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TESTED®
DEVICE

Advantest Europe GmbH
E2760 FAE 36 kW 177299
Report No. AD 1811-1079

DUPLICATE

Statement of
Qualification

Particle Emission

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Statement of Qualification

Customer

Advantest Europe GmbH
Herrenberger Strasse 130
71034 Böblingen
Germany

Component tested

Category: Process Equipment

Subcategory: Heating and Cooling

Product name: Cooling system E2760 FAE 36 kW 177299
(manufacturing date: 2018; serial number: 177299; weight: 95 kg; heat transfer medium: water; type of pump: Grundfos MGE90C 2-CMS2A-HA)

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 ≥ 0.1 µm, ≥ 0.2 µm, ≥ 0.3 µm, ≥ 0.5 µm, ≥ 1.0 µm and ≥ 5.0 µm

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 ± 0.5 °C
- Relative humidity: ..... 45 % ± 5 %

Test procedure parameters:

- Current: ..... I_N = 6.5/13 A
- Voltage: ..... U_N = 400/208/200 V
- Heat transfer medium: ..... water
- Water flow: ..... Q = 1 l/min

Test result / Classification

When operated under the specified test conditions, the Cooling system E2760 FAE 36 kW 177299 is suitable for use in cleanrooms fulfilling the specifications of the following Air Cleanliness Class according to ISO 14644-1:

Test parameter(s)	Air Cleanliness Class
Water flow Q = 1 l/min	7
Overall result	**7**

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

Department of Ultraclean Technology and Micromanufacturing

Nobelstrasse 12
70569 Stuttgart
Germany

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