CALCULATION OF THE EXTRACT SYSTEM

Calculations		Thermal Convection Method			
Item	**Plan size, mm**	**Power**	**M2**	**Coefficient**	**Flow rate m3s-1**
Fryer	600x400	Gas	0.24	0.500	0.12
Doner Machine	1200x600	Electric	0.72	0.55	0.40
Hob Top	600x600	Electric	0.360	0.250	0.0900
Charcoal BBQ	3000x500	-	1.5	0.96	1.44
Theoretical extract flow rate required					2.05
Canopy Factor, wall to wall					x 1.0
Specific extract flow rate required					2.05

Dwell time

Dwell time per second 0.1/2.05= 0.049 1/s

For 12x activated site carbon, will achieve 0.4 1/s dwell time

Site carbon is each cell of the carbon filter. The reference number is SITE SAFE PA240824 has 4x site safe carbon cells. Its dimensions are 594x196x597mm

Flow rate: 2.05 m3/s --- 7380 m3/h

Double pass ESP4500E

Electrostatic Precipitators ('ESPs') have been specifically designed for kitchen extract systems and have integral sumps to collect the oil, grease and smoke particles filtered out of the exhaust. This not only simplifies servicing, but eradicates potentially dangerous spillage from the bottom of the units and greatly cuts down on buildups of grease within the ducting.

The ionisation voltage has been designed to run at a negative potential which enhances the ionisation of particles and also produces more ozone which is helpful in reducing cooking odours. Our ESP units fit in-line with the kitchen ducting and can be configured modularly to cope with all extract volume requirements.

SPECIFICATION AND MAINTENANCE, PREPARED BY ERAL METAL FABRICATIONS

Why we recommend the ESP4500?

The DEFRA Guide Risk Assessment for Odour confirms at Table 1 that the odour and grease level loading for Italian restaurants is the lowest of four levels. The nature of the food offer and the very limited types of cooking at TONY PITA`S suggest that the odour and grease loading will be very low.

The ESP 4500E can handle up to 2.3m^3/sec of air flow. The appropriate air flow for TONY PITA`S is 0.367m3/s, please refer to the information listed in the table above. The ESP4500E will reduce any type of odour and also helps to reduce grease.

MAINTENANCE

- All maintenance should be carried out in accordance with the planned maintenance set by the installation contractor as set out below and by the Technical and Operations Manual for the ESP4500E at section 7 (Maintenance and Cleaning).

- All maintenance should be carried out by a trained operative.

- When handling any components suitable PPE should be used - gloves, eye protection and access equipment.

Carbon Units

Frequent deep cleaning of the activated side carbon should be replaced with new activated side carbons every 12 months for light use or 6 months for moderate use.

ESP Unit

Basic Maintenance Activities	Frequency
Clean the inside of the Unit and remove dust and grease from the filter compartment *(see 7.3.2 on page 27)*	From once a week to once every 3 months depending on the degree of pollution.
Clean the Mesh Pre-filter, with particular attention to the ESP Collector Cell and the Mesh Post-filter and check for damage *(see 7.3.3 on page 28 and 7.3.4 on page 28)*	From once a week to once every 3 months depending on the degree of pollution.
Clean the outside of the Unit with mild detergent	Every 6 months
Check the door sealing material *(see 7.3.2 on page 27)*	Every 12 months