

# Chapter Six – Appliances

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## *A Guide for Commercial Kitchen Fires*

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*Over the last few decades the influence of various cooking styles has given rise to a number of different types of appliances and cooking styles. These diverse methods have had a direct bearing on the need for different applications of ventilation and fire-extinguishing system.*



# Appliances

## Cooking Sources

### Appliance Codes

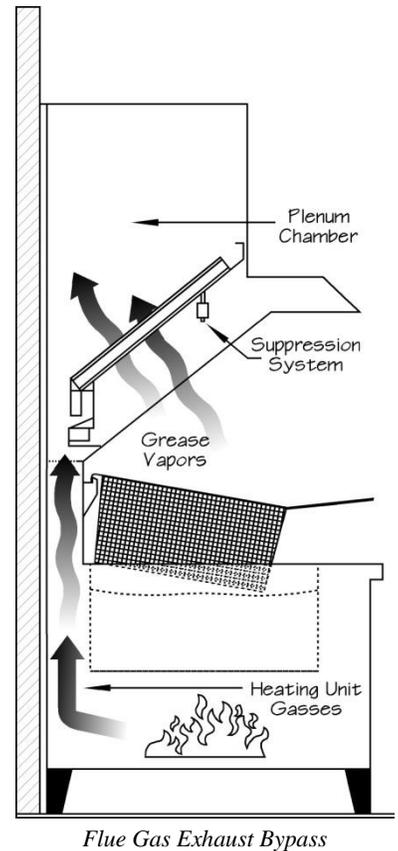
NFPA 96 provides standards that promote fire safety by specifying the proper placement of appliances in relation to the hood and/or grease removal devices (filters).

General NFPA 96 requirements from Sections 11 and 12 relating to appliances:<sup>1</sup>

- All equipment must be maintained in accordance with the requirements and standards during all periods of its operation
- The distance between filters (grease removal devices) and the cooking surface shall be as great as possible but not less than 457.2 mm (18 in.) and 1.22 m (4 ft.) for solid fuel appliances
- Appliances without exposed flame and where flue gases exhaust (chimneys) bypass filters, the minimum vertical distance can be reduced to 152.4 mm (6 in.)
- Some listed appliances may be exempt from these distance requirements
- Filters must be in place and the exhaust fan operating whenever cooking equipment is turned on
- Appliances must be provided with means to ensure that they are returned to their proper location (under the fire extinguisher) after maintenance or cleaning<sup>2</sup>

Appliances shall be approved based on one of the following criteria:

- Listed by a testing laboratory
- Test data acceptable to the authority having jurisdiction
- Instructions for manually operating the fire-extinguishing system shall be posted conspicuously in the kitchen and shall be reviewed with employees by the management
- Appliances shall not be operated while its fire-extinguishing system or exhaust system is nonoperational or otherwise impaired
- Appliances requiring protection shall not be moved, modified, or rearranged without prior reevaluation of the fire-extinguishing system by the system installer or servicing agent, unless otherwise allowed by the design of the fire-extinguishing system
- The fire-extinguishing system shall not require reevaluation where the cooking appliances are moved to perform maintenance and cleaning provided the appliances are returned to approved design location prior to cooking operations, and any disconnected fire-extinguishing system nozzles attached to the appliances are reconnected in accordance with the manufacturer's listed design manual



<sup>1</sup> See NFPA 96, 4.1, 6.2, 11.1 and 12.

<sup>2</sup> NFPA 96 11.1.6 Cooking equipment shall not be operated while its fire-extinguishing system or exhaust system is nonoperational or impaired. NFPA 96 11.1.6.1 Where the fire-extinguishing system or exhaust system is nonoperational or impaired, the systems shall be tagged noncompliant, and the owners or the owner's representative shall be notified in writing of the impairment.

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## **Appliance Docking**

There are several means of docking appliances. However, the vast majority of appliances are not safely retained. This requirement assists in keeping the appliances under the range of the fire suppression heat detectors and nozzles.



*Caster Positioning Safety-Set.  
Courtesy of Dormont.*



*An approved method must be provided that ensures the appliance is returned to an designated location*

## **Appliance Models**

Below is a list of common heat-producing appliances encountered in commercial kitchens:

- Solid Fuel Charbroilers
- Gas Fueled Charbroilers
- Gas Chain Broilers
- Electric Fueled Charbroilers
- Salamanders and Upright Broilers
- Griddles
- Conveyor Ovens
- Deep Fat Fryers
- Oriental Woks
- Stove Tops (Open burners)
- Ovens

