



valid until: February 6, 2031

# Fraunhofer

## TESTED<sup>®</sup> DEVICE

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

DUPLICATE

Statement of  
Qualification

Single product  
Particle Emission  
in Cleanroom  
(atmospheric)

# 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  $\geq 0.1 \mu\text{m}$ ,  $\geq 0.2 \mu\text{m}$ ,  
 $\geq 0.3 \mu\text{m}$ ,  $\geq 0.5 \mu\text{m}$ ,  $\geq 1.0 \mu\text{m}$  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
- Room temperature: .....22 °C ± 0.5 °C
- Relative humidity: ..... 45 % ± 5 %

Test procedure parameters:

- Loop variant: ..... Full loop
- Parameter Set 1:
  - Count of vehicles on the system: ..... 4 vehicle with each 5 kg payload
  - Maximum velocity curve/straight: .....  $v_1 = 0.5 \text{ m/s} / v_2 = 1.0 \text{ m/s}$
- Parameter Set 2:
  - Count of vehicles on the system: ..... 4 vehicle with each 5 kg payload
  - Maximum velocity curve/straight: .....  $v_1 = 0.5 \text{ m/s} / v_3 = 1.5 \text{ m/s}$
- Parameter Set 3:
  - Count of vehicles on the system: ..... 4 vehicle with each 5 kg payload
  - Maximum velocity curve/straight: .....  $v_1 = 0.5 \text{ m/s} / v_4 = 2.0 \text{ m/s}$
- Parameter Set 4:
  - Count of vehicles on the system: ..... 6 vehicle with each 5 kg payload
  - Maximum velocity curve/straight: .....  $v_1 = 0.5 \text{ m/s} / v_3 = 1.5 \text{ m/s}$
- Parameter Set 5:
  - Count of vehicles on the system: ..... 6 vehicle with each 10 kg payload
  - Maximum velocity curve/straight: .....  $v_1 = 0.5 \text{ m/s} / v_3 = 1.5 \text{ m/s}$
- Parameter Set 6:
  - Count of vehicles on the system: ..... 4 vehicle with each 10 kg payload
  - Maximum velocity curve/straight: .....  $v_1 = 0.5 \text{ m/s} / v_4 = 2.0 \text{ m/s}$



## 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 Cleanliness Class
Full loop; 4 vehicles; 5 kg payload; 1.0 m/s	4
Full loop; 4 vehicles; 5 kg payload; 1.5 m/s	4
Full loop; 4 vehicles; 5 kg payload; 2.0 m/s	4
Full loop; 6 vehicles; 5 kg payload; 1.5 m/s	4
Full loop; 6 vehicles; 10 kg payload; 1.5 m/s	4
Full loop; 4 vehicles; 10 kg payload; 2.0 m/s	4
<b>Overall result</b>	<b>4</b>

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

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Business unit Testing and Certification

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 Report No. current document Place, current date

Nobelstrasse 12  
 70569 Stuttgart  
 Germany

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

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