



*Combination ovens, or combi-ovens, can cook a large quantity and variety of food at one time. They are a staple in commercial kitchens, providing a versatile alternative to convection ovens. Electric combi-ovens cost less and are more energy efficient than their gas counterparts.*

## HOW IT WORKS

The combi-oven serves as both a traditional convection oven, which pumps dry heat into the unit, or as a steamer. It can operate in one mode at a time, or in both modes—steaming and baking different foods—simultaneously. A combi-oven can cook food faster than a traditional convection oven, and because it can pre-heat quickly, it does not need to stay on all the time.

There are two types of electric combi-ovens: steam generator and boilerless. Standard components are a cabinet, programmable controls, spray heads, water filtration and drainage hoses, and removable pans. Capacity ranges from 4-20 pans.

## DID YOU KNOW?

Boilerless models generate steam by spraying water onto a hot surface. If less food is cooked, they can be water saving compared to boiler-based units with plumbed water lines and drains. On the other hand, boiler-based models are more suitable for cooking large volumes of food since water does not have to be manually added to a reservoir.

## APPLICATIONS

Commercial electric combi-ovens can be found in restaurants, but are also common in other institutions:

- Schools
- Hospitals
- Prisons
- Hotels

## BENEFITS

**Lower first cost.** Electric combi-ovens typically cost less than their gas counterparts.

**Energy efficient.** Electric combi-ovens are more energy efficient than gas counterparts because of higher heating efficiency. Less energy used means money saved.

**Secondary energy and emissions benefits.** Electric combi-ovens can reduce the need for air-conditioning in the kitchen and reduce emissions of volatile organic compounds into the working environment.

**More comfortable workplace.** Gas combi-ovens add waste heat to an already hot and confined space. Electric combi-ovens do not.

**Fast pre-heating.** Because they pre-heat quickly, electric combi-ovens do not need to stay on all day, and if idled, they require little energy to keep temperatures regulated.

**Low maintenance.** Gas burners require more maintenance compared to electric heating.

**Flexibility with auxiliary equipment.** In certain cases, combi-ovens do not need to be placed under a hood or the hood can be shorter.

## LIMITATIONS

**Lack of adequate electrical service.** The biggest barrier to electric combi-ovens is a lack of adequate electricity in the kitchen to power the equipment. The cost of providing adequate power depends on outlet and wiring configuration, breaker box configuration, and proximity of power to the kitchen.

**Customer perception.** Some customers prefer to cook with gas—or think they do. They may not have experience with electricity, so they shop for gas because it's what they know. They may also have brand loyalty, or be limited by corporate policy that dictates the type of equipment purchased for the kitchen.

**More time to procure.** With less demand for electric combi-ovens compared to gas convection ovens, dealers may not stock the equipment, therefore it may take longer to buy it, creating a cycle that hinders adoption.

**Additional services are required.** Unlike a gas convection oven, electric combi-ovens require water filtration and drainage, and therefore may need plumbing services. They also require ventilation, which may require architectural services.