DIN EN 13141-7:2011-01 (E)

Ventilation for buildings - Performance testing of components/products for residential ventilation - Part 7: Performance testing of a mechanical supply and exhaust ventilation units (including heat recovery) for mechanical ventilation systems intended for single family dwellings

Contents

Page

Foreword 3

Introduction 5

1 Scope 5

2 Normative references 6

3 Terms, definitions and classification 6
3.1 Terms and definitions 7
3.2 Categories of heat exchangers 8

4 Symbols and abbreviations 9

5 Requirements 9

6 Test methods 10
6.1 General 10
6.2 Performance testing of aerodynamic characteristics 11
6.2.1 Leakages 11
6.2.2 Air flow/pressure curve 13
6.2.3 Filter bypass 14
6.3 Performance testing of thermal characteristics 14
6.3.1 General 14
6.3.2 Temperature and humidity ratios 15
6.3.3 Heat pump performance 18
6.3.4 Combined heat pump and air-to-air heat exchanger performance 18
6.4 Performance testing of acoustic characteristics 19
6.4.1 Noise radiated through the casing of the unit 19
6.4.2 Sound power level in duct connections of the unit 20
6.5 Electric power input 22

7 Test results 23
7.1 Test report 23
7.2 Product specifications 23
7.3 Leakages 23
7.4 Air flow/pressure curve 24
7.5 Heat pump exhaust air/outdoor air performances 24
7.6 Temperature ratios 24
7.7 Acoustic characteristics 25
7.8 Electric power input 25

Annex A (informative) Example of some possible arrangements of heat recovery heat exchanger and/or heat pumps for category I 26

Annex B (normative) Pressure leakage test method 28

B.1 External leakage 28

B.2 Internal leakage test 28

Annex C (normative) Tracer gas test method 30

C.1 General method for rating purposes 30
C.2 Augmented method for measuring instantaneous recirculation of ducted units under different operating conditions (optional) 31
C.3 Testing orders for tracer gas tests 32

Bibliography 36