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OP-UFP-GS – Ventilated mask for protection against ultrafine particles in surgery

Problem / Motivation

- Release of surgical smoke by laser and high-frequency technology in the operating room
- Surgical smoke poses a health risk to the entire surgical team due to its carcinogenic, mutagenic, and reprotoxic properties
- The protection of surgical staff from residual surgical smoke pollution exceeding 108 particles per cubic

Solution

- In comparison to conventional leakage treatment solutions, the sealing of the textile mask body is to be decisively optimised by means of two patented innovations
- A supply of medical compressed air corresponding to the wearer's respiratory minute volume should be provided via a highly elastic supply air intake hose
- Measurement control unit ensures a minimum overpressure under the mask body during inspiration so that no surgical smoke can be inhaled from the contaminated room air
- Exhaled exhaust air is also to be discharged from the wearer's head area via a highly elastic hose

Project Launch

01/2025

InnoTecOP
technologische Innovationen für klinische Operationsräume

Project Partner

Technische Hochschule Mittelhessen

Klinikum Ruhr-Universität Bochum

Innovatec Microfibre Technology GmbH & Co. KG

Greggersen Gasetechnik GmbH

Rgenau Industries GmbH & Co. KG

Surgical smoke in the operating room

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