



valid until: March 15, 2029

Fraunhofer

TESTED[®] DEVICE

igus GmbH

E4Q.34.100.100.0

Report No. IG 2401-1484

Single product
Particle Emission
Dry-Cleanroom

Qualification Certificate

This is to certify that the product mentioned above, provided by

igus GmbH
Cologne, Germany

has been awarded a Fraunhofer certificate TESTED DEVICE
bearing the report number IG 2401-1484.

The energy chain E4Q.34.100.100.0 of the series E4Q.34 (color: black) was assessed in compliance with ISO 14644-14. When operated under the specified test conditions, it is suitable for use in cleanrooms (with a dew point of $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and room temperature of $22^{\circ}\text{C} \pm 1^{\circ}\text{C}$) fulfilling the specifications of the following Air Cleanliness Classes according to ISO 14644-1:

Test parameter(s)	Air Cleanliness Class
$v_1 = 0.5 \text{ m/s}; a_1 = 1.0 \text{ m/s}^2$	5
$v_2 = 1.0 \text{ m/s}; a_2 = 2.0 \text{ m/s}^2$	5
$v_3 = 2.0 \text{ m/s}; a_3 = 4.0 \text{ m/s}^2$	5
Overall result	5

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

IG 2401-1484
Report No. first document

Stuttgart, March 15, 2024
Place, date of first document issued

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Report No. current document

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Place, current date

on behalf of 
Dr.-Ing. Frank Bürger, Project Manager Fraunhofer IPA

This document only applies to the named product in its original state and is valid for a period of 5 years from the date the first document was issued. The document can be verified under www.tested-device.com.

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