ISO 20145:2026-02 (E)

Pneumatic fluid power - Test methods for measuring acoustic emission pressure levels of exhaust silencers

Contents

Page

Foreword ..... **iv**

Introduction ..... **v**

1 Scope **1**

2 Normative references **1**

3 Terms and definitions **1**

4 Symbols and units **3**

5 Test set-up **3**
5.1 Test bench 3
5.2 Pneumatic pressure measurement 3
5.3 Flow measurement 3
5.4 Sound pressure measurement 3
5.4.1 General 3
5.4.2 Measurement at one position 4
5.4.3 Measurement at three positions 4
5.5 Acoustic instrumentation 5

6 Test procedure **6**
6.1 Characterization and validation of the test facilities 6
6.2 Quantities to be measured 6
6.2.1 Basic quantities to be measured 6
6.2.2 Acquisition parameters of basic quantities — Steady-state mode 6
6.2.3 Acquisition parameters of basic quantities — Discharge mode 6
6.3 Measurements 7
6.3.1 General 7
6.3.2 Specimens tested 7
6.3.3 Specific cases 7
6.3.4 Ambient conditions during measurement 8
6.4 The acoustic quantity to be determined 8
6.5 Calculation of background noise correction K_{1A} 8
6.5.1 General 8
6.5.2 Case of measurement in steady-state mode 9
6.5.3 Case of measurement in discharge mode 9
6.6 Uncertainty on measurement 10

7 Presentation of test results **10**
7.1 Information to be written in the test report 10
7.2 Information to be declared 11

8 Identification statement **11**

Annex A (informative) **Calculation of environmental correction K_{2A}** **12**

Annex B (informative) **Example of the acoustic correction of industrial facilities** **14**

Annex C (informative) **Example of reports** **18**

Annex D (informative) **Uncertainties** **20**

Annex E (informative) **Sound attenuation effect of silencers** **23**

Bibliography **34**