

3. Extract and Fresh Air rates calculations

The Canopy extract air rate, has been calculated, in accordance with DEFRA Guidelines section 4.2.2 Thermal Convection Method.

The total cookline calculation is indicated on the flow rates data sheets

Canopy 1. Existing Canopy extract rate is calculated at $1.915\text{m}^3/\text{s}$

Canopy 2. Island Canopy extract rate is calculated at $1.085\text{m}^3/\text{s}$

Canopy 3 Fryer Canopy extract rate is calculated at $0.796\text{m}^3/\text{s}$

Total kitchen extract rate is therefore $3.796\text{m}^3/\text{s}$ ($4.0\text{m}^3/\text{s}$)

The fresh Air replacement rate is calculated as 80% of the extract air rate,

Therefore the fresh air replacement airflow rate is:-

$$3.796\text{m}^3/\text{s} \times 0.8 = 3.0368\text{m}^3/\text{s} \text{ (}3.0\text{m}^3/\text{s}\text{)}$$

System Static Pressure (in pascals) calculations are based on the design drawing, and are as per the following calculation sheets. Final system pressure calculations will be necessary when fully Coordinated installation drawings are produced.