Fraunhofer

TESTED® DEVICE

Rockwell Automation
MagneMover LITE System - Mini loop
Report No. RO 2601-1709

IPA

Cleanroom (atmospheric)

valid until: February 6, 2031

DUPLICATE

Statement of Qualification

Single product
Particle Emission in Cleanroom (atmospheric)

Fraunhofer
IPA

Statement of Qualification · Single product

Customer

Rockwell Automation
6400 W Enterprise Dr
53092 Mequon, Wisconsin
United States of America

Tested product

Category: Automation Components

Subcategory: Transfer Systems and Bearing

Product name: MagneMover LITE System (Variant 4)
(manufacturing date: 11/2025; weight: 273.98 kg; material: aluminum; system component and serial number: 1 M Motor (700-1708-07), 250 mm Motor (700-1708-27), Curve Motor (700-1708-47), Left Switch Mtr (700-1708-63), Right Switch Mtr (700-1708-83), Vehicle (700-1740-04))

Random sampling of particle emissions (airborne) at representative sites in cleanroom under atmospheric conditions

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

Test equipment: 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
- Room temperature: .... 22 °C ± 0.5 °C
- Relative humidity: .... 45 % ± 5 %

Test procedure parameters:
- Loop variant: ....Mini loop
- Parameter Set 1:
  – Count of vehicles on the system: .... 8 vehicle with each 5 kg payload
  – Maximum velocity curve/straight:....................$v_1 = 0.5$ m/s / $v_1 = 0.5$ m/s
- Parameter Set 2:
  – Count of vehicles on the system: .... 7 vehicle with each 5 kg payload
  – Maximum velocity curve/straight:....................$v_1 = 0.5$ m/s / $v_1 = 0.5$ m/s
- Parameter Set 3:
  – Count of vehicles on the system: .... 5 vehicle with each 5 kg payload
  – Maximum velocity curve/straight:....................$v_1 = 0.5$ m/s / $v_1 = 0.5$ m/s
- Parameter Set 4:
  – Count of vehicles on the system: .... 8 vehicle with each 10 kg payload
  – Maximum velocity curve/straight:....................$v_1 = 0.5$ m/s / $v_1 = 0.5$ m/s

Test result/Classification

The MagneMover LITE System (Variant 4) is suitable for use under the specified test parameters (room temperature: 22 °C ± 0.5 °C; relative humidity: 45 % ± 5 %) in cleanrooms of the following Air Cleanliness Classes according to ISO 14644-1:

Test parameter(s)	Air Cleanlines Class
Mini loop; 8 vehicles; 5 kg payload; 0.5 m/s	4
Mini loop; 7 vehicles; 5 kg payload; 0.5 m/s	4
Mini loop; 5 vehicles; 5 kg payload; 0.5 m/s	4
Mini loop; 8 vehicles; 10 kg payload; 0.5 m/s	4
Overall result	**4**

Please note: Transport damages, incorrect installation, oil leakage, aging behavior, corrosion 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

Business unit
Testing and Certification

Nobelstrasse 12
70569 Stuttgart
Germany

RO 2601-1709
Report No. first document

Stuttgart, February 6, 2026
Place, date of first document issued

--
Report No. current document

--
Place, current date

on behalf of
Dr.-Ing. Frank Bürger, head of business unit Testing and Certification

Fraunhofer
IPA