

Specification & Defra Report

Project: Fireaway

Note: Kent & SG (AS/SSM)



FIREAWAY

Interpretation of Requirements

We have selected various stages of odour reduction equipment based on the DEFRA guidance. This ensures that our proposal will be in line with local authority's requirements and if the system is maintained correctly they will not exhaust nuisance odours leading to complaints from nearby residents.

With this in mind a risk assessment was carried out as detailed in Annex C of the DEFRA Guide. Taking into consideration the level of discharge, proximity of receptors, size of kitchen and cooking type.

We have scored as below and as taken from Annex C: Risk Assessment for Odour;

Dispersion = 20

Proximity of receptors = 10

Size of kitchen = 1

Cooking type = 1

Total score = 32

The type of odour abatement system that complies is as below, taken directly from the DEFRA Guide.

Odour arrestment plant performance

High level odour control may include:

1. Fine filtration or ESP followed by carbon filtration (carbon filters rated with a 0.2 – 0.4 residence time).
2. Fine filtration or ESP followed by UV ozone system to achieve the same level of control as 1.

Impact Risk	Odour Control Requirement	Significance Score*
Low to Medium	Low level odour control	Less than 20
High	High level odour control	20 to 35
Very high	Very high level odour control	more than 35

* based on the sum of contributions from dispersion, proximity of receptors, size of kitchen and cooking type:

Criteria	Score	Score	Details
Dispersion	Very poor	20	Low level discharge, discharge into courtyard or restriction on stack.
	Poor	15	Not low level but below eaves, or discharge at below 10 m/s.
	Moderate	10	Discharging 1m above eaves at 10 -15 m/s.
	Good	5	Discharging 1m above ridge at 15 m/s.
Proximity of receptors	Close	10	Closest sensitive receptor less than 20m from kitchen discharge.
	Medium	5	Closest sensitive receptor between 20 and 100m from kitchen discharge.
	Far	1	Closest sensitive receptor more than 100m from kitchen discharge.
Size of kitchen	Large	5	More than 100 covers or large sized take away.
	Medium	3	Between 30 and 100 covers or medium sized take away.
	Small	1	Less than 30 covers or small take away.
Cooking type (odour and grease loading)	Very high	10	Pub (high level of fried food), fried chicken, burgers or fish & chips.
	High	7	Kebab, Vietnamese, Thai or Indian.
	Medium	4	Cantonese, Japanese or Chinese.
	Low	1	Most pubs, Italian, French, Pizza or steakhouse.

The particulate would be extremely minimal from just a single appliance (a gas fired pizza oven). This will be the only appliance in use in the unit, the cooking type for pizza is scored as 'low' on the Defra guide. We have selected various stages of odour reduction. Our first method in reducing the impact of the possible cooking odours is a uv injection system mounted as close to the pizza oven to maximise the "dwell" time, our second method of odour reduction is a bespoke filter module which as detailed on our proposed drawing shows another 3 stages of filtration, this includes pre/bags & carbons with a dwell time of 0.2 seconds. The odour neutraliser unit uses ozone - a well-known disinfectant and odour neutralizer - which is released directly into the ventilation system, here it immediately acts on the cooking odours. The unit sits outside of the kitchen extraction system and ozone is drawn in by the fans, the unit operates silently without any noise nuisance. The unit is very simply maintained by cleaning and exchanging the UV lamps which is recommended every 12 months. The filtration system is very easily maintained by exchanging the filters every 6 months. We have selected an acoustically lined centrifugal extract fan with the motor out the airstream. A regular maintenance schedule will be in place to ensure the effectiveness of the odour reduction.

To conclude with the particulate being incredibly minimal alongside various stages of odour reduction with a regular maintenance schedule, we strongly believe that our proposal is in line with local authority's requirements.

Product Specification - Odour Neutraliser

Model	Plasma Xtract 2100
Capacity	Up to 1.5 m ³ /s
Power	160W
Pressure Drop	(Pa) 0 (ozone injection)
Supply	230Vac / 1 phase / 50-60Hz
Dimensions	307 x 343 x 180 mm
Weight	10kg
Operation	Fully automatic