



Architecture - **C**omfort - **E**fficiency - **I**AQ

PRODUCT CATALOG

AIR PURIFICATION

JANUARY 7, 2024



ARCHITECTURE - COMFORT - EFFICIENCY - IAQ

Our **ACEI** philosophy (**ARCHITECTURE - COMFORT - EFFICIENCY - IAQ**) stands behind each product that we offer and every decision that we make.

We thrive on providing innovative air distribution solutions to numerous architectural needs, thermal comfort problems and energy efficiency requirements, and to help push the boundaries of indoor air quality.

EffectiV HVAC high performance architectural diffusers provide very effective solutions to engineering and design challenges.

EffectiV HVAC Inc.

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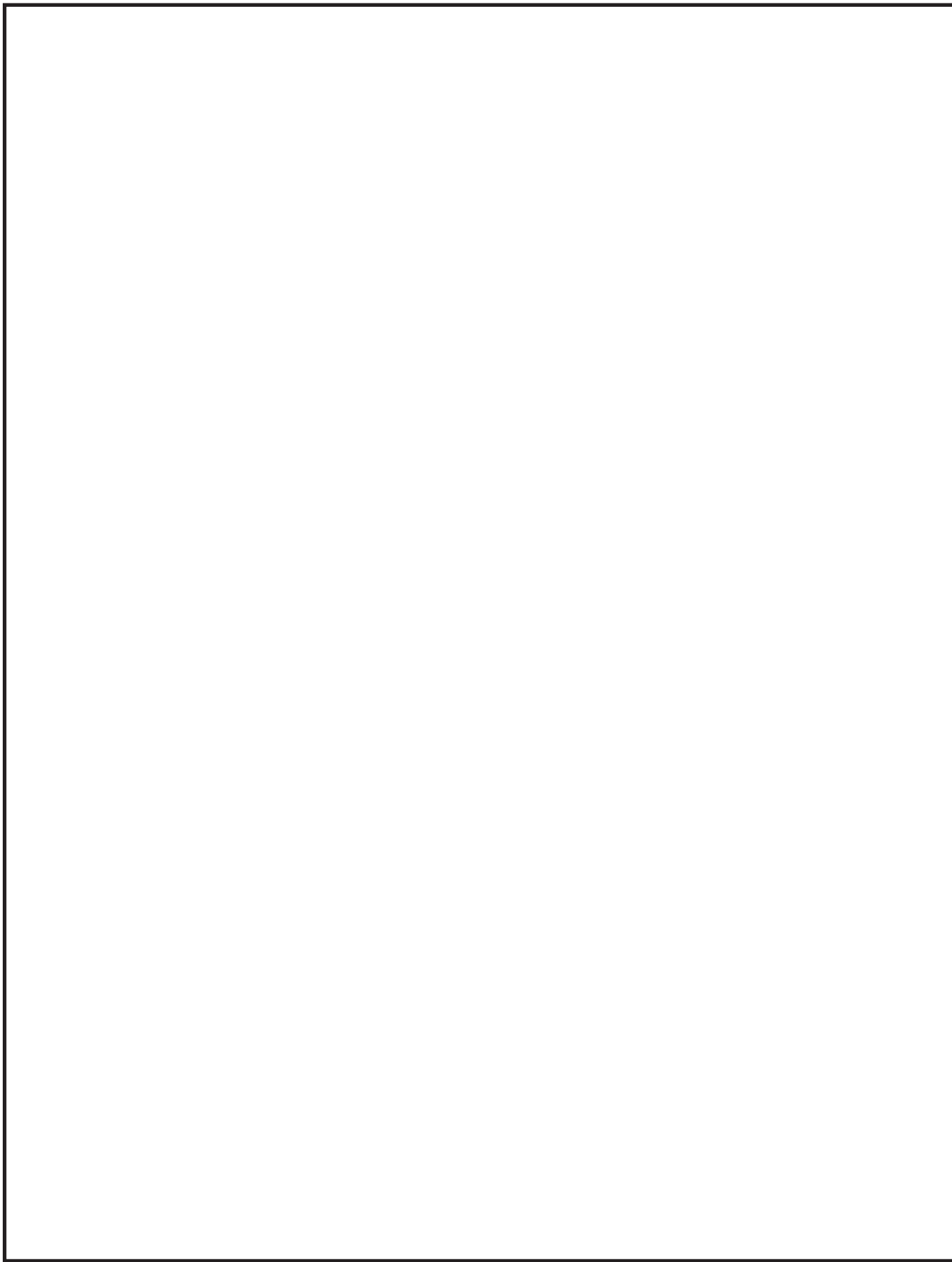
Website: effectiv-hvac.com

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WARRANTY

EffectiV HVAC Inc. guarantees its products against manufacturing defects for a period of two (2) years, from the date of delivery of the goods to the Customer.

The warranty shall only cover the replacement of defective products. It does not include workmanship, trips, replacement of other damaged products, or any other disbursements, charges or damages, and under no circumstance claims for profit or revenue loss that the Customer or third parties may have suffered. The warranty will not be effective in following circumstances:

- When the product has been incorporated to other products or building by the Customer or third parties, without observing the technical recommendations and installation methods recommended by EffectiV;
- When the selection of products was inaccurate or the installation faulty;
- When the product has been manipulated or used for different purposes than those for which it was originally conceived;
- When the products have been damaged due to handling and other manipulations;
- When the products have been damaged due to shipping, unless the shipping was provided and paid for by EffectiV;
- When the products have been damaged due to manipulations or repairs subsequent to their first installation;

Finish Chart

April 18, 2021



Glossiness

- RAL xxxx **B** Shiny 85-95% gloss
- RAL xxxx **S** Satin finish, 60-70% gloss
- RAL xxxx **M** Matte finish, 20-30% gloss

Colors below are standard in Satin Finish 60-70% Gloss

			RAL 7000 Squirrel grey	RAL 7001 Silver grey	RAL 7002 Olive grey
RAL 7003 Moss grey	RAL 7004 Signal grey	RAL 7005 Mouse grey	RAL 7006 Beige grey	RAL 7008 Khaki grey	RAL 7009 Green grey
RAL 7010 Tarpaulin grey	RAL 7011 Iron grey	RAL 7012 Basalt grey	RAL 7013 Brown grey	RAL 7015 Slate grey	RAL 7016 Anthracite grey
RAL 7021 Black grey	RAL 7022 Umbra grey	RAL 7023 Concrete grey	RAL 7024 Graphite grey	RAL 7026 Granite grey	RAL 7030 Stone grey
RAL 7031 Blue grey	RAL 7032 Pebble grey	RAL 7033 Cement grey	RAL 7034 Yellow grey	RAL 7035 Light grey	RAL 7036 Platinum grey
RAL 7037 Dusty grey	RAL 7038 Agate grey	RAL 7039 Quartz grey	RAL 7040 Window grey	RAL 7042 Traffic grey A	RAL 7043 Traffic grey B
RAL 7044 Silk grey	RAL 7045 Telegrey 1	RAL 7046 Telegrey 2	RAL 7047 Telegrey 4		
	RAL 9001 Cream	RAL 9002 Grey white	RAL 9003 Signal white	RAL 9004 Signal black	RAL 9005 Jet black
RAL 9006 White aluminium	RAL 9007 Grey aluminium	RAL 9010 Pure white	RAL 9011 Graphite black	RAL 9016 Traffic white	RAL 9017 Traffic black
RAL 9018 Papyrus white					

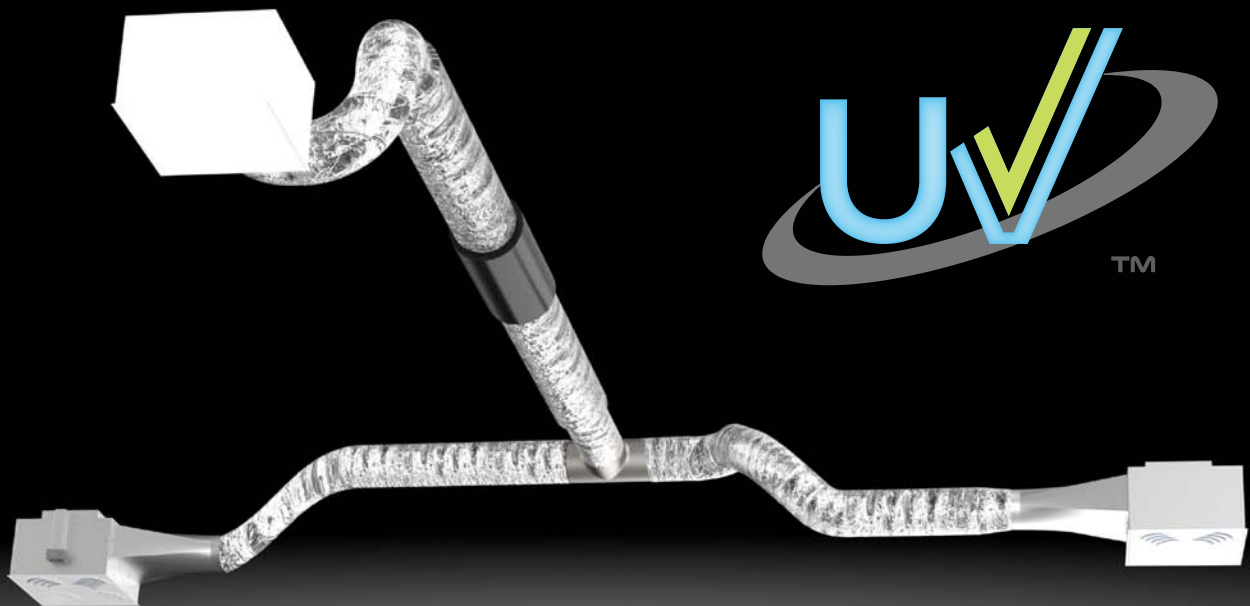
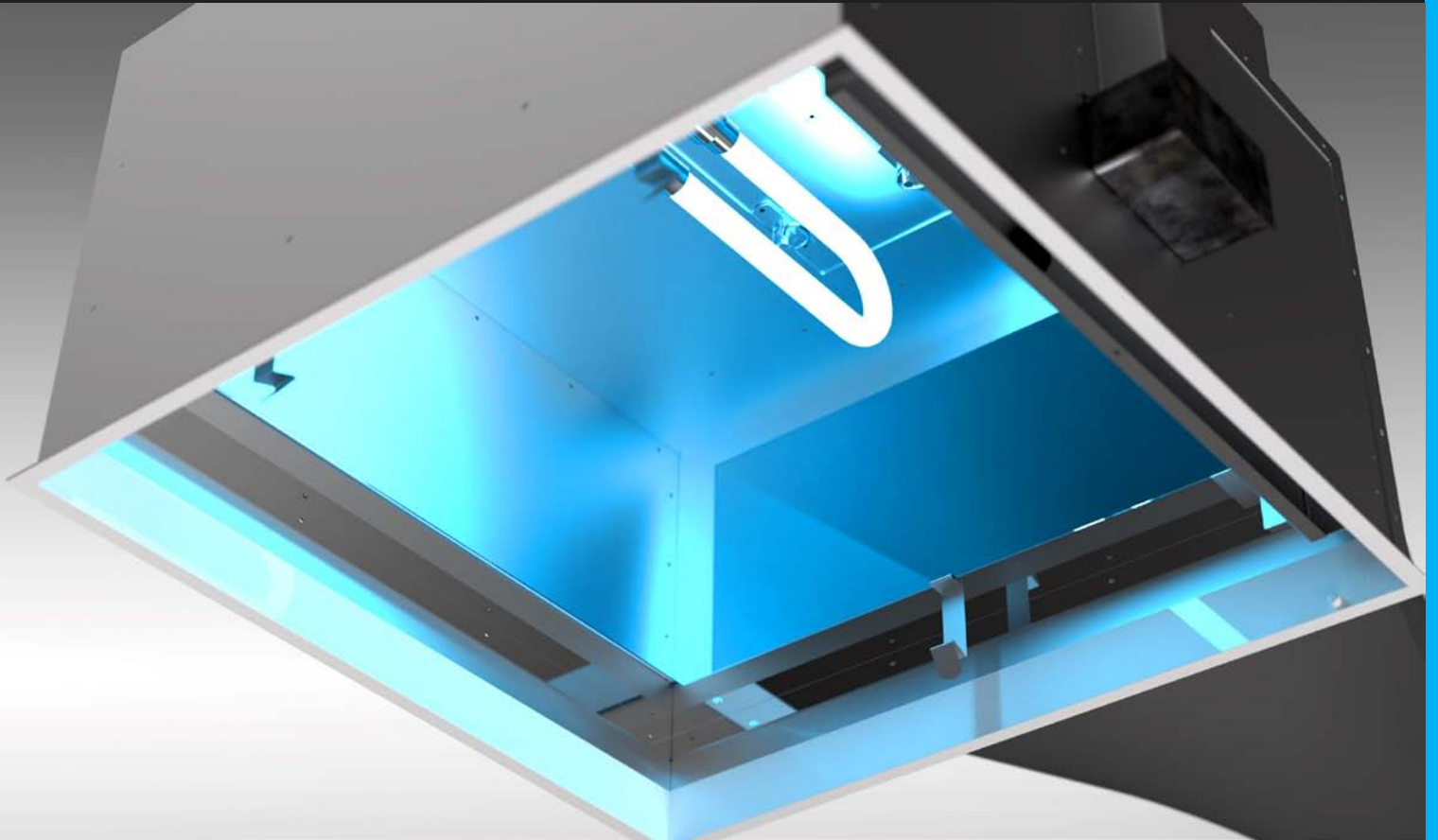
The finishes below are also considered part of this standard finish chart:

9010B, 9010M, 9016B, 9016M, 9003B, 9003M, 9005M and 9006M

Other RAL finishes available upon request, please ask for a quote



AIR PURIFICATION





AXO-HEPA
High Induction Swirl Diffusers with HEPA Filter

EFFECTIVE  TM

AXO SERIES

High Induction Swirl Diffusers with HEPA Filter



99.995% High efficiency H14 HEPA filter included



Removable face for easy access and filter change



High induction airflow for high efficiency air mixing and faster removal of contaminants



Individually adjustable high induction mixing vanes, available in black or white



Multiple sizes available of optimal supply between 70 cfm and 460 cfm



Adjustable from horizontal swirl to directional or downward



High tolerance to air volume and temperature variations



High air flow at relatively low sound power



High induction causes rapid reduction of air velocity and temperature difference



AXO-HEPA 538

AXO-HEPA High Induction Swirl Diffusers with HEPA Filter by EffectiV HVAC™ and MADEL® have the dual function of filtering the air and diffusing the filtered air in the room, both with very high efficiency.

It consists of a plenum box made from polystyrene with a circular intake on the side, equipped with a removable high induction swirl diffuser face for high turbulence airflow.

AXO-HEPA diffusers are equipped with a pressure intake that controls pressure loss in the filter. AXO-HEPA units are suitable for installations that require very pure, germ-free air such as clean rooms and pharmaceutical laboratories.

H14 filters for terminal units are provided with an extruded aluminum frame finished with epoxy paint, and both sides are provided with a protective aluminum grille. The mini pleated filter pack made of micro fiberglass maintains the proper shape via spacers by continuous hot fusion.

The design of the filter assembly with micro fiberglass ensures minimal pressure drop and laminar flow.

The structure is sealed with elastomer polyurethane to eliminate the risk of air bypass.

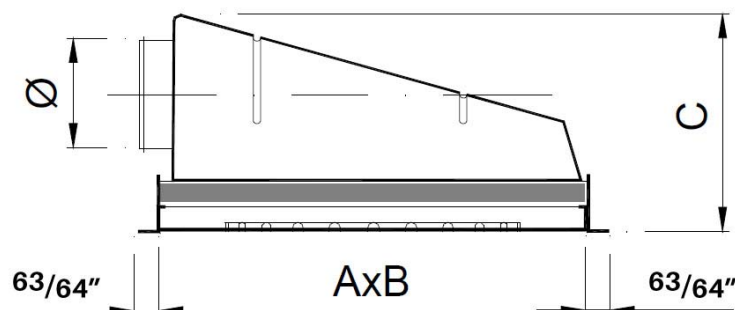
Each filter is tested and labelled according to EN 1822. The test report is delivered with each product.

The individually adjustable vanes support multiple angles to adapt the airflow to virtually any environment. The design of the induction vanes and radial arrangement supplies the air in a swirl pattern while leveraging the Coanda effect.

The resulting high induction airflow mixes the room air more efficiently than other diffusers. The benefits of high induction are reduced stratification and more even temperature in the room, improved thermal comfort, increase in energy efficiency, and efficient removal of contaminants in the room.

The AXO series diffusers admit a flow variation of 60% while keeping the air stream stable. For optimal conditions, AXO-HEPA diffusers may be used in ceilings 8.5 up to 13 feet (2.6 up to 4 meters) high, with a temperature differential up to 22°F (12°C).

Quick Selection



Model	A x B	C	Neck	Min cfm	Max cfm	Nominal cfm	Pressure Drop (in.w.g.)
AXO-HEPA 330	12 63/64"	13 37/64"	6 3/4"	71	106	88	0.602
AXO-HEPA 482	18 31/32"	13 37/64"	6 3/4"	188	282	235	0.602
AXO-HEPA 538	21 3/16"	14 3/8"	7 3/4"	235	353	294	0.602
AXO-HEPA 635	25"	14 3/8"	7 3/4"	306	459	382	0.602

Note: Min cfm and Max cfm are recommended values for optimal performance and can be exceeded in VAV applications.

HEPA FILTER

Model #	RH14
Effectiveness MPPS	99.995%
Classification EN 1822:2009	H14
Final Pressure Drop	1.606 in.w.g.
Maximum Pressure Drop	25"
Maximum Relative Humidity	90%



FINISH

Choice of anodized aluminum or galvanized steel powder coated in white RAL9010, with either black or white induction vanes.



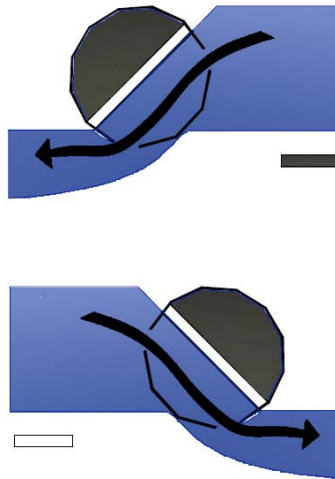
Plenum

White polystyrene plenum box with circular side duct connection, and a pressure intake to control filter pressure loss.

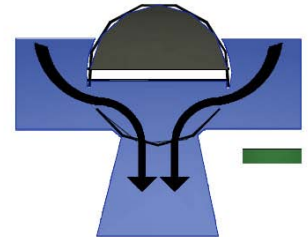


AXO Vanes Positioning

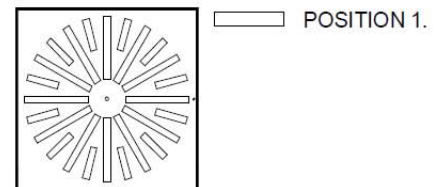
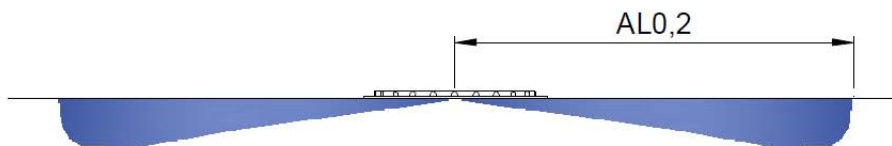
HORIZONTAL SUPPLY.
POSITION 1.



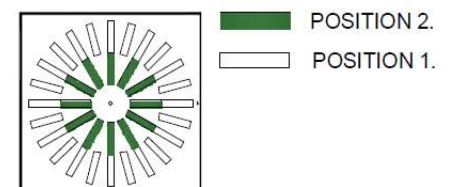
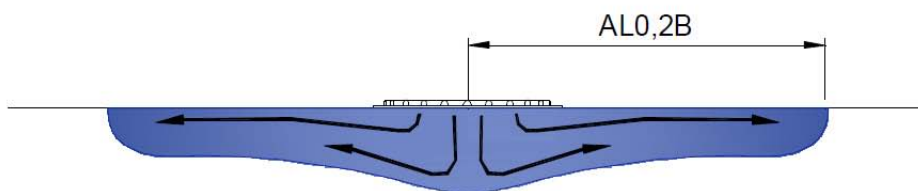
VERTICAL SUPPLY.
POSITION 2.



TYPE A. 100% POSITION 1.



TYPE B. 50% POSITION 1 AND 50% POSITION 2.



$AL_{0.2}$ = Distance at which velocity reaches 40 fpm

Type B Throw Correction Factor	
Dim	Correction Factor
24" x 24" (605mm)	0.74

Type B = 50% position 1, 50% position 2

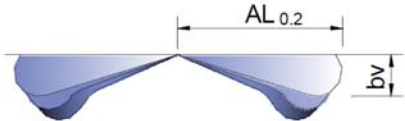
AXO-HEPA Performance Data

Model	Neck (fpm) Velocity	200	300	400	500	600	700	800	900	1000
330	CFM	53	80	107	134	160	187	214	241	267
	Pressure Loss (in.w.g.)	0.422	0.562	0.703	0.783					
	NC	< 15	22	30	35					
	Throw (ft) - Coanda Effect	2-3-4	3-4-7	4-6-9	5-7-11					
	Throw (ft) - No Ceiling Effect	1-2-3	2-3-5	3-4-7	3-6-9					
482	CFM	53	80	107	134	160	187	214	241	267
	Pressure Loss (in.w.g.)	0.221	0.289	0.357	0.426	0.466	0.51	0.562	0.602	0.643
	NC	< 15	< 15	< 15	16	20	24	27	30	33
	Throw (ft) - Coanda Effect	1-2-3	2-3-4	2-4-6	3-5-7	4-6-9	4-7-10	5-8-12	5-9-13	6-10-15
	Throw (ft) - No Ceiling Effect	1-1-2	1-2-3	2-3-4	2-4-6	3-4-7	3-5-8	4-6-9	4-7-10	4-7-11
538	CFM	70	105	140	175	209	244	279	314	349
	Pressure Loss (in.w.g.)	0.229	0.301	0.361	0.426	0.49	0.522	0.566	0.614	0.663
	NC	< 15	< 15	< 15	18	23	27	30	34	36
	Throw (ft) - Coanda Effect	1-2-3	2-3-5	2-4-6	3-5-8	4-6-9	4-7-11	5-8-12	6-9-14	6-10-16
	Throw (ft) - No Ceiling Effect	1-2-2	1-2-4	2-3-5	2-4-6	3-5-7	3-5-8	4-6-9	4-7-11	5-8-12
635	CFM	70	105	140	175	209	244	279	314	349
	Pressure Loss (in.w.g.)	0.193	0.261	0.313	0.361	0.418	0.454	0.49	0.522	0.562
	NC	< 15	< 15	< 15	< 15	16	19	22	25	27
	Throw (ft) - Coanda Effect		2-3-4	2-3-5	3-4-7	3-5-8	4-6-9	4-7-11	5-8-12	5-9-13
	Throw (ft) - No Ceiling Effect		1-2-3	2-3-4	2-3-5	2-4-6	3-5-7	3-5-8	4-6-9	4-7-10

Performance Notes

- NC Value based on 10 db room attenuation.
- Throw Values are based on isothermal air and terminal velocities of **100 fpm, 60 fpm and 40 fpm** respectively.

Delta T Correction Factors		
Δ T (F)	Kh	KI
0	.036	1
-2	.041	.985
-4	.046	.975
-6	.052	.965
-8	.058	.95
-10	.065	.935
-12	.072	.925
-15	.084	.91



$bv = kh \times \text{Throw}$
 $\text{Throw}'(\Delta T) = KI \times \text{Throw}$

Kh = Correction Factor for Vertical Diffusion
 KI = Throw Correction Factor
 $AL_{0.2}$ = Distance at which velocity reaches 40 fpm

Induction Ratio						
Throw (ft)	i 330	i 482	i 538 (A)	i 538 (B)	i 635 (A)	i 635 (B)
4	10	7	6	9	7	7
6	17	13	12	17	9	14
8	23	18	16	24	11	19
10	29	24	20	30	16	25
15	48	39	33	50	26	42
20	65	55	46	73	37	60
25	100	72	58	97	47	80

induced room air = supplied cfm * i

induced room air = cfm mixed for given throw

Delta T Ratio				
Throw (ft)	330	482	538	635
4	0.046	0.052	0.082	0.115
6	0.028	0.034	0.047	0.068
8	0.022	0.026	0.035	0.052
10	0.017	0.019	0.028	0.04
15	-	-	0.018	0.027
20	-	-	0.01	0.02
25	-	-	-	0.016

Delta T (Throw) = Delta T (Supply) * Delta T Ratio

Delta T (Supply) = T (Room) - T (Supply)

Delta T (Throw) = T (Room) - T (Throw)

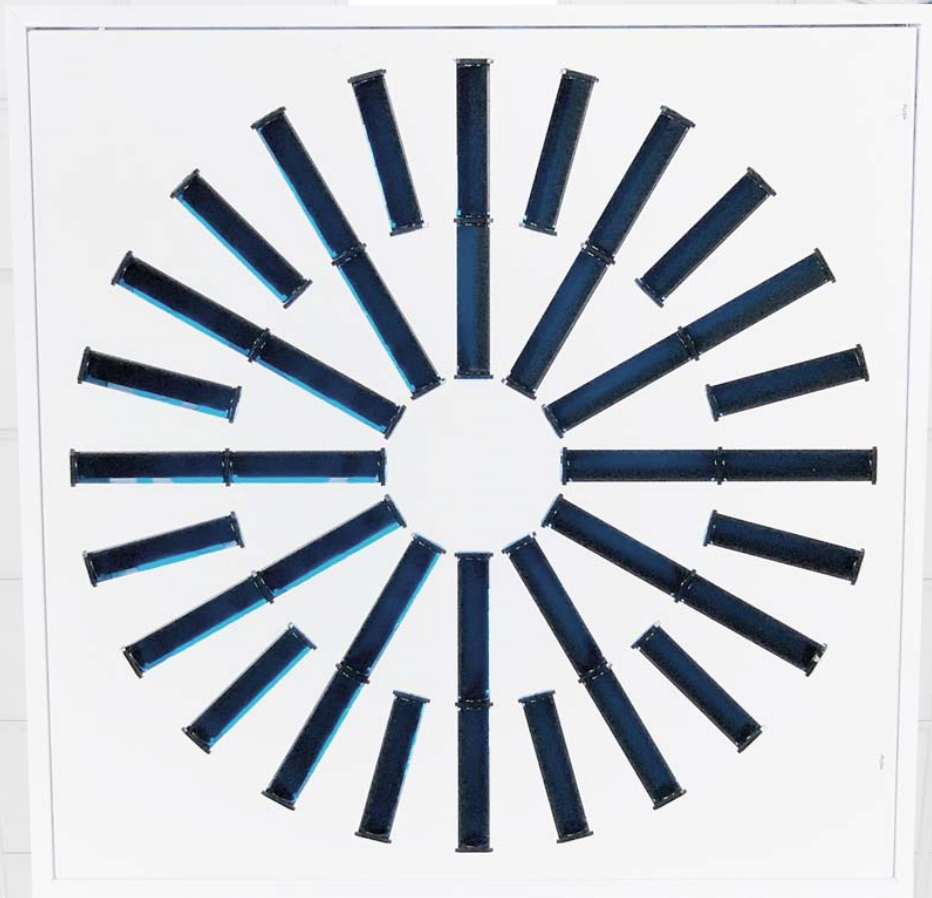
How to Specify AXO-HEPA

Supply and mounting of high induction swirl diffuser model AXO with individually adjustable radial vanes. Removable face panel made in anodized aluminum or galvanized steel powder coated in white M9010, integrated in a white polystyrene plenum box with circular side duct connection. Shall include a HEPA filter H14 with a pressure intake to control filter pressure. ABS adjustable diffusion vanes shall have airflow straighteners on the back of the vanes. By EffectiV HVAC / MADEL.

How to Order AXO-HEPA Series

AXO-HEPA	-AB	538	/AA
		Finish	AA Adnodized Aluminum M9010 Powder Coated RAL 9016
		Dimension	330 71 - 106 cfm 482 188 - 282 cfm 538 235 - 353 cfm 635 306 - 459 cfm
	Induction Vanes Color	AB AN	White Induction Vanes Black Induction Vanes





PATENT PENDING



AXO-UV
High Induction Swirl UV Diffusers



AXO-UV SERIES

High Induction Swirl UV Diffusers



UV Diffusers help contain the spread of viruses and bacteria through ventilation systems



3-in-1 solution combining UV-C irradiation, air filtration and improved air mixing and room ventilation



Single-pass deactivation of airborne viruses and bacteria



Tested with the real SARS-CoV-2 virus in a 3rd party laboratory, achieving a 99.949% single-pass virus deactivation at 458 cfm



Hinged face provide easy access for filter change and maintenance



Four models to supply air volumes between 50 cfm and 550 cfm



Suitable for new buildings and existing buildings



High discharge velocity provide efficient mixing of supplied air with room air



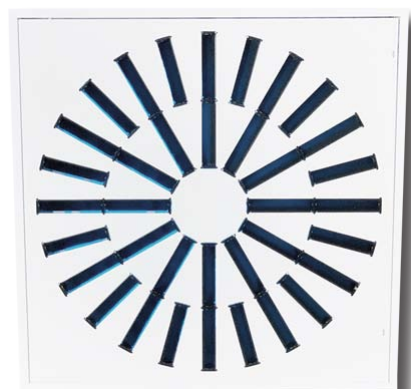
High induction improves thermal comfort and energy efficiency



Available in steel and aluminum construction



Built-in earthquake tabs



AXO-UV

PATENT PENDING



UV Diffusers by Effectiv treat the recycled air in commercial and institutional to help prevent the spread of airborne viruses and bacteria through the ventilation system. They are a 3-in-1 solution cleaning recycled air from pathogens using UV-C light, filtering the air from larger particles with a MERV-9 filter, and improving air mixing and room ventilation. By treating the air at the end of the duct line and by optimizing both the UV light intensity and microbes' exposure time inside the irradiation chamber, UV Diffusers achieve very high single-pass microbial deactivation rates.

They are a practical solution which can be installed in most existing buildings without other significant upgrades, and offer easy access for maintenance and filter replacement. They are also an energy efficient solution to treat the air.

AXO-UV high induction swirl diffusers are designed to be used in air conditioning, ventilation and heating systems at a temperature differential up to 22°F (12°C) and a maximum temperature of 110°F (43°C). They can be mounted in false ceilings, on drywall, or suspended from the ceiling, from 8.5 feet to 13 feet (2.6 up to 4 meters) high. AXO diffusers allow a flow variation of 60% while keeping the air stream stable.

AXO High Induction Diffusers are available in four models covering different ranges of air volumes between 50 cfm and 550 cfm. They also deliver the highest induction ratio, mixing the air more efficiently than any other diffuser in a 360-degree diffusion pattern. AXO diffusers offer a very reliable performance in VAV applications in both heating and cooling.

AXO can also be adjusted to send the air in specific directions or downwards.

AXO-UV diffusers are the only UV diffusers available in both steel and aluminum.

Applications



Office Buildings



Healthcare, Hospitals, Dental Clinics



Nursing Homes



Schools



Hospitality, Restaurants



Retail, Shopping Malls



PREVENTING THE SPREAD OF VIRUSES AND BACTERIA THROUGH VENTILATION SYSTEMS IN COMMERCIAL BUILDINGS

Some airborne virus particles are too small to be entirely caught by standard filters. Also, the greater the filter efficiency is, the more pressure is added to the HVAC system. Most ventilation systems in commercial and institutional buildings recycle and recirculate a large percentage of the air without proper treatment and filtration. This is done in order to save energy, but quite problematic when dealing with airborne diseases. Microbes can easily spread between rooms via the ventilation system.

UV Diffusers are a high efficiency single-pass solution to treat recycled air. Diffusers are the last thing that the air passes through before entering the room, making any possible re-contamination of the air impossible. Once UV Diffusers are installed in a space, they act as a shield against pathogens and contaminants, protecting that room from the rest of the building.

UV Diffusers can replace existing diffusers in the whole building, or be installed in a single space. Easy access to ceiling diffusers gives building owners and occupants a lot of flexibility in implementing this solution.

The use of this device is a supplement to and not a substitute for standard infection control practices; users must continue to follow all current infection control practices, including those related to the cleaning and disinfection of environmental surfaces.



AXO-UV Model Selection



AXO-S300-UV

50 - 150 cfm



AXO-S400-UV

100 - 250 cfm



AXO-S-UV

150 - 450 cfm



AXO-SX-UV

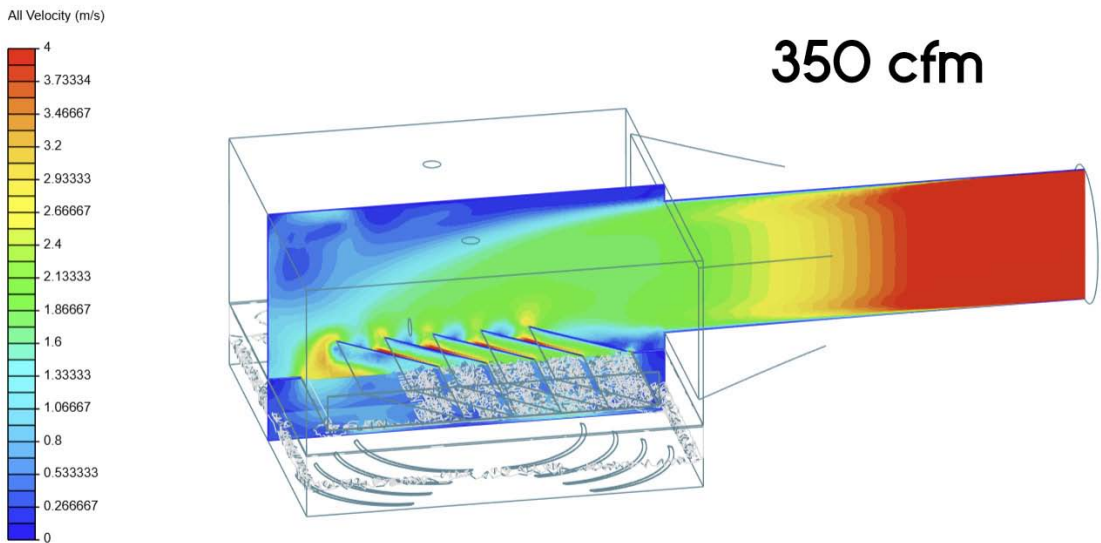
200 - 500 cfm

How UV Diffusers Work

1. Air Filtration

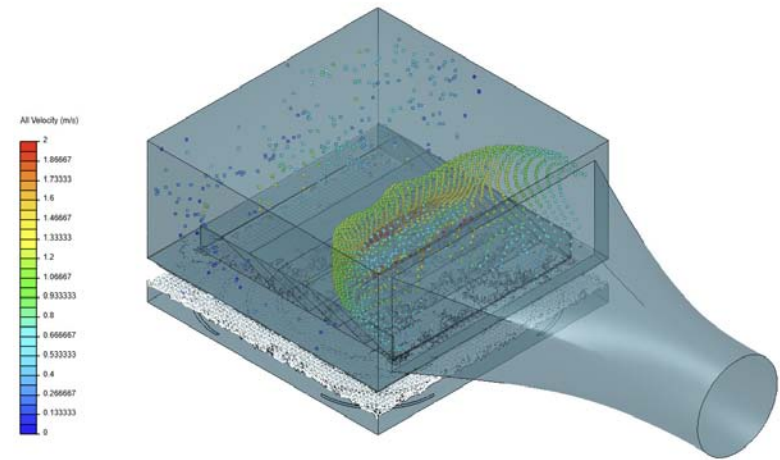
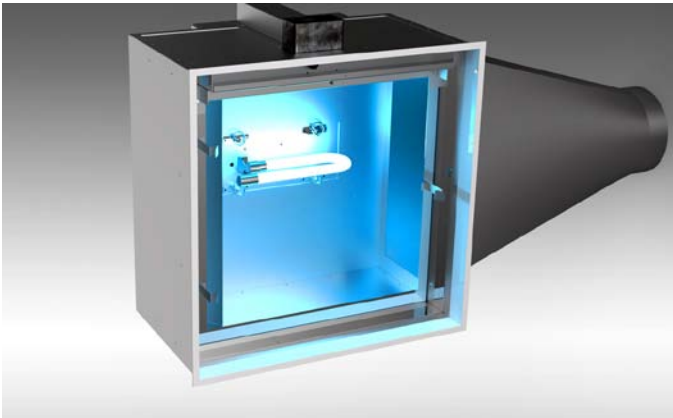
UV Diffusers integrate a UV-resistant MERV-9 or MERV-7 filter to catch larger particles including dust, spores and mites, removing allergens and other irritants, and improving air quality.

The filter also helps to pressurize the air inside the plenum and slow it down significantly.



2. UV-C Germicidal Irradiation

UV Diffusers also integrate a UV-C lamp to irradiate viruses and bacteria. The air velocity being significantly lower in the diffuser than it is in the duct, pathogens exposure to UV-C light and therefore disinfection efficiency are multiplied by a factor of 2 to 8 times.



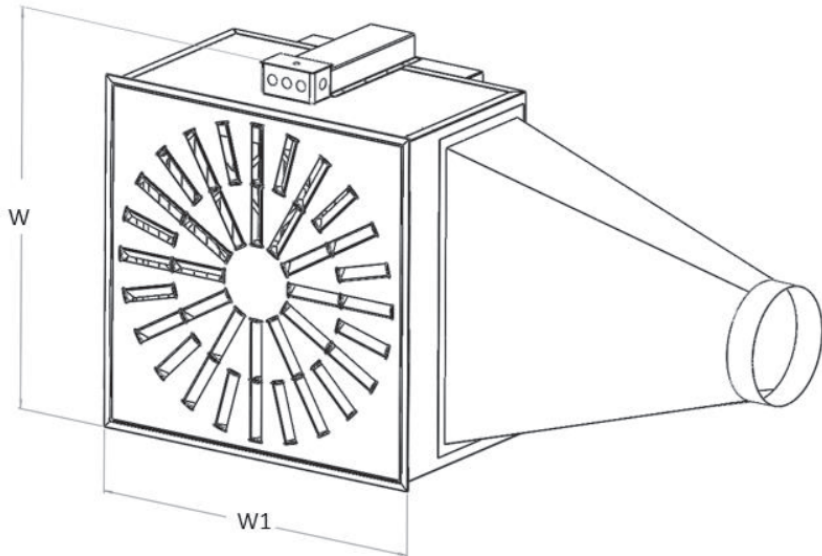
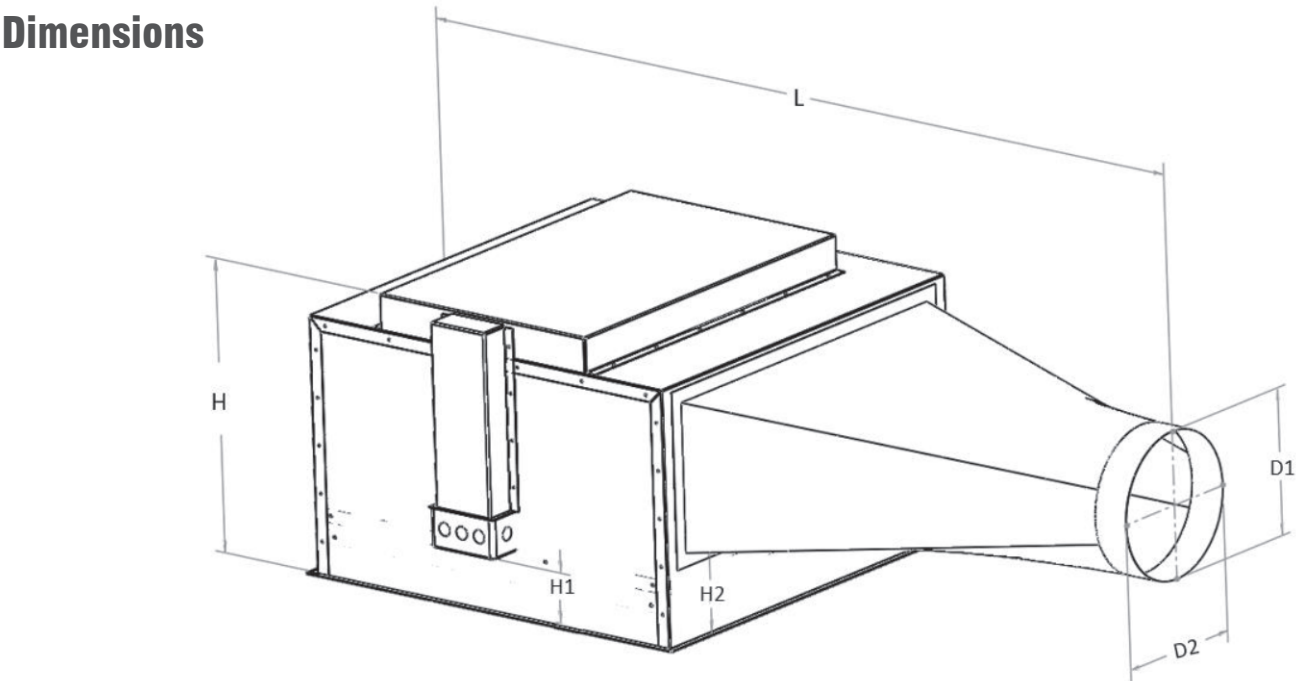
The placement of the UV lamp, the airflow trajectory, the shape and dimension of the plenum and collar for light reflection and the materials - everything has been thought out in order to improve air disinfection efficiency.

3. Improved Ventilation

AXO-UV high induction swirl UV diffusers supply the air with a high discharge velocity and feature a very high induction ratio, mixing the air more efficiently than any other diffuser in a 360-degree diffusion pattern. AXO diffusers also offer reliable performance in VAV applications. The result is an improved room ventilation and faster removal of contaminants. Another benefit is a significant improvement of occupants’ thermal comfort. Better air mixing can also help optimizing the performance of the HVAC system and reduce energy consumption.



Dimensions



Dimensions	
W	25 2/3"
W1	23 7/8"
H	15 7/8"
H1	3 9/16"
H2	4 3/4"
L	47 1/2"

Duct Diameter	D1	D2
6"	5 7/8"	5 7/8"
7"	6 7/8"	6 7/8"
8"	7 7/8"	7 7/8"
10"	11"	8"
12"	16"	8"

Safety

UV Diffusers certified UL in USA and Canada for safety in regards to electrical and UV irradiation hazards. UV-C light is contained within the diffuser in order to ensure room occupants' safety.

Interlock switches are also in place to ensure maintenance personnel's safety.

High quality lamps made of quartz do not emit any ozone nor other harmful particles. UV Diffusers are certified Zero Ozone Emission by UL

UV Diffusers are also certified by the California Air Resources Board



Mechanical Specifications

Maximum Product Weight	34 lbs
Hinged Face	Yes
Removable Face	Yes
Filter Replacement Through Face	Yes
UV Lamp Replacement Through Face	Yes

Electrical Specifications

Diffuser Voltage	120 V / 240 V
UV Diffuser Wattage	40 W
Safety Switch - Opened Face	Yes
Safety Switch - No UVC Barrier	Yes

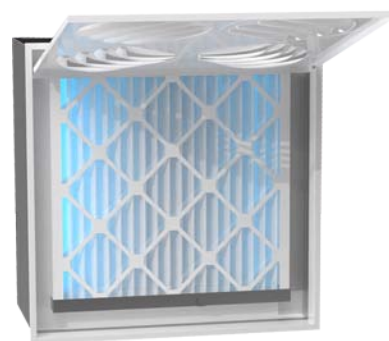
UV Specifications

UV Output 253.7nm - 100hr (per lamp)	12.0 W
Intensity @ 1m (per lamp)	90 μ W/cm ²
UVA	No
UVB	No
UVC	Yes
Ozone emission	No
Lamp Life Expectancy	17,000 hours
Lamp Diameter	T6 (19 mm)
Lamp Geometry	'J' Shape
Lamp Type	Quartz

Filter Options for UV Diffusers

UVFILTER-W-M9 UV-Resistant 20" x 20" x 2" White MERV-9 Pleated Filter

UVFILTER-W-M9	
Minimum Efficiency Rating Value (AHRAE 52.2)	MERV 9 @ 1968 cfm
Initial Resistance @ 492 cfm	0.021 in.w.g
UL Certification	Yes



UVFILTER-C-M7 UV-Resistant 20" x 20" x 2" MERV-7 Carbon Pleated Filter

UVFILTER-C-M7	
Minimum Efficiency Rating Value (AHRAE 52.2)	MERV 7 @ 1968 cfm
Initial Resistance @ 492 cfm	0.08 in.w.g
UL Certification	Yes

AXO-S300-UV Airflow Performance Data



AXO-S300-UV

Free Area (sqf)	CFM Min	CFM Max
0.10	50	150

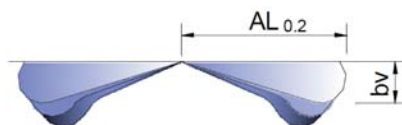
Neck Size (inches)	Neck (fpm) Velocity	200	300	400	500	600	700
	Velocity Pressure (H2O)	0.002	0.006	0.010	0.016	0.022	0.031
6	CFM	39	59	79	98	118	137
	Pressure Loss (in.w.g.) - White Filter	0.02	0.04	0.06	0.1	0.14	0.18
	Pressure Loss (in.w.g.) - Carbon Filter	0.02	0.04	0.06	0.1	0.14	0.18
	NC	< 15	< 15	21	26	31	35
	Throw (ft) - Coanda Effect	1-2-3	2-3-5	3-4-7	3-6-8	4-7-10	5-8-11
	Throw (ft) - No Ceiling Effect	1-2-3	2-3-4	2-3-5	3-4-6	3-5-8	4-6-9
8	CFM	70	105	140			
	Pressure Loss (in.w.g.) - White Filter	0.02	0.04	0.06	0.1	0.14	0.18
	Pressure Loss (in.w.g.) - Carbon Filter	0.02	0.04	0.06	0.1	0.14	0.18
	NC	17	28	37			
	Throw (ft) - Coanda Effect	2-4-6	4-6-9	5-8-11			
	Throw (ft) - No Ceiling Effect	2-3-4	3-4-7	3-6-9			

Performance Notes

- NC Value based on 10 db room attenuation.
- Throw Values are based on isothermal air and terminal velocities of **100 fpm, 60 fpm and 40 fpm**, respectively.
- Pressure Loss values represent the total pressure drop of the diffuser, plenum and filter assembled together.

Throw Correction Factors - Temperature - AXO-S300-UV

Δ T (F)	Kh	KI
0	.036	1
-2	.041	.985
-4	.046	.975
-6	.052	.965
-8	.058	.95
-10	.065	.935
-12	.072	.925
-15	.084	.91



$$bv = kh \times \text{Throw}$$

$$\text{Throw}'(\Delta T) = KI \times \text{Throw}$$

Kh = Correction Factor for Vertical Diffusion

KI = Throw Correction Factor

AL_{0.2} = Distance at which velocity reaches 40 fpm

Throw Correction Factors - Airflow Adjustments - AXO-S300-UV

Adjustment	Ka	Throw' = Ka x Throw
1-Way	1.4	
2-Way	1.2	
3-Way	1.1	

Induction Ratio and Delta T Ratio - AXO-S300-UV

Ratios			<p>induced room air = supplied cfm * i</p> <p>induced room air = cfm mixed for given throw</p>
Throw (ft)	i	Delta T Ratio	
4	10	0.046	<p>Delta T (Throw) = Delta T (Supply) * Delta T Ratio</p> <p>Delta T (Supply) = T (Room) - T (Supply)</p> <p>Delta T (Throw) = T (Room) - T (Throw)</p>
6	17	0.028	
8	23	0.022	
10	29	0.017	
15	48	-	
20	65	-	

AXO-S400-UV Airflow Performance Data

Free Area (sqf)	CFM Min	CFM Max
0.22	100	250



AXO-S400-UV

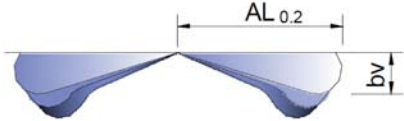
Neck Size (inches)	Neck (fpm) Velocity	200	300	400	500	600	700	800	1000
	Velocity Pressure (H2O)	0.002	0.006	0.01	0.016	0.022	0.031	0.041	.062
6	CFM		59	79	98	118	137	157	196
	Pressure Loss (in.w.g.) - White Filter		0.013	0.022	0.032	0.045	0.059	0.077	0.117
	Pressure Loss (in.w.g.) - Carbon Filter		0.019	0.029	0.041	0.055	0.071	0.09	0.133
	NC		< 15	< 15	< 15	< 15	17	21	26
	Throw (ft) - Coanda Effect		1-2-3	2-3-4	2-4-5	3-4-7	3-5-8	4-6-9	4-7-11
	Throw (ft) - No Ceiling Effect		1-2-2	1-2-3	2-3-4	2-3-5	2-4-6	3-4-7	3-5-8
8	CFM	70	105	140	175	209	244	279	349
	Pressure Loss (in.w.g.) - White Filter	0.018	0.036	0.062	0.094	0.132	0.178	0.231	0.358
	Pressure Loss (in.w.g.) - Carbon Filter	0.024	0.045	0.073	0.108	0.149	0.198	0.253	0.384
	NC	< 15	< 15	16	22	25	29	32	> 40
	Throw (ft) - Coanda Effect	2-3-4	2-4-6	3-5-8	4-7-10	5-8-12	5-9-14	6-10-16	8-13-19
	Throw (ft) - No Ceiling Effect	1-2-3	2-3-4	2-4-6	3-5-7	3-6-9	4-7-10	5-8-12	6-10-15
10	CFM	109	164	218	273	327			
	Pressure Loss (in.w.g.) - White Filter	0.039	0.083	0.143	0.222	0.315			
	Pressure Loss (in.w.g.) - Carbon Filter	0.048	0.097	0.161	0.243	0.34			
	NC	< 15	22	28	34	> 40			
	Throw (ft) - Coanda Effect	2-4-6	4-6-9	5-8-12	6-10-15	7-12-18			
	Throw (ft) - No Ceiling Effect	2-3-5	3-5-7	4-6-9	5-8-11	5-9-14			

Performance Notes

- NC Value based on 10 db room attenuation.
- Throw Values are based on isothermal air and terminal velocities of **100 fpm, 60 fpm and 40 fpm**, respectively.
- Pressure Loss values represent the total pressure drop of the diffuser, plenum and filter assembled together.

Throw Correction Factors - Temperature - AXO-S400-UV

Delta T Correction Factors		
ΔT (F)	Kh	KI
0	.036	1
-2	.041	.985
-4	.046	.975
-6	.052	.965
-8	.058	.95
-10	.065	.935
-12	.072	.925
-15	.084	.91



$bv = kh \times \text{Throw}$

$\text{Throw}'(\Delta T) = KI \times \text{Throw}$

Kh = Correction Factor for Vertical Diffusion
 KI = Throw Correction Factor
 AL_{0.2} = Distance at which velocity reaches 40 fpm

Throw Correction Factors - Airflow Adjustments - AXO-S400-UV

Adjustment	Ka	Throw' = Ka x Throw
1-Way	1.4	
2-Way	1.2	
3-Way	1.1	

Induction Ratio and Delta T Ratio - AXO-S400-UV

Ratios		
Throw (ft)	i	Delta T Ratio
4	7	0.052
6	13	0.034
8	18	0.026
10	24	0.019
15	39	-
20	55	-
25	72	-
30	90	-

induced room air = supplied cfm * i

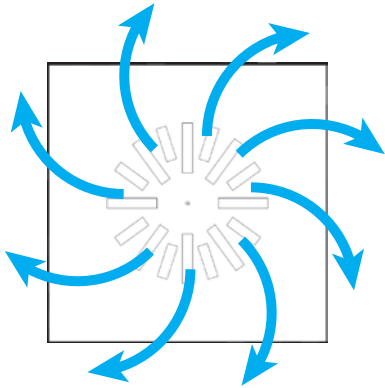
induced room air = cfm mixed for given throw

Delta T (Throw) = Delta T (Supply) * Delta T Ratio

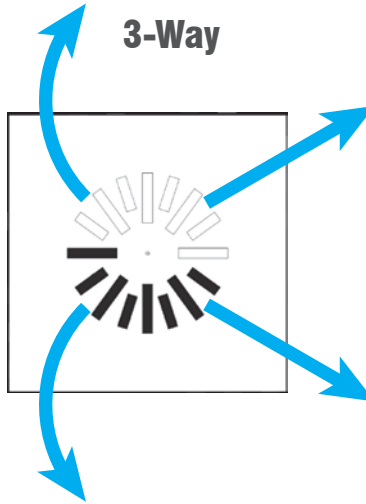
Delta T (Supply) = T (Room) - T (Supply)
 Delta T (Throw) = T (Room) - T (Throw)

AXO-S400-UV Adjustment and Patterns

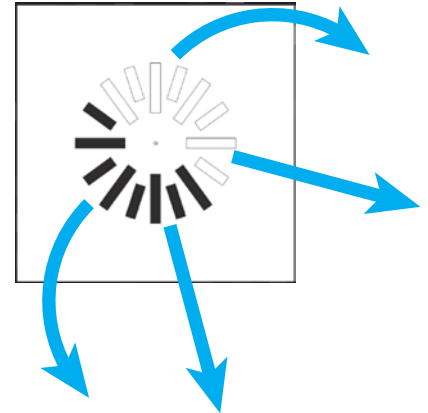
Swirl (standard)



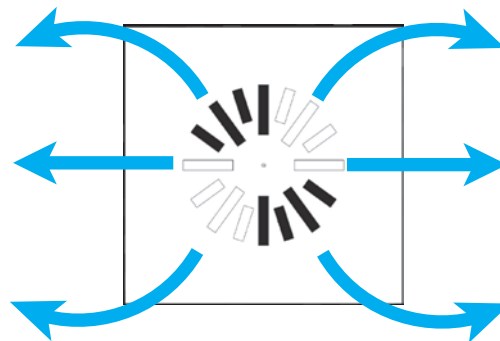
3-Way



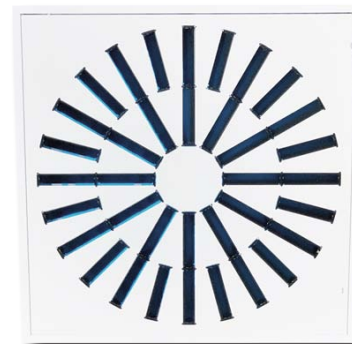
2-Way Corner



2-Way Opposed



AXO-S-UV Airflow Performance Data



AXO-S-UV

Free Area (sqf)	CFM Min	CFM Max
0.48	150	450

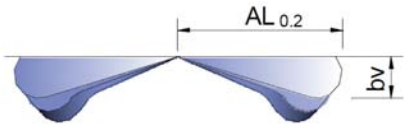
Neck Size (inches)	Neck (fpm) Velocity	300	400	500	600	700	800	1000	1200	1400
	Velocity Pressure (H2O)	0.006	.010	.016	.022	.031	.041	.062	.090	.122
6	CFM			98	118	137	157	196	236	275
	Pressure Loss (in.w.g.) - White Filter			0.01	0.014	0.018	0.023	0.035	0.05	0.067
	Pressure Loss (in.w.g.) - Carbon Filter			0.018	0.024	0.029	0.036	0.051	0.069	0.089
	NC			< 15	< 15	< 15	< 15	15	19	22
	Throw (ft) - Coanda Effect			1-2-4	2-3-4	2-3-5	2-4-6	3-5-7	4-6-9	4-7-10
	Throw (ft) - No Ceiling Effect			1-2-3	1-2-3	2-3-4	2-3-4	2-4-6	3-4-7	3-5-8
8	CFM	105	140	175	209	244	279	349	419	489
	Pressure Loss (in.w.g.) - White Filter	0.011	0.019	0.028	0.04	0.053	0.069	0.107	0.154	0.208
	Pressure Loss (in.w.g.) - Carbon Filter	0.02	0.03	0.043	0.056	0.073	0.091	0.134	0.185	0.244
	NC	< 15	< 15	< 15	16	20	22	27	31	35
	Throw (ft) - Coanda Effect	2-3-4	2-3-5	3-4-7	3-5-8	4-6-9	4-7-10	5-9-13	6-10-16	7-12-18
	Throw (ft) - No Ceiling Effect	1-2-3	2-3-4	2-3-5	2-4-6	3-5-7	3-5-8	4-7-10	5-8-12	6-9-14
10	CFM	164	218	273	327	382	436	545	654	
	Pressure Loss (in.w.g.) - White Filter	0.025	0.043	0.066	0.094	0.128	0.166	0.258	0.37	0.503
	Pressure Loss (in.w.g.) - Carbon Filter	0.038	0.06	0.088	0.12	0.157	0.198	0.297	0.415	0.554
	NC	< 15	17	22	26	28	32	37	40	
	Throw (ft) - Coanda Effect	3-4-6	3-5-8	4-7-10	5-8-12	6-10-14	7-11-16	8-14-21	10-16-25	
	Throw (ft) - No Ceiling Effect	2-3-5	2-4-6	3-5-8	4-6-9	4-7-11	5-8-12	6-10-15	7-12-19	
12	CFM	236	314	393	471	550	628			
	Pressure Loss (in.w.g.) - White Filter	0.05	0.087	0.135	0.193	0.263	0.341			
	Pressure Loss (in.w.g.) - Carbon Filter	0.069	0.111	0.165	0.228	0.302	0.385			
	NC	19	25	30	34	37	40			
	Throw (ft) - Coanda Effect	4-6-9	5-8-12	6-10-15	7-12-18	8-14-21	9-15-23			
	Throw (ft) - No Ceiling Effect	3-5-7	4-6-9	4-7-11	5-9-13	6-10-16	7-11-17			

Performance Notes

- NC Value based on 10 db room attenuation.
- Throw Values are based on isothermal air and terminal velocities of **100 fpm, 60 fpm and 40 fpm**, respectively.
- Pressure Loss values represent the total pressure drop of the diffuser, plenum and filter assembled together.

Throw Correction Factors - Temperature - AXO-S-UV

Delta T Correction Factors		
ΔT (F)	Kh	KI
0	.036	1
-2	.041	.985
-4	.046	.975
-6	.052	.965
-8	.058	.95
-10	.065	.935
-12	.072	.925
-15	.084	.91



$bv = kh \times \text{Throw}$
 $\text{Throw}'(\Delta T) = KI \times \text{Throw}$

Kh = Correction Factor for Vertical Diffusion
 KI = Throw Correction Factor
 $AL_{0.2}$ = Distance at which velocity reaches 40 fpm

Throw Correction Factors - Airflow Adjustments - AXO-S-UV

Adjustment	Ka	$\text{Throw}' = Ka \times \text{Throw}$
1-Way	1.4	
2-Way	1.2	
3-Way	1.1	

Induction Ratio and Delta T Ratio - AXO-S-UV

Ratios		
Throw (ft)	i	Delta T Ratio
4	7	0.115
6	9	0.068
8	11	0.052
10	16	0.04
15	26	0.027
20	37	0.02
25	47	0.016
30	61	-

induced room air = supplied cfm * i

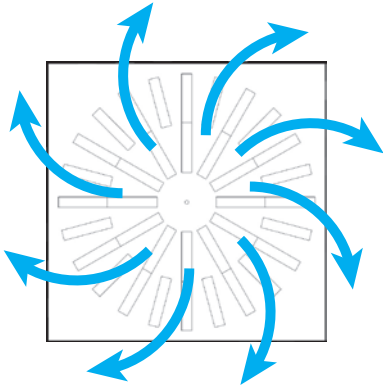
induced room air = cfm mixed for given throw

Delta T (Throw) = Delta T (Supply) * Delta T Ratio

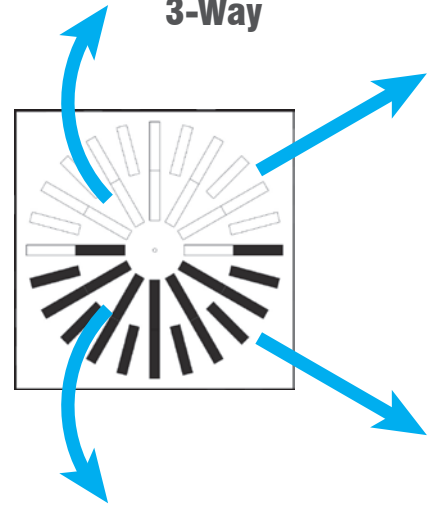
Delta T (Supply) = T (Room) - T (Supply)
 Delta T (Throw) = T (Room) - T (Throw)

AXO-S-UV Adjustment and Patterns

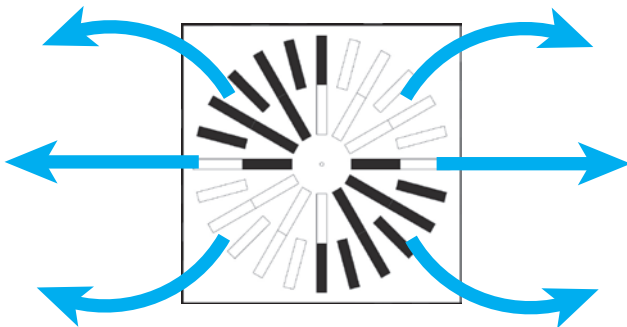
Swirl (standard)



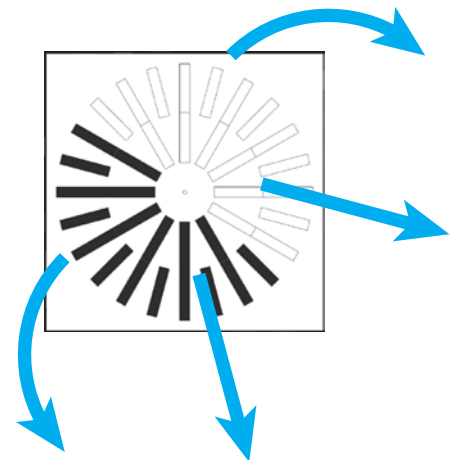
3-Way



2-Way Opposed



2-Way Corner



AXO-SX-UV Airflow Performance Data

Free Area (sqf)	CFM Min	CFM Max
0.62	200	500



AXO-SX-UV

Neck Size (inches)	Neck (fpm) Velocity	400	500	600	700	800	1000	1200	1400	1600
	Velocity Pressure (H2O)	.010	.016	.022	.031	.041	.062	0.09	0.122	0.16
6	CFM			118	137	157	196	236	275	314
	Pressure Loss (in.w.g.) - White Filter			0.012	0.016	0.02	0.031	0.044	0.06	0.078
	Pressure Loss (in.w.g.) - Carbon Filter			0.022	0.027	0.033	0.047	0.063	0.081	0.102
	NC			< 15	< 15	< 15	< 15	< 15	16	20
	Throw (ft) - Coanda Effect			2-3-4	2-3-4	2-3-4	2-4-5	3-4-7	3-5-8	4-6-9
	Throw (ft) - No Ceiling Effect			1-2-3	1-2-3	1-2-3	2-3-4	2-3-5	2-4-6	3-4-7
8	CFM	140	175	209	244	279	349	419	489	559
	Pressure Loss (in.w.g.) - White Filter	0.016	0.025	0.035	0.047	0.062	0.096	0.138	0.187	0.245
	Pressure Loss (in.w.g.) - Carbon Filter	0.028	0.039	0.052	0.067	0.083	0.122	0.169	0.223	0.284
	NC	< 15	< 15	< 15	< 15	17	23	28	32	36
	Throw (ft) - Coanda Effect	2-3-4	2-3-5	2-4-6	3-4-7	3-5-8	4-6-10	5-8-12	5-9-14	6-10-16
	Throw (ft) - No Ceiling Effect	1-2-3	1-2-4	2-3-4	2-3-5	2-4-6	3-5-7	4-6-9	4-7-10	5-8-12
10	CFM	218	273	327	382	436	545	654		
	Pressure Loss (in.w.g.) - White Filter	0.038	0.059	0.084	0.115	0.149	0.232	0.334		
	Pressure Loss (in.w.g.) - Carbon Filter	0.055	0.08	0.109	0.143	0.181	0.271	0.379		
	NC	< 15	16	21	25	29	36	41		
	Throw (ft) - Coanda Effect	2-4-6	3-5-8	4-6-9	4-7-11	5-8-12	6-10-15	7-12-18		
	Throw (ft) - No Ceiling Effect	2-3-5	2-4-6	3-5-7	3-5-8	4-6-9	5-8-11	5-9-14		
12	CFM	314	393	471	550	628				
	Pressure Loss (in.w.g.) - White Filter	0.078	0.121	0.174	0.237	0.308				
	Pressure Loss (in.w.g.) - Carbon Filter	0.102	0.151	0.208	0.276	0.352				
	NC	20	27	31	36	40				
	Throw (ft) - Coanda Effect	4-6-9	4-7-11	5-9-13	6-10-15	7-12-18				
	Throw (ft) - No Ceiling Effect	3-4-4	3-5-8	4-6-10	5-8-12	5-9-13				

Performance Notes

- NC Value based on 10 db room attenuation.
- Throw Values are based on isothermal air and terminal velocities of **100 fpm, 60 fpm and 40 fpm**, respectively.
- Pressure Loss values represent the total pressure drop of the diffuser, plenum and filter assembled together.

Throw Correction Factors - Temperature - AXO-SX-UV

Delta T Correction Factors		
ΔT (F)	K_h	K_I
0	0.36	1
-2	.041	.985
-4	.046	.975
-6	.058	.965
-8	.058	.95
-10	.065	.935
-12	.072	.925
-15	.084	.91

$b_v = k_h \times \text{Throw}$

$\text{Throw}'(\Delta T) = K_I \times \text{Throw}$

K_h = Correction Factor for Vertical Diffusion
 K_I = Throw Correction Factor
 $AL_{0.2}$ = Distance at which velocity reaches 40 fpm

Throw Correction Factors - Airflow Adjustments - AXO-SX-UV

Adjustment	K_a	Throw' = $K_a \times \text{Throw}$
1-Way	1.4	
2-Way	1.2	
3-Way	1.1	

Induction Ratio and Delta T Ratio - AXO-SX-UV

Ratios		
Throw (ft)	i	Delta T Ratio
4	< 5	1.3
6	8	0.08
8	12	0.06
10	16	0.047
15	28	0.03
20	43	0.023
25	56	0.018
30	78	0.015

induced room air = supplied cfm * i

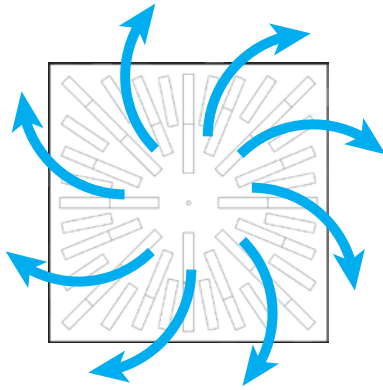
induced room air = cfm mixed for given throw

Delta T (Throw) = Delta T (Supply) * Delta T Ratio

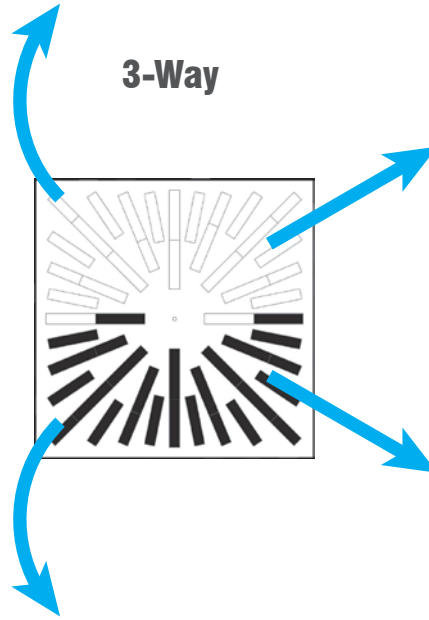
Delta T (Supply) = T (Room) - T (Supply)
Delta T (Throw) = T (Room) - T (Throw)

AXO-SX-UV Adjustment and Patterns

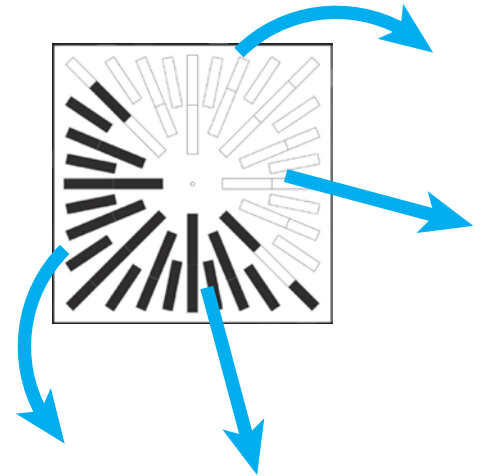
Swirl (standard)



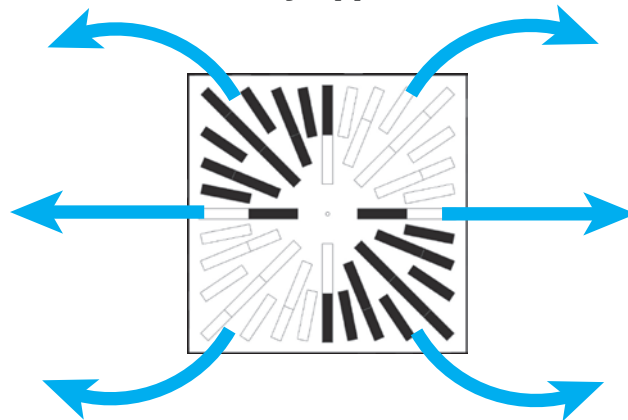
3-Way



2-Way Corner



2-Way Opposed



Single-Pass Germicidal Irradiation Performance - 100-300 CFM (1/2)

Bio-contaminants	100 cfm	150 cfm	200 cfm	250 cfm	300 cfm
Mycobacterium tuberculosis	>99.9999%	>99.9999%	>99.9999%	>99.9999%	>99.9999%
Legionella pneumophila	>99.9999%	>99.9999%	>99.9999%	>99.9999%	>99.9999%
Candida auris	>99.9999%	>99.9999%	>99.9999%	>99.9999%	>99.9999%
SARS-CoV-1	>99.9999%	>99.9999%	>99.9999%	>99.9999%	99.9999%
Proteus mirabilis	>99.9999%	>99.9999%	>99.9999%	99.9996%	99.9967%
Mycoplasma pneumoniae	>99.9999%	>99.9999%	>99.9999%	99.9994%	99.9952%
Listeria monocytogenes	>99.9999%	>99.9999%	99.9996%	99.9948%	99.9729%
Salmonella	>99.9999%	>99.9999%	99.9993%	99.9922%	99.9623%
Aeromonas	>99.9999%	>99.9999%	99.9981%	99.9832%	99.9285%
SARS-CoV-2	>99.9999%	99.9998%	99.9955%	99.9666%	99.8731%
Rickettsia prowazekii	>99.9999%	99.9996%	99.9919%	99.9465%	99.8122%
Staphylococcus epidermis	>99.9999%	99.9990%	99.9829%	99.9030%	99.6916%
E. Coli	>99.9999%	99.9985%	99.9764%	99.8746%	99.6182%
Yersinia enterocolitica	>99.9999%	99.9982%	99.9729%	99.8599%	99.5811%
Coxiella burnetii	>99.9999%	99.9982%	99.9729%	99.8598%	99.5809%
Lactobacillus reuteri	>99.9999%	99.9982%	99.9729%	99.8598%	99.5809%
Vaccinia virus	>99.9999%	99.9982%	99.9721%	99.8568%	99.5734%
Smallpox	>99.9999%	99.9982%	99.9718%	99.8555%	99.5703%
Newcastle disease	>99.9999%	99.9965%	99.9549%	99.7894%	99.4119%
Acinetobacter baumannii	99.9999%	99.9892%	99.8938%	99.5824%	98.9594%
Influenza A virus	99.9997%	99.9794%	99.8282%	99.3862%	98.5655%
MRSA	99.9994%	99.9684%	99.7632%	99.2064%	98.2232%
Coxsackievirus	99.9993%	99.9636%	99.7364%	99.1355%	98.0918%
Avian Influenza virus	99.9988%	99.9480%	99.6556%	98.9292%	97.7193%
Measle virus	99.9987%	99.9445%	99.6386%	98.8872%	97.6449%
Pseudomonas aeruginosa	99.9986%	99.9429%	99.6307%	98.8680%	97.6110%
Serratia marcescens	99.9962%	99.8860%	99.3796%	98.2854%	96.6235%
Parvovirus H-1	99.9947%	99.8588%	99.2715%	98.0505%	96.2422%
Proteus vulgaris/mirabilis	99.9729%	99.5809%	98.3529%	96.2556%	93.5263%
Corynebacterium diphtheriae	99.9447%	99.3265%	97.6490%	95.0227%	91.7934%
Ustilago zeae	99.9124%	99.0848%	97.0409%	94.0170%	90.4332%
Streptococcus pyogenes	99.8629%	98.7659%	96.2974%	92.8418%	88.8911%
Haemophilus influenza	99.8354%	98.6058%	95.9427%	92.2982%	88.1925%
Yeast	99.7885%	98.3526%	95.4016%	91.4869%	87.1647%
Klebsiella pneumoniae	99.7159%	97.9941%	94.6699%	90.4195%	85.8369%
Neisseria catarrhalis/meningitidis	99.6300%	97.6076%	93.9169%	89.3512%	84.5326%
Clostridium tetani	99.3448%	96.4984%	91.9053%	86.6168%	81.2875%
Vancomycin Resistant Enterococcus	98.8704%	94.9656%	89.3717%	83.3593%	77.5624%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filter has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Single-Pass Germicidal Irradiation Performance - 100-300 CFM (2/2)

Bio-contaminants	100 cfm	150 cfm	200 cfm	250 cfm	300 cfm
Burkholderia cenocepacia	98.5490%	94.0510%	87.9543%	81.6064%	75.6094%
Adenovirus	98.4594%	93.8085%	87.5879%	81.1602%	75.1174%
Enterobacter cloacae	97.8717%	92.3202%	85.4114%	78.5607%	72.2875%
Reovirus	97.2486%	90.8861%	83.4127%	76.2414%	69.8108%
Norwalk virus	96.1334%	88.5655%	80.3364%	72.7773%	66.1850%
Echovirus	90.3990%	79.0326%	69.0145%	60.8324%	54.2098%
Bacillus Anthracis	83.2521%	69.6164%	59.0759%	51.0690%	44.8787%
Cryptococcus neoformans	83.2521%	69.6164%	59.0759%	51.0690%	44.8787%
Blastomyces dermatidis	82.7981%	69.0697%	58.5248%	50.5427%	44.3850%
Histoplasma capsulatum	82.7981%	69.0697%	58.5248%	50.5427%	44.3850%
Mucor spores	82.7981%	69.0697%	58.5248%	50.5427%	44.3850%
Bacillus subtilis spores	80.9576%	66.9010%	56.3624%	48.4903%	42.4683%
Francisella Tularensis	79.3443%	65.0570%	54.5515%	46.7872%	40.8874%
Fusarium oxysporum	78.1157%	63.6848%	53.2193%	45.5431%	39.7379%
Botrytis cinerea	62.6337%	48.1215%	38.8720%	32.5484%	27.9733%
Rhizopus nigricans	60.1987%	45.8916%	36.9117%	30.8234%	26.4416%
Nocardia asteroides	58.5026%	44.3651%	35.5815%	29.6590%	25.4112%
Penicillium digitatum	53.6181%	40.0808%	31.8957%	26.4573%	22.5925%
Bacillus Cereus spores	45.3095%	33.1233%	26.0470%	21.4466%	18.2218%
Algae blue-green	42.1803%	30.5961%	23.9607%	19.6788%	16.6910%
Streptococcus Pneumoniae	40.9296%	29.5988%	23.1427%	18.9883%	16.0946%
Penicillium chrysogenum	37.1475%	26.6250%	20.7205%	16.9520%	14.3408%
Trichophyton rubrum	35.5815%	25.4112%	19.7389%	16.1305%	13.6352%
Candida albicans	35.3052%	25.1981%	19.5669%	15.9868%	13.5119%
Mucor mucedo	34.7491%	24.7700%	19.2220%	15.6986%	13.2648%
Clostridium Difficile spores	33.7359%	23.9932%	18.5972%	15.1775%	12.8181%
Cladosporium herbarum	32.6926%	23.1975%	17.9589%	14.6458%	12.3630%
Scopulariopsis brevicaulis	30.7938%	21.7598%	16.8097%	13.6906%	11.5465%
Bacillus Anthracis spores	28.2297%	19.8390%	15.2827%	12.4255%	10.4673%
Aspergillus fumigatus spores	10.4354%	7.0839%	5.3614%	4.3126%	3.6070%
Aspergillus niger spores	7.2164%	4.8707%	3.6757%	2.9516%	2.4658%
Cladosporium wemecki	5.3108%	3.5726%	2.6916%	2.1591%	1.8026%
stachybotrys chartarum	4.2922%	2.8823%	2.1696%	1.7395%	1.4517%
Myxobolus cerebrealis	2.4310%	1.6273%	1.2230%	0.9796%	0.8170%
Moraxella	2.3265%	1.5571%	1.1701%	0.9372%	0.7816%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filter has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Single-Pass Germicidal Irradiation Performance - 350-500 CFM (1/2)

Bio-contaminants	350 cfm	400 cfm	450 cfm	500 cfm
Mycobacterium tuberculosis	>99.9999%	99.9997%	99.9987%	99.9959%
Legionella pneumophila	99.9999%	99.9993%	99.9975%	99.9929%
Candida auris	99.9999%	99.9994%	99.9976%	99.9930%
SARS-CoV-1	99.9990%	99.9958%	99.9872%	99.9687%
Proteus mirabilis	99.9854%	99.9561%	99.8963%	99.7939%
Mycoplasma pneumoniae	99.9803%	99.9428%	99.8688%	99.7453%
Listeria monocytogenes	99.9124%	99.7889%	99.5814%	99.2762%
Salmonella	99.8836%	99.7293%	99.4778%	99.1168%
Aeromonas	99.7989%	99.5630%	99.2008%	98.7046%
SARS-CoV-2	99.6710%	99.3277%	98.8280%	98.1717%
Rickettsia prowazekii	99.5395%	99.0977%	98.4776%	97.6865%
Staphylococcus epidermis	99.2956%	98.6914%	97.8813%	96.8850%
E. Coli	99.1541%	98.4639%	97.5570%	96.4590%
Yersinia enterocolitica	99.0841%	98.3533%	97.4012%	96.2564%
Coxiella burnetii	99.0838%	98.3529%	97.4006%	96.2556%
Lactobacillus reuteri	99.0838%	98.3529%	97.4006%	96.2556%
Vaccinia virus	99.0697%	98.3307%	97.3695%	96.2153%
Smallpox	99.0640%	98.3217%	97.3570%	96.1991%
Newcastle disease	98.7751%	97.8763%	96.7418%	95.4114%
Acinetobacter baumannii	98.0022%	96.7418%	95.2335%	93.5378%
Influenza A virus	97.3695%	95.8549%	94.0961%	92.1652%
MRSA	96.8399%	95.1333%	93.1908%	91.0918%
Coxsackievirus	96.6407%	94.8658%	92.8591%	90.7023%
Avian Influenza virus	96.0858%	94.1311%	91.9576%	89.6522%
Measle virus	95.9767%	93.9881%	91.7837%	89.4510%
Pseudomonas aeruginosa	95.9272%	93.9234%	91.7051%	89.3603%
Serratia marcescens	94.5212%	92.1232%	89.5534%	86.9058%
Parvovirus H-1	93.9950%	91.4650%	88.7809%	86.0376%
Proteus vulgaris/mirabilis	90.4283%	87.1659%	83.8773%	80.6495%
Corynebacterium diphtheriae	88.2704%	84.6672%	81.1154%	77.6901%
Ustilago zeae	86.6226%	82.7981%	79.0824%	75.5397%
Streptococcus pyogenes	84.7944%	80.7579%	76.8910%	73.2451%
Haemophilus influenza	83.9783%	79.8572%	75.9320%	72.2479%
Yeast	82.7902%	78.5561%	74.5549%	70.8228%
Klebsiella pneumoniae	81.2751%	76.9130%	72.8291%	69.0476%
Neisseria catarrhalis/meningitidis	79.8064%	75.3360%	71.1855%	67.3675%
Clostridium tetani	76.2254%	71.5489%	67.2844%	63.4170%
Vancomycin Resistant Enterococcus	72.2225%	67.3989%	63.0753%	59.2070%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filter has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Single-Pass Germicidal Irradiation Performance - 350-500 CFM (2/2)

Bio-contaminants	350 cfm	400 cfm	450 cfm	500 cfm
Burkholderia cenocepacia	70.1625%	65.2930%	60.9626%	57.1123%
Adenovirus	69.6473%	64.7692%	60.4393%	56.5952%
Enterobacter cloacae	66.7116%	61.8050%	57.4940%	53.6974%
Reovirus	64.1773%	59.2724%	54.9978%	51.2572%
Norwalk virus	60.5198%	55.6563%	51.4630%	47.8246%
Echovirus	48.8043%	44.3354%	40.5915%	37.4160%
Bacillus Anthacis	39.9830%	36.0280%	32.7726%	30.0493%
Cryptococcus neoformans	39.9830%	36.0280%	32.7726%	30.0493%
Blastomyces dermatidis	39.5226%	35.5988%	32.3718%	29.6741%
Histoplasma capsulatum	39.5226%	35.5988%	32.3718%	29.6741%
Mucor spores	39.5226%	35.5988%	32.3718%	29.6741%
Bacillus subtilis spores	37.7404%	33.9412%	30.8267%	28.2297%
Francisella Tularensis	36.2769%	32.5845%	29.5653%	27.0529%
Fusarium oxysporum	35.2162%	31.6036%	28.6551%	26.2051%
Botrytis cinerea	24.5166%	21.8156%	19.6482%	17.8711%
Rhizopus nigricans	23.1427%	20.5719%	18.5130%	16.8275%
Nocardia asteroides	22.2209%	19.7389%	17.7538%	16.1305%
Penicillium digitatum	19.7082%	17.4747%	15.6946%	14.2430%
Bacillus Cereus spores	15.8377%	14.0041%	12.5503%	11.3697%
Algae blue-green	14.4890%	12.7995%	11.4623%	10.3779%
Streptococcus Pneumoniae	13.9646%	12.3317%	11.0403%	9.9935%
Penicillium chrysogenum	12.4255%	10.9609%	9.8049%	8.8694%
Trichophyton rubrum	11.8075%	10.4114%	9.3103%	8.4197%
Candida albicans	11.6996%	10.3155%	9.2240%	8.3413%
Mucor mucedo	11.4834%	10.1234%	9.0512%	8.1842%
Clostridium Difficile spores	11.0929%	9.7765%	8.7392%	7.9008%
Cladosporium herbarum	10.6951%	9.4235%	8.4219%	7.6126%
Scopulariopsis brevicaulis	9.9825%	8.7913%	7.8540%	7.0972%
Bacillus Anthacis spores	9.0419%	7.9580%	7.1060%	6.4187%
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Aspergillus niger spores	2.1173%	1.8551%	1.6507%	1.4868%
Cladosporium wemecki	1.5471%	1.3550%	1.2053%	1.0855%
stachybotrys chartarum	1.2456%	1.0908%	0.9702%	0.8736%
Myxobolus cerebri	0.7007%	0.6134%	0.5454%	0.4910%
Moraxella	0.6703%	0.5868%	0.5217%	0.4697%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filter has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Maintenance Schedule

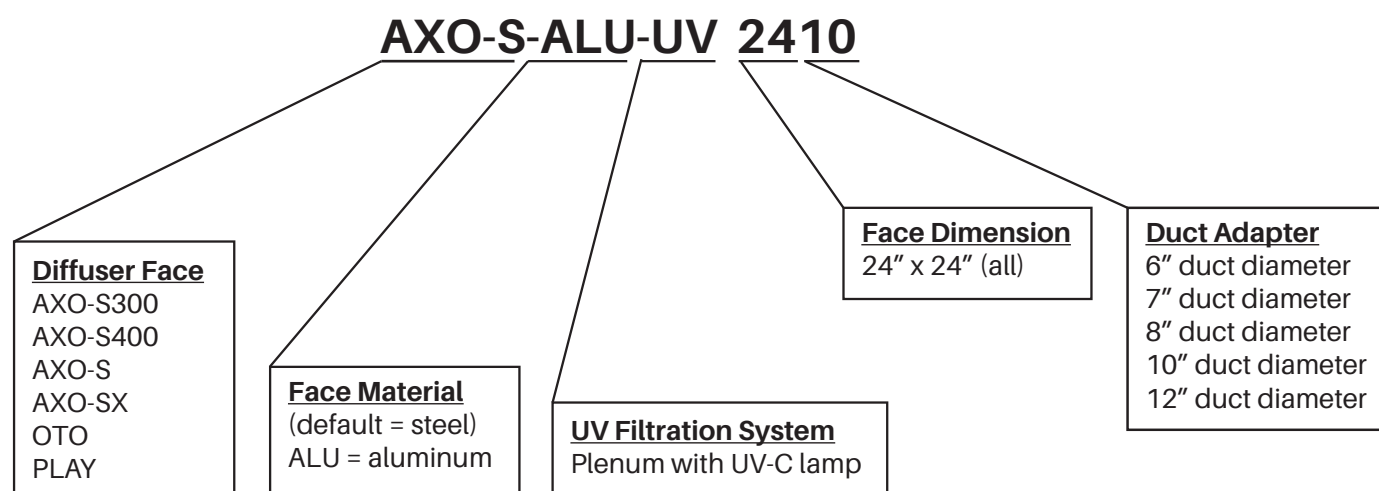
Filter Replacement: every 3 to 6 months depending on the ventilation system's filtration quality and cleanliness of the duct line.

UV Lamp Replacement: every 2 years or 17,000 hours.

How to Specify AXO-UV

Supply and mounting of AXO-UV series high induction swirl UV Diffusers. With individually adjustable black ABS diffusion vanes featuring airflow straighteners on the back of the vanes. Available in four models for optimal supply of air volumes ranging between 50 cfm and 500 cfm. Dimension 24x24 inches. Hinged and removable face constructed from galvanized steel or aluminum face panel powder coated in white M9016. Plenum constructed of aluminum with integrated zero ozone emission UV-C lamp made of quartz, UV Barrier for the safety of room occupants, and two safety interlock switches powering off the system in the absence of the UV Barrier or when the face is open. Shall be supplied and installed with matching aluminum conical duct adapter for UV diffusers. Plenum must have earthquake tabs to secure the product to the building structure. Must be UL certified for the safety of its electrical system and UV emissions. SARS-CoV-2 single-pass germicidal irradiation performance greater than 99.9% at 458 cfm must have been demonstrated by triple redundancy tests with two control points conducted by a 3rd party laboratory with the real virus. By EffectiV HVAC Inc.

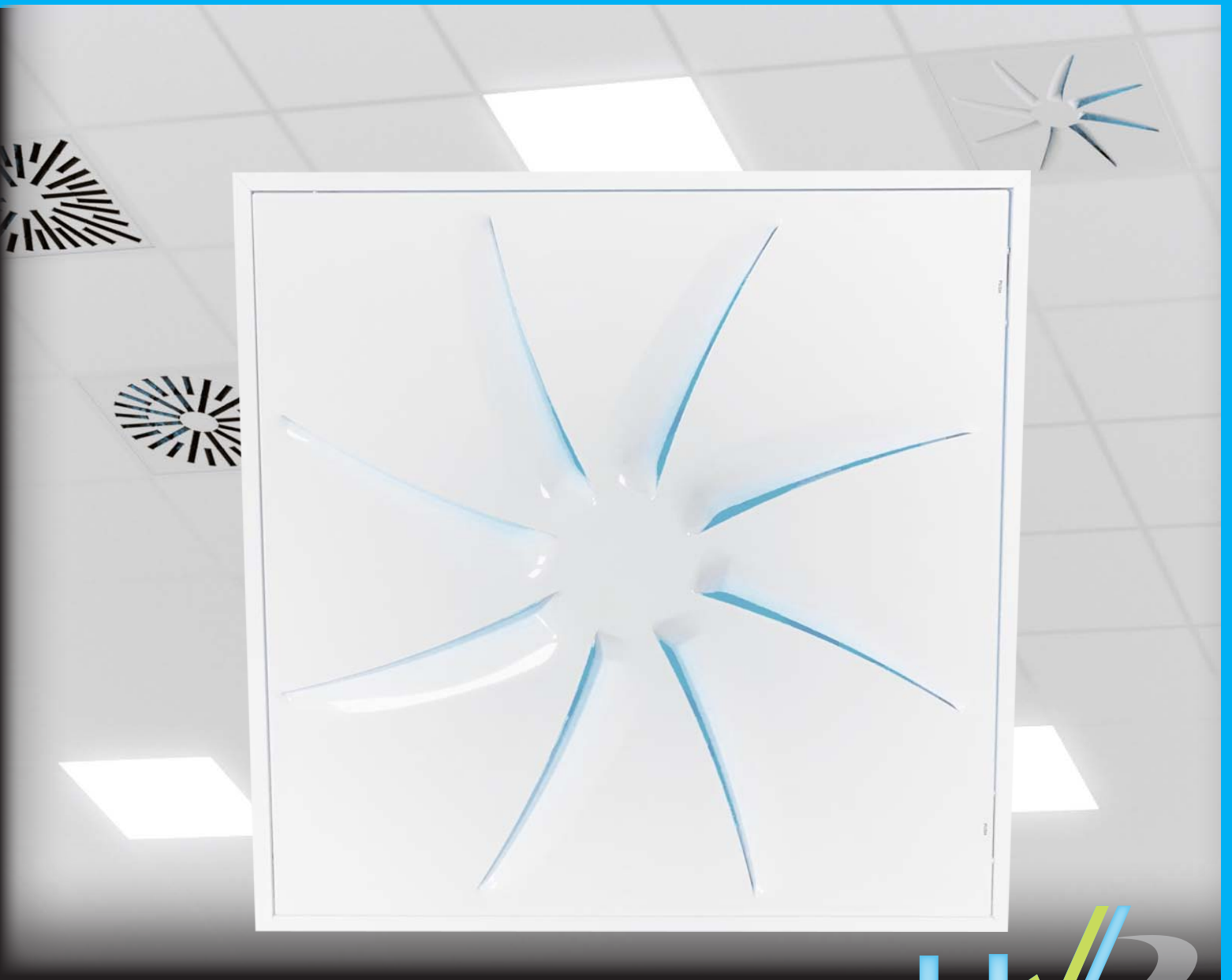
How to Order UV Diffusers





UV DIFFUSERS

UVdiffusers.com



PATENT PENDING

OTO-UV

Architectural Swirl UV Diffuser



Jan 7 2024

OTO-UV SERIES

Architectural Swirl UV Diffusers



UV Diffusers help contain the spread of viruses and bacteria through ventilation systems



3-in-1 solution combining UV-C irradiation, air filtration and improved air mixing and room ventilation



Single-pass deactivation of airborne viruses and bacteria



Tested with the real SARS-CoV-2 virus in a 3rd party laboratory, achieving a 99.949% single-pass virus deactivation at 458 cfm



Hinged face provide easy access for filter change and maintenance



Fixed and reliable high induction swirl pattern, optimal between 100 cfm and 325 cfm



Suitable for new buildings and existing buildings



High velocity swirl jets provide efficient mixing of supplied air with room air



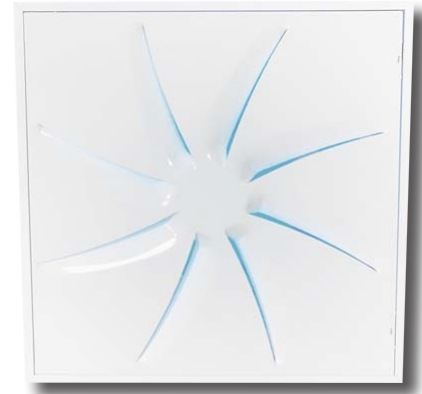
Architecturally appealing curves and design



Lay-in, duct mounted or drywall mounted, suitable for all ceilings



Built-in earthquake tabs



OTO-UV

PATENT PENDING



UV Diffusers by EffectiV treat the recycled air in commercial and institutional to help prevent the spread of airborne viruses and bacteria through the ventilation system. They are a 3-in-1 solution cleaning recycled air from pathogens using UV-C light, filtering the air from larger particles with a MERV-9 filter, and improving air mixing and room ventilation. By treating the air at the end of the duct line and by optimizing both the UV light intensity and microbes' exposure time inside the irradiation chamber, UV Diffusers achieve very high single-pass microbial deactivation rates.

They are a practical solution which can be installed in most existing buildings without other significant upgrades, and offer easy access for maintenance and filter replacement. They are also an energy efficient solution to treat the air.

OTO-UV architectural swirl diffusers are designed to be used in air conditioning, ventilation and heating systems at a temperature differential up to 22°F (12°C) and a maximum temperature of 110°F (43°C). They can be mounted in false ceilings, on drywall, or suspended from the ceiling, from 8.5 feet to 13 feet (2.6 up to 4 meters) high. OTO diffusers allow a flow variation of 60% while keeping the air stream stable.

The particular design of OTO diffusers creates a uniform airflow along the length of each aperture. The radial configuration of the eight curved slots produces a rotational jet pattern. The resulting swirl diffusion with high discharge velocity results in a very efficient mixing of supplied air with room air, a high induction ratio and reduced air stratification.

As a result of the collaboration of MADEL with Lievore, Altherr & Molina, OTO's original design combines smooth curves and high performance. EffectiV HVAC took it to the next level by integrating this unique diffuser face in a UV Diffuser.

Applications



Schools



Healthcare, Hospitals, Dental Clinics



Nursing Homes



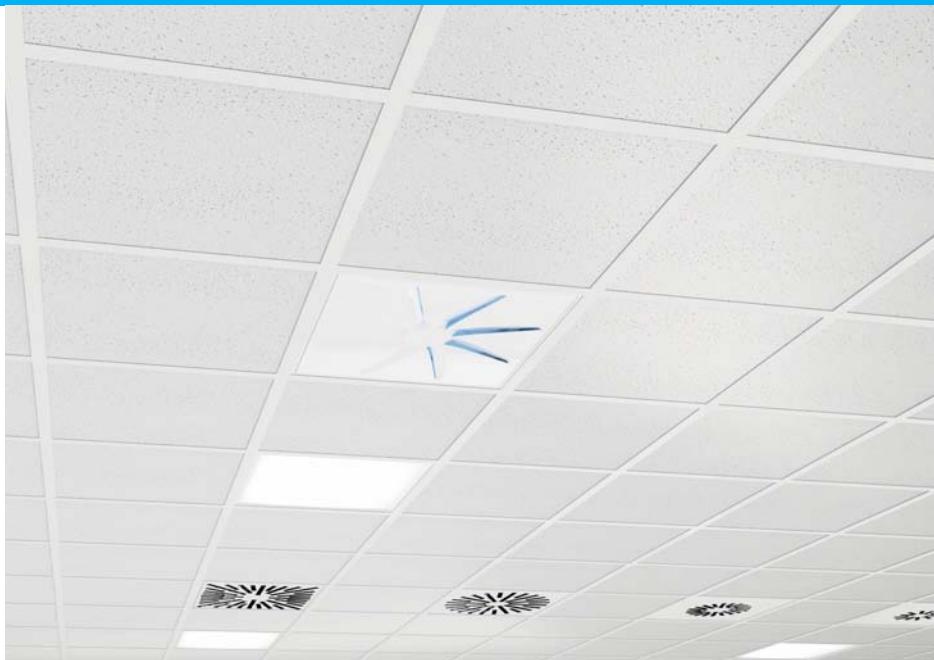
Office Buildings



Hospitality, Restaurants



Retail, Shopping Malls

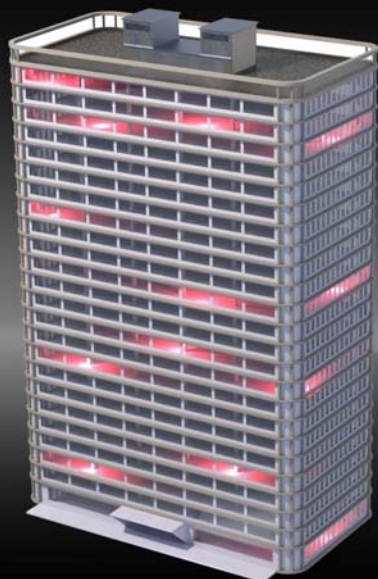


PREVENTING THE SPREAD OF VIRUSES AND BACTERIA THROUGH VENTILATION SYSTEMS IN COMMERCIAL BUILDINGS

Some airborne virus particles are too small to be entirely caught by standard filters. Also, the greater the filter efficiency is, the more pressure is added to the HVAC system. Most ventilation systems in commercial and institutional buildings recycle and recirculate a large percentage of the air without proper treatment and filtration. This is done in order to save energy, but quite problematic when dealing with airborne diseases. Microbes can easily spread between rooms via the ventilation system.

UV Diffusers are a high efficiency single-pass solution to treat recycled air. Diffusers are the last thing that the air passes through before entering the room, making any possible re-contamination of the air impossible. Once UV Diffusers are installed in a space, they act as a shield against pathogens and contaminants, protecting that room from the rest of the building.

UV Diffusers can replace existing diffusers in the whole building, or be installed in a single space. Easy access to ceiling diffusers gives building owners and occupants a lot of flexibility in implementing this solution.



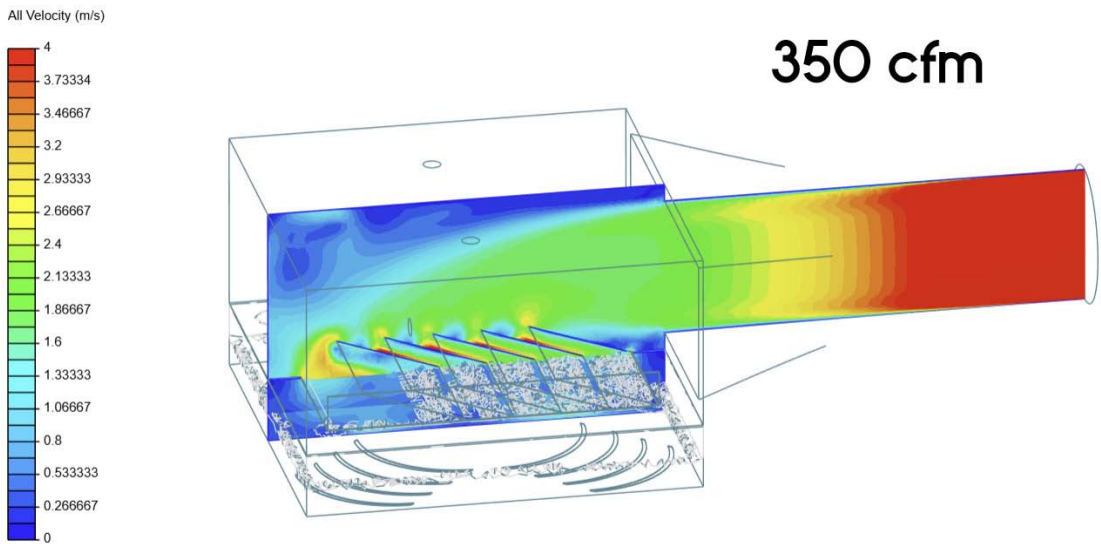
The use of this device is a supplement to and not a substitute for standard infection control practices; users must continue to follow all current infection control practices, including those related to the cleaning and disinfection of environmental surfaces.

How UV Diffusers Work

1. Air Filtration

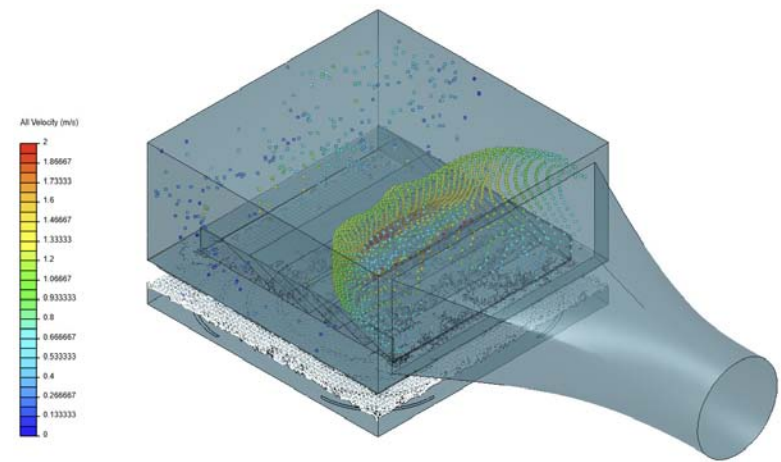
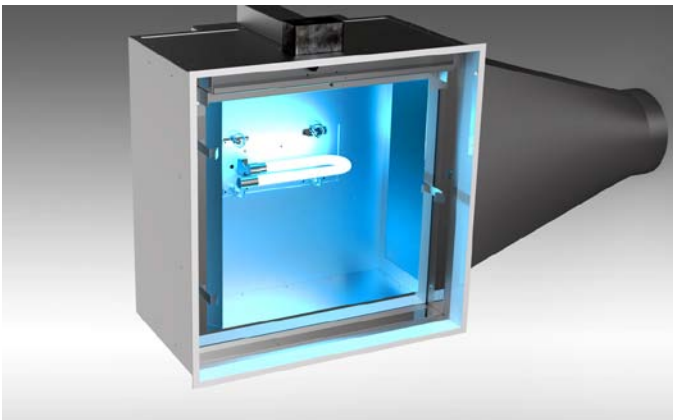
UV Diffusers integrate a UV-resistant MERV-9 or MERV-7 filter to catch larger particles including dust, spores and mites, removing allergens and other irritants, and improving air quality.

The filter also helps to pressurize the air inside the plenum and slow it down significantly.



2. UV-C Germicidal Irradiation

UV Diffusers also integrate a UV-C lamp to irradiate viruses and bacteria. The air velocity being significantly lower in the diffuser than it is in the duct, pathogens exposure to UV-C light and therefore disinfection efficiency are multiplied by a factor of 2 to 8 times.



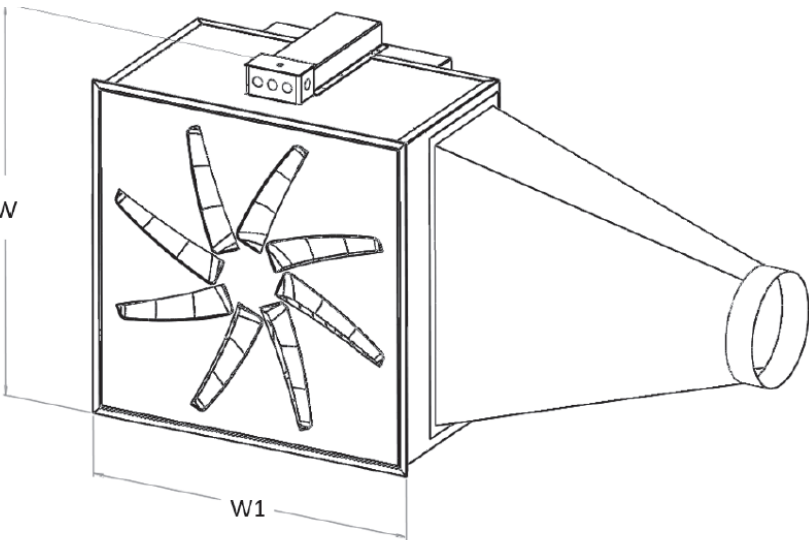
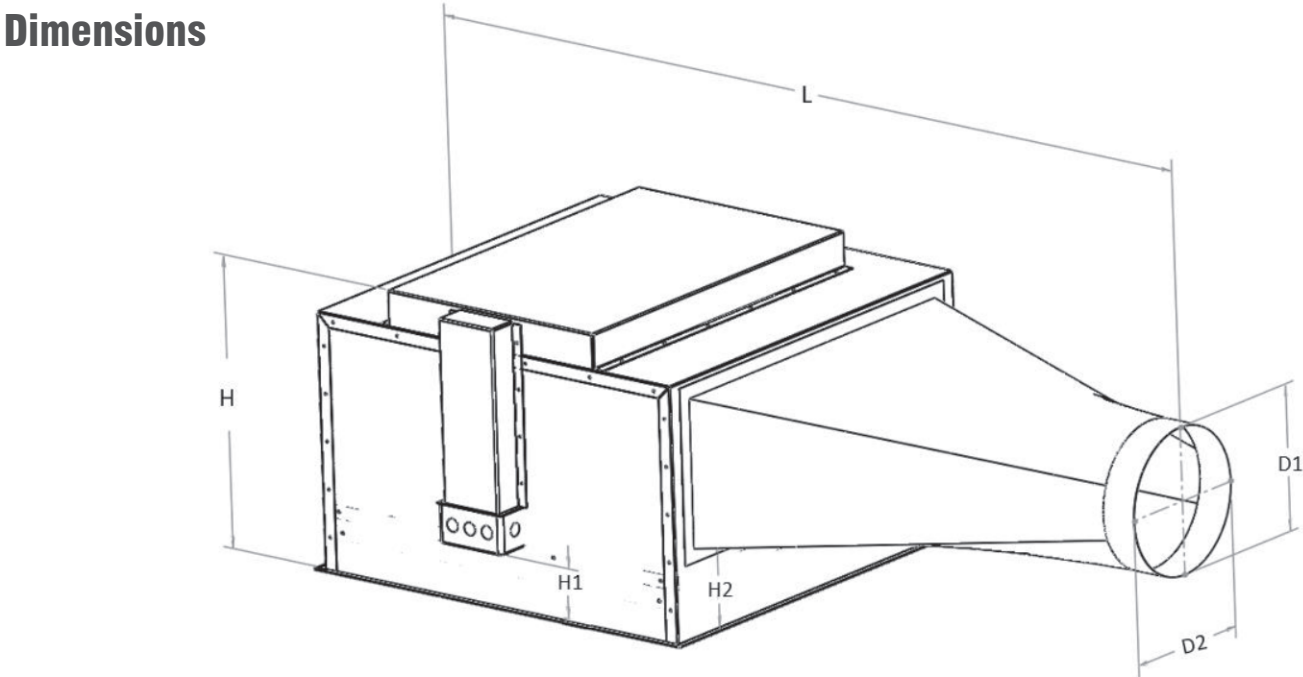
The placement of the UV lamp, the airflow trajectory, the shape and dimension of the plenum and collar for light reflection and the materials - everything has been thought out in order to improve air disinfection efficiency.

3. Improved Ventilation

OTO-UV high induction swirl diffusers feature a high discharge velocity and provide better mixing of the new air with room air when compared to common diffusers. The result is a faster removal of contaminants. Another benefit is a significant improvement of occupants’ thermal comfort. Better air mixing can also help optimizing the performance of the HVAC system and reduce energy consumption.



Dimensions



Dimensions	
W	25 2/3"
W1	23 7/8"
H	15 7/8"
H1	3 9/16"
H2	4 3/4"
L	47 1/2"

Duct Diameter	D1	D2
6"	5 7/8"	5 7/8"
7"	6 7/8"	6 7/8"
8"	7 7/8"	7 7/8"
10"	11"	8"
12"	16"	8"

Safety

UV Diffusers certified UL in USA and Canada for safety in regards to electrical and UV irradiation hazards. UV-C light is contained within the diffuser in order to ensure room occupants' safety.

Interlock switches are also in place to ensure maintenance personnel's safety.

High quality lamps made of quartz do not emit any ozone nor other harmful particles. UV Diffusers are certified Zero Ozone Emission by UL

UV Diffusers are also certified by the California Air Resources Board



Mechanical Specifications

Maximum Product Weight	34 lbs
Hinged Face	Yes
Removable Face	Yes
Filter Replacement Through Face	Yes
UV Lamp Replacement Through Face	Yes

Electrical Specifications

Diffuser Voltage	120 V / 240 V
UV Diffuser Wattage	40 W
Safety Switch - Opened Face	Yes
Safety Switch - No UVC Barrier	Yes

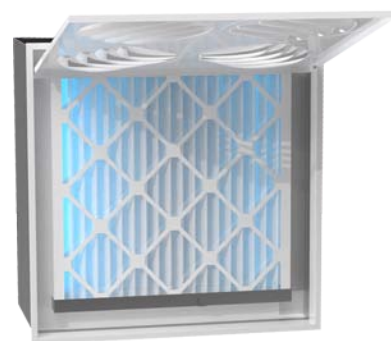
UV Specifications

UV Output 253.7nm - 100hr (per lamp)	12.0 W
Intensity @ 1m (per lamp)	90 μ W/cm ²
UVA	No
UVB	No
UVC	Yes
Ozone emission	No
Lamp Life Expectancy	17,000 hours
Lamp Diameter	T6 (19 mm)
Lamp Geometry	'J' Shape
Lamp Type	Quartz

Filter Options for UV Diffusers

UVFILTER-W-M9 UV-Resistant 20" x 20" x 2" White MERV-9 Pleated Filter

UVFILTER-W-M9	
Minimum Efficiency Rating Value (AHRAE 52.2)	MERV 9 @ 1968 cfm
Initial Resistance @ 492 cfm	0.021 in.w.g
UL Certification	Yes

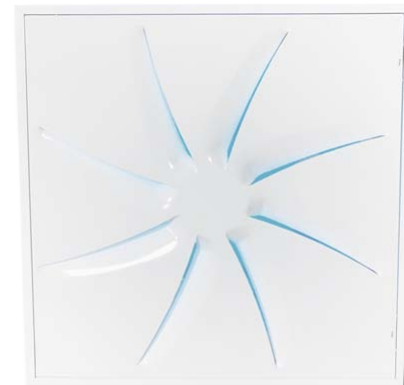


UVFILTER-C-M7 UV-Resistant 20" x 20" x 2" MERV-7 Carbon Pleated Filter

UVFILTER-C-M7	
Minimum Efficiency Rating Value (AHRAE 52.2)	MERV 7 @ 1968 cfm
Initial Resistance @ 492 cfm	0.08 in.w.g
UL Certification	Yes

Airflow Performance Data

Dim	Free Area (sqf)	Min cfm	Max cfm
24"x 24" (605mm)	0.0427	100	325



OTO-UV

OTO-UV Performance Data

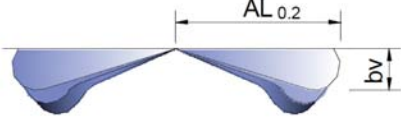
Neck Size (inches)	Neck (fpm) Velocity	200	300	400	500	600	700	800	1000
	Velocity Pressure (H2O)	0.002	0.006	0.01	0.016	0.022	0.031	0.041	.062
6	CFM			79	98	118	137	157	196
	Pressure Loss (in.w.g.) - White Filter			0.014	0.020	0.027	0.036	0.046	0.068
	Pressure Loss (in.w.g.) - Carbon Filter			0.021	0.028	0.037	0.047	0.059	0.084
	NC			< 15	< 15	< 15	< 15	< 15	20
	Throw (ft) - Coanda Effect			2-3-3	2-3-4	2-3-5	2-4-6	3-4-6	3-5-8
	Throw (ft) - No Ceiling Effect			1-2-3	1-2-3	1-2-7	2-3-4	2-3-5	2-4-6
8	CFM		105	140	175	209	244	279	349
	Pressure Loss (in.w.g.) - White Filter		0.022	0.037	0.055	0.077	0.102	0.131	0.201
	Pressure Loss (in.w.g.) - Carbon Filter		0.031	0.049	0.070	0.094	0.122	0.153	0.227
	NC		< 15	< 15	17	22	26	30	36
	Throw (ft) - Coanda Effect		2-3-4	2-4-6	3-5-7	3-6-8	4-6-10	4-7-11	6-9-14
	Throw (ft) - No Ceiling Effect		1-2-3	2-3-4	2-4-5	3-4-6	3-5-7	3-6-8	4-7-10
10	CFM	109	164	218	273	327	382	436	545
	Pressure Loss (in.w.g.) - White Filter	0.024	0.049	0.083	0.126	0.177	0.238	0.307	0.472
	Pressure Loss (in.w.g.) - Carbon Filter	0.033	0.063	0.100	0.148	0.202	0.267	0.339	0.511
	NC	< 15	16	23	29	34	38	41	47
	Throw (ft) - Coanda Effect	2-3-4	3-4-7	4-6-9	4-7-11	5-9-13	6-10-15	7-12-17	9-14-22
	Throw (ft) - No Ceiling Effect	1-2-3	2-3-5	3-4-7	3-5-8	4-7-10	5-8-11	5-9-13	6-11-16

Performance Notes

- NC Value based on 10 db room attenuation.
- Throw Values are based on isothermal air and terminal velocities of **100 fpm, 60 fpm and 40 fpm**, respectively.
- Pressure Loss values represent the total pressure drop of the diffuser, plenum and filter assembled together.

OTO-UV Delta T Correction Factors

Delta T Correction Factors		
Δ T (F)	Kh	KI
0	0.04	1
-2	0.045	0.945
-4	0.05	0.91
-6	0.055	0.87
-8	0.06	0.84
-10	0.068	0.82
-12	0.076	0.805
-15	0.089	0.78



$bv = kh \times \text{Throw}$
 $\text{Throw}'(\Delta T) = KI \times \text{Throw}$

Kh = Correction Factor for Vertical Diffusion
 KI = Throw Correction Factor
 AL_{0.2} = Distance at which velocity reaches 40 fpm

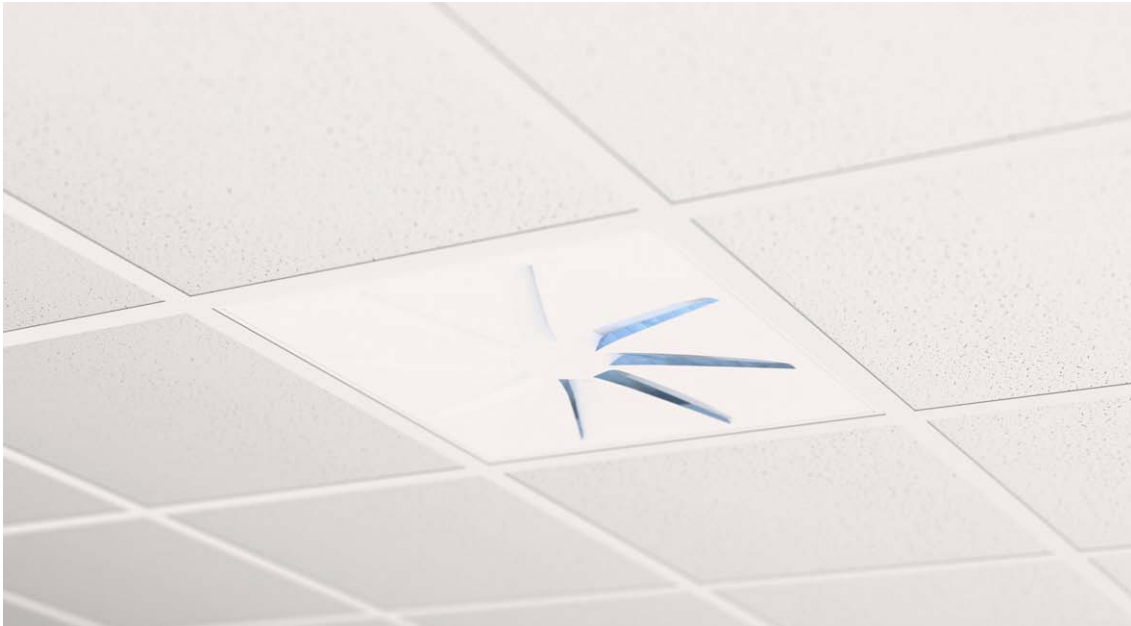
OTO-UV Induction Ratio and Delta T Ratio

Ratios		
Throw (ft)	i	Delta T Ratio
4	7	0.12
6	12	0.057
8	14	0.04
10	18	0.029
15	28	0.017
20	38	-
25	47	-
30	58	-

induced room air = supplied cfm * i

Delta T (Throw) = Delta T (Supply) * Delta T Ratio

Delta T (Supply) = T (Room) - T (Supply)
 Delta T (Throw) = T (Room) - T (Throw)



Single-Pass Germicidal Irradiation Performance - 100-300 CFM (1/2)

Bio-contaminants	100 cfm	150 cfm	200 cfm	250 cfm	300 cfm
Mycobacterium tuberculosis	>99.9999%	>99.9999%	>99.9999%	>99.9999%	>99.9999%
Legionella pneumophila	>99.9999%	>99.9999%	>99.9999%	>99.9999%	>99.9999%
Candida auris	>99.9999%	>99.9999%	>99.9999%	>99.9999%	>99.9999%
SARS-CoV-1	>99.9999%	>99.9999%	>99.9999%	>99.9999%	99.9999%
Proteus mirabilis	>99.9999%	>99.9999%	>99.9999%	99.9996%	99.9967%
Mycoplasma pneumoniae	>99.9999%	>99.9999%	>99.9999%	99.9994%	99.9952%
Listeria monocytogenes	>99.9999%	>99.9999%	99.9996%	99.9948%	99.9729%
Salmonella	>99.9999%	>99.9999%	99.9993%	99.9922%	99.9623%
Aeromonas	>99.9999%	>99.9999%	99.9981%	99.9832%	99.9285%
SARS-CoV-2	>99.9999%	99.9998%	99.9955%	99.9666%	99.8731%
Rickettsia prowazekii	>99.9999%	99.9996%	99.9919%	99.9465%	99.8122%
Staphylococcus epidermis	>99.9999%	99.9990%	99.9829%	99.9030%	99.6916%
E. Coli	>99.9999%	99.9985%	99.9764%	99.8746%	99.6182%
Yersinia enterocolitica	>99.9999%	99.9982%	99.9729%	99.8599%	99.5811%
Coxiella burnetii	>99.9999%	99.9982%	99.9729%	99.8598%	99.5809%
Lactobacillus reuteri	>99.9999%	99.9982%	99.9729%	99.8598%	99.5809%
Vaccinia virus	>99.9999%	99.9982%	99.9721%	99.8568%	99.5734%
Smallpox	>99.9999%	99.9982%	99.9718%	99.8555%	99.5703%
Newcastle disease	>99.9999%	99.9965%	99.9549%	99.7894%	99.4119%
Acinetobacter baumannii	99.9999%	99.9892%	99.8938%	99.5824%	98.9594%
Influenza A virus	99.9997%	99.9794%	99.8282%	99.3862%	98.5655%
MRSA	99.9994%	99.9684%	99.7632%	99.2064%	98.2232%
Coxsackievirus	99.9993%	99.9636%	99.7364%	99.1355%	98.0918%
Avian Influenza virus	99.9988%	99.9480%	99.6556%	98.9292%	97.7193%
Measle virus	99.9987%	99.9445%	99.6386%	98.8872%	97.6449%
Pseudomonas aeruginosa	99.9986%	99.9429%	99.6307%	98.8680%	97.6110%
Serratia marcescens	99.9962%	99.8860%	99.3796%	98.2854%	96.6235%
Parvovirus H-1	99.9947%	99.8588%	99.2715%	98.0505%	96.2422%
Proteus vulgaris/mirabilis	99.9729%	99.5809%	98.3529%	96.2556%	93.5263%
Corynebacterium diphtheriae	99.9447%	99.3265%	97.6490%	95.0227%	91.7934%
Ustilago zeae	99.9124%	99.0848%	97.0409%	94.0170%	90.4332%
Streptococcus pyogenes	99.8629%	98.7659%	96.2974%	92.8418%	88.8911%
Haemophilus influenza	99.8354%	98.6058%	95.9427%	92.2982%	88.1925%
Yeast	99.7885%	98.3526%	95.4016%	91.4869%	87.1647%
Klebsiella pneumoniae	99.7159%	97.9941%	94.6699%	90.4195%	85.8369%
Neisseria catarrhalis/meningitidis	99.6300%	97.6076%	93.9169%	89.3512%	84.5326%
Clostridium tetani	99.3448%	96.4984%	91.9053%	86.6168%	81.2875%
Vancomycin Resistant Enterococcus	98.8704%	94.9656%	89.3717%	83.3593%	77.5624%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filter has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Single-Pass Germicidal Irradiation Performance - 100-300 CFM (2/2)

Bio-contaminants	100 cfm	150 cfm	200 cfm	250 cfm	300 cfm
Burkholderia cenocepacia	98.5490%	94.0510%	87.9543%	81.6064%	75.6094%
Adenovirus	98.4594%	93.8085%	87.5879%	81.1602%	75.1174%
Enterobacter cloacae	97.8717%	92.3202%	85.4114%	78.5607%	72.2875%
Reovirus	97.2486%	90.8861%	83.4127%	76.2414%	69.8108%
Norwalk virus	96.1334%	88.5655%	80.3364%	72.7773%	66.1850%
Echovirus	90.3990%	79.0326%	69.0145%	60.8324%	54.2098%
Bacillus Anthracis	83.2521%	69.6164%	59.0759%	51.0690%	44.8787%
Cryptococcus neoformans	83.2521%	69.6164%	59.0759%	51.0690%	44.8787%
Blastomyces dermatidis	82.7981%	69.0697%	58.5248%	50.5427%	44.3850%
Histoplasma capsulatum	82.7981%	69.0697%	58.5248%	50.5427%	44.3850%
Mucor spores	82.7981%	69.0697%	58.5248%	50.5427%	44.3850%
Bacillus subtilis spores	80.9576%	66.9010%	56.3624%	48.4903%	42.4683%
Francisella Tularensis	79.3443%	65.0570%	54.5515%	46.7872%	40.8874%
Fusarium oxysporum	78.1157%	63.6848%	53.2193%	45.5431%	39.7379%
Botrytis cinerea	62.6337%	48.1215%	38.8720%	32.5484%	27.9733%
Rhizopus nigricans	60.1987%	45.8916%	36.9117%	30.8234%	26.4416%
Nocardia asteroides	58.5026%	44.3651%	35.5815%	29.6590%	25.4112%
Penicillium digitatum	53.6181%	40.0808%	31.8957%	26.4573%	22.5925%
Bacillus Cereus spores	45.3095%	33.1233%	26.0470%	21.4466%	18.2218%
Algae blue-green	42.1803%	30.5961%	23.9607%	19.6788%	16.6910%
Streptococcus Pneumoniae	40.9296%	29.5988%	23.1427%	18.9883%	16.0946%
Penicillium chrysogenum	37.1475%	26.6250%	20.7205%	16.9520%	14.3408%
Trichophyton rubrum	35.5815%	25.4112%	19.7389%	16.1305%	13.6352%
Candida albicans	35.3052%	25.1981%	19.5669%	15.9868%	13.5119%
Mucor mucedo	34.7491%	24.7700%	19.2220%	15.6986%	13.2648%
Clostridium Difficile spores	33.7359%	23.9932%	18.5972%	15.1775%	12.8181%
Cladosporium herbarum	32.6926%	23.1975%	17.9589%	14.6458%	12.3630%
Scopulariopsis brevicaulis	30.7938%	21.7598%	16.8097%	13.6906%	11.5465%
Bacillus Anthracis spores	28.2297%	19.8390%	15.2827%	12.4255%	10.4673%
Aspergillus fumigatus spores	10.4354%	7.0839%	5.3614%	4.3126%	3.6070%
Aspergillus niger spores	7.2164%	4.8707%	3.6757%	2.9516%	2.4658%
Cladosporium wemecki	5.3108%	3.5726%	2.6916%	2.1591%	1.8026%
stachybotrys chartarum	4.2922%	2.8823%	2.1696%	1.7395%	1.4517%
Myxobolus cerebrealis	2.4310%	1.6273%	1.2230%	0.9796%	0.8170%
Moraxella	2.3265%	1.5571%	1.1701%	0.9372%	0.7816%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filter has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Single-Pass Germicidal Irradiation Performance - 350-500 CFM (1/2)

Bio-contaminants	350 cfm	400 cfm	450 cfm	500 cfm
Mycobacterium tuberculosis	>99.9999%	99.9997%	99.9987%	99.9959%
Legionella pneumophila	99.9999%	99.9993%	99.9975%	99.9929%
Candida auris	99.9999%	99.9994%	99.9976%	99.9930%
SARS-CoV-1	99.9990%	99.9958%	99.9872%	99.9687%
Proteus mirabilis	99.9854%	99.9561%	99.8963%	99.7939%
Mycoplasma pneumoniae	99.9803%	99.9428%	99.8688%	99.7453%
Listeria monocytogenes	99.9124%	99.7889%	99.5814%	99.2762%
Salmonella	99.8836%	99.7293%	99.4778%	99.1168%
Aeromonas	99.7989%	99.5630%	99.2008%	98.7046%
SARS-CoV-2	99.6710%	99.3277%	98.8280%	98.1717%
Rickettsia prowazekii	99.5395%	99.0977%	98.4776%	97.6865%
Staphylococcus epidermis	99.2956%	98.6914%	97.8813%	96.8850%
E. Coli	99.1541%	98.4639%	97.5570%	96.4590%
Yersinia enterocolitica	99.0841%	98.3533%	97.4012%	96.2564%
Coxiella burnetii	99.0838%	98.3529%	97.4006%	96.2556%
Lactobacillus reuteri	99.0838%	98.3529%	97.4006%	96.2556%
Vaccinia virus	99.0697%	98.3307%	97.3695%	96.2153%
Smallpox	99.0640%	98.3217%	97.3570%	96.1991%
Newcastle disease	98.7751%	97.8763%	96.7418%	95.4114%
Acinetobacter baumannii	98.0022%	96.7418%	95.2335%	93.5378%
Influenza A virus	97.3695%	95.8549%	94.0961%	92.1652%
MRSA	96.8399%	95.1333%	93.1908%	91.0918%
Coxsackievirus	96.6407%	94.8658%	92.8591%	90.7023%
Avian Influenza virus	96.0858%	94.1311%	91.9576%	89.6522%
Measle virus	95.9767%	93.9881%	91.7837%	89.4510%
Pseudomonas aeruginosa	95.9272%	93.9234%	91.7051%	89.3603%
Serratia marcescens	94.5212%	92.1232%	89.5534%	86.9058%
Parvovirus H-1	93.9950%	91.4650%	88.7809%	86.0376%
Proteus vulgaris/mirabilis	90.4283%	87.1659%	83.8773%	80.6495%
Corynebacterium diphtheriae	88.2704%	84.6672%	81.1154%	77.6901%
Ustilago zeae	86.6226%	82.7981%	79.0824%	75.5397%
Streptococcus pyogenes	84.7944%	80.7579%	76.8910%	73.2451%
Haemophilus influenza	83.9783%	79.8572%	75.9320%	72.2479%
Yeast	82.7902%	78.5561%	74.5549%	70.8228%
Klebsiella pneumoniae	81.2751%	76.9130%	72.8291%	69.0476%
Neisseria catarrhalis/meningitidis	79.8064%	75.3360%	71.1855%	67.3675%
Clostridium tetani	76.2254%	71.5489%	67.2844%	63.4170%
Vancomycin Resistant Enterococcus	72.2225%	67.3989%	63.0753%	59.2070%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filter has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Single-Pass Germicidal Irradiation Performance - 350-500 CFM (2/2)

Bio-contaminants	350 cfm	400 cfm	450 cfm	500 cfm
Burkholderia cenocepacia	70.1625%	65.2930%	60.9626%	57.1123%
Adenovirus	69.6473%	64.7692%	60.4393%	56.5952%
Enterobacter cloacae	66.7116%	61.8050%	57.4940%	53.6974%
Reovirus	64.1773%	59.2724%	54.9978%	51.2572%
Norwalk virus	60.5198%	55.6563%	51.4630%	47.8246%
Echovirus	48.8043%	44.3354%	40.5915%	37.4160%
Bacillus Anthracis	39.9830%	36.0280%	32.7726%	30.0493%
Cryptococcus neoformans	39.9830%	36.0280%	32.7726%	30.0493%
Blastomyces dermatidis	39.5226%	35.5988%	32.3718%	29.6741%
Histoplasma capsulatum	39.5226%	35.5988%	32.3718%	29.6741%
Mucor spores	39.5226%	35.5988%	32.3718%	29.6741%
Bacillus subtilis spores	37.7404%	33.9412%	30.8267%	28.2297%
Francisella Tularensis	36.2769%	32.5845%	29.5653%	27.0529%
Fusarium oxysporum	35.2162%	31.6036%	28.6551%	26.2051%
Botrytis cinerea	24.5166%	21.8156%	19.6482%	17.8711%
Rhizopus nigricans	23.1427%	20.5719%	18.5130%	16.8275%
Nocardia asteroides	22.2209%	19.7389%	17.7538%	16.1305%
Penicillium digitatum	19.7082%	17.4747%	15.6946%	14.2430%
Bacillus Cereus spores	15.8377%	14.0041%	12.5503%	11.3697%
Algae blue-green	14.4890%	12.7995%	11.4623%	10.3779%
Streptococcus Pneumoniae	13.9646%	12.3317%	11.0403%	9.9935%
Penicillium chrysogenum	12.4255%	10.9609%	9.8049%	8.8694%
Trichophyton rubrum	11.8075%	10.4114%	9.3103%	8.4197%
Candida albicans	11.6996%	10.3155%	9.2240%	8.3413%
Mucor mucedo	11.4834%	10.1234%	9.0512%	8.1842%
Clostridium Difficile spores	11.0929%	9.7765%	8.7392%	7.9008%
Cladosporium herbarum	10.6951%	9.4235%	8.4219%	7.6126%
Scopulariopsis brevicaulis	9.9825%	8.7913%	7.8540%	7.0972%
Bacillus Anthracis spores	9.0419%	7.9580%	7.1060%	6.4187%
Aspergillus fumigatus spores	3.0998%	2.7176%	2.4194%	2.1801%
Aspergillus niger spores	2.1173%	1.8551%	1.6507%	1.4868%
Cladosporium wemecki	1.5471%	1.3550%	1.2053%	1.0855%
stachybotrys chartarum	1.2456%	1.0908%	0.9702%	0.8736%
Myxobolus cerebrealis	0.7007%	0.6134%	0.5454%	0.4910%
Moraxella	0.6703%	0.5868%	0.5217%	0.4697%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filter has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Maintenance Schedule

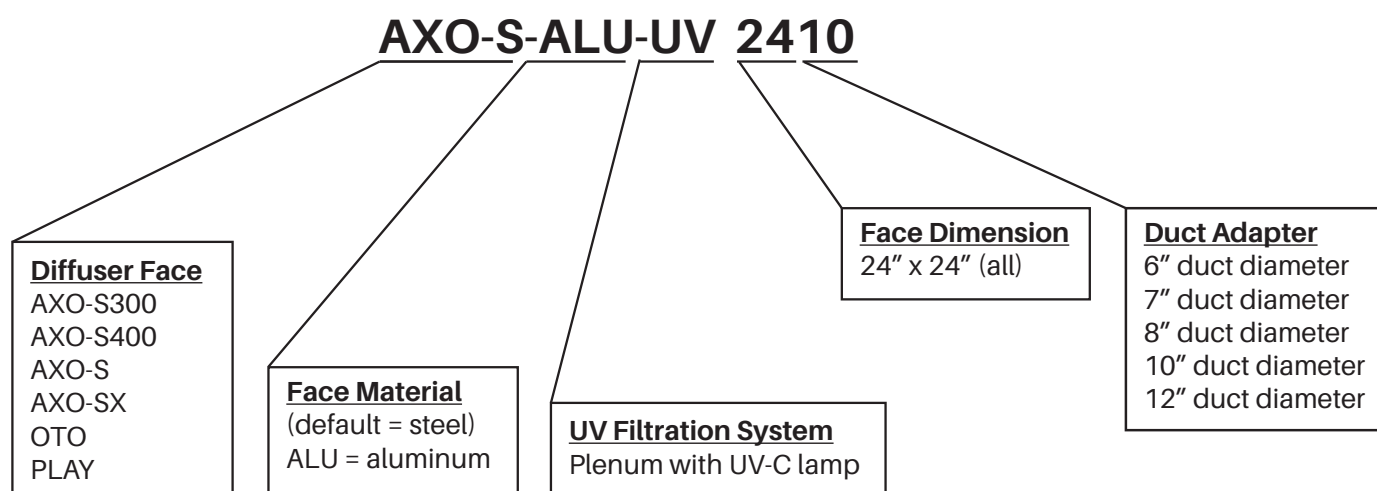
Filter Replacement: every 3 to 6 months depending on the ventilation system's filtration quality and cleanliness of the duct line.

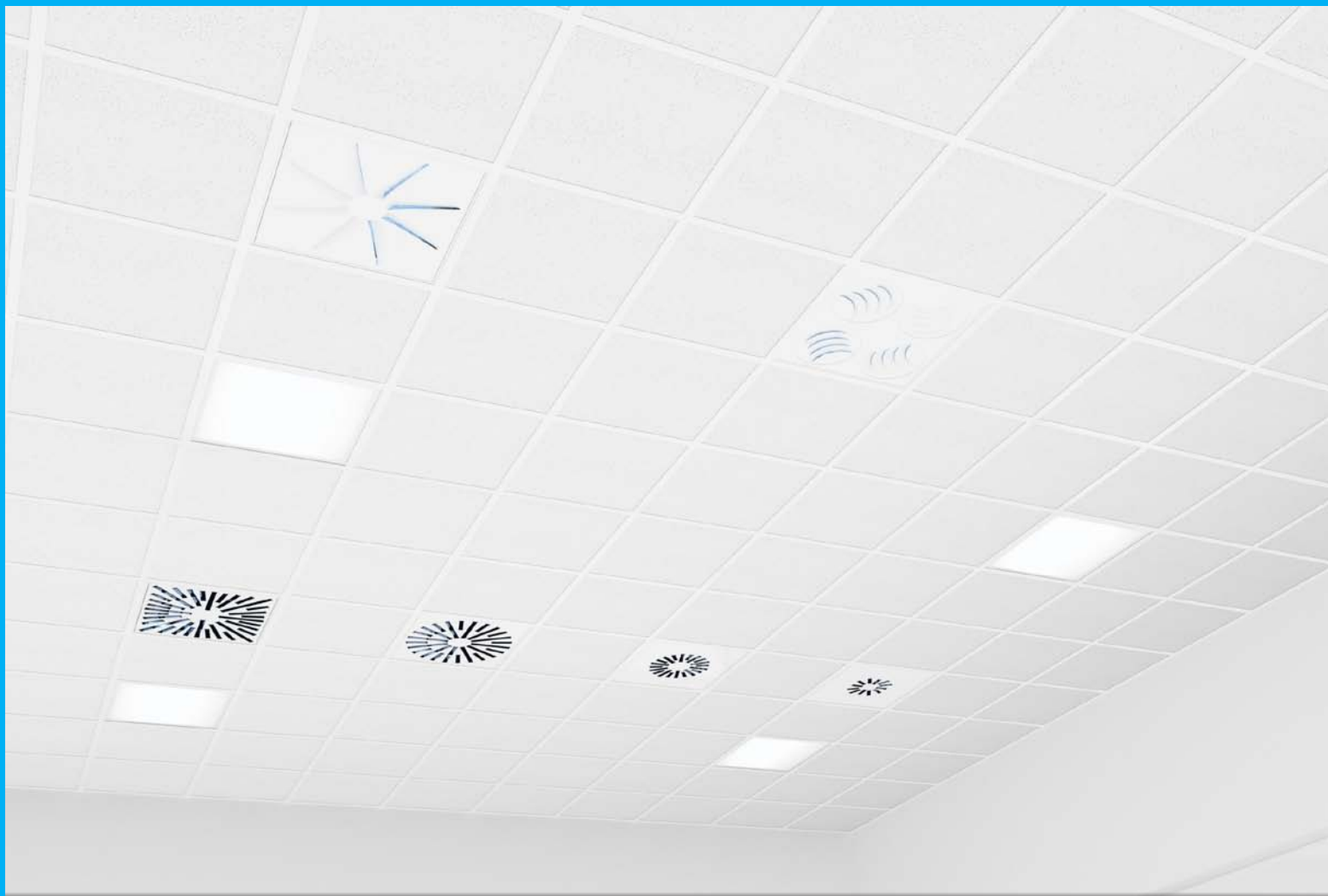
UV Lamp Replacement: every 2 years or 17,000 hours.

How to Specify OTO-UV

Supply and mounting of square architectural swirl UV Diffuser OTO-UV, with stamped curved slots in radial pattern, dimension 24x24 inches. Hinged and removable face constructed from galvanized steel face panel powder coated in white M9016. Plenum constructed of aluminum with integrated zero ozone emission UV-C lamp made of quartz, UV Barrier for the safety of room occupants, and two safety interlock switches powering off the system in the absence of the UV Barrier or when the face is open. Shall be supplied and installed with matching aluminum conical duct adapter for UV diffusers. Plenum must have earthquake tabs to secure the product to the building structure. Must be UL certified for the safety of its electrical system and UV emissions. SARS-CoV-2 single-pass germicidal irradiation performance greater than 99.9% at 458 cfm must have been demonstrated by triple redundancy tests with two control points conducted by a 3rd party laboratory with the real virus. By EffectiV HVAC Inc.

How to Order UV Diffusers





UV DIFFUSERS

UVdiffusers.com



PATENT PENDING

PLAY-UV

360° Adjustable High Induction UV Diffuser



PLAY-UV SERIES

Adjustable UV Diffuser



UV Diffusers help contain the spread of viruses and bacteria through ventilation systems



3-in-1 solution combining UV-C irradiation, air filtration and improved air mixing and room ventilation



Single-pass deactivation of airborne viruses and bacteria



Tested with the real SARS-CoV-2 virus in a 3rd party laboratory, achieving a 99.949% single-pass virus deactivation at 458 cfm



Hinged face provide easy access for filter change and maintenance



360 degree adjustable airflow, optimal between 100 cfm and 400 cfm



Suitable for new buildings and existing buildings



High discharge velocity provide efficient mixing of supplied air with room air



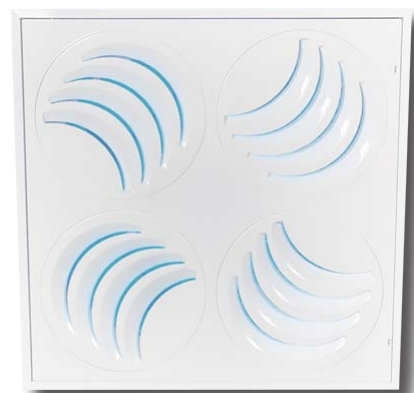
Architecturally appealing curves and design



Lay-in, duct mounted or drywall mounted, suitable for all ceilings



Built-in earthquake tabs



PLAY-UV

PATENT PENDING



UV Diffusers by EffectiV treat the recycled air in commercial and institutional to help prevent the spread of airborne viruses and bacteria through the ventilation system. They are a 3-in-1 solution cleaning recycled air from pathogens using UV-C light, filtering the air from larger particles with a MERV-9 filter, and improving air mixing and room ventilation. By treating the air at the end of the duct line and by optimizing both the UV light intensity and microbes' exposure time inside the irradiation chamber, UV Diffusers achieve very high single-pass microbial deactivation rates.

They are a practical solution which can be installed in most existing buildings without other significant upgrades, and offer easy access for maintenance and filter replacement. They are also an energy efficient solution to treat the air.

PLAY-UV adjustable diffusers are designed to be used in air conditioning, ventilation and heating systems at a temperature differential up to 22°F (12°C) and a maximum temperature of 110°F (43°C). They can be mounted in false ceilings, on drywall, or suspended from the ceiling, from 8.5 feet to 13 feet (2.6 up to 4 meters) high. PLAY diffusers allow a flow variation of 60% while keeping the air stream stable.

PLAY is the only diffuser in the world providing a full 360-degree horizontal adjustment of the airflow. Each round sector can be manually rotated from the face to redirect the airflow exactly where we need it. It ships as a swirl diffuser and can be manually adjusted to make it a 1-way, 2-way, 3-way or 4-way diffuser, or any hybrid combination.

PLAY allows us to also reach parts of the room which would otherwise lack proper ventilation, either because of the room configuration, the diffuser's location, objects obstructing the air jet, or other factors. PLAY also allows us to improve thermal comfort by redirecting the air jet away from people feeling air drafts, or towards sources of heat gain/loss like large windows. Thanks to the PLAY diffuser, HVAC technicians can shape the air circulation in the room with precision, ensuring an almost perfect ventilation in any room configuration.

Applications



Office Buildings



Healthcare, Hospitals, Dental Clinics



Nursing Homes



Schools



Hospitality, Restaurants



Retail, Shopping Malls

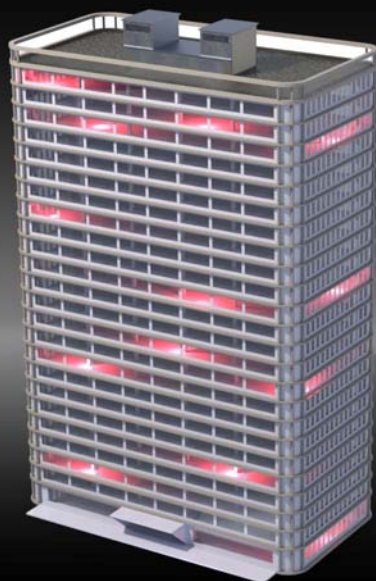


PREVENTING THE SPREAD OF VIRUSES AND BACTERIA THROUGH VENTILATION SYSTEMS IN COMMERCIAL BUILDINGS

Some airborne virus particles are too small to be entirely caught by standard filters. Also, the greater the filter efficiency is, the more pressure is added to the HVAC system. Most ventilation systems in commercial and institutional buildings recycle and recirculate a large percentage of the air without proper treatment and filtration. This is done in order to save energy, but quite problematic when dealing with airborne diseases. Microbes can easily spread between rooms via the ventilation system.

UV Diffusers are a high efficiency single-pass solution to treat recycled air. Diffusers are the last thing that the air passes through before entering the room, making any possible re-contamination of the air impossible. Once UV Diffusers are installed in a space, they act as a shield against pathogens and contaminants, protecting that room from the rest of the building.

UV Diffusers can replace existing diffusers in the whole building, or be installed in a single space. Easy access to ceiling diffusers gives building owners and occupants a lot of flexibility in implementing this solution.



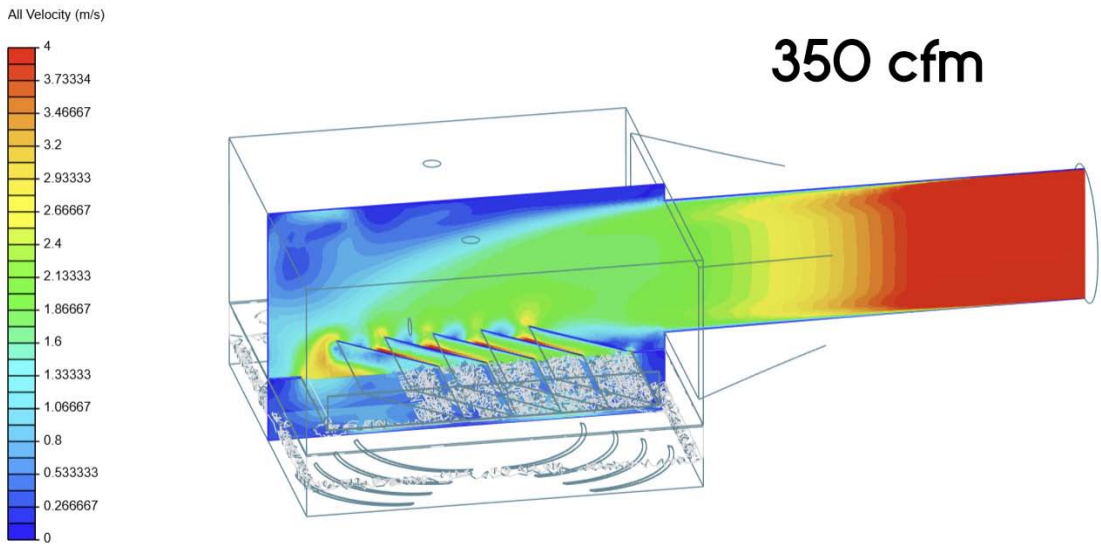
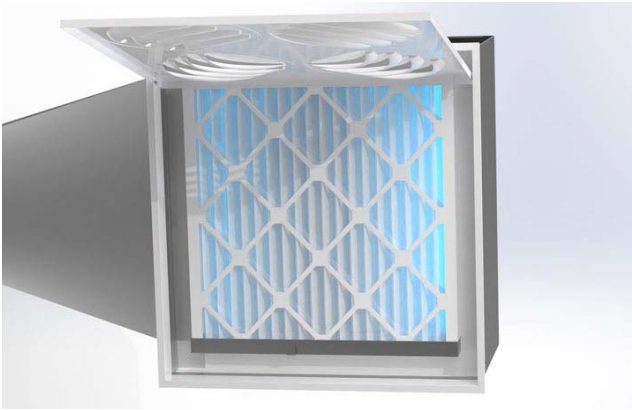
The use of this device is a supplement to and not a substitute for standard infection control practices; users must continue to follow all current infection control practices, including those related to the cleaning and disinfection of environmental surfaces.

How UV Diffusers Work

1. Air Filtration

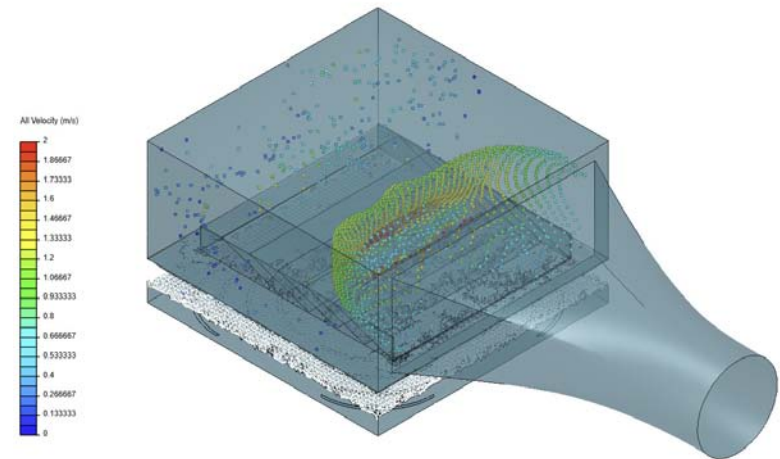
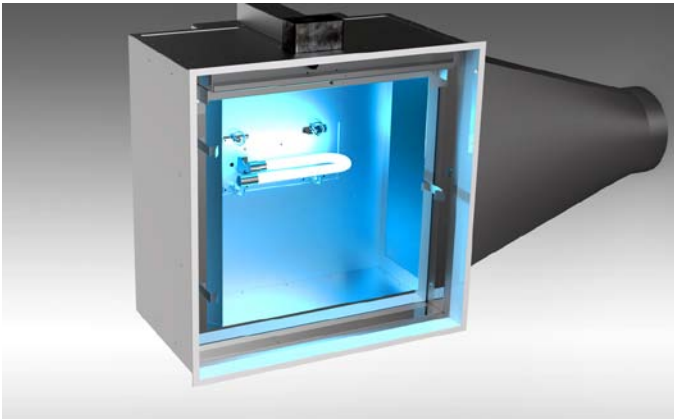
UV Diffusers integrate a UV-resistant MERV-9 or MERV-7 filter to catch larger particles including dust, spores and mites, removing allergens and other irritants, and improving air quality.

The filter also helps to pressurize the air inside the plenum and slow it down significantly.



2. UV-C Germicidal Irradiation

UV Diffusers also integrate a UV-C lamp to irradiate viruses and bacteria. The air velocity being significantly lower in the diffuser than it is in the duct, pathogens exposure to UV-C light and therefore disinfection efficiency are multiplied by a factor of 2 to 8 times.



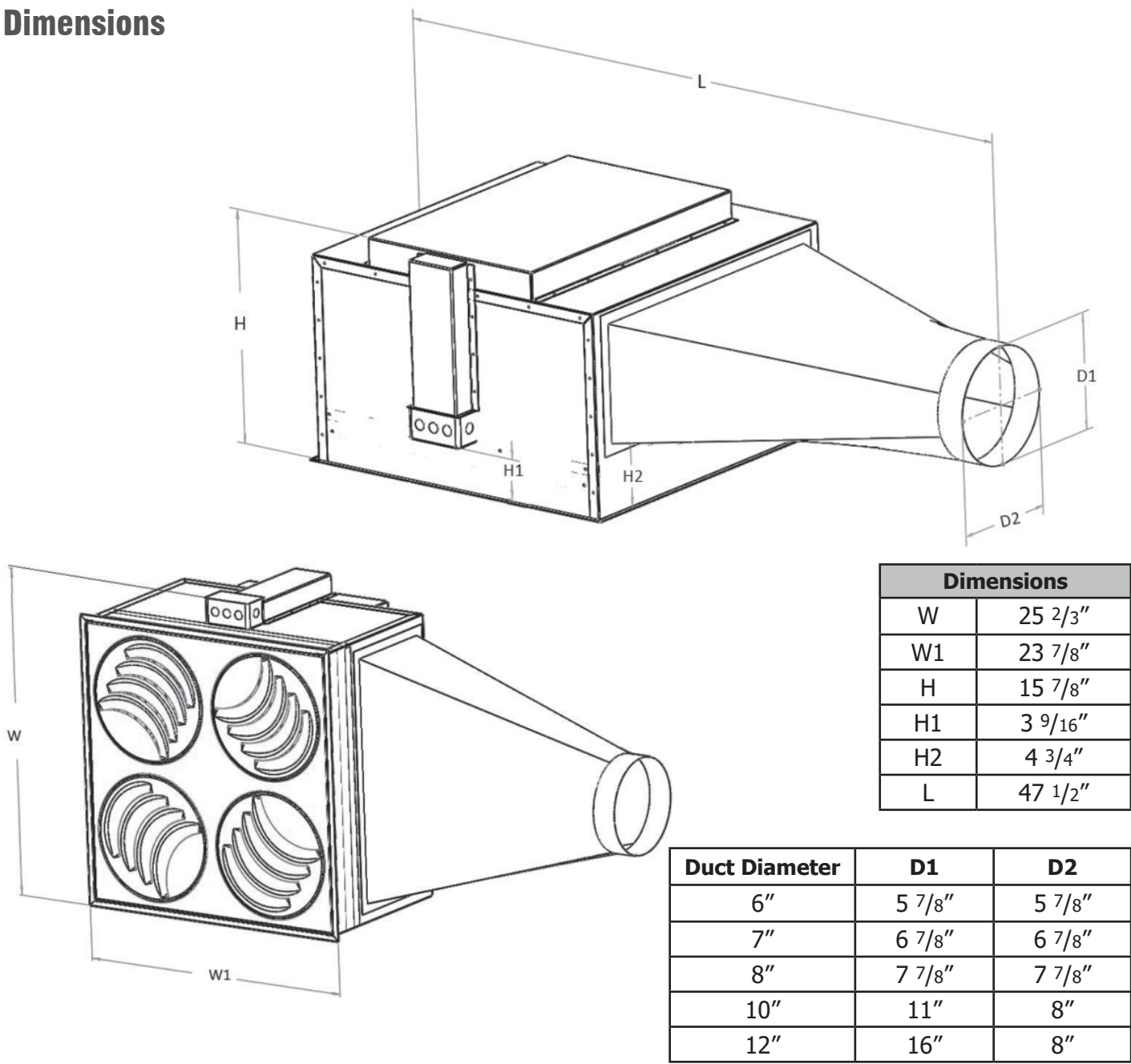
The placement of the UV lamp, the airflow trajectory, the shape and dimension of the plenum and collar for light reflection and the materials - everything has been thought out in order to improve air disinfection efficiency.

3. Improved Ventilation

PLAY-UV adjustable UV diffuser features a 360-degree adjustment of the airflow combined with a high discharge velocity to provide better mixing of the new air with room air. The result is an improved room ventilation and faster removal of contaminants. Another benefit is a significant improvement of occupants’ thermal comfort. Better air mixing can also help optimizing the performance of the HVAC system and reduce energy consumption.



Dimensions



Safety

UV Diffusers certified UL in USA and Canada for safety in regards to electrical and UV irradiation hazards. UV-C light is contained within the diffuser in order to ensure room occupants' safety.

Interlock switches are also in place to ensure maintenance personnel's safety.

High quality lamps made of quartz do not emit any ozone nor other harmful particles. UV Diffusers are certified Zero Ozone Emission by UL

UV Diffusers are also certified by the California Air Resources Board



Mechanical Specifications

Maximum Product Weight	34 lbs
Hinged Face	Yes
Removable Face	Yes
Filter Replacement Through Face	Yes
UV Lamp Replacement Through Face	Yes

Electrical Specifications

Diffuser Voltage	120 V / 240 V
UV Diffuser Wattage	40 W
Safety Switch - Opened Face	Yes
Safety Switch - No UVC Barrier	Yes

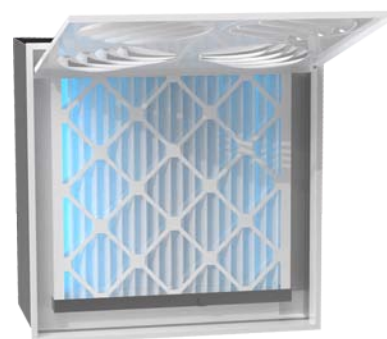
UV Specifications

UV Output 253.7nm - 100hr (per lamp)	12.0 W
Intensity @ 1m (per lamp)	90 μ W/cm ²
UVA	No
UVB	No
UVC	Yes
Ozone emission	No
Lamp Life Expectancy	17,000 hours
Lamp Diameter	T6 (19 mm)
Lamp Geometry	'J' Shape
Lamp Type	Quartz

Filter Options for UV Diffusers

UVFILTER-W-M9 UV-Resistant 20" x 20" x 2" White MERV-9 Pleated Filter

UVFILTER-W-M9	
Minimum Efficiency Rating Value (AHRAE 52.2)	MERV 9 @ 1968 cfm
Initial Resistance @ 492 cfm	0.021 in.w.g
UL Certification	Yes



UVFILTER-C-M7 UV-Resistant 20" x 20" x 2" MERV-7 Carbon Pleated Filter

UVFILTER-C-M7	
Minimum Efficiency Rating Value (AHRAE 52.2)	MERV 7 @ 1968 cfm
Initial Resistance @ 492 cfm	0.08 in.w.g
UL Certification	Yes

Standard Airflow Configurations

PLAY-UV Diffusers are configured as swirl diffusers at the factory. They can be easily adjusted on site but rotating each round sector manually, clockwise or counterclockwise.

PLAY can be configured as 1-Way, 2-Way, 3-Way or 4-Way diffuser, and also offer infinite custom configuration possibilities.



Swirl



1-Way



2-Way



3-Way



4-Way



Airflow Performance Data

Dim	Free Area (sqf)	Min cfm	Max cfm
24"x24" (610mm)	0.43	100	400



Swirl

PLAY-UV Performance Data - Swirl Diffusion

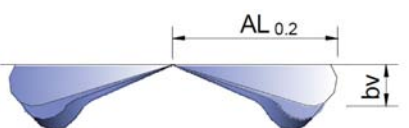
Duct Dia (inches)	Neck (fpm) Velocity	200	300	400	500	600	700	800	1000
	Velocity Pressure (H2O)	0.002	0.006	0.01	0.016	0.022	0.031	0.041	.062
6	CFM				98	118	137	157	196
	Pressure Loss (in.w.g.) - White Filter				0.014	0.019	0.025	0.032	0.048
	Pressure Loss (in.w.g.) - Carbon Filter				0.022	0.029	0.036	0.045	0.064
	NC				< 15	< 15	< 15	< 15	16
	Throw (ft) - Coanda Effect				2-2-4	2-3-4	2-3-5	2-4-6	3-5-7
	Throw (ft) - No Ceiling				1-2-3	1-2-3	2-3-4	2-3-4	2-4-5
8	CFM		105	140	175	209	244	279	349
	Pressure Loss (in.w.g.) - White Filter		0.016	0.026	0.039	0.054	0.072	0.092	0.140
	Pressure Loss (in.w.g.) - Carbon Filter		0.025	0.038	0.053	0.071	0.091	0.114	0.167
	NC		< 15	< 15	< 15	18	22	25	31
	Throw (ft) - Coanda Effect		2-3-4	2-3-5	3-4-6	3-5-7	3-6-9	4-6-10	5-8-12
	Throw (ft) - No Ceiling		1-2-3	2-3-4	2-3-5	2-4-6	3-4-6	3-5-7	4-6-9
10	CFM	109	164	218	273	327	382	436	545
	Pressure Loss (in.w.g.) - White Filter	0.017	0.034	0.058	0.088	0.124	0.167	0.215	0.330
	Pressure Loss (in.w.g.) - Carbon Filter	0.026	0.047	0.076	0.110	0.149	0.196	0.247	0.369
	NC	< 15	< 15	19	25	30	34	37	43
	Throw (ft) - Coanda Effect	2-3-4	2-4-6	3-5-8	4-6-10	4-8-11	5-9-13	6-10-15	9-16-24
	Throw (ft) - No Ceiling	1-2-3	2-3-4	2-4-6	3-5-7	3-6-8	4-6-10	4-7-11	7-12-18
12	CFM	157	236	314	393	471	550		
	Pressure Loss (in.w.g.) - White Filter	0.032	0.067	0.115	0.176	0.249	0.336		
	Pressure Loss (in.w.g.) - Carbon Filter	0.045	0.086	0.139	0.206	0.284	0.375		
	NC	< 15	21	29	35	39	44		
	Throw (ft) - Coanda Effect	2-4-6	3-6-8	4-7-11	5-9-13	6-10-16	7-12-18		
	Throw (ft) - No Ceiling	2-3-4	3-4-6	3-5-8	4-7-10	5-8-12	5-9-14		

Performance Notes

- NC Value based on 10 db room attenuation.
- Throw Values are based on isothermal air and terminal velocities of **100 fpm, 60 fpm and 40 fpm**, respectively.
- Pressure Loss values represent the total pressure drop of the diffuser, plenum and filter assembled together.

Throw Correction Factors - Temperature

Delta T Correction Factors		
ΔT (F)	Kh	KI
0	.039	1
-2	.042	.965
-4	.046	.93
-6	.05	.91
-8	.055	.86
-10	.065	.84
-12	.074	.82
-15	.099	.78



$bv = kh \times \text{Throw}$
 $\text{Throw}'(\Delta T) = KI \times \text{Throw}$

Kh = Correction Factor for Vertical Diffusion
 KI = Throw Correction Factor
 $AL_{0.2}$ = Distance at which velocity reaches 40 fpm

Induction Ratio and Delta T Ratio

Ratios		
Throw (ft)	i	Delta T Ratio
4	7	0.092
6	12	0.059
8	14	0.043
10	18	0.034
15	28	0.023
20	40	0.017
25	49	-
30	61	-

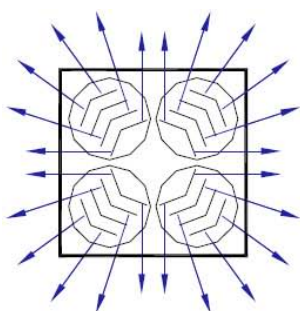
induced room air = supplied cfm * i

induced room air = cfm mixed for given throw

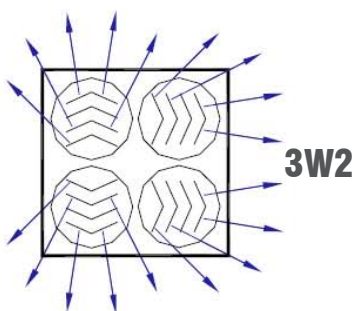
Delta T (Throw) = Delta T (Supply) * Delta T Ratio

Delta T (Supply) = T (Room) - T (Supply)
 Delta T (Throw) = T (Room) - T (Throw)

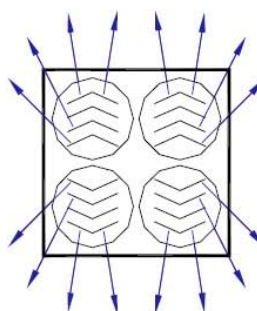
PLAY-UV Directional Airflow Configurations



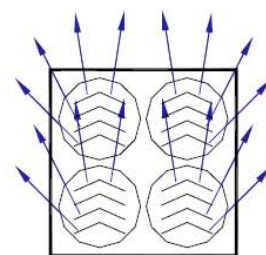
4-Way



3-Way



2-Way



1-Way

PLAY-UV Performance Data - Directional



Duct Dia (inches)	Neck (fpm) Velocity		200	300	400	500	600	700	800	1000
	Velocity Pressure (H2O)		0.002	0.006	0.01	0.016	0.022	0.031	0.041	.062
6	CFM				79	98	118	137	157	196
	Pressure Loss (in.w.g.) - White Filter				0.010	0.014	0.019	0.025	0.032	0.048
	Pressure Loss (in.w.g.) - Carbon Filter				0.007	0.022	0.029	0.036	0.045	0.064
	NC				< 15	< 15	< 15	< 15	< 15	16
	Throw (ft)	4W, 3W			2-3-4	2-4-5	2-4-6	3-5-7	3-6-8	3-6-9
		3W2, 2W			3-6-10	4-7-11	4-8-12	5-9-14	6-11-16	7-13-19
		1W			5-9-13	6-10-13	6-11-16	7-12-18	8-14-21	10-17-25
8	CFM		70	105	140	175	209	244	279	349
	Pressure Loss (in.w.g.) - White Filter		0.008	0.016	0.026	0.039	0.054	0.072	0.092	0.140
	Pressure Loss (in.w.g.) - Carbon Filter		0.014	0.025	0.038	0.053	0.071	0.091	0.114	0.167
	NC		< 15	< 15	< 15	< 15	18	22	25	31
	Throw (ft)	4W, 3W	2-3-4	2-4-5	3-5-7	3-6-9	4-7-10	5-8-12	5-8-13	7-11-16
		3W2, 2W	3-6-10	4-7-11	5-9-14	7-12-18	8-14-21	9-16-24	10-17-26	13-22-34
		1W	5-9-12	6-10-14	7-12-18	9-16-24	11-18-27	12-20-30	13-22-33	17-28-42
10	CFM		109	164	218	273	327	382	436	545
	Pressure Loss (in.w.g.) - White Filter		0.017	0.034	0.058	0.088	0.124	0.167	0.215	0.330
	Pressure Loss (in.w.g.) - Carbon Filter		0.026	0.047	0.076	0.110	0.149	0.196	0.247	0.369
	NC		< 15	< 15	17	23	28	32	36	42
	Throw (ft)	4W, 3W	2-4-5	3-5-8	4-7-10	5-8-13	6-10-15	7-11-17	8-13-19	9-16-24
		3W2, 2W	4-7-11	6-11-16	8-14-21	10-17-26	12-20-32	14-23-35	16-26-39	19-32-48
		1W	6-10-14	8-14-21	11-18-27	13-22-33	16-26-39	18-30-45	20-34-51	25-42-63
12	CFM		157	236	314	393	471	550		
	Pressure Loss (in.w.g.) - White Filter		0.032	0.067	0.115	0.176	0.249	0.336		
	Pressure Loss (in.w.g.) - Carbon Filter		0.045	0.086	0.139	0.206	0.284	0.375		
	NC		< 15	21	28	34	39	43		
	Throw (ft)	4W, 3W	4-6-9	5-8-12	6-9-14	7-12-18	9-15-22	9-16-24		
		3W2, 2W	7-13-19	9-16-24	11-19-29	15-24-37	18-29-44	19-32-48		
		1W	10-16-24	12-20-30	15-24-36	19-32-48	23-38-57	25-42-63		

Performance Notes

- NC Value based on 10 db room attenuation.
- Throw Values are based on isothermal air and terminal velocities of **100 fpm, 60 fpm and 40 fpm**, respectively.
- Pressure Loss values represent the total pressure drop of the diffuser, plenum and filter assembled together.

Single-Pass Germicidal Irradiation Performance - 100-300 CFM (1/2)

Bio-contaminants	100 cfm	150 cfm	200 cfm	250 cfm	300 cfm
Mycobacterium tuberculosis	>99.9999%	>99.9999%	>99.9999%	>99.9999%	>99.9999%
Legionella pneumophila	>99.9999%	>99.9999%	>99.9999%	>99.9999%	>99.9999%
Candida auris	>99.9999%	>99.9999%	>99.9999%	>99.9999%	>99.9999%
SARS-CoV-1	>99.9999%	>99.9999%	>99.9999%	>99.9999%	99.9999%
Proteus mirabilis	>99.9999%	>99.9999%	>99.9999%	99.9996%	99.9967%
Mycoplasma pneumoniae	>99.9999%	>99.9999%	>99.9999%	99.9994%	99.9952%
Listeria monocytogenes	>99.9999%	>99.9999%	99.9996%	99.9948%	99.9729%
Salmonella	>99.9999%	>99.9999%	99.9993%	99.9922%	99.9623%
Aeromonas	>99.9999%	>99.9999%	99.9981%	99.9832%	99.9285%
SARS-CoV-2	>99.9999%	99.9998%	99.9955%	99.9666%	99.8731%
Rickettsia prowazekii	>99.9999%	99.9996%	99.9919%	99.9465%	99.8122%
Staphylococcus epidermis	>99.9999%	99.9990%	99.9829%	99.9030%	99.6916%
E. Coli	>99.9999%	99.9985%	99.9764%	99.8746%	99.6182%
Yersinia enterocolitica	>99.9999%	99.9982%	99.9729%	99.8599%	99.5811%
Coxiella burnetii	>99.9999%	99.9982%	99.9729%	99.8598%	99.5809%
Lactobacillus reuteri	>99.9999%	99.9982%	99.9729%	99.8598%	99.5809%
Vaccinia virus	>99.9999%	99.9982%	99.9721%	99.8568%	99.5734%
Smallpox	>99.9999%	99.9982%	99.9718%	99.8555%	99.5703%
Newcastle disease	>99.9999%	99.9965%	99.9549%	99.7894%	99.4119%
Acinetobacter baumannii	99.9999%	99.9892%	99.8938%	99.5824%	98.9594%
Influenza A virus	99.9997%	99.9794%	99.8282%	99.3862%	98.5655%
MRSA	99.9994%	99.9684%	99.7632%	99.2064%	98.2232%
Coxsackievirus	99.9993%	99.9636%	99.7364%	99.1355%	98.0918%
Avian Influenza virus	99.9988%	99.9480%	99.6556%	98.9292%	97.7193%
Measle virus	99.9987%	99.9445%	99.6386%	98.8872%	97.6449%
Pseudomonas aeruginosa	99.9986%	99.9429%	99.6307%	98.8680%	97.6110%
Serratia marcescens	99.9962%	99.8860%	99.3796%	98.2854%	96.6235%
Parvovirus H-1	99.9947%	99.8588%	99.2715%	98.0505%	96.2422%
Proteus vulgaris/mirabilis	99.9729%	99.5809%	98.3529%	96.2556%	93.5263%
Corynebacterium diphtheriae	99.9447%	99.3265%	97.6490%	95.0227%	91.7934%
Ustilago zeae	99.9124%	99.0848%	97.0409%	94.0170%	90.4332%
Streptococcus pyogenes	99.8629%	98.7659%	96.2974%	92.8418%	88.8911%
Haemophilus influenza	99.8354%	98.6058%	95.9427%	92.2982%	88.1925%
Yeast	99.7885%	98.3526%	95.4016%	91.4869%	87.1647%
Klebsiella pneumoniae	99.7159%	97.9941%	94.6699%	90.4195%	85.8369%
Neisseria catarrhalis/meningitidis	99.6300%	97.6076%	93.9169%	89.3512%	84.5326%
Clostridium tetani	99.3448%	96.4984%	91.9053%	86.6168%	81.2875%
Vancomycin Resistant Enterococcus	98.8704%	94.9656%	89.3717%	83.3593%	77.5624%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filter has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Single-Pass Germicidal Irradiation Performance - 100-300 CFM (2/2)

Bio-contaminants	100 cfm	150 cfm	200 cfm	250 cfm	300 cfm
Burkholderia cenocepacia	98.5490%	94.0510%	87.9543%	81.6064%	75.6094%
Adenovirus	98.4594%	93.8085%	87.5879%	81.1602%	75.1174%
Enterobacter cloacae	97.8717%	92.3202%	85.4114%	78.5607%	72.2875%
Reovirus	97.2486%	90.8861%	83.4127%	76.2414%	69.8108%
Norwalk virus	96.1334%	88.5655%	80.3364%	72.7773%	66.1850%
Echovirus	90.3990%	79.0326%	69.0145%	60.8324%	54.2098%
Bacillus Anthacis	83.2521%	69.6164%	59.0759%	51.0690%	44.8787%
Cryptococcus neoformans	83.2521%	69.6164%	59.0759%	51.0690%	44.8787%
Blastomyces dermatidis	82.7981%	69.0697%	58.5248%	50.5427%	44.3850%
Histoplasma capsulatum	82.7981%	69.0697%	58.5248%	50.5427%	44.3850%
Mucor spores	82.7981%	69.0697%	58.5248%	50.5427%	44.3850%
Bacillus subtilis spores	80.9576%	66.9010%	56.3624%	48.4903%	42.4683%
Francisella Tularensis	79.3443%	65.0570%	54.5515%	46.7872%	40.8874%
Fusarium oxysporum	78.1157%	63.6848%	53.2193%	45.5431%	39.7379%
Botrytis cinerea	62.6337%	48.1215%	38.8720%	32.5484%	27.9733%
Rhizopus nigricans	60.1987%	45.8916%	36.9117%	30.8234%	26.4416%
Nocardia asteroides	58.5026%	44.3651%	35.5815%	29.6590%	25.4112%
Penicillium digitatum	53.6181%	40.0808%	31.8957%	26.4573%	22.5925%
Bacillus Cereus spores	45.3095%	33.1233%	26.0470%	21.4466%	18.2218%
Algae blue-green	42.1803%	30.5961%	23.9607%	19.6788%	16.6910%
Streptococcus Pneumoniae	40.9296%	29.5988%	23.1427%	18.9883%	16.0946%
Penicillium chrysogenum	37.1475%	26.6250%	20.7205%	16.9520%	14.3408%
Trichophyton rubrum	35.5815%	25.4112%	19.7389%	16.1305%	13.6352%
Candida albicans	35.3052%	25.1981%	19.5669%	15.9868%	13.5119%
Mucor mucedo	34.7491%	24.7700%	19.2220%	15.6986%	13.2648%
Clostridium Difficile spores	33.7359%	23.9932%	18.5972%	15.1775%	12.8181%
Cladosporium herbarum	32.6926%	23.1975%	17.9589%	14.6458%	12.3630%
Scopulariopsis brevicaulis	30.7938%	21.7598%	16.8097%	13.6906%	11.5465%
Bacillus Anthacis spores	28.2297%	19.8390%	15.2827%	12.4255%	10.4673%
Aspergillus fumigatus spores	10.4354%	7.0839%	5.3614%	4.3126%	3.6070%
Aspergillus niger spores	7.2164%	4.8707%	3.6757%	2.9516%	2.4658%
Cladosporium wemecki	5.3108%	3.5726%	2.6916%	2.1591%	1.8026%
stachybotrys chartarum	4.2922%	2.8823%	2.1696%	1.7395%	1.4517%
Myxobolus cerebrealis	2.4310%	1.6273%	1.2230%	0.9796%	0.8170%
Moraxella	2.3265%	1.5571%	1.1701%	0.9372%	0.7816%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filter has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp’s lowest efficiency, at the end of its 2-year lifespan.

Single-Pass Germicidal Irradiation Performance - 350-500 CFM (1/2)

Bio-contaminants	350 cfm	400 cfm	450 cfm	500 cfm
Mycobacterium tuberculosis	>99.9999%	99.9997%	99.9987%	99.9959%
Legionella pneumophila	99.9999%	99.9993%	99.9975%	99.9929%
Candida auris	99.9999%	99.9994%	99.9976%	99.9930%
SARS-CoV-1	99.9990%	99.9958%	99.9872%	99.9687%
Proteus mirabilis	99.9854%	99.9561%	99.8963%	99.7939%
Mycoplasma pneumoniae	99.9803%	99.9428%	99.8688%	99.7453%
Listeria monocytogenes	99.9124%	99.7889%	99.5814%	99.2762%
Salmonella	99.8836%	99.7293%	99.4778%	99.1168%
Aeromonas	99.7989%	99.5630%	99.2008%	98.7046%
SARS-CoV-2	99.6710%	99.3277%	98.8280%	98.1717%
Rickettsia prowazekii	99.5395%	99.0977%	98.4776%	97.6865%
Staphylococcus epidermis	99.2956%	98.6914%	97.8813%	96.8850%
E. Coli	99.1541%	98.4639%	97.5570%	96.4590%
Yersinia enterocolitica	99.0841%	98.3533%	97.4012%	96.2564%
Coxiella burnetii	99.0838%	98.3529%	97.4006%	96.2556%
Lactobacillus reuteri	99.0838%	98.3529%	97.4006%	96.2556%
Vaccinia virus	99.0697%	98.3307%	97.3695%	96.2153%
Smallpox	99.0640%	98.3217%	97.3570%	96.1991%
Newcastle disease	98.7751%	97.8763%	96.7418%	95.4114%
Acinetobacter baumannii	98.0022%	96.7418%	95.2335%	93.5378%
Influenza A virus	97.3695%	95.8549%	94.0961%	92.1652%
MRSA	96.8399%	95.1333%	93.1908%	91.0918%
Coxsackievirus	96.6407%	94.8658%	92.8591%	90.7023%
Avian Influenza virus	96.0858%	94.1311%	91.9576%	89.6522%
Measle virus	95.9767%	93.9881%	91.7837%	89.4510%
Pseudomonas aeruginosa	95.9272%	93.9234%	91.7051%	89.3603%
Serratia marcescens	94.5212%	92.1232%	89.5534%	86.9058%
Parvovirus H-1	93.9950%	91.4650%	88.7809%	86.0376%
Proteus vulgaris/mirabilis	90.4283%	87.1659%	83.8773%	80.6495%
Corynebacterium diphtheriae	88.2704%	84.6672%	81.1154%	77.6901%
Ustilago zeae	86.6226%	82.7981%	79.0824%	75.5397%
Streptococcus pyogenes	84.7944%	80.7579%	76.8910%	73.2451%
Haemophilus influenza	83.9783%	79.8572%	75.9320%	72.2479%
Yeast	82.7902%	78.5561%	74.5549%	70.8228%
Klebsiella pneumoniae	81.2751%	76.9130%	72.8291%	69.0476%
Neisseria catarrhalis/meningitidis	79.8064%	75.3360%	71.1855%	67.3675%
Clostridium tetani	76.2254%	71.5489%	67.2844%	63.4170%
Vancomycin Resistant Enterococcus	72.2225%	67.3989%	63.0753%	59.2070%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filter has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Single-Pass Germicidal Irradiation Performance - 350-500 CFM (2/2)

Bio-contaminants	350 cfm	400 cfm	450 cfm	500 cfm
Burkholderia cenocepacia	70.1625%	65.2930%	60.9626%	57.1123%
Adenovirus	69.6473%	64.7692%	60.4393%	56.5952%
Enterobacter cloacae	66.7116%	61.8050%	57.4940%	53.6974%
Reovirus	64.1773%	59.2724%	54.9978%	51.2572%
Norwalk virus	60.5198%	55.6563%	51.4630%	47.8246%
Echovirus	48.8043%	44.3354%	40.5915%	37.4160%
Bacillus Anthacis	39.9830%	36.0280%	32.7726%	30.0493%
Cryptococcus neoformans	39.9830%	36.0280%	32.7726%	30.0493%
Blastomyces dermatidis	39.5226%	35.5988%	32.3718%	29.6741%
Histoplasma capsulatum	39.5226%	35.5988%	32.3718%	29.6741%
Mucor spores	39.5226%	35.5988%	32.3718%	29.6741%
Bacillus subtilis spores	37.7404%	33.9412%	30.8267%	28.2297%
Francisella Tularensis	36.2769%	32.5845%	29.5653%	27.0529%
Fusarium oxysporum	35.2162%	31.6036%	28.6551%	26.2051%
Botrytis cinerea	24.5166%	21.8156%	19.6482%	17.8711%
Rhizopus nigricans	23.1427%	20.5719%	18.5130%	16.8275%
Nocardia asteroides	22.2209%	19.7389%	17.7538%	16.1305%
Penicillium digitatum	19.7082%	17.4747%	15.6946%	14.2430%
Bacillus Cereus spores	15.8377%	14.0041%	12.5503%	11.3697%
Algae blue-green	14.4890%	12.7995%	11.4623%	10.3779%
Streptococcus Pneumoniae	13.9646%	12.3317%	11.0403%	9.9935%
Penicillium chrysogenum	12.4255%	10.9609%	9.8049%	8.8694%
Trichophyton rubrum	11.8075%	10.4114%	9.3103%	8.4197%
Candida albicans	11.6996%	10.3155%	9.2240%	8.3413%
Mucor mucedo	11.4834%	10.1234%	9.0512%	8.1842%
Clostridium Difficile spores	11.0929%	9.7765%	8.7392%	7.9008%
Cladosporium herbarum	10.6951%	9.4235%	8.4219%	7.6126%
Scopulariopsis brevicaulis	9.9825%	8.7913%	7.8540%	7.0972%
Bacillus Anthacis spores	9.0419%	7.9580%	7.1060%	6.4187%
Aspergillus fumigatus spores	3.0998%	2.7176%	2.4194%	2.1801%
Aspergillus niger spores	2.1173%	1.8551%	1.6507%	1.4868%
Cladosporium wemecki	1.5471%	1.3550%	1.2053%	1.0855%
stachybotrys chartarum	1.2456%	1.0908%	0.9702%	0.8736%
Myxobolus cerebrealis	0.7007%	0.6134%	0.5454%	0.4910%
Moraxella	0.6703%	0.5868%	0.5217%	0.4697%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filter has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Maintenance Schedule

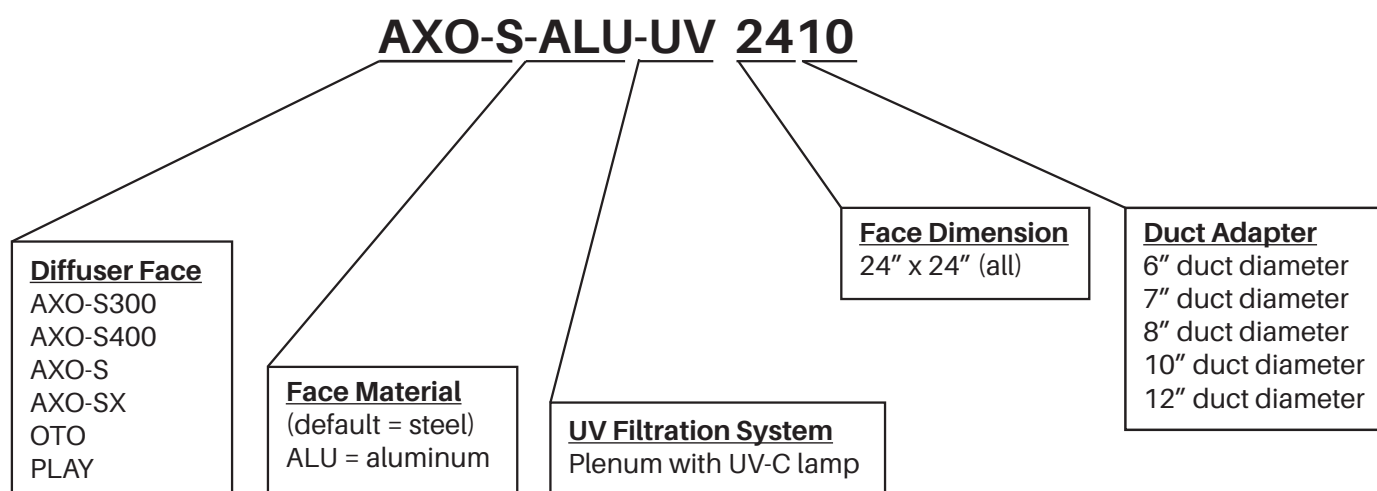
Filter Replacement: every 3 to 6 months depending on the ventilation system's filtration quality and cleanliness of the duct line.

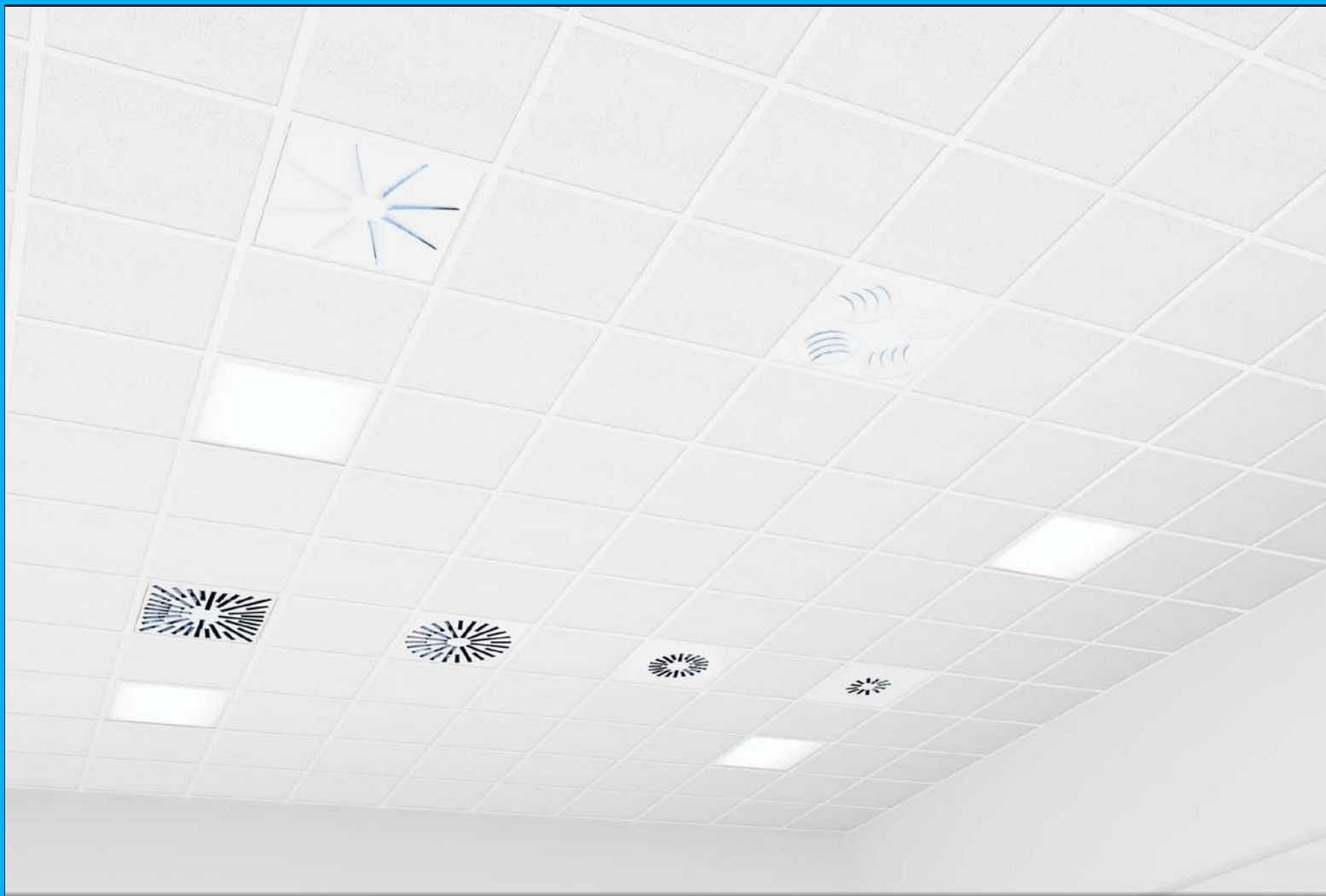
UV Lamp Replacement: every 2 years or 17,000 hours.

How to Specify PLAY-UV

Supply and mounting of adjustable UV Diffuser PLAY-UV with four manually adjustable round diffusion sectors allowing a full 360-degree adjustment of the airflow, dimension 24x24 inches. Hinged and removable face constructed from galvanized steel face panel powder coated in white M9016. Plenum constructed of aluminum with integrated zero ozone emission UV-C lamp made of quartz, UV Barrier for the safety of room occupants, and two safety interlock switches powering off the system in the absence of the UV Barrier or when the face is open. Shall be supplied and installed with matching aluminum conical duct adapter for UV diffusers. Plenum must have earthquake tabs to secure the product to the building structure. Must be UL certified for the safety of its electrical system and UV emissions. SARS-CoV-2 single-pass germicidal irradiation performance greater than 99.9% at 458 cfm must have been demonstrated by triple redundancy tests with two control points conducted by a 3rd party laboratory with the real virus. By EffectiV HVAC Inc.

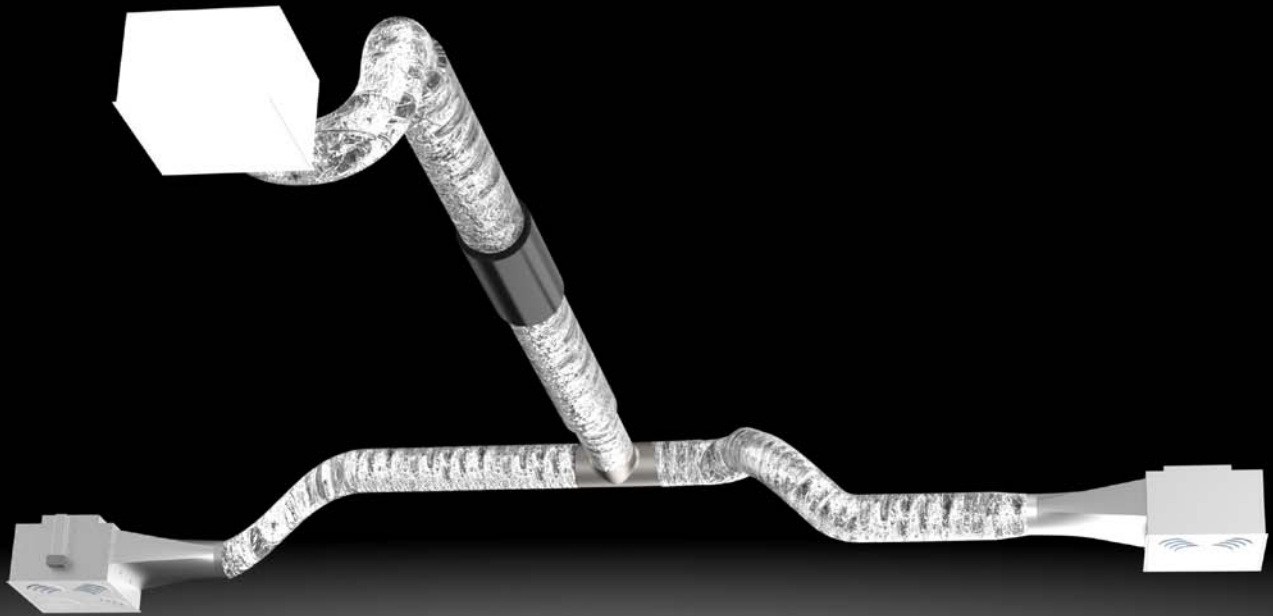
How to Order UV Diffusers





UV DIFFUSERS

UVdiffusers.com



UV PHANTOM

Independent Ceiling Air Purification System



UV PHANTOM

Independent Ceiling Air Purification System



Can treat up to 750 cfm with very high efficiency



Quiet



Discreet



Doesn't take any floor space



Flexible configuration and airflow to suit every room



Using two UV Diffusers UL certified for safety, with 3rd party validated performance against SARS-CoV-2



No direct air drafts causing occupants' discomfort



High discharge velocity near the ceiling provides efficient mixing of supplied air with room air



Architecturally appealing curves and design, uses FLYIN Architectural Filter Return

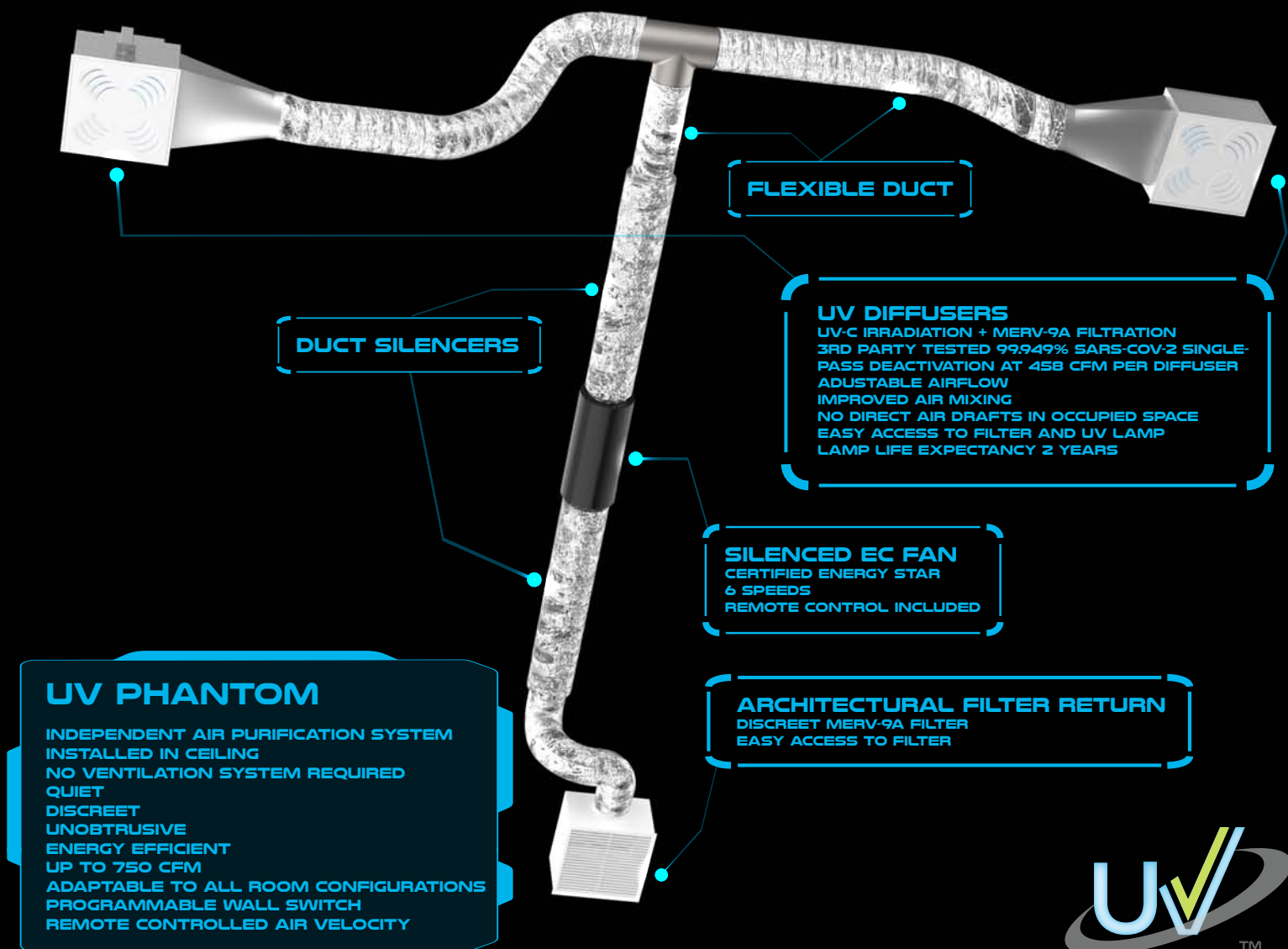
UV Phantom is an independent ceiling air purification system for schools, offices and other commercial buildings without ventilation systems, or in addition to existing HVAC systems to improve air quality.

It is quieter and more discreet than portable air purifiers despite its capacity of up to 750 cfm. The air is extracted through an architectural filter return, then purified and redistributed in the room with high efficiency through two AXO-S-UV or PLAY-UV diffusers. UV Diffusers have been 3rd party tested and achieved a single-pass efficiency of 99.949% against SARS-CoV-2 while supplying 458 cfm of air per diffuser. They are UL certified for Safety and Zero Ozone Emission.

The system features a remote-controlled silenced fan with 6 air velocity settings and certified Energy Star, as well as a programmable wall switch to automatically turn off the system at night. Extra silencers are also included to limit noise levels to a minimum despite the high volume of air treated.

Supplying purified air through two ceiling diffusers instead of a directional jet in the occupied space significantly improves occupants' thermal comfort and reduces the risk of direct airborne transmission. The whole system is linked with flexible ducts to offer great flexibility in the positioning of products. The PLAY-UV diffusers also provide a unique 360 degree adjustment of the air jet in order to optimize air mixing in any room configuration. UV Phantom offers great flexibility to adapt to various types of rooms. UV Phantom is discrete, quiet and aesthetically appealing like no other air purification device in this capacity range. Air purification devices should not be a nuisance to occupants, and UV Phantom achieves this with very high efficiency.





QUIET

Installed in the ceiling and powered by a quiet fan, enclosed in a silencer with extra silencers on both ends, UV Phantom is the quietest commercial air purifier in the 750 cfm range. The system can treat a large volume of air with a fraction of the noise of in-room air purifiers

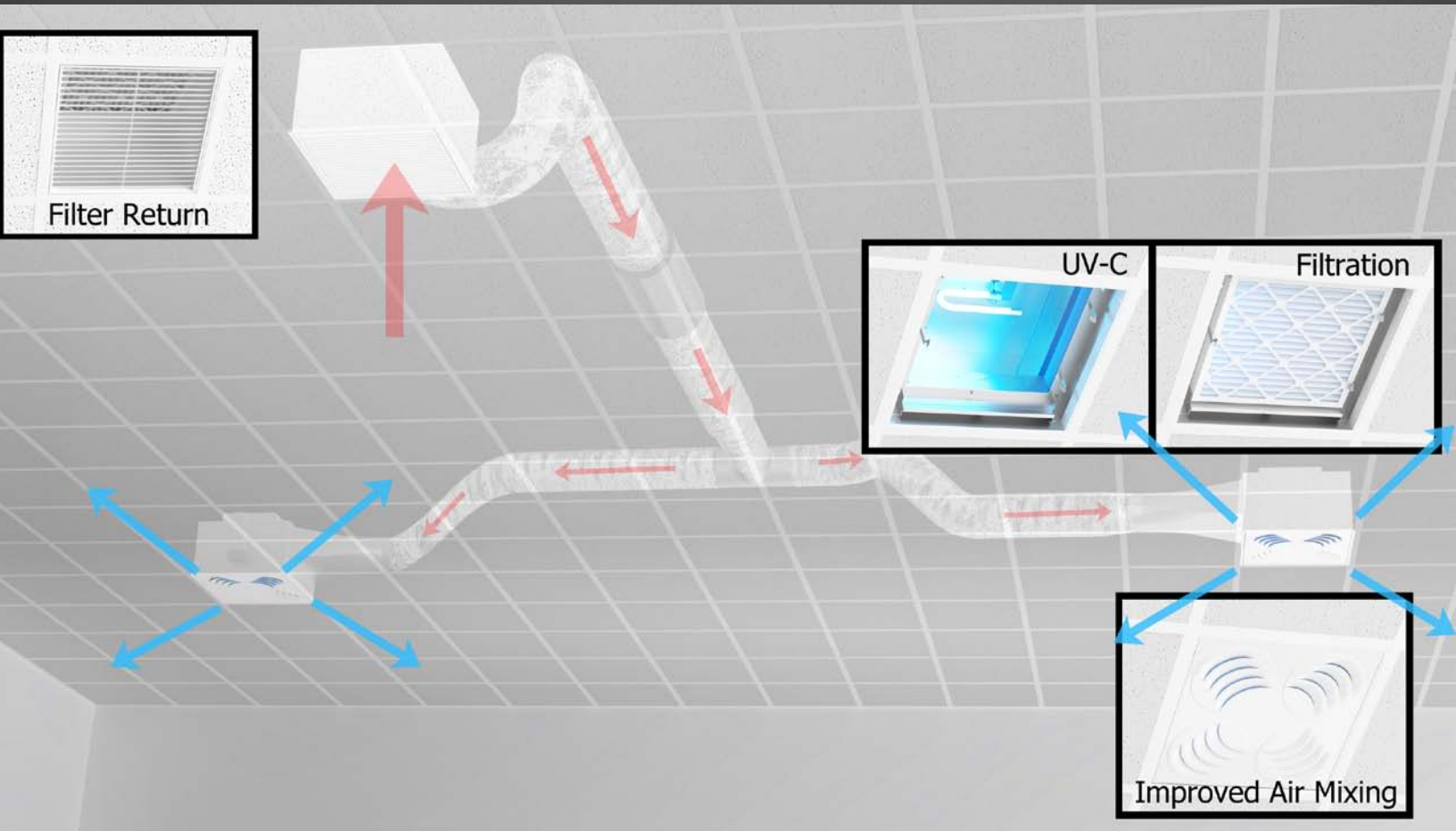
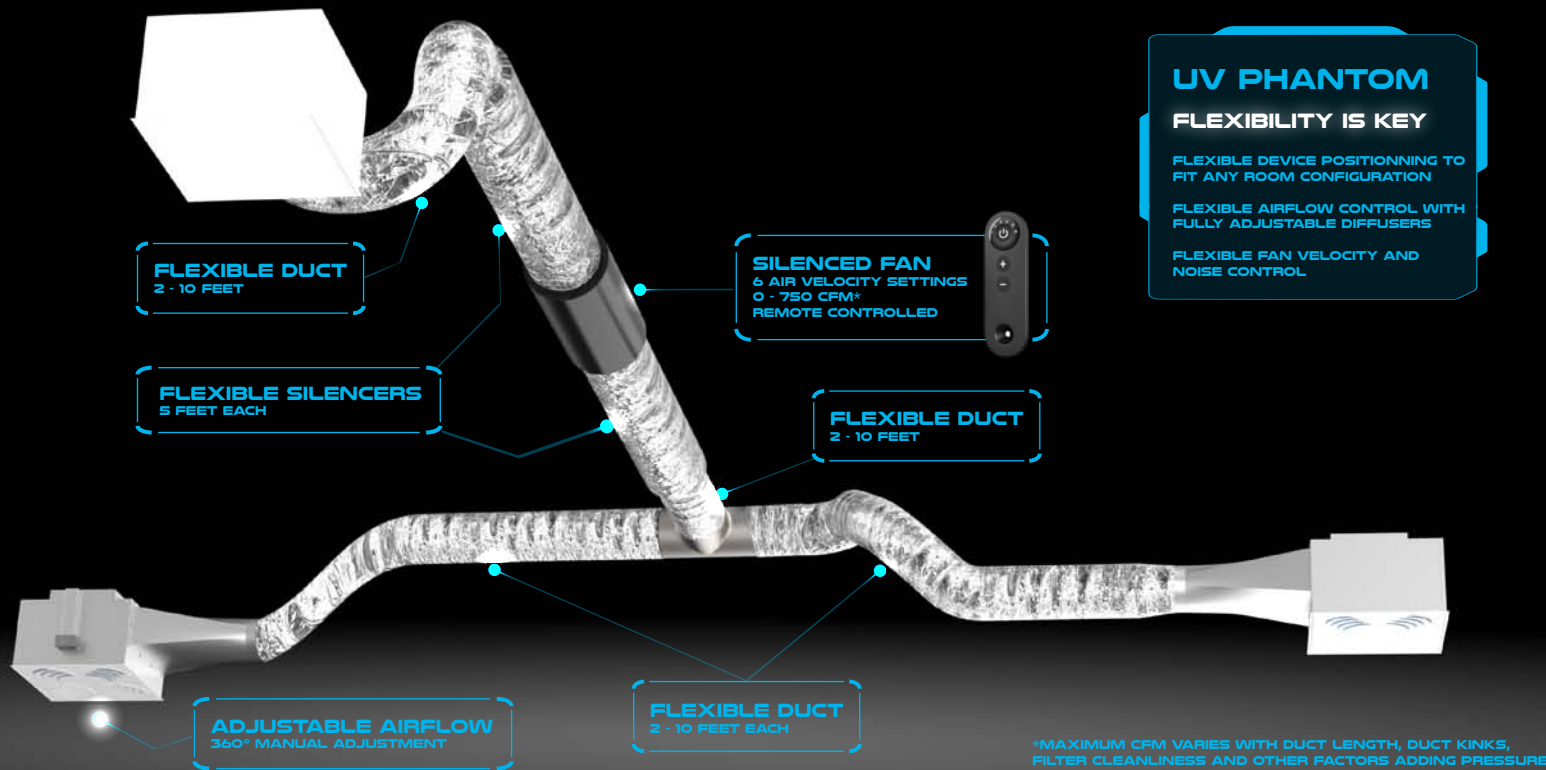
DISCREET

The only visible parts of the UV Phantom air purification system are the discreet architectural filter return and the two reassuring and esthetically pleasing UV Diffusers, all installed in the ceiling

UNOBTUSIVE

UV Phantom does not take any floor space and does not obstruct the view. It also discharges and mixes the air closer to the ceiling and doesn't create unwanted air drafts in the occupied space

The use of this device is a supplement to and not a substitute for standard infection control practices; users must continue to follow all current infection control practices, including those related to the cleaning and disinfection of environmental surfaces.



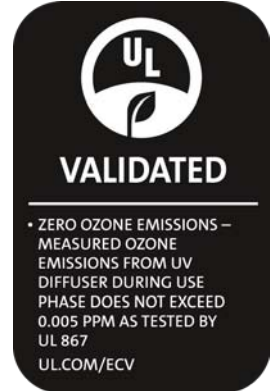
Safety

UV Diffusers certified UL in USA and Canada for safety in regards to electrical and UV irradiation hazards. UV-C light is contained within the diffuser in order to ensure room occupants' safety.

Interlock switches are also in place to ensure maintenance personnel's safety.

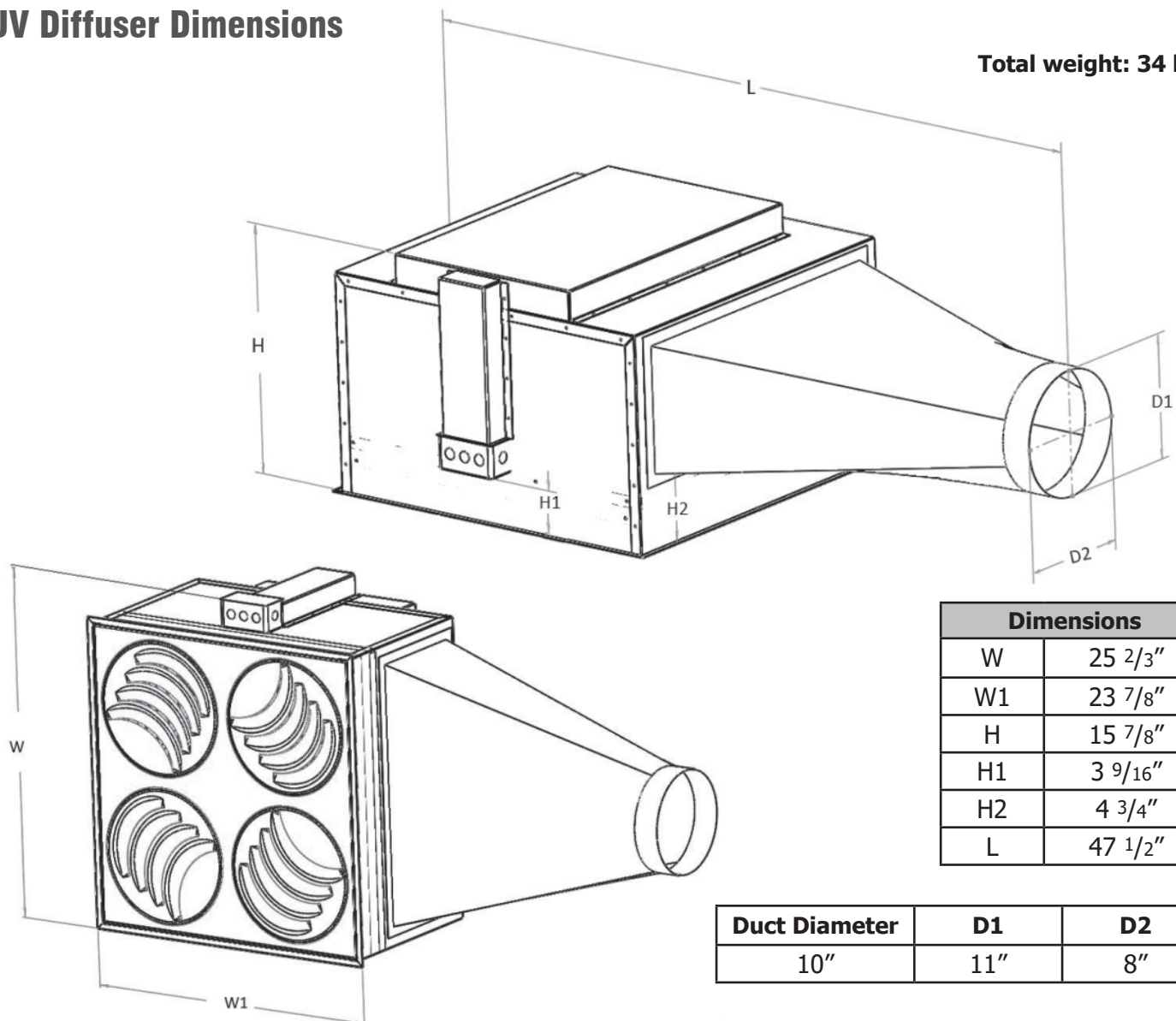
High quality lamps made of quartz do not emit any ozone nor other harmful particles. UV Diffusers are certified Zero Ozone Emission by UL

UV Diffusers are also certified by the California Air Resources Board



UV Diffuser Dimensions

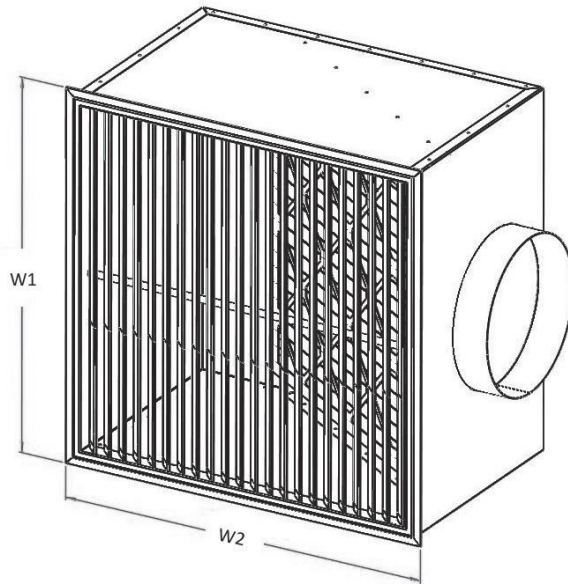
Total weight: 34 lbs



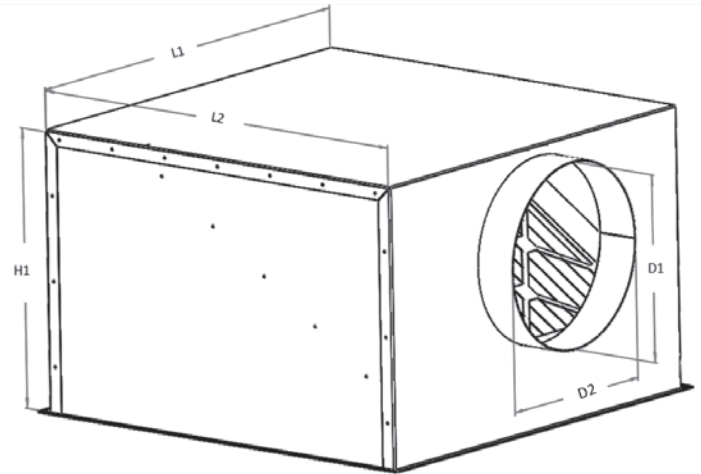
Dimensions	
W	25 2/3"
W1	23 7/8"
H	15 7/8"
H1	3 9/16"
H2	4 3/4"
L	47 1/2"

Duct Diameter	D1	D2
10"	11"	8"

FLYIN Architectural Filter Return Weight and Dimensions



Total weight: 26 lbs



Model	W1	W2	L1	L2	H1	D1	D2
FLYIN 2410	23" 7/8	23" 7/8	22" 7/8	22" 15/16	14" 7/8	9" 7/8	9" 7/8

Electrical Specifications

System Voltage	120 V / 240 V
Total System Max Wattage	206 W
Fan Maximum Wattage	126 W
Fan Certified Energy Star	Yes
UV Diffuser Wattage	40 W
Safety Switch - Diffuser Opened Face	Yes
Safety Switch - No UVC Barrier	Yes

UV Specifications

UV Output 253.7nm - 100hr (per lamp)	12.0 W
Intensity @ 1m (per lamp)	90 μ W/cm ²
UVA	No
UVB	No
UVC	Yes
Ozone emission	No
Lamp Life Expectancy	17,000 hours
Lamp Diameter	T6 (19 mm)
Lamp Geometry	'J' Shape
Lamp Type	Quartz

Filter Specifications

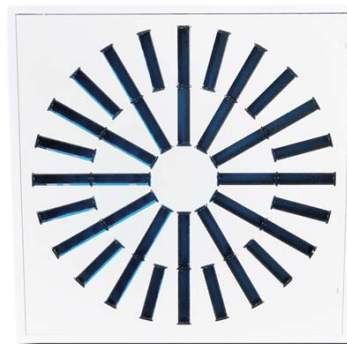
UVFILTER-W-M9 UV-Resistant 20" x 20" x 2" White MERV-9A Pleated Filter

UVFILTER-W-M9	
Minimum Efficiency Rating Value (AHRAE 52.2)	MERV 9 @ 1968 cfm
Initial Resistance @ 492 cfm	0.021 in.w.g
UL Certification	Yes



AXO-S-UV Airflow Performance Data

Free Area (sqf)	CFM Min	CFM Max
0.48	230	500



AXO-S-UV

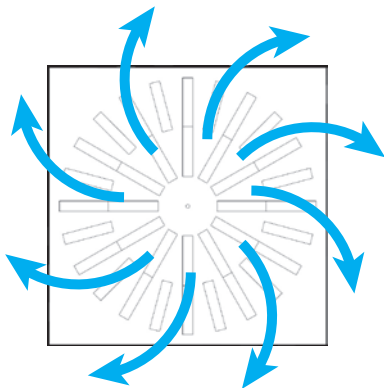
Neck Size (inches)	Neck (fpm) Velocity	300	400	500	600	700	800	1000	1200	1400
	Velocity Pressure (H2O)	0.006	.010	.016	.022	.031	.041	.062	.090	.122
6	CFM			98	118	137	157	196	236	275
	Pressure Loss (in.w.g.) - White Filter			0.01	0.014	0.018	0.023	0.035	0.05	0.067
	Pressure Loss (in.w.g.) - Carbon Filter			0.018	0.024	0.029	0.036	0.051	0.069	0.089
	NC			< 15	< 15	< 15	< 15	15	19	22
	Throw (ft) - Coanda Effect			1-2-4	2-3-4	2-3-5	2-4-6	3-5-7	4-6-9	4-7-10
	Throw (ft) - No Ceiling Effect			1-2-3	1-2-3	2-3-4	2-3-4	2-4-6	3-4-7	3-5-8
8	CFM	105	140	175	209	244	279	349	419	489
	Pressure Loss (in.w.g.) - White Filter	0.011	0.019	0.028	0.04	0.053	0.069	0.107	0.154	0.208
	Pressure Loss (in.w.g.) - Carbon Filter	0.02	0.03	0.043	0.056	0.073	0.091	0.134	0.185	0.244
	NC	< 15	< 15	< 15	16	20	22	27	31	35
	Throw (ft) - Coanda Effect	2-3-4	2-3-5	3-4-7	3-5-8	4-6-9	4-7-10	5-9-13	6-10-16	7-12-18
	Throw (ft) - No Ceiling Effect	1-2-3	2-3-4	2-3-5	2-4-6	3-5-7	3-5-8	4-7-10	5-8-12	6-9-14
10	CFM	164	218	273	327	382	436	545	654	
	Pressure Loss (in.w.g.) - White Filter	0.025	0.043	0.066	0.094	0.128	0.166	0.258	0.37	0.503
	Pressure Loss (in.w.g.) - Carbon Filter	0.038	0.06	0.088	0.12	0.157	0.198	0.297	0.415	0.554
	NC	< 15	17	22	26	28	32	37	40	
	Throw (ft) - Coanda Effect	3-4-6	3-5-8	4-7-10	5-8-12	6-10-14	7-11-16	8-14-21	10-16-25	
	Throw (ft) - No Ceiling Effect	2-3-5	2-4-6	3-5-8	4-6-9	4-7-11	5-8-12	6-10-15	7-12-19	
12	CFM	236	314	393	471	550	628			
	Pressure Loss (in.w.g.) - White Filter	0.05	0.087	0.135	0.193	0.263	0.341			
	Pressure Loss (in.w.g.) - Carbon Filter	0.069	0.111	0.165	0.228	0.302	0.385			
	NC	19	25	30	34	37	40			
	Throw (ft) - Coanda Effect	4-6-9	5-8-12	6-10-15	7-12-18	8-14-21	9-15-23			
	Throw (ft) - No Ceiling Effect	3-5-7	4-6-9	4-7-11	5-9-13	6-10-16	7-11-17			

Performance Notes

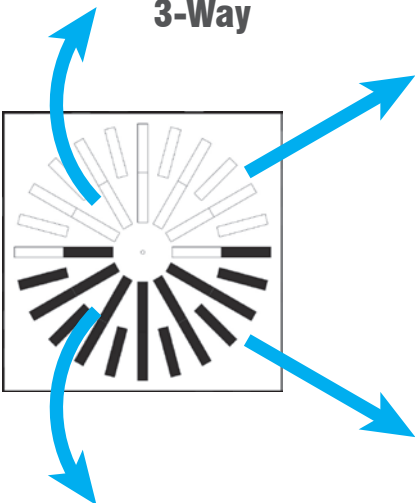
- NC Value based on 10 db room attenuation.
- Throw Values are based on isothermal air and terminal velocities of **100 fpm, 60 fpm and 40 fpm**, respectively.
- Pressure Loss values represent the total pressure drop of the diffuser, plenum and filter assembled together.

AXO-S-UV Adjustment and Patterns

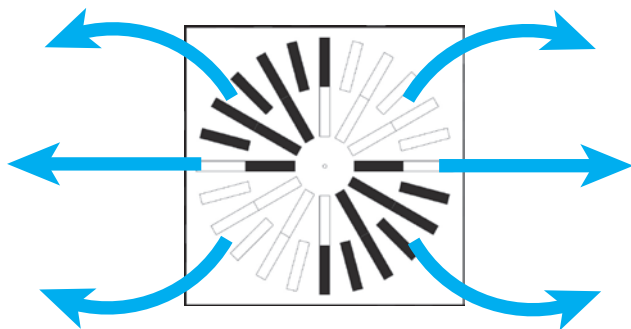
Swirl (standard)



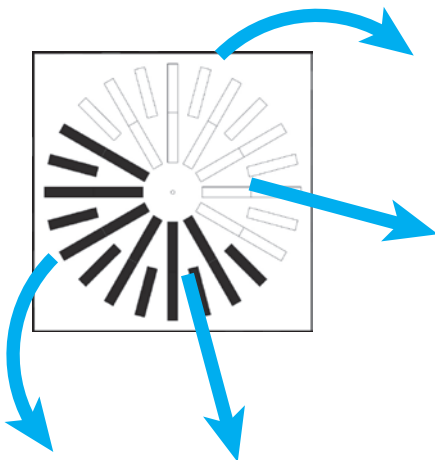
3-Way



2-Way Opposed



2-Way Corner



Throw Correction Factors - Airflow Adjustments - AXO-S-UV

Adjustment	Ka	Throw' = Ka x Throw
1-Way	1.4	
2-Way	1.2	
3-Way	1.1	

Airflow Performance Data

Dim	Free Area (sqf)	Min cfm	Max cfm
24"x24" (610mm)	0.43	125	400



Swirl

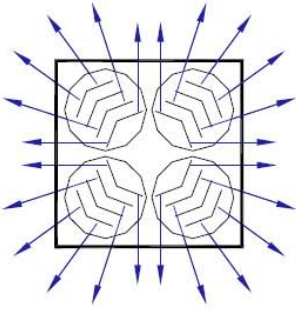
PLAY-UV Performance Data - Swirl Diffusion

Duct Dia (inches)	Neck (fpm) Velocity	200	300	400	500	600	700	800	1000
	Velocity Pressure (H2O)	0.002	0.006	0.01	0.016	0.022	0.031	0.041	.062
6	CFM				98	118	137	157	196
	Pressure Loss (in.w.g.) - White Filter				0.014	0.019	0.025	0.032	0.048
	Pressure Loss (in.w.g.) - Carbon Filter				0.022	0.029	0.036	0.045	0.064
	NC				< 15	< 15	< 15	< 15	16
	Throw (ft) - Coanda Effect				2-2-4	2-3-4	2-3-5	2-4-6	3-5-7
	Throw (ft) - No Ceiling				1-2-3	1-2-3	2-3-4	2-3-4	2-4-5
8	CFM		105	140	175	209	244	279	349
	Pressure Loss (in.w.g.) - White Filter		0.016	0.026	0.039	0.054	0.072	0.092	0.140
	Pressure Loss (in.w.g.) - Carbon Filter		0.025	0.038	0.053	0.071	0.091	0.114	0.167
	NC		< 15	< 15	< 15	18	22	25	31
	Throw (ft) - Coanda Effect		2-3-4	2-3-5	3-4-6	3-5-7	3-6-9	4-6-10	5-8-12
	Throw (ft) - No Ceiling		1-2-3	2-3-4	2-3-5	2-4-6	3-4-6	3-5-7	4-6-9
10	CFM	109	164	218	273	327	382	436	545
	Pressure Loss (in.w.g.) - White Filter	0.017	0.034	0.058	0.088	0.124	0.167	0.215	0.330
	Pressure Loss (in.w.g.) - Carbon Filter	0.026	0.047	0.076	0.110	0.149	0.196	0.247	0.369
	NC	< 15	< 15	19	25	30	34	37	43
	Throw (ft) - Coanda Effect	2-3-4	2-4-6	3-5-8	4-6-10	4-8-11	5-9-13	6-10-15	9-16-24
	Throw (ft) - No Ceiling	1-2-3	2-3-4	2-4-6	3-5-7	3-6-8	4-6-10	4-7-11	7-12-18
12	CFM	157	236	314	393	471	550		
	Pressure Loss (in.w.g.) - White Filter	0.032	0.067	0.115	0.176	0.249	0.336		
	Pressure Loss (in.w.g.) - Carbon Filter	0.045	0.086	0.139	0.206	0.284	0.375		
	NC	< 15	21	29	35	39	44		
	Throw (ft) - Coanda Effect	2-4-6	3-6-8	4-7-11	5-9-13	6-10-16	7-12-18		
	Throw (ft) - No Ceiling	2-3-4	3-4-6	3-5-8	4-7-10	5-8-12	5-9-14		

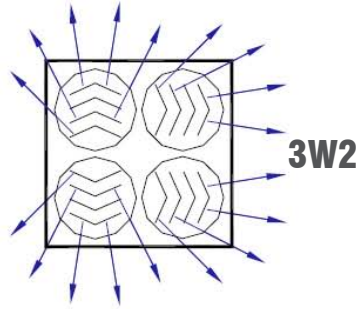
Performance Notes

- NC Value based on 10 db room attenuation.
- Throw Values are based on isothermal air and terminal velocities of **100 fpm, 60 fpm and 40 fpm**, respectively.
- Pressure Loss values represent the total pressure drop of the diffuser, plenum and filter assembled together.

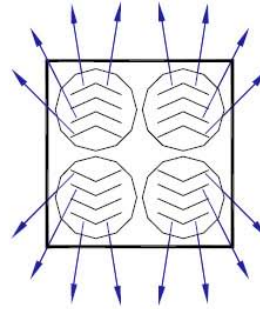
PLAY-UV Directional Airflow Configurations



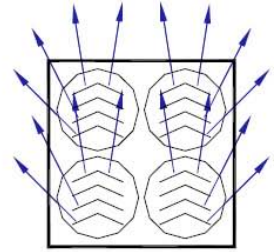
4-Way



3-Way



2-Way



1-Way

Duct Dia (inches)	Neck (fpm) Velocity		200	300	400	500	600	700	800	1000
	Velocity Pressure (H2O)		0.002	0.006	0.01	0.016	0.022	0.031	0.041	.062
6	CFM				79	98	118	137	157	196
	Pressure Loss (in.w.g.) - White Filter				0.010	0.014	0.019	0.025	0.032	0.048
	Pressure Loss (in.w.g.) - Carbon Filter				0.007	0.022	0.029	0.036	0.045	0.064
	NC				< 15	< 15	< 15	< 15	< 15	16
	Throw (ft)	4W, 3W			2-3-4	2-4-5	2-4-6	3-5-7	3-6-8	3-6-9
		3W2, 2W			3-6-10	4-7-11	4-8-12	5-9-14	6-11-16	7-13-19
		1W			5-9-13	6-10-13	6-11-16	7-12-18	8-14-21	10-17-25
8	CFM		70	105	140	175	209	244	279	349
	Pressure Loss (in.w.g.) - White Filter		0.008	0.016	0.026	0.039	0.054	0.072	0.092	0.140
	Pressure Loss (in.w.g.) - Carbon Filter		0.014	0.025	0.038	0.053	0.071	0.091	0.114	0.167
	NC		< 15	< 15	< 15	< 15	18	22	25	31
	Throw (ft)	4W, 3W	2-3-4	2-4-5	3-5-7	3-6-9	4-7-10	5-8-12	5-8-13	7-11-16
		3W2, 2W	3-6-10	4-7-11	5-9-14	7-12-18	8-14-21	9-16-24	10-17-26	13-22-34
		1W	5-9-12	6-10-14	7-12-18	9-16-24	11-18-27	12-20-30	13-22-33	17-28-42
10	CFM		109	164	218	273	327	382	436	545
	Pressure Loss (in.w.g.) - White Filter		0.017	0.034	0.058	0.088	0.124	0.167	0.215	0.330
	Pressure Loss (in.w.g.) - Carbon Filter		0.026	0.047	0.076	0.110	0.149	0.196	0.247	0.369
	NC		< 15	< 15	17	23	28	32	36	42
	Throw (ft)	4W, 3W	2-4-5	3-5-8	4-7-10	5-8-13	6-10-15	7-11-17	8-13-19	9-16-24
		3W2, 2W	4-7-11	6-11-16	8-14-21	10-17-26	12-20-32	14-23-35	16-26-39	19-32-48
		1W	6-10-14	8-14-21	11-18-27	13-22-33	16-26-39	18-30-45	20-34-51	25-42-63
12	CFM		157	236	314	393	471	550		
	Pressure Loss (in.w.g.) - White Filter		0.032	0.067	0.115	0.176	0.249	0.336		
	Pressure Loss (in.w.g.) - Carbon Filter		0.045	0.086	0.139	0.206	0.284	0.375		
	NC		< 15	21	28	34	39	43		
	Throw (ft)	4W, 3W	4-6-9	5-8-12	6-9-14	7-12-18	9-15-22	9-16-24		
		3W2, 2W	7-13-19	9-16-24	11-19-29	15-24-37	18-29-44	19-32-48		
		1W	10-16-24	12-20-30	15-24-36	19-32-48	23-38-57	25-42-63		

Performance Notes

- NC Value based on 10 db room attenuation.
- Throw Values are based on isothermal air and terminal velocities of **100 fpm, 60 fpm and 40 fpm**, respectively.
- Pressure Loss values represent the total pressure drop of the diffuser, plenum and filter assembled together.

Single-Pass Germicidal Irradiation Performance - 100-300 CFM (1/2)

Bio-contaminants	100 cfm	150 cfm	200 cfm	250 cfm	300 cfm
Mycobacterium tuberculosis	>99.9999%	>99.9999%	>99.9999%	>99.9999%	>99.9999%
Legionella pneumophila	>99.9999%	>99.9999%	>99.9999%	>99.9999%	>99.9999%
Candida auris	>99.9999%	>99.9999%	>99.9999%	>99.9999%	>99.9999%
SARS-CoV-1	>99.9999%	>99.9999%	>99.9999%	>99.9999%	99.9999%
Proteus mirabilis	>99.9999%	>99.9999%	>99.9999%	99.9996%	99.9967%
Mycoplasma pneumoniae	>99.9999%	>99.9999%	>99.9999%	99.9994%	99.9952%
Listeria monocytogenes	>99.9999%	>99.9999%	99.9996%	99.9948%	99.9729%
Salmonella	>99.9999%	>99.9999%	99.9993%	99.9922%	99.9623%
Aeromonas	>99.9999%	>99.9999%	99.9981%	99.9832%	99.9285%
SARS-CoV-2	>99.9999%	99.9998%	99.9955%	99.9666%	99.8731%
Rickettsia prowazekii	>99.9999%	99.9996%	99.9919%	99.9465%	99.8122%
Staphylococcus epidermis	>99.9999%	99.9990%	99.9829%	99.9030%	99.6916%
E. Coli	>99.9999%	99.9985%	99.9764%	99.8746%	99.6182%
Yersinia enterocolitica	>99.9999%	99.9982%	99.9729%	99.8599%	99.5811%
Coxiella burnetii	>99.9999%	99.9982%	99.9729%	99.8598%	99.5809%
Lactobacillus reuteri	>99.9999%	99.9982%	99.9729%	99.8598%	99.5809%
Vaccinia virus	>99.9999%	99.9982%	99.9721%	99.8568%	99.5734%
Smallpox	>99.9999%	99.9982%	99.9718%	99.8555%	99.5703%
Newcastle disease	>99.9999%	99.9965%	99.9549%	99.7894%	99.4119%
Acinetobacter baumannii	99.9999%	99.9892%	99.8938%	99.5824%	98.9594%
Influenza A virus	99.9997%	99.9794%	99.8282%	99.3862%	98.5655%
MRSA	99.9994%	99.9684%	99.7632%	99.2064%	98.2232%
Coxsackievirus	99.9993%	99.9636%	99.7364%	99.1355%	98.0918%
Avian Influenza virus	99.9988%	99.9480%	99.6556%	98.9292%	97.7193%
Measle virus	99.9987%	99.9445%	99.6386%	98.8872%	97.6449%
Pseudomonas aeruginosa	99.9986%	99.9429%	99.6307%	98.8680%	97.6110%
Serratia marcescens	99.9962%	99.8860%	99.3796%	98.2854%	96.6235%
Parvovirus H-1	99.9947%	99.8588%	99.2715%	98.0505%	96.2422%
Proteus vulgaris/mirabilis	99.9729%	99.5809%	98.3529%	96.2556%	93.5263%
Corynebacterium diphtheriae	99.9447%	99.3265%	97.6490%	95.0227%	91.7934%
Ustilago zeae	99.9124%	99.0848%	97.0409%	94.0170%	90.4332%
Streptococcus pyogenes	99.8629%	98.7659%	96.2974%	92.8418%	88.8911%
Haemophilus influenza	99.8354%	98.6058%	95.9427%	92.2982%	88.1925%
Yeast	99.7885%	98.3526%	95.4016%	91.4869%	87.1647%
Klebsiella pneumoniae	99.7159%	97.9941%	94.6699%	90.4195%	85.8369%
Neisseria catarrhalis/meningitidis	99.6300%	97.6076%	93.9169%	89.3512%	84.5326%
Clostridium tetani	99.3448%	96.4984%	91.9053%	86.6168%	81.2875%
Vancomycin Resistant Enterococcus	98.8704%	94.9656%	89.3717%	83.3593%	77.5624%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filters has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Single-Pass Germicidal Irradiation Performance - 100-300 CFM (2/2)

Bio-contaminants	100 cfm	150 cfm	200 cfm	250 cfm	300 cfm
Burkholderia cenocepacia	98.5490%	94.0510%	87.9543%	81.6064%	75.6094%
Adenovirus	98.4594%	93.8085%	87.5879%	81.1602%	75.1174%
Enterobacter cloacae	97.8717%	92.3202%	85.4114%	78.5607%	72.2875%
Reovirus	97.2486%	90.8861%	83.4127%	76.2414%	69.8108%
Norwalk virus	96.1334%	88.5655%	80.3364%	72.7773%	66.1850%
Echovirus	90.3990%	79.0326%	69.0145%	60.8324%	54.2098%
Bacillus Anthracis	83.2521%	69.6164%	59.0759%	51.0690%	44.8787%
Cryptococcus neoformans	83.2521%	69.6164%	59.0759%	51.0690%	44.8787%
Blastomyces dermatidis	82.7981%	69.0697%	58.5248%	50.5427%	44.3850%
Histoplasma capsulatum	82.7981%	69.0697%	58.5248%	50.5427%	44.3850%
Mucor spores	82.7981%	69.0697%	58.5248%	50.5427%	44.3850%
Bacillus subtilis spores	80.9576%	66.9010%	56.3624%	48.4903%	42.4683%
Francisella Tularensis	79.3443%	65.0570%	54.5515%	46.7872%	40.8874%
Fusarium oxysporum	78.1157%	63.6848%	53.2193%	45.5431%	39.7379%
Botrytis cinerea	62.6337%	48.1215%	38.8720%	32.5484%	27.9733%
Rhizopus nigricans	60.1987%	45.8916%	36.9117%	30.8234%	26.4416%
Nocardia asteroides	58.5026%	44.3651%	35.5815%	29.6590%	25.4112%
Penicillium digitatum	53.6181%	40.0808%	31.8957%	26.4573%	22.5925%
Bacillus Cereus spores	45.3095%	33.1233%	26.0470%	21.4466%	18.2218%
Algae blue-green	42.1803%	30.5961%	23.9607%	19.6788%	16.6910%
Streptococcus Pneumoniae	40.9296%	29.5988%	23.1427%	18.9883%	16.0946%
Penicillium chrysogenum	37.1475%	26.6250%	20.7205%	16.9520%	14.3408%
Trichophyton rubrum	35.5815%	25.4112%	19.7389%	16.1305%	13.6352%
Candida albicans	35.3052%	25.1981%	19.5669%	15.9868%	13.5119%
Mucor mucedo	34.7491%	24.7700%	19.2220%	15.6986%	13.2648%
Clostridium Difficile spores	33.7359%	23.9932%	18.5972%	15.1775%	12.8181%
Cladosporium herbarum	32.6926%	23.1975%	17.9589%	14.6458%	12.3630%
Scopulariopsis brevicaulis	30.7938%	21.7598%	16.8097%	13.6906%	11.5465%
Bacillus Anthracis spores	28.2297%	19.8390%	15.2827%	12.4255%	10.4673%
Aspergillus fumigatus spores	10.4354%	7.0839%	5.3614%	4.3126%	3.6070%
Aspergillus niger spores	7.2164%	4.8707%	3.6757%	2.9516%	2.4658%
Cladosporium wemecki	5.3108%	3.5726%	2.6916%	2.1591%	1.8026%
stachybotrys chartarum	4.2922%	2.8823%	2.1696%	1.7395%	1.4517%
Myxobolus cerebri	2.4310%	1.6273%	1.2230%	0.9796%	0.8170%
Moraxella	2.3265%	1.5571%	1.1701%	0.9372%	0.7816%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filters has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Single-Pass Germicidal Irradiation Performance - 350-500 CFM (1/2)

Bio-contaminants	350 cfm	400 cfm	450 cfm	500 cfm
Mycobacterium tuberculosis	>99.9999%	99.9997%	99.9987%	99.9959%
Legionella pneumophila	99.9999%	99.9993%	99.9975%	99.9929%
Candida auris	99.9999%	99.9994%	99.9976%	99.9930%
SARS-CoV-1	99.9990%	99.9958%	99.9872%	99.9687%
Proteus mirabilis	99.9854%	99.9561%	99.8963%	99.7939%
Mycoplasma pneumoniae	99.9803%	99.9428%	99.8688%	99.7453%
Listeria monocytogenes	99.9124%	99.7889%	99.5814%	99.2762%
Salmonella	99.8836%	99.7293%	99.4778%	99.1168%
Aeromonas	99.7989%	99.5630%	99.2008%	98.7046%
SARS-CoV-2	99.6710%	99.3277%	98.8280%	98.1717%
Rickettsia prowazekii	99.5395%	99.0977%	98.4776%	97.6865%
Staphylococcus epidermis	99.2956%	98.6914%	97.8813%	96.8850%
E. Coli	99.1541%	98.4639%	97.5570%	96.4590%
Yersinia enterocolitica	99.0841%	98.3533%	97.4012%	96.2564%
Coxiella burnetii	99.0838%	98.3529%	97.4006%	96.2556%
Lactobacillus reuteri	99.0838%	98.3529%	97.4006%	96.2556%
Vaccinia virus	99.0697%	98.3307%	97.3695%	96.2153%
Smallpox	99.0640%	98.3217%	97.3570%	96.1991%
Newcastle disease	98.7751%	97.8763%	96.7418%	95.4114%
Acinetobacter baumannii	98.0022%	96.7418%	95.2335%	93.5378%
Influenza A virus	97.3695%	95.8549%	94.0961%	92.1652%
MRSA	96.8399%	95.1333%	93.1908%	91.0918%
Coxsackievirus	96.6407%	94.8658%	92.8591%	90.7023%
Avian Influenza virus	96.0858%	94.1311%	91.9576%	89.6522%
Measle virus	95.9767%	93.9881%	91.7837%	89.4510%
Pseudomonas aeruginosa	95.9272%	93.9234%	91.7051%	89.3603%
Serratia marcescens	94.5212%	92.1232%	89.5534%	86.9058%
Parvovirus H-1	93.9950%	91.4650%	88.7809%	86.0376%
Proteus vulgaris/mirabilis	90.4283%	87.1659%	83.8773%	80.6495%
Corynebacterium diptheriae	88.2704%	84.6672%	81.1154%	77.6901%
Ustilago zeae	86.6226%	82.7981%	79.0824%	75.5397%
Streptococcus pyogenes	84.7944%	80.7579%	76.8910%	73.2451%
Haemophilus influenza	83.9783%	79.8572%	75.9320%	72.2479%
Yeast	82.7902%	78.5561%	74.5549%	70.8228%
Klebsiella pneumoniae	81.2751%	76.9130%	72.8291%	69.0476%
Neisseria catarrhalis/meningitidis	79.8064%	75.3360%	71.1855%	67.3675%
Clostridium tetani	76.2254%	71.5489%	67.2844%	63.4170%
Vancomycin Resistant Enterococcus	72.2225%	67.3989%	63.0753%	59.2070%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filters has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Single-Pass Germicidal Irradiation Performance - 350-500 CFM (2/2)

Bio-contaminants	350 cfm	400 cfm	450 cfm	500 cfm
Burkholderia cenocepacia	70.1625%	65.2930%	60.9626%	57.1123%
Adenovirus	69.6473%	64.7692%	60.4393%	56.5952%
Enterobacter cloacae	66.7116%	61.8050%	57.4940%	53.6974%
Reovirus	64.1773%	59.2724%	54.9978%	51.2572%
Norwalk virus	60.5198%	55.6563%	51.4630%	47.8246%
Echovirus	48.8043%	44.3354%	40.5915%	37.4160%
Bacillus Anthacis	39.9830%	36.0280%	32.7726%	30.0493%
Cryptococcus neoformans	39.9830%	36.0280%	32.7726%	30.0493%
Blastomyces dermatidis	39.5226%	35.5988%	32.3718%	29.6741%
Histoplasma capsulatum	39.5226%	35.5988%	32.3718%	29.6741%
Mucor spores	39.5226%	35.5988%	32.3718%	29.6741%
Bacillus subtilis spores	37.7404%	33.9412%	30.8267%	28.2297%
Francisella Tularensis	36.2769%	32.5845%	29.5653%	27.0529%
Fusarium oxysporum	35.2162%	31.6036%	28.6551%	26.2051%
Botrytis cinerea	24.5166%	21.8156%	19.6482%	17.8711%
Rhizopus nigricans	23.1427%	20.5719%	18.5130%	16.8275%
Nocardia asteroides	22.2209%	19.7389%	17.7538%	16.1305%
Penicillium digitatum	19.7082%	17.4747%	15.6946%	14.2430%
Bacillus Cereus spores	15.8377%	14.0041%	12.5503%	11.3697%
Algae blue-green	14.4890%	12.7995%	11.4623%	10.3779%
Streptococcus Pneumoniae	13.9646%	12.3317%	11.0403%	9.9935%
Penicillium chrysogenum	12.4255%	10.9609%	9.8049%	8.8694%
Trichophyton rubrum	11.8075%	10.4114%	9.3103%	8.4197%
Candida albicans	11.6996%	10.3155%	9.2240%	8.3413%
Mucor mucedo	11.4834%	10.1234%	9.0512%	8.1842%
Clostridium Difficile spores	11.0929%	9.7765%	8.7392%	7.9008%
Cladosporium herbarum	10.6951%	9.4235%	8.4219%	7.6126%
Scopulariopsis brevicaulis	9.9825%	8.7913%	7.8540%	7.0972%
Bacillus Anthacis spores	9.0419%	7.9580%	7.1060%	6.4187%
Aspergillus fumigatus spores	3.0998%	2.7176%	2.4194%	2.1801%
Aspergillus niger spores	2.1173%	1.8551%	1.6507%	1.4868%
Cladosporium wemecki	1.5471%	1.3550%	1.2053%	1.0855%
stachybotrys chartarum	1.2456%	1.0908%	0.9702%	0.8736%
Myxobolus cerebrealis	0.7007%	0.6134%	0.5454%	0.4910%
Moraxella	0.6703%	0.5868%	0.5217%	0.4697%

Percentages on this table represent the minimum expected microbial deactivation for single-pass air treatment using UV-C germicidal irradiation only. The additional contribution of the air filters has not been considered.

Sanuvox, a company specialized in UV-C technologies, calculated these values using the lamp's lowest efficiency, at the end of its 2-year lifespan.

Maintenance Schedule

Filter Replacement: every 3 to 6 months depending on the ventilation system's filtration quality and cleanliness of the duct line.

UV Lamp Replacement: every 2 years or 17,000 hours.

How to Specify UV-PHANTOM

Supply and mounting of independent ceiling mounted air purification system UV PHANTOM. With two AXO-S-UV or PLAY-UV diffusers UL certified for Safety and Zero Ozone Emissions, one FLYIN architectural filter return grille, one silenced EC fan certified Energy Star, two duct silencers and all the necessary ducts and fittings. UV Diffusers and Filter Return must have hinged and removable face to allow easy access to filters and UV Lamps from the room. Visible products are constructed from galvanized steel face panel powder coated in white M9016. All products must have earthquake tabs to secure the product to the building structure. UV Diffusers' SARS-CoV-2 single-pass germicidal irradiation performance greater than 99.9% at 458 cfm must have been demonstrated by triple redundancy tests with two control points conducted by a 3rd party laboratory with the real virus. By EffectiV HVAC Inc.

UV PHANTOM

UVdiffusers.com/UV-Phantom



SUBMITTAL DRAWINGS

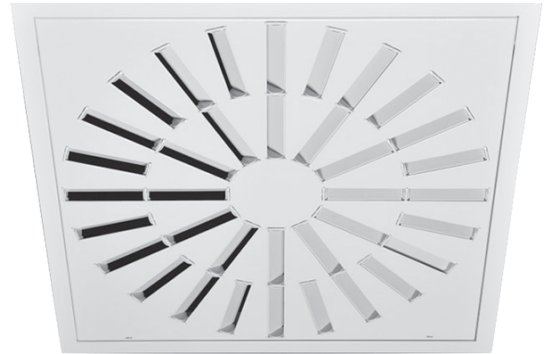
AIR PURIFICATION



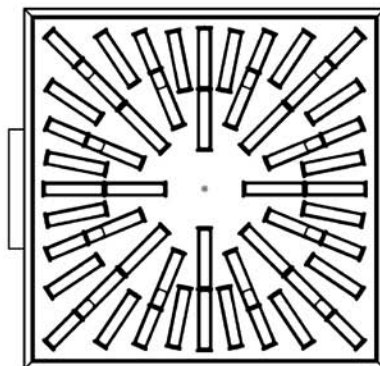
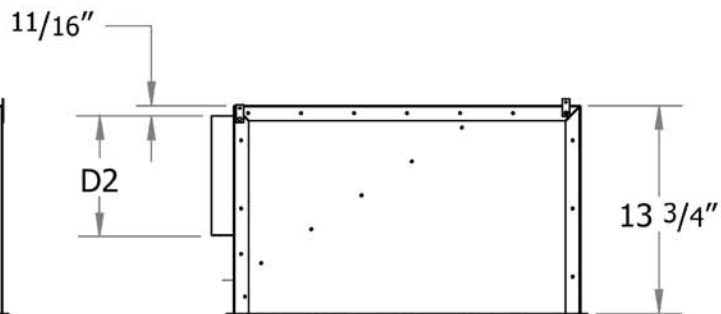
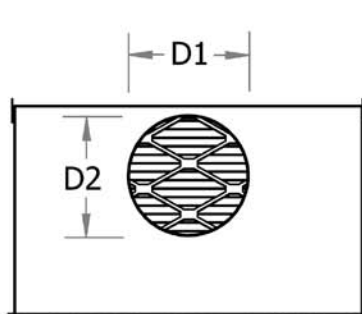
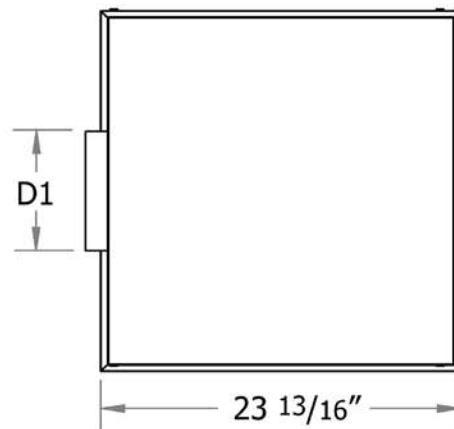
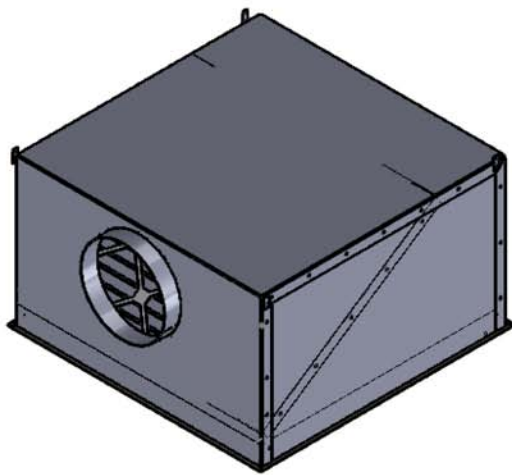
AXO-F Series High Induction Swirl Filter Diffusers

Material | Powder coated stamped heavy gauge steel or aluminum face with black or white ABS vanes, galvanized steel plenum and 20" x 20" x 2" pleated filter

Air Pattern | Adjustable high induction swirl pattern



AXO-S-F



Select Model

Model	Material	CFM Min	CFM Max
AXO-S300-F	Steel	50	130
AXO-S400-F	Steel	100	250
AXO-S-F	Steel	230	500
AXO-SX-F	Steel	300	550
AXO-S300-ALU-F	Aluminum	50	130
AXO-S400-ALU-F	Aluminum	100	250
AXO-S-ALU-F	Aluminum	230	500
AXO-SX-ALU-F	Aluminum	300	550

Select Dimension

Dimension	Face	D1	D2
2406	23 7/8" x 23 7/8"	5 7/8"	5 7/8"
2407	23 7/8" x 23 7/8"	6 7/8"	6 7/8"
2408	23 7/8" x 23 7/8"	7 7/8"	7 7/8"
2410	23 7/8" x 23 7/8"	9 7/8"	9 7/8"
2412	23 7/8" x 23 7/8"	16"	8"

Filter

UVFILTER-W-M9	2" MERV-9A White Pleated Filter
UVFILTER-C-M7	2" MERV-7 Carbon Pleated Filter

Select Finish

Powder Coated White RAL9016
Other RAL :



S300



S400



S



SX

Project:

Engineer:

Architect:

Contractor:

AXO-HEPA Series

HEPA Filter Terminal High Induction Swirl Diffuser

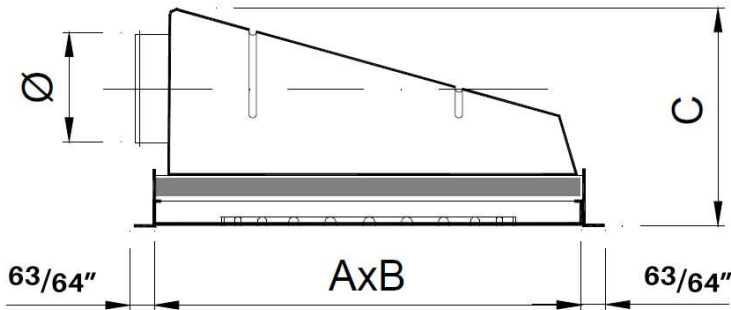
Material | Powder coated stamped heavy gauge steel face with plastic vanes, polystyrene plenum box and H14 HEPA filter

Air Pattern | High induction swirl pattern, directional, or downward vertical

Ceiling Types | Closed



**AXO-HEPA
(UFA-AXO)**



Select Model					
✓	Model	A	B	C	Ø
	AXO-HEPA 330	12 63/64"	12 63/64"	13 37/64"	6 3/4"
	AXO-HEPA 482	18 31/32"	18 31/32"	13 37/64"	6 3/4"
	AXO-HEPA 538	21 3/16"	21 3/16"	14 3/8"	7 3/4"
	AXO-HEPA 635	25"	25"	14 3/8"	7 3/4"

Select Finish	
	Powder Coated White RAL9010
	Anodised silver matte (AA)
	Other RAL:

Project:

Engineer:

Architect:

Contractor:



AXO-HEPA Series
HEPA Filter Terminal High Induction Swirl Diffuser

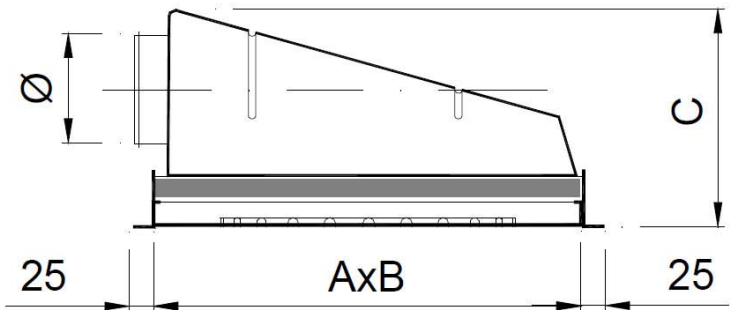
Material | Powder coated stamped heavy gauge steel face with plastic vanes, polystyrene plenum box and H14 HEPA filter

Air Pattern | High induction swirl pattern, directional, or downward vertical

Ceiling Types | Closed



AXO-HEPA
(UFA-AXO)



Select Model					
✓	Model	A	B	C	Ø
	AXO-HEPA 330	330	330	345	173
	AXO-HEPA 482	482	482	345	173
	AXO-HEPA 538	538	538	190	198
	AXO-HEPA 635	635	635	365	198

Select Finish	
	Powder Coated White RAL9010
	Anodised silver matte (AA)
	Other RAL:

Project:

Engineer:

Architect:

Contractor:

AXO-UV Series
High Induction Swirl UV Diffusers

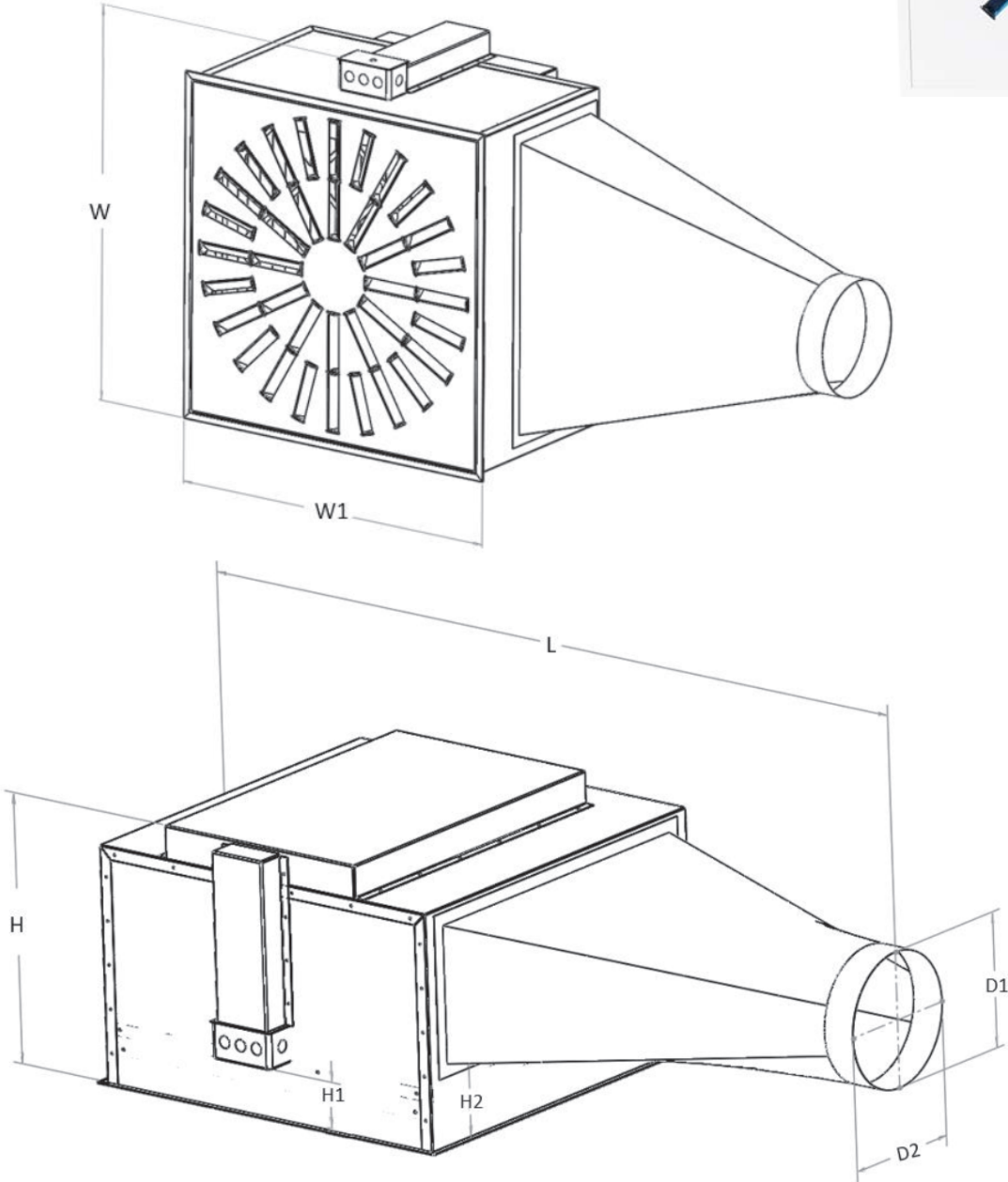
Material | Powder coated stamped heavy gauge steel or aluminum face with black ABS vanes, aluminum plenum, UVC lamp and 2" UV-resistant pleated filter

Air Pattern | Adjustable high induction swirl pattern



AXO-UV

Patent
Pending



Dimensions	
W	25 2/3"
W1	23 7/8"
H	15 7/8"
H1	3 9/16"
H2	4 3/4"
L	47 1/2"

Select Model

Model	Material	CFM Min	CFM Max
AXO-S300-UV	Steel	50	130
AXO-S400-UV	Steel	100	250
AXO-S-UV	Steel	230	500
AXO-SX-UV	Steel	300	550
AXO-S300-ALU-UV	Aluminum	50	130
AXO-S400-ALU-UV	Aluminum	100	250
AXO-S-ALU-UV	Aluminum	230	500
AXO-SX-ALU-UV	Aluminum	300	550

Select Dimension

Dimension	Face	D1	D2
2406	23 7/8" x 23 7/8"	5 7/8"	5 7/8"
2407	23 7/8" x 23 7/8"	6 7/8"	6 7/8"
2408	23 7/8" x 23 7/8"	7 7/8"	7 7/8"
2410	23 7/8" x 23 7/8"	11"	8"
2412	23 7/8" x 23 7/8"	16"	8"

Filter

UVFILTER-W-M9	2" MERV-9 UV Resistant White Pleated Filter
UVFILTER-C-M7	2" MERV-7 UV Resistant Carbon Pleated Filter

Select Finish

Powder Coated White RAL9016
Other RAL :



S300



S400



S



SX

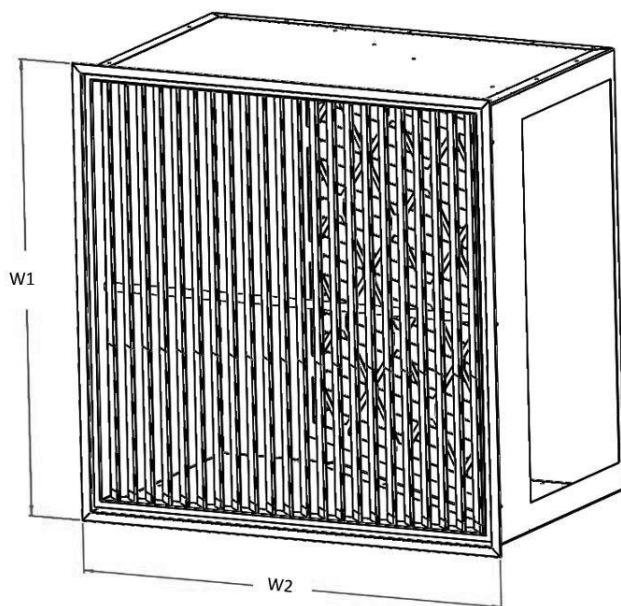


Project:

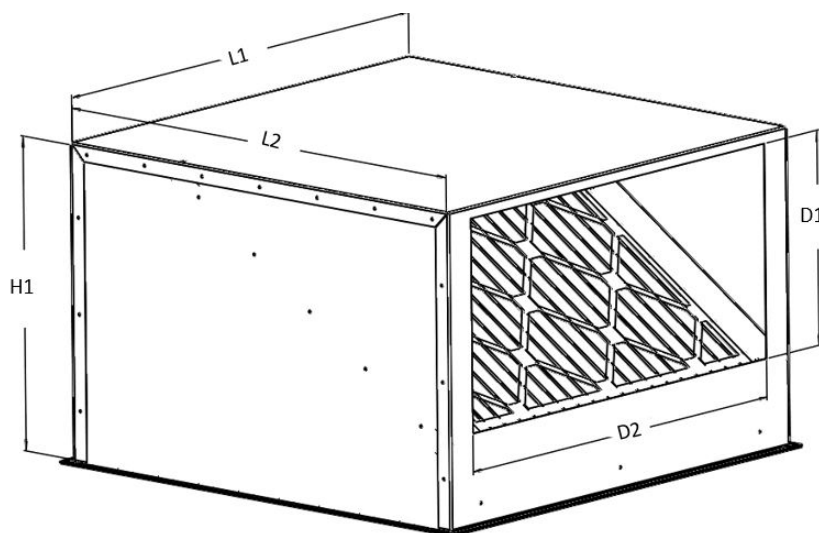
Engineer:

Architect:

Contractor:



FLYIN 2400



Select Model

✓	Model	W1	W2	L1	L2	H1	D1	D2
	FLYIN 2400*	23" ⁷ / ₈	23" ⁷ / ₈	22" ⁷ / ₈	22" ¹⁵ / ₁₆	14" ⁷ / ₈	10" ⁽¹⁾	20" ⁽¹⁾

*FLYIN 2400 for non ducted ceiling plenum applications has no collar and a rectangular opening

Select Options

<input type="checkbox"/>	R6 Thermal Insulation
--------------------------	-----------------------

Select Interior Finish

<input type="checkbox"/>	Powder Coated White RAL9016
<input type="checkbox"/>	Other RAL:

Select Face Finish

<input type="checkbox"/>	Powder Coated White RAL9016
<input type="checkbox"/>	Other RAL:

Project:

Engineer:

Architect:

Contractor:

OTO-UV Series Architectural Swirl UV Diffuser

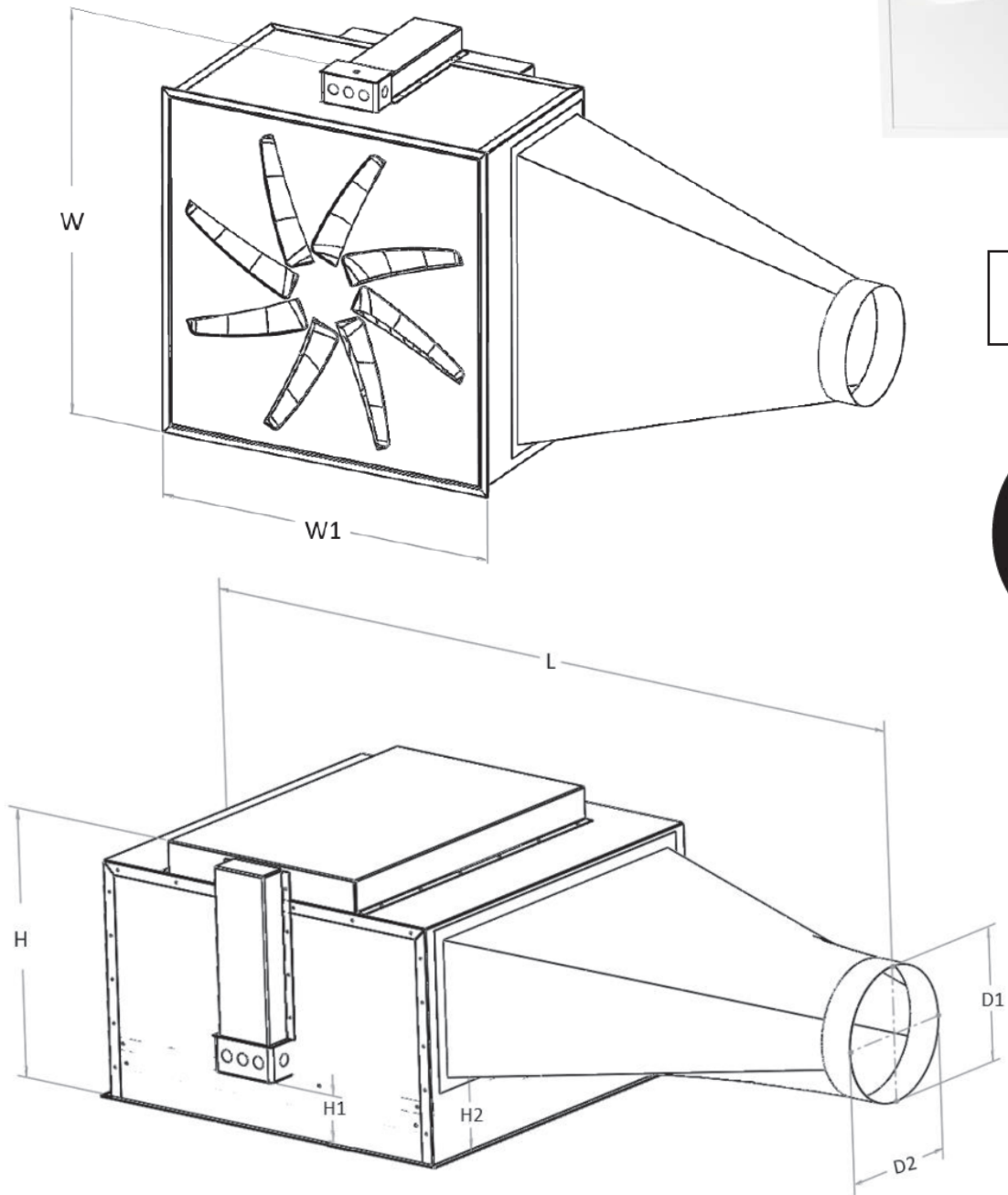
Material | Powder coated stamped heavy gauge steel face, aluminum plenum, UVC lamp and 2" UV-resistant pleated filter

Air Pattern | Fix high induction swirl pattern



OTO-UV

**Patent
Pending**



Dimensions	
W	25 2/3"
W1	23 7/8"
H	15 7/8"
H1	3 9/16"
H2	4 3/4"
L	47 1/2"

Select Model			
Model		D1	D2
	OTO-UV 2406	5 7/8"	5 7/8"
	OTO-UV 2407	6 7/8"	6 7/8"
	OTO-UV 2408	7 7/8"	7 7/8"
	OTO-UV 2410	11"	8"
	OTO-UV 2412	16"	8"

Filter		
	UVFILTER-W-M9	2" MERV-9 UV Resistant White Pleated Filter
	UVFILTER-C-M7	2" MERV-7 UV Resistant Carbon Pleated Filter

Select Finish	
	Powder Coated White RAL9016
	Other RAL :



Project:

Engineer:

Architect:

Contractor:

PLAY-UV Series Adjustable UV Diffuser

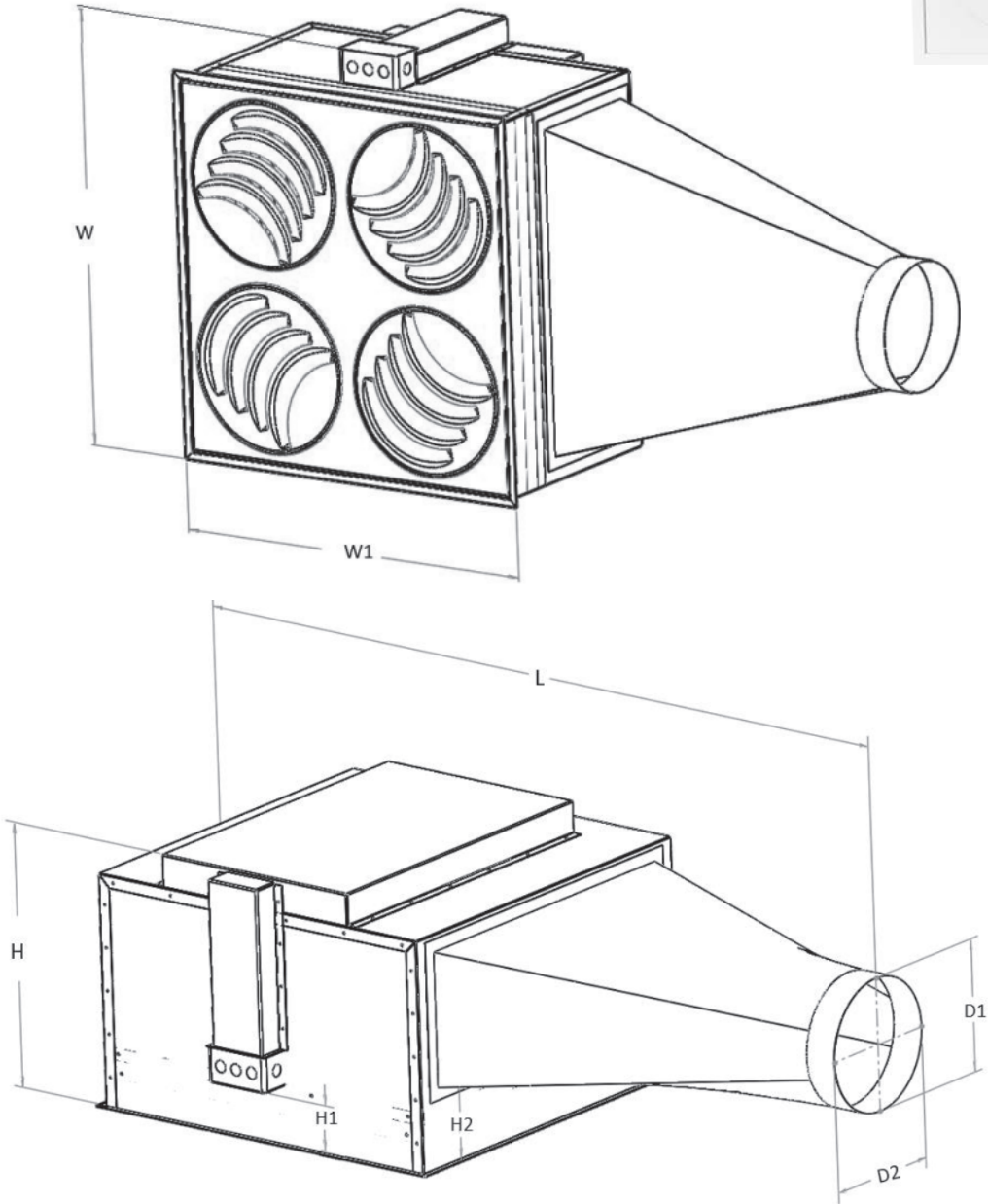
Material | Powder coated stamped heavy gauge steel face, aluminum plenum, UVC lamp and 2" UV-resistant pleated filter

Air Pattern | Adjustable pattern, high discharge velocity



PLAY-UV

**Patent
Pending**



Dimensions	
W	25 2/3"
W1	23 7/8"
H	15 7/8"
H1	3 9/16"
H2	4 3/4"
L	47 1/2"

Select Model

Model	D1	D2
PLAY-UV 2406	5 7/8"	5 7/8"
PLAY-UV 2407	6 7/8"	6 7/8"
PLAY-UV 2408	7 7/8"	7 7/8"
PLAY-UV 2410	11"	8"
PLAY-UV 2412	16"	8"

Filter

UVFILTER-W-M9	2" MERV-9 UV Resistant White Pleated Filter
UVFILTER-C-M7	2" MERV-7 UV Resistant Carbon Pleated Filter

Select Finish

Powder Coated White RAL9016
Other RAL :



Project:

Engineer:

Architect:

Contractor:



ARCHITECTURE - COMFORT - EFFICIENCY - IAQ

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