

UV PHANTOM

Independent Ceiling Air Purification System



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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

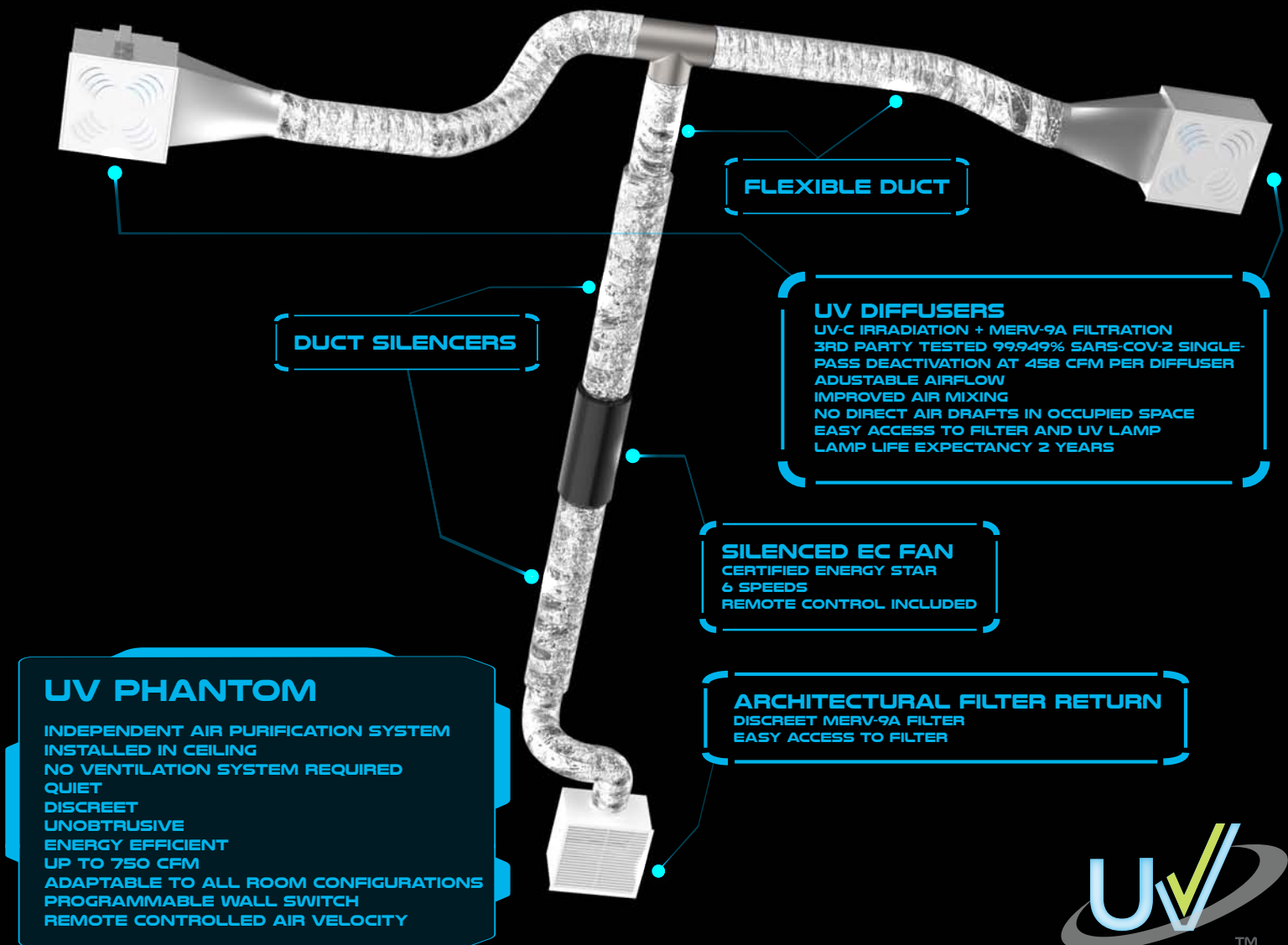
UV Phantom is an independent ceiling air purification system for schools, offices and other commercial buildings without ventilation systems, or in addition to existing HVAC systems to improve air quality.

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

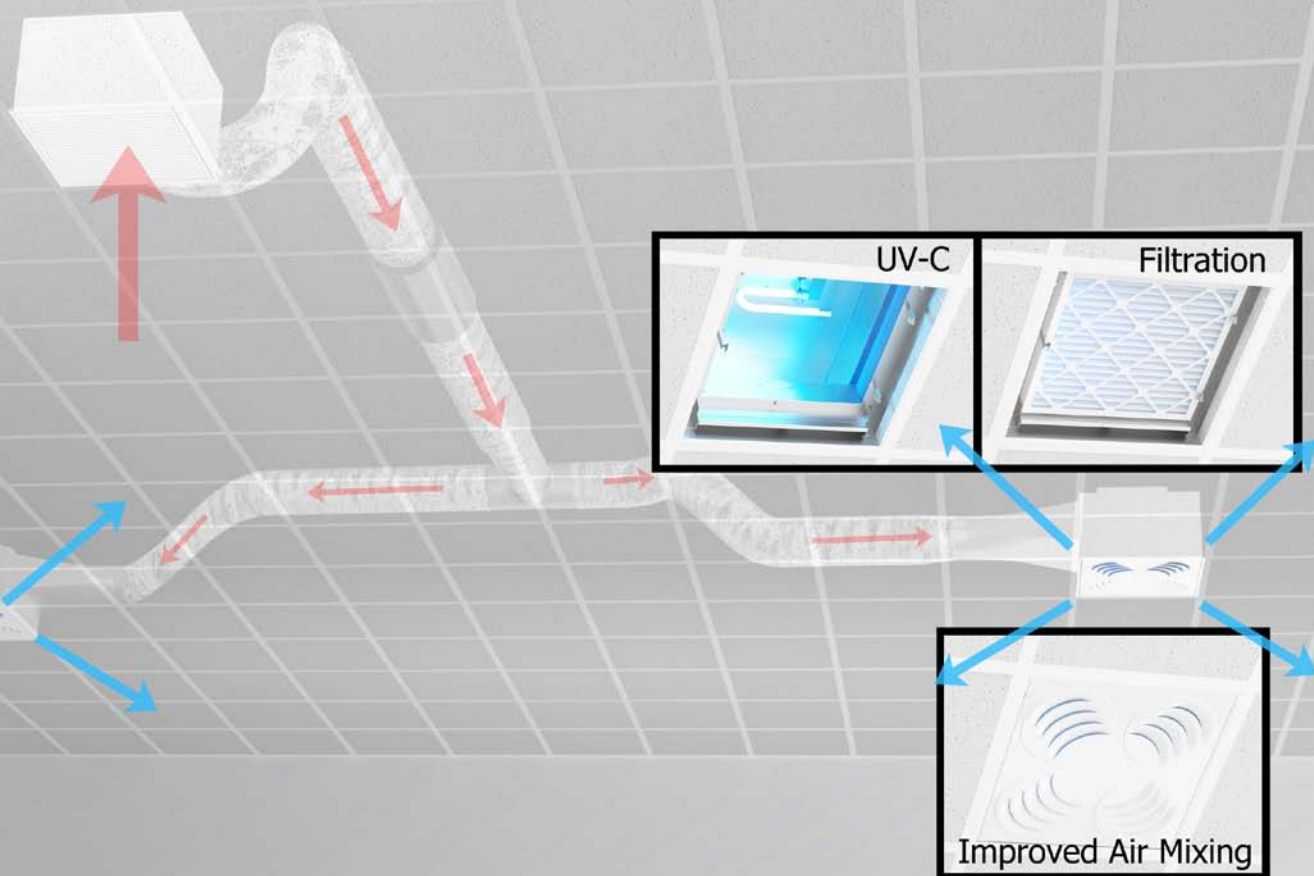
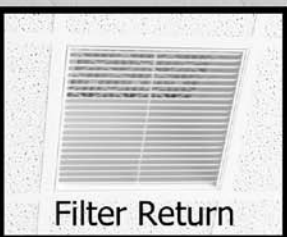
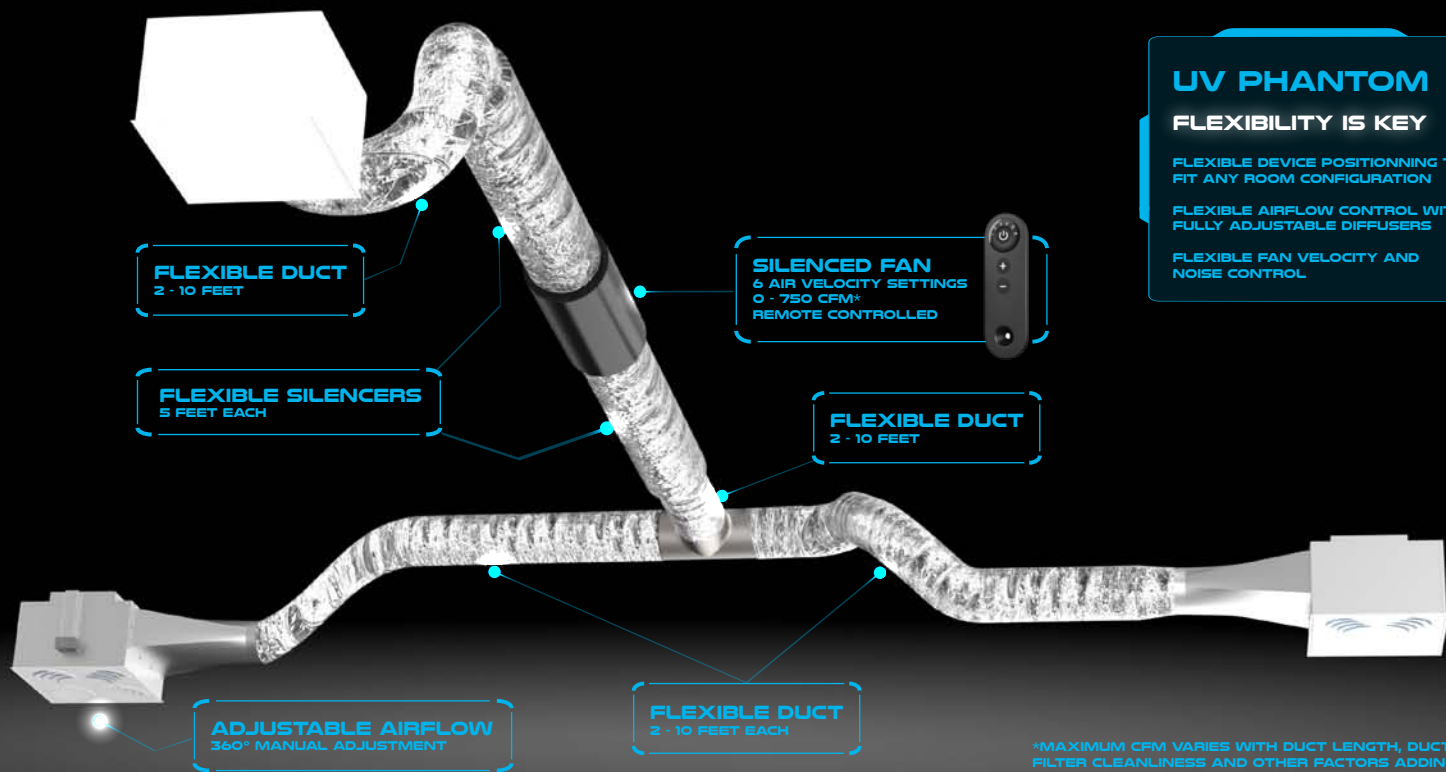
DISCREET

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.



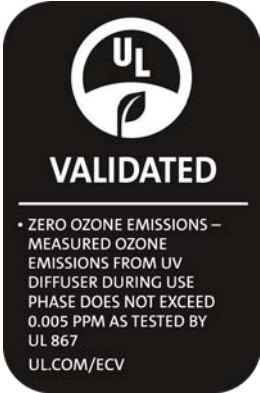
Safety

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.

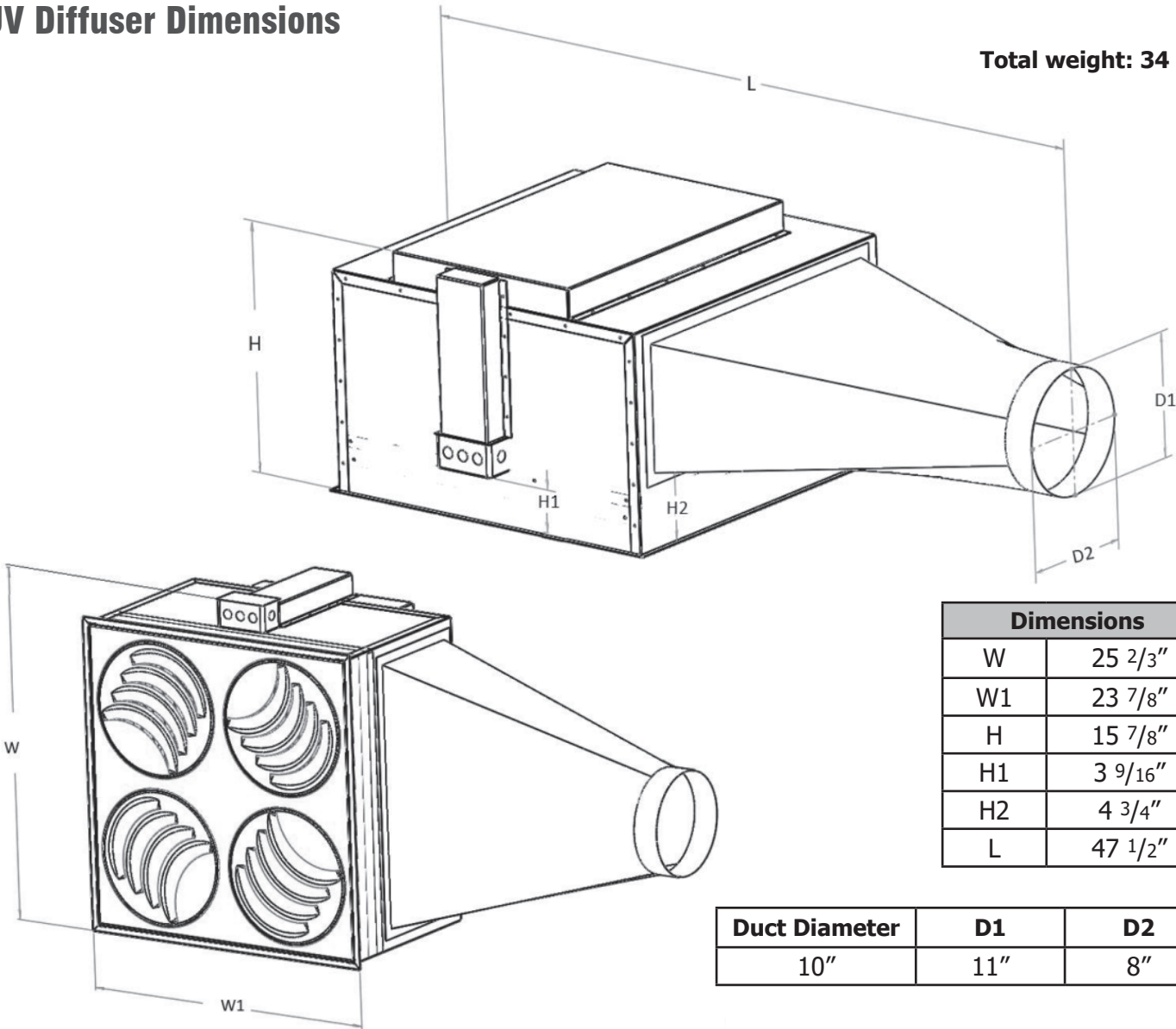
High quality lamps made of quartz do not emit any ozone nor other harmful particles. UV Diffusers are certified Zero Ozone Emission by UL

UV Diffusers are also certified by the California Air Resources Board



UV Diffuser Dimensions

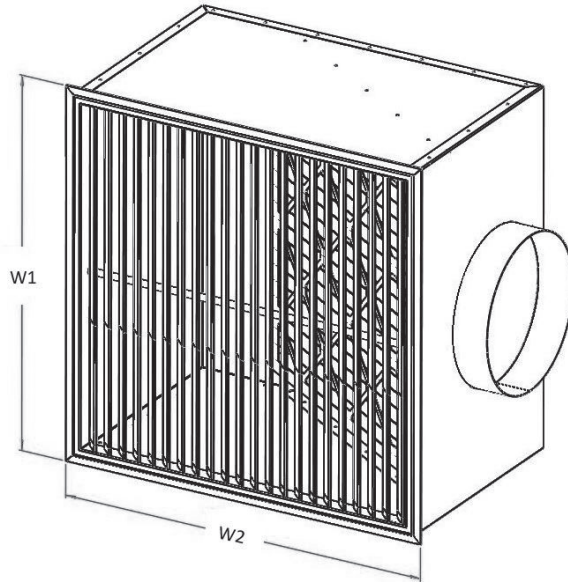
Total weight: 34 lbs



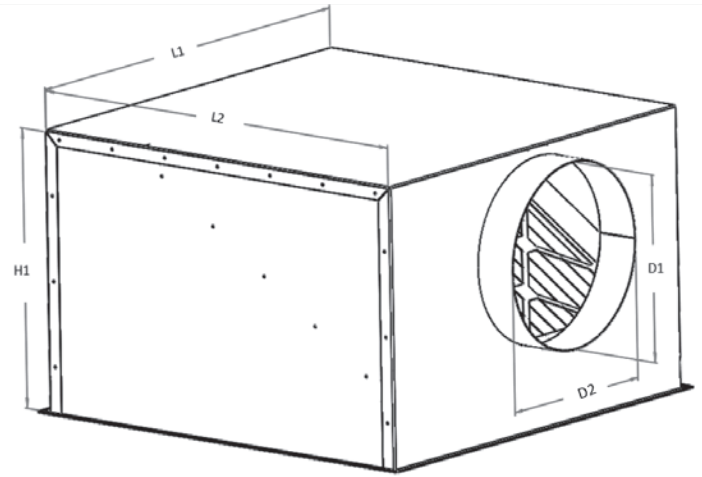
Dimensions	
W	25 2/3"
W1	23 7/8"
H	15 7/8"
H1	3 9/16"
H2	4 3/4"
L	47 1/2"

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

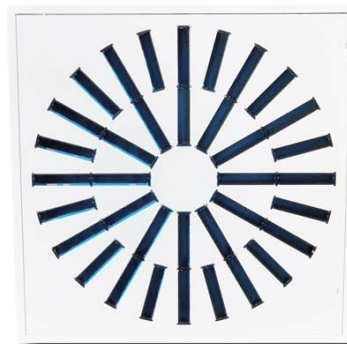
UVFILTER-W-M9 UV-Resistant 20" x 20" x 2" White MERV-9A Pleated Filter

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



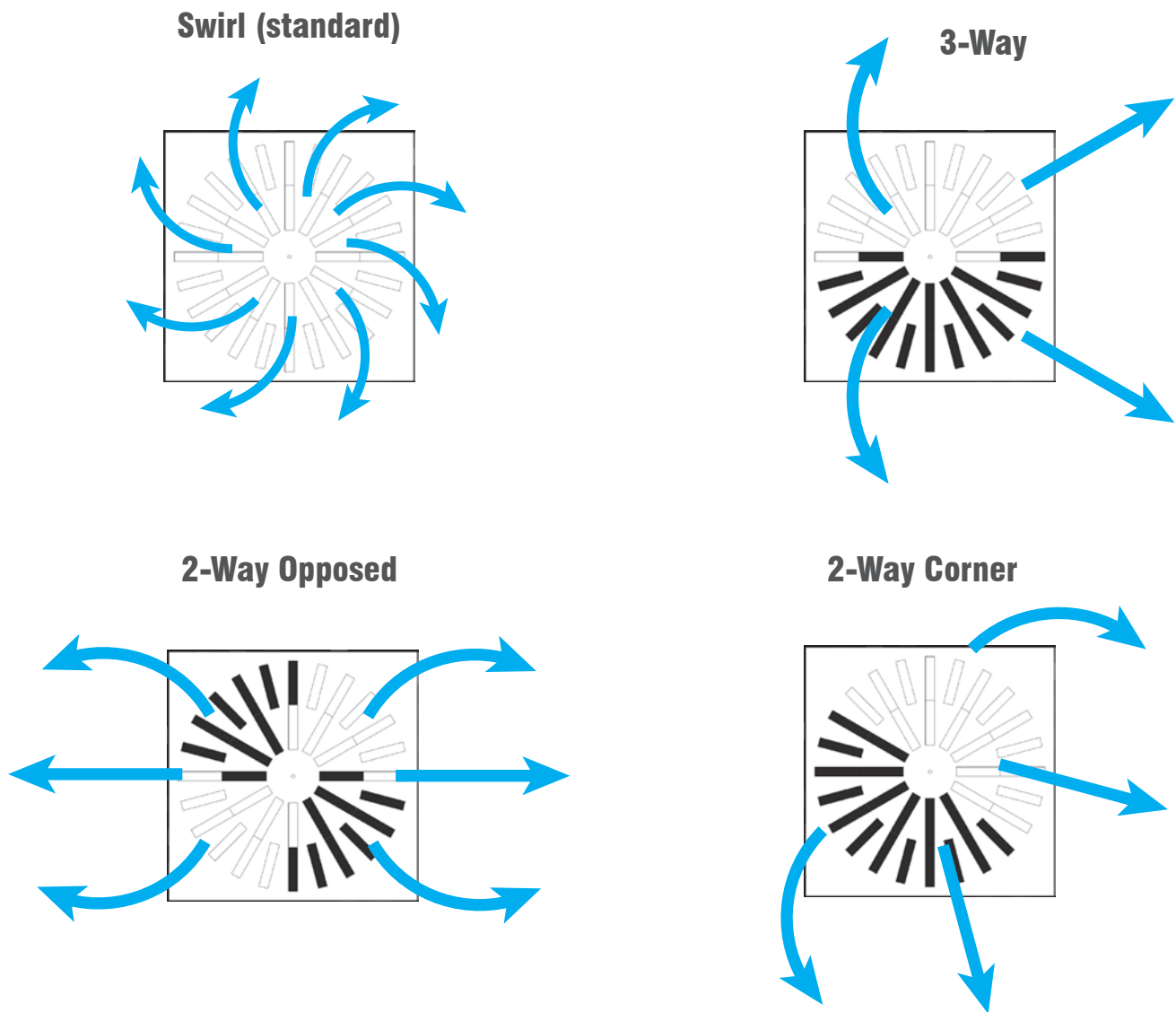
AXO-S-UV

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



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

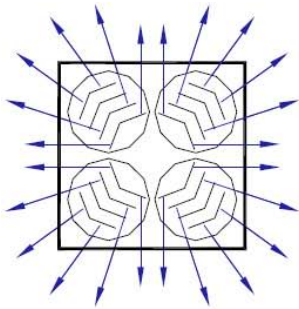
PLAY-UV Performance Data - Swirl Diffusion

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		

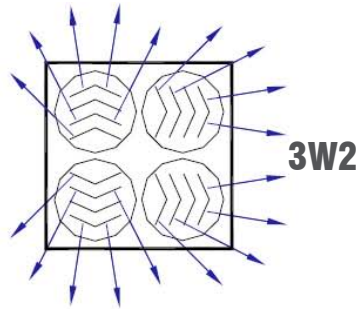
Performance Notes

- 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.

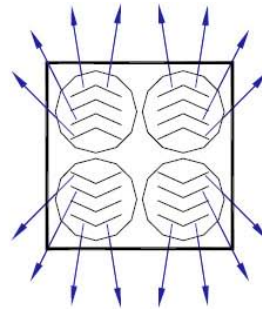
PLAY-UV Directional Airflow Configurations



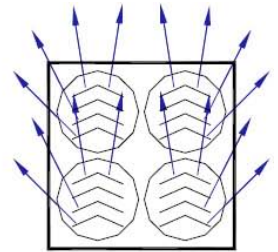
4-Way



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 cerebrales	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 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 filters has not been considered.

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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 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 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

