WE CURE AIR

potok®

The most effective solution
for air decontamination

CE ECO FRIENDLY

potok®

WE CURE AIR

WHAT IS POTOK TECHNOLOGY?

POTOK air decontamination technology is a patented method for destroying all types of microorganisms present in the air in closed rooms, including bacteria, viruses, molds and fungi.

Fraunhofer institutes IPA, IGB i IBP (funded by the Ministry of Economics, Labor and Housing Baden-Württemberg) have confirmed the **effectiveness of POTOK technology in the fight against the SARS-CoV-2 virus**

Activities in which POTOK devices are used

- Space industry
- Healthcare
- Food processing industry
- Elderly care facilities
- Public facilities
- Households
- Kindergartens and schools
- Sports centers
- Public transport

Automation that performs continuous control of parameters ensures high reliability and safety of device operation in all environmental conditions.

Numerous scientific research institutes have confirmed the effectiveness of POTOK technology

Fraunhofer

OTH Amberg-Weiden

UNIVERSIDAD DE GRANADA

NNGYK NEMZETI NÉPEGÉSZSÉGÜGYI ÉS GYÓGYSZERÉSZETI KÖZPONT

THE GAMALEYA NATIONAL CENTER OF EPIDEMIOLOGY AND MICROBIOLOGY

Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing

Faculty of Medical Sciences

Why choose POTOK devices?

01 NON-SELECTIVITY
kills 99.99% of all types of bacteria, mold, fungi, and viruses (including coronaviruses) detected in indoor air

02 RELIABILITY
automatic inactivation control

03 SAFETY
24/7 operation in presence of people

04 ENERGY EFFICIENCY
10 W per 1000 m3 of handled air

05 ENVIRONMENTAL FRIENDLINESS
no chemicals are used for inactivation

06 ECONOMICAL BENEFIT
no filters to change

07 OPERATIONAL IN ALL CONDITIONS
air temperature and moisture do not affect the efficiency of the equipment

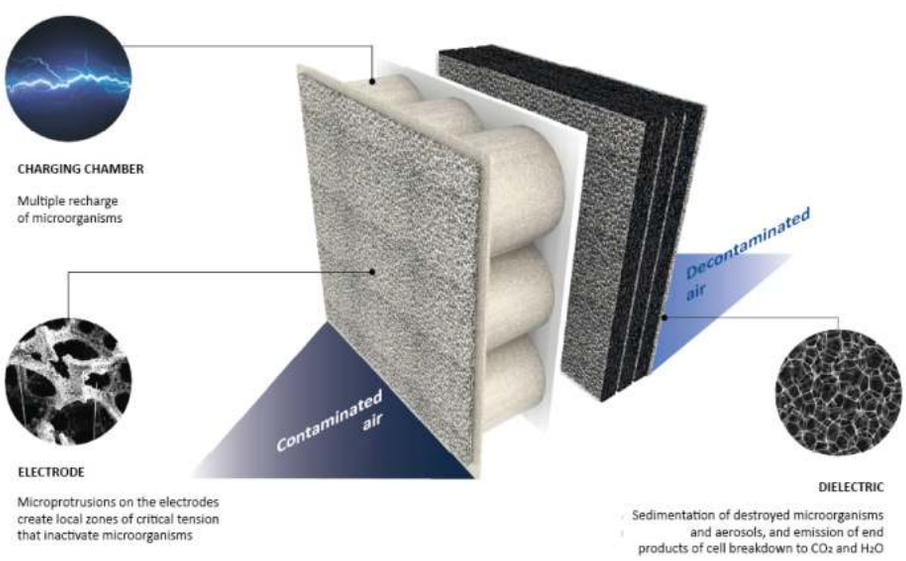
99,99%

POTOK kills all types of microorganisms and viruses, including antibiotic- and chemical-resistant strains

- No HEPA filters
- No dangerous chemicals
- No UV
- No hidden expenses

What sets POTOK equipment apart from other air purifiers?

POTOK technology is based on the physical destruction of microorganisms and viruses present in the air using a strong electric field.



*The air is decontaminated by putting microbial cells and secondary and tertiary structures of viral proteins underexposed by constant critical electric fields

ABOUT

POTOK Europe has been involved in research, development and production of unique POTOK air decontamination devices for 30 years. Thanks to the accumulated scientific and technical knowledge, we create a unique product primarily intended for healthcare.

01

EFFICIENCY

Bioinactivation efficiency: minimum 99%

02

FILTRATION

Air filtration efficiency equal to the efficiency provided by high-performance filters (E11-H14).

03

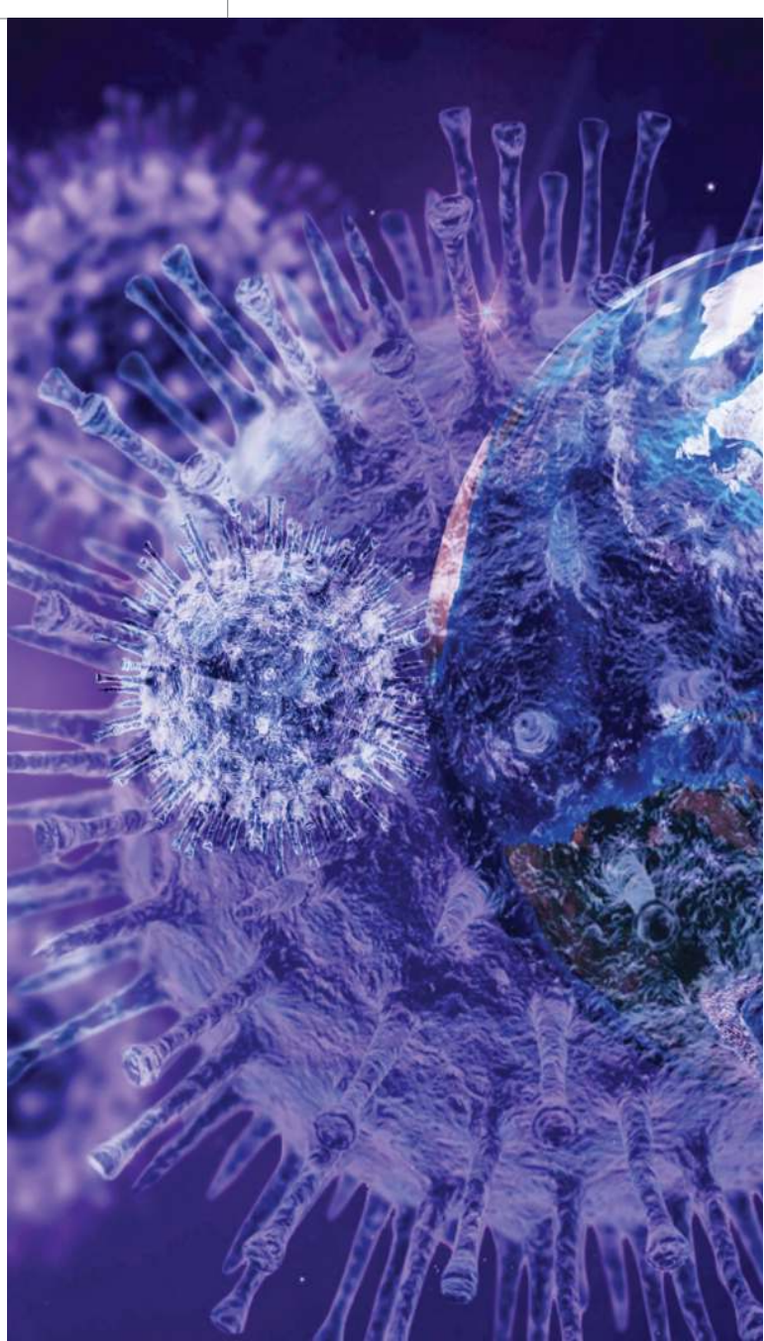
PURPOSE

Designated for rooms where maintenance of microbiological air cleanliness is needed.

Devices based on POTOK technology were originally used to effectively destroy molds and other microorganisms in space. NASA, ESA and Roscosmos still use similar equipment in the International Space Stations.

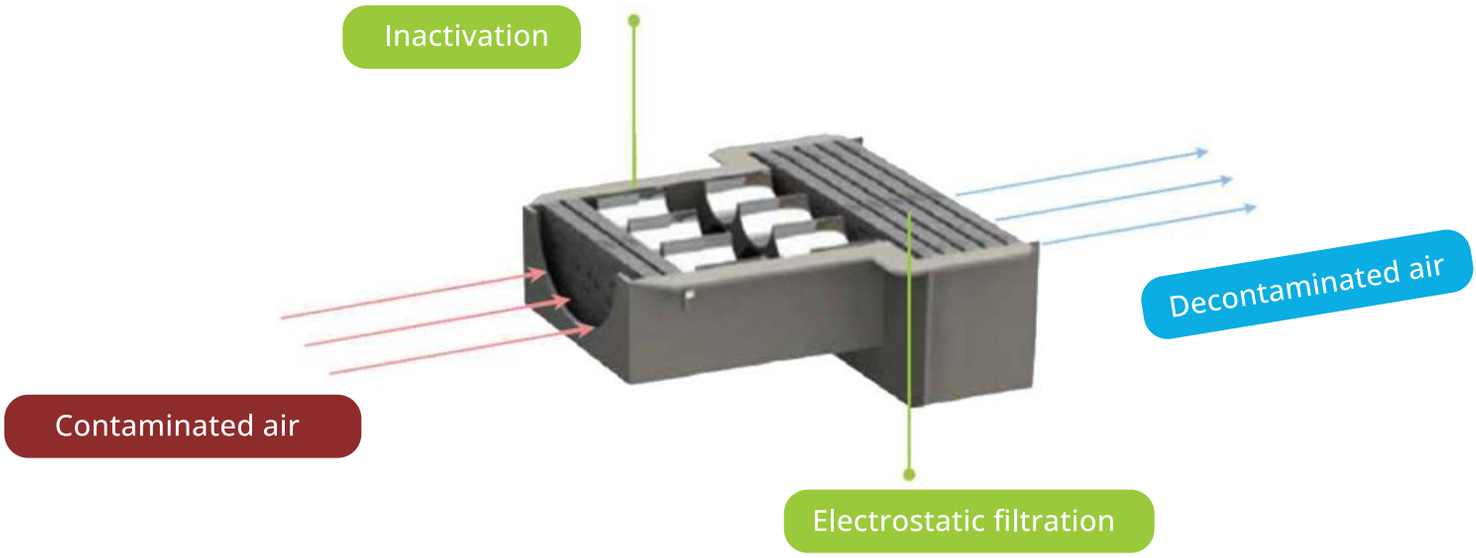
POTOK air decontamination devices and filtration equipment are installed in operating rooms, intensive care units, emergency rooms, delivery rooms, burn units and other hospital rooms where high air cleanliness is necessary.

Many years of experience and a wide range of available devices give the company the ability to find an effective solution to any problem:
from the establishment of sterile zones with laminar air flow, to the local reduction of the amount of bacteria in special purpose rooms using standalone devices.



ADVANTAGES OF WORKING WITH US

- The company's scientific department interacts with the world's leading research institutes;
- Development and Design Department;
- Extensive experience in the use of decontamination systems;
- Full cycle of work on individual projects: from audit and development to technical support;
- Team of experts in designing air decontamination systems.



The airflow passes through constant electric fields created by crosswise air-permeable electrodes consisting of high porosity conductive plates made of foamed metal. The electrodes are connected with a high-voltage power supply source to have alternating polarity. In twin-section charging chambers, the surface and intracellular and molecular structures are recharged many times, which inactivates (destroys) bacteria and viruses, and retains the destroyed biomass in the electrostatic precipitator.

Porous dielectric plates placed between the electrodes are designed to precipitate the destroyed biomass, aerosols, and prevent ruptures that can be caused by humid and dust-laden airflow.

Physical processes influencing microbial destroying:

1) electroporation in high voltage electric field: the irreversible process of making ruptures in the cell membrane through which the cytoplasm flows out, without the possibility of recovery

2) destroying by electrostatic forces: positively charged parts of the membrane, proteins and nucleic acids (RNA, DNA) move towards the negative electrode and negatively charged parts towards the positive electrode. This leads to the breaking of intermolecular bonds in molecules.

POTOK is a green technology that fully complies with the principles of sustainable development.

The technology was developed with the idea of being safe for human health and the environment (not to use or emit harmful substances). During its operation, POTOK equipment does not require the use of chemicals for inactivation or a special procedure for disposal.

CERTIFIED

ECO FRIENDLY

Human friendly

POTOK air decontamination devices provide microbiological air cleanliness in rooms that require increased purity

POTOK technology has proven itself in all areas where microbiological air safety is of crucial importance:

- has been providing astronauts with clean air since 1995
- successfully fights against nosocomial infections and antibiotic-resistant strains
- in the food industry increases the shelf life and quality of products and decreases product losses

HEALTHCARE APPLICATIONS

For effective control of pathogens in healthcare facilities, indoor air must be decontaminated by inactivating microorganisms in addition to physical purification. POTOK devices can be used for air decontamination in all medical premises, including class I, II and III clean rooms (operating rooms, pre-surgical rooms, anesthesia rooms, central sterile supply department, intensive care units, wards, etc.)

POTOK devices in healthcare institutions:

- Reduce the incidence and prevent the spread of hospital infections
- Reduce operating costs and energy consumption
- Improve the well-being of patients and staff
- Reduce the cost of social security for sick pay

POTOK Laminar air flow ceilings

Air decontamination units with an air distribution device (laminar flow ceilings) are designed to supply a unidirectional flow to the working zone with a velocity of 0.24 to 0.3 m/s

All ceiling devices with laminar air flow destroy no less than 99.99% of viruses and microorganisms and provide highly efficient air filtration.

- Filtering efficiency: H14
- Bioinactivation efficiency: minimum 99%

For highly aseptic operating rooms

POTOK LAD8640

unit in a one-piece outer enclosure with an air distribution device

↓ 7780 m³/h
with a given airflow of 0.24 m/s

↑ 8640 m³/h
with a given airflow of 0.27 m/s

Dimensions	3200 x 3200 x 320 mm
Weight	706 kg
Power consumption	120 W

POTOK LAD4680

unit in a one-piece outer enclosure with an air distribution device

↓ 4500 m³/h
with a given airflow of 0.24 m/s

↑ 4680 m³/h
with a given airflow of 0.25 m/s

Dimensions	3200 x 1900 x 320 mm
Weight	475 kg
Power consumption	80 W

For minor surgery rooms and emergency treatment

POTOK LAD4320

unit in a one-piece outer enclosure with an air distribution device

4030 m³/h

with a given airflow of 0.24 m/s

4320 m³/h

with a given airflow of 0.26 m/s

Dimensions	2600 x 1900 x 320 mm
Weight	440 kg
Power consumption	60 W

For recovery rooms, emergency treatment rooms, intensive care rooms, and other rooms for immunocompromised patients

POTOK LAD2160

unit in a one-piece outer enclosure with an air distribution device

2020 m³/h
with a given airflow of 0.24 m/s

2160 m³/h
with a given airflow of 0.26 m/s

Dimensions	1900 x 1300 x 320 mm
Weight	170 kg
Power consumption	30 W

POTOK LAD1800

unit in a one-piece outer enclosure with an air distribution device

1730 m³/h
with a given airflow of 0.24 m/s

1800 m³/h
with a given airflow of 0.25 m/s

Dimensions	2495 x 1265 x 320 mm
Weight	210 kg
Power consumption	20 W

POTOK laminar air flow units

For any rooms requiring the greatest possible cross-sectional area of unidirectional decontaminated airflow.

Designed to supply controlled airflow through the entire cross-section of a clean zone with a steady velocity and approximately parallel streamlines.

- Filtering efficiency: H14
- Bioinactivation efficiency: minimum 99.99%
- Unidirectional airflow speed at given flow rate: 0.24 to 0.3 m/s

POTOK LAD180

unit in a one-piece outer enclosure with an air distribution device

↓ 162 m³/h
with a given airflow of 0.24 m/s

↑ 180 m³/h
with a given airflow of 0.25 m/s

Dimensions	615 x 602 x 320 mm
Weight	26 kg
Power consumption	10 W

POTOK LAD360

unit in a one-piece outer enclosure with an air distribution device

↓ 324 m³/h
with a given airflow of 0.24 m/s

↑ 360 m³/h
with a given airflow of 0.25 m/s

Dimensions	909 x 660 x 320 mm
Weight	40 kg
Power consumption	10 W

POTOK LAD540

unit in a one-piece outer enclosure with an air distribution device

486 m³/h

with a given airflow of 0.24 m/s

540 m³/h

with a given airflow of 0.25 m/s

Dimensions	1245 x 660 x 320 mm
Weight	50 kg
Power consumption	10 W

POTOK LAD720

unit in a one-piece outer enclosure with an air distribution device

648 m³/h

with a given airflow of 0.24 m/s

720 m³/h

with a given airflow of 0.25 m/s

Dimensions	1245 x 660 x 320 mm
Weight	54 kg
Power consumption	10 W

POTOK LAD1260

unit in a one-piece outer enclosure with an air distribution device

1134 m³/h

with a given airflow of 0.24 m/s

1260 m³/h

with a given airflow of 0.25 m/s

Dimensions	1860 x 890 x 320 mm
Weight	161 kg
Power consumption	20 W

POTOK air distribution units

For any rooms where microbial purity of inlet air is required.

Designed for efficient air supply.

- Filtering efficiency: H14
- Bioinactivation efficiency: minimum 99.99%

POTOK LAD180L

unit in a one-piece outer enclosure with an air distribution device

↓ 90 m³/h min ↑ 180 m³/h max

Dimensions	615 x 602 x 320 mm
Weight	26 kg
Power consumption	10 W

POTOK LAD360L

unit in a one-piece outer enclosure with an air distribution device

Air flow

↓ 180 m³/h min ↑ 360 m_3/h max

Dimensions	909 x 660 x 320 mm
Weight	40 kg
Power consumption	10 W

POTOK LAD540L

unit in a one-piece outer enclosure with an air distribution device

Air flow

↓ 360 m³/h min ↑ 540 m³/h max

Dimensions	1245 x 660 x 320 mm
Weight	50 kg
Power consumption	10 W

POTOK LAD720L

unit in a one-piece outer enclosure with an air distribution device

Air flow

↓ 540 m³/h min ↑ 720 m³/h max

Dimensions	1245 x 660 x 320 mm
Weight	54 kg
Power consumption	10 W

POTOK Induct units

Induct mount units are integrated into the ventilation system for decontamination and High Efficiency filtration of air.

Designed for decontamination and filtration of inlet air in rooms of class I and II; Used for decontamination and filtration of air extracted from the rooms of infectious diseases wards and TB wards.

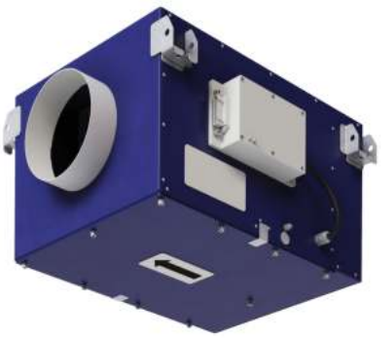
Induct devices are installed as part of the ventilation ducts as close as possible to the room that needs air decontamination, in a suitable place for installation (above a suspended ceiling, in a utility room, etc.).

Depending on the need, the device housings are made of painted or stainless steel.

- Filtering efficiency: E11-H14
- Bioinactivation efficiency: minimum 99.99%

POTOK FED180

unit in a one-piece outer enclosure



Air flow

90 m³/h min — 180 m³/h max

Dimensions	570 x 429 x 279 mm
Weight	15 kg
Power consumption	10 W

POTOK FED360

unit in a one-piece outer enclosure

Air flow

180 m³/h min — 360 m³/h max

Dimensions	724 x 574 x 278 mm
Weight	23 kg
Power consumption	10 W

POTOK FED540

unit in a one-piece outer enclosure

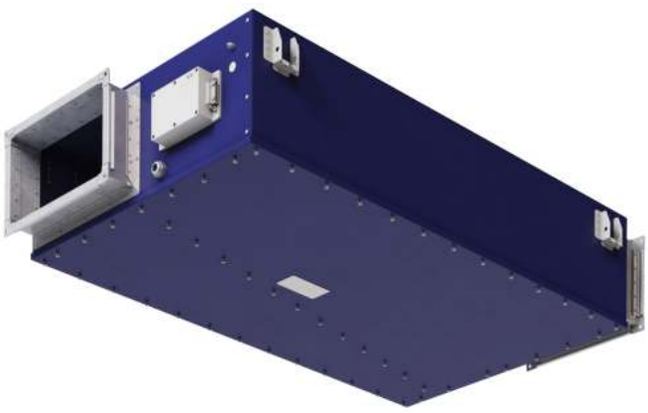
Air flow

360 m³/h min — 540 m³/h max

Dimensions	1044 x750 x 280 mm
Weight	41 kg
Power consumption	10 W

POTOK FED720

unit in a one-piece outer enclosure



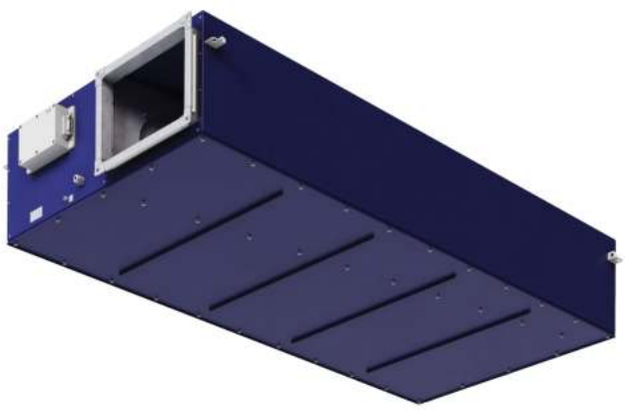
Air flow

540 m³/h	720 m³/h
min	max

Dimensions	1347 x 798 x 280 mm
Weight	53 kg
Power consumption	10 W

POTOK FED900

unit in a one-piece outer enclosure



Air flow

720 m³/h	900 m³/h
min	max

Dimensions	1636 x810 x 280 mm
Weight	68 kg
Power consumption	10 W

POTOK FED1080

unit in a one-piece outer enclosure

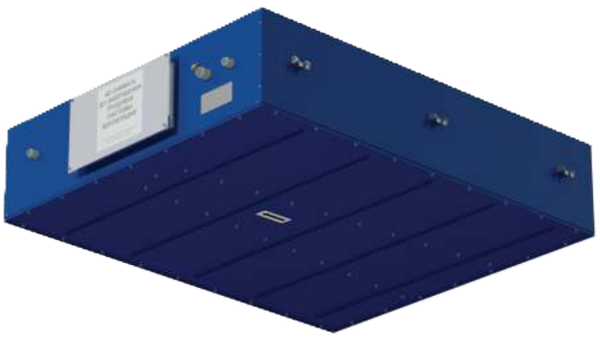
Air flow

540 m³/h	1080 m³/h
min	max

Dimen-	1080 x 1105 x 306 mm
Weight	80 kg
Power consumption	20 W

POTOK FED1440

unit in a one-piece outer enclosure



Air flow

720 m³/h
min

1440 m³/h
max

Dimensions	1143 x 1195 x 304 mm
Weight	91 kg
Power consumption	20 W

POTOK FED1800

unit in a one-piece outer enclosure

Air flow

900 m³/h
min

1800 m³/h
max

Dimensions	2088 x 1586 x 407 mm
Weight	220 kg
Power consumption	20 W

POTOK FED2160

unit in a one-piece outer enclosure

Air flow

1080 m³/h
min

2160 m3/h
max

Dimensions	1124 x 1106 x 601 mm
Weight	140 kg
Power consumption	30 W

POTOK FED2520

unit in a one-piece outer enclosure

Air flow

1260 m³/h
min

2520 m³/h
max

Dimensions	1465 x 1195 x 600 mm
Weight	152 kg
Power consumption	30 W

POTOK FED2880

unit in a one-piece outer enclosure

Air flow

1440 m³/h
min

2880 m³/h
max

Dimensions	1465 x 1195 x 600 mm
Weight	163 kg
Power consumption	40 W

Modular configuration of induct POTOK devices

The modular assembly of the device can provide decontamination and high-efficiency filtration in rooms with any air volume

POTOK FED3600

unit in a one-piece outer enclosure with an air distribution device

Air flow

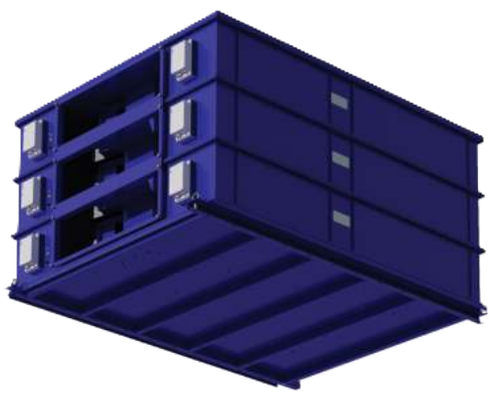
1800 m³/h min

3600 m³/h max

Dimensions	2088 x 1568 x 741 mm
Weight	340 kg
Power consumption	40 W

POTOK FED5400

unit in a one-piece outer enclosure with an air distribution device



Air flow

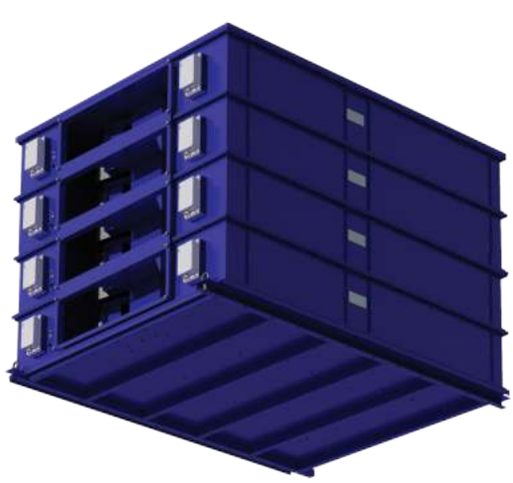
2700 m³/h min

5400 m³/h max

Dimensions	2088 x 1568 x 1072 mm
Weight	480 kg
Power consumption	60 W

POTOK FED7200

unit in a one-piece outer enclosure with an air distribution device



Air flow

3600 m³/h min

7200 m³/h max

Dimensions	2088 x 1568 x 1405 mm
Weight	579 kg
Power consumption	80 W

POTOK FED9000

unit in a one-piece outer enclosure

Air flow

↓ 4500 m³/h min ↑ 9000 m³/h max

Dimensions	2088 x 1568 x 1737 mm
Weight	700 kg
Power consumption	100 W

Induct POTOK devices for biological laboratories

Designed for installation in the ventilation system in order to protect the external environment from microorganisms of pathogenicity group I-IV

- Bioinactivation efficiency: not less than 99.99%
- HEPA filters class H14
- For pathogenic groups I and II – two H14 filters
- For pathogenic groups III and IV - one H14 filter

POTOK PTKA1080

unit in a one-piece outer enclosure with an air distribution device

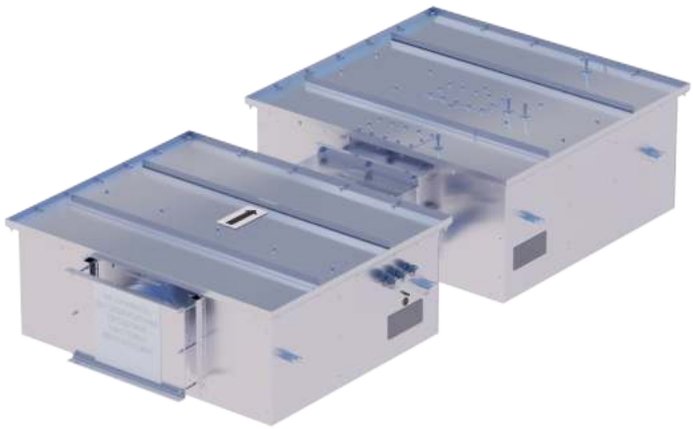
Air flow

↓ 540 m³/h min ↑ 1080 m³/h max

Dimensions	2138 x 905 x 632 mm
Weight	122 kg
Power consumption	20 W

POTOK PTKA180

unit in a one-piece outer enclosure with an air distribution device



Air flow

90 m³/h min — 180 m³/h max

Dimensions	1724 x 904 x 355 mm
Weight	90 kg
Power consumption	10 W

POTOK PTKA360

unit in a one-piece outer enclosure with an air distribution device

Air flow

180 m³/h min — 360 m³/h

Dimensions	1724 x 904 x 355 mm
Weight	93 kg
Power consumption	10 W

POTOK PTKA540

unit in a one-piece outer enclosure with an air distribution device

Air flow

270 m³/h min — 540 m³/h max

Dimensions	1724 x 904 x 355 mm
Weight	96 kg
Power consumption	10 W

POTOK PTKA1800

unit in a one-piece outer enclosure with an air distribution device

Air flow

900 m³/h min — 1800 m³/h max

Dimensions	2273x905x785 mm
Weight	226 kg
Power consumption	20 W

POTOK PTKA2160

unit in a one-piece outer enclosure with an air distribution device

Air flow

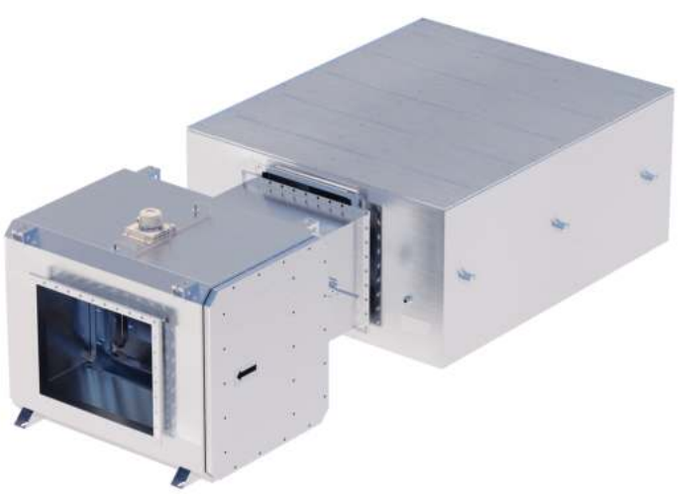
1080 m³/h
min

2160 m³/h
max

Dimensions	2273x905x785 mm
Weight	232 kg
Power consumption	30 W

POTOK PTKA2880

unit in a one-piece outer enclosure with an air distribution device



Air flow

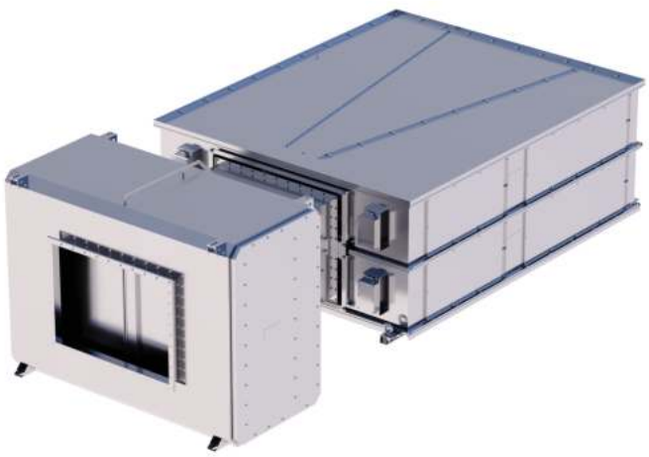
1440 m³/h
min

2880 m³/h
max

Dimensions	2548 x 1195 x 785 mm
Weight	248 kg
Power consumption	40 W

POTOK PTKA3600

unit in a one-piece outer enclosure with an air distribution device



Air flow

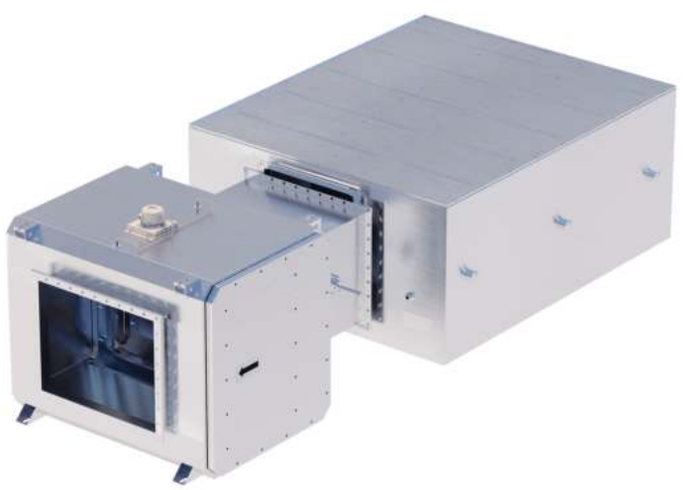
1800 m³/h min

3600 m³/h max

Dimensions	3238x1586x1059 mm
Weight	506 kg
Power consumption	40 W

POTOK PTKA5400

unit in a one-piece outer enclosure with an air distribution device



Air flow

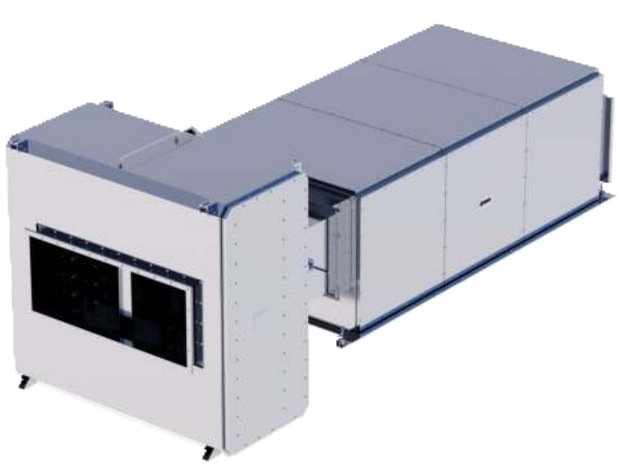
2700 m³/h min

5400 m³/h max

Dimensions	3240 x 1586 x 1099 mm
Weight	624,5 kg
Power consumption	40 W

POTOK PTKA7200

unit in a one-piece outer enclosure with an air distribution device



Air flow

3600 m³/h min

7200 m³/h max

Dimensions	3486 x 1399 x 1364 mm
Weight	697 kg
Power consumption	100 W

POTOK standalone units

The units are designed for decontamination and fine filtration of air in rooms of all cleanroom classes including especially clean rooms and infectious environments.

A standalone units does not need a connection to the existing ventilation and air conditioning systems and allows a local “clean” zone to be created in any room. The appliance can be used either as a standalone unit to create local sterile zones or in conjunction with other sanitary and hygienic measures taken when preparing the room for use.

- Bioinactivation efficiency: minimum 99%
- No accumulation of live microorganisms inside the unit
- Continuous safe operation in presence of personnel
- No consumables are required
- Low power requirement

POTOK SAP900

standalone unit

Air flow

up to 900 m³/h

Noise level

max 50 dBa

Dimensions	715 x 525 x 1715 mm
Weight	107 kg
Power consumption	250 W

POTOK SAP1000S

standalone unit

Air flow

up to 1000 m³/h

Noise level

max 50 dBa

Dimensions	860 x 630 x 1715 mm
Weight	107 kg
Power consumption	250 W

POTOK SAP120

standalone unit

Air flow	Noise level
up to 120 m³/h	max 50 dBa

Dimensions	250 x 250 x 400 mm
Weight	10 kg
Power consumption	10 W

POTOK SAP130

standalone unit

Air flow	Noise level
up to 130 m³/h	max 50 dBa

Dimensions	590 x 424 x 392 mm
Weight	14 kg
Power consumption	10 W

POTOK SAP150

standalone unit

Air flow	Noise level
up to 150 m³/h	max 50 dBa

Dimensions	608 x 350 x 366 mm
Weight	17 kg
Power consumption	10 W

POTOK SAP600

standalone unit

Air flow	Noise level
up to 600 m³/h	max 50 dBa

Dimensions	700 x 700 x 350 mm
Weight	45 kg
Power consumption	100 W

CUSTOM DESIGN

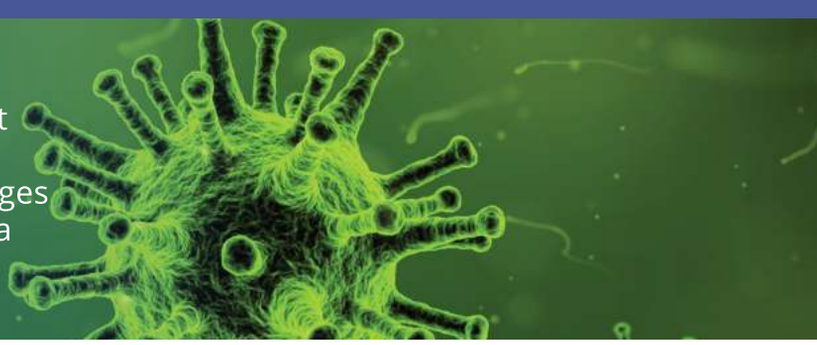
The company's equipment described in the catalog is available in standard design version and intended for use in rooms that conform to all requirements and instructions given in statutory and regulating documents.

Depending on the requirements and service environment we can offer:
- different warranty and post-warranty i spare parts support;
- flexible maintenance plans with reimbursement of all or part of the costs;
- special terms of supply of repair kits not only for remedial repairs of parts and assemblies but also for full system upgrades

Standard design version

- Equipment is manufactured of high-quality low-carbon steel.
- Powdered polyester enamel, mat RAL9002 color, coat thickness: 120–150 μm
- Electric components provide the complete required functionality of equipment (neither expandability with additional sensors, nor connection to control panels with advanced control and monitoring functions, centralized control systems, and building supervisory control systems is possible).
- The design without specific requirements for corrosion resistance, fireproofing, and immunity to interference

For severe service conditions, and where additional requirements exist, the equipment can be built in different design versions and configurations, either to fit the operating ranges and characteristics listed below or based on a completely tailored solution.



Enclosure material:

- high-quality low-carbon steel;
- high-alloy steel 08X18H10T, and other corrosion resistant, heat-resistant and heat-treated alloys, 1.0–2.0 mm thick.

Powdered polyester enamel, of any RAL color, coat thickness: 300–400 μm.

High requirements for corrosion resistance, UL94 V0/V1 class fireproofing, and high resistance to other external effects.

In ventilation inducts supplying air to equipment, additional coarse and fine filtering elements can be installed.

The capacity of water supply systems can be increased by introducing additional air recirculation devices, including such with preliminary decontamination and coarse filtering.

Equipment can be supplied complete with a customized or special package.

Electronic components that can interface with:

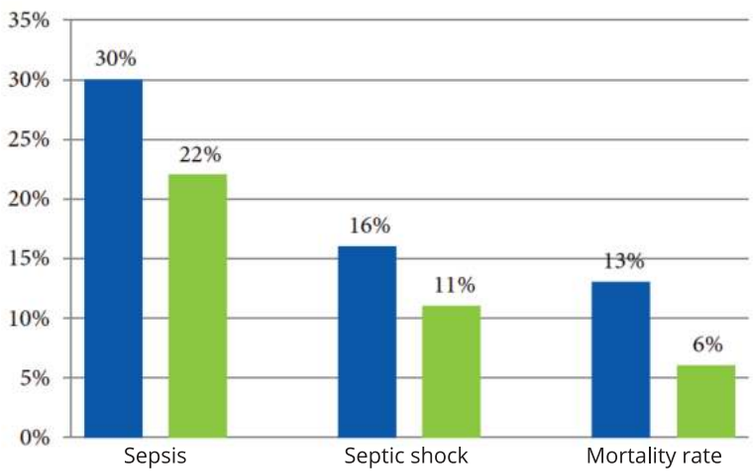
- control and monitoring sensors (pressure, temperature, humidity, and dust level);
- external control and monitoring devices (including devices of other manufacturers);
- smart building control systems;
- smart remote facility monitoring and control systems

Electronic components in interference-resistant and lowenergy design versions, and in design versions conforming to application-specific requirements (including the systems onboard spacecraft, and life support systems of high-security facilities).

Selected results

Burdenko Main Military Clinical Hospital

200 patients in intensive care units



POTOK TECHNOLOGY:

- decreased the risk of sepsis development **x1,4 times**

- decreased the risk of septic shock development due to infectious complications and multiorgan failure **x1,5 times**

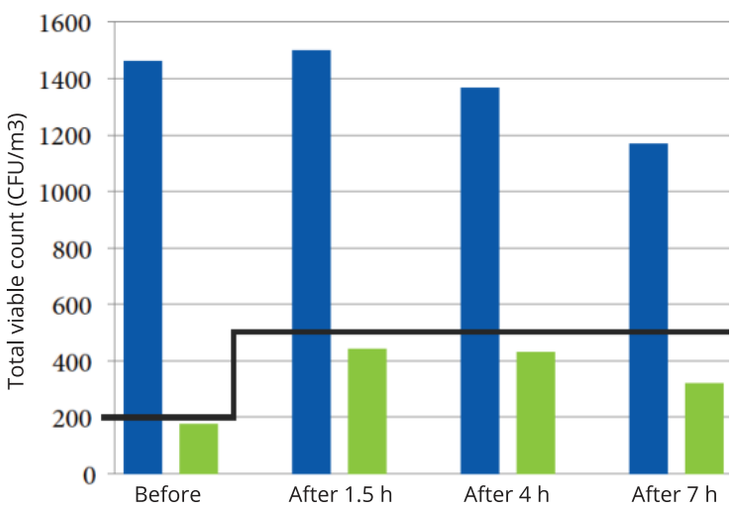
- decreased mortality rate **x2,2 times**

Without POTOK equipment

With POTOK equipment

Botkin Hospital i City Clinical Hospital No.1

1300 surgeries (implantation of large joints endoprosthesis)



LEVEL OF POSTOPERATIVE SEPTIC COMPLICATIONS (WOUND INFECTION):

- before installing POTOK devices **3,5 - 4%**

- using POTOK devices **0,15%**

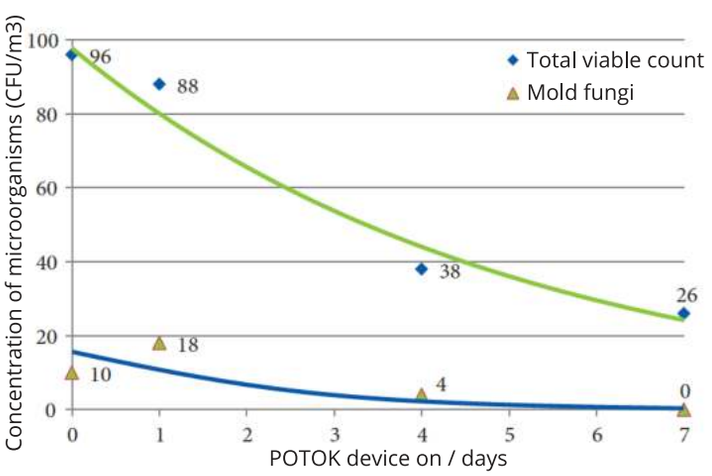
- world average **1%**

Without POTOK equipment

With POTOK equipment

critical rate of air contamination

Children's Cancer and Hematology Hospital Named After N.N.Blokhin



POTOK technology:

- decreased total viable count (from 96 to 26 CFU/m3) **x3,7 times**

- decreased concentration of mold fungi (from 10 to 0 CFU/m3) up to 0

POTOK technology cure air all over the world

POTOK is the only technology used for air decontamination in International Space Station

NASA ROSCOSMOS esa

POTOK devices are installed in more than 3,500 health-care facilities, including surgery centers, perinatal clinics, infectious diseases wards, cancer centers, medical laboratories, etc.

Multidisciplinary medical center of the new generation Beloostrov - one of the most modern hospitals in the world that chose POTOK technology for air decontamination

Breathe healthy air with POTOK technology

potok®

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