

Fraunhofer Institute for Microengineering and Microsystems IMM

Division Energy

Elimination of harmful and smell-intensive exhaust air

Exhaust air, vapors or waste gases are inevitable by-products of a multitude of industrial processes. If they are harmful to the environment or an odor nuisance for local residents, their removal is necessary or at least advised in the latter case.

- The technolgy Catalytic combustion The exhaust air undergoes a chemical reaction. Similar to the catalytic converter in a car, a catalytically active substance is used to achieve this, compared to conventional combustion, with the lowest possible heat input and thus also lower energy consumption.
- The result Only carbon dioxide and water Any type of exhaust air of any degree of contamination is processed so that it gets odorless and harmless to humans and does not pollute the environment any more - even less than classic combustion exhaust gases.

Individual development and realization according to your specifications*

The module adapts to your needs - without compromises

Characteristics of the catalytic combustion modules

- Individual and tailor-made from large-scale industrial requirements to the smallest plant sizes, everything is possible
- Dynamic the module can be adjusted ad-hoc to the exhaust air and pollutant levels while maintaining efficiency
- Low maintenance up to four (4) years maintenance free
- Sustainable and powerful the energy required for the exhaust air purification process is significantly lower than in comparable processes, while being faster and more efficient
- Cost-efficient simulation-supported development and manufacturing processes ensure optimal implementation of your requirements
- Everything from a single source complete exhaust air purification module including reliable measurement and control technology, for uncomplicated integration into your processes



Example of a catalytic combustion module

Your advantages at a glance:

The elimination of harmful and smell-intensive exhaust air:

- is carried out economically while increasing energy efficiency and saving costs,
- meets the legal requirements for pollutant reduction and environmental protection,
- protects the employees,
- generates a **positive public image** simply by neutralizing the odor of the exhaust air.
- Additional exhaust air analysis in preparation for smooth third-party certification is integrated into our services.
- We support you with on-site installation and process or system integration.

*An R&D project can result in a tax benefit of up to 25% under fiscal research funding.

Contact us

Prof. Dr. Gunther Kolb Head of Division Energy Phone +49 6131 990-341 gunther.kolb@ imm.fraunhofer.de

Fraunhofer IMM Carl-Zeiss-Straße 18-20 55129 Mainz www.imm.fraunhofer.de Dr. Christian Bidart Sánchez Division Energy Phone +49 6131 990-349 christian.bidart@ imm.fraunhofer.de

Fraunhofer IMM Carl-Zeiss-Straße 18-20 55129 Mainz www.imm.fraunhofer.de Dr. Peter Wernig Division Energy Phone +49 6131 990-261 peter.wernig@ imm.fraunhofer.de

Fraunhofer IMM Carl-Zeiss-Straße 18-20 55129 Mainz www.imm.fraunhofer.de