



**Fraunhofer**

**TESTED<sup>®</sup>  
DEVICE**

Atlas Copco IT AB  
QMT61-500-I06

**Report No. AT 2509-1670**

DUPLICATE

Statement of  
Qualification

Single product  
Particle Emission  
in Cleanroom  
(atmospheric)

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Customer       | Atlas Copco Industrial Technique AB<br>Sickla Industriväg 15<br>10523 Stockholm<br>Sweden                                                                                                                                                                                                                                                                                                                                                                                                          |
| Tested product |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Category:      | Working Place and Operator                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Subcategory:   | Work Equipment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Product name:  | Electrical Screwdriver-Microtorque Fixtured QMT61-500-I06<br>(manufacturing date: week 26/2024; color: black; article number: 8432 0843 90; serial number: Z6590111)<br>in combination with: <ul style="list-style-type: none"><li>MT FOCUS 6000 (manufacturing date: 3/2024; color: black; article number: 8432 0851 00; serial number: E5380005)</li><li>Power Supply Unit 950 (manufacturing date: week 11/2023; color: black; article number: 8432 0840 07; serial number: A5450020)</li></ul> |

Random sampling of particle emissions (airborne) at representative sites in cleanroom under atmospheric conditions

|                              |                                                                                                                                                                                                                                                                                                                                           |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Standards/guidelines:        | ISO 14644-1, -14<br>The norms stated generally refer to the version valid at the time of the tests.                                                                                                                                                                                                                                       |
| Test equipment:              | Optical particle counter:<br>LasAir II 110 and LasAir III 110 with measuring ranges $\geq 0.1\text{ }\mu\text{m}$ , $\geq 0.2\text{ }\mu\text{m}$ , $\geq 0.3\text{ }\mu\text{m}$ , $\geq 0.5\text{ }\mu\text{m}$ , $\geq 1.0\text{ }\mu\text{m}$ and $\geq 5.0\text{ }\mu\text{m}$                                                       |
| Test environment parameters: | <ul style="list-style-type: none"><li>Cleanroom Air Cleanliness Class (according to ISO 14644-1):..... ISO 1</li><li>Airflow velocity:.....0.45 m/s</li><li>Airflow pattern:..... vertical laminar flow</li><li>Room temperature: .....22 °C <math>\pm</math> 0.5 °C</li><li>Relative humidity: ..... 45 % <math>\pm</math> 5 %</li></ul> |
| Test procedure parameters:   | <ul style="list-style-type: none"><li>Installation position: .....horizontal</li><li>Velocity: ..... v = 600 rpm</li><li>Cycle: ..... movement = 15 s; break = 5 s</li></ul>                                                                                                                                                              |

|                              |                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test result / Classification | The Electrical Screwdriver-Microtorque Fixtured QMT61-500-I06 in combination with controller MT FOCUS 6000 and Power Supply Unit 950 is suitable for use under the specified test parameters (room temperature: 22 °C $\pm$ 0.5 °C; relative humidity: 45 % $\pm$ 5 %) in cleanrooms of the following Air Cleanliness Classes according to ISO 14644-1: |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Test parameter(s)                                                                                                                                                    | Air Cleanlines Class |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Screwdriver: <ul style="list-style-type: none"><li>Installation position = horizontal</li><li>Max. velocity = 600 rpm</li><li>Movement = 15 s; Break = 5 s</li></ul> | 6                    |
| Controller MT FOCUS 6000                                                                                                                                             | 3                    |
| Power Supply Unit 950                                                                                                                                                | 5                    |
| Overall result                                                                                                                                                       | 6                    |

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.

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| Fraunhofer Institute for Manufacturing Engineering and Automation IPA | AT 2509-1670<br>Report No. first document                                              | Stuttgart, October 1, 2025<br>Place, date of first document issued                    |
| Business unit Testing and Certification                               | --<br>Report No. current document                                                      | --<br>Place, current date                                                             |
| Nobelstrasse 12<br>70569 Stuttgart<br>Germany                         | on behalf of<br>Dr.-Ing. Frank Bürger, head of business unit Testing and Certification |  |