

The information below is a summary of the kitchen extract system serving the residential care home facility at Pine Marten Close, Pagham.

The report shall address items raised in the document EMAQ+ Control of Odour and Noise from Commercial Kitchen Exhaust Systems (05/06/2022). Specifically, the Best Practice for Design and Operation section.

Ventilation

The kitchen internal temperature will be maintained below 26degC. The kitchen has two 7.1kW wall mounted cooling units which are occupant controlled.

Ventilation equipment is installed at roof level, remote from the kitchen workspace. Inline attenuation is installed where required.

Fresh supply/make-up air is c.85% of the extract to maintain a clean to dirty pressure profile. Incoming air is filtered and tempered.

The total kitchen extract rate is 1.6m³/s. This equates to 43 air changes per hour at full duty. This system is speed controllable locally, therefore during times of light use this extract rate will be adjusted down by the end user.

Canopy

The system is designed and installed in accordance with the guidance document BESA DW/172, therefore the canopy flow rate is based on the thermal convection method.

The canopy and kitchen layout drawings attached from James S. Scott. The canopy has integrated removable grease separators to ensure grease / particulate is caught.

The face velocity over the canopy area is c.0.32m/s at full speed.

Refer to the canopy drawings to confirm the dimensions and overhang complies.

The canopy is constructed of stainless steel.

Ductwork

Ductwork is designed and will be installed in accordance with BESA DW172.

Duct velocity on the extract system is 8m/s in the main runs.

The ceiling is accessible; ductwork will have access hatches for cleaning in accordance with DW172. The ductwork is fire rated due to a small void in the ceiling build up.

Fan

A vertical discharge fan is used, which is a specifically designed unit for this purpose (see attached brochure and selection).

The fan will be commissioned and set at 85%-90% to achieve full duty.

The fan temperature spec:

Vertical up blast (Dual Purpose) roof composite mounted extract fan, suitable for continuous operation up to a maximum temperature of 200°C & once off emergency extract 400°C for a maximum period of 2 hours.

The kitchen fans are located on the roof where plant access available via roof hatch and access walkway. Space is allowed for routine inspection and maintenance.

The system will be installed in accordance with the BESA and CIBSE guidance on air leakage. The extract fan is at the end of the system therefore all internal ductwork is under negative pressure.

Air is ejected vertically to allow maximum air dispersal. The fan is located at roof level, c.11.5m above ground level, in excess of the 15 meter distance from adjacent properties required in the EMAQ+ guidance. The fan itself is constructed to minimise breakout noise, the acoustic information is noted in the attached brochure.

Noise

Ventilation equipment is installed at roof level, remote from the kitchen workspace. Inline attenuation is installed where required.

This system is speed controllable locally, therefore during times of light use this extract rate will be adjusted down by the end user.

Fire

The kitchen is covered by the building sprinkler system.

An ANSUL gas fire suppression system is installed under the canopy.

No wood burning appliances are proposed.

Maintenance.

Periodic plant maintenance will be carried out by the end user in accordance with the manufacturer's recommendations.

Periodic cleaning will be carried out by the end user in accordance with their cleaning regime.