



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

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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

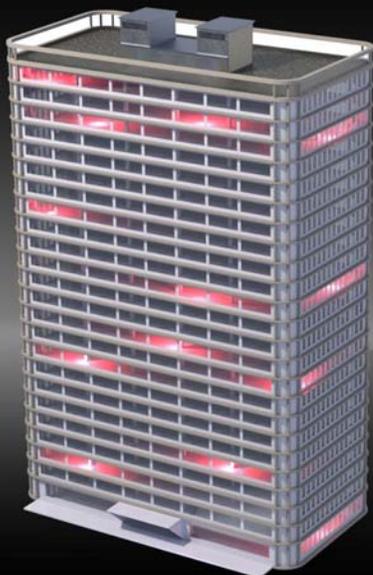


PREVENTING THE SPREAD OF VIRUSES AND BACTERIA THROUGH VENTILATION SYSTEMS IN COMMERCIAL BUILDINGS

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.



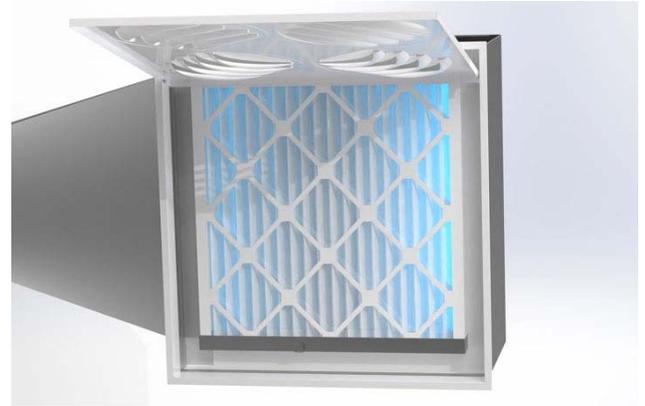
The use of this device is a supplement to and not a substitute for standard infection control practices; users must continue to follow all current infection control practices, including those related to the cleaning and disinfection of environmental surfaces.

How UV Diffusers Work

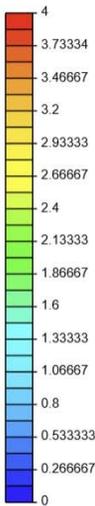
1. Air Filtration

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.

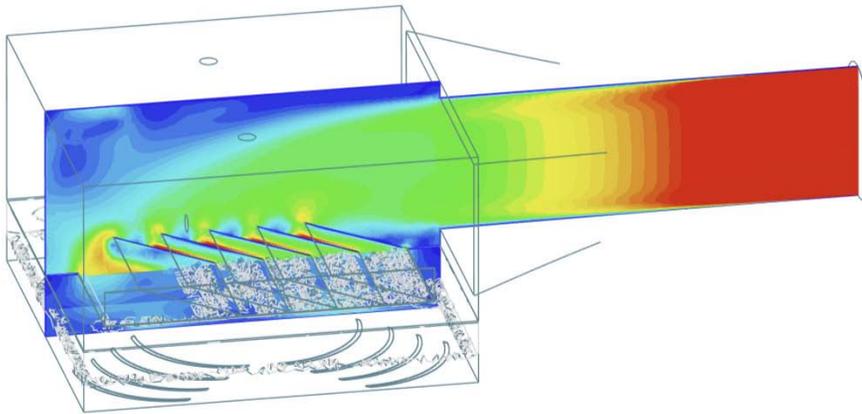
The filter also helps to pressurize the air inside the plenum and slow it down significantly.



All Velocity (m/s)

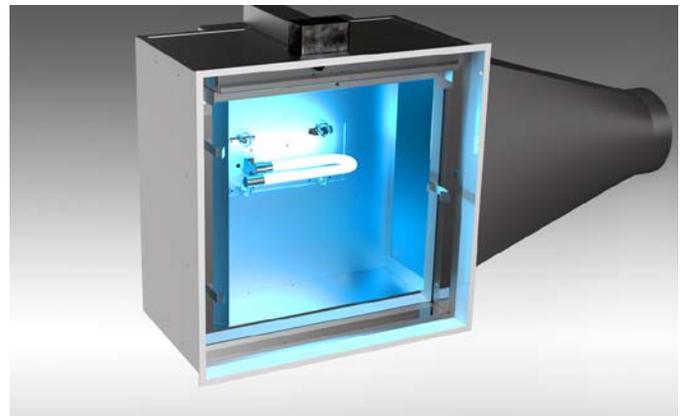


350 cfm

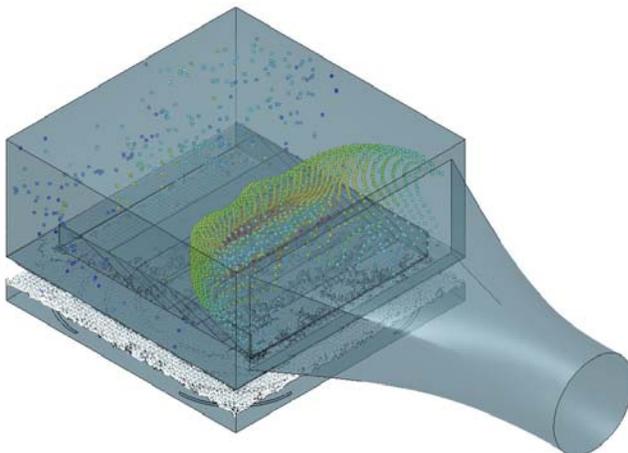
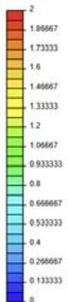


2. UV-C Germicidal Irradiation

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.



All Velocity (m/s)



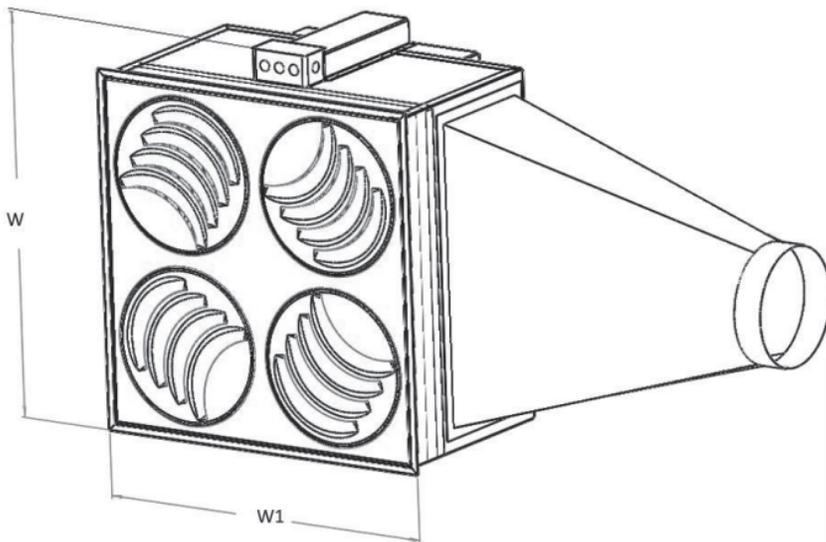
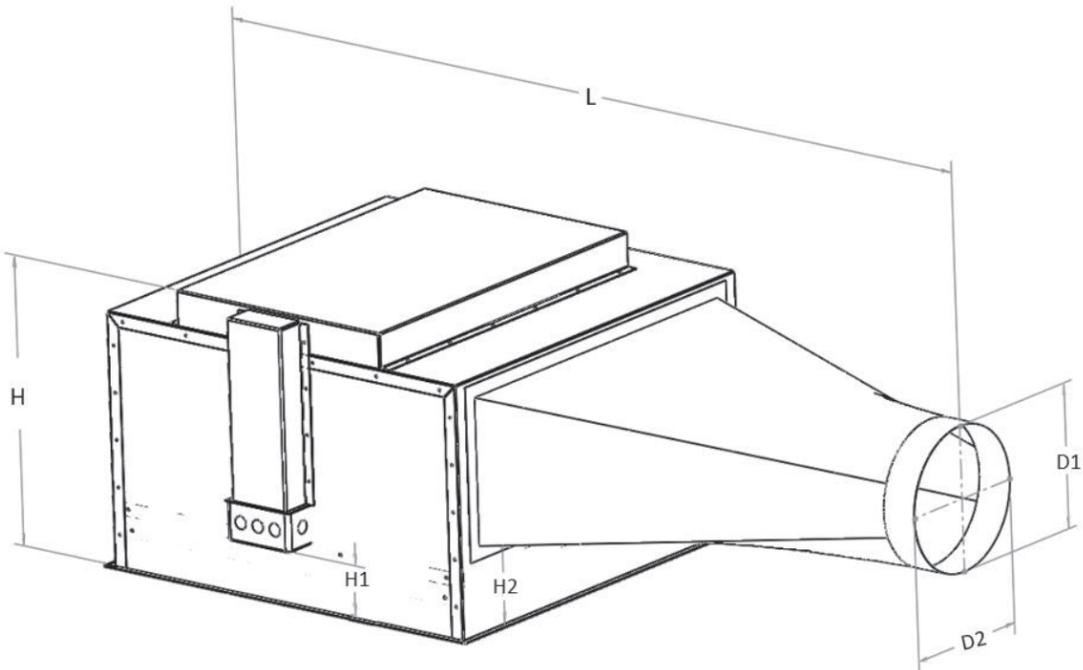
The placement of the UV lamp, the airflow trajectory, the shape and dimension of the plenum and collar for light reflection and the materials - everything has been thought out in order to improve air disinfection efficiency.

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



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 μW/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

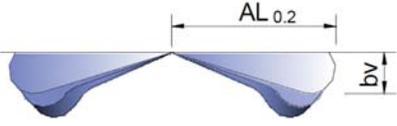
Duct Dia (inches)	Neck (fpm) Velocity	200	300	400	500	600	700	800	1000
	Velocity Pressure (H2O)	0.002	0.006	0.01	0.016	0.022	0.031	0.041	.062
6	CFM				98	118	137	157	196
	Pressure Loss (in.w.g.) - White Filter				0.014	0.019	0.025	0.032	0.048
	Pressure Loss (in.w.g.) - Carbon Filter				0.022	0.029	0.036	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		
Δ T (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	-

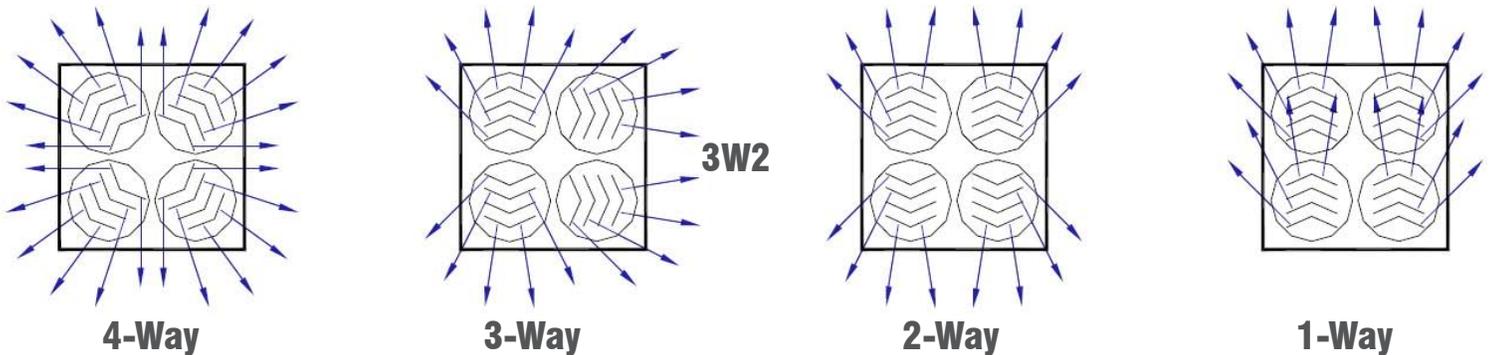
induced room air = supplied cfm * i

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



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 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 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 cerebralis	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

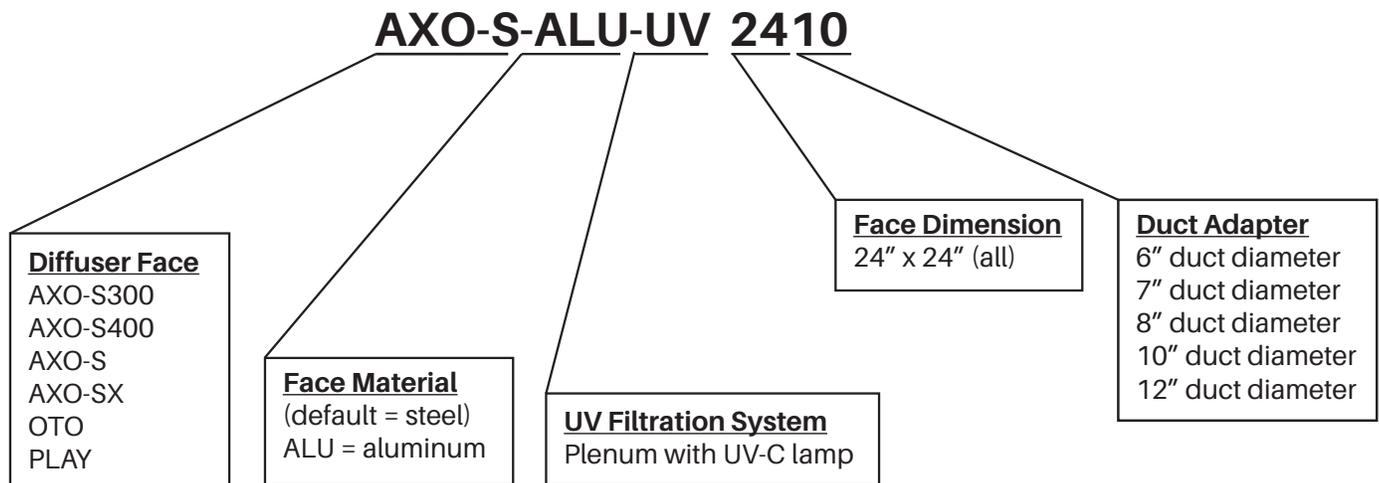
Filter Replacement: every 3 to 6 months depending on the ventilation system’s filtration quality and cleanliness of the duct line.

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