



valid until: April 30, 2031

# Fraunhofer

## TESTED<sup>®</sup> DEVICE

Atlas Copco Industrial Technique AB

QMT21-10-HM4

**Report No. AT 2604-1746**

DUPLICATE

Statement of  
Qualification

Single product  
Particle Emission  
in Cleanroom  
(atmospheric)

# Statement of Qualification · Single product

**Customer**  
 Atlas Copco Industrial Technique AB  
 Sickla Industriväg 15  
 105 23 Stockholm  
 Sweden

**Tested product**

Category: Working Place and Operator

Subcategory: Work Equipment

Product name: Transducerized Screwdriver QMT21-10-HM4  
 (manufacturing date: week 8/2026; serial number: B8402415)  
 in combination with:

- Control and drive unit MT FOCUS 6000  
 (manufacturing date: week 14/2017; article number: 843 20851 00;  
 serial number: B9480016)
- MT Power Supply (MT PS 180W-36V)  
 (manufacturing date: 10/2013; article number: 843 20840 01;  
 serial number: A5750310)

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

Standards/guidelines: ISO 14644-1, -14  
 The norms stated generally refer to the version valid at the time of the tests.

Test equipment: Optical particle counter:  
 LasAir II 110 and LasAir III 110 with measuring ranges  $\geq 0.1 \mu\text{m}$ ,  $\geq 0.2 \mu\text{m}$ ,  
 $\geq 0.3 \mu\text{m}$ ,  $\geq 0.5 \mu\text{m}$ ,  $\geq 1.0 \mu\text{m}$  and  $\geq 5.0 \mu\text{m}$

Test environment parameters:

- Cleanroom Air Cleanliness Class (according to ISO 14644-1):..... ISO 1
- Airflow velocity:.....0.45 m/s
- Airflow pattern:..... vertical laminar flow
- Room temperature: .....22 °C  $\pm$  0.5 °C
- Relative humidity: ..... 45 %  $\pm$  5 %

Test procedure parameters:

- Installation position screwdriver: ..... horizontal
- Cycle time: ..... 15 s
- Break between cycles: ..... 5 s

## Test result / Classification

The Transducerized Screwdriver QMT21-10-HM4 in combination with MT FOCUS 6000 and MT PS 180W-36V 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 Cleanliness Class
Screwdriver: • Installation position: horizontal • Velocity: 2000 rpm • Cycle time: 15 s • Break between cycles: 5 s	5
Controller	1
Power Supply	4
<b>Overall result</b>	<b>5</b>

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.