

© British Standards Institution. No part of this publication may be photocopied or otherwise reproduced without the prior permission in writing of BSI

British Standard

General requirements for rotating electrical machines

Part 109. Specification for noise levels, including test methods

Règles générales pour les machines électriques tournantes
Partie 109. Niveaux de bruit et méthodes d'essai — Spécifications

Allgemeine Anforderungen an umlaufende elektrische Maschinen
Teil 109. Störpegel einschließlich Prüfverfahren

Contents

	Page		Page
Foreword	Inside front cover	D Limiting mean sound power level L_w in dB(A) for airborne noise emitted by rotating electrical machines	12
Committees responsible	Back cover	E Conversion table	13
Specification		F Terms and definitions	14
1 Scope	1	Figures	
2 Terms and definitions	1	1 Background noise correction curve	5
3 Test Method I	1	2 Location of measuring points and prescribed paths for horizontal machines with axial length greater than or equal to the width	6
4 Test Method II	3	3 Location of measuring points and prescribed paths for horizontal machines with axial length shorter than the width	7
5 Presentation of results	4	4 Location of measuring points and prescribed paths for vertical machines	8
6 Classification of machines in terms of dB(A) sound power emitted	5	5 Variation of $10 \log_{10} \frac{(2\pi r_s^2)}{S_0}$ with r_s	9
Appendices			
A Examples	10		
B Recommendations for methods of assessing noise of machines on load	10		
C Test method for semi-reverberant conditions	11		

Foreword

This Part of BS 4999 has been prepared under the direction of the Power Electrical Engineering Standards Committee and supersedes BS 4999 : Part 51 : 1973, which is withdrawn.

This Part has been issued to implement the decision to renumber all the Parts of BS 4999 to bring the Part numbers more into line with those of IEC Publication 34. In addition to the renumbering of the Part the inclusion of the Part number in the point numbering system, adopted in Part 51, has been abandoned. No technical changes have been made to the text of BS 4999 : Part 51 : 1973.

The methods of measurement used in this standard have been selected from ISO Recommendation R/1680 'Test Code for the measurement of the airborne noise emitted by rotating electrical machinery'. This standard takes into account work that has been undertaken by the International Electrotechnical Commission (IEC). The limiting mean sound power levels specified in Appendix D for ratings up to 400 kW (or kVA) are those given in IEC Publication 34-9 'Noise limits', which has been accepted by CENELEC* as a reference document for Harmonization Document HD 53.9.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

*European Committee for Electrotechnical Standardization.