



Airdog
Breathe different

PROFESSIONAL LINE

Purificazione totale con AIRDOG IEF

igeamed.



Siamo l'aria che respiriamo

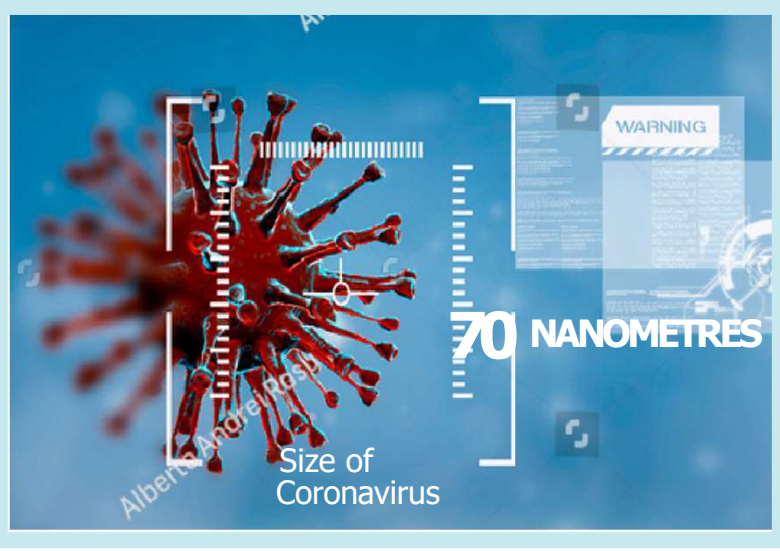
Obiettivi principali

Garantire una **purificazione profonda** dell'aria sia a livello particellare che microbiologico, **promuovendo il benessere delle persone**

Minimizzare il consumo energetico

Ridurre il carbon footprint e promuovere la sostenibilità ambientale

Offrire una soluzione **economicamente vantaggiosa**



Capacità filtrante fino a

0.01µm

Al cuore dell'innovazione

Tecnologia del filtro Airdog IEF

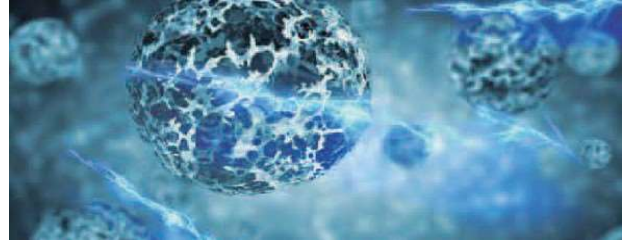
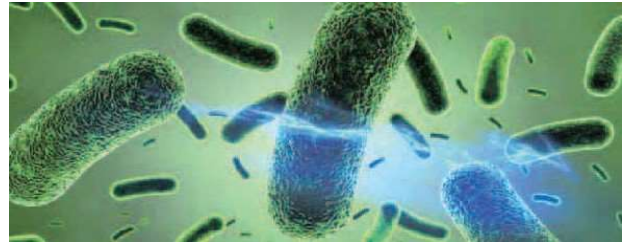
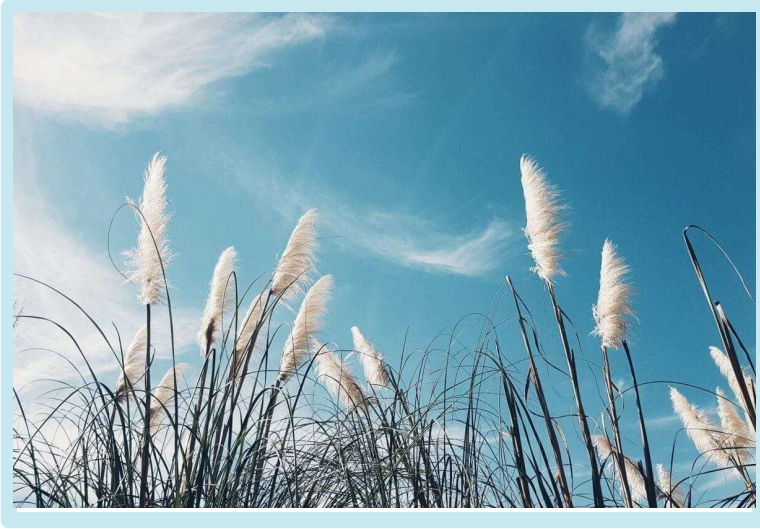


Fa leva su una tecnologia innovativa di **precipitazione elettrostatica ad alta efficienza** per catturare particelle submicroniche e ultrafini, trattenute per coesione molecolare su piastre metalliche lavabili

REDUCTION

99,9%

- | | | | | | | | | |
|--|---|--|--|--|--|--|---|---|
| 
VIRUS | 
BACTERIA | 
PARTICULATE
MATTER | 
VOC | 
SMOKE | 
POLLENS
AND
SPORES | 
FUNGHI AND
MOLDS | 
SMELLS | 
DUST |
|--|---|--|--|--|--|--|---|---|



Un cambio di paradigma

Vantaggi rispetto ai filtri tradizionali



Lavabile e Riutilizzabile: Elimina la necessità di sostituzioni frequenti e riduce i rifiuti



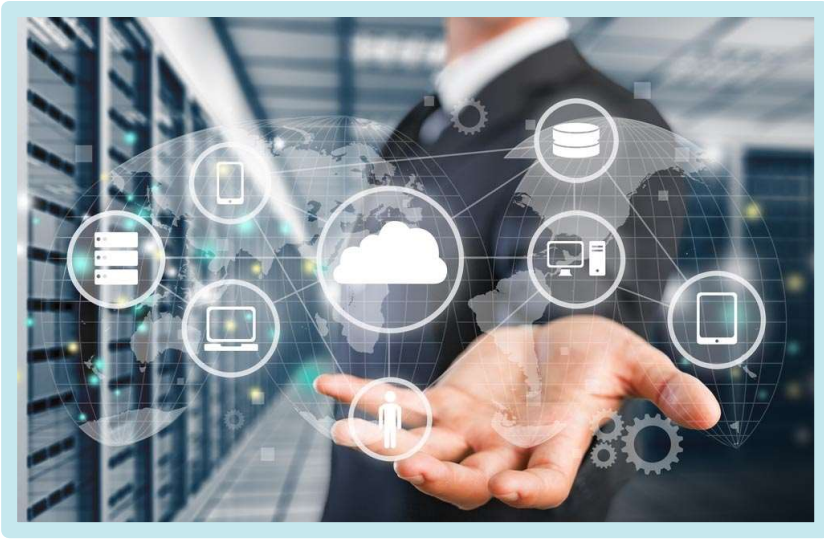
Bassa Perdita di Carico: Minimizza le perdite di carico tipiche dei filtri convenzionali, riducendo significativamente il consumo energetico



Salubre: Elimina efficacemente microrganismi e allergeni aerotrasportati

**EXPECTED
LIFESPAN**

>10 years



Una soluzione Smart

Vantaggi generali

- **Eco-Friendly:** Alternativa sostenibile ed efficiente dal punto di vista energetico e di impatto ambientale
- **Efficace:** Gamma di filtrazione più ampia rispetto ai filtri tradizionali
- **Economica:** Riduzione dei costi operativi
- **Facile da Installare:** Può essere integrato nei sistemi HVAC esistenti senza modifiche strutturali
- **Manutenzione Efficiente:** Il telaio principale e l'elettronica rimangono in sede, mentre gli elementi lavabili sono facilmente separabili, semplificando la manutenzione e riducendo i tempi di inattività
- **Conveniente:** Disponibile con formule di noleggio operativo, con riscatto a costi di rimborso rateale dimostrabilmente inferiori ai risparmi operativi ottenuti e possibilità di includerlo in iniziative fiscalmente vantaggiose come Industry 5.0.
- **Aggiornato:** Contribuisce significativamente al raggiungimento degli obiettivi di efficientamento energetico previsti dalla Direttiva UE 2023/1791.

AIRDOG IEF INDUSTRIAL



Technical datasheet

Model	IEF 1700	IEF 3400
Product description	Unità elettrostatica singola	Unità elettrostatica doppia
Type of product	Advanced Electrostatic filtration Unit	
Dimension (lwidth*height*depth)	305*610*150	610*610*150
Applicable air volume	1700	3400
Rating voltage	110~240 V / 50~60 Hz	
Power consumption	< 10 W	<20 W
Weight	12,3 kgs	21,5 kgs
Package size	710*400*250 mm	710*710*250 mm
Signals	Running and Short circuit / fault alarm	
Environmental conditions	-10~40°C	0-95%Rh



**AIRDOG TPA
IEF
Technology**



**Zero material
consumption**



**Removal of virus, bacteria,
spores, moulds, VOC,
particulate matter**



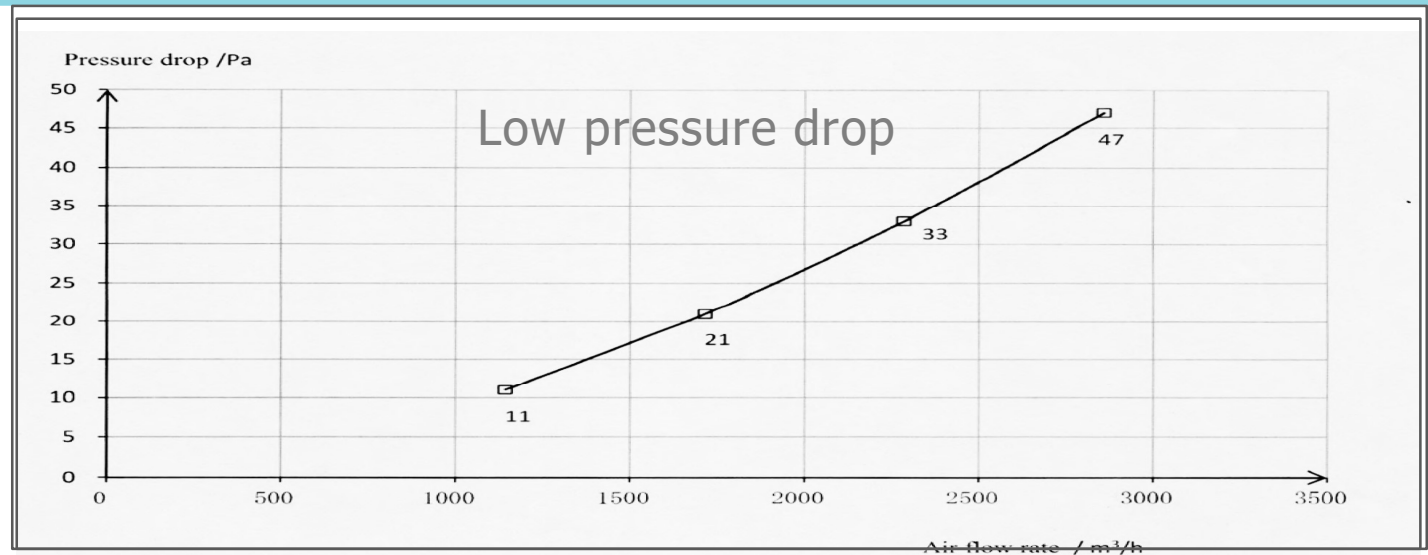
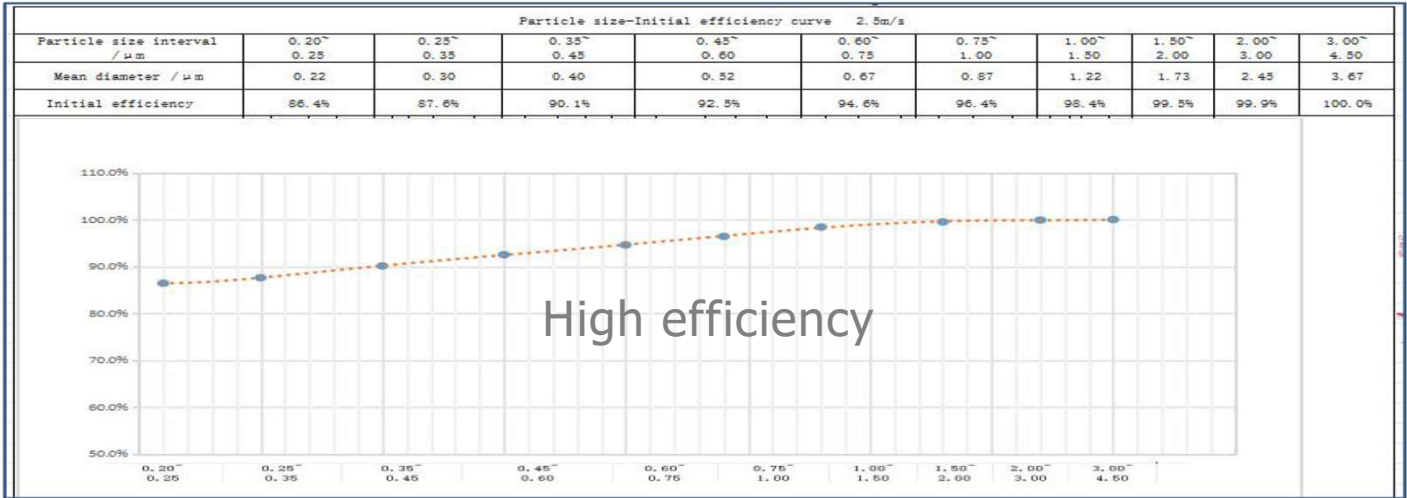
**Very low energy
consumption**



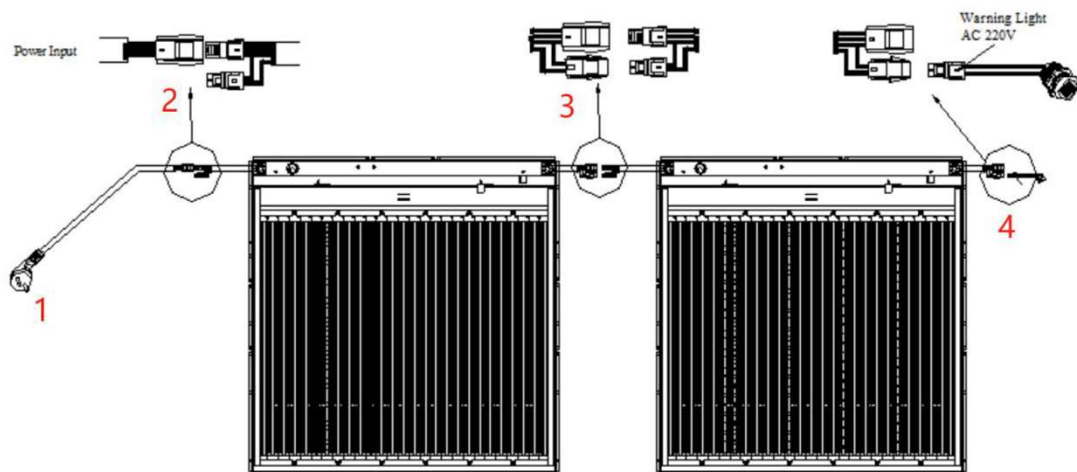
**Low pressure
drop**



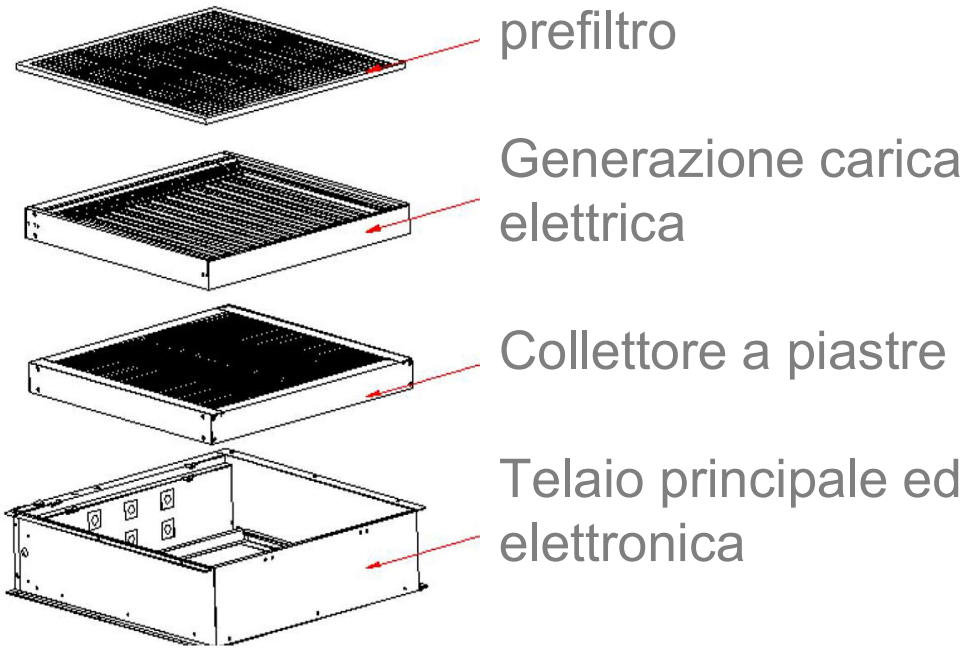
**Standardized
modular design**



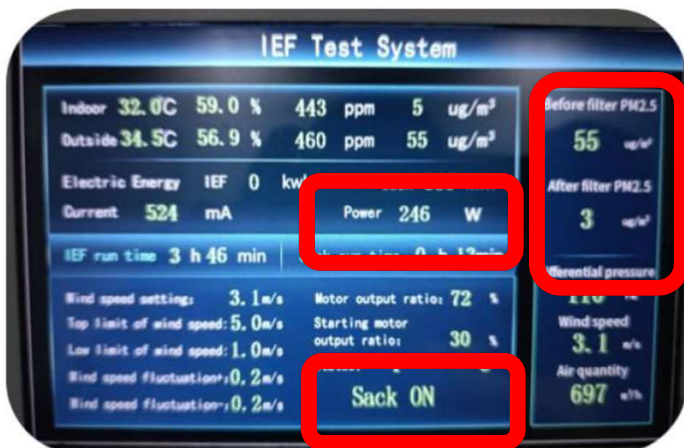
Plug and Play installation



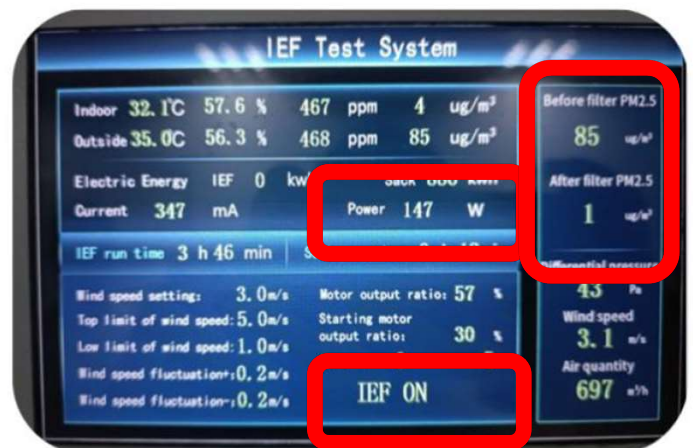
Costruzione modulare per facilità di manutenzione



Sistema misurazione differenza perdita di carico tra filtri Airdog IEF e tradizionali



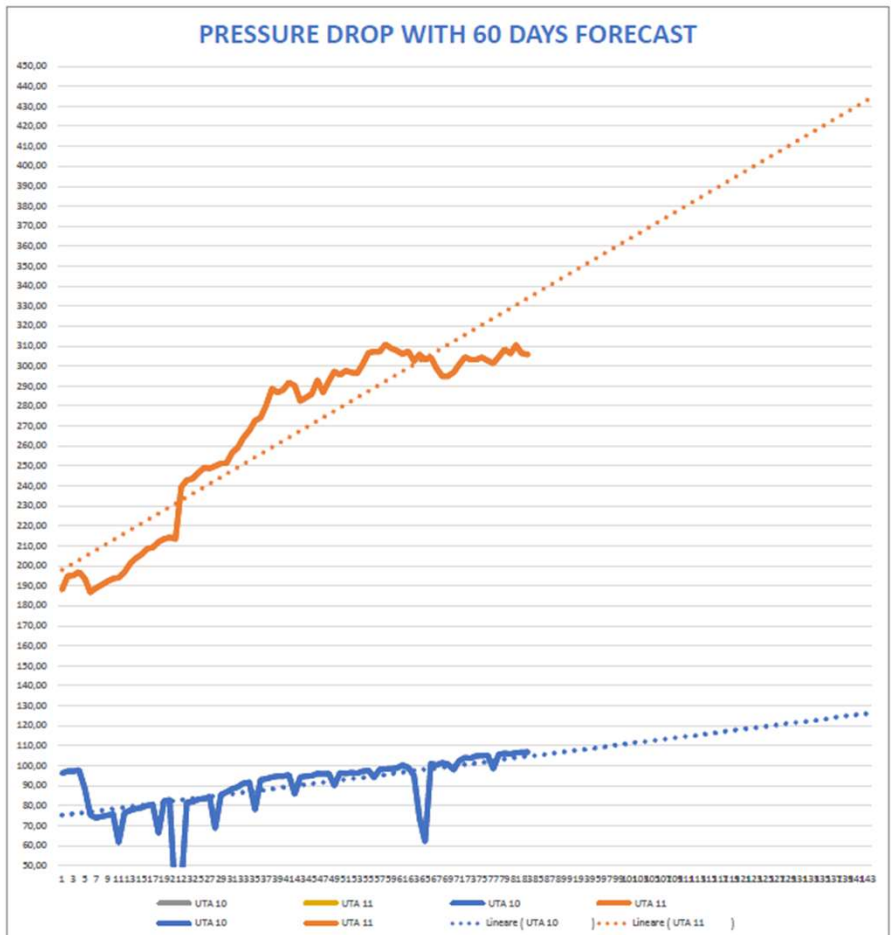
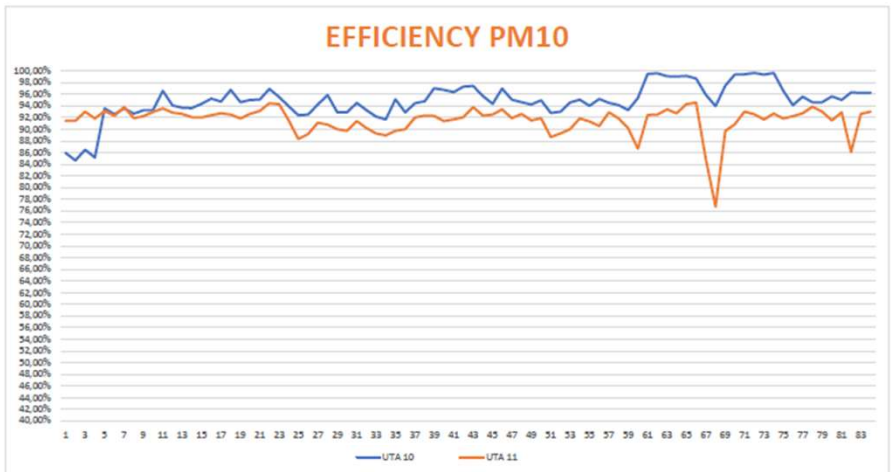
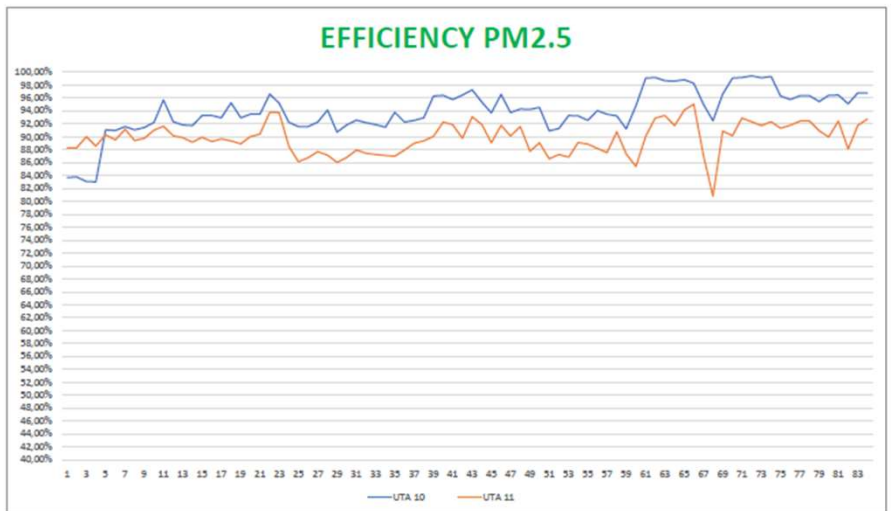
Bag/sack (Hepa) 110 pa@3 m/s
energy 246 W



Airdog IEF 43 pa@3m/s
energy 147 W
40% IMPROVEMENT ON HEPA

3 months comparative test with Airdog filters (Blue) and F9 filters (Orange) in Cisanello University Hospital in Pisa

RECORD	DATE	EFFICIENCY PM 2.5		EFFICIENCY PM 10		PRESSURE DROP	
		UTA 10	UTA 11	UTA 10	UTA 11	UTA 10	UTA 11
1	18-lug	83,68%	88,33%	85,94%	91,48%	96,28	188,12
2	19-lug	83,79%	88,32%	84,66%	91,45%	97,22	194,83
3	20-lug	83,09%	90,02%	86,52%	93,02%	97,23	195,13
4	21-lug	83,03%	88,60%	85,19%	91,88%	97,95	197,09
5	22-lug	91,10%	90,35%	93,58%	93,15%	88,63	193,63
6	23-lug	90,97%	89,55%	92,58%	92,30%	75,38	186,67
7	24-lug	91,60%	91,18%	93,58%	93,79%	73,94	188,93
8	25-lug	91,10%	89,45%	92,69%	91,91%	74,67	190,41
9	26-lug	91,44%	89,79%	93,22%	92,26%	75,20	192,21
10	27-lug	92,26%	91,04%	93,29%	92,96%	75,65	193,56
11	28-lug	95,71%	91,68%	96,59%	93,57%	61,63	194,14
12	29-lug	92,34%	90,18%	94,09%	92,88%	76,37	196,82
13	30-lug	91,84%	89,86%	93,71%	92,64%	77,72	201,27
14	31-lug	91,73%	89,17%	93,67%	92,06%	78,53	203,80
15	01-ago	93,33%	89,93%	94,36%	92,02%	78,92	205,57
16	02-ago	93,34%	89,30%	95,26%	92,40%	80,11	208,52
17	03-ago	92,98%	89,68%	94,76%	92,72%	80,35	209,25
18	04-ago	95,29%	89,38%	96,74%	92,51%	66,22	211,99
19	05-ago	92,97%	88,95%	94,66%	91,87%	82,38	213,41
20	06-ago	93,51%	90,03%	95,02%	92,67%	82,81	214,32
21	07-ago	93,53%	90,42%	95,11%	93,15%	31,97	213,38
33	19-ago	96,64%	93,82%	96,93%	94,44%	39,65	239,58
34	20-ago	95,24%	93,78%	95,54%	94,33%	81,79	243,03
35	21-ago	92,26%	88,52%	93,90%	91,47%	81,96	243,58
36	22-ago	91,58%	86,15%	92,40%	88,31%	83,15	246,54
37	23-ago	91,57%	86,78%	92,54%	89,17%	83,36	249,14
38	24-ago	92,29%	87,71%	94,28%	91,13%	84,51	248,82
39	25-ago	94,16%	87,15%	95,90%	90,76%	68,70	249,86
40	26-ago	90,73%	86,03%	92,92%	90,03%	85,47	251,14
41	27-ago	91,82%	86,00%	92,93%	89,74%	86,73	251,45
42	28-ago	92,61%	87,97%	94,52%	91,44%	88,33	256,66
43	29-ago	92,19%	87,45%	93,32%	90,22%	89,36	259,27
44	30-ago	91,88%	87,28%	92,18%	89,28%	91,14	264,12
45	31-ago	91,51%	87,10%	91,71%	88,97%	91,69	267,72
46	01-set	93,79%	87,03%	95,15%	89,72%	78,04	272,64
47	02-set	92,29%	87,98%	92,91%	90,03%	92,98	274,18
48	03-set	92,52%	89,04%	94,47%	92,04%	93,46	280,42
49	04-set	92,97%	89,37%	94,81%	92,34%	94,31	288,70
50	05-set	96,33%	90,08%	97,04%	92,30%	94,67	286,69
51	06-set	96,46%	92,30%	96,77%	91,43%	94,75	288,14
52	07-set	95,76%	91,89%	96,37%	91,68%	95,31	291,73
53	08-set	96,46%	89,76%	97,29%	92,09%	85,84	290,05
54	09-set	97,26%	93,08%	97,43%	93,78%	94,24	282,56
55	10-set	95,38%	91,90%	95,72%	92,37%	94,68	284,24
56	11-set	93,73%	89,05%	94,35%	92,51%	94,93	285,82
57	12-set	96,56%	91,78%	96,96%	93,44%	96,03	292,92
58	13-set	93,74%	90,15%	95,08%	91,89%	95,81	286,77
59	14-set	94,30%	91,60%	94,67%	92,66%	95,97	292,38
60	15-set	94,26%	87,80%	94,27%	91,54%	90,03	297,23
61	16-set	94,55%	89,05%	94,97%	91,90%	96,42	295,52
62	17-set	90,93%	86,60%	92,83%	88,65%	96,09	297,69
63	18-set	91,26%	87,25%	93,03%	89,30%	96,53	296,87
64	19-set	93,33%	86,86%	94,60%	90,04%	96,24	296,39
65	20-set	93,24%	89,12%	95,10%	91,85%	97,24	300,98
66	21-set	92,55%	88,86%	94,02%	91,33%	97,69	306,53
67	22-set	94,03%	88,22%	95,21%	90,60%	94,13	307,22
68	23-set	93,52%	87,55%	94,56%	92,89%	98,15	307,27
69	24-set	93,25%	90,81%	94,13%	91,85%	98,30	310,84
70	25-set	91,23%	87,37%	93,30%	90,19%	98,49	308,94
71	26-set	94,84%	85,42%	95,34%	86,70%	98,84	307,76
72	27-set	99,09%	90,10%	99,48%	92,48%	100,22	305,96
73	28-set	99,20%	92,90%	99,61%	92,51%	99,12	307,45
74	29-set	98,71%	93,28%	99,10%	93,41%	95,11	302,43
75	30-set	98,61%	91,75%	99,04%	92,74%	73,81	305,78
76	01-ott	98,82%	94,17%	99,13%	94,30%	62,08	303,13
77	02-ott	98,32%	95,07%	98,70%	94,61%	101,10	304,23
78	03-ott	95,03%	87,08%	95,95%	84,88%	100,33	298,93
79	04-ott	92,48%	80,82%	93,96%	76,78%	101,40	294,92
80	05-ott	96,66%	90,90%	97,47%	89,73%	100,74	294,85
81	06-ott	99,11%	90,17%	99,39%	90,88%	98,09	296,78
82	07-ott	99,22%	92,91%	99,44%	93,06%	102,47	300,76
83	08-ott	99,46%	92,36%	99,66%	92,55%	104,10	304,39
84	09-ott	99,13%	91,74%	99,40%	91,68%	103,74	303,08
85	10-ott	99,34%	92,34%	99,65%	92,70%	104,78	303,20
86	11-ott	96,31%	91,35%	96,65%	91,85%	105,08	304,22
87	12-ott	95,76%	91,80%	94,13%	92,25%	105,20	302,72
88	13-ott	96,38%	92,44%	95,58%	92,73%	98,53	301,40
89	14-ott	96,39%	92,46%	94,61%	93,84%	105,67	304,67
90	15-ott	95,45%	90,93%	94,67%	93,06%	106,18	308,29
91	16-ott	96,42%	89,88%	95,63%	91,53%	105,90	306,18
92	17-ott	96,49%	92,47%	95,04%	92,93%	106,42	310,51
93	18-ott	95,13%	88,13%	96,31%	86,12%	106,65	306,41
94	19-ott	96,82%	91,77%	96,22%	92,62%	106,74	305,80
95	20-ott	96,76%	92,75%	96,23%	92,99%	99,28	305,60





Trattamento Total Quality

Sistema integrato per esigenze assolute

Per una purificazione dell'aria di standard farmaceutico/ospedaliero, il trattamento dell'aria interna può essere integrato con unità periferiche standalone.

Il sistema centralizzato purifica l'aria in entrata dall'esterno, mentre i sistemi standalone rimuovono efficacemente particelle a livello ultrafine (sotto i 100 nanometri), composti organici volatili, polline, muffe, batteri, virus e altri inquinanti generati dalla presenza e dalle attività umane negli spazi interni, garantendo una qualità dell'aria senza pari.



QUANDO SERVE DI PIÙ

L'Integrazione con sistemi standalone offre uno standard qualitativo senza precedenti



Airdog X8

Alte prestazioni, ideale per ampi spazi come ospedali, industrie alimentari, magazzini e aree di preparazione, laboratori, centri commerciali e uffici.

Il modello X8 offre prestazioni senza pari, certificate da enti come la FDA degli Stati Uniti, il Servizio Sanitario Nazionale del Regno Unito, i laboratori Hygcen in Germania, SGS e l'Università di Bologna.

Agisce sia sull'aria fresca prelevata dall'esterno sia sull'aria ricircolata e inquinata all'interno. Il sistema è disponibile in una gamma di unità adattabili a diversi contesti spaziali, supportato da un sistema intelligente di controllo e monitoraggio.

Applicabile come integrazione ai sistemi centralizzati e in luoghi in cui l'installazione di HVAC non è possibile.

CADR Clean Air delivery rate **1000 m³/h**

Dimensions **76 x 38 x 38 cm**

Riduzione

99,9%



Scheda comparativa tecnica tra varie tecnologie di purificazione aria

COMPARAZIONE TECNICA TRA VARIE TIPOLOGIE DI PURIFICAZIONE ARIA***

Funzione	Requisiti Linee guida	TPA by AIRDOG	Filtrazione HEPA	Irraggiamento UV-C	Ionizzazione	Fotocatalisi	Generazione Perossido	Generazione Ozono
È sicuro per uso in presenza	Necessario	✓	✓**	? Solo se opportunamente schermato	? Studio americano evidenzia la pericolosità*	? Potenziale emissione By-Products	✗	✗
Velocità 10 L/S/persona (900 m ³ /h per 25 persone)	Necessario	✓ Fino a circa 1000 m ³ /h	? Dipende dal modello	? Dipende dal modello	? Dipende dal modello	? Dipende dal modello	! N/A	! N/A
Doppia funzionalità: filtrazione particolato e sterminazione microorganismi	Necessario	✓	✗	✗	✗	✗	✗	✗
In grado di sterminare virus e batteri	Necessario	✓	✗	✓	✓ Si se in adeguate concentrazioni	✓	✓ Si se in adeguate concentrazioni	✓ Si se in adeguate concentrazioni
Filtra particolato	Necessario	✓	✓	✗	✗	✗	✗	✗
Filtra particolato ultrafine	Raccomandato	✓	? Solo in casi particolari	✗	✗	✗	✗	✗
Bassi costi di manutenzione e operativi	Raccomandato	✓ Irrisori	✗ Filtro da sostituire frequentemente	✗ Lampade da sostituire	✓ Irrisori	✓ Irrisori	✗ Elevati	✓ Irrisori
Sostenibile. (Non genera rifiuti speciali)	Raccomandato	✓	✗	✗	✓	✓	✓	✓

*** Tabella generica a titolo indicativo delle tecnologie e metodologie più diffuse di purificazione d'aria. Modelli specifici o combinati potrebbero avere caratteristiche diverse.

** I filtri HEPA sono rifiuti speciali pericolosi da manipolare quando esausti.

* [Link pericolosità Ionizzatori](#) [Link pericolosità manipolazione filtri HEPA - Rifiuti Speciali](#)

CERTIFICATIONS



Underwriter Laboratories Inc.



ISO 9001
ISO 14001
OHSAS 18001



Technischer Überwachungs Verein



Conformité Européenne



Low Voltage Directive



Electro Magnetic Compatibility

RoHS

Restriction of Hazardous Substances



Test Report No.: CY/2019/90196 Date: 2019/10/18 Page: 2 of 4

Test Result(s)

PART NAME No.1 : AIR PURIFIER

Test Item and Method : Performance Test

Experiment test

- The product was set up in a 2.9m*1.4m*1.9m of test chamber as the client requested.
- Analyzing the Total Bacteria Counts in air before and after processing **an hour later**.

Control test

- The test procedure was as same as experiment without putting the product.
In order to understand the performance of product in suppression effect of Total Bacteria Counts.

Test Result

Test Item	Unit	Control test	Experiment test	Elimination ratio(%)
Total Bacteria Counts	CFU/m ³	4111	<6	>99.9

Test Report No.: CY/2019/90196 Date: 2019/10/18 Page: 3 of 4

Test Item and Method : Performance Test

Experiment test

- The product was set up in a 2.9m*1.4m*1.9m of test chamber as the client requested.
- The Particulates were injected in the 2.9m*1.4m*1.9m chamber and made sure the PM_{2.5} concentration be mixed and stabilized by the detector.
- Monitoring the concentration of PM_{2.5} in air before turning on the product and after processing **an hour later**.

Control test

- The test procedure was as same as experiment without putting the product, in order to understand the performance of the product in suppression effect of PM_{2.5}.

Test Result

Test Item	Unit	Control test	Experiment test	Elimination ratio(%)
Fine Suspended Particulates(PM _{2.5})	µg/m ³	1140	<1	>99.9

Test Item and Method : Performance Test

Experiment test

- The product was set up in a 2.9m*1.4m*1.9m of test chamber.
- The test odor gas (individually by Formaldehyde odor) was injected in the 2.9m*1.4m*1.9m test chamber.
- Monitor the odor concentration by gas detector while the concentration were mixed and stabilized.
- To analyze the Formaldehyde in air before turning on the product and after processing **1 hour later**.

Control test

- The test procedure was as same as experiment without turning on the product, in order to understand the performance of the product in suppression effect of Formaldehyde.

Test Result

Test Item	Unit	Control test	Experiment test	Elimination ratio(%)
Formaldehyde	ppm	0.789	<0.001	>99.9

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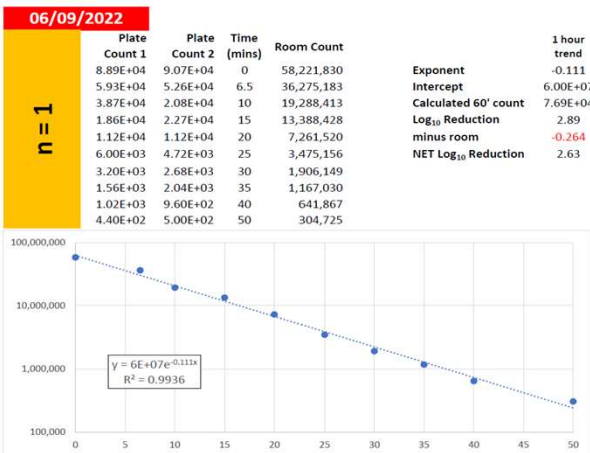
Academic Health Science Network for the North West Coast



Validation of the Airdog X8 Air Scrubber to the Liverpool Biovalidation Protocol

Airdog X8

Ref	AS0009
Room	Chamber 3 used for real-world evaluation
Room size	129.7 m ³
Mean Temp	23.7 °C (estimated)
Mean RH	57.0 % (estimated)
Fan Setting	800 m ³ /hr



November 22, 2022

Beiang Air Tech LTD.
% Tyra Chiu
Regulatory Specialist
Medical Wisdom, LLC
12F-4, No. 81, Sec. 2, Chang'an E. Rd., Zhongshan Dist.
Taipei, 10491
Taiwan

Re: K211507
Trade/Device Name: Airdog X5 Recirculating Air Cleaner (model KJ300F-X5)
Regulation Number: 21 CFR 880.5045
Regulation Name: Medical recirculating air cleaner
Regulatory Class: Class II
Product Code: FRF
Dated: October 21, 2022
Received: October 21, 2022

Dear Tyra Chiu:

We have reviewed your Section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. Although this letter refers to your product as a device, please be aware that some cleared products may instead be combination products. The 510(k) Premarket Notification Database located at https://www.accessdata.fda.gov/scripts/cdrh/cdreh/cfpmm/pmm_pmm.cfm identifies combination product submissions. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the [Federal Register](http://www.fda.gov).

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's



BIOSAFETY UNIT
LABORATORY OF BIOLOGY

CERTIFICATO DI ANALISI

Data del Certificato: 29/01/2021
Tipo Test: Test Sanificazione Aria

Strumento testato: TPA by Airdog X5
Modello: KJ300F-X5, numero di serie BAK139A011028
Costruttore: Anhui BeiAng Air Tech Ltd.

Durata Test	Virus utilizzato	Concentrazione del virus aerosolizzato (TCID50/M3) misurato a macchina spenta	Concentrazione del virus aerosolizzato (TCID50/M3) misurato a macchina accesa livello 3	riduzione in % del titolo
30 secondi	SARS-Cov2 B1 lineage	5.00x 10 ⁶	4.90x 10 ⁴ ± 2.5 x 10 ⁴	99.02

Metodologia

Virus aerosolizzato utilizzando un nebulizzatore in una camera da 0.17 m3
Misurazione per 5 minuti di cellule E6 Vero in una camera da 0.17 m3 in modalità accesa e spenta (triplicato)
Incubazione per 36 ore (37°C, 5% CO2) e quantificazione RT-PCR in tempo reale (SARS-Cov2 N, E)



Responsabile delle analisi

Ioannis Karakasiotis

Professore Assistente di Biologia Medica - Virologia Molecolare
Dipartimento di Medicina, Università Democritus della Tracia

Dr. med. univ. Sebastian Werner
Facharzt für Hygiene und Umweltmedizin



c/o
HygDen Germany GmbH
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19055 Schwerin

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Web: www.hygden.de

2021-09-10

DENTDEAL Produkt & Service GmbH
Alte Straße 68
94034 Passau

Effectiveness of a room air disinfection process Airdog X8 in terms of a germ reduction of aerosolized germs in the room air

EXPERT OPINION

Summary and evaluation

After 120 minutes, no more bacteriophages Coliphage *phi X174* could be detected in the room air. The highest reduction rate for the tested device Airdog X8 has been determined under the tested conditions (humidity at the start of the introduction of the aerosol 63% rel. humidity, 20°C, 75m³ room volume, setting of the device to an air turnover rate of 100m³/h) after one hour with >3.39lg stages.

The present results, with respect to coliphage *phi X174*, also suggest an efficacy of the procedure against other viruses (at least enveloped viruses, including coronaviruses). Thus, when the method is used, effective germ reduction can be achieved directly in the air.

Dr. med. univ. S. Werner

National Center of Quality Supervision and Inspection and Testing for Air Conditioning Equipment Test Report

报告编号: 2016A483

共 9 页 第 6 页

样品编号 2016A483

Test Result

test item	time point (min)	concentration (number/L)			purification efficiency		
		14.6nm	51.4 nm	101.8 nm	14.6nm	51.4 nm	101.8 nm
purification efficiency	0	429359	168161	897965	/	/	/
	2	280836	98386	596610	34.6	41.5	33.6
	4	176650	93156	439567	58.9	44.6	51.0
	6	84952	47803	302540	80.2	71.6	66.3
	8	69921	45054	191386	83.7	73.2	78.7
	10	50248	21101	160967	88.3	87.5	82.1
	12	30379	22928	115989	92.9	86.4	87.1
	14	29228	17380	77018	93.2	89.7	91.4
	16	12340	8859	51377	97.1	94.7	94.3
	18	6823	6698	44981	98.4	96.0	95.0
	20	7019	3543	26188	98.4	97.9	97.1
	22	6626	2233	19529	98.5	98.7	97.8
	24	4680	1488	13009	98.9	99.1	98.6
	26	3162	1542	7425	99.3	99.1	99.2
	28	2340	1488	3963	99.5	99.1	99.6
	30	2340	1041	3819	99.5	99.4	99.6
	32	2340	889	4441	99.5	99.5	99.5
	34	2340	744	3223	99.5	99.6	99.6
	36	2143	704	3580	99.5	99.6	99.6
	38	1051	504	1193	99.8	99.7	99.9
	40	1151	208	1790	99.7	99.9	99.8
	42	undetectable	103	980	>99.9	99.9	99.9
	44	undetectable	undetectable	1193	>99.9	>99.9	99.9
	46	undetectable	undetectable	1193	>99.9	>99.9	99.9
	48	undetectable	undetectable	836	>99.9	>99.9	99.9
	50	undetectable	undetectable	597	>99.9	>99.9	99.9
	52	undetectable	undetectable	583	>99.9	>99.9	99.9
	54	undetectable	undetectable	undetectable	>99.9	>99.9	>99.9
	56	undetectable	undetectable	undetectable	>99.9	>99.9	>99.9
	58	undetectable	undetectable	undetectable	>99.9	>99.9	>99.9
60	undetectable	undetectable	undetectable	>99.9	>99.9	>99.9	



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SILICON VALLEY AIR EXPERT.

Report No.: 201029108GZU-001

Date: July 17, 2021

Contact Name: Yan Zhang
Address: 2051 Junction Ave #212, San Jose, CA 95131, USA
Phone: 408-912-1798
Email: info@airdogusa.com

SECTION 1

SUMMARY

The representative sample(s) have been tested, investigated, and found to comply with the requirements of standards:

Electrostatic Air Cleaners, UL 867, Section 40, Fifth Edition, August 4, 2011 revision: AUGUST 7, 2018.

Electrostatic Air Cleaners, [CSA C22.2#187:2020 Ed.5], Section 7.4

The equipment identified in this report has been found to meet the criteria for emittance of ozone not exceeding a concentration of 0.050 ppm. Furthermore, a second sample was not required to be tested, according to UL 867, as the first sample's maximum emissions were less than 0.030 ppm, which satisfies item a) in the Section 40.1.1.

This report completes our evaluation covered by Intertek Project Number 201029108GZU which has been authorized by Intertek quote number: QGZ201013032 & QGZ210408107. If there are any questions regarding the results contained in this report, or any of the other services offered by Intertek, please do not hesitate to contact the above signed.

OZONE EMISSIONS SUMMARY

FAN SPEED	FILTER(S)	O3/VOLTAGE SETTING	C(t) _{max} [ppm]
800 (Highest)	Pre-filter, ESP filter and carbon filter	-	0.004
Sleep (Lowest)	Pre-filter, ESP filter and carbon filter	-	0.007
Sleep (Lowest)	Pre-filter and carbon filter	-	0.001
Sleep (Lowest)	ESP Filter	-	0.022

The maximum Time-Weighted-Average: 0.021 ppmv

Completed by: Sylvia Xu/Sunny Zhou
Engineer/Assistant
Technical Manager

Reviewed by: Michael Hudon
Sr. Project Engineer

Signature:

Signature:

Date: July 17, 2021

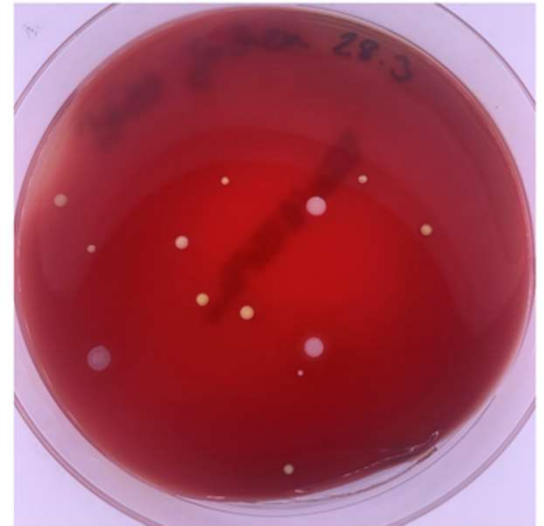
Date: 20 August 2021



23.02.2023 @ Office 1



5 days Airdog X8



28.02.2023 @ Office 1



23.02.2023 @ Office 2



5 days Airdog X8



28.02.2023 @ Office 2

Microbiological Examination of Bacteria

@ IFZA Office

Air Sample 500l @ Astragene
Sheep Blood Agar Plates

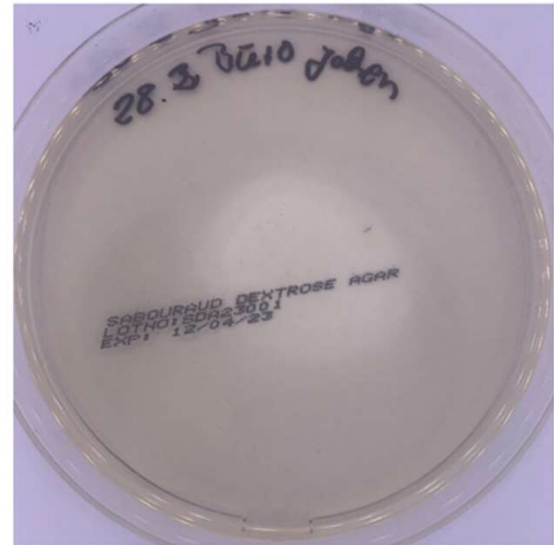
- Qualitative analysis of airborne bacteria before and after using the Airdog X8 Air Sanitizer
- Bacterial source (f.e. air condition, carpet) is still emitting and can never be removed completely
- Significant reduction in colony-forming bacteria by using Airdog X8 Air Sanitizer



23.02.2023 @ Office 1



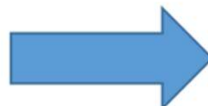
5 days Airdog X8



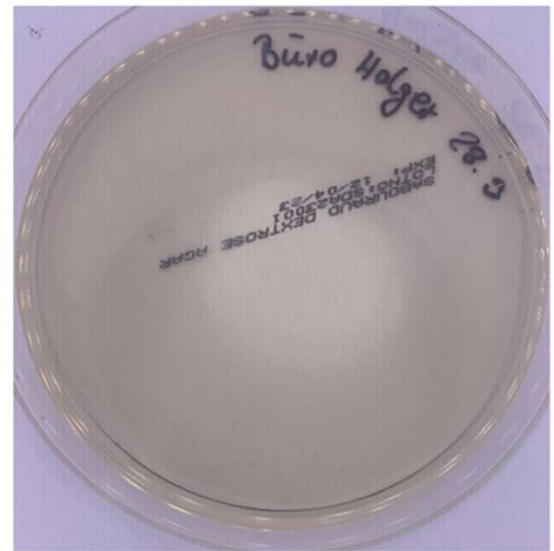
28.02.2023 @ Office 1



23.02.2023 @ Office 2



5 days Airdog X8



28.02.2023 @ Office 2

Microbiological Examination of Fungal Spores

@ IFZA Office

Air Sample 500l @ Astragene Sabouraud Dextrose Agar Plates

- Qualitative analysis of airborne fungal spores before and after using the Airdog X8 Air Sanitizer
- Black Mold was detected before
- Fungal Source (Air Condition) is still present, but Fungus Spores are nearly completely eliminated from Air by Airdog and will be reduced in AC and Ducts on the long term too.

Bibliografia: alcuni studi sulla pericolosità esposizione al particolato

- 📄 **"Health Effects of Ultrafine Particles: A Systematic Literature Review Update of Epidemiological Evidence" (Hoek et al., 2010):** Una revisione sistematica che aggiorna le prove epidemiologiche sugli effetti sulla salute del particolato ultrafine, riportando associazioni significative tra esposizione a PUF e malattie respiratorie e cardiovascolari. Puoi leggere il documento su Springer: [Health Effects of Ultrafine Particles: A Systematic Literature Review Update of Epidemiological Evidence](#).
- "Characterizing the Sources and Drivers of Air Pollution: Insights from Long-term Measurements and Advanced Data Analysis Techniques"** focuses on identifying and analyzing the various sources and contributing factors to air pollution. The research involves long-term data collection and the use of advanced analytical methods to understand how different pollutants are emitted, transported, and transformed in the atmosphere. This type of study aims to provide insights that can inform policies and strategies to mitigate air pollution and protect public health. To get the exact details, you can access the study directly through the [ACS Publications website](#).
- "Ultrafine particulate matter pollution and dysfunction of endoplasmic reticulum Ca²⁺ store: A pathomechanism shared with amyotrophic lateral sclerosis motor neurons?"** investigates how exposure to ultrafine particulate matter (UFP) pollution might lead to dysfunction in the endoplasmic reticulum's calcium (Ca²⁺) storage. This dysfunction is suggested to be a common mechanism that could contribute to the development of motor neuron damage seen in amyotrophic lateral sclerosis (ALS). The study explores the potential link between environmental pollution and neurodegenerative diseases through cellular pathways. For more details, you can access the study [here](#).
- 📄 **Special Edition on Ultrafine Particles**
[Study link](#)
This special edition focuses on ultrafine particles, discussing their sources, characteristics, and health effects. It provides a comprehensive overview of current research on ultrafine particulate matter.
- 📄 **Ultrafine Particles and Kidney Health**
[Study link](#)
This study examines the effects of ultrafine particles on kidney health, suggesting that these particles can accumulate in kidney tissue and impair kidney function, posing a significant health risk.
- 📄 **Cell Death Caused by Exposure to Particulate Matter**
[Study link](#)
This study investigates how exposure to particulate matter can induce cell death, contributing to various health issues. It highlights the mechanisms by which particulate matter affects cellular health and promotes disease.
- 📄 **"Ultrafine Particles: Characterization, Health Effects and Pathophysiological Mechanisms" (HEI Review Panel on Ultrafine Particles, 2013):** Questo studio esamina gli effetti del particolato ultrafine sulla salute, inclusi problemi respiratori e cardiovascolari, discutendo i meccanismi di penetrazione nel sistema respiratorio e circolatorio, causando infiammazione e stress ossidativo. Puoi accedere al documento direttamente dal sito dell'Health Effects Institute (HEI): [Understanding the Health Effects of Ambient Ultrafine Particles](#).

Bibliografia: alcuni studi sulla pericolosità esposizione al particolato

📄 **Special Edition on Ultrafine Particles**

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This special edition focuses on ultrafine particles, discussing their sources, characteristics, and health effects. It provides a comprehensive overview of current research on ultrafine particulate matter.

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High Levels of Particulate Air Pollution Associated with Increased Breast Cancer Incidence

[Study link](#)

This study finds a link between high levels of particulate air pollution and an increased incidence of breast cancer, suggesting that environmental factors play a role in cancer risk.

📄 **Pericolosità particolato Ultrafine - CNR Università Federico II Napoli Politecnico Milano**

[Study link](#)

This study conducted by Italian institutions (CNR, University Federico II of Naples, and Politecnico of Milan) examines the dangers of ultrafine particulate matter, focusing on its potential health risks and environmental impacts.

📄 **Air Pollution Can Harm Pregnancy by Affecting Gene Expression in the Placenta**

[Study link](#)

This study discusses how air pollution affects pregnancy by altering gene expression in the placenta, leading to adverse outcomes such as preeclampsia and low birth weight.

📄 **Air Pollution Exposure Linked to Higher Risk of Autoimmune Diseases**

[Article link](#)

This article reports on research linking exposure to air pollution with an increased risk of autoimmune diseases, suggesting that environmental factors significantly influence immune system health.

📄 **Pollution Nanoparticles May Enter Your Blood and Cause Disease**

[Article link](#)

This article explains how nanoparticles from pollution can enter the bloodstream and potentially cause various diseases, emphasizing the pervasive and harmful effects of air pollution.

Bibliografia: alcuni studi sulla pericolosità esposizione al particolato

🔍 **Short-term Exposure to Particulate Matter Air Pollution and Cardiovascular Events: A Systematic Review and Meta-Analysis**

[Study link](#)

This study reviews and analyzes the cardiovascular problems associated with short-term exposure to particulate matter. It concludes that even brief exposure to particulate pollution can trigger significant cardiovascular events.

🔍 **Even Low Levels of Air Pollution Harm Heart and Lungs**

[Article link](#)

This article reports on studies showing that low levels of air pollution can still cause damage to the heart and lungs, emphasizing that there is no safe level of exposure to air pollution.

🔍 **Air pollution may be damaging every organ and cell in the body, finds global review**

[Article link](#)

This article summarizes a global review that finds air pollution can damage every organ and cell in the body. It discusses various health impacts, including respiratory, cardiovascular, and neurological effects.

🔍 **Ultrafine Particulate Matter and DNA Damage: A Potential Risk for Cancer**

[Study link](#)

This study investigates the damage ultrafine particulate matter can cause to DNA, potentially increasing the risk of cancer. It emphasizes the importance of understanding which types of particulate matter are most harmful.

🔍 **Air Pollution from Different Emission Sources Associated with Incident Dementia**

[Study link](#)

This study explores the association between exposure to air pollution from various emission sources and the incidence of dementia. It highlights how different pollutants can contribute to cognitive decline.

Cardiovascular and Respiratory Morbidity and Mortality Among Professional Drivers in Taiwan"

(Chen et al., 2005) Questo studio esamina la morbilità e la mortalità cardiovascolare e respiratoria tra gli autisti professionisti a Taiwan. I risultati indicano un aumento significativo dei tassi di morbilità e mortalità per queste patologie tra i conducenti professionisti rispetto alla popolazione

- 🔍 **"Exposure to Traffic-Related Air Pollution and Risk of Development of Multiple Sclerosis: A Population-Based Study" (Palmer et al., 2013):** Questo studio esplora la relazione tra l'esposizione al particolato ultrafine da inquinamento del traffico e lo sviluppo della sclerosi multipla, suggerendo un aumento del rischio tra le persone esposte ad alti livelli di PUF. Trova l'articolo completo su PubMed: [Exposure to Traffic-Related Air Pollution and Risk of Development of Multiple Sclerosis](#).

Bibliografia: alcuni studi sulla pericolosità esposizione al particolato

"Ambient Air Pollution and Lung Cancer Incidence in 17 European Cohorts: Prospective Analyses from the European Study of Cohorts for Air Pollution Effects (ESCAPE)" (Raaschou-Nielsen et al., 2013): Uno studio europeo che analizza l'incidenza del cancro ai polmoni in relazione all'esposizione a vari inquinanti atmosferici, inclusi i particolati ultrafini, indicando una forte associazione tra esposizione a PUF e aumento del rischio di cancro ai polmoni. Puoi leggere lo studio su PubMed: [Ambient Air Pollution and Lung Cancer Incidence](#).

📄 **"Ultrafine Particles in the Workplace: A Review of Exposure, Occurrence, and Health Effects" (Schulte et al., 2012):** Questa revisione si concentra sull'esposizione a particolato ultrafine nei luoghi di lavoro e sugli effetti sulla salute dei lavoratori, discutendo patologie respiratorie, cardiovascolari e neurologiche legate all'esposizione professionale a PUF. L'articolo completo è disponibile su NCBI: [Ultrafine Particles in the Workplace: A Review of Exposure, Occurrence, and Health Effects](#).

Gaining Traction, Losing Tread

[Study link](#)

This study focuses on the quantity of ultrafine particles emitted from tire wear. It discusses the implications of these emissions for air quality and public health.

📄 **Air pollution affects every cell in the human body**

[Video link](#)

This video features a pulmonologist discussing the extensive effects of air pollution on human health, emphasizing how pollutants can impact various bodily systems and contribute to numerous diseases.

📄 **Health risks associated with ultrafine particles**

[Study link](#)

This study reviews the health risks posed by ultrafine particles, focusing on their ability to penetrate deep into the lungs and enter the bloodstream, leading to respiratory and cardiovascular diseases.

📄 **Air pollution particles in young brains linked to Alzheimer's damage**

[Article link](#)

This article discusses research linking the presence of air pollution particles in young brains to damage associated with Alzheimer's disease. It highlights the potential long-term neurological effects of air pollution exposure.

📄 **Childhood cancers rise by a third in Scotland with air pollution driving increase**

[Study link](#)

This article discusses a significant increase in childhood cancer cases in Scotland, attributing this rise to air pollution. It highlights the growing concern about the impact of environmental pollutants on children's health.

Bibliografia: alcuni studi sulla pericolosità esposizione al particolato

- ❓ **Characterising professional drivers' exposure to traffic-related air pollution: Evidence for reduction strategies from in-vehicle personal exposure monitoring**
[Study link](#)
This study focuses on measuring and analyzing the exposure of professional drivers to traffic-related air pollution using in-vehicle personal exposure monitoring. The goal is to identify effective strategies to reduce this exposure and improve drivers' health.
- ❓ **Traffic-related fine and ultrafine particle exposures of professional drivers and illness: an opportunity to better link exposure science and epidemiology to address an occupational hazard?**
[Study link](#)
This study investigates the exposure of professional drivers to fine and ultrafine particles from traffic emissions and its link to various illnesses. It emphasizes the need to connect exposure science with epidemiology to address occupational health hazards more effectively.
- ❓ **Occupational Vehicle-related Particulate Exposure and Inflammatory Markers in Trucking Industry Workers**
[Study link](#)
This research examines the exposure of trucking industry workers to vehicle-related particulate matter and its association with inflammatory markers. It highlights the health risks faced by these workers due to prolonged exposure to particulate pollution.
- ❓ **Professional drivers put at greater risk of cancer, says new research**
[Study link](#)
This article summarizes research indicating that professional drivers are at a higher risk of developing cancer due to their prolonged exposure to traffic-related air pollution, particularly diesel exhaust.
- Exposure to Traffic-Related Air Pollution and the Risk of Developing Cardiovascular Disease in Professional Drivers: A Systematic Review" (Mejía et al., 2011) (BioMed Central).** Questo studio esamina l'associazione tra l'esposizione al particolato atmosferico e il rischio di sviluppare malattie cardiovascolari tra gli autisti professionisti. Gli autori concludono che c'è una correlazione significativa tra l'esposizione agli inquinanti del traffico e un aumento del rischio di malattie cardiovascolari.
- "Respiratory Health Effects of Occupational Exposure to Diesel Exhaust in a Cohort of Truck Drivers" (Hart et al., 2013) (BioMed Central).** Questo studio di coorte si concentra sugli effetti respiratori dell'esposizione ai gas di scarico dei diesel nei camionisti. I risultati indicano un aumento della prevalenza di sintomi respiratori e una diminuzione della funzione polmonare correlata all'esposizione prolungata ai gas di scarico.
- "Occupational Exposure to Traffic Emissions and Lung Cancer Risk among Professional Drivers in Denmark: A Case-Control Study" (Olsson et al., 2011) (BioMed Central).** Questo studio caso-controllo indaga il rischio di cancro ai polmoni tra gli autisti professionisti esposti agli inquinanti del traffico in Danimarca. I risultati mostrano un aumento del rischio di cancro ai polmoni associato all'esposizione prolungata agli inquinanti atmosferici derivanti dal traffico.
- "Air Pollution and Arterial Stiffness in Truck Drivers" (Śliwczyński et al., 2020)** Questo studio analizza la relazione tra l'inquinamento atmosferico e la rigidità arteriosa nei camionisti. I risultati suggeriscono che l'esposizione a lungo termine agli inquinanti atmosferici può contribuire all'aumento della rigidità arteriosa, un indicatore di rischio cardiovascolare.

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Airdog
Breathe different