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INNOVATIONS AND THE FUTURE OF AIR SUPPLY SYSTEMS

Air supply systems are one of the most important engineering systems in any building or industrial facility. They provide fresh air supply to the premises, maintain a comfortable level of temperature and humidity, and also remove waste air and pollution [1].

However, with changing climatic conditions and the emergence of new technologies, it is necessary to develop and improve air supply systems. Innovations in this area are becoming increasingly necessary in the light of climate change, growing problems with air supply in megacities and increased attention to sustainable development.

One of the key innovations in air supply systems is the use of renewable energy sources for their operation [2]. For example, built-in solar panels can be used to generate electricity necessary for the operation of an air conditioning system. This allows you to significantly reduce energy costs and reduce the surrounding negative contribution of the type of forms of energy.

Another example of innovation is the use of smart technologies in air supply systems. With the decline in the cost of sensors and the expansion of the Internet of Things, such systems can become more intelligent and responsive. For example, sensors can automatically respond to changes in the external environment and regulate the supply of fresh air and increase or decrease temperature and humidity [3].

In addition, research is finding ways to use bacteria and other microorganisms to purify indoor air. These bacteria can effectively remove pollutants such as chemicals and smog, and additionally act as a bioindication of air quality, warning of progressive pollution or other health problems [4].

However, the development of innovations and the future of air supply systems may also face a number of challenges. High costs at the initial stage of development of new technologies and systems may limit their commercial scalability. In addition, some innovations may require changes to existing infrastructure systems, which may also become an obstacle to their implementation.

Innovations in the field of air supply systems are of great importance for improving comfort and efficiency in residential and commercial buildings, as well as for reducing the negative impact on the environment. The future of air supply systems promises to be smarter, more energy efficient and adapted to the needs of each user. It is important to continue investing in research and development in this area to ensure a healthier and more sustainable future.

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