

DIN EN 16573:2017-04 (E)

Ventilation for Buildings - Performance testing of components for residential buildings - Multifunctional balanced ventilation units for single family dwellings, including heat pumps

Contents		Page
European foreword		4
1	Scope	5
2	Normative references	5
3	Terms, definitions and symbols	6
3.1	Terms and definitions	6
3.2	Symbols	7
4	Functions	8
5	Description and testing of multifunctional units	8
6	Performance testing of aerodynamic characteristics	13
6.1	Leakages	13
6.1.1	Test method	13
6.1.2	Requirements	13
6.2	Air flow/pressure curve	13
6.3	Reference point for aerodynamic conditions	13
6.4	Pressure drop setting	14
7	Performance testing of thermal characteristics	15
7.1	General	15
7.2	Air flow settings and uncertainty	15
7.2.1	General	15
7.2.2	Configuration without any recirculation	16
7.2.3	Configuration with recirculation from outdoor air to exhaust air	16
7.2.4	Configuration with recirculation from extract to supply air	17
7.2.5	Configuration with two recirculations	17
7.3	Ventilation heat recovery performance	18
7.3.1	General	18
7.3.2	Air flow test conditions	18
7.3.3	Test procedure	19
7.3.4	Data to be recorded	19
7.3.5	Calculations	21
7.4	Ventilation and domestic hot water production	21
7.4.1	General	21
7.4.2	Test procedure	21
7.4.3	Data to be recorded	22
7.4.4	Performance rating calculations	24
7.5	Ventilation with hydronic space heating/cooling	24
7.5.1	General	24
7.5.2	Temperature test conditions	25
7.5.3	Test procedure	27
7.5.4	Data to be recorded	27
7.5.5	Performance rating calculations	29
7.6	Ventilation combined with supply air heating/cooling	31
7.6.1	General	31

7.6.2	Temperature test conditions	31
7.6.3	Test procedure	31
7.6.4	Data to be recorded	32
7.6.5	Performance rating calculations	34
7.7	Ventilation combined with both hydronic and supply air heating/cooling	35
7.7.1	General	35
7.7.2	Test procedure	35
7.7.3	Data to be recorded	36
7.7.4	Performance rating calculations	39
7.8	Ventilation combined with heating and hot water production	40
7.8.1	General	40
7.8.2	Test procedure	40
7.8.3	Data to be recorded	42
7.8.4	Performance rating calculations	45
7.9	Ventilation combined with cooling and hot water production	48
7.9.1	General	48
7.9.2	Test procedure	48
7.9.3	Data to be recorded	50
7.9.4	Performance rating calculations	53
8	Performance testing of acoustic characteristics	57
8.1	General	57
8.2	Configurations to be tested	57
8.3	Performance testing ventilation only	57
8.4	Performance testing ventilation and hydronic heating	57
8.5	Performance testing ventilation and supply air heating	57
8.6	Performance testing ventilation and supply air heating and hydronic heating	57
8.7	Performance testing ventilation and domestic hot water	58
9	Test report	58
9.1	General information	58
9.2	Additional information	59
9.3	Rating test results	59
9.3.1	Product specifications	59
9.3.2	Leakages	59
9.3.3	Air flow/pressure curve	59
9.3.4	Temperature ratios of ventilation function	59
9.3.5	Performance data of ventilation and domestic hot water functions	59
9.3.6	Performance data of ventilation and hydronic space heating and/or cooling	59
9.3.7	Performance data of ventilation and air heating and/or cooling	59
9.3.8	Performance data of ventilation with both hydronic and air heating/cooling	59
9.3.9	Performance data of ventilation with heating and hot water production	59
9.3.10	Performance data of ventilation with cooling and hot water production	59
9.4	Acoustic characteristics	60