

# *HABurner* - air purifier



Patent pending

## Against invisible enemies

An adult at rest inhales-exhales about 8 liters of air per minute, to facilitate understanding 2 people will use about 1 cubic meter of air per hour. The exhaled air will not remain like a cloud around the person who emitted it but will spread throughout the surrounding environment.

At this point it is logical to ask what happens if an infected person is present in a closed place such as a waiting room, an office, a public transport, an elevator, a class in a school or any place where one or more people stop even for a short time. Without questioning the personal protective equipment, which certainly helps to reduce the possibility of direct transmission, we must accept the fact that in a closed place the air is inevitably contaminated, indeed an excellent mask equipped with a valve highly protects those who he wears it but re-emits all the exhaled air into the environment without any type of filtering. When we are in a closed environment, the only solution is to change the air if possible or purify it continuously, exhaustively and effectively.

## *How the idea of the Haburner device was born (hot burner) by Bruno Poli*

At the beginning of the pandemic I happened to read a study on the various types of purifiers entitled:

Do Air Purifiers Work? Myths and facts.

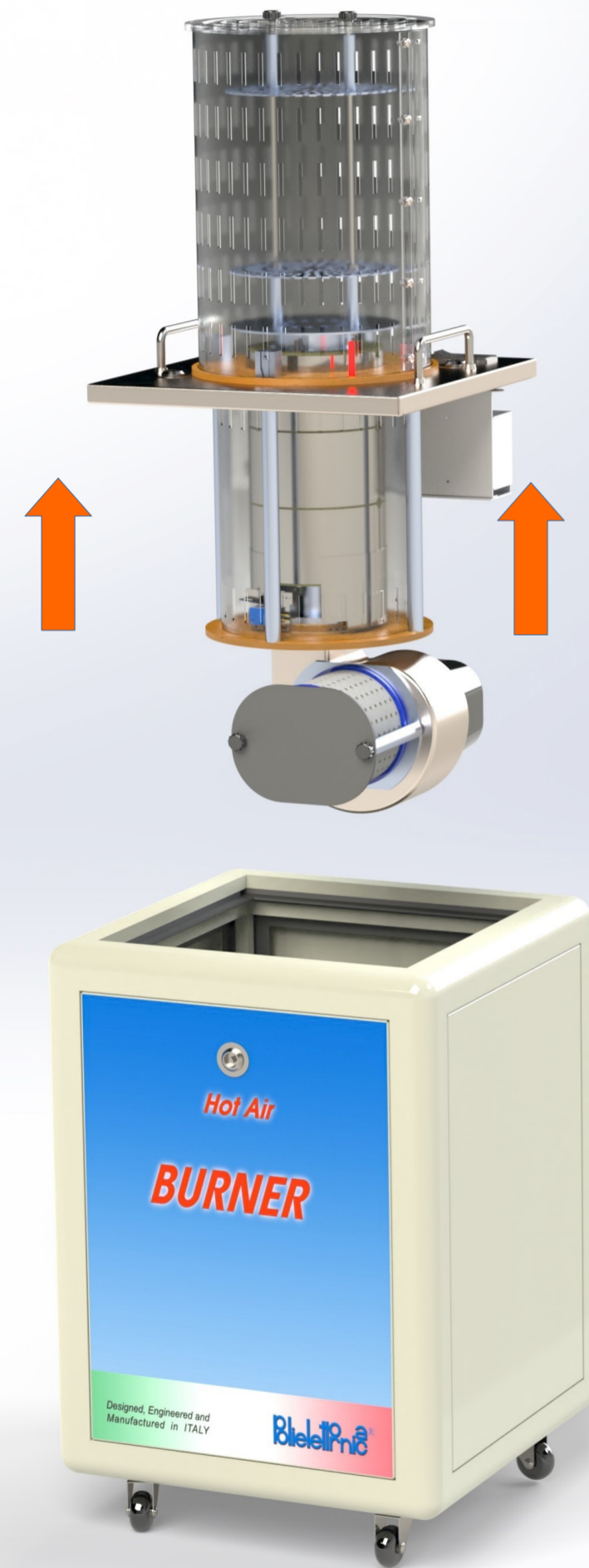
Many purifier manufacturers sell perfumed essences! Below was a list of everything that was currently available on the market. We can group the various techniques into three main areas:

1. High efficiency particulate air filters (hepa)
2. Ozone generators.
3. Ultraviolet light purifiers: UV

All the aforementioned systems leave doubts and perplexities for our goal of ensuring that the air coming out of a device is actually pure, let's see in short:

- Hepa filters have actually reached excellent levels of filtration, but for our purpose the seal of the filter housing must be perfectly sealed, a condition that is not easy to comply with. Another even more critical point is the replacement of the filter itself which becomes a contaminated object, with a high probability of having become a culture medium. Whoever carries out maintenance and replacement must be correctly protected and the exhausted filter will become a special waste, with all the problems added by the need for correct disposal.

- Although ozone is effective on bacteria, yeasts and fungi, ozone is a toxic gas for our body, it can irritate the respiratory tract, cause asthma attacks, damage the sense of smell, while at high concentrations it is fatal.
- An ultraviolet light emission is effective if made at a precise wavelength (253.7 nm), it is not very penetrating and the dust suspended in the air is enough to stop it. This means that viruses and bacteria found in the cone of shadow of the dust will remain unharmed, moreover the duration of a UV lamp is extremely limited. UV radiation is very irritating to the skin and eyes.

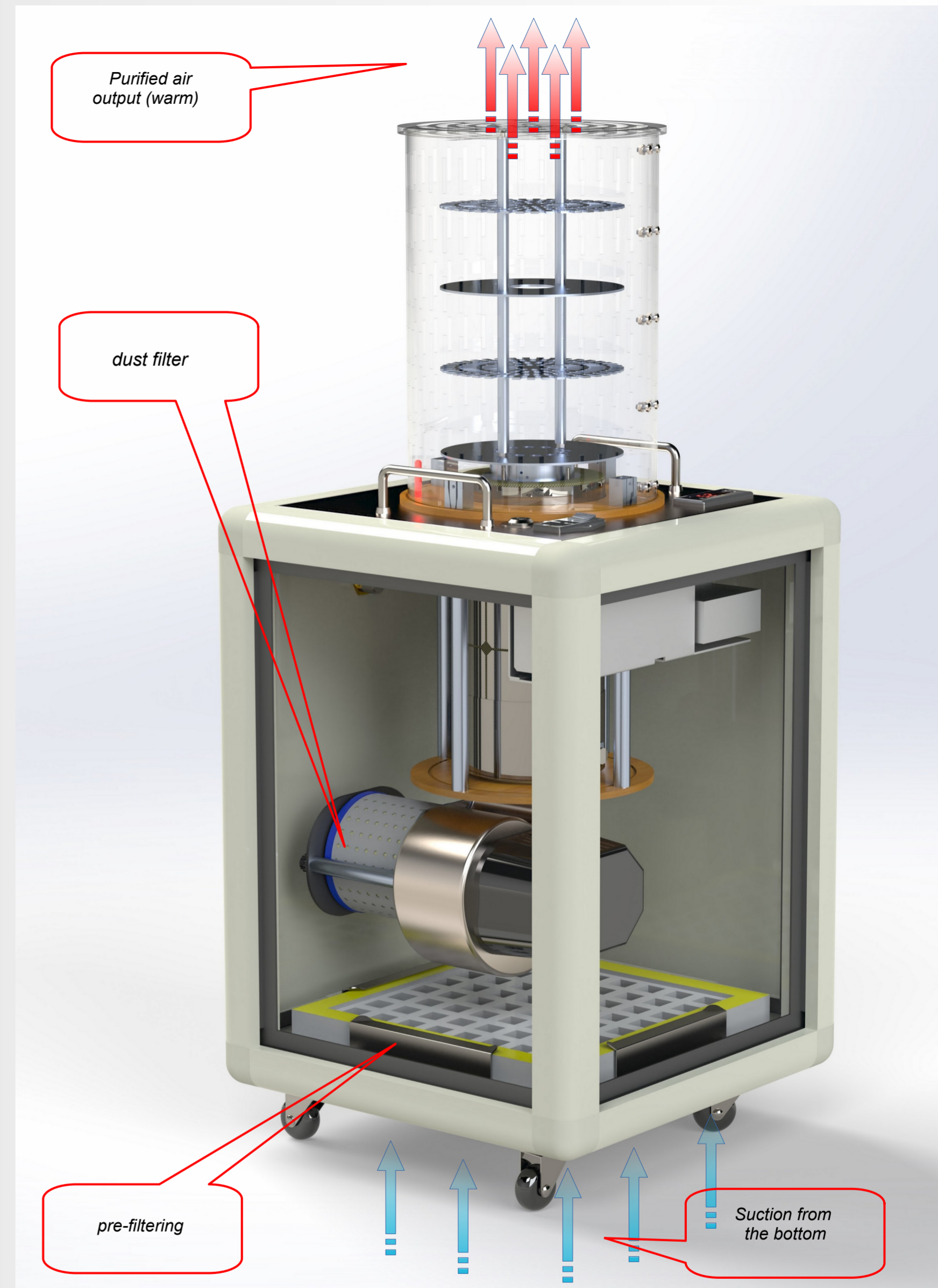


*Maintenance of ABurner is simply and quick.  
Each component can be accessed in few seconds*

**Finally, at the end of the whole discussion,  
the question dominated: What to do now?**

Let's start with a short journey through time: discovery of fire. Primitive man saw that their prey did not rot quickly if cooked, unwittingly carried out the first sterilization process in history using "heat". Even today we all know that if in emergency we have to pull out a thorn or a splinter the tool that we will use must be sterilized with a flame. At an appropriate temperature any bacterium, spore, virus or other hostile organic agglomerate simply ceases to exist and disintegrates.

The combination of "heat" and "sterilization" led to the design of a simple, extremely effective and extremely low maintenance device: Haburner, Hot Air Burner, literally a hot air burner. The air flow to be purified at the inlet is brought homogeneously to a temperature of 300 ° C (572 ° F) for a short time sufficient to disrupt any microorganism. The incoming air is pre-filtered for the unique target of avoiding that the dust present in the air passes through the burner and is re-circulated as a particulate or ends up clogging the burner itself. Haburner is an effective and reliable solution for air purification.



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|-------------------------|-----------------|
| - Low noise             | ≤40db           |
| - Weight                | 23Kg (50.7 lbs) |
| - Supply voltage:       | 230 VCA         |
| - Max consumption :     | 600Watt         |
| - Working Temperature : | 300°C           |
| - Purified air flow:    | >10m³/h         |
| - Dimension:            | 40 x 40 x h91cm |