

INTERNATIONAL
STANDARD

ISO
5801

Third edition
2017-09

**Fans — Performance testing using
standardized airways**

Ventilateurs — Essais aérauliques sur circuits normalisés



Reference number
ISO 5801:2017(E)

© ISO 2017



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

	Page
Foreword	vii
Introduction	viii
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols, abbreviated terms and subscripts	10
4.1 Symbols and abbreviated terms	10
4.2 Subscripts	12
5 General	13
6 Test configurations	14
6.1 General	14
6.2 Category A configuration	15
6.3 Category B configuration	15
6.4 Category C configuration	15
6.5 Category D configuration	15
6.6 Inlets and outlets	15
6.7 Fans with significant swirl	15
6.8 Airways	15
6.9 Test space	16
6.10 Leakage	16
6.11 Test report	16
7 Carrying out the test	16
7.1 Working fluid	16
7.2 Rotational speed	16
7.3 Steady operation	16
7.4 Ambient conditions	16
7.5 Pressure readings	17
7.6 Test for a specified duty	17
7.7 Test for a fan characteristic curve	17
7.8 Operating range	17
8 Airways for duct simulations	17
8.1 General	17
8.2 Common segments at fan inlet (iCS)	17
8.3 Inlet duct simulation (iDS)	19
8.4 Common segment at fan outlet (oCS)	20
8.5 Outlet duct simulation (oDS)	21
8.6 Long duct (LD)	22
8.7 Loss allowances for standardized airways	23
8.7.1 Loss allowances for an inlet common segment (iCS)	23
8.7.2 Loss allowances for inlet duct simulation (iDS)	24
8.7.3 Loss allowances for outlet common segments (oCS)	24
8.7.4 Loss allowances for duct simulation at outlet (oDS)	25
8.7.5 Loss allowances for long duct (LD)	25
9 Standardized test chambers	25
9.1 General	25
9.2 Pressure tappings	25
9.3 Flow-settling means	25
9.3.1 General	25
9.3.2 Piezometer ring check	26
9.3.3 Blow through verification test	26
9.3.4 Outlet chamber reverse flow verification test	26