

5.5 Method 2 - Face Velocity Method (This is a provisional method when there is insufficient information available regarding the cooking equipment)

The volume of air to be extracted may be determined by selecting a velocity across the face area of the canopy that is appropriate for the type of appliances expected to be used. The capture velocity is multiplied by the canopy area to determine the volume of air to be extracted.

The capture velocity should be selected to ensure an even distribution of air across the canopy face, this velocity will vary according to the cooking application and whether the canopy is either wall or island mounted.

- Light loading - 0.25 m/s. Applies to steaming ovens, boiling pans, bains marie and stock-pot stoves.
- Medium loading - 0.35 m/s. Applies to deep fat fryers, bratt pans, solid and open top ranges and griddles.
 - Heavy Loading - 0.5 m/s. Applies to chargrills, mesquite and specialist broiler units.

5.6 Method 3 - Appliance Power Input (This is a provisional method when there is insufficient information available regarding the cooking equipment)

When details of the cooking equipment to be used is limited to the amount of power required

rather than the physical size of the appliance, then the power input method may be used. Each type of appliance is allocated a recommended flow rate in m3/s which is then multiplied by the power input in kW to determine the flow rate required for each appliance. The total air required is then determined by adding together the recommended extract rate for each item of equipment.

5.7 Method 4 - Air Changes (This is a provisional method when there is insufficient information available regarding the cooking equipment)

These can vary widely depending on the size of kitchen, type of cooking, number of people present, and therefore not recommended as a method of calculating air volumes. Whilst 40 air changes per hour should be regarded as a minimum for comfort in the absence of any other information, it is not unusual for rates as high as 60 - 120 to be created when high-output equipment is densely located in a relatively small space.

5.8 Method 5 - Linear Extract (This is a provisional method when there is insufficient information available regarding the cooking equipment)

Favoured in the United States, this method depends upon selecting a flow rate to suit a particular type of canopy. The figures, which are listed in the Table 5, do not vary with the canopy width and are given in m3/s per linear metre of active filter length.

Table 5: Flow rates (m³/s per linear metre of canopy)

Type of Canopy	Light Duty	Medium Duty	Heavy Duty	Extra Heavy Duty
Wall Mounted	0.23 - 0.31	0.31 - 0.46	0.31 - 0.62	0.54 +
Single Island	0.39 - 0.46	0.46 - 0.62	0.46 - 0.93	0.85 +
Double Island	0.23 - 0.31	0.31 - 0.46	0.39 - 0.62	0.77 +
Eyebrow	0.23 - 0.39	0.23 - 0.39	—	—
Passover/Backshelf	0.15 - 0.31	0.31 - 0.46	0.46 - 0.62	not recommended

NB - Extract rates for double island canopies are for active filter length, i.e. double the rate for an equivalent length wall Canopy.