help extend the life of the blocks. The blocks have a 2-year warranty from date of shipment. On the back of the control panel is gasketing. This will prevent moisture from being able to get into the duct or the control box once it is mounted. Make sure this gasketing shows no sign of damage. The array has been provided with a kit of self-tapping screws. Inside the control panel are a series of pre-drilled holes to allow for the array to be screwed to the side of the ductwork. Utilize these self-tapping screws to fasten the array to the side of the duct.

There are (2) knockouts cut in the side of the control panel. One of the knockouts is to bring high voltage power to the array. The 2nd is to bring in the control wire if you want the feedback that the array is working from the dry contact closure. See electrical information and wiring schematic for electric installation. The ion array is equipped with a multi-tap transformer that allows every array to be either 115/208/230/460 V. Make sure the correct voltage is wired Once the power is hooked up to the array, the cover can be put back on the control panel and power turned on to the array.

ION Array Electrical Information

Every ion array is equipped with 24V ion devices. These ion devices wire into a step-down transformer. The transformer is a multi-tap transformer so that the array can be set up to run 115/208/230/460 V. This allows each array to be used in any voltage application by just switching the incoming power wires to the correct wires on the multi-tap transformer and the array will work. Each 24V ion block uses 4.3 Watts of power. You can determine the total amount of power consumed by the array by utilizing the following:

# of ion blocks * 4.3 W = Total ion block Watts

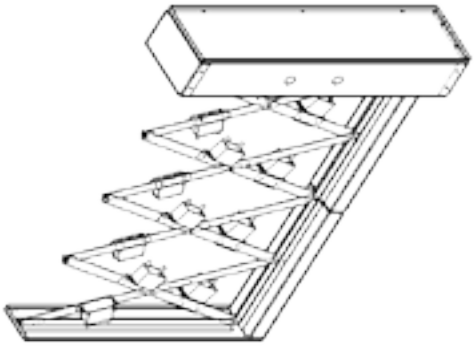
Amperage = Total ion block Watts / Voltage

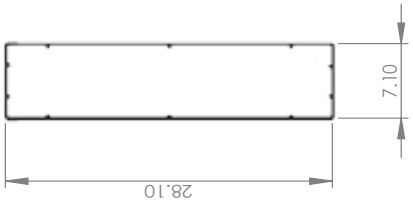
If there are 10 ion blocks there would be 43 Watts

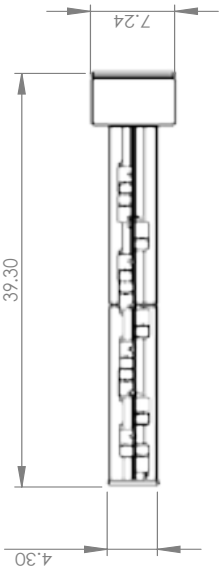
If your power is 208 V then your amperage would be

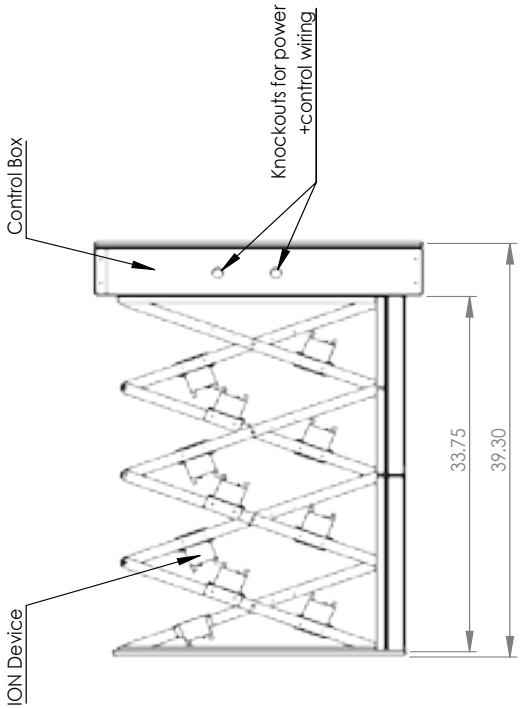
43 / 208 = 0.21 amps

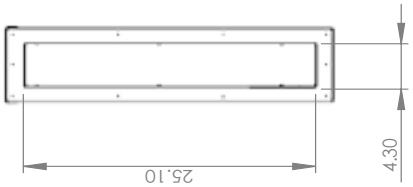
ION - G253413 Submittal Info











C:\Users\engineering\Desktop\Ionization\ION Array\Assem3

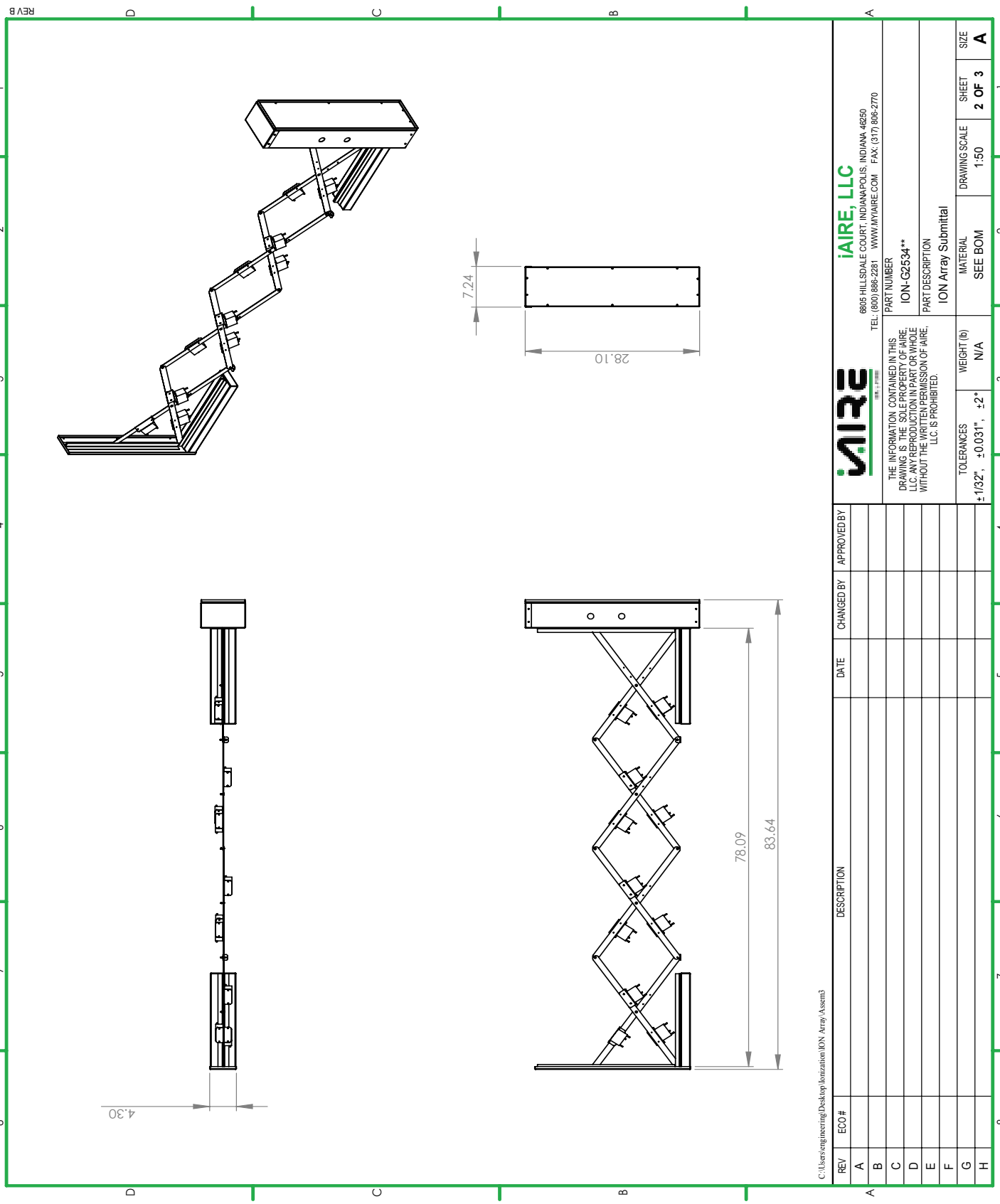
REV	ECO #	DESCRIPTION	DATE	CHANGED BY	APPROVED BY
A					
B					
C					
D					
E					
F					
G					
H					

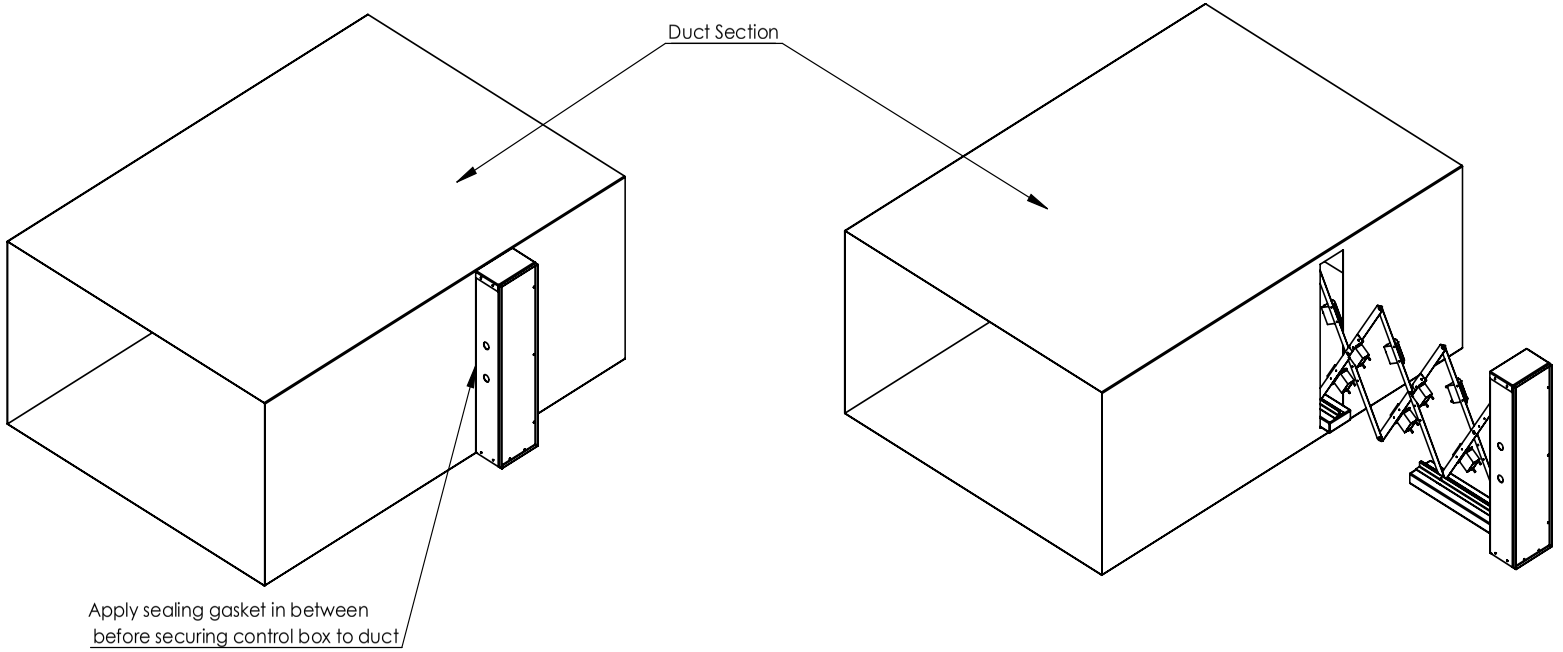
iAIRE, LLC
6805 HILLSDALE COURT, INDIANAPOLIS, INDIANA 46250
TEL: (800) 886-2281 WWW.MYIAIRE.COM FAX: (317) 806-2770

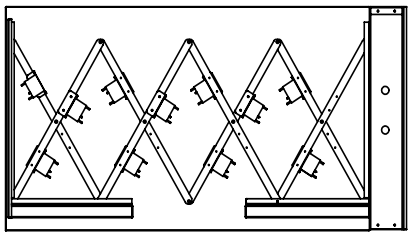
PART NUMBER: ION-G2534**

PART DESCRIPTION: ION Array Submittal

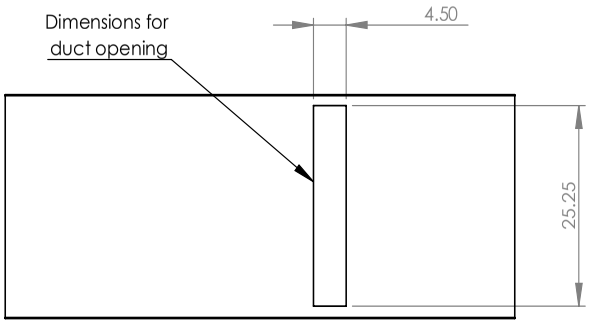
TOLERANCES	WEIGHT (lb)	MATERIAL	DRAWING SCALE	SHEET	SIZE
±1/32", ±0.031", ±2°	N/A	SEE BOM	1:20	1 OF 3	A


REV B
7.24
28.10
78.09
83.64
4.30
iAIRE, LLC
6805 HILLSDALE COURT, INDIANAPOLIS, INDIANA 46250
TEL: (800) 886-2281 WWW.MYIAIRE.COM FAX: (317) 806-2770
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF iAIRE, LLC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF iAIRE, LLC. IS PROHIBITED.
PART NUMBER
ION-G2534**
PART DESCRIPTION
ION Array Submittal
TOLERANCES
± 1/32", ±0.031", ±2°
WEIGHT (lb)
N/A
MATERIAL
SEE BOM
DRAWING SCALE
1:50
SHEET
2 OF 3
SIZE
A
REV
ECO #
DESCRIPTION
DATE
CHANGED BY
APPROVED BY
C:\Users\engineering\Desktop\Ionization\ION Array\Assem3





Front View



Side View

C:\Users\engineering\Desktop\Ionization\ION Array\Assem1

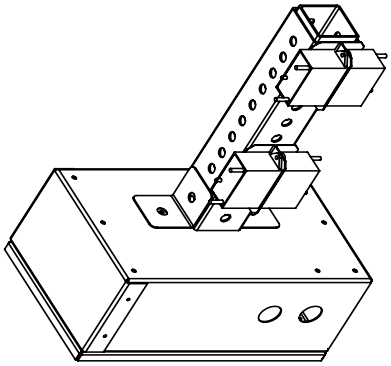
REV	ECO #	DESCRIPTION	DATE	CHANGED BY	APPROVED BY
A					
B					
C					
D					
E					
F					
G					
H					

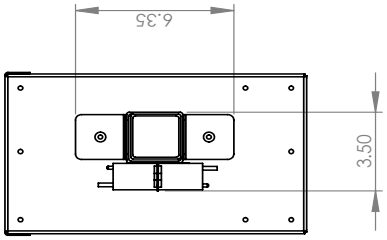
iAIRE, LLC
6805 HILLSDALE COURT, INDIANAPOLIS, INDIANA 46250
TEL: (800) 886-2281 WWW.MYIAIRE.COM FAX: (317) 806-2770

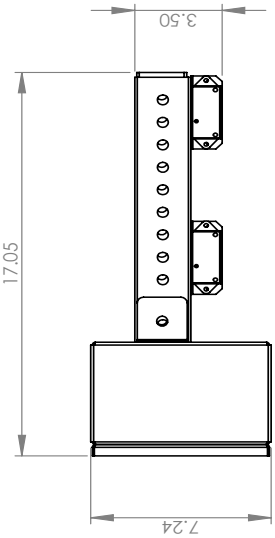
PART NUMBER	PART DESCRIPTION
ION-G2534**	ION Array Submittal

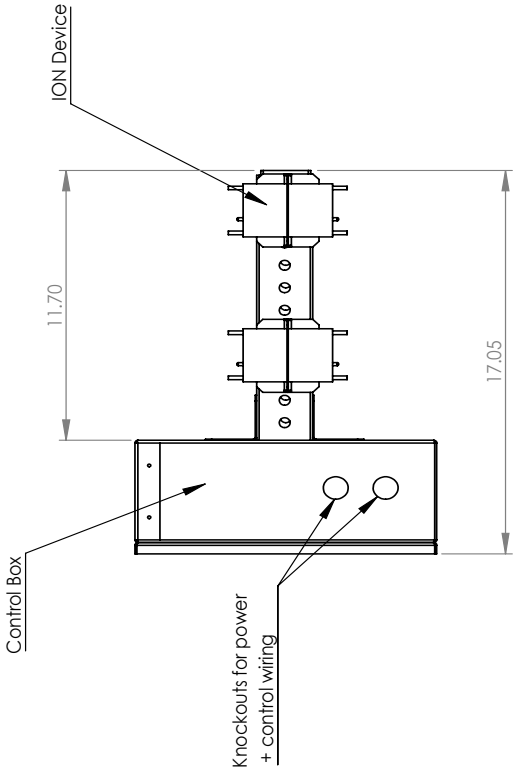
TOLERANCES	WEIGHT (lb)	MATERIAL	DRAWING SCALE	SHEET	SIZE
±1/32", ±0.031", ±2°	N/A	SEE BOM	1:50	3 OF 3	A

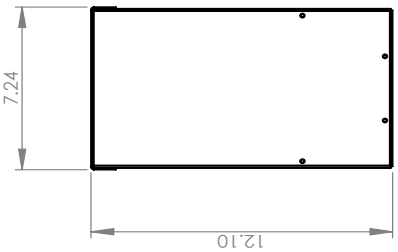
ION Rod Array Submittal Info











REV	ECO #	DESCRIPTION	DATE	CHANGED BY	APPROVED BY
A					
B					
C					
D					
E					
F					
G					
H					

C:\Users\engineering\Desktop\Ionization\Rod ION Array\Assem1

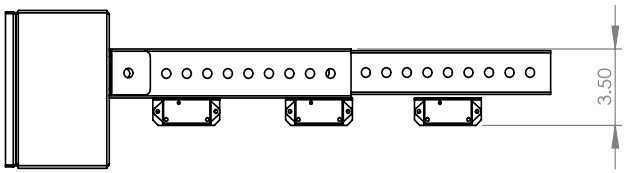
iAIRE, LLC
6805 HILLSDALE COURT, INDIANAPOLIS, INDIANA 46250
TEL: (800) 886-2281 WWW.MYIAIRE.COM FAX: (317) 806-2770

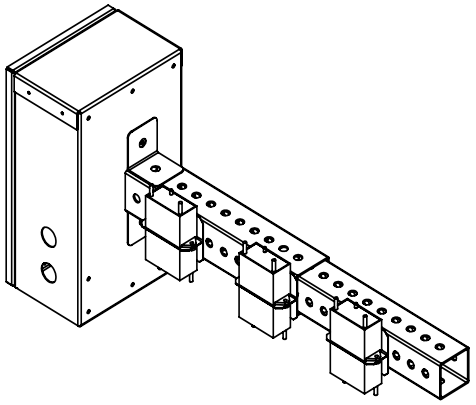
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF iAIRE, LLC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF iAIRE, LLC. IS PROHIBITED.

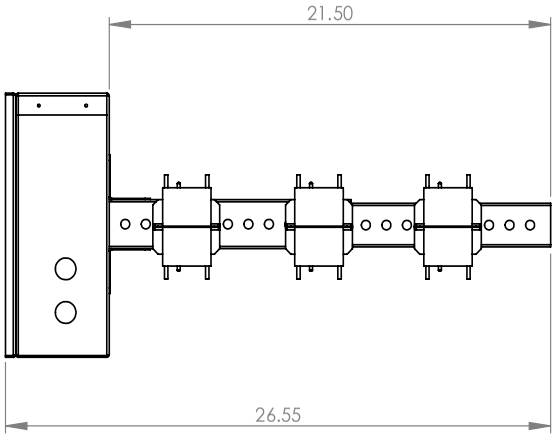
PART NUMBER: ION-G0712**

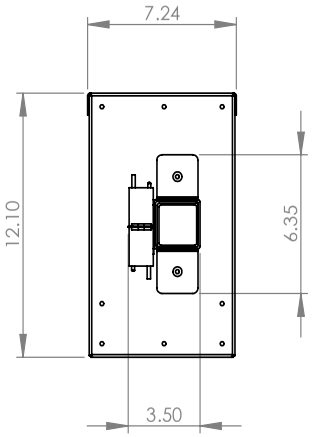
PART DESCRIPTION: ION Rod Array Submittal

TOLERANCES	WEIGHT (lb)	MATERIAL	DRAWING SCALE	SHEET	SIZE
± 1/32", ±0.031", ±2°	N/A	SEE BOM	1:10	1 OF 3	A









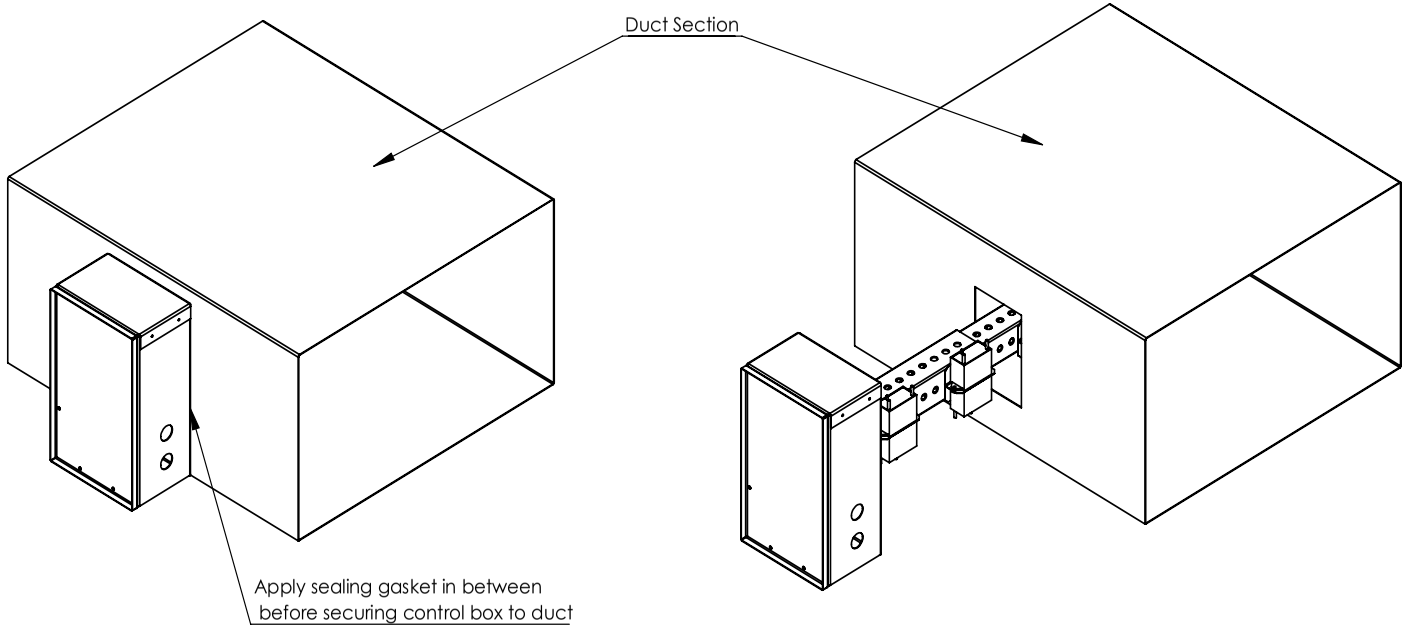
C:\Users\engineering\Desktop\Ionization\Rod ION Array\Assem1

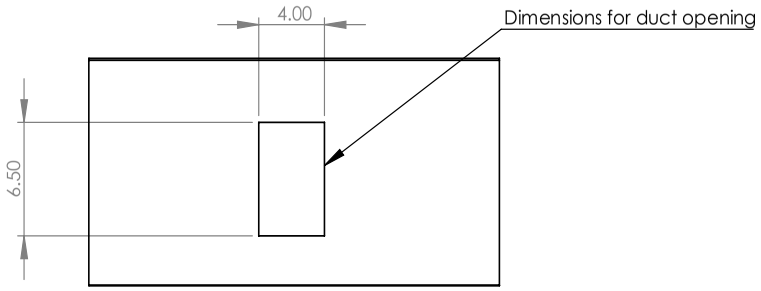
REV	ECO #	DESCRIPTION	DATE	CHANGED BY	APPROVED BY
A					
B					
C					
D					
E					
F					
G					
H					

iAIRE, LLC
6805 HILLSDALE COURT, INDIANAPOLIS, INDIANA 46250
TEL: (800) 886-2281 WWW.MYIAIRE.COM FAX: (317) 806-2770

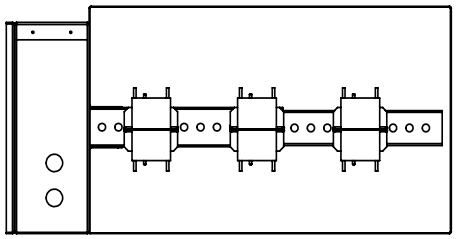
PART NUMBER	PART DESCRIPTION
ION-G0712**	ION Rod Array Submittal

TOLERANCES	WEIGHT (lb)	MATERIAL	DRAWING SCALE	SHEET	SIZE
±1/32", ±0.031", ±2°	N/A	SEE BOM	1:10	2 OF 3	A





Side View



Front View

C:\Users\engineering\Desktop\Ionization\Rod ION Array\Assem22

REV	ECO #	DESCRIPTION	DATE	CHANGED BY	APPROVED BY
A					
B					
C					
D					
E					
F					
G					
H					

iAIRE, LLC
6805 HILLSDALE COURT, INDIANAPOLIS, INDIANA 46250
TEL: (800) 886-2281 WWW.MYIAIRE.COM FAX: (317) 806-2770

PART NUMBER	PART DESCRIPTION
ION-G0712**	ION Rod Array Submittal

TOLERANCES	WEIGHT (lb)	MATERIAL	DRAWING SCALE	SHEET	SIZE
±1/32", ±0.031", ±2°	N/A	SEE BOM	1:10	3 OF 3	A

Ionization Array Wiring

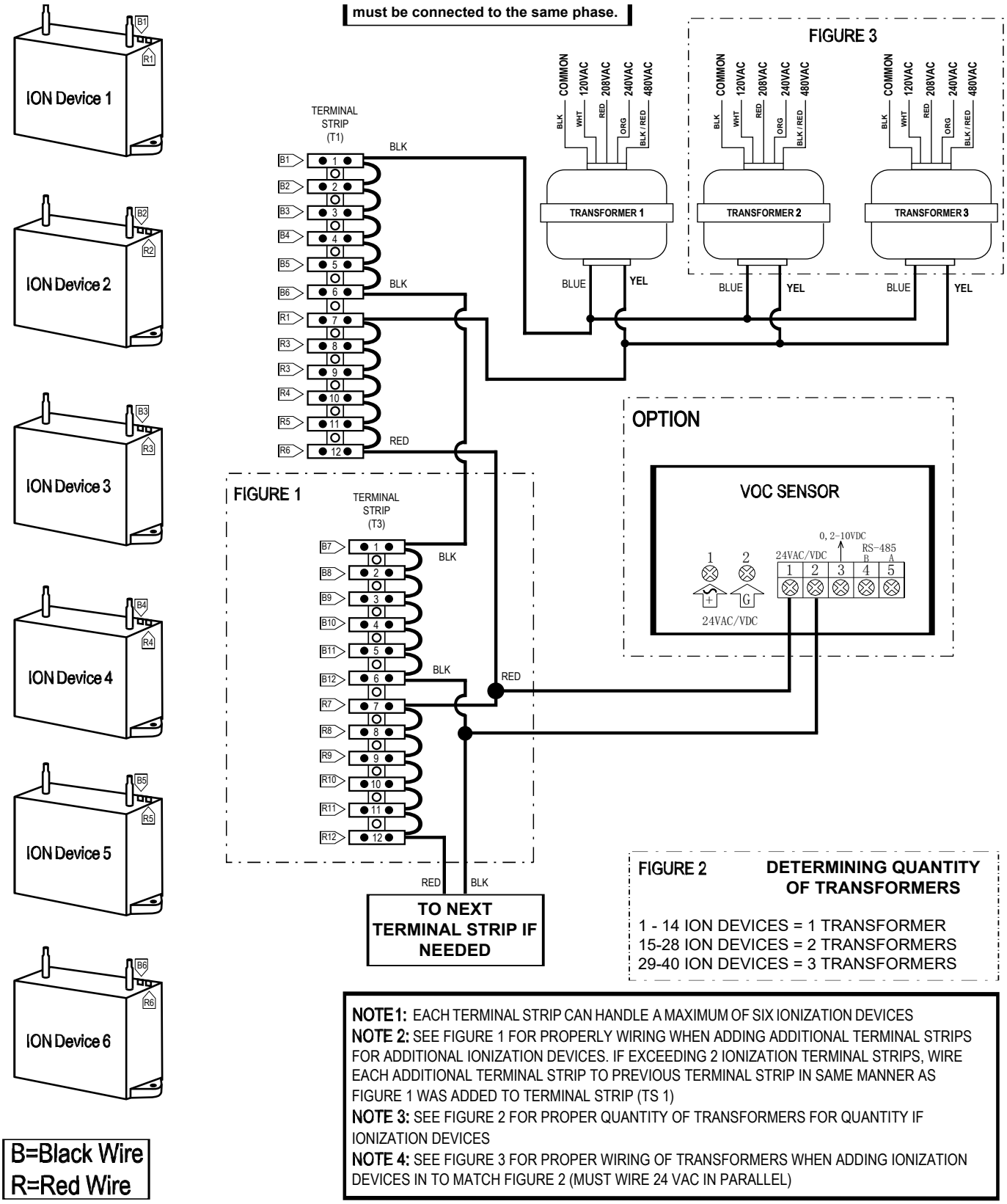


FIGURE 2 **DETERMINING QUANTITY OF TRANSFORMERS**

1 - 14 ION DEVICES = 1 TRANSFORMER
15-28 ION DEVICES = 2 TRANSFORMERS
29-40 ION DEVICES = 3 TRANSFORMERS

NOTE 1: EACH TERMINAL STRIP CAN HANDLE A MAXIMUM OF SIX IONIZATION DEVICES
NOTE 2: SEE FIGURE 1 FOR PROPERLY WIRING WHEN ADDING ADDITIONAL TERMINAL STRIPS FOR ADDITIONAL IONIZATION DEVICES. IF EXCEEDING 2 IONIZATION TERMINAL STRIPS, WIRE EACH ADDITIONAL TERMINAL STRIP TO PREVIOUS TERMINAL STRIP IN SAME MANNER AS FIGURE 1 WAS ADDED TO TERMINAL STRIP (TS 1)
NOTE 3: SEE FIGURE 2 FOR PROPER QUANTITY OF TRANSFORMERS FOR QUANTITY IF IONIZATION DEVICES
NOTE 4: SEE FIGURE 3 FOR PROPER WIRING OF TRANSFORMERS WHEN ADDING IONIZATION DEVICES IN TO MATCH FIGURE 2 (MUST WIRE 24 VAC IN PARALLEL)

Note: If vibration of block occurs, 1/2" double sided foam tape (GNP-0176) can be used.