

AIR LEAKAGE CLASSIFICATION (airtightness)

In standards specifying test methods for determining a ventilation unit's airtightness in relation to air leakage, there are no standardised methods as yet for decentralised ventilation units such as Airmaster's. Airmaster has therefore chosen to test according to two standards, and to disclose both results.

One standard, EN 1886:2007, is used for central systems that operate with high system pressure. The second, EN 13141-7:2010, is a standard typically used for smaller central systems that operate with lower system pressure, e.g. for residential ventilation.

EN 1886:2007

According to EN 1886:2007, the air handling unit is tested at 700 Pa pressure difference. This is intended for larger central ventilation systems and is therefore not as relevant for smaller decentralised units, which operate under significantly lower pressure conditions. What's more, the test only looks at external leakage and not internal leakage, which is also important. Leakage is rated in relation to the surface area of the unit.

EN 13141-7:2010

EN 13141-7:2010 is the standard that TÜV-SÜD has found most relevant to our type of unit. It was originally intended for residential ventilation systems, which have pressure conditions corresponding largely to Airmaster ventilation units. EN 13141-7:2010 furthermore looks at both external and internal leakage. Leakage is rated in relation to nominal airflow, which we find relevant.

AIRMASTER PRODUCT DESIGN

- When developing new Airmaster ventilation units, it is our goal to achieve the best air leakage classification A1, according to standard EN 13141-7:2010. This means less than 2% of the airflow, both in relation to internal and external leakage.
- Airmaster's units typically show an air leakage of 1–2% according to the test conditions.
- External TÜV tests are performed on all units by TÜV-SÜD.

	Air leakage classification according to standards	
Air handling unit	EN 1886:2007	EN 13141-7:2010
AM 150	L1	A1
AM 300	L2	A1
AM 500	L2	A2
AM 800	L2	A1
AM 1000	L2	A1

AIR LEAKAGE CLASSIFICATION (AIRTIGHTNESS)

CLASSIFICATION ACCORDING TO EN 1886:2007

Allowable air leakage rate in relation to leakage class for air handling units operating under both negative and positive pressure [EN 1886:2007, section 6.1.2 table 5] :

Air leakage class for air handling units	Allowable air leakage at 700 Pa positive pressure
L1	0,22 l/s pr. m ² unit surface
L2	0,63 l/s pr. m ² unit surface
L3	1,90 l/s pr. m ² unit surface

CLASSIFICATION ACCORDING TO EN 13141-7:2010

Allowable air leakage in relation to leakage class for air handling units with recuperative heat exchanger (e.g. countercurrent heat exchanger) [EN 13141-7:2010, section 6.2.1.2 Table 2]:

Air leakage class of air handling units	Internal leakage (at 100 Pa)		External leakage (at 250 Pa)
A1	≤ 2 %	and	≤ 2 %
A2	≤ 5 %	and	≤ 5 %
A3	≤ 10 %	and	≤ 10 %
Not classified	> 10 %	and	> 10 %