# ECARF Seal of Quality

## Criteria for allergy-friendly air purifiers

## BACKGROUND

Allergens do not stop at the front door. Pollen, mould spores and bacteria can find their way into indoor areas despite precautions such as opening windows only in special times of the day or washing one's hair before going to bed.

Air purifiers can remove allergens from the air indoors to a significant degree so that the symptoms experienced by people with hay fever or allergic asthma can be noticeably alleviated. The European Centre for Allergy Research Foundation (ECARF) certifies allergy-friendly air purifiers that are able to achieve a measurable improvement in air quality for the given room size through normal everyday use. The Criteria for allergy friendly air purifiers underlie the assumption that less exposure to allergens is generally beneficial and depict the currently highest technical standards.

The ECARF Seal of Quality certifies air purifiers as allergy friendly if they are able to archive a significant reduction of airborne pollutants.

## 1. CRITERIA

### 1.1. Necessary Product Features

- **Collection Efficiency**
  - at the most penetrating particle size (≥0.1 ≤0.3 µm): ≥ 85 %
  - at particle size at 0.5 µm (Bacteria, fine dust): ≥ 90 %
  - at particle size ≥ 3 µm (mold spores, pollen): ≥ 95 %
- **Ozone release** < 7 ppb
  (a proof is only necessary for devices with ozone emitting components)
- **Temperature difference** (room temperature compared to exhaust air) < 0.3° K
- **The exhaust air has a neutral odor.**
- All devices bear an **instruction plate** which gives information about the **maximum room size** for which 95 % of all particles ≥ 3 µm are filtered out within 1 hour. This figure has also to be emphasized in the manual. E.g. In a room with up to 50 m³/1,750 cubic feet the air purifier XY can filter out at least 95 % of all pollen and mold spores within 60 minutes.
- Devices with a **ventilation system** performance of less than 200 m³/hour (7,000 cubic feet/hour) have ≤ 32 dB on the lowest setting.

## 2. MEASUREMENTS

- Determination of the Fractional Collection Efficiency for KCl or DEHS particles in the particle size range 0,1 - 3 µm on complete devices.
- Determination filtration performance rate at highest blower level for particles in the ranges ≥ 0.1 ≤ 0.3 µm, 0.5 and 3.0 µm
- Test of the complete device with installed and conditioned* filter elements.
  * Conditioning procedure: putting the filter elements for 24 hours in a climate chamber with 50° C and 95 % humidity. Equal aging simulation can be agreed.
- Ozone release
  Proof is only required if the system contains components that may emit ozone.
  Test at lowest air flow mode of the room air cleaner with installed and conditioned* filter elements.
  Ozone concentration determined with suitable ozone detector, capable to detect < 3 ppb.
- Temperature difference
  Test of all blower levels.
- Test conditions (temperature and humidity)
  Test of all blower settings measured at a temperature of 20° C +/- 1.5° and a humidity of less than 70 %
- Neutral Odor
  Assessment by three neutral and qualified persons following VDA 270.
- Noise emission
  Acc. manufacturer confirmation (no extra measurement).

## 3. QUALITY CONTROL AND COMPLAINT MANAGEMENT

**The manufacturer has established a functional system of quality control that responds effectively to consumer complaints.** The system ensures the following:

- The manufacturer's contact details, such as the address, telephone number and/or email address, are clearly visible on the product packaging;
- Consumer complaints are handled and followed up in an appropriate manner by qualified and experienced personnel of the manufacturer;
- The assessment of consumer complaints and, if applicable, any inferred areas of improvement are reapplied to product quality and safety. The manufacturer agrees to make this data available to ECARF on an ongoing basis.