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DEVICE

SKF Lubrication  
CLP-Progressive System  
**Report No. SK 2308-1450**

DUPLICATE

Statement of  
Qualification

Single product  
Particle Emission  
Dry-Cleanroom

Customer	SKF Lubrication Systems Germany GmbH Motzener Strasse 33/35 12277 Berlin Germany
Component tested	
Category:	Automation Components
Subcategory:	Transfer Systems and Bearing
Product name:	CLP Progressive System „7314-50000139“ for usage in clean and dry area (manufacturing date: 10/5/2023; serial number: 7314-50000139)

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 $\geq 0.1\text{ }\mu\text{m}$ , $\geq 0.2\text{ }\mu\text{m}$ , $\geq 0.3\text{ }\mu\text{m}$ , $\geq 0.5\text{ }\mu\text{m}$ , $\geq 1.0\text{ }\mu\text{m}$ and $\geq 5.0\text{ }\mu\text{m}$
Test environment parameters:	<ul style="list-style-type: none"><li>• Dry and clean environment with Class (according to ISO 14644-1):..... ISO 3</li><li>• Airflow velocity:..... 0.1 m/s <math>\pm</math> 0.05 m/s</li><li>• Airflow pattern:..... displacement flow</li><li>• Temperature: ..... 22 °C <math>\pm</math> 1 °C</li><li>• Humidity/Dew point: ..... -40 °C <math>\pm</math> 2 °C</li></ul>
Test procedure parameters:	<ul style="list-style-type: none"><li>• Cycle time:..... <math>t_c = 6\text{ min } 25\text{ s}</math></li><li>• Break:..... <math>t_b = 4\text{ min } 25\text{ s}</math></li><li>• Run time: ..... <math>t_r = 2\text{ min}</math></li><li>• Amount of transported lubricant: ..... <math>m = 0.05\text{ cm}^3/\text{s}</math></li></ul>

Test result / Classification	When operated under the specified test conditions, the central lubrication system CLP Progressive System „7314-50000139“ for usage in clean and dry area is suitable for use in cleanrooms (with a dew point of -40 °C $\pm$ 2 °C and room temperature of 222 °C $\pm$ 1 °C) fulfilling the specifications of the following Air Cleanliness Class according to ISO 14644-1:
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Test parameter(s)	Air Cleanlines Class
Cycle time: $t_c = 6\text{ min } 25\text{ s}$ Break: $t_b = 4\text{ min } 25\text{ s}$ Run time: $t_r = 2\text{ min}$ Transported lubricant: $m = 0.05\text{ cm}^3/\text{s}$	4
Overall result	

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.

Fraunhofer Institute for Manufacturing Engineering and Automation IPA	SK 2308-1450 Report No. first document	Stuttgart, December 8, 2023 Place, date of first document issued
Department of Ultraclean Technology and Micromanufacturing	-- Report No. current document	-- Place, current date
Nobelstrasse 12 70569 Stuttgart Germany	on behalf of Dr.-Ing. Frank Bürger, Project Manager Fraunhofer IPA	