





## Fraunhofer TESTED<sup>®</sup> DEVICE igus GmbH PRT-04-100-CR Report No. IG 2308-1442

Statement of Qualification

Single product Particle Emission Dry-Cleanroom

## **Statement of Qualification** • Single product

Customer	igus GmbH Spicher Strasse 1a 41147 Cologne Germany	Test result / Classification	When operated under the specified test conditions, the PRT-04-100 Clean Room bearing is suitable for use in cleanrooms (with a dew point of -40 °C $\pm$ 2 °C and room temperature of 21°C $\pm$ 1.5 °C) fulfilling the specifications of the following Air Cleanliness Classes according to ISO 14644-1:	
			Test parameter(s)	Air Cleanlines Class
Component tested			Installation position: horizontal Payload: m = 10 kg	6
Category:	Automation Components		Velocity: $v_1 = 70 \text{ RPM} = 0.5 \text{ m/s}$	0
Subcategory:	Transfer Systems and Bearing		Installation position: horizontal Payload: m = 10 kg	
Product name:	PRT-04-100 Clean Room (manufacturing date: 2022; material: anodized aluminum; total weight:		Swing angle: $180^{\circ}$ Average Velocity: $v_2 = 0.1 \text{ m/s}$	7
	578 g; serial number: PRT-04-100-CR)		Overall result	7

## Random sampling of particle emissions (airborne) at representative sites in the dry room

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 $\geq 0.1 \mu\text{m}$ , $\geq 0.2 \mu\text{m}$ , $\geq 0.3 \mu\text{m}$ , $\geq 0.5 \mu\text{m}$ , $\geq 1.0 \mu\text{m}$ and $\geq 5.0 \mu\text{m}$
Test environment parameters:	<ul> <li>Dry and clean environment with Class (according to ISO 14644-1): ISO 3</li> <li>Airflow velocity:</li></ul>
Test procedure parameters:	<ul> <li>Installation position:</li></ul>

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.

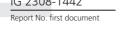
Detailed information and parameters of the test environment can be found in the Fraunhofer IPA test report.

Fraunhofer Institute for Manufacturing Engineering and Automation IPA

IG 2308-1442

Department of Ultraclean Technology and Micromanufacturing

Nobelstrasse 12 70569 Stuttgart Germany



Report No. current document

on behalf of Dr.-Ing. Frank Bürger, Project Manag





Please note: Transport damages, incorrect installation, oil leakage, aging behavior, corrosion, etc. can influence the test result.

	This document only applies to the named product in its original state
Stuttgart, September 15, 2023	and is valid for a period of
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Place, current date	verified under
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