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* Acoustic Tests

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* Specialist A3 Application Testing & Design

Attn. Mr. Tufayel Ahmed.
Fajr Architectural
43 Cann Hall Road
Leytonstone
London.
E11 3HY.
cc Mr. A. Salam

Re: 6 Crowndale Road, London NW1.

12/04/07

Ref: 07-04CNW1


Dear Mr. Ahmed.

Further to your recent request, I have pleasure forwarding you the details of our acoustic test carried out at 6 Crowndale Road, London. NW1 on Tuesday 10th April 2007.

Further to your clients request, we also provide herewith the required specification for the extraction system to ensure the fitting of the correct equipment to co-inside with the requirements of the L.B of Camden noise standards.

If there is any further information you require, please feel free to contact me and I will be happy to assist you with any additional help regarding this matter.

Yours sincerely.


Mr. J. Hajdar
Senior Engineer.

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16 / 04 / 2007

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Attn. Mr. Ahmed.

11.04.07

Sound Test Results for: 6 Crowndale Road, London NW1.
Ref: 2006/4904

A sound test was carried out the premises listed above at the request of L.B of Camden Planning dept. to ascertain the ambient background noise level at the nearest sensitive Point.

Particulars of Test.

The time of the test was between 21.00 and 00.00 of Tuesday the 10th April 2007 using a Series 1 environment meter calibrated within the last year.

The environmental conditions were adequate for initializing a test of this sort, namely, dry conditions with wind speeds not in excess of 10mph.

The location of the test equipment was in College Place, NW1 which is located to the rear of 6 Crowndale Road. The point of sensitivity was identified as a ground floor window of the flats located opposite the rear of 6 Crowndale Road, as the point of extract at the proposed site would be directly opposite this window, thus the outbreak noise would be at it's highest at this point in relation to the surrounding area.

The equipment was set up half an hour prior to the test, and the equipment was tested to ensure correct working condition.

Test Results

The results of the test were analysed at various frequency levels, and the essential frequency Weighting of 'A' Lo, 'A' Hi, 'C' Lo and 'C' Hi were assessed accordingly.

After analysis for this report and application, the background noise level was recorded at a sensitivity of;

A - Lo; 63.8 dB(A)
A - Hi; 66.8 dB(A)
C - Lo; 70.9 dB(A)
C - Hi; 72.4 dB(A)

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Based on the requirements of the L.B Camden, a measurement of 52dB(A)- would be advisable to achieve for the outbreak noise of the Kitchen extract system.

The proposed installation of a Vent Axia Turbo Prop 560/14/ fan would not be advisable as the outbreak noise level of this fan is too high, even when fitted with a dedicated attenuator.

Our recommendations for the system are as follows;

1. Fitting of a Woods 2 stage 560mm single phase 2 pole extractor fan.
2. Fitting of 1 x EQ531/560mXX dedicated 'special order' attenuator fitted in line to the ducting before the fan.
3. Fitting of a EQ533/560mXX dedicated 'special order' attenuator fitted in line to the ducting after the fan.
4. Fitting of 'Activ - V' unit carbon filter system along with pre filters. dwell time of 0.1 seconds. (98% filtration as opposed to standard filter system of up to 83% filtration).

Specifications:

1. Fan: Air movement: - mtrs³ per second at 100Pa; 4.2
at 200Pa; 4.0
at 400Pa; 3.55
Noise outbreak: - at 3 mtrs - 71dB(A)
2. Attenuator 1: EQ531/560mXX: - 18dB(A)
3. Attenuator 2: EQ533/560mXX: - 10dB(A) - Total -18dB(A),
Fan = 53dB(A) @ 3mtrs
4. Carbon Filter: dwell time; - 0.1 seconds.
Total active carbon filtering: - 98% filtration as opposed to standard filter system of up to 83% filtration.
5. Ducting: 500mm diameter, reducers fitted at source.

If there is any further information you require, please feel free to contact me and I will be happy to assist you with any additional help regarding this matter.

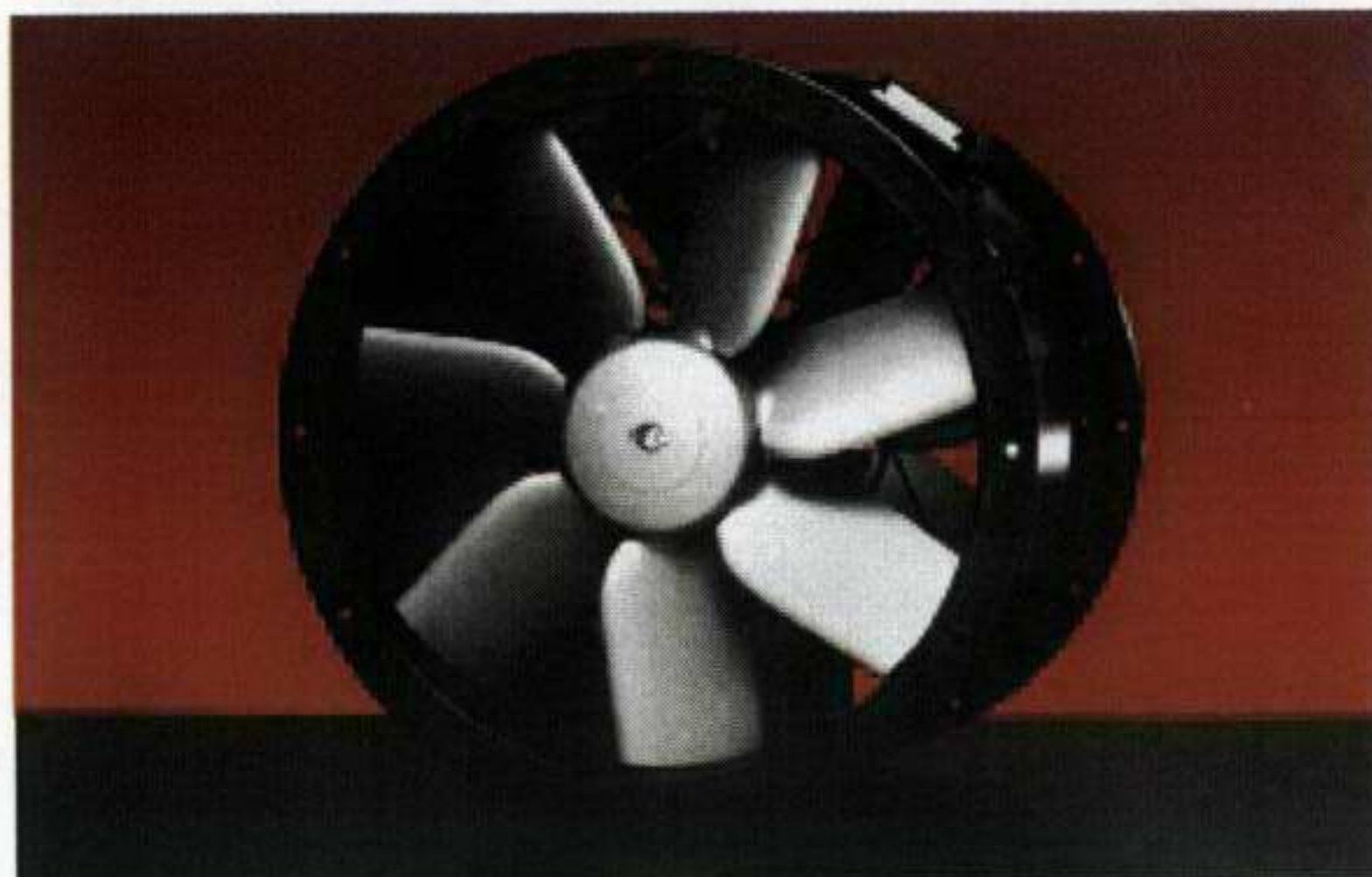
Yours sincerely.



Mr. J. Hajdar
Senior Engineer.

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VENT-AXIA TURBOPROP - HIGH PRESSURE AXIAL FANS (TP)



TURBOPROP

More efficient kitchen filtration systems and ever larger duct runs have created a need for a new generation of competitively priced high pressure axial fans, suitable for higher working temperatures.

The range offers a new alternative to the H & V industry.

The all-new Vent-Axia TurboProp is a revolutionary design contra rotating case axial. Equivalent in length and up to 2 times the pressure characteristics of traditional long case axial fans.

Available in four sizes: 450, 500, 560 and 630mm diameter with a performance from 1.197m³/s to 4.897m³/s (4,309m³/h to 17,629m³/h) and pressure development up to 800Pa.

Ensuring a compact design, the units have been constructed from a single sheet of steel, with both motors and axial impellers mounted within the length of the unit casing. The motor mounting supports are manufactured from steel rod, electro welded and epoxy paint finished, factory assembled to **BS EN ISO 9001** ensuring a quiet and vibration free unit.

All sizes are protected with a tough black epoxy paint finish for those harsh environmental conditions, internally or

externally. Ensuring ease of installation both motors are wired directly into a single **IP65** terminal box.

IMPELLERS

The contra rotating impellers are manufactured in die-cast aluminium and are fitted with narrow profiled blades, which provide the maximum efficiency at the maximum airflow.

AXIAL MOTORS

Specifically designed and styled for this range of fans. Ball bearings are greased for life and allow the fans to be installed at any angle. Rotors are dynamically balanced to **ISO 1940**. Motors are protected to **IP65** against dust and water jets complying with **BS EN 60529: 1992**. They have ribbed aluminium body castings for efficient cooling. Motor insulation is Class 'F' (from -40°C to +70°C).

Sizes 450 and 500 are suitable for speed control by either electronic or voltage reduction controllers. All 3-Phase models are suitable for speed control by frequency inverter.

ELECTRICAL

Single phase 220-240V 50 Hz. Capacitor start and run. Three phase 380V-415V 50Hz. All motors are fitted with **Standard Thermal Overload Protection (S.T.O.P.)**, which should be wired into all controller circuits and into starter contactors.

- ✓ Contra Rotating, die cast aluminium impellers.
- ✓ Compact in size, equivalent to standard long case axial fans.
- ✓ Available from 450 to 630 diameter, 1 or 3 phase.
- ✓ Speed controllable.
- ✓ All units fully protected to **IP65**, ideally suited for internal or external installations.
- ✓ Motor insulation Class F, suitable for operating temperatures from -40°C to +70°C.
- ✓ Motors protected with Standard Thermal Overload Protection.
- ✓ Manufacture controlled to **BS EN ISO 9001**.
- ✓ Performance tested to **BS 848** Parts 1 & 2.

TERMINAL BOX

IP65 terminal box is supplied with all models with 20mm and PGII entry.

PERFORMANCE

The fan performance is in accordance with tests to **BS848** Part 1 1980.

SOUND LEVELS

Fan sound levels, measured in a reverberant chamber in accordance with **BS848** Part 2 1985. Published dB(A) figures are free field sound pressure levels at 3m with spherical propagation at a reference level of 2×10^{-5} Pa (20 micro-Pascal). The sound power level spectra figures are dB with a reference level of 10^{-12} Watts (1 pico-watt). To ensure minimum noise levels during speed control, an auto transformer speed control is recommended.

ACCESSORIES

- Electronic Speed Controllers
- Auto Transformer Speed Controllers
- Inverter Speed Controllers
- Ancillary Packs
- Case Attenuators
- Mounting Feet
- Wire Inlet Guard
- Coupling Flanges

Vent-Axia

TURBOPROP FANS PERFORMANCE GUIDE

1 PHASE, 4 POLE

m³/s at Pa

Unit Code	Nom. RPM	Phase	0	50	100	150	200	300	400	500	600	700	800	Watts	Amps SC	FLC
TP450-14	1370	1	1.859	1.800	1.741	1.673	1.605	1.431	1.197					1240	21.60	5.40
TP500-14	1300	1	2.472	2.413	2.336	2.249	2.140	1.856	1.474					1700	28.00	7.30
TP560-14	1340	1	3.852	3.765	3.668	3.571	3.454	3.193	2.892	2.562				3250	56.00	15.50
TP630-14	1280	1	4.749	4.629	4.498	4.356	4.192	3.799	3.297	2.664	1.790			3900	76.00	19.00

3 PHASE, 4 POLE

TP450-34	1400	3	1.841	1.794	1.739	1.688	1.628	1.475	1.202					1250	20.40	3.40
TP500-34	1340	3	2.500	2.460	2.387	2.314	2.235	2.046	1.809					1750	21.60	3.60
TP560-34	1360	3	3.808	3.735	3.638	3.541	3.444	3.202	2.943	2.668				3120	34.80	5.80
TP630-34	1370	3	4.897	4.800	4.702	4.580	4.483	4.239	3.971	3.679	3.333	2.339	1.666	4200	48.00	8.00

S.C. = STARTING CURRENT
F.L.C. = FULL LOAD CURRENT

SOUND DATA

Sound Power Level Spectra dB (re 10^{-12} Watts)

Unit Code		63	125	250	500	1K	2K	4K	8K	dBA @ 3m
TP450	Inlet	72	89	93	84	83	77	70	64	68
	Outlet	79	89	93	87	86	80	73	67	70
TP500	Inlet	78	92	93	88	88	79	72	66	71
	Outlet	88	91	95	90	88	82	75	70	72
TP560	Inlet	83	95	92	89	89	83	77	73	72
	Outlet	96	98	93	91	92	86	80	75	75
TP630	Inlet	81	101	94	91	91	85	79	74	74
	Outlet	97	102	95	94	94	88	82	77	77

Published dB(A) figures are free field sound levels at 3m with spherical propagation at a reference level of 2×10^{-5} Pa. The free field sound power level spectra figure are dB with reference of 10^{-12} Watts. To ensure minimum noise levels during speed control an auto transformer or inverter speed controller is recommended.

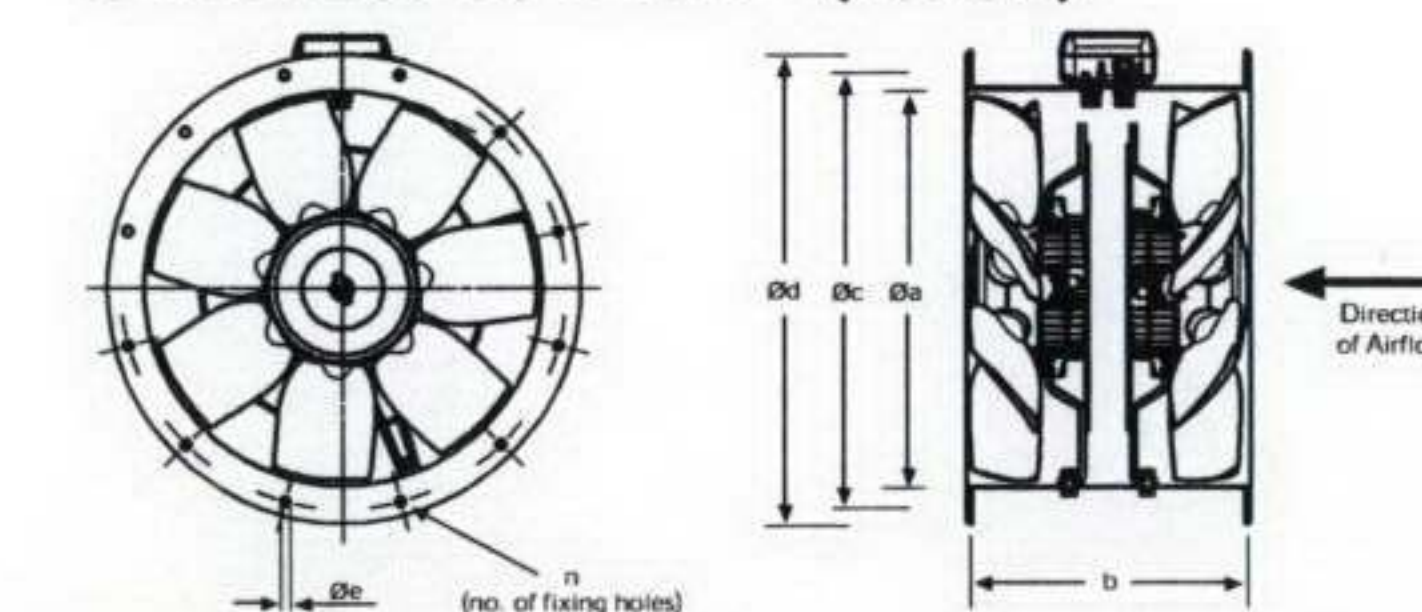
Attenuator Insertion Losses

Dia	63	125	250	500	1K	2K	4K	8K
450	2	4	6	14	17	12	10	6
500	3	4	7	14	17	14	11	7
560	3	4	8	15	18	14	11	7
630	3	4	8	16	18	14	11	7

Attenuator Fitted with Pod Insertion Losses

Dia	63	125	250	500	1K	2K	4K	8K
450	4	8	14	20	28	26	23	19
500	4	8	14	20	29	26	23	19
560	4	9	14	20	29	26	23	19
630	4	9	14	20	29	26	23	19

DIMENSIONS (mm)



Size	Øa	b	Øc	Ød	Øe	n	kg approx
450	450	375	500	537	12	8	36
500	500	375	560	595	12	12	38
560	560	520	620	655	12	12	56
630	630	520	690	725	12	12	63

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