

How do I calculate which size of eluft machine I need for my project?

In order to be able to calculate **what size of eluft** air machine your project needs, please follow these instructions:

- Note:
- This is only valid for the standard eluft machines, not for the eco versions. The latter need less fresh air. In this case please contact us for recommendations.
 - Our eluft air machines are frequency-regulated and not based on an ON/OFF system, which needs much more power (high initial current). The air supply of our system is continuous. Please keep this in mind.
 - The maximum air flow rate of an eluft machine is given for safety reasons and thus much higher than the provision of dry air.

1. Take the **total volume** of the ETFE cushions.

If you do not know the volume (m³) of the cushions, you can use a rule of thumb:

Divide the total surface (length x width) by two, e.g. if you have 500m², you have approx. 250m³ (please note this is only an estimate as the total volume also depends on the height of the cushion).

2. In order to avoid humidity inside the cushions, with the help of valves in the cushions, the air is renewed completely twice a day.
For our example, this gives us this formula: $(2 \times 250\text{m}^3)/24\text{hrs} = \underline{20.83\text{m}^3/\text{h}}$ (= flow rate).

3. Add a natural **leakage** of 5-10%.
Leakage is due mainly from the untight piping system and cushions.
In our example that would be $250\text{m}^3 \times 0.1 = \underline{25.00\text{m}^3/\text{h}}$ air loss.

$$\rightarrow \Sigma 20.83\text{m}^3 + 25.00\text{m}^3/\text{h} = \underline{45.83\text{m}^3/\text{h}}$$

4. Compare your values to our list of eluft machines:
 - a. dry air flow rate: $45.83\text{m}^3/\text{h}$
 - b. application for roof/façade volume: 250m^3

**RESULT: you need an eluft 150
as this machine can provide up to 80m³ dry air per hour
and the total volume lies underneath the maximum of 300m³.**

Specifications	eluft Basic	eluft 150	eluft 400	eluft 600	eluft 900	eluft 1400	eluft Mobile
dry air flow rate [m ³ /h]	80	80	190	275	400	800	190
max. air flow as emergency function [m ³ /h]	120	300	800	1200	1800	2800	190
application for roof/facade volume [m ³]	<50	< 300	< 800	< 1400	< 2000	< 3700	<300