Air purifers Ideal filter technology



IDEAL 360° smart filters remove aerosols, particles, pollutants and pathogens such as viruses and bacteria from the indoor air.





Risk of infection from aerosols Air purifiers provide protection

Air as a source of infection

Airborne infections are infections which are transmitted through the air, e.g. by inhaling infectious droplets, dust particles or even pathogens themselves. The risk of infection is particularly high in rooms intended for several people.



Researchers from the USA have proven that an infectious virus can still be present in aerosol particles even after three hours*. Another influencing factor is whether the infectious aerosols collect in a room or their concentration is reduced by ventilating rooms with fresh air in good time. A study** has shown that air purifiers with the corresponding filters can dramatically reduce the risk of infection indoors.



Airborne infection through inhalation

Droplets are produced when coughing or sneezing. These may contain live pathogens which are protected by a covering of dried secretions. They can therefore remain suspended in the ambient air for a long time and cover long distances. Due to their small size, they can enter deep into the respiratory tract and transmit pathogens.

What helps to prevent transmission via aerosols?

The risk of infection via aerosols can be reduced by thoroughly ventilating rooms on a regular basis. The quickest way to do this is by circulating the air in these rooms. However, this is not always possible. Air purifiers are a solution here. They can effectively reduce the risk of infection from aerosols. IDEAL air purifiers have been developed for this purpose as they effectively and quickly reduce the intensity and lingering time of aerosol and suspended matter clouds in closed spaces.

Logical component of any hygiene concept

IDEAL air purifiers enable you to have consistently good air quality at the workstation, in open-plan offices, conference rooms and communal areas: The highly effective multilayer filters remove at least 99.97 % of the aerosols tested according to DIN 71460/1 from the room air. The efficient air purifiers thereby supplement and enhance protective measures such as distance, dividing walls, surface disinfection and face masks. By circulating and cleaning the air several times per hour, they decrease the dwell time of harmful pollutants and reduce the amount of virulent aerosols in the ambient air.

How the ideal filtration technology works

The multi-layer IDEAL filtration technology removes aerosols and pathogens from indoor air. What makes it so special is the fact that this filtration technology has been specially developed by IDEAL and is based on multi-layer filters which trap larger and small particles, as well as gases and molecules. This filtration technology is particularly effective thanks to its five layers.

*https://www.medrxiv.org/content/10.1101/2020.08.03.20167395v1 **https://www.unibw.de/lrt7/raumluftreiniger.pdf

Best technology for clean air IDEAL 360° smart filter

360° smart filter performance

The 360° cartridge design guarantees effective utilisation of the entire surface, as well as a high airflow rate. Once pathogens are trapped by the 360° smart filter, they can no longer be released into the ambient air. The filter material is not metabolisable and so pathogens are unable to survive. In addition, viruses become dormant on surfaces like the filter material after a short period of time.*

HEPA classification

There are various test classifications. Filters tested according to DIN EN 1822 are placed in EPA, HEPA and ULPA classes. IDEAL filters are tested according to DIN 71460/1. Aerosols and particles with a 0.2 μ m diameter are filtered to at least 99.97% when tested in the relevant measuring set-up. **You can find more information about these measurements in the measurement reports on the following pages.**



1. Prefilter mesh

The prefilter mesh removes dirt and debris such as hair, fluff and dust.

4. Activated carbon layer

The activated carbon neutralises even chemical substances, NO_2 , ozone and the strongest of odours.

2. Prefilter layer

The prefilter filters out the coarse particulate matter and extends the service life of the HEPA filter.

5. Cover layer

The cover fleece protects the high proportion of activated carbon.

3. HEPA microfibre layer

The microfibre layer even filters aerosols and ultra-fine particles.



Measurement report

IDEAL AP30/40 PRO particulate filter Measurement AC_fine at 100m³/h delivery condition

Test report of the filter measurement technology

micronAir Filter measurement technique test report fractional efficiency 23 05 2018 Customer T Schmitt MTA-Number 18-0240 Date T18-0240aw 23 05 2018 File name Test job date Time 16:41 Producer Dimensions [mm] 550 x 270 x 28 mm Filter area FPM 1,66 Filter Krug&Priester Mars Panel Production order TFH91-03 Production order Media Sample-ID Teil 1 State Anlieferung Messung bei Betriebsbedingunger Nominal volume flow [m³/h] Comment 100 Aerosol generator **RBG 1000** Test rig Mistral Langzeit saugen + Filter Aerosol AC fein Operation mode Dilution ohne Particle counter Welas 2300 Sampling diameter [mm] Suction flow rate 5 l/min 11mm 10-30-10-30-10-30-Sampling cycle [s] Adapter description Nulladapter Test volume flow [m³/h] 101 Tester Neumann Initial-Ap [Pa] Adapter-Ap [Pa] 0 11 Efficiency % C., Plcm³ C., Plcm³ 100,00 0,16 0,00 100,00 3,37 0,00 Particle size µm Krug&Priester Mars Panel 2 3 4 0,22 0,26 0,30 3,97 17,91 52,10 95,14 125,31 127,90 100 99.9 99.98 0.00 99,98 99,97 99,97 5 6 7 90 0,04 size means mid of range cy correlates to efficiency distributive 0,45 0,00 80 0,04 0,00 0,00 0,00 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 0,53 99,98 99,99 99,99 99,98 99,98 99,98 99,98 99,98 99,98 100,00 100,00 110.88 87,90 70 0,70 [%] 67,10 48,92 60 Efficiency 39,24 32,39 27,62 0,93 0.04 1,08 0,00 50 1,44 0,00 23,63 19,94 15,80 12,38 9,56 6,76 5,06 40 0,00 2,21 100.0 30 100.0 100,0 2,95 3,41 0,00 20 2,98 2,10 1,31 0,63 0,42 3,93 4,54 5,25 6,06 100,0 0,00 10 0,00 0,00 0,00 100.0 Particle siz Efficiency o 100,00 Comment 0 0.1 1.0 10,0 Particle size [µm] 8,08 0,00 28 100.0

FREUDENBERG FILTRATION TECHNOLOGIES



Measurement report

IDEAL AP60/80 PRO particulate filter Measurement AC_fine at 124m³/h delivery condition

Test report of the filter measurement technology

micronAir®				Filter measurement technique test report fractional efficiency						
Customer T. Schmitt File name T18-0241aw				MTA-Number Test job date	18-0241 23.05.2018	18-0241 23.05.2018			23.05.2018 17:03	
Producer FPM Filter Krug&Priester Wega Panel Media TFH91-03 Sample-ID Teil 1 Comment Messung bei Betriebsbedingung			gunger	Dimensions [mm] Production order Production order State Nominal volume flow [m³/h]	Anlieferung 124	550 x 204 x 59 mm Anlieferung 124			1,75	
Aerosol generator RBG 1000 Aerosol AC_fein Dilution ohne Suction flow rate 5 l/min			i	Test rig Operation mode Particle counter Sampling diameter [mm] Sampling cycle [s]	Mistral Langzeit s: Welas 230 11mm 103010	Mistral Langzeit saugen + Filter Welas 2300 11mm 103010301030				
Adapter description Nulladapter Adapter-Δp [Pa] 0			l	Test volume flow [m³/h]125TesterInitial-Δp [Pa]10				1	Neumann	
Particle size µm 1 0,19 2 0,22 3 0,26 4 0,30 5 0,34 6 0,39 7 0,45 8 0,53 9 0,61 10 0,70 11 0,81 12 0,83 13 1,08 14 1,24 15 1,44 16 1,66 17 1,32 18 2,21 19 2,56 20 2,95 21 3,41 22 3,93 23 4,54 24 5,25 25 6,06 26 7,00 27 8,08	Efficiency % 100,00 100,00 100,00 100,00 100,00 93,93 93,33 93,33 93,33 93,37 93,37 93,37 93,37 93,37 100,00 100,0	C., Prom³ C., and the second sec	P/cm³ 0,00		Priester Wo	a Panel		10.0	comment artitole size means mid of range fincienov correlates to efficienov distributive	

FREUDENBERG FILTRATION TECHNOLOGIES



Measurement report

IDEAL AP140 PRO particulate filter Measurement AC_fine at 185m³/h delivery condition

Test report of the filter measurement technology

micronAir Filter measurement technique test report fractional efficiency T. Schmitt Customer MTA-Number 18-0242 Date 23 05 2018 File name T18-0242aw Test job date 23.05.2018 Time 18:26 Producer Dimensions [mm] 550 x 237 x 59 mm Filter area 2.04 FPM Filter Krug&Priester Jupiter Panel Production order Media TFH91-03 Production order Sample-ID Teil 1 State Anlieferung Comment Messung bei Betriebsbedingunger Nominal volume flow [m3/h] 185 Aerosol generator **RBG 1000** Test ria Mistral AC_fein Langzeit saugen + Filter Operation mode Aerosol Dilution ohne Welas 2300 Particle counter Sampling diameter [mm] Suction flow rate 5 l/min 11mm Sampling cycle [s] 10--30--10--30--10--30--Adapter description Nulladapter Test volume flow [m3/h] 188 Tester Neumann Adapter-Ap [Pa] 0 Initial-Ap [Pa] 13 C.,Picm³ C. Particle size µm Efficiency % Plcm³ 0,10 2,86 10,90 Krug&Priester Jupiter Panel 100 100 2 3 100 0,26 29,76 56,02 76,95 79,37 67,38 50,44 4 0,30 100,0 5 6 7 8 100,0 100,0 100,0 100,0 0.34 0,01 0,01 0,01 0,01 90 0,34 0,39 0,45 0,53 Particle size means mid of range Efficiency correlates to efficiency distributive 80 9 0,61 0,70 0,81 0,93 1,08 1,24 1,44 100,0 70 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 100,0 40.02 Efficiency [%] 40,02 29,46 22,61 19,61 16,88 16,88 60 100,0 50 40 100,0 100,0 100,0 100,0 12,05 9,20 7,63 6,11 1,92 0,01 0,01 30 2,21 2,56 2,95 100,0 4.0 20 3.41 100.0 2.92 3,93 4,54 5,25 1,80 1,09 0,93 0,00 10 Comment 100,00 0 0,00 0,00 0,00 6,06 100.0 0.40 0,1 1.0 10.0 0,16 7.00 8.08 Particle size [µm]

FREUDENBERG FILTRATION TECHNOLOGIES



We give everything our very best All the time. Guaranteed

The IDEAL AP PRO air purifiers fulfil precise requirements with regard to hygiene, health, safety, function and the environment.



We work with attention to detail and we always keep the bigger picture in view – with the help of strict quality, environmental and energy management systems. That's guaranteed, since we are certified to numerous recognised standards:









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