

# CAPE®

## flexible, portable cleanroom system

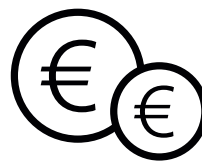
### Background

As mechanical and electronic components become ever-smaller, processes and products in many branches of industry are becoming more and more sensitive to environmental conditions. Air cleanliness is an especially important factor. To reduce quality problems caused by airborne particles, companies in various high-tech sectors – such as the semiconductor, aerospace or pharmaceutical industry – have transferred contamination-critical production and assembly processes to cleanrooms from the very beginning. However, due to the lengthy planning and implementation times, the large amount of space required, and the prolonged occupancy of production areas, fixed cleanrooms are not always the best solution.

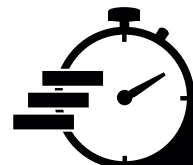
### Our solution

The CAPE®-system (Clean And Protective Environment) developed by Fraunhofer IPA scientists is a tent-like cleanroom system that can be used to create a cleanroom environment

cost-effectively, quickly and flexibly. Similar air cleanliness classes to those in high-quality, conventional cleanrooms are achievable, but its lightweight textile construction makes it much more versatile. Each CAPE®-system is tailored to requirements and customer wishes.



Cost saving



Fast Installation



Flexible



Portable

## CAPE®-models

To ensure that the various industrial and company requirements are always met, the CAPE®-system is continually being further developed and individually adapted. This has led to the development of further CAPE®-models over the course of time:

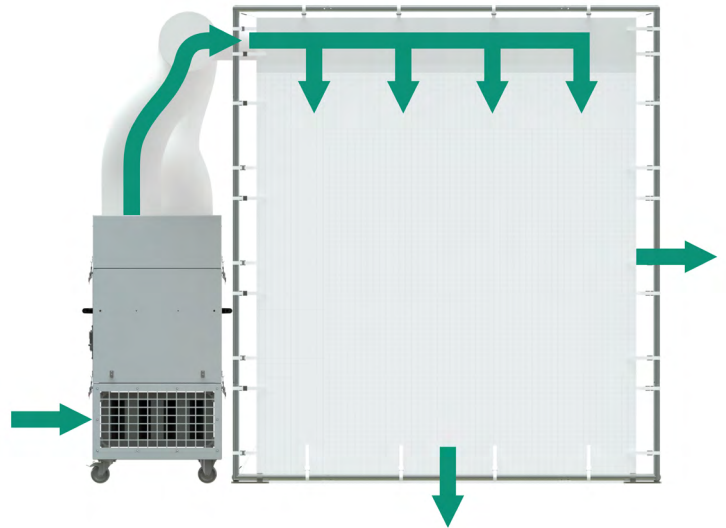
- Quarantine-CAPE® – for temporarily isolating patients, for example in the event of a pandemic
- Maintenance-CAPE® – for maintenance work during ongoing cleanroom production
- Fastbuild-CAPE® – extremely quick and easy assembly thanks to compressed air-supported structure
- Hygienic-CAPE® – designed to meet specific pharmaceutical industry requirements

## Our Services

- Planning and design: functions and requirements adapted to customer needs
- Made-to-measure construction
- Technical realization, assembly and installation on site
- Commissioning and acceptance measurements of cleanroom environment on site
- Documentation
- Technical support and installation guide

## Product data

- Wide range of cleanliness classes (Class 1 to 9) according to ISO 14644-1
- Assembly time from 30 minutes up to 3 days
- Clean air supply via filter fan units (FFU) for positive pressure (up to 50 Pa), negative pressure (up to 30 Pa) or recirculated air
- Customized filter configuration: HEPA filter and/or activated carbon filter
- Microorganism inactivation with UVC irradiation
- Power supply via standard mains connection
- Depending on size, air cleanliness class and atmospheric pressure, several FFU units are used in parallel
- Monitoring systems: particles, VOC, pressure, temperature



Single-CAPE® 2 m x 2 m.

## Structure

- Optimal cleanroom environment designed to customer requirements
- Tailor-made, technical textiles to achieve specific and desired permeability
- Customized dimensions for Single-CAPE®: from 2 m x 2 m x 2 m up to 15 m x 15 m x 8 m
- Material and personnel locks
- High modularity:
  - complex systems can be built from several systems
  - systems of the same size can be combined as modules
  - interface to machines and process equipment
- Fabric shell is virtually free of outgassing substances and discharges any electrostatic build-up
- Chemical-resistant materials (H<sub>2</sub>O<sub>2</sub>, isopropanol, ultraclean water, etc.)
- Textile elements washable/autoclavable
- Replaceable textile elements
- Optional extras: FFU-integrated cooling modules, fire-retardant materials, cleanroom-suitable floors, lighting, rigid doors, viewing windows, crane access (from above), material hatches, etc.



Customized single CAPE®-systems up to 15 m x 15 m x 8 m available.

## Contact

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