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TESTED®
DEVICE

GIMATIC S.R.L.
MRE16180
Report No. GI 1803-1017

DUPLICATE

Statement of
Qualification

Particle Emission

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Statement of Qualification

Customer

GIMATIC S.R.L.
Via Enzo Ferrari 2/4
25030 Roncadelle (Bs)
Italy

Component tested

Category: Automation Components

Subcategory: Positioning Systems

Product name: 2 Position Electric Rotary Actuator MRE16180
(manufacturing date: 7/9/2017; lot no.: ODL-V04642; swiveling torque: 45 Ncm; swiveling angle: 180°)

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:

- Cycles of movement: 30/min
- Range of movement: ..... 0° to 180°

Test result / Classification

When operated under the specified test conditions, the 2 Position Electric Rotary Actuator MRE16180 is suitable for use in cleanrooms fulfilling the specifications of the following Air Cleanliness Class according to ISO 14644-1:

Test parameter	Air Cleanliness Class
Cycles of movement: 30/min Range of movement: 0° to 180°	5
Overall result	**5**

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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GI 1302-637 — Report No. first document
Stuttgart, March 21, 2013 — Place, date of first document issued

GI 1803-1017 — Report No. current document
Stuttgart, March 30, 2018 — Place, current date

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