

# THERMA-FLOW

In the current geopolitical situation energy prices are getting more unsustainable day by day, not only in the industrial, but also in the residential sector. These problems are the problems of the whole community, so it is necessary to search for solutions in every aspect of our lives. Our idea is based on the basic working principles of passive houses. Our approach incorporates multiple modular features into one system. Active airflow management, thermal comfort sensing illusions and health improvement elements are working together in improving our everyday comfort, while drastically reducing energy consumption of the temperature and ventilation systems of our homes.

The first and most important part of our network is the active airflow management, This function is the product of multiple thermal and air pressure sensors, scattered around the clients' homes. The basic principle is that it harvest the energy of the sun, and partial activation of the floor heating to induce airflow. As for those unbearable summer days, the precise control of windows and shutters, generate a relieving breeze, which also relieves our wallets. By these features, the application of our system's pay-off is expected to be around 4.5 years.

An other main part is an illusion. Our brain is a mystery in many ways, but nowadays we are starting to recognise some patterns in our perception of the world. In transportation tricking our hypothalamus is already widespreadly used. As the center of our thermoregulation and many more vegetative functions, the hypothalamus gets a great part of its innervation from our eyes. So the conclusion that by the brightness, hue and saturation of our homes can alter our thermal comfort, isn't that hard to imagine. And also it has been confirmed by experiment in multiple scientific papers. This feature is capable of reducing our heating bills by 2%, just by tricking us.

Only one thing is more important, than a budget friendly lifestyle, and it is health. We would do anything for it, so our product prioritizes multiple health protective factors. Mold is extremely prone to grow in humid, closed places with poor airflow. With VOC and humidity sensors, we can initiate the ventilation and dehumidification of these, to prevent mold, and the potential cancerous diseases that come with it. Stimulant light can be an effective supplement for the healthy circadian rhythm. It can also have potential in regulating productivity, decision making, cardiovascular problems and mental health. We can achieve positive health effects, not only with lights, but with airflow, or especially with the flow of CO and CO2 gases. High CO2 levels can cause irritability and unproductivity, while high CO levels are lethal, so the proper handling of these gases in potential situations are crucial.

This system is highly modular approach, so it is fully customizable by our customers. It's starting to make sense from about a 100 square meters and above, with the financial return's time shortening by the increasing of the floor area. The financial plan is based on customer categories, with corresponding compensation, where the most premium customers choices are geared towards living comfort, and less to money saving. With this method we can target a wide range of customers, and maximize our profits, while selling a mostly personalized product.

Fun fact: For our most exclusive customers, we can provide an upgrade, which would be capable of tricking the most resistant mosquitos. It would generate fake human „auras” by creating pockets of heat and CO2, so we can sleep finally without that annoying noise.