Airsonett AIR-4

The Airsonett AIR-4 is a mobile air cleaner intended to remove airborne particles and allergens from the breathing zone using temperature-controlled laminar airflow (TLA) technology. The device supports environmental control for individuals sensitive to airborne particles and allergens, including those affected by allergic conditions such as allergic asthma, allergic rhinitis, or atopic dermatitis. For home use.

Airsonett Air-4 is developed based on the discovery of high allergen exposure in the breathing zone when lying in bed. During the night the concentration of indoor airborne allergens in the breathing zone is primarily generated from the bed reservoirs (e.g. house dust mite and pet allergens) and is higher than the concentration of allergens in the ambient bedroom air. The reason for the difference in concentration of allergens in the breathing zone and the room in general is the body convection; the air warmed by the body in the bed created an airflow that rises due to the lower density of the warm air.

The warm air transports the allergens present in the bedding towards the opening in the duvet where it rises and passes by the breathing zone. Airsonett AIR-4 effectively displaces the allergen rich body convection and dramatically reduces the level of inhalant allergens during sleep.

Figure 1. The body convection flow.

Figure 2. TLA-generated laminar air flow enveloping the breathing zone.

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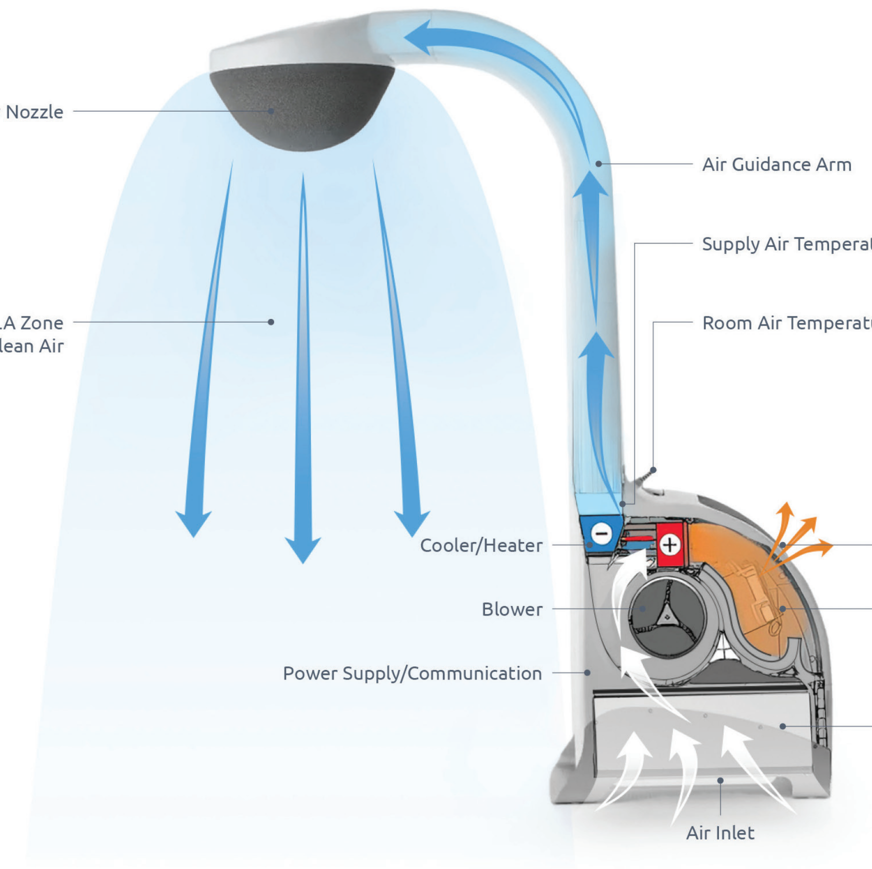

- ***Height:*** *119–139 cm*
- ***Base unit:*** *Length 54 cm, width 34 cm*
- ***Weight:*** *23 kg*
- ***Energy consumption:*** *corresponds to a 60 W lightbulb*
- ***Noise level:*** *≤ 38 dBA*

Airsonett AIR-4 is based on the temperature controlled Laminar Airflow (TLA) technology. The air for the room enters the Airsonett AIR-4 and passes a filter that captures allergens and other particles. The filtered air is cooled to slightly below the ambient room temperature and is supplied with a low velocity from the air supply nozzle.

Since the filtered air is slightly cooler, and therefore heavier than the surrounding air, the filtered air will descend slowly from the air supply nozzle by means of gravity in a laminar manner (non-turbulent). This descending colder air counteracts the body convection, displaces the allergen load in the breathing zone and thus dramatically reduces the level of inhalant allergens for the patient all through the night.