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DEVICE

KUKA Roboter GmbH
LBR iiwa 7 R800 CR
Report No. KU 1707-925

Statement of
Qualification

Particle Emission

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Statement of Qualification

Customer

KUKA Roboter GmbH
Zugspitzstrasse 140
86165 Augsburg
Germany

Component tested

Category: Automation Components

Subcategory: Robotics

Product name: LBR iiwa 7 R800 CR
(manufacturing date: 5/2017; article number: 10027613 ; serial number: 982698; payload: 7 kg; reach: 800 mm)

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:

- Capacity: ..... 40 % and 80 % of maximum utilization
- Attached payload: ..... 7 kg
- Pause between cycles: ..... 0 s
- Operation of each axis: ..... separately
- Movement of each axis:
  - Axis 1: ..... -170° until 170°
  - Axis 2: ..... -90° until 90°
  - Axis 3: ..... -90° until 90°
  - Axis 4: ..... -120° until 120°
  - Axis 5: ..... -170° until 170°
  - Axis 6: ..... -120° until 120°
  - Axis 7: ..... -175° until 175°

Test result / Classification

When operated under the specified test conditions, the robot LBR iiwa 7 R800 CR 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
Capacity = 40 %	2
Capacity = 80 %	3
Overall result	**3**

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.

For further information about the test environment and parameters, please refer to the Fraunhofer IPA test report.

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on behalf of
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This document only applies to the named product in its original state and is valid for a period of 5 years from the date the first document was issued. The document can be verified under **www.tested-device.com**.