Widewater Place Cafe

EXTRACTION

SPECIFICATION

by IK Architecture

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Additional File for Planning Purposes

EXTRACTION FAN:

The following extraction fan for its stores: **FLAKTWOODS 560 JM MAXFAN- HIGH**

PRESSURE – LONG CASED AXIAL EXTRACT FAN

The MAXFAN is designed for use in commercial kitchen canopy system offering high pressure performance and is suitable for both internal and external applications. It is manufactured using mild steel and finished with hot galvanised dipping to give high resistance to corrosion.

This MAXFAN operates at 75 db(A) on full velocity at a 3 metre distance. In comparison, this is the equivalent to low level street traffic.

FAST FACTS:

- 400mm – 630mm Dia available
- Volume flow up to 7.28 m3/s
- Static pressures up to 1082 Pa
- Fans tested to ISO 5801 and BS848
- Operating temperature range : -40°C to +50°C as standard
- Low installed noise levels
- Overheat protection as standard
- Motor protection IP55

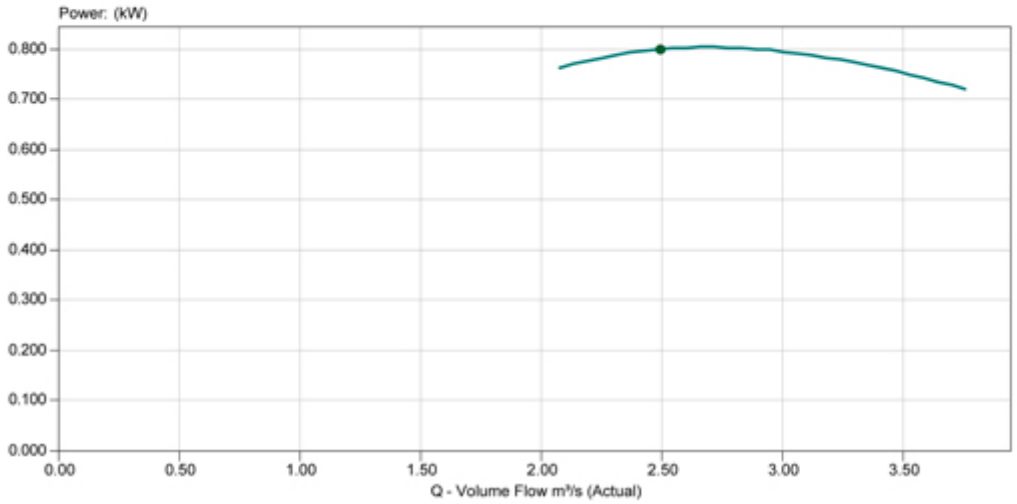
FAN PERFORMANCE:

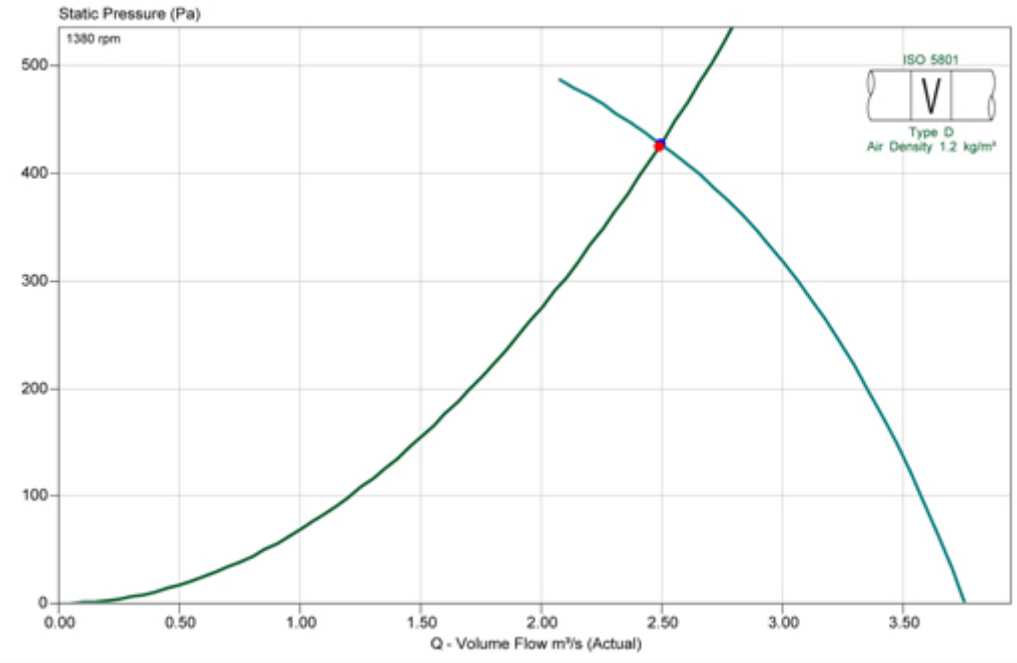
Northern Fan Supplies Ltd

Performance Chart

MaXfan (JM Aerofoil 2 Stage)

Project Name	:	Date:	: Wednesday, July 11, 2012
Quotation Number	:	Fan Code	: 56MaxFan/20/4/6/30/26
Customer	:	Item Reference:	:





TECHNICAL SPECIFICATIONS:

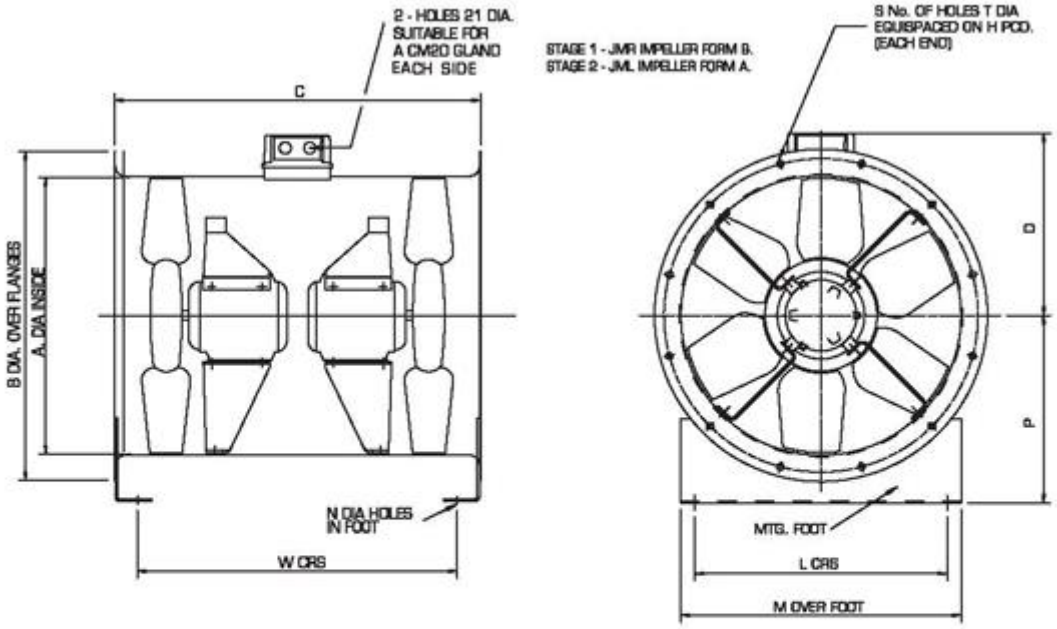
Fan Code	56MaxFan/20/4/6/30/26
Fan Diameter / Size	560 Size / mm
Blades	6
Fan Speed	1380 rpm
Velocity	10.1 m/s
Blade Angle	30-26
Form of Running	AB
Fan Casing	Long
Requested Duty	2.49m³/s @ 426 Pa (static)
Outlet Dynamic Pressure	62 Pa
Duty Shaft Power	0.800 kW
Max Shaft Power	0.970 kW
Total Efficiency	153 %
Pitch Angle Range	30° - 30°
Motor Frame	CT9
Motor Efficiency	IE1
Motor Rating	1.94 kW
Full Load Current	13.4 A
Starting Current	27 A
Motor Mounting	Pad
Electrical Supply	220-240 Volts 50 Hz 1 Phase
Start Type	DOL
Motor Winding	Standard
Enclosure	Standard All
SFP value	0.78 W/(l/s)
Energy Consumption	3880 kWh (2000 h/year)
Running Cost / Year	£349
Air Density	1.2 kg/m³ / 20 °C / 0 m / 50% RH
Smoke Venting	Non Smoke Venting
Product Number	EQ571460

	Sound Spectrum (Hz)								Overall	
	63	125	250	500	1k	2k	4k	8k	Lw*	LpA @ 3 m**
Inlet*	90	93	99	94	91	85	76	71	102	76

* Lw dB re 10^{-12} W

** dBA re $2x10^{-5}$ Pa

FAN DIMENSIONS:

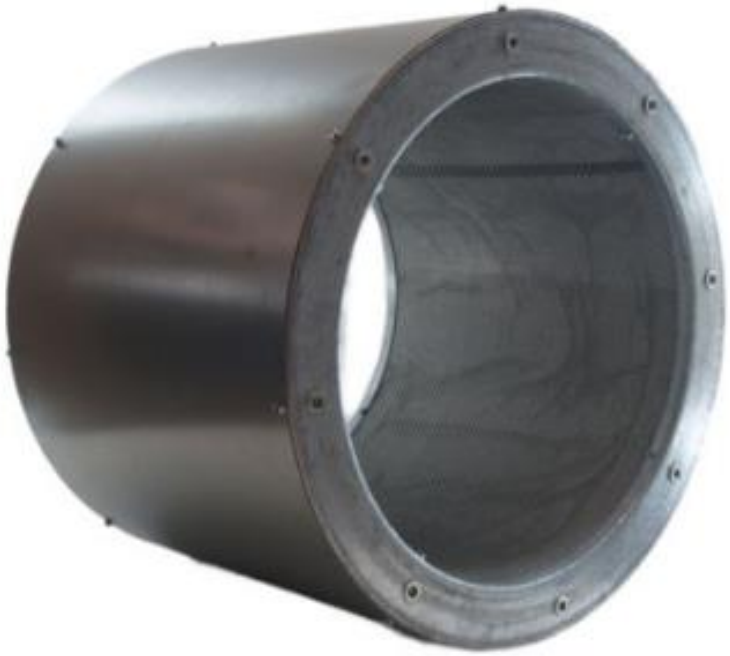


Product Code	Motor	A	B	C	D	H	L	M	N	P	S	T	W	Weight (kg)
40 MaXfan	BT9	400	480	680	279	450	350	400	10	250	8	12	590	38
45 MaXfan	CT5	450	530	620	306	500	400	450	10	280	8	12	530	43
50 MaXfan	CT9	500	594	710	338	560	450	500	10	315	12	12	620	57
56 MaXfan	CT9	560	654	680	368	620	510	560	10	355	12	12	590	61
63 MaXfan	CT9	630	724	710	403	690	580	630	10	400	12	12	624	71

All dimensions shown in mm

FAN SILENCER:

2 x FlaktWoods 2D straight through silencers are used, which generally reduces the MAXFAN noise levels by 10-13 db(A) each.



By using 2 x 2D straight through silencers, this reduces noise levels at both;

- System Side – Whereby noise levels are reduced within the premises or building and;
- Atmospheric Side – Whereby noise levels are reduced outside of the building or premises.

EXTRACTION CANOPY HOOD

The extraction canopy hood is manufactured bespoke to the requirements. In general the total length of the extraction canopy hood is 6 metres, whether it is a straight line or L shape extraction canopy hood.

The extraction canopy hood is made by 430 grade stainless steel, which is highly resistant to heat and corrosion. The hood also has the following features:

- Stainless steel grease baffle filters
- Grease Drip Trays
- Access panels for certified deep cleaning

GREASE BAFFLE FILTERS

495 x 495 Grease Baffle Filters are used in the extraction canopy hood.

These Grease baffle filters are made from stainless steel for easy cleaning and are extremely effective at removing airborne grease particles before they enter the ductwork. With their unique design and interlocking baffles, they change the direction of grease laden air which also restricts flames from entering into the ductwork.

The interlocking baffles and the smooth surface allows for grease to run and drip off into the grease collection trays which are positioned on the extraction canopy hood.

DUCTING

The duct which runs from the extraction canopy hood all the way towards the exit route can either be circular or box shape depending on ceiling height of the property and ease of navigation through the property. The duct work is made from galvanised steel with access panel points strategically located for ease of cleaning the duct internally. Separate ducts are used for both outward air flow and for the fresh air intake into the property.

HIGH VELOCITY JET COWL

A high velocity jet cowl is manufactured from galvanised steel and is the final part of the external duct system and sits 1 metre above the roof ridge line. The purpose of the high velocity jet cowl is expell air directly upwards rather than laterally. This significantly reduces any nuisance or disturbances to neighbouring properties with exhaust fumes.

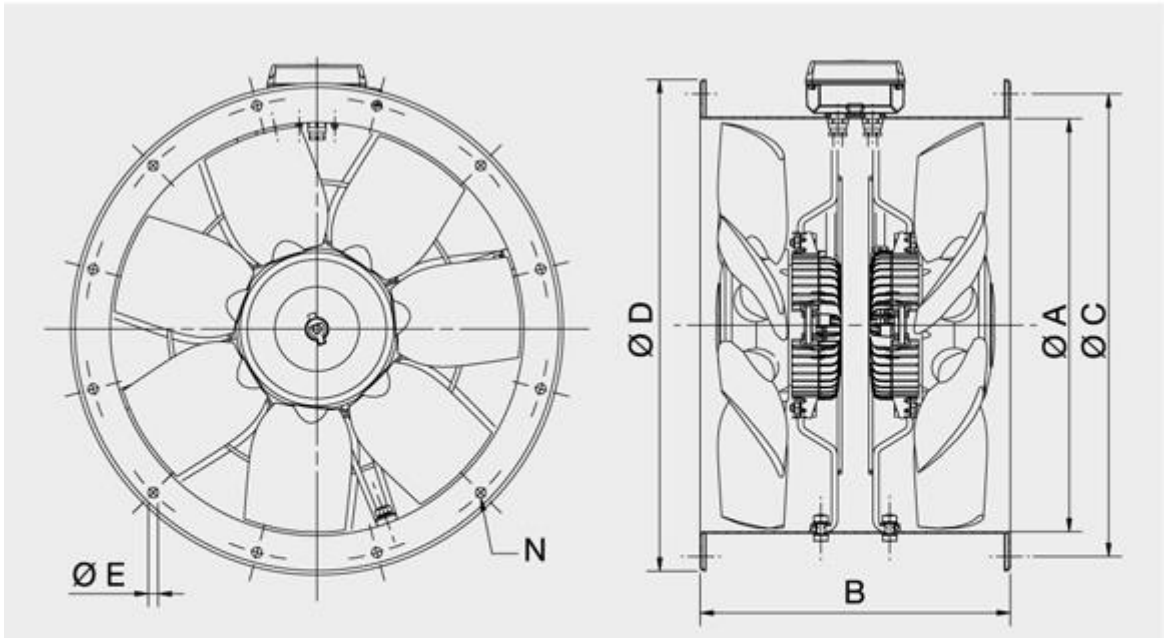
ANTI VIBRATION MOUNTS

Anti Vibration mounts are used to isolate the extraction system and its fittings from the internal and external side of the premises and property to prevent vibration transfer. Each anti vibration mount can carry a load bearing of up to 50kg. They are used in paritular where the Maxfan is located as well as silencers and the duct work.

FRESH AIR INTAKE FAN

A 450 S&P Short cased axial fan is used for the fresh air intake to the premises which discharges at the extraction canopy hood. The S&P short cased axian fan is considered to be one of the best performing fans currently in the marketplace. It operates at full velocity at 67 db(A) at a 3 metre distance. The Fresh air intake fan is also encased by a silencer reducing its noise level by 10-13 db(A).

DIMENSIONS



Model	Ø A	B	Ø C	Ø D	Ø E	Number of holes N
450	537	375	500	450	12	8

GAS INTERLOCK SYSTEM

A gas interlock system is used, primarily to protect employees and the general public from the dangers of Co2 emmissions where gas is the primary fuel for cooking. It closes the gas valve supply when the interlock system detects that there is not enough ventilation to extract the fumes.