



valid until: April 24, 2029

# Fraunhofer

## TESTED<sup>®</sup> DEVICE

ebm-papst  
Fan impeller Latamid 66 H2  
**Report No. EB 2403-1502**

DUPLICATE

Statement of  
Qualification

Single product  
Outgassing Behavior  
Ammonia

# Statement of Qualification · Single product

**Customer**  
 ebm papst Mulfingen GmbH & Co. KG  
 Bachmühle 2  
 74673 Mulfingen  
 Germany

**Component tested**

Category: Materials  
 Subcategory: Plastics  
 Product name: Fan impeller Latamid 66 H2 G/25-V0HF1  
 (manufacturing date: 8/2022; color: black; serial number: 8217101676)

## Test result / Classification

The outgassing behavior of the material of the Fan impeller Latamid 66 H2 G/25-V0HF1 the stated temperatures was investigated according to VDI 2083 Part 17 and ISO 14644-15. Based on the outgassing rates determined for the specific surfaces, the following material classification was made for the corresponding Contaminant Category:

Contaminat Category (x)	SER <sub>a</sub> <sup>1)</sup> 23 °C [g/m <sup>2</sup> s]	SER <sub>a</sub> <sup>1)</sup> 90 °C [g/m <sup>2</sup> s]	ISO-ACC <sub>m</sub> Class (x) based on 23 °C
Ammonia (NH <sub>3</sub> )	< 2.9 x 10 <sup>-9</sup>	< 7.0 x 10 <sup>-9</sup>	< -8.5

<sup>1)</sup>SER<sub>a</sub>: Area-specific emission rate

## Emission chamber measurements with impingement in combination with ion chromatography (IC)

Standards/Guidelines: ISO 14644-8, -15; VDI 2083 Part 17; VDI 2452 Part 1 (impinger); ISO 14911 (cations)  
 The norms stated generally refer to the version valid at the time of the tests.

Testing equipment:
 

- Measuring station:.....Metrohm Professional IC 850
- Sampling chamber:.....Markes International µCTE

Sample storage:
 

- Pre-conditioning:
  - Cleanroom Air Cleanliness Class (according to ISO 14644-1):.....ISO 1
  - Airflow velocity:.....0.45 m/s
  - Airflow type:..... vertical laminar flow
  - Temperature: .....22 °C ± 0.5 °C
  - Relative humidity: ..... 45 % ± 5 %
  - Purified air: ..... VOC-filtered

Test procedure parameters: Outgassing test temperatures: ..... 23 °C and 90 °C

The measuring devices used for the qualification tests are calibrated at regular intervals; their results can be traced back to national and international standards. In cases where no national standards exist, the test procedure implemented complies with the technical regulations and norms applicable at the time of the test. The relevant documentation can be viewed on request at any time.

Detailed information and parameters of the test environment can be found in the Fraunhofer IPA test report.

Fraunhofer Institute for Manufacturing Engineering and Automation IPA

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Place, date of first document issued

Department of Ultraclean Technology and Micromanufacturing


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on behalf of   
 Dr.-Ing. Frank Bürger, Project Manager Fraunhofer IPA