DIN CEN/TR 16798-6:2018-03 (E)

Energy performance of buildings - Ventilation for buildings - Part 6: Interpretation of the requirements in EN 16798-5-1 and EN 16798-5-2 - Calculation methods for energy requirements of ventilation and air conditioning systems (Modules M5-6, M5-8, M6-5, M6-8, M7-5, M7-8); English version CEN/TR 16798-6:2017

Contents

Page

European foreword ... 4

Introduction ... 7

1 Scope ... 9

2 Normative references ... 9

3 Terms and definitions ... 9

4 Symbols, subscripts and abbreviations ... 9
4.1 Symbols ... 9
4.2 Subscripts ... 9
4.3 Abbreviations ... 10

5 Brief description of the methods and routing ... 10
5.1 Output of the methods ... 10
5.2 General description of the methods ... 10
5.2.1 Method 1 ... 10
5.2.2 Method 2 ... 11
5.3 Selection criteria between the methods ... 11
5.4 Application and implementation of the methods ... 12
5.4.1 Method 1 ... 12
5.4.2 Method 2 ... 13

6 Calculation method 1 (EN 16798-5-1) ... 13
6.1 Output data ... 13
6.2 Calculation time interval and calculation period ... 13
6.3 Input data ... 13
6.3.1 Source of data ... 13
6.3.2 Product data ... 14
6.3.3 System design data ... 14
6.3.4 Operating conditions ... 14
6.3.5 Constants and physical data ... 14
6.4 Calculation procedure, method 1 ... 15
6.4.1 Applicable calculation interval ... 15
6.4.2 Distribution calculation ... 15
6.4.3 Generation calculation ... 18

7 Calculation method 2 (EN 16798-5-2) ... 35
7.1 Output data ... 35
7.2 Calculation interval ... 35
7.3 Input data ... 36
7.3.1 Source of data ... 36
7.3.2 Product data ... 36
7.3.3 System design data ... 36
7.3.4 Operating conditions ... 36
7.4 Calculation procedure ... 36
7.4.1 Applicable timestep ... 36
7.4.2 Operating conditions calculation ... 37
7.4.3 Energy calculation ... 39

8 Quality control **43**

9 Compliance check **43**

10 Worked out examples, method 1 ..... **43**
10.1 Example 1 ..... **43**
10.1.1 Description **43**
10.1.2 Calculation details **47**
10.1.3 Observations **47**

11 Worked out examples, method 2 ..... **48**
11.1 Description **48**
11.2 Calculation details **52**
11.3 Observations **52**

12 Validation of the calculation procedures **52**

Annex A (informative) **Input and method selection data sheet — Template** **53**

A.1 General **53**

A.2 References **53**

A.3 Product description data **53**

A.4 Product technical data **53**

A.5 System design data **53**

Annex B (informative) **Input and method selection data sheet — Default choices** **54**

B.1 General **54**

B.2 References **54**

B.3 Product description data **54**

B.4 Product technical data **54**

B.5 System design data **55**

Annex C (informative) **Calculation method for ground preheating and -cooling** **56**

Annex D (informative) **Calculation method for rotary heat exchangers** **58**

D.1 Calculation **58**

D.2 Data **58**

Annex E (informative) **Calculation examples** **59**

E.1 Spreadsheet **59**

E.2 Example 1 (method 1) **59**

E.3 Example 2 (method 2) **88**

Bibliography **118**