INTERNATIONAL STANDARD

ISO 3354

Third edition 2008-07-15

Measurement of clean water flow in closed conduits — Velocity-area method using current-meters in full conduits and under regular flow conditions

Mesurage de débit d'eau propre dans les conduites fermées — Méthode d'exploration du champ des vitesses dans les conduites en charge et dans le cas d'un écoulement régulier, au moyen de moulinets



Reference number ISO 3354:2008(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below



COPYRIGHT PROTECTED DOCUMENT

© ISO 2008

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office Case postale 56 • CH-1211 Geneva 20 Tel. + 41 22 749 01 11 Fax + 41 22 749 09 47 E-mail copyright@iso.org Web www.iso.org

Published in Switzerland

Contents

Page

Forewordv		
1	Scope	1
2	Normative references	1
3	Terms and symbols	2
3.1	Terms	
3.2	Symbols	3
4	Principle	2
4.1	General	
4.2	Measurement of the measuring cross-section	
4.3	Measurement of local velocities	
4.4	Location and number of measuring points in the cross-section	
5	Description of the current-meter	9
6	Requirements for the use of current-meters	<u></u> 6
6.1	Selection of the measuring cross-section	9
6.2	Devices for improving flow conditions	
6.3 6.4	Calibration of the current-meter	
6.4 6.5	Limits of useInspection and maintenance of current-meters	
	•	
7 7.1	Setting of current-meters into the conduit	
7.1 7.2	Setting of current-meters Mounting in a circular cross-section	
7.2	Mounting in a rectangular cross-section	
8 8.1	Determination of the mean axial fluid velocity by graphical integration of the velocity area General	16
8.2	Circular cross-sections	
8.3	Rectangular cross-sections	
9	Determination of the mean axial fluid velocity by numerical integration of the velocity area	
9.1	General	
9.2	Circular cross-sections	
9.3	Rectangular cross-sections	
10	Determination of the mean axial fluid velocity by arithmetical methods	23
10.1	General	23
10.2	Log-linear method	23
10.3	Log-Chebyshev method	25
11	Uncertainty in the measurement of flow-rate	27
11.1	General	
11.2	Sources of error in local velocity measurements	
11.3 11.4	Sources of error in estimation of flow-rate Propagation of errors	
11.4 11.5	Presentation of results	
11.6	Calculation of uncertainty	
_	A (normative) Measuring sections other than circular or rectangular sections	
Annex	Annex B (normative) Corrections for blockage effect	