

# DIN EN 13141-8:2023-06 (E)

## Ventilation for buildings - Performance testing of components/products for residential ventilation - Part 8: Performance testing of non-ducted mechanical supply and exhaust ventilation units (including heat recovery)

---

<b>Contents</b>		<b>Page</b>
European foreword .....		4
Introduction .....		6
1	Scope .....	8
2	Normative references .....	9
3	Terms and definitions .....	9
4	Symbols and abbreviations .....	14
5	Categories of heat exchangers .....	18
6	Requirements .....	19
7	Test methods .....	20
7.1	General .....	20
7.2	Performance testing of aerodynamic characteristics .....	20
7.2.1	Leakages, mixing and air transfer .....	20
7.2.2	In/out airtightness .....	23
7.2.3	Filter bypass .....	23
7.2.4	Air flow .....	23
7.2.5	Electrical power input .....	26
7.3	Performance testing of thermal characteristics .....	27
7.3.1	General .....	27
7.3.2	Test operating conditions .....	27
7.3.3	Temperature conditions .....	28
7.3.4	Test procedure .....	29
7.3.5	Evaluation on supply air side (mandatory measurement) excluding alternating ventilation units .....	30
7.3.6	Evaluation on exhaust air side (optional measurement) excluding alternating ventilation units .....	31
7.4	Deviating aspects concerning alternating ventilation units .....	31
7.4.1	General .....	31
7.4.2	Internal leakage - Exhaust air transfer ratio .....	31
7.4.3	Determination of air volume flow .....	32
7.4.4	Electrical power input .....	36
7.4.5	Performance testing of thermal characteristics .....	36
8	Classification .....	42
8.1	Leakage classification .....	42
8.2	Air flow sensitivity classification .....	43
8.3	Indoor/outdoor airtightness of the complete unit .....	44
9	Performance testing of acoustic characteristics .....	44
9.1	General .....	44
9.2	Radiative sound power in the indoor or outdoor space .....	44
9.2.1	General .....	44

9.2.2	Reverberant room method .....	45
9.2.3	Anechoic or semi-anechoic room method .....	45
9.2.4	Free field method .....	45
9.3	Airborne sound insulation .....	46
10	Test results .....	47
10.1	Test report .....	47
10.2	Product specifications .....	47
10.3	Additional information related to the performance of the product .....	47
10.4	Leakages .....	47
10.5	Filter bypass .....	48
10.6	Air flow .....	49
10.7	Effective power input .....	49
10.8	Temperature and humidity ratios .....	50
10.9	Acoustic characteristics .....	50
Annex A (normative) Test layouts .....		52
Annex B (normative) Pressure leakage test method .....		55
B.1	General .....	55
B.2	External leakage test .....	55
B.3	Internal leakage test .....	56
Annex C (normative) Indoor mixing .....		57
C.1	General .....	57
C.2	Determination of indoor mixing - First test .....	57
C.3	Determination of indoor mixing - Second test .....	57
C.4	Indoor mixing calculation .....	57
Bibliography .....		58