



Fraunhofer

**TESTED[®]
DEVICE**

LANG GmbH & Co. KG
L-Step Express 19" 480VA
Report No. LA 1306-649

DUPLICATE

Statement of
Qualification

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Customer: LANG GmbH & Co. KG
Dillstraße 4
35625 Hüttenberg
Germany

Test results / Classification:
(according to ISO 14644-1)

The controller L-Step Express 19" 48VA is suitable for use in cleanrooms fulfilling Air Cleanliness Class 3.

Component tested:

Category: Automation Components
Subcategory: Linear Units
Type: Controller L-Step Express 19" 48VA

Random check measurements of particle emission (airborne) at representative points

Test procedure: According to VDI 2083 – 9.1
Each standard stated refers to the version valid at the time of testing.

Measuring instruments: Optical Particle Counter:
LasAir II 110 with measuring channels of
≥ 0.1 µm, ≥ 0.2 µm, ≥ 0.3 µm, ≥ 0.5 µm, ≥ 1.0 µm and ≥ 5.0 µm

Test parameters of the test environment:

- Cleanroom Air Cleanliness Class (according to ISO 14644-1):..... ISO 1
- Air flow velocity:.....0.45 m/s
- Air flow guidance:vertical unidirectional air flow
- Temperature:22 °C ± 0.5 °C (71.6 °F ± 0.9 °F)
- Relative humidity: 45 % ± 5 %

Test parameters of the test execution:

Operated with:

- Stepper motor ST5918L4508-B (Nanotec Electronic GmbH & Co. KG)
- Liner axis CTV 110-1616-ISO7-510-L-0-1 (Hypex d.o.o.)

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The measuring equipment used for the qualification is regularly calibrated and is based on national and international standards. In the case where no national standards exist, the measuring procedure used corresponds with technical regulations and norms valid at the time of the measurement. The documents drawn up for this procedure are available for viewing.

The validity of this certificate applies only to the mentioned product in this particular condition for a duration of 5 years.
Further information: www.tested-device.com.

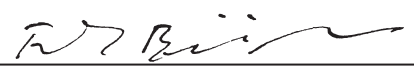
Fraunhofer Institute for
Manufacturing Engineering and Automation IPA

Department Ultraclean Technology
and Micromanufacturing

Nobelstrasse 12
70569 Stuttgart
Germany

Stuttgart, Oktober 9, 2013

Place, Date


i. A.
Project manager