



# Fraunhofer

## TESTED<sup>®</sup> DEVICE

INFICON  
UL6000 Fab Plus  
**Report No. IN 2211-1364**

DUPLICATE

Statement of  
Qualification

Single product  
Particle Emission

# Statement of Qualification · Single product

**Customer**  
 INFICON GmbH  
 Bonner Strasse 498  
 50968 Cologne  
 Germany

**Component tested**

Category: Process Equipment  
 Subcategory: Measuring Equipment  
 Product name: Mobile vacuum leak tester - UL6000 Fab Plus  
 (manufacturing date: 10/2022; color: light gray/blue; weight: 144kg; serial number: 90001571854)

## Random sampling of particle emissions (airborne) at representative sites

Standards/Guidelines: ISO 14644-1, -14  
 The norms stated generally refer to the version valid at the time of the tests.

Test devices: Optical particle counter:  
 LasAir II 110 and LasAir III 110 with measuring ranges  $\geq 0.1 \mu\text{m}$ ,  $\geq 0.2 \mu\text{m}$ ,  $\geq 0.3 \mu\text{m}$ ,  $\geq 0.5 \mu\text{m}$ ,  $\geq 1.0 \mu\text{m}$  and  $\geq 5.0 \mu\text{m}$

Test environment parameters:

- Cleanroom Air Cleanliness Class (according to ISO 14644-1):..... ISO 1
- Airflow velocity:.....0.45 m/s
- Airflow pattern:..... vertical laminar flow
- Temperature: .....22 °C  $\pm$  0.5 °C
- Relative humidity: ..... 45 %  $\pm$  5 %

Test procedure parameters:

- Operation status: .....Ultra
- Pump Hipace80 (TMP):..... 1500 Hz
- Pump (TMP2):.....1167 Hz
- Pump Neody36G (forepump): ..... 175 Hz
- Valve  $V_{2a}$ ,  $V_{2b}$ ,  $V_{4c}$ ,  $V_{11}$ :..... open
- Valve  $V_5$  -  $V_{10}$ ,  $V_{12}$  -  $V_{15}$ :.....closed

## Test result / Classification

When operated under the specified test conditions, the Mobile vacuum leak tester - UL6000 Fab Plus is suitable for use in cleanrooms fulfilling the specifications of the following Air Cleanliness Classes according to ISO 14644-1:

Test parameter(s)	Air Cleanliness Class
Ultra: Pump Hipace80 (TMP) = 1500 Hz; Pump Neody36G (forepump) = 175 Hz	5
Exhaust air level	5
<b>Overall result</b>	<b>5</b>

Please note: Transport damages, incorrect installation, corrosion, oil leakage, aging behavior, etc. can influence the test result.

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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 Report No. first document

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Department of Ultraclean Technology and Micromanufacturing

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on behalf of   
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