VENTILATION

20.1. Vocabulary

Ex. 1. Match the words to their Russian equivalents.

1. pollutant	а. влажность
2. package unit	b. вентиляция
3. damper	с. качество воздуха
4. filter	d. воздуховод
5. humidity	е. вентиляторный конвектор
6. fan coil unit	f. вентилятор высокого давления
7. ventilation	g. механическая откачка
8. split system	h. нетоксичное загрязняющее вещество
9. mechanical exhaust	і. воздушный клапан
10. air duct	ј. камера обработки воздуха
11. air handler	k. вентилятор с нагревательным прибором и фильтром
12. air quality	l. фильтр
13. blower	m. малогабаритная установка
14. unit ventilator	n. раздельная установка кондиционирования воздуха

Ex. 2. Translate the sentences into Russian. Write the translations in your notebook.

1. The air duct connected the ventilation system to our office.

2. We need to replace the old air handler for better ventilation in the building.

3. The company is working on improving the air quality in their factories.

4. The blower was making a lot of noise, so we had to get it repaired.

5. My friend installed new dampers to regulate the airflow in her apartment.

6. The fan coil unit is an important part of the ventilation system in my house.

7. We should change the filters regularly to ensure good air quality indoors.

8. The humidity level in the room was too high, so we turned on the ventilation.

9. Mechanical exhaust is necessary to remove odors and maintain proper air circulation.

10. The package unit is compact and doesn't take up much space in the room.

11. Let's open the windows, there is a pollutant smell coming from our neighbor's house.

12. Our split system provides efficient ventilation and air conditioning.

13. The unit ventilator in the classroom was not working properly, so it was repaired.

14. Good ventilation is crucial for maintaining a healthy and comfortable indoor environment.

Ex. 3. Close the workbook and look at your translations of the sentences in *Ex. 2.* Try to translate them back into English exactly the same as they were originally written.

20.2. Reading

Ex. 1. Read the text.

Ventilation

Ventilation is the process of changing or replacing air in any space to control temperature or remove any combination of moisture, odors, smoke, heat, dust, airborne bacteria, or carbon dioxide, and to replenish oxygen. Ventilation includes both the exchange of air with the outside as well as circulation of air within the building. It is one of the most important factors for maintaining acceptable indoor air quality in buildings. Methods for ventilating a building may be divided into mechanical/forced and natural types.

Mechanical ventilation

The VAV system, which uses an air duct that runs from the air handler to each room and has a damper that regulates airflow, is typically used in commercial buildings. Another popular type of system is the split system, where the condensing unit is located outside and the evaporator coil is inside, usually connected to a furnace or some other type of air handler. In residential buildings, this type of heating and cooling system is often referred to as a central air conditioning system.

A packaged unit is a self-contained heating and/or air conditioning system that is typically located on the roof or on a concrete slab next to the building. This type of system is commonly used in small commercial buildings. The main advantage of a packaged unit is that all of its components are contained in one location, making it easy to install and service.

Natural ventilation

In the days before air conditioning, architects relied on a variety of passive techniques to keep buildings cool. They designed buildings with high ceilings, large windows, and wide hallways to promote airflow. They also used shading devices such as awnings and porches to block sunlight. Today, many of these same strategies are being used in green building design. Architects are also incorporating new techniques, such as radiant cooling, a system that circulates chilled water through pipes in the floor, ceiling, or walls.

Spot ventilation

Spot ventilation refers to the exhaust of air directly from a specific location to the outdoors, such as with bathroom and kitchen fans. These fans may be controlled by a variety of means, such as by the operation of a switch, humidity sensor, or motion detector. To increase energy savings,

building codes are increasingly requiring the use of ventilation controls that automatically reduce (or eliminate) the fan power when it is not needed.

The main drawback of spot ventilation is that it does not provide wholehouse ventilation, which can dilute indoor air pollutant concentrations. Whole-house systems provide ventilation to the entire house, while spot ventilation serves individual rooms. In addition, spot ventilation can be noisy and may create backdrafting problems. Backdrafting occurs when the exhaust fan pulls combustion gases back into the home rather than expelling them outdoors.

Ex. 2. Answer the questions.

1. What is ventilation and why is it important for maintaining indoor air quality?

2. What are the two main types of ventilation methods mentioned in the text?

3. Describe the VAV system used in commercial buildings.

4. How does a split system work in residential buildings?

5. What are some passive techniques architects used before air conditioning to keep buildings cool?

6. What is spot ventilation and how does it differ from whole-house ventilation?

7. What are some drawbacks of spot ventilation?

20.3. Communication

Ex. 1. Make questions using the following words:

- 1. clean/air/vents
- 2. improve/ventilation/car
- 3. forget/turn/starting
- 4. install/extra/vents
- 5. system/not/working

- 6. benefits/good/ventilation
- 7. regularly/change/filter
- 8. prevent/blocked/dust
- 9. stuffy/increase/circulation
- 10. recommend/models/excellent