COMMERCIAL BOILERS -- DO YOU KNOW HOW IT WORKS IN YOUR BUILDING?

　　The boiler in your commercial facility is a sturdy and reliable piece of equipment that provides heating for your building. The following brief overview can help you understand the basics of commercial boilers, how they work to provide heating for your building, and how to keep them in good operating condition.

　　Basics of Commercial Boilers

　　Commercial boilers are pressurized systems that burn combustible fuel or use electricity to heat water that is used to provide heating in your building. Some types of boilers use the hot water itself, while others rely on water that has been turned to steam.

　　Inside the boiler, the burners or electric coils generate heat that is transferred to the water by the heat exchanger. The process creates either hot water or steam, depending on the type of boiler. The hot water or steam is circulated via pipes throughout your commercial facility. The water or steam enters radiators or other components that disperse the heat providing the heating you need to keep your indoor spaces comfortable.

　　Natural gas is the most common fuel used in commercial boilers. Other kinds of boilers are available that burn fuel oil or that use electric resistance coils to produce heating from electricity.

　　Parts of Commercial Boilers

　　Commercial boilers will usually contain the following parts and components.

　　•Burner: The burner is the part that provides the flames that heat the water in the boiler. The burner is responsible for creating the mixture of fuel of oxygen that produces a consistent, efficiently burning flame.

　　•Combustion chamber: The combustion chamber is the area within the boiler where fuel is burned to heat the water. The chamber contains the burners and is specially designed to provide a safe and secure zone for high-temperature combustion of volatile fuel. The chamber is usually constructed of cast iron, steel, or other heavy-duty metal.

　　•Heat exchanger: The heat exchanger is a vital component that transfers the heat produced by the burners to the water in the boiler. Heat exchangers are commonly made of cast iron, bundles of steel tubes, or copper.

　　•Controls: System controls allow users to set water temperature, ignition, air and fuel supply mixtures, and internal pressure. The controls regulate when and how often the burner fires, the temperature of the water, the rate at which fuel is used, and the quality of the mixture of fuel and oxygen. Safety controls also exist that ensure that the internal pressures in the boiler don't get to high, that water temperature stays within a safe range, and that the system continues to operate properly.

　　•Exhaust stack: Also called the flue, the exhaust stack is the series of pipes that carry exhaust gases away from the inside of your facility to the outside. The exhaust stack must be carefully constructed to ensure that dangerous gases such as carbon monoxide are safely vented away from the interior of your facility.

　　Boiler Safety and Maintenance

　　Remember that boilers are volatile systems containing very hot water or steam under high pressure. Care must be taken to ensure the boiler is clean and working properly and that all safety systems are functional and ready to work if needed. Hot water or steam leaks can cause serious injuries or damage. Boilers can explode, which can also cause serious injuries or death as well as catastrophic damage to your commercial facility.

　　Make sure your boiler receives regular preventive maintenance from a professional. This maintenance will not only ensure the system works properly and at its highest level of efficiency but that it also works safely. Contact your local trusted HVAC services supplier for information on boiler maintenance or to schedule a maintenance inspection.

　　from:https://www.sobieskiinc.com/blog/commercial-boilers-do-you-know-how-it-works-your-building