



Fraunhofer

TESTED[®] DEVICE

Atlas Copco IT AB

QMC21-10-HM4

Report No. AT 2108-1250

Statement of
Qualification

Single product
Particle Emission

Statement of Qualification · Single product

Customer	Atlas Copco Industrial Technique AB Sickla Industriväg 19 13154 Stockholm Sweden
Component tested	
Category:	Working Place and Operator
Subcategory:	Work Equipment
Product name:	Current Controlled Screwdriver QMC21-10-HM4 (manufacturing date: week 28/2021; article number: 8432084410; serial number: B3600313) in combination with: <ul style="list-style-type: none">Control and drive unit MT FOCUS 6000 (manufacturing date: week 14/2017; article number: 8432 0851 00; serial number: B9480028)MT Power Supply (MT PS 180W-36V) (manufacturing date: week 26/2018; article number: 8432 0840 02; serial number: B0600263)

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 $\geq 0.1\text{ }\mu\text{m}$, $\geq 0.2\text{ }\mu\text{m}$, $\geq 0.3\text{ }\mu\text{m}$, $\geq 0.5\text{ }\mu\text{m}$, $\geq 1.0\text{ }\mu\text{m}$ and $\geq 5.0\text{ }\mu\text{m}$
Test environment parameters:	<ul style="list-style-type: none">Cleanroom Air Cleanliness Class (according to ISO 14644-1):..... ISO 1Airflow velocity:.....0.45 m/sAirflow pattern:..... vertical laminar flowTemperature:22 °C \pm 0.5 °CRelative humidity: 45 % \pm 5 %
Test procedure parameters:	<ul style="list-style-type: none">Installation position: horizontalVelocity: 1000 rpmInterval:movement: 15 s; break: 5 s

Test result / Classification

When operated under the specified test conditions, the Current Controlled Screwdriver QMC21-10-HM4 in combination with MT FOCUS 6000 and MT PS 180W-36V is suitable for use in cleanrooms fulfilling the specifications of the following Air Cleanliness Classes according to ISO 14644-1:

Test parameter(s)	Air Cleanlines Class
Screwdriver: <ul style="list-style-type: none">Installation position: horizontalVelocity: 1000 rpmMovement: 15 s; break: 5 s	6
Controller	1
Power Supply	2
Overall result	6

Please note: Transport damages, incorrect installation, oil leakage, aging behavior, 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.

Fraunhofer Institute for Manufacturing Engineering and Automation IPA

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on behalf of <small>Dr.-Ing. Frank Bürger, Project Manager Fraunhofer IPA</small>	