

This is a preview of "ISO 9123:2017". Click here to purchase the full version from the ANSI store.

Second edition 2017-10

Hydrometry — **Stage-fall-discharge** relationships

Hydrométrie — Relations hauteur-dénivelé-débit



ISO 9123:2017(E)

This is a preview of "ISO 9123:2017". Click here to purchase the full version from the ANSI store.



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 This is a preview of "ISO 9123:2017". Click here to purchase the full version from the ANSI store.

COI	ntent		Page		
Fore	eword		v		
1	Scope	2	1		
2	Normative references				
3					
	Terms and definitions				
4	Sym 0 4.1	Symbols and abbreviated terms 4.1 Symbols			
	4.2	Abbreviations			
5	Cono	ral considerations			
	5.1	Importance of backwater			
	5.2	Backwater conditions			
	5.3	Gauging requirements			
	5.4	Types of stage-fall-discharge relationships	4		
6	Unit-	fall method	4		
	6.1	General			
	6.2	Method of analysis			
	6.3 6.4	Computation of discharge Example of unit-fall method			
-	_	ant-fall method			
7	7.1	General			
	7.2	Method of analysis			
	7.3	Computation of discharge	7		
	7.4	Example of constant-fall method	7		
8	Variable-fall method				
	8.1	General			
	8.2	Normal-fall method			
	8.3	Limiting-fall method 8.3.1 General			
		8.3.2 Method of analysis			
		8.3.3 Computation of discharge	11		
		8.3.4 Example of limiting-fall method	12		
9	Ratin	Rating curves and tables			
10	Meth	od of computation	16		
11	Perio	dic checking of stage-fall-discharge ratings	16		
12	Extra	polations	16		
13	Evaluation of uncertainty in the stage-fall-discharge relation				
	13.1	General			
	13.2	Implementing the GUM procedure for evaluating uncertainty in the stage-fall-	4.5		
		discharge relation and derived estimates			
		13.2.2 Propagation of uncertainty for stage-fall-discharge estimates			
		13.2.3 Uncertainty in rating curve			
		13.2.4 Uncertainty in the measured stage	21		
		13.2.5 Uncertainty in the measured fall			
		13.2.6 Prediction intervals of estimated discharge			
	13.3	13.2.7 Uncertainty caused by neglecting all other physical parameters			
	10.0	13.3.1 General			
		13.3.2 Standard error of estimate			
		13.3.3 Uncertainty of mean response	23		

ISO 9123:2017(E)

	This is a	preview of "	"ISO 9123:2017".	Click here to	purchase the full	version from th	e ANSI store.
--	-----------	--------------	------------------	---------------	-------------------	-----------------	---------------

Rihliogranhy		29				
Annex A (informative) Multiple least squares regression — Matrix representation						
13.3.7	Uncertainty in the predicted discharge	25				
13.3.6	Propagation of uncertainty in discharge estimation	24				
13.3.5	Uncertainty caused by neglecting all other physical parameters	24				
13.3.4	Uncertainty in measured stage and fall	24				
13 3 4	Uncertainty in measured stage and fall	2.				

This is a preview of "ISO 9123:2017". Click here to purchase the full version from the ANSI store.

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html

This document was prepared by Technical Committee ISO/TC 113, *Hydrometry*, Subcommittee SC 1, *Velocity area methods*.

This second edition cancels and replaces the first edition (ISO 9123:2001), which has been technically revised. The main changes were to improve the text relating to the stage-fall-discharge method and to revise the previous clause on uncertainty in accordance with HUG/GUM and similar related standards on the estimation of uncertainty in flow measurements.