International Standard

ISO 20145

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

Transmissions pneumatiques — Méthode d'essai de mesure du niveau de pression d'émission acoustique des silencieux d'échappement

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Foreword

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This document was prepared by Technical Committee ISO/TC 131 *Fluid power systems*, Subcommittee SC *5*, *Control products and components.*

This second edition cancels and replaces the first edition (ISO 20145:2019), which has been technically revised.

The main changes are as follows:

— addition of a new Annex E on sound attenuation effect of silencers.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This acoustic test procedure is intended to provide a common framework to industrial companies to evaluate the sound pressure levels of pneumatic exhaust silencers.

It defines two methods of measuring the level of acoustic pressure at the outlet of an exhaust silencer. These methods should be capable of being applied by pneumatic equipment manufacturers in their facilities on test benches in accordance with ISO 6358-1 and ISO 6358-2.

The first method, called "steady-state mode", is intended to evaluate the noise level under steady state flow, i.e. constant upstream pressure. This measurement is performed at 630 kPa[1)] at least to permit comparison between silencers at the most frequently used operating pressure (or at the maximum admissible pressure if lower than 630 kPa).

The second method, called "discharge mode", is intended to measure the noise level during the decrease of the pneumatic pressure (discharge test according to ISO 6358-2). To ensure the compatibility with the steady-state flow method, the pressure range includes 630 kPa (or the maximum admissible pressure if lower than 630 kPa).

1) 1 bar = 0,1 MPa =10^5 Pa; 1 MPa = 1 N/mm^2.