

While designing the ventilation systems, it is always taken into consideration that the usage purpose of the spaces and the people in the spaces will pollute the air. While calculations are made, the approximate value experienced per person in the space is taken. The usage purposes of the venues may change over time or the number of people may increase. The same conditions should be observed when choosing an air cleaner. The amount of fresh and clean air needed per person is determined by the authorities.

What is ACH (Air Changes per Hour)?

Air changes per hour (ACH or ACPH) is a measurement of air volume that is added to a room divided by the total volume of the room. Put simply, it measures how many times the air in the room is replaced. Higher ACH values mean better ventilation. The formula is as follows:

$$ACPH = Q / Vol$$

Whereby:

- Q = Volumetric flow rate of air in cubic metres per hour (m^3/h)
- Vol = Space volume $L \times W \times H$ in cubic metres (m^3)

This table shows us the reference values of air volume by room usage according to DIN 1946.

If you're not sure how to determine your room value or choose the correct air purifier, you can [contact us](#) directly.

Room	Minimum Outside Air Stream per Person (m^3/h)	Recommended Number of Air Changes per Hour
Toilets	30	4 (private) 10 (public)
Showers	60	6 (private) 10 (public)
Offices	40-60	6
Restaurants	50	12
Canteens	30	12
Classrooms	30	5
Conference Facilities	30	8
Multi-purpose Halls	30	5
Gyms	30	5
Waiting Rooms	30	6
Hotel Rooms	–	4

Room	Minimum Outside Air Stream per Person (m³/h)	Recommended Number of Air Changes per Hour
Public Garages	–	5
Commercial Kitchens	–	25
Private Kitchens	–	20
Launderettes	–	18
Swimming Pools (private)	–	6-7
Workshops	–	10