Ref: MDR/J5861a

19th March 2025

KRS Steel Services Ltd

Unit 6 Meadway Industrial Estate

429 Meadway

Kitts Green

Birmingham

B33 0DX

For the attention of Mr A Marsh

Dear Sirs

Re: Pepes, 32 Peel Street, Barnsley, S70 2RE - Proposed Kitchen Supply & Extract Ventilation Systems - External Noise Assessment

Further to the receipt of your ventilation design information, we are pleased to forward our noise assessment for the proposed kitchen supply & extract ventilation systems as follows:-

We visited the site on 17/3/25 to inspect the proposed location for the proposed ventilation systems. The nearest residential windows to the proposed supply intake and extract discharge positions are the 1st & 2nd floor windows on the rear of the building. The supply intake will be approximately 1m from a 1st floor window and extract discharges will be approximately 2m from the 2nd floor window. The intended operation times for the site are assumed to be 11.00hrs to 23.00hrs. At 22.00hrs in the yard area at the of the site, behind the rear of the building, the background noise level was 47.0dB $L_{A90\ 60min}$, a level created by road traffic in the locality.

Ref: MDR/J5861a

The instrumentation used for the noise measurements was a Rion NL-52 precision grade real time analysing sound level meter, serial number 00586905. The instrument was calibration checked before and after the measurements and seen to be calibrated correctly. Please see the attached current certificate of calibration. The noise measurements were undertaken in satisfactory weather condition, with no significant wind or precipitation.

The design criteria we advise to be applied to the proposed ventilation systems external noise to be measured at 2m distance from the extract discharge and 1m distance from the supply intake, is to be at least 10dB below the prevailing background $L_{A90\,t}$ values measured on 13/3/25, equating to no more than 37dBA at the nearest windows. BS4142:2014 assessment methodology compares the background noise level with a plant rating noise level. For this site, the noise- controlled ventilation systems will have no distinct tonal characteristics or intermittency which would require correction to the plant source noise to derive a rating level. Controlling the proposed plant noise sources to be at least 10dBA below background ensures no adverse addition to the background noise level outside the nearest residential windows.

For the proposed kitchen extract ventilation system, the fan discharge silencer advised would be a splitter silencer, 20% free area, typically 1000mm wide x 850mm high x 1800mm long. The silencer should reduce the radiated discharge noise to approximately 35dBA at 2m distance.

For the proposed kitchen supply air ventilation system, the fan intake silencer would be a circular silencer with pod, typically 355mm i/d x 505mm o/d x 1065mm long. The silencer should reduce the radiated intake noise to 31dBA at 1m distance.

In addition, the fans and ductwork systems should be supported off the building structure using anti-vibration mounts/hangers to avoid vibration transmission into the structure.

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Ref: MDR/J5861a

We have attached our noise level design calculation sheets and supporting information for your reference.

We trust the noise assessment meets with your approval and we remain.

Yours faithfully

M D Randall BSc(Eng) CEng MCIBSE MIOA

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CERTIFICATE OF CALIBRATION

0653

Date of Issue: 13 November 2024 **Certificate Number: UCRT24/2530**

Calibrated at & Certificate issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory

B. Bogdan

Customer	ANV Measurement Systems Beaufort Court 17 Roebuck Way Milton Keynes MK5 8HL			
Order No.	ANV MS HIRE			
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator			
Identification	*Manufacturer*	*Instrument*	*Type*	*Serial No. / Version*
	Rion	Sound Level Meter	NL-52	00586905
	Rion	Firmware		2.0
	Rion	Pre Amplifier	NH-25	87024
	Rion	Microphone	UC-59	19107
	Rion	Calibrator	NC-75	34334830
		Calibrator adaptor type if applicable		NC-75-022
Performance Class	1			
Test Procedure	TP 10. SLM 61672-3:2013 *Procedures from IEC 61672-3:2013 were used to perform the periodic tests.*			
Type Approved to IEC 61672-1:2013	Yes *If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2013*			
Date Received	12 November 2024	ANV Job No.	UKAS24/11824	
Date Calibrated	13 November 2024			

The sound level meter submitted for testing has successfully completed the periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. As evidence was publicly available, from an independent testing organisation responsible for approving the results of pattern-evaluation tests performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 specifications of IEC 61672-1:2013.

Previous Certificate	*Dated*	*Certificate No.*	*Laboratory*
	30 May 2023	UCRT23/1722	0653

CERTIFICATE OF CALIBRATION	Certificate Number UCRT24/2530
UKAS Accredited Calibration Laboratory No. 0653	Page 2 of 2 Pages

Sound Level Meter Instruction manual and data used to adjust the sound levels indicated.

SLM instruction manual title	NL-52/NL-42 Description for IEC 61672-1			
SLM instruction manual ref / issue	No. 56034 21-03	Source	Rion	
Date provided or internet download date	19 March 2021			

	Case Corrections	Wind Shield Corrections	Mic Pressure to Free Field Corrections
Uncertainties provided	Yes	Yes	Yes

Total expanded uncertainties within the requirements of IEC 61672-1:2013	YES		
Specified or equivalent Calibrator	Specified		
Customer or Lab Calibrator	Lab Calibrator		
Calibrator adaptor type if applicable	NC-75-022		
Calibrator cal. date	22 October 2024		
Calibrator cert. number	UCRT24/2394		
Calibrator cal cert issued by Lab	0653		
Calibrator SPL @ STP	94.02	dB	Calibration reference sound pressure level
Calibrator frequency	1000.00	Hz	Calibration check frequency
Reference level range	Single	dB	

Accessories used or corrected for during calibration - Extension Cable & Wind Shield WS-15
Note - The Extension Cable was used between the SLM and the pre-amp for this calibration.

Environmental conditions during tests	Start	End	
Temperature	23.29	22.96	± 0.30 °C
Humidity	45.7	44.9	± 3.00 %RH
Ambient Pressure	102.60	102.55	± 0.03 kPa

Indication at the Calibration Check Frequency					
Initial indicated level	94.1	dB	Adjusted indicated level	94.0	dB
Uncertainty of calibrator used for Indication at the Calibration Check Frequency ±				0.10	dB

Self Generated Noise				
Microphone installed -	Less Than	18.1	dB	A Weighting
Microphone replaced with electrical input device -				UR = Under Range indicated

Weighting	A			C			Z		
	11.6	dB	UR	15.7	dB	UR	22.9	dB	UR

Self Generated Noise reported for information only and not used to assess conformance to a requirement

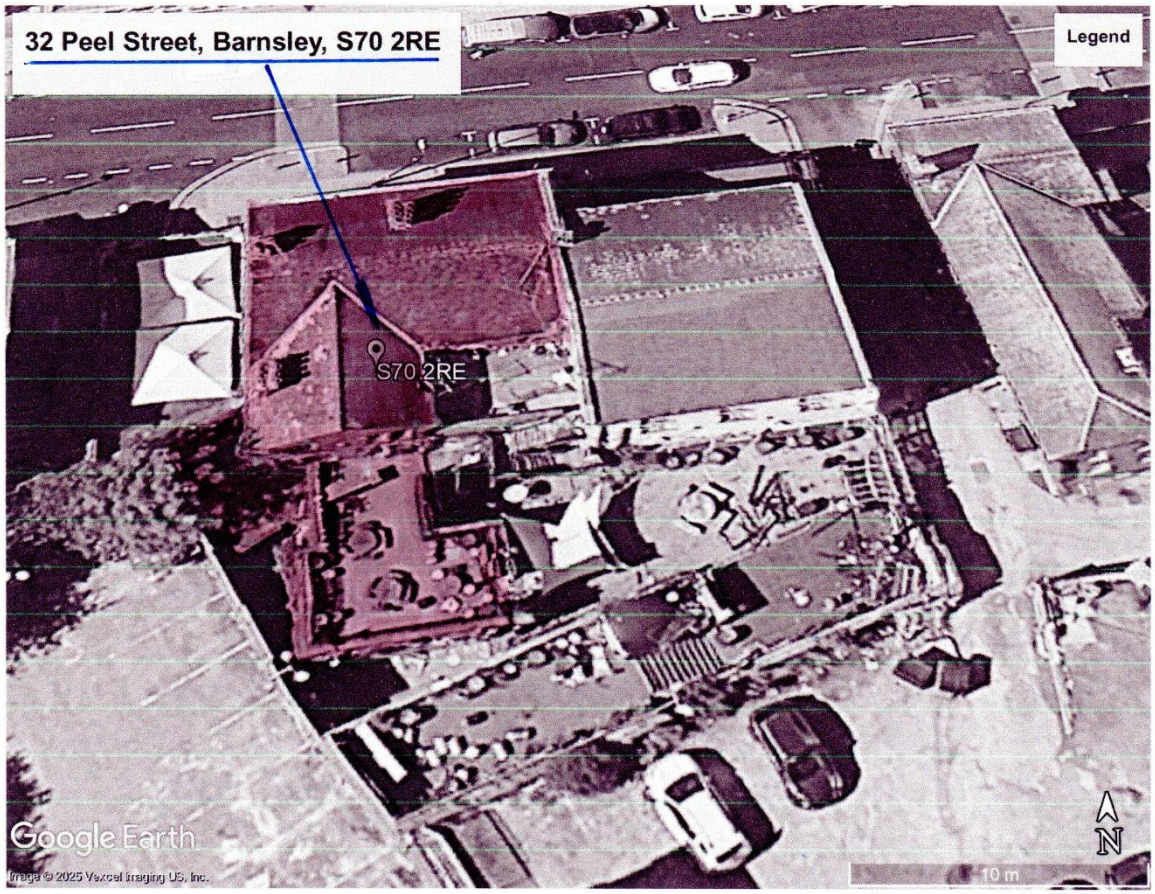
The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Additional Comments The results on this certificate only relate to the items calibrated as identified above.

None

..... END .....

Calibrated by: B. Bogdan R 2



Ref: MRR/HS861

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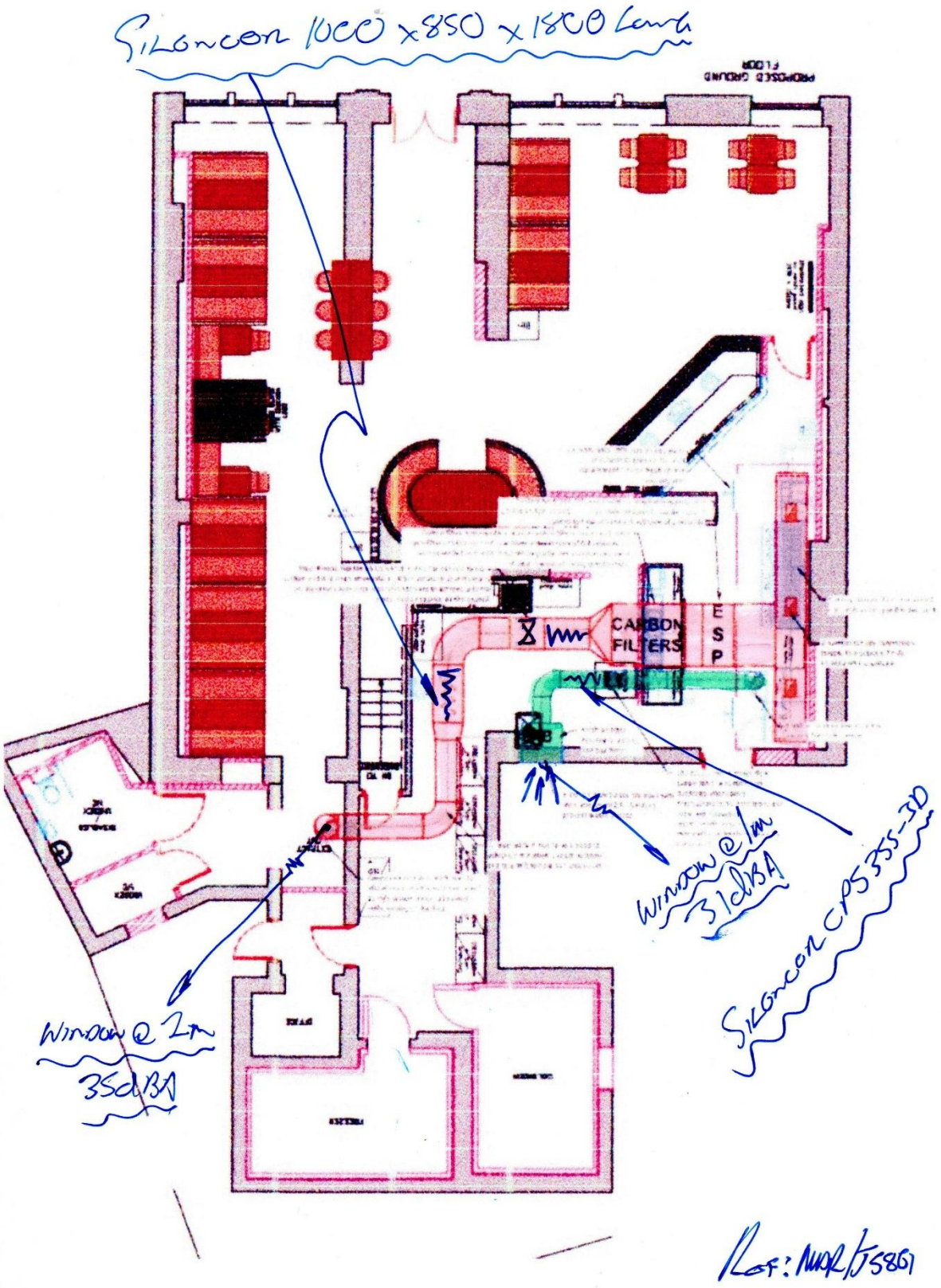

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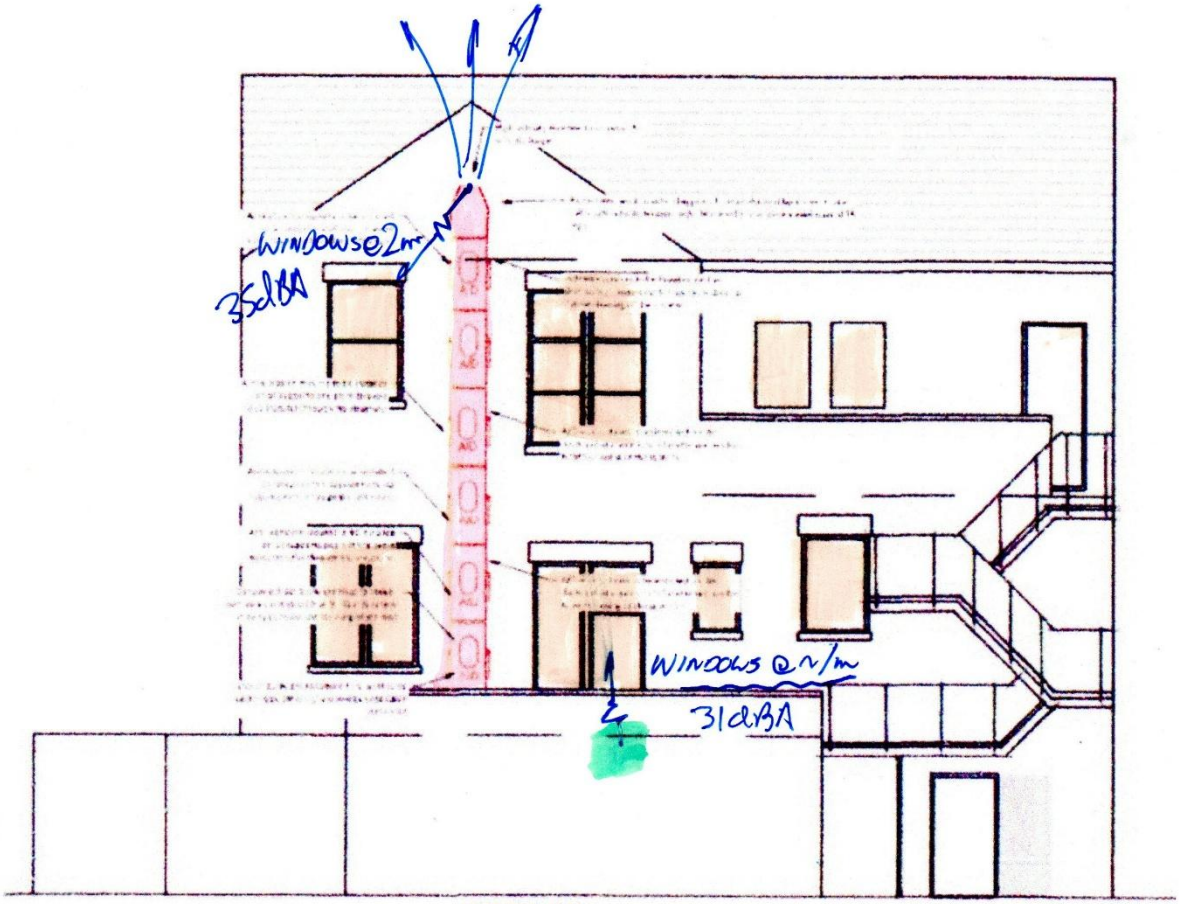

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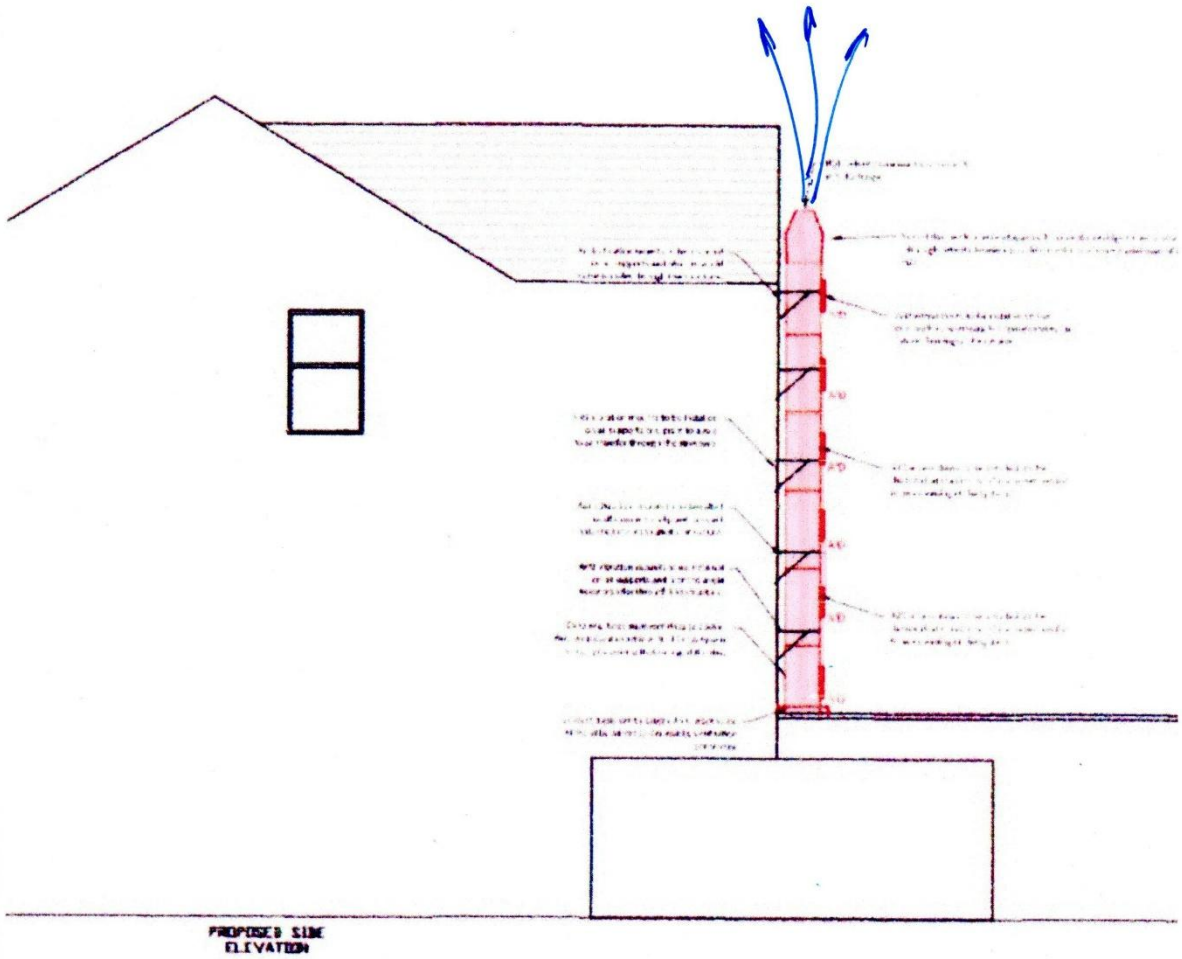

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Design Sheet ①

32 Peel Street, Barnsley — Kitchen Extract Discharge

	L/A	63	125	250	500	1k	2k	4k	8k
Extract Fan Front-Hoods									
63 Max Fan Compact SWL		92	104	102	101	99	96	94	91
14m × 500ϕ Duct		1	1	1	1	2	2	2	2
3× Scoop Rad Bends		0	0	0	3	6	9	9	9
Discharge 4 Off 0.125m² Ea		10	6	2	0	0	0	0	0
SWL @ Discharge		81	97	99	97	91	85	83	80
SWL → SPL @ 2m		17	17	17	17	17	17	17	17
Spherical Radiation									
SPL @ 2m		64	80	82	80	74	68	67	63
'A'-Weighting		-26	-16	-9	-3	0	+1	+1	-1
		38	64	73	77	74	69	68	62
			64		78		75		64
				78				76	
						80	69 dBA		
Silencer Required									
RDS 20/50/1800 Splitter		15	30	51	55	55	55	55	55
Silencer, 20% FA, 1000mm Wide		23	34	22	22	19	14	13	7
× 850mm High × 1800mm Long			34		25		20		14
ΔP @ 100 Pa @ 2.1m³/s				35				21	
* Resultant SPL @ 2m With Silencer					35 dBA				*

Ref: MDR/5580

DESIGN SHEET

32 POOL STREET, BARNSLEY — KITCHEN SUPPLY INTAKES

	L/A	63	125	250	500	1k	2k	4k	8k
SUPPLY FROM BLT'N SGL									
355/2-10L SWL		/	47	64	70	75	74	71	64
FILTER		/	3	3	3	3	3	3	3
1m x 355Ø DUCT		/	0	0	0	0	0	0	0
1x 355Ø RND BEND		/	0	0	1	2	3	3	3
INTAKE 600x600 0.36m²	6R	/	3	0	0	0	0	0	0
SWL @ INTAKE		/	41	61	66	70	68	65	58
SWL → SPL @ 1m		/	8	8	8	8	8	8	8
HEMISPHERICAL RADIATION									
SPL @ 1m		/	33	53	58	62	60	57	50
'A'-WEIGHTING		/	-16	-9	-3	0	+1	+1	-1
		/	16	44	55	62	61	58	49
				44		63		63	49
					63			63	
						66	63		
SILENCER REQUIRED									
CPS355-30 CIRCULAR		/	13	21	33	37	35	37	27
SILENCER WITH Pon, 355mm Ø			3	23	22	25	26	24	22
x 505mm Ø x 1065mm Long				23		27		27	22
					28			28	
★ RESULTANT SPL_A @ 1m WITH SILENCER						31dBA			★

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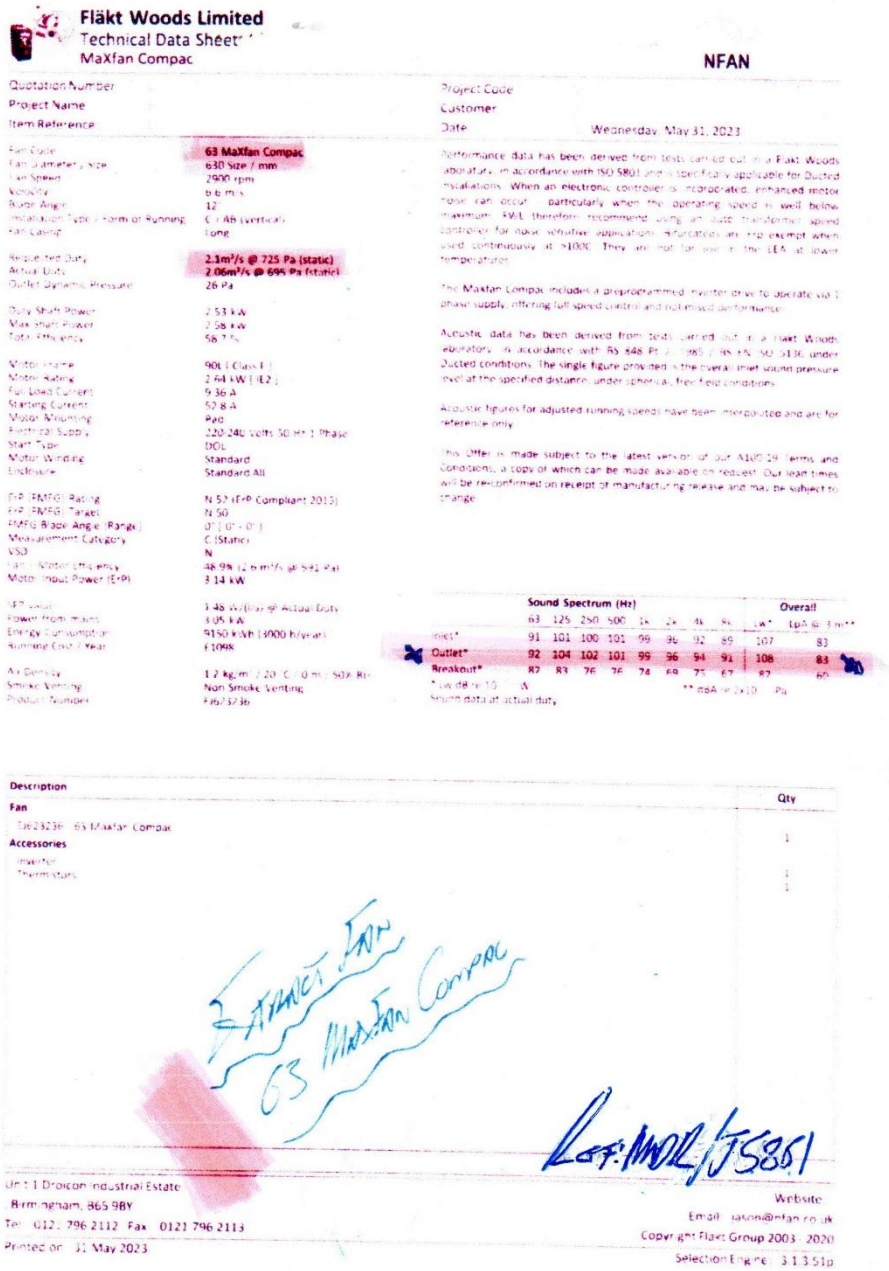


Fläkt Woods Limited
Technical Data Sheet
MaXfan Compac

NFAN

Quotation Number
Project Name
Item Reference

Project Code
Customer
Date Wednesday, May 31, 2023

Fan Code 63 MaXfan Compac
Fan Diameter / Size ø630 Size / mm
Fan Speed 2900 rpm
Velocity 9.6 m/s
Blade Angle 12
Installation Type / Form of Running C / AB (vertical)
Fan Casing Long

Required Duty 2.3m³/s @ 725 Pa (static)
Actual Duty 2.06m³/s @ 695 Pa (static)
Outlet Dynamic Pressure 26 Pa

Duty Shaft Power 2.53 kW
Max shaft Power 2.98 kW
Total Efficiency 58.7 %

Motor Frame 90L (Class F)
Motor Rating 2.64 kW (IE2)
Full Load Current 9.36 A
Starting Current 52.8 A
Motor Mounting Pad
Electrical Supply 220-240 Volts 50 Hz 1 Phase
Start Type DOL
Motor Winding Standard
Enclosure Standard All

ErP (EMEG) Rating N 52 (ErP Compliant 2015)
ErP (EMEG) Target N 50
EMEG Blade Angle (Range) 0° [0° - 0°]
Measurement Category C (Static)
VSD N
Fan / Motor Efficiency 48.9% (2.0 m³/s @ 542 Pa)
Motor Input Power (ErP) 3.14 kW

SFP (ave) 1.46 W/(l/s) @ Actual Duty
Power from mains 3.05 kW
Energy Consumption 9150 kWh (3000 h/year)
Running Cost / Year £1098

Air Density 1.2 kg/m³ / 20°C / 0 m a.s.l. 50% RH
Smoke Venting Non Smoke Venting
Product Number FB/23236

Performance data has been derived from tests carried out in a Fläkt Woods laboratory in accordance with ISO 5801 and is specifically applicable for Ducted installations. When an electronic controller is incorporated, enhanced motor noise can occur, particularly when the operating speed is well below maximum. FWL therefore recommend using an auto transformer speed controller for noise sensitive applications. Motorised fans are not exempt when used continuously at >100°C. They are not for use in the EEA at lower temperatures.

The MaXfan Compac includes a preprogrammed inverter drive to operate via 1 phase supply, offering full speed control and optimised performance.

Acoustic data has been derived from tests carried out in a Fläkt Woods laboratory in accordance with BS 848 Pt 2 : 1985 / BS EN ISO 3744 under Ducted conditions. The single figure provided is the overall sound pressure level at the specified distance, under spherical, free field conditions.

Acoustic figures for adjusted running speeds have been interpolated and are for reference only.

This Offer is made subject to the latest version of our A100.19 Terms and Conditions, a copy of which can be made available on request. Our lead times will be reconfirmed on receipt of manufacturing release and may be subject to change.

Sound Spectrum (Hz)	63	125	250	500	1k	2k	4k	8k	Overall LwA*	Overall LpA @ 3 m**
Inlet*	91	101	100	101	99	96	92	89	107	83
Outlet*	92	104	102	101	99	96	94	91	108	83
Breakout*	82	83	76	76	74	68	75	67	87	60

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

Description	Qty
Fan	
FB/23236 63 MaXfan Compac	1
Accessories	
Inverter	1
Thermistors	1

63 MaXfan Compac

Ref: MDL/JS851

Unit 1 Droitcon Industrial Estate
Birmingham, B65 9BY
Tel: 0121 796 2112 Fax: 0121 796 2113
Website
Email: jason@fwlan.co.uk

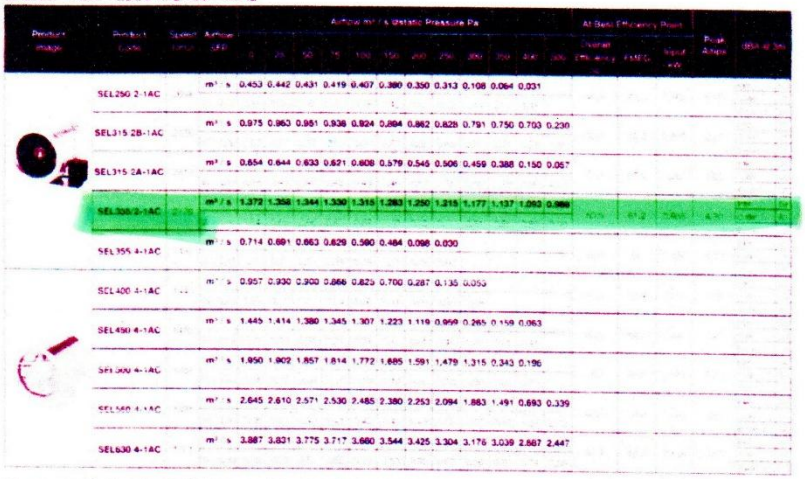
Printed on: 31 May 2023
Selection Engine: 3.1.3.51b

Multiflow SEL

Performance, SFP & Electrical Data

AC

SINGLE Phase - 220V to 240V - 50Hz



Supply Fan
SEL 355/2-1AC

Ref: MDR/JS861

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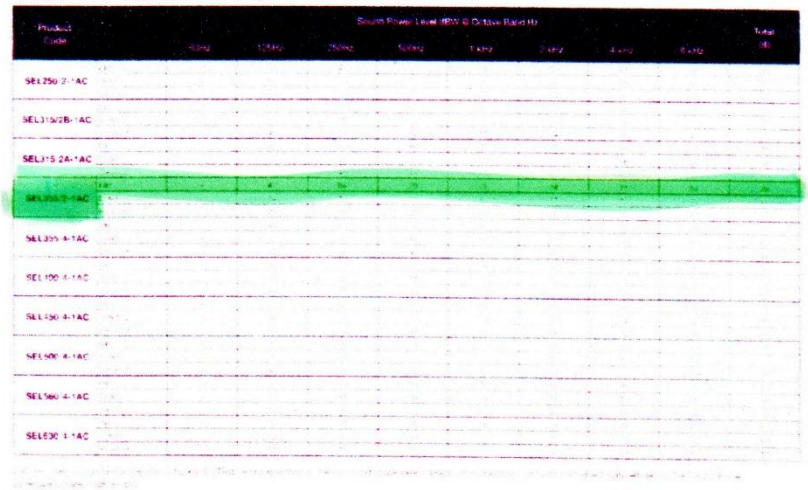
Multiflow SEL

Sound Data

SINGLE Phase - 220V to 240V - 50Hz



Supply Fan
SEL 355/2-1AC

Ref: MDR/JS861

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