

Airedale Ventilation Services									
Flow Rate Calculations In Accordance With BESA DW/172 Specification For Kitchen Ventilation Systems Thermal Convection Method (Based on canopy depth of 400mm and ceiling height of 2600mm minimum)									
Site	Prospect House					Revision			
Location	Manchester					Date	16/Jun/21		
Catering Equipment Drawing #		FS0831-ACE-01-ZZ-DR-Y-0001			Drawing Revision:				
Canopy Type:		Overhead Wall Canopy, Island Mounted, Open Both Ends				Canopy Factor		1.50	
Item #:	Equipment:	Plan (mm)			Catering Equipment Area M ²	Fuel:	Catering Equipment Coefficient:	Flow Rate Including Canopy Factor:	
		Length	x	Width				M ³ /s	l/s
26&26a	Combination Oven - 10 Grid	898	x	867	0.8	Electric	0.32	0.37	374
23	Bench	450	x	770	0.3	N/A	0.03	0.02	16
24	Oven Range	900	x	785	0.7	Gas	0.50	0.53	530
25	Bench	300	x	770	0.2	N/A	0.03	0.01	10
33	Service Distribution Unit	2650	x	300	0.8	N/A	0.03	0.04	36
							TOTAL	0.97	965
 AIREDALE VENTILATION SERVICES		Canopy Size (Plan - mm)			Canopy Area M ²	M/Sec	Ft/Min	M ³ /s	l/s
		Length:	x	Width:					
Calculated Canopy Face Velocity at DW172 Rates		3205	x	1800	5.77	0.17	33	0.97	965
Recommended Replacement Air at Percentage Stated (85% Recommended)					85 %			0.82	821
Ductwork Spigot Details							Pressure at Spigot Connection		
System	Qty	Volume/Spigot	Rectangular Duct Size		Spigot Dia.	Vel M/S			
Extract	1	0.97	600	x	300	478	5.37	Extract	125 Pa
Supply	1	0.82	600	x	300	479	4.56	Input	50 Pa
1. This calculation is subject to amendments in line with changes made to catering layout. 2. Consideration should be given to the flow rates of increased face velocity and canopy dimensions if the kitchen ceiling height is below 2400mm. 3. The recommended air input as per DW/172 is 85% of the extract volume, consideration should be given to achieving the make up air via means of mechanical and natural infiltration, depending upon the location of the kitchen within the building and the type of catering operation. 4. Where gas equipment is installed mechanical air must be introduced into the kitchen to ensure that enough combustion air is achieved. 5. Canopy spigot dimensions are given as a guide only and actual dimensions should be checked on the canopy layout drawing.									