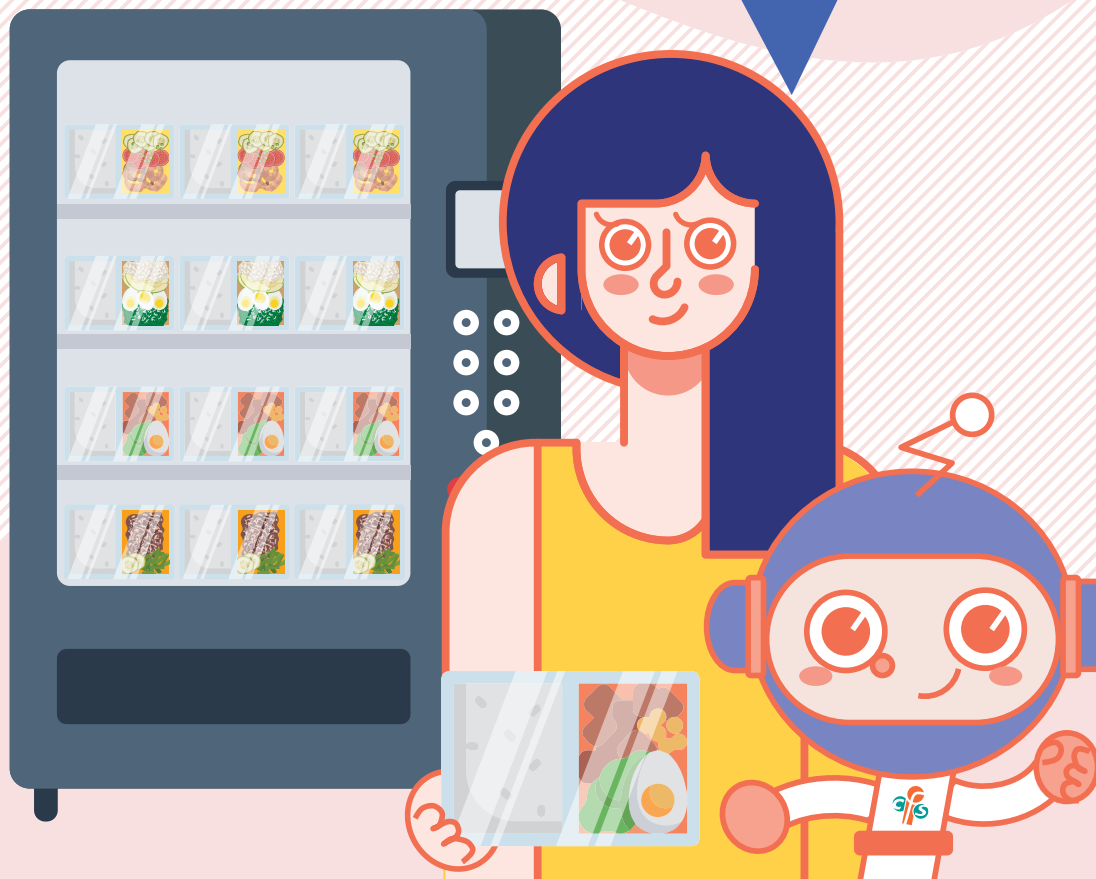


# Guidelines on Food Safety and Hygiene for Vending Industry



Food vending machines provide a convenient way for customers to buy food. In recent years, there has been a boarder range of foods sold by means of a vending machine which are relatively new to the local market. These new food types sold by means of a vending machine may involve temperature control (e.g. chilling or hot holding), and/or an acceptable and simple processing including a dispensing process on site. Improper temperature control and inadequate cleaning of processing/dispensing systems in vending machines can contribute to potential microbiological risk in the ready-to-eat foods sold. Sale of unfit foods could also lead to food poisoning and possible prosecution.

Food safety is important for vending operators, and high standards of food hygiene reduce the risk of food poisoning from spoiled food or food contamination. This guideline has been prepared to help the trade to ensure that a hygienic product is delivered to the consumer from vending machines.

**Notes:** food in this context covers ready-to-eat foodstuffs involving temperature control and/or simple processing which can be bought from a vending machine. This includes hot and cold beverages, sandwiches, hot prepared meals (e.g. rice boxes and rice rolls), fresh squeezed fruit juice, drinking water, and frozen desserts manufactured by the vending machine.



## Design and Location of Vending Machines

- All food delivery orifices of vending machines should be protected from manual contact by customers and entry of insects, rodents, dust etc. by means of a tight-fitting, self-closing door or cover which should be kept shut at all times, except when food is being removed.
- All elements which generate heat in vending machines should either be sealed off from the food compartment or so fitted that the heat generated does not affect the storage properties of the food.
- All portable food containers, including containers for water to be placed inside vending machines should be provided with a cover which can prevent contaminants from reaching the interior of the containers.
- Avoid angles, recesses and voids in the design of vending machines so that the machines are easy to clean and do not provide harbourage for pests.
- Vending machines should be sited in clean areas, and protected from the weather and possible contamination of food from the ambient environment. Their space and the immediate surroundings shall be maintained in a clean condition.

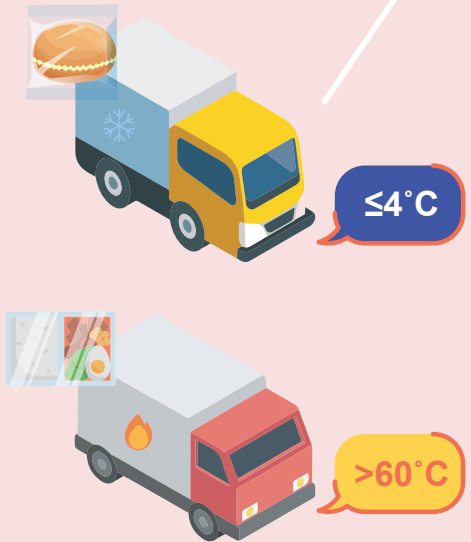
## Purchase and Receiving



- Purchase food products/ingredients from approved and reliable suppliers.
- The food products/ingredients should be in fresh and wholesome state and checked of good quality at the time of receiving, e.g. the packaging is intact with no signs of contamination or damage to the food products/ingredients.

## Transportation

- Transport the food products/ingredients in clean vehicles to avoid contamination.
- Avoid transporting the food products/ingredients with other raw food at the same time.
- Store the food products/ingredients which require temperature control at appropriate temperatures, e.g. above 60°C for hot food and at 4°C or below for cold food, in vehicles and monitor the storage temperatures.



## Replenishment of Stock

- Keep track of the shelf life of food products/ingredients in vending machines. Remove the remaining stock of food products/ingredients and replace with fresh ones before the expiry of the shelf life.
- The ingredients should be refilled to the vending machines in a hygienic manner to prevent any microbial contamination during the handling process.
- Replenish the food products/ingredients as soon as possible to prevent prolonged storage at room temperature, especially for the food products/ingredients which require temperature control.
- Expired food, damaged food, and food waste (e.g. fruit peel left after juicing) shall be placed in an enclosed container for disposal.

## Storage and Temperature Control

- Except whole fruits and food prepared on-site inside vending machines, ready-to-eat food sold should be prepackaged to prevent microbial contamination.
- Food products should be stored on a first-in-first-out basis in vending machines to avoid prolonged storage which affects the freshness and safety.
- Store the food products/ingredients which require temperature control at appropriate temperatures, e.g. above 60°C for hot food and at 4°C or below for cold food, in vending machines.
- Vending machines selling food which requires temperature control should be fitted with a thermostatically controlled device to maintain the correct temperature. The thermostatically controlled device should be properly calibrated.
- Suspend the sale of food products when the storage temperature is out of the appropriate range (e.g. during power failure, mechanical failure or other condition), and follow up as soon as possible. All food affected should be disposed appropriately.
- All disposable containers which receive food or beverages from vending machines and disposable utensils shall be purchased in sanitary cartons or packages which protect the contents from contamination. They shall be stored in a clean and dry place until introduced into the vending machine, and shall be handled in a sanitary manner.



## Cleanliness of Vending Machines

- Clean vending machines regularly, including the food take out port, outer and inner surfaces and any food contact surfaces.
- The chemicals used for sanitation, appropriately of food grade, should be suitable for use with food contact surfaces. Follow the instruction of the manufacturer of the sanitiser or disinfectant for effective sanitation, e.g. contact time, correct concentration, and shelf life after dilution, etc.
- Empty and clean any waste containers inside the vending machines regularly. Suspend the sale of food products when the waste container is full and follow up as soon as possible.

### **For vending machines with Cleaning-in-place (CIP) systems:**

- Use clean water source for cleaning during the CIP process.
- During the CIP process, cleaning solutions should be circulated to contact all interior food contact surfaces and being completely drained after cleaning.
- There should be inspection access points in the CIP system to ensure all interior food contact surfaces are being effectively cleaned.
- Ensure the CIP system operates appropriately as designed, e.g. by monitoring the cleaning time, temperature, flow rate and concentration of cleaning solutions.
- The cleaning cycle should be performed according to the recommended performance specification of the manufacturers of the vending machines or other settings validated to be effective to clean the vending machines.
- Depending on the food types sold and the instructions of the manufacturers of the vending machine, use appropriate detergent in the CIP process and also perform sterilisation-in-place with sanitiser or disinfectant after the CIP process to reduce the load of microorganisms on the food contact surfaces.
- Verify that the CIP system is operated as intended and all target set points were met during the operation: cleaning time, temperature, flow rate, concentrations of cleaning solutions, e.g. by in-built computer system or manual checking, depending on the CIP system used.
- Validate that the CIP system effectively cleaned the vending machines at periodic intervals, e.g. by visual observations at inspection access points and testing of final rinse water.
- Record the findings of the verification and validation process to keep track of the evidence that the cleaning and sanitising activities were completed as intended and are effective.

## Monitoring of the Operation and the Maintenance of Vending Machines

- Continually monitor the vending machines, e.g. by using computer-controlled monitoring system, during their operation and follow up any system alerts on operational problems as soon as possible. Review the operational records regularly to ensure that the vending machines are functioning normally.
- Keep records of any other control measures for the possible food safety problems during the operation (e.g. the transport and storage of food products/ingredients, and processing of food products). Conduct systematic check of the records periodically to determine areas requiring attention and improvement.
- Carry out maintenance of the vending machines regularly according to the instructions of the manufacturers of the vending machines.
- Food contact parts, water filters and other parts in the vending machines which require regular replacement should be properly replaced according to the instructions of the manufacturers, and handled in a sanitary manner during the replacement process.



## Training

- Establish clear cleaning procedures and ensure that employees have undergone training so that they well understand the operational requirements and perform the cleaning programme properly.
- For vending machines with CIP systems, employees should well understand the operation procedures, cleaning time, concentration of any cleaning solutions or sanitiser used, flow and temperature requirements, etc. Establish Standard Operating Procedures (SOP) on the CIP systems and provide relevant training and regular refresher courses to the operators, so that they well understand the operational requirements and perform the cleaning programme properly.



## Personal Hygiene

- Keep hands clean at all times. Wash hands with liquid soap and water, and rub for at least 20 seconds. If hand washing facilities are not available, or when hands are not visibly soiled, hands could be cleaned with 70% to 80% alcohol-based handrub.
- Wear clean and light-coloured outer clothing or protective overalls.
- If staff wear disposable gloves when handling ready-to-eat food or in contact with the vending machine, they should be aware that gloves cannot be used as a substitute for cleaning hands and should be used properly. If the gloves are damaged, soiled or removed when interruptions occur in the operation, they should be discarded. Gloves must be changed frequently and hands must be cleaned between glove changes.
- Open wound should be covered by gloves or bright-coloured waterproof bandages.
- Suspend from engaging in any food handling work when suffering or suspected to be suffering from an infectious disease or symptoms of illness such as flu, diarrhoea, vomiting, fever, sore throat and abdominal pain.

