ISO 16956:2015-02 (E)

Thermal performance in the built environment - Determination of air flow rate in building applications by field measuring methods

Contents

Page

Foreword v

1 Scope 1

2 Normative references 1

3 Terms and definitions 1

4 Symbols and abbreviated terms 2

5 Types and selection of measurement method 2
5.1 Types of measurement methods and their application 2
5.2 Selection of measurement method 2

6 Basic specifications measuring instruments and utilization methods 2
6.1 General 2
6.2 Thermal anemometer 2
6.3 Pitot tube and manometer 3
6.4 Vane-type anemometer 3

7 Field measuring methods of air flow rate of ventilation and air conditioning systems 3
7.1 Multipoint air velocity measurement method 3
7.1.1 Measurement in a duct 4
7.1.2 Measurement method at duct connection of air-conditioning system 6
7.1.3 Selection of measuring instruments 7
7.2 Tracer gas measurement method 7
7.2.1 Formula 7
7.2.2 Tracer gas 8
7.2.3 Procedures for measuring air flow rate 8
7.2.4 Tracer gas injection procedures 9
7.2.5 Tracer gas sampling procedures 10
7.3 Flow hood method 10
7.3.1 General 10
7.3.2 Equipment composition 10
7.3.3 Measurement procedures 11
7.4 Pressure compensation measurement method 11
7.4.1 Equipment composition 12
7.4.2 Measurement procedures 13
7.4.3 Effective application range 13
7.5 Pressure difference measurement method 13
7.5.1 Measuring equipment 13
7.5.2 Selection of measuring instruments 14
7.5.3 Measuring procedures 14

8 Uncertainty 15
8.1 Uncertainty of each measurement 15
8.1.1 Multipoint air velocity measurement method 15
8.1.2 Tracer gas measurement method 15
8.1.3 Flow hood method 15
8.1.4 Pressure-loss compensation measurement method 15
8.1.5 Pressure difference measurement method 15

8.2 Analysis of uncertainty 15

9 Measurement report 16
9.1 Information related to measured object 16
9.2 Items related to measuring method 16
9.3 Measurement results 16

Annex A (normative) Position for cross-section measurement in a duct using multipoint measurement method 17

Annex B (normative) Accuracy of air velocity measurement instrument 21

Annex C (informative) Types of tracer gas 22

Bibliography 23