

Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Symbols and abbreviated terms	2
4 Types of errors and procedure for estimating the uncertainties in flow measurement.....	3
4.1 Principle.....	3
4.2 Occurrence of error.....	4
4.3 Sources of error.....	5
4.4 Determination of the individual components of the uncertainty	6
4.5 Total uncertainty in discharge.....	7
5 Collection and processing of data for the investigation of component uncertainties – type A evaluation of uncertainties.....	8
5.1 Data on the local point velocity.....	8
5.2 Data on the average velocity	9
5.3 Data on the velocity-area method	10
5.4 Integration method	11
5.5 Calibration curves.....	11
5.6 Distance measurements	11
5.7 Depth measurements	12
6 Data processing	12
6.1 General.....	12
6.2 Error-type i.....	13
6.3 Error-type ii — Approximation of mean velocity in the vertical.....	15
6.4 Error-type iii — Limited number of verticals.....	17
Annex A (informative) Characteristics of rivers from which data were collected	21
Annex B (normative) Effect of increasing measuring time on uncertainty.....	26
Annex C (normative) Local point velocity measurements - Report form.....	27
Annex D (normative) Average velocity measurements — Report form	31
Annex E (normative) Velocity-area method — Report form	34
Annex F (informative) Examination of Error Types i, ii, and iii.....	38
Annex G (informative) Uncertainties in velocity-area measurement components.....	41
Annex H (informative) Calculation of the uncertainty in a current-meter gauging.....	45
Bibliography	48