

DLG Test Report 7408

SCHULZ Systemtechnik GmbH

Air cleaning system EMMI Pig

for strawless pig housing



FULL TEST
SCHULZ ST
EMMI PIG
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Overview

The DLG APPROVED FULL TEST quality mark is awarded to agricultural equipment that has passed a comprehensive DLG usability test. A DLG usability test is carried out to independent and recognised test criteria and provides an objective and unbiased assessment of the product and all features considered essential by users. The test comprises individual lab tests as well as field tests in various conditions; in addition to that the product has to prove itself in on-farm applications. The test conditions and procedures are defined by an independent test commission and described in a test framework which defines the parameters for evaluation. Yet the test conditions and procedures as defined are revised on an ongoing basis so they reflect what is acknowledged as the current state of the art as well as the latest scientific findings and also agricultural insights and requirements. After a product has passed the test, a test report is produced and published and the quality mark is awarded to the product and will retain its validity for five years from the date of award. Subject of the test was the two stage air cleaning system „EMMI Pig“ from SCHULZ Systemtechnik GmbH. The cleaner operates on the pressure principle and the filter load must not exceed 5,000 m³/(m²·h) to obtain the system functionality. In the chemical stage the minimum sprinkling density must be 2.0 m³/(m²·h) and in the biological stage 1.0 m³/(m²·h). The maximum conductivity in the process water was 220 mS/cm (chemical) and 20 mS/cm (biological). The process water ph was 2.4±0.5 (chemical) and between 6.3 and 6.9 (biological).



Test results

TEST CRITERION	Result/Value	Evaluation*
Description		
Chemical and biological air cleaning system with continuous irrigation		
Suitability		
Purification of exhaust air from strawless pig housing with overhead ventilation and using usual feed by reducing dust, ammonia and odour emissions		
Total dust		
Minimum separation rate, winter/summer	87.8 % / 74.8 %	✓
Fine dust PM₁₀		
Minimum separation rate, winter/summer	82.9 % / 72.4 %	✓
Ammonia		
Minimum separation rate after chemical stage, winter/summer	89.7 % / 86.5 %	✓
Minimum separation rate after chemical and biological stage, winter/summer	90.7 % / 87.0 %	✓
Nitrogen removal		
Chemical stage/chemical and biological stage, summer	81.2 % / 87.3 %	✓
Odour		
Winter/summer	< 300 OU/m ³ , no uncleaned gas perceived	✓

* Evaluation range: requirements fulfilled (✓)/requirements not fulfilled (✗)

Explanations: The minimum separation rate for dust is the lowest measurement recorded in the test period. The minimum ammonia separation rate is the averaged separation efficiency minus the standard deviation. One winter measurement on N removal was not plausible. Therefore only the result of the N balance under summer conditions was given. Dust and odour reduction is only ensured using the entire cleaning system. The chemical stage and the demister must be cleaned regularly.

Manufacturer and contact information

Manufacturer and Applicant

SCHULZ Systemtechnik GmbH, Schneiderkruger Straße 12, 49429 Visbek, Germany
Contact: Phone +49 (0)4445-897-0, info@schulz.st, www.schulz.st



DLG TestService GmbH
Groß-Umstadt location

Max-Eyth-Weg 1 • 64823 Groß-Umstadt • Germany
Phone: +49 69 24788-600 • Fax: +49 69 24788-690
Tech@DLG.org • www.DLG.org

You can find the detailed test report in German at the Internet address:
www.dlg.org/de/landwirtschaft/tests/pruefberichte/innenwirtschaft/test-schulz-abluftreinigungsanlage-emmi-pig