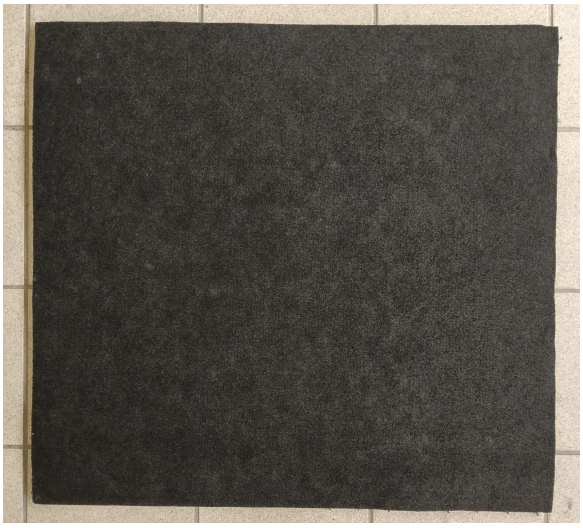
ALG ENGINEERING S.r.l. - Test according to ASHRAE 52.2 on filtering media PURITY TECH

Report n°: 26/014	**Date of report:** 04/03/2026

Revisione: *Revision:*	\
Commessa interna: *Internal reference:*	5637-25
Richiedente *Customer* Ente/Società (Dept/Firm): Sig. (Mr.): Indirizzo (Address):	 ALG Engineering S.r.l Silvia Segalini Via L. Einaudi 1/B, 30036 Santa Maria Di Sala (VE) ITALY
Rapporto di prova inviato a: *Report sent to:*	Silvia Segalini
Firma esecutore prove: *Signature of test executor:*	Massimo Ellena
Firma Responsabile Laboratorio: *Signature of Laboratory Manager:*	Enrico Tronville
Data ricevimento campioni: *Date of test samples receipt:*	11/02/2026
Data esecuzione prove: *Date of test execution:*	from 03/03/2026 to 04/03/2026
Località esecuzione prove: *Site of test execution:*	Laboratorio Texa - Via S. Gribaudo 22/A 10036 Chivasso (To) - Italy
Scopo delle prove: *Purpose if test:*	Performance analyses and classification
Norme/specifiche tecniche: *Standard/Technical specifications:*	ASHRAE 52.2 standard
Eventuali scostamenti, aggiunte o limitazioni: *Possible differences, additions or limitations:*	\

1 Campioni / identificazione ***Test unit / identification***	
Stato iniziale dei campioni: *Initial status of samples:*	[X] Compliant [ ] NOT compliant
	[ ] no indication available, objects will be tested as received



Manufacturer:	ALG Engineering
(1) Model/Type n°:	PURITY TECH
Texa code:	8446
Type of media:	not available
Effective media area [m2]:	0,31
Filter dimensions (HxD) [mm]:	560 x 560
Sampling and transport of items are under responsibility of the customer	
2 Condizioni di prova:	see pages from 3 to 9

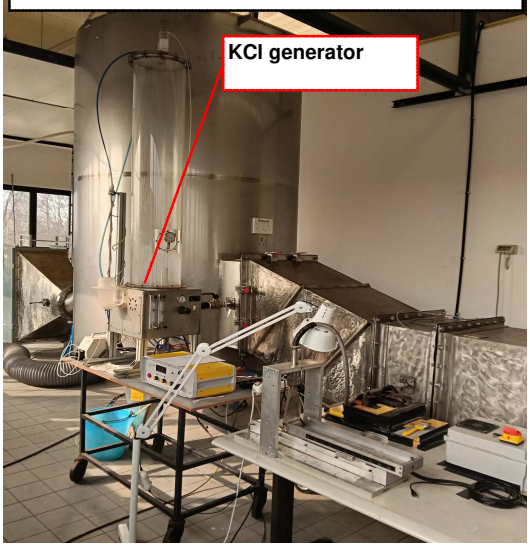
Note of test method: /

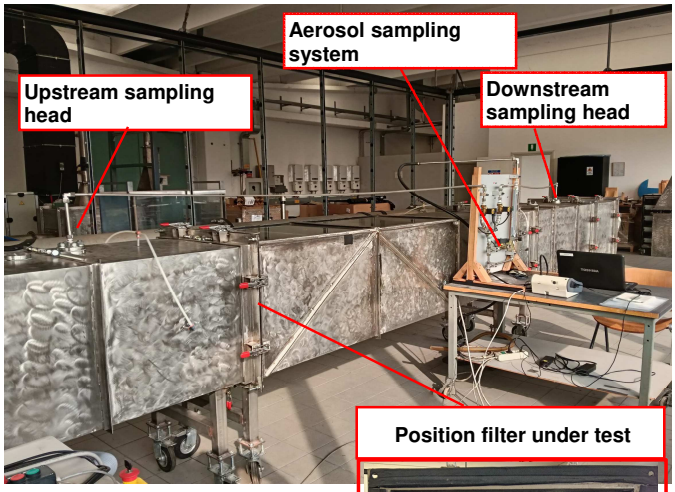
I risultati del presente rapporto di prova si riferiscono esclusivamente al campione sottoposto a prova, così come ricevuto.
The test results contained in this Test report relate to the tested samples only, as received.
E' ammessa la riproduzione integrale del presente Rapporto di prova da parte del Richiedente; la riproduzione parziale dev'essere autorizzata per iscritto dal Laboratorio.
The integral reproduction of the present Test report is allowed; the partial reproduction must be authorized in writing by the Laboratory.

ALG ENGINEERING S.r.l. - Test according to ASHRAE 52.2 on filtering media PURITY TECH

3 Risultati di prova: ***Test results:***	See from pag. 3 to pag. 9
	Applied method for Efficiency/Arrestance calculation: Efficiency see §10.1-10.6 ASHRAE 52.2 [X] Arrestance see §10.7 ASHRAE 52.2 [X]
4.1 Commenti generali (Opinioni /interpretazioni) ***General comments (Opinions/Interpretations) :***	/
4.2 (**) Risultati finali e/o dichiarazione circa la conformità ai requisiti di riferimento ***Final results and/or declaration about conformity to reference requirement)***	**Classification: MERV 11 @ 830 cfm** See page 3 for complete results See page 10 for expanded uncertainty values related to airflow, relative humidity, temperature and pressure drop
5 Impianto di prova: ***Test equipment:***	**Test system for ASHRAE 52.2 - cod. ATT 140**
Materiale fornito dal Cliente: *Equipment supplied by the Customer:*	/

EFFICIENCY TEST LAYOUT

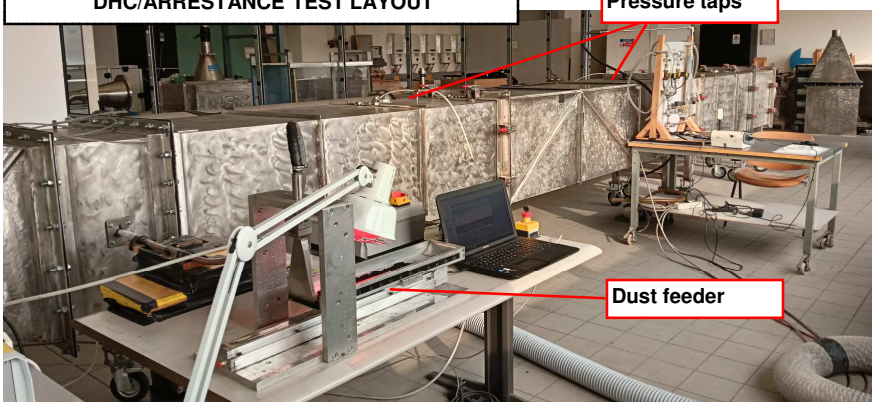




Position filter under test



DHC/ARRESTANCE TEST LAYOUT



(**) The results presented do not include the uncertainty values
(1) Information provided by the Customer

ALG ENGINEERING S.r.l. - Test according to ASHRAE 52.2 on filtering media PURITY TECH

GENERAL

Report n°:	26/014	Date of report:	04/03/26

DEVICE TESTED

Filter: PURITY TECH	Manufacturer: ALG Engineering S.r.l.	Filter dimensions (HxD) [mm]: 560x560
Type of media: not available	Effective media area [m2]: 0,31	Construction: Filtering media
Filter/media electrostatic charge: not available	Media color: black	Media adhesive: \

Device condition: new

Other descriptive info: \

INDEX - DATA TEST AND ATTACHED TEST REPORT

DP Test Report	Page 4
Efficiency Test Report	Pages 5,6
Arrestance Test Report	Pages 7,8,9
Expanded Uncertainties values	Page 10

OPC CHARACTERISTICS

Particle counter information:

Manufacturer:	Model:	Coincidence value [p/dm^3]:	Airflow:	Texa code:
TSI	3330	3.000.000	1 [l/min]	460

RESULTS

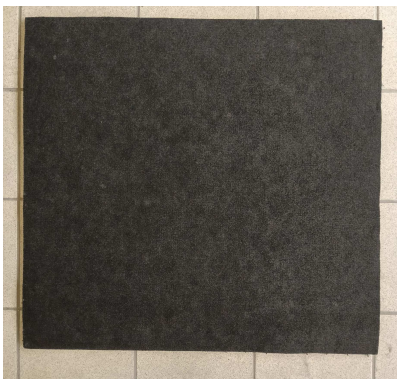
Temperature [°C]: 10°C ÷ 38°C	Relative Humidity [%]: 45%± 10%	Test airflow rate [m3/h]: Test airflow rate [cfm]: Face velocity [m/s]:	1411 830 1.25	0,39 [m3/s]

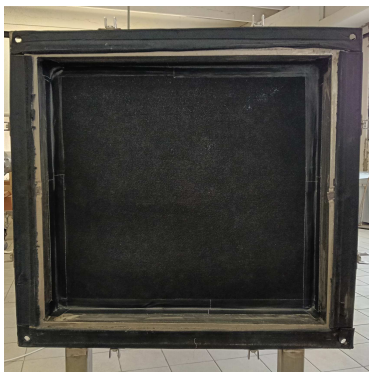
Test dust: Ashrae - Dust producer: PTI - Batch n°: 11381A

Test aerosol: KCl (0,3-10 µm)

Initial differential pressure:	*Initial Arrestance:*	*E1*	*E2*	*E3*	***Minimum Efficiency Reporting Value***
[Pa] *92*	*[%]* *95,2*				
Final differential pressure:	*Average Arrestance:*	*23%*	*80%*	*98%*	***MERV 11 @ 830 cfm***
[Pa] *353*	*[%]* *98,5*				

Test dust capacity [g]:
47,4







NOTE: The results of this test relate only to the test device in the condition stated herein. The performance results cannot by themselves be quantitatively applied to predict filtration performance in all "real-life" environmental environments.

ALG ENGINEERING S.r.l. - Test according to ASHRAE 52.2 on filtering media PURITY TECH

PRESSURE DROP TEST

Report n°:	26/014	Date of report:	04/03/26

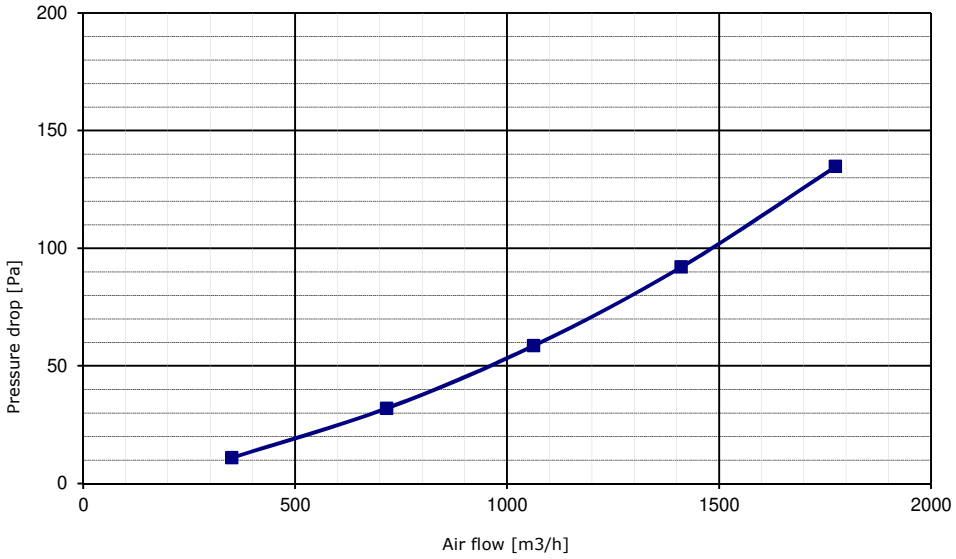
DATA TEST SUMMARY

Barometric pressure [Pa]:	*Test air temperature [°C]:*	*Test air RH [%]:*	
100100-100500	*10°C ÷ 38°C*	*45% ± 10%*	

TEST DATA DETAILS

Resistance to airflow initial	
Airflow rate [m3/h]	*Resist. to airflow [Pa]*
351	11
716	32
1063	59
1411	92
1775	135

GRAPH PRESSURE DROP



Remarks:

NOTE: The results of this test relate only to the test device in the condition stated herein. The performance results cannot by themselves be quantitatively applied to predict filtration performance in all "real-life" environmental environments.

ALG ENGINEERING S.r.l. - Test according to ASHRAE 52.2 on filtering media PURITY TECH

EFFICIENCY MEASUREMENTS TEST

Report n°:	26/014	Date of report:	04/03/26
Test airflow rate: [m3/h]	1411	*Test aerosol: KCl (0,3-10 µm)*	

OPC channel n°	Min diam. [µm]	Max diam. [µm]	Mean [µm]	Initial Eff.	After 1st dust load.	After 2nd dust load.	After 3rd dust load.	After 4th dust load.	After 5th dust load.	MCE
i	d_i	d_{i+1}	d_m	E_o	E_1	E_2	E_3	E_4	E_5	E_{min}
1	*0,30*	*0,40*	0,35	4,0%	8,4%	16,1%	18,1%	23,5%	22,7%	4,0%
2	*0,40*	*0,55*	0,47	13,9%	23,4%	30,9%	35,2%	39,4%	39,5%	13,9%
3	*0,55*	*0,70*	0,62	27,4%	39,9%	46,6%	54,8%	54,7%	55,6%	27,4%
4	*0,70*	*1,00*	0,84	46,6%	59,8%	64,9%	70,6%	71,3%	71,8%	46,6%
5	*1,00*	*1,30*	1,14	64,9%	80,0%	82,0%	82,2%	85,4%	85,1%	64,9%
6	*1,30*	*1,60*	1,44	76,3%	87,7%	87,6%	87,6%	89,9%	90,1%	76,3%
7	*1,60*	*2,20*	1,88	86,0%	93,1%	92,7%	91,7%	94,0%	93,4%	86,0%
8	*2,20*	*3,00*	2,57	93,2%	96,8%	95,8%	94,4%	96,4%	96,1%	93,2%
9	*3,00*	*4,00*	3,46	96,5%	98,2%	97,4%	96,7%	97,7%	97,4%	96,5%
10	*4,00*	*5,50*	4,69	98,3%	98,6%	98,4%	98,0%	98,3%	98,1%	98,0%
11	*5,50*	*7,00*	6,20	98,2%	99,0%	97,4%	98,4%	99,1%	98,1%	97,4%
12	*7,00*	*10,00*	8,37	100,0%	98,5%	99,0%	99,7%	98,2%	100,0%	98,2%

Remarks:

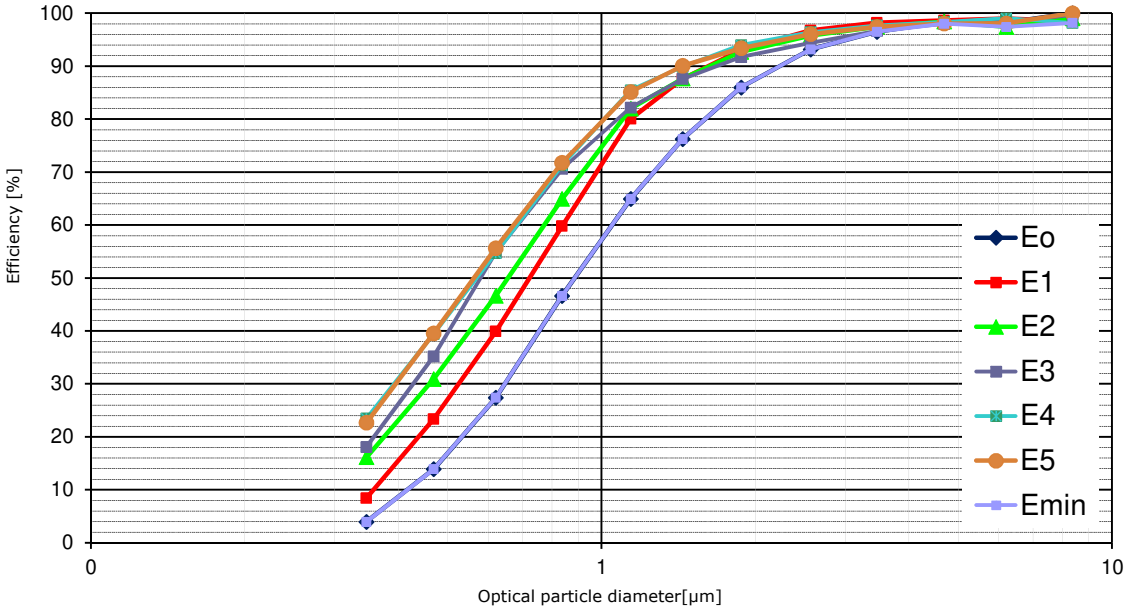
NOTE: The results of this test relate only to the test device in the condition stated herein. The performance results cannot by themselves be quantitatively applied to predict filtration performance in all "real-life" environmental environments.

ALG ENGINEERING S.r.l. - Test according to ASHRAE 52.2 on filtering media PURITY TECH

Report n°:	26/014	Date of report:	04/03/26

EFFICIENCY MEASUREMENT TEST

Fractional efficiency by particle size - Graph



NOTE: The results of this test relate only to the test device in the condition stated herein. The performance results cannot by themselves be quantitatively applied to predict filtration performance in all "real-life" environmental environments.

ALG ENGINEERING S.r.l. - Test according to ASHRAE 52.2 on filtering media PURITY TECH

Report n°:	26/014	Date of report:	04/03/26

DATA DETAILS

PRESSURE DROP IN NEW CONDITION

	Loaded dust	Airflow meter		Filter						
	mtot [g]	tf [°C]	qm [kg/h]	t [°C]	φ [%]	pa [kPa]	ρ [kg/m3]	qv [m3/h]	Δp [Pa]	Δp1, 20 [Pa]
	0	16,7	421	16,7	55	100,1	1,20	351	11	11
	0	16,7	858	16,7	55	100,1	1,20	716	32	32
	0	16,7	1274	16,7	55	100,1	1,20	1063	58	59
	0	16,7	1691	16,7	55	100,1	1,20	1411	92	92
	0	16,7	2127	16,7	55	100,1	1,20	1775	134	135
	Clean filter resistance to air flow is proportional to (qv)n, where n = 1,54									
	DUST LOADING PHASE @ 1411 m3/h (1,25 m/s)									
Initial	0	17,3	1694	17,3	55	100,5	1,20	1411	92	92
1st loading	4	17,3	1694	17,3	55	100,5	1,20	1411	102	102
2nd loading	21	18,1	1689	18,1	55	100,5	1,20	1411	183	184
3rd loading	38	18,4	1687	18,4	53	100,5	1,20	1411	266	267
4th loading	45	17,2	1695	17,2	51	100,5	1,20	1411	320	321
5th loading	48	17,6	1693	17,6	51	100,5	1,20	1411	352	353

Symbols and units

mtot	*Cumulative mass of loaded dust to filter, g*
pa	*Absolute air pressure upstream of filter, kPa*
psf	*Air flow meter static pressure, kPa*
qm	*Mass flow rate, kg/s*
qv	*Air flow rate at filter, m3/s*
t	*Temperature upstream of filter, °C*
tf	*Temperature at air flow meter, °C*
ρ	*Air density upstream of filter, kg/m3*
φ	*Relative humidity upstream of filter, %*
Δp	*Measured filter resistance to air flow, Pa*
Δpf	*Differential pressure used for determination of air flow rate, Pa*
Δp1, 20	Filter resistance to air flow at air density 1,20 kg/m3

NOTE: Units are shown in SI, but can be converted to IP

ALG ENGINEERING S.r.l. - Test according to ASHRAE 52.2 on filtering media PURITY TECH

Report n°:	26/014	Date of report:	04/03/26

ARRESTANCE TEST @ 1411 m3/h (1,25 m/s)

DATA DETAILS

Test dust capacity [g]	Δp1 [Pa]	Δm [g]	mtot [g]	Δp2 [Pa]	m1 [g]	m2 [g]	Δmff [g]	md [g]	Aj [%]	Am [%]
3,8	92	4,0	4	102	5237,07	5237,26	0,19	0	95,2	95,2
20,0	102	16,6	21	184	5237,26	5237,66	0,40	0	97,6	97,1
37,3	184	17,4	38	267	5237,66	5237,75	0,09	0	99,5	98,2
44,7	267	7,4	45	321	5237,75	5237,79	0,04	0	99,5	98,4
47,4	321	2,7	48	353	5237,79	5237,80	0,01	0	99,6	98,5

Mass of test device

Initial mass of tested device [g]: \

Final mass of tested device [g]: \

Symbols and units

A Arrestance %
md Dust in duct after device, g
mtot Cumulative mass of loaded dust to filter, g
m1 Mass of final filter before dust increment, g
m2 Mass of final filter after dust increment, g
Δm Dust increment, g
Δmff Mass gain of final filter, g
Δp1 Resistance to air flow before dust increment, Pa
Δp2 Resistance to air flow after dust increment, Pa

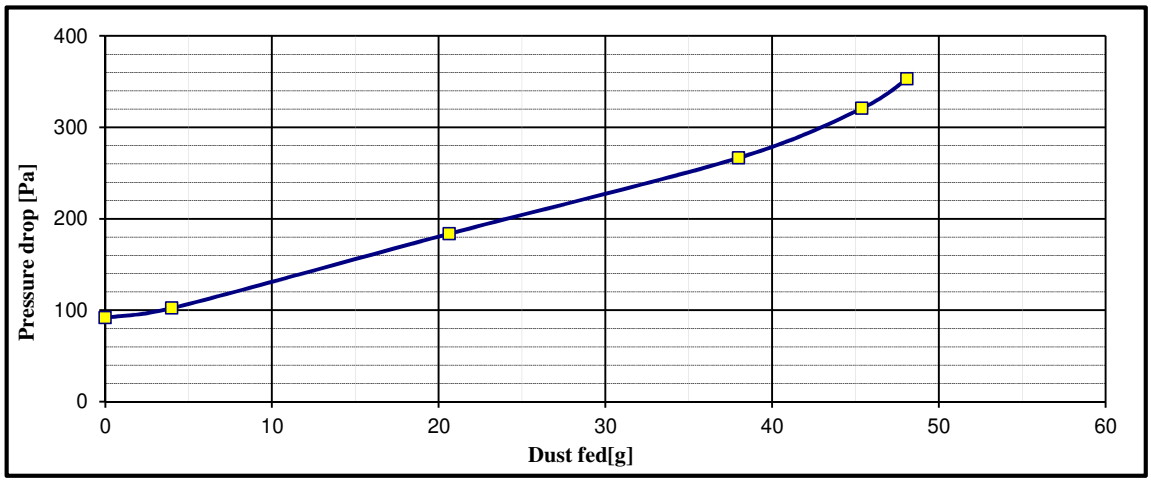
NOTE: Units are shown in SI, but can be converted to IP

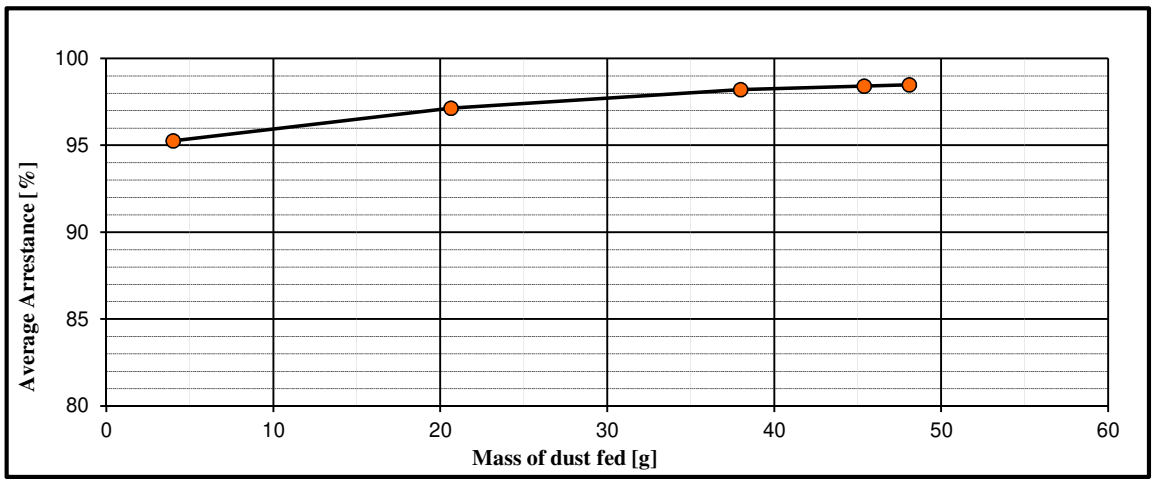
ALG ENGINEERING S.r.l. - Test according to ASHRAE 52.2 on filtering media PURITY TECH

Report n°:	26/014	Date of report:	04/03/26

DHC / ARRESTANCE TEST @ 1411 m3/h (1,25 m/s)

Dust loading phase / Arrestance Graphs





NOTE: The results of this test relate only to the test device in the condition stated herein. The performance results cannot by themselves be quantitatively applied to predict filtration performance in all "real-life" environmental environments.

ALG ENGINEERING S.r.l. - Test according to ASHRAE 52.2 on filtering media PURITY TECH

INCERTEZZA DI MISURA - MEASUREMENT UNCERTAINTY

Differential pressure

Uncertainty extensive:	0,6420	Pa	Final uncertainty without correction U+bmax		0,7320	Pa
Coverage factor K:	2					
Confidence level:	95%					
Evaluation conducted on:	29/11/24	report:	458-24_cod 264	procedure:	PO_Inc-02 pressure drop ISO5011	

Dust capacity

Uncertainty extensive:	0,22	g	Final uncertainty without correction U+bmax		0,30	g
Coverage factor K:	2					
Confidence level:	95%					
Evaluation conducted on:	14/7/25	report:	inc M 470-25_cod257	procedure:	PO_Inc uso bilance ISO5011-ed01	
Evaluation conducted on:	14/7/25	report:	inc M 469-25_cod420	procedure:	PO_Inc uso bilance ISO5011-ed01	

Arrestance

Uncertainty extensive:	see Table 1
Coverage factor K:	2
Confidence level:	95%

Table 1

Dust fed [g]	4,0	48,0	\
E [%]	95,20	98,50	\
U(E) [%]	0,5400	0,0400	\
	Punto 1	Punto 2	Punto 3

Air flow rate

Uncertainty extensive:	5,1000	m3/h	Final uncertainty without correction U+bmax		7,5000	m3/h
Coverage factor K:	2					
Confidence level:	95%		Venturi: VT3 s/n V08-0081-3		cod.:	272
Evaluation conducted on:	29/11/24	report:	462-24-cod 272	procedure:	PO_Inc flow rate ISO5011-ed01	

Temperature

Uncertainty extensive:	0,2	°C	Final uncertainty without correction U+bmax		0,37	°C
Coverage factor K:	2					
Confidence level:	95%					
Evaluation conducted on:	27/6/23	report:	incT446-23_cod262	procedure:	PO_inc temp ISO5011-ed.04	

Relative humidity

Uncertainty extensive:	0,9	%	Final uncertainty without correction U+bmax		1,21	%
Coverage factor K:	2					
Confidence level:	95%					
Evaluation conducted on:	27/6/23	report:	incT447-23_cod262	procedure:	PO_inc UR ISO5011-ed.04	

bmax è la correzione massima non applicata sulla curva di calibrazione dello strumento per l'intervallo di pressione differenziale, temperatura, umidità relativa, portata e massa di interesse.
bmax is the maximum correction not applied on the calibration curve of tyhe device for differential pressure, temperature, relative humidity, airflow and mass of interest.

L'incertezza di misura è stata stimata come incertezza estesa ottenuta moltiplicando l'incertezza composta per il fattore di copertura k corrispondente ad un livello di fiducia di circa 95%.
Normalmente il fattore k = 2, salvo diversamente specificato.
The measurement uncertainty was estimated as expanded uncertainty obtained by multiplying the combined uncertainty by the coverage factor k corresponding to a confidence level of about 95%.
Normally the factor k = 2, unless otherwise specified.

END OF REPORT