



Fraunhofer

TESTED[®] DEVICE

Atlas Copco Tools
Nutrunner ETD ST61-50-13
Report No. AT 1207-606

DUPLICATE

Statement of
Qualification

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Customer: Atlas Copco Tools Central Europe GmbH
Langemarckstraße 35
45141 Essen
Germany

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

The electric straight nutrunner ETD ST61-50-13 is suitable for use in cleanrooms fulfilling Air Cleanliness Class 8. After modification it is suitable for use in cleanrooms fulfilling Air Cleanliness Class 7.

Component tested:

Category: Working Place and Operator
Subcategory: Work Equipment
Type: Electric straight nutrunner ETD ST61-50-13

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

Test procedure: According to VDI 2083 Part 9.1

Measuring instruments: Optical Particle Counter:
Model LasAir II 110 manufactured by PMS with measuring channels of
 $\geq 0.1 \mu\text{m}$, $\geq 0.2 \mu\text{m}$, $\geq 0.3 \mu\text{m}$, $\geq 0.5 \mu\text{m}$, $\geq 1.0 \mu\text{m}$ and $\geq 5.0 \mu\text{m}$

Test 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 \pm 0.5 °C (71.6 °F \pm 0.9 °F)
- Relative humidity:..... 45 % \pm 5 %

Test parameters of the test execution:

- Position:..... horizontal
- Tool:..... without
- Angle:.....250 ° forward
- Cycle:..... 20 cycles/min
- Controller:.....PF4000-C-HW

After the test, the electric straight nutrunner ETD ST61-50-13 was returned to the manufacturer in order to clean the interior. The test then was repeated using the same operating parameters (mod.).

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.

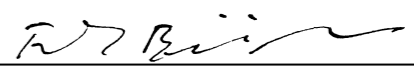
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Stuttgart, October 19, 2012

Place, Date

i.A. 
Project manager

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