

Condition 5 - Fume Extraction Equipment info. &
Condition 7 - Ventilation information (AC)

Design Brief

The design of the kitchen extract ventilation system, at The Yard, was based on the cookline provided, and using the thermal convection method, as per HVCA DW172 specification, and DEFRA Guidelines,

An extract volume of $0.92\text{m}^3/\text{s}$ was calculated.

Therefore a high temperature, (motor out of airstream) Flakt Woods Estoc Targe fan was selected, providing $1.0\text{m}^3/\text{s}$ @ 300pa

A full EMAQ risk assessment was carried out (attached), producing a score of 11, which is half way in the lowest range of 'Low to Medium' odour control,

So it was deemed that washable, removable, stainless steel grease filters would suffice and provide the necessary level of grease (and odour) removal

Noise levels

The fan has an exhaust sound level of 53 LpA or 60 dB and a breakout noise level of 37 LpA or 43dB (fan data and silencer data attached)

A 2D (length = 2 x diameter) was installed on the vertical exhaust, which will reduce the exhaust and breakout noise levels by approx. 10% - 12%

This would provide an exhaust noise level of 52dB (at 1m above the eaves) and 38dB breakout, ie stood next to the fan.

The levels quoted above will be much more than 5dB lower than background noise, so compliance would not be an issue.

SWAN Projects

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EMAQ Survey and Report

Date: APRIL 2022

Site Address: THE YARD
11 BOLT STREET
MANCHESTER

Project Name: THE YARD

Project No: C699

Prepared by: Geoff Kennedy

Contact Details: Tel: 07557 337754

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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 type		

CRITERIA		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 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 Receptor	Close	10	Closest sensitive receptor between 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. <i>Turkish, Middle Eastern or any other premises cooking with solid fuel</i>
	High	7	Vietnamese, Thai, Indian, <i>Japanese, Chinese, steakhouse.</i>
	Medium	4	Cantonese, <i>Italian, French, Pizza (gas fired)</i>
	Low	1	Most pubs (<i>no fried food, mainly reheating and sandwiches etc.</i>), Tea rooms.

Risk	Score
Dispersions	5
Proximity Of Receptors	1
Size Of Kitchen	1
Cooking Type	4
TOTAL SCORE	11



Northern Fan Supplies Ltd

Combination Data Sheet

Estoc Targe - Powerbox GF



Quotation Number : **C699**
Project Name :
Item Reference: : **THE YARD M/c**

Project Code :
Customer :
Date: **APR 22** : Tuesday, April 26, 2022

Fan Code Estoc Targe (PowerBox) 67-450-1
Fan Diameter / Size 450
Velocity 6.3 m/s
Form of Running B (Horizontal)

Requested Duty (175.2V) 1m³/s @ 300 Pa (static)
Control Adjustment 175.2V
Outlet Dynamic Pressure 24 Pa

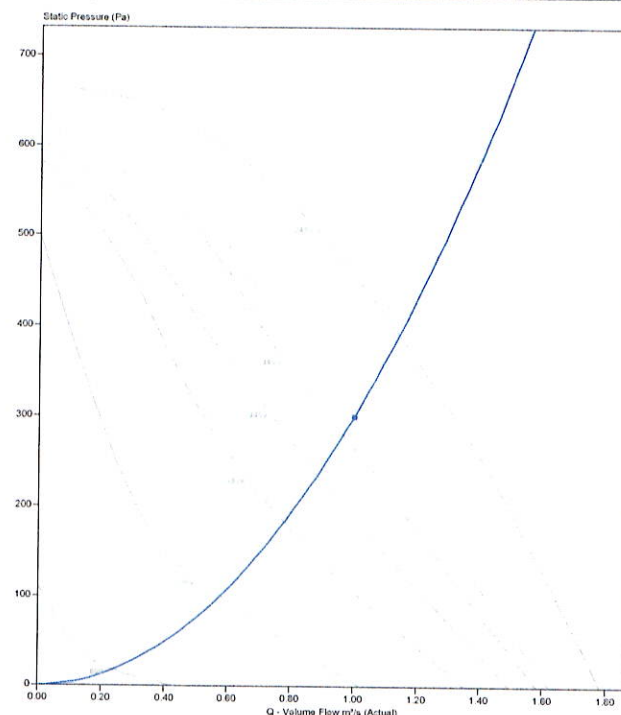
Duty Shaft Power 0.872 kW
Max Shaft Power 1.00 kW

Motor Frame Integral [Class F]
Motor Rating 1.00 kW
Full Load Current 5.38 A
Starting Current 11.96 A
Electrical Supply 220-240 Volts 50 Hz 1 Phase
Start Type Enquire
Motor Winding Standard

ErP [FMEG] Rating Not in Scope

SFP value 0.87 W/(l/s) @ Requested Duty
Power from mains 0.87 kW
Energy Consumption 2616 kWh (3000 h/year)
Running Cost / Year £235

Air Density 1.2 kg/m³ / 20 °C / 0 m / 50% RH
Smoke Venting Non Smoke Venting
Product Number GF674501



	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m**
Inlet*	-	71	65	63	65	65	59	50	74	49
Outlet*	-	76	69	66	69	67	64	53	78	53
Breakout*	-	70	59	52	50	47	44	38	70	37

* Lw dB re 10⁻¹² W
** dBA re 2x10⁻⁵ Pa
Sound data at requested duty.

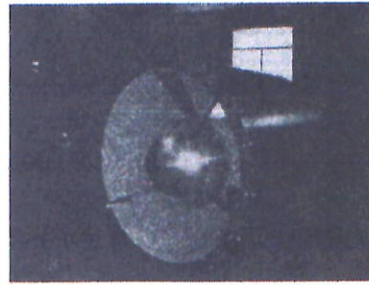
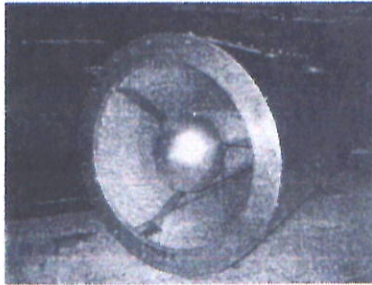
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Description		Qty
Fan GF674501 - Estoc Targe (PowerBox) 67-450-1		1
Accessories		
Optional Controllers & Sensors	Optional Accessories	

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C699
THE YARD



STANDARD CIRCULAR SILENCER INSERTION LOSS DATA

@ +20°C and 5m/sec FACE VELOCITY

SILENCER SIZE	CODE	P.A	OCTAVE BAND CENTRE FREQUENCIES (Hz)							
			63	125	250	500	1K	2K	4K	8K
200-550 dia	CDA.1D	ALL	2	4	6	10	14	10	7	8
	CDA.2D	A	4	8	13	17	23	17	12	11
		B	4	8	12	17	23	17	12	10
		C	4	7	10	15	19	16	12	9
	CDAP.1D	A	4	6	8	12	21	21	18	15
		B	4	6	8	11	18	19	17	14
		C	4	6	8	11	14	16	11	10
	CDAP.2D	A	7	10	12	24	29	29	27	23
		B	7	10	12	21	26	26	24	22
		C	7	10	11	18	21	20	17	15
	CDA.1D	ALL	3	4	9	15	15	8	7	6
	CDA.2D	A	6	8	13	22	23	14	13	9
600-800 dia		B	6	8	13	22	22	13	12	9
		C	6	8	12	20	18	13	11	9
	CDAP.1D	A	4	6	8	17	25	21	18	11
		B	4	6	8	17	23	20	18	10
		C	4	6	8	16	18	16	13	10
	CDAP.2D	A	8	11	16	30	35	31	29	22
		B	8	11	16	27	32	31	29	19
		C	8	11	16	24	23	22	21	17
	CDA.1D	ALL	3	4	9	14	13	7	7	6
	CDA.2D	A	6	8	14	22	20	13	12	9
		B	6	8	13	21	18	12	11	9
		C	6	8	12	19	16	11	10	7
1000-1500 dia	CDAP.1D	A	4	6	11	21	20	16	13	11
		B	4	6	11	20	18	15	13	11
		C	4	6	11	17	16	14	12	10
	CDAP.2D	A	8	11	18	30	32	30	24	16
		B	8	11	18	26	27	26	22	16
		C	8	11	18	21	20	22	20	16
	CDA.1D	ALL	4	5	10	14	11	6	6	5
	CDA.2D	A	8	9	14	19	18	12	11	9
		B	8	9	14	19	17	11	10	9
		C	8	9	13	18	14	10	9	8
	CDAP.1D	A	5	7	12	21	20	13	12	9
		B	5	7	12	19	18	13	11	9
1600-2000 dia		C	5	7	12	15	16	12	10	8
	CDAP.2D	A	10	14	21	26	29	28	18	15
		B	10	14	21	25	27	25	16	14
		C	10	14	21	21	20	20	15	14

P.A = Fan Impeller Pitch Angle.

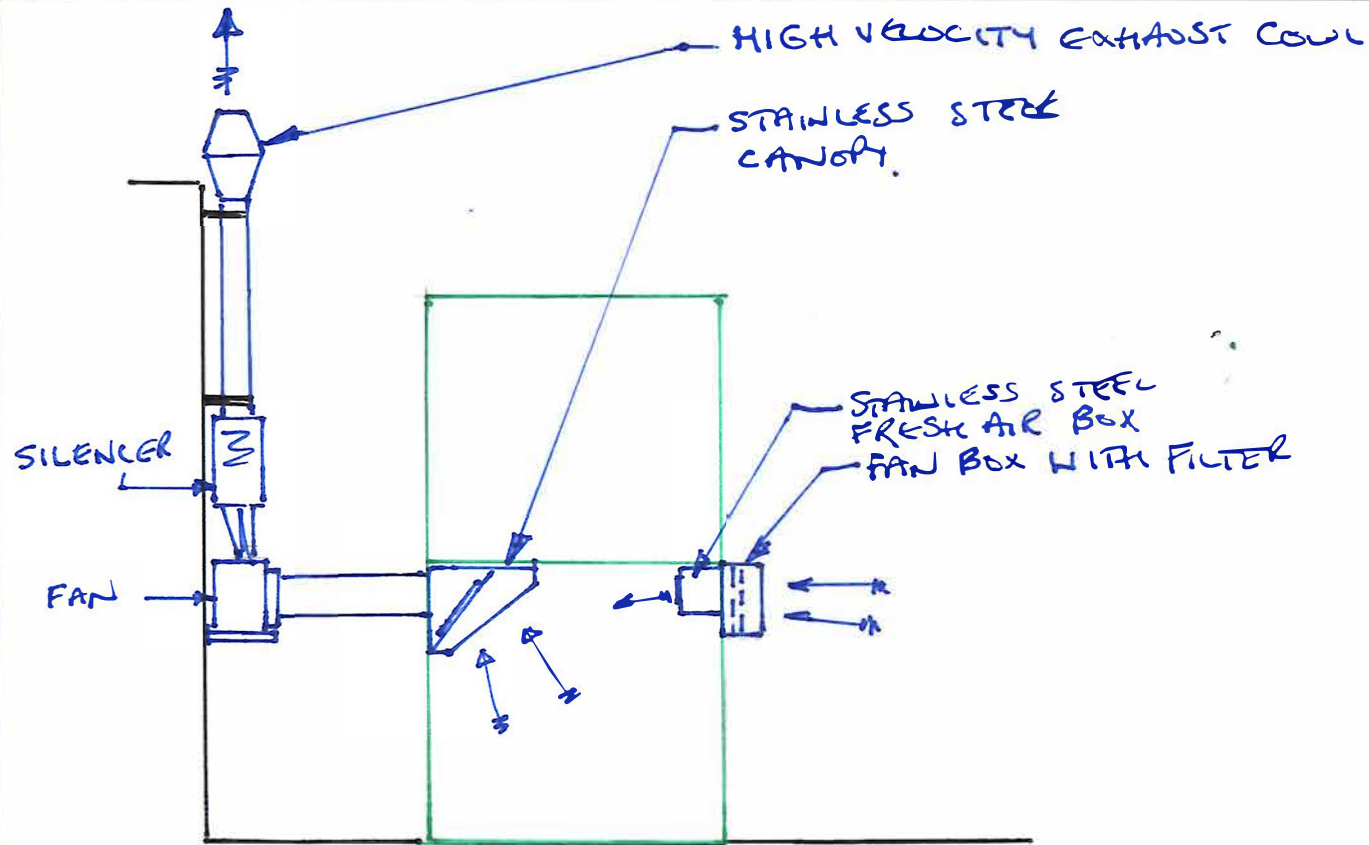
A = upto 12 degrees

B = upto 20 degrees

C = upto 45 degrees

The Above Data Is Offered As Being Indicative Only

For Guaranteed Data (when applicable) Please Consult With (DBA) Technical Services Ltd.



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CONTRACT DETAILS:- C 699

DATE ISSUED:- 2-5-22

DETAILS THE YARD
KITCHEN VENT SKETCH