



Air purification technology

ARPACK *AirClean*

Our philosophy

Under today's conditions, and especially with the emergence of corona, purification and disinfection play an increasingly important role in our lives.

The ArtAqua ArpackAirClean units provide highly effective reduction of microbiological air contamination without the disadvantages of traditional technologies that involve expensive replaceable Hepa filters, the use of Hard UV-C radiation and the release of ozone.

Our ArtAqua ArpackAirClean units can remove all types of pathogenic microflora, viruses, fungi, odours and allergens without them accumulating inside the units.

We look forward to a good cooperation and stay healthy!

Managing director of ARPACK GmbH: Dipl.-Ing. (FH/SU), Dr.h.c. Mark Arinstein & ArtAqua Group Chairman Ralph T. Niemeyer

Our Air purification technology

The work of the ArpackAirClean units is based on the use of a photocatalyst carrier made of porous quartz glass, which allows the combination of mechanical filtration, adsorption and photocatalysis.

In the process, air flows through the porous wall of the photocatalytic glass element.

Volatile organic compounds, bacteria and viruses in the air are removed by the photocatalytic filter, which is coated with nanocrystalline titanium dioxide, and mineralized under the influence of light from LEDs with a "soft" UV-A radiation (315nm - 400 nm) to carbon dioxide and water vapour.

An accumulation of organic pollutants at the photocatalytic element does not occur.

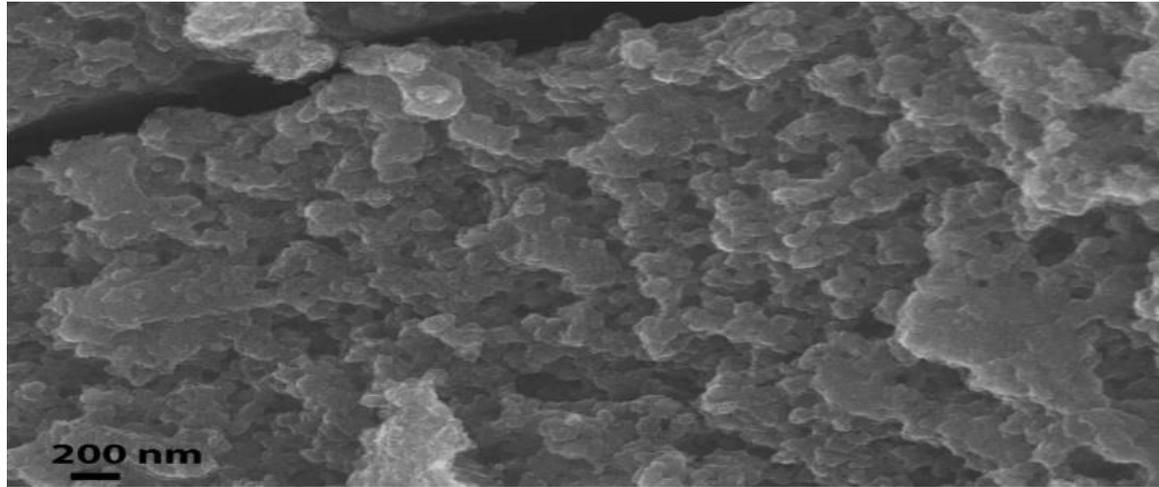
The use of LED UV-A radiation sources ensures maintenance intervals of 7 years.

Our units are available for different room sizes with a cleaning capacity of 20 to 10,000 m³/h.

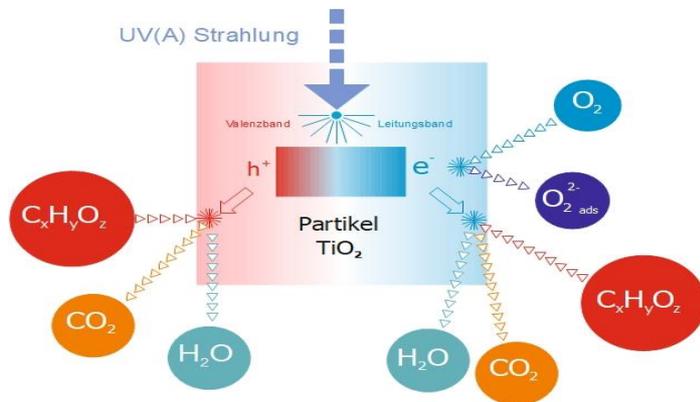
The use of our ArpackAirClean technology is associated with numerous advantages:

1. The units operate without or with low noise. This means that there are minimal inconvenience to users.
2. There is no need to change HEPA filters every few months as with other air purification devices. This means that there are no hazards associated with changing filters. Furthermore, there are no running additional costs.
3. At the end of the usage period, the device is taken back by ARPACK. Thus the use of our devices is environmentally friendly and sustainable.

The philosophy of our air purification technology



Surface of Tiokraft pistons coated with TiO_2 particles. The pores have dimensions of approx. 100 nm and a labyrinth structure.



Tiokraft flask for photocatalysis, which uses active hydroxyl radicals (OH) to destroy or damage all organic substances such as viruses, bacteria, fungi etc.

ArpackAirClean Air purification and disinfection units

Why Photocatalysis is better than HEPA-filters?

1. During photocatalysis no pathogens are collected in the filter.
Instead, they are destroyed during photocatalysis.
2. HEPA filters have a significantly higher airflow resistance compared to photocatalysis. Energy costs can be saved here.
3. The effectiveness of HEPA filters deteriorates significantly over time.
Filters should be replaced at least every 6 months.
This process is cost-intensive and requires additional investments. In contrast, photocatalysis has a minimum lifespan of 8 years.
4. Photocatalysis destroys odours, allergens, ozone and singlet oxygen in aircraft without storing them.

For the removal of carbon monoxide, a modification of our photocatalytic filter elements is possible.

Air purification and disinfection unit ArpackAirClean AC 20

The ArpackAirClean AC 20 is an air purification device for highly efficient reduction of contamination by viruses, microbes, bacteria, moulds and fungi.

Air is purified from organic contaminants by oxidation on patented Tiokraft Technology photocatalytic filter elements, which completely decomposes such contaminants into trace amounts of water vapour and carbon dioxide

Model	ArpackAirClean AC 20
Parameters	Data
Max. Cleaning capacity in m ³ /hour	approx. 20
Recommended maximum room size in m ²	≤18
Glass-based photocatalytic filter with TiO ₂	+
Complete mineralisation without accumulation of volatile organic air pollutants and pathogenic microflora on the photocatalytic filter	+
Capacity to remove volatile organic compounds in mg / min	approx. 14
Max. noise emission in dB	0
Safe operating range UV-A body in nm	315-400
Total power of UV radiation in the catalyst. Range(315-400nm) in W	18
Mains supply in V / Hz	220 (+/-10%) / 50
Dimensions in W x H x D in mm	255 x 530 x 50
Total weight in kg	5,6
Preferred operating mode	continuous
Max. energy consumption in W	72



Air purification and disinfection unit ArpackAirClean AC 40

The ArpackAirClean AC 40 is an air purification device for highly efficient reduction of contamination by viruses, microbes, bacteria, moulds and fungi.

Air is purified from organic contaminants by oxidation on patented Tiokraft Technology photocatalytic filter elements, which completely decomposes such contaminants into trace amounts of water vapour and carbon dioxide

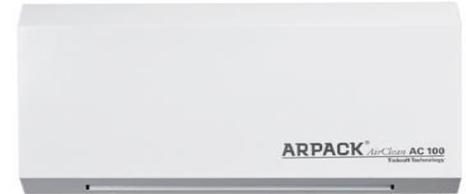


Model	ArpackAirClean AC 40
Parameters	Data
Max. Cleaning capacity in m ³ /hour	approx. 40
Recommended maximum room size in m ²	≤25
Glass-based photocatalytic filter with TiO ₂	+
Complete mineralisation without accumulation of volatile organic air pollutants and pathogenic microflora on the photocatalytic filter	+
Capacity to remove volatile organic compounds in mg / min	approx. 30
Max. noise emission in dB	0
Safe operating range UV-A body in nm	315-400
Ozone development	no
Mains supply in V / Hz	220 (+/-10%) / 50
Dimensions in W x H x D in mm	255 x 995 x 50
Total weight in kg	10,6
Preferred operating mode	continuous
Max. energy consumption in W	144

Air purification and disinfection unit ArpackAirClean AC 100

The ArpackAirClean AC 100 is an air purification device for highly efficient reduction of contamination by viruses, microbes, bacteria, moulds and fungi.

Air is purified from organic contaminants by oxidation on patented Tiokraft Technology photocatalytic filter elements, which completely decomposes such contaminants into trace amounts of water vapour and carbon dioxide



Model	ArpackAirClean AC 100
Parameters	Data
Max. Cleaning capacity in m ³ /hour	approx. 50
Recommended maximum room size in m ²	≤30
Glass-based photocatalytic filter with TiO ₂	+
Complete mineralisation without accumulation of volatile organic air pollutants and pathogenic microflora on the photocatalytic filter	+
UV-A LEDs in the safe range (typically 365 nm) in pieces	12
Max. noise emission in dB	38
Safe operating range UV-A body in nm	315-400
Total power of UV radiation in the catalyt. range(315-400nm) in W	18
Mains supply in V / Hz	220 (+/-10%) / 50
Dimensions in W x H x D in mm	540 x 270 x 110
Total weight in kg	10,5
Preferred operating mode	continuous
Max. energy consumption in W	70

Air purification and disinfection unit ArpackAirClean AC 200

The ArpackAirClean AC 200 is an air purification device for highly efficient reduction of contamination by viruses, microbes, bacteria, moulds and fungi.

Air is purified from organic contaminants by oxidation on patented Tiokraft Technology photocatalytic filter elements, which completely decomposes such contaminants into trace amounts of water vapour and carbon dioxide.

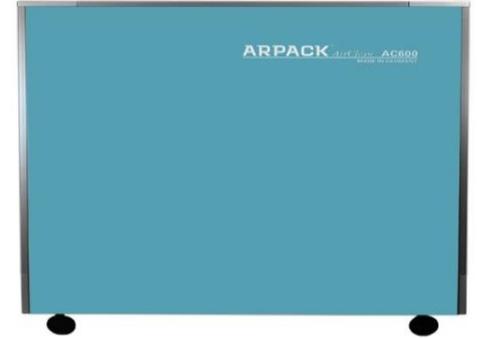


Model	ArpackAirClean AC 200
Parameters	Data
Max. Cleaning capacity in m ³ /hour	approx. 200
Recommended maximum room size in m ²	≤ 40
Glass-based photocatalytic filter with TiO ₂	+
Complete mineralisation without accumulation of volatile organic air pollutants and pathogenic microflora on the photocatalytic filter	+
UV-A LEDs in the safe range (typically 365 nm) in pieces	24
Max. noise emission in dB	42
Safe operating range UV-A body in nm	315-400
Total power of UV radiation in the catalyt. range(315-400nm) in W	18
Mains supply in V / Hz	220 (+/-10%) / 50
Dimensions in W x H x D in mm	550 x 550 x 106
Total weight in kg	12,5
Preferred operating mode	continuous
Max. energy consumption in W	130

Air purification and disinfection unit ArpackAirClean AC 600

The ArpackAirClean AC 600 is an air purification device for highly efficient reduction of contamination by viruses, microbes, bacteria, moulds and fungi.

Air is purified from organic contaminants by oxidation on patented Tiokraft Technology photocatalytic filter elements, which completely decomposes such contaminants into trace amounts of water vapour and carbon dioxide



Model	ArpackAirClean AC 600
Parameters	Data
Max. Cleaning capacity in m ³ /hour	approx. 600
Recommended maximum room size in m ²	≤100
Glass-based photocatalytic filter with TiO ₂	+
Complete mineralisation without accumulation of volatile organic air pollutants and pathogenic microflora on the photocatalytic filter	+
UV-A LEDs in the safe range (typically 365 nm) in pieces	72
Max. noise emission in dB	42
Safe operating range UV-A body in nm	315-400
Total power of UV radiation in the catalyt. range(315-400nm) in W	18
Mains supply in V / Hz	220 (+/-10%) / 50
Dimensions in W x H x D in mm	1000 x 1100 x 438
Total weight in kg	approx. 150
Preferred operating mode	continuous
Max. energy consumption in W	300

Air purification and disinfection units ArpackAirClean

Overview

Model	ArpackAirClean AC 20
Parameters	Data
Max. Cleaning capacity in m ³ /hour	20
maximum room size in m ²	≤18

Model	ArpackAirClean AC 40
Max. Cleaning capacity in m ³ /hour	40
maximum room size in m ²	≤25

Model	ArpackAir Clean AC 100
Max. Cleaning capacity in m ³ /hour	50
maximum room size in m ²	≤30

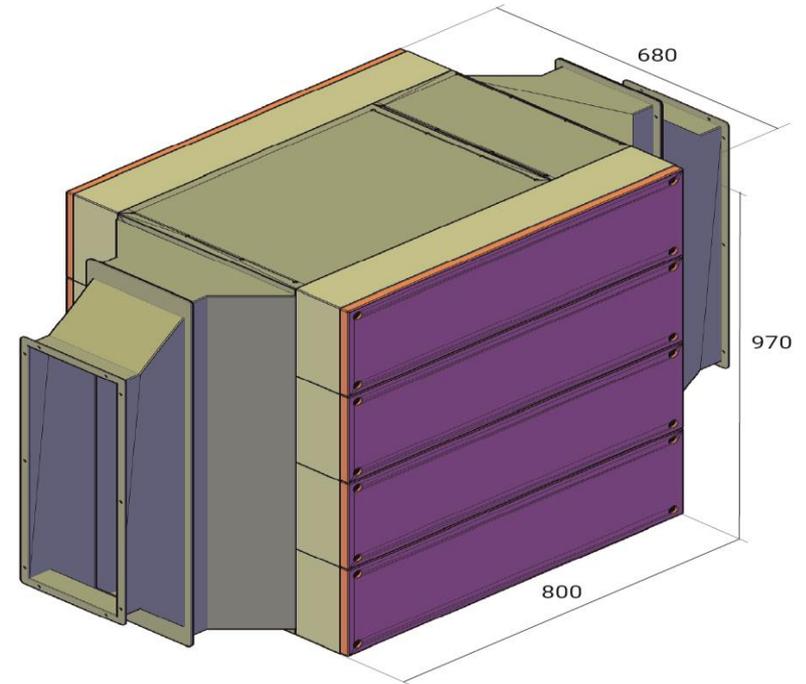
Model	ArpackAirClean AC 200
Max. Cleaning capacity in m ³ /hour	approx. 200
maximum room size in m ²	≤40

Model	ArpackAirClean AC 600
Max. Cleaning capacity in m ³ /hour	approx. 600
maximum room size in m ²	≤100

Air purification and disinfection ducted unit Arpack AC 1000

Designed for disinfection and molecular purification of air in individual room supply ventilation systems. Serves as an additional optional block of traditional systems.

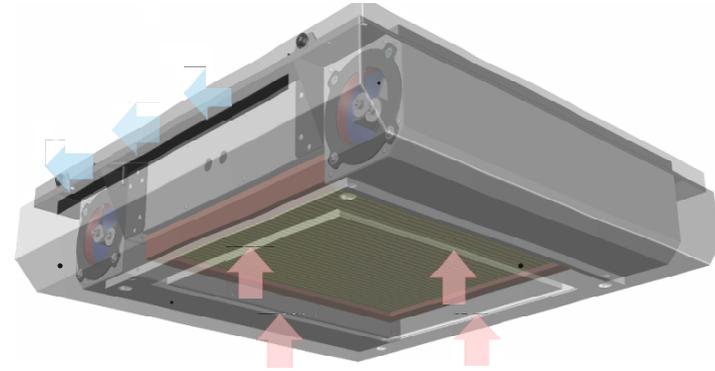
Technical characteristics	
Capacity in m ³ /h	up to 10.000
Microflora clean-up	+
UVA radiant power in W	480
number of photocat. elements in pieces	40
Overall dimensions in mm	680/800/970
max. power consumption in W	1.200
Weight (without air ducts) in kg	150



Air purification and disinfection unit for public infrastructure A100B and A200B

Air purification for public transport

Effective protection of passengers from airborne infections.



Technical characteristics	A100B	A200B
Power in m ³ /hour	< 100	< 200
Recommended room volume	up to 40 m ³	up to 60 m ³
Photocatalytic filter based on porous glass in pieces	1	2
Dimensions in mm	540/270/106	550/550/115
Weight in kg	9,8	12,5



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