



Greggs Unit 5 Saltbox Road, Bognor Regis HVAC Extract Specification (Issue 1)

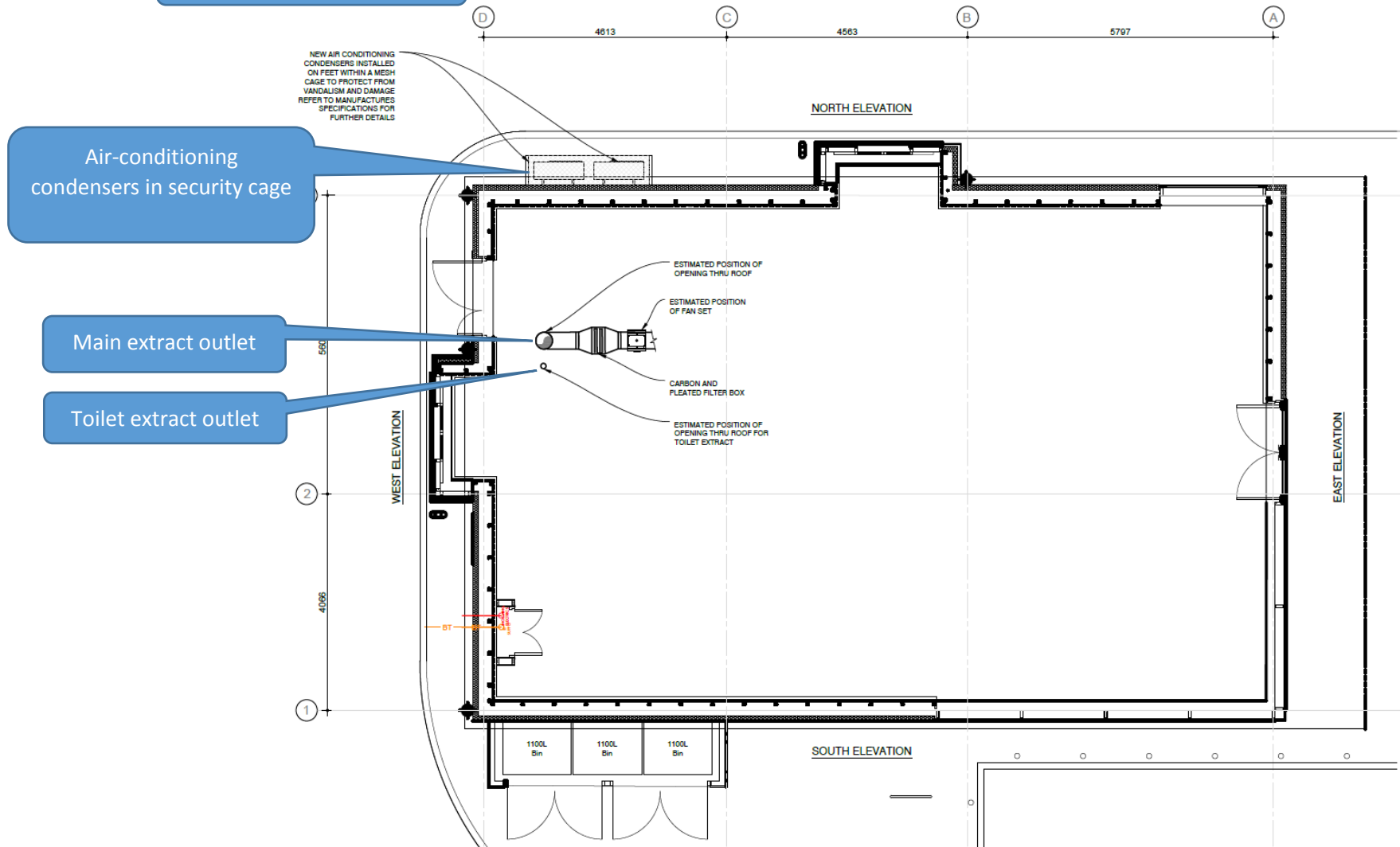
1 PROPOSED DEVELOPMENT

1.01 The proposed development consists of nine various use units comprising B1-B8, A1 retail food store, 2 No. drive thru units with car parking, and a car showroom. Unit 5 is to be occupied by GREGGS, under the developer’s planning consent ref. BE135/18/PL. The site is accessed from the Shripney Road/A259/A29 roundabout.



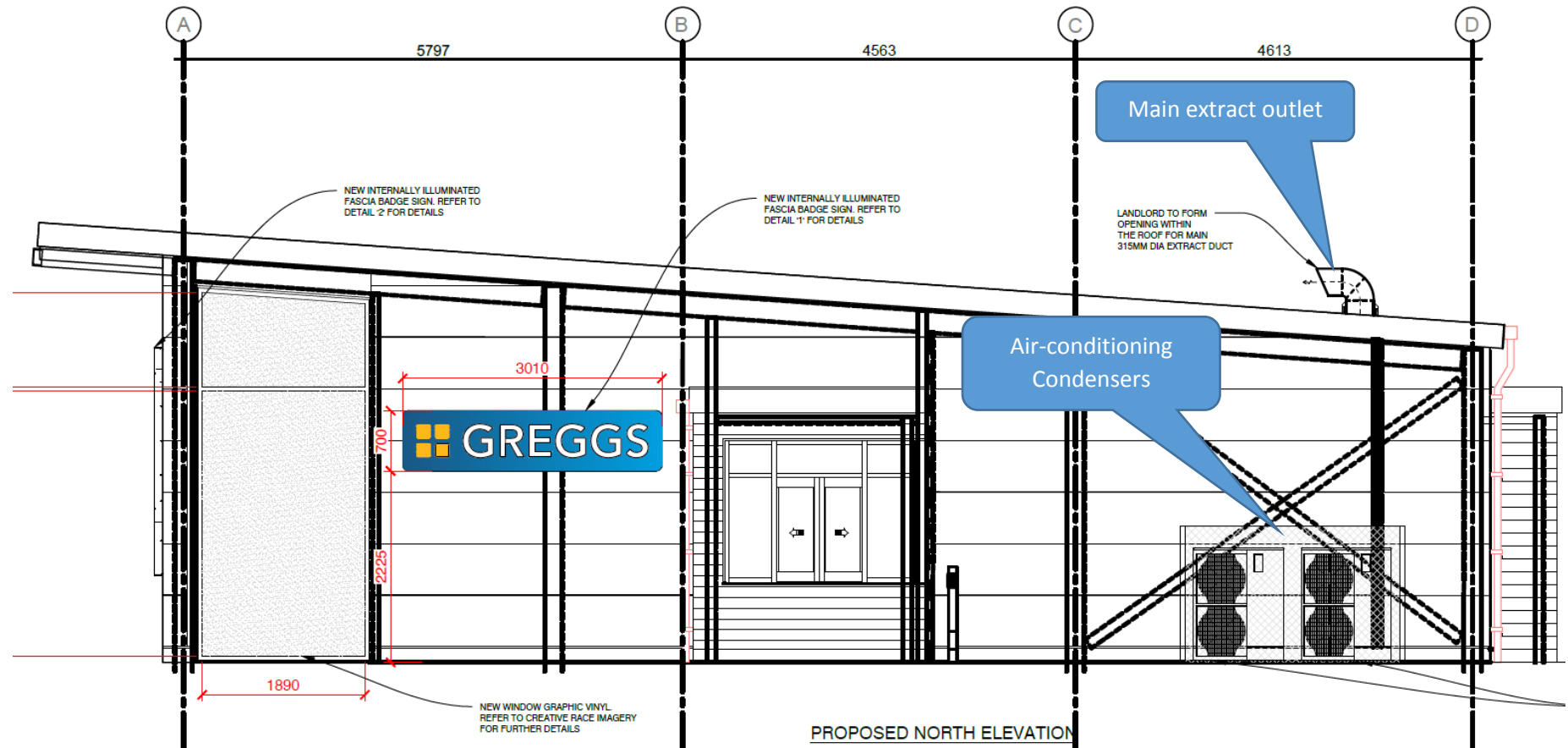
1.02 Unit 5 will be occupied by GREGGS which will have air-conditioning and extract outlets serving the unit.

General Arrangement

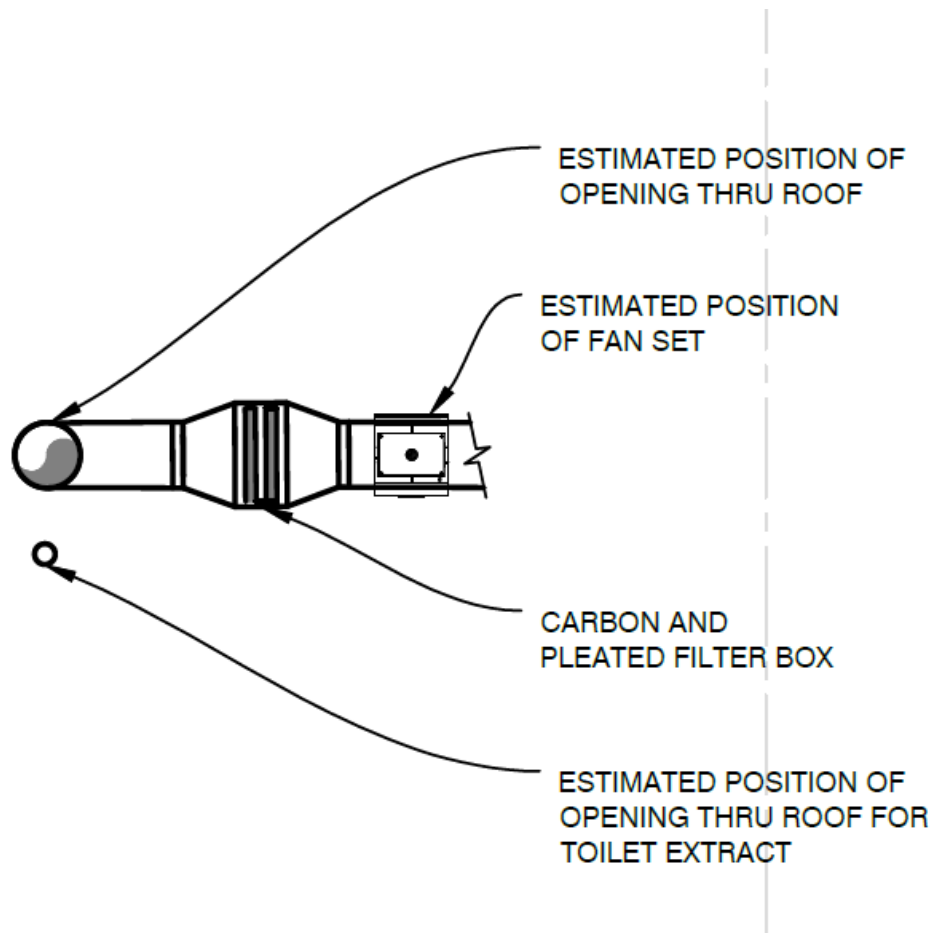


2 Air Extraction Plant

2.01 GREGGS employ an extract system for their food preparation area that vents at high level to the outside on the rear elevation:



2.02 The diagram below shows the arrangement for food preparation area extract:



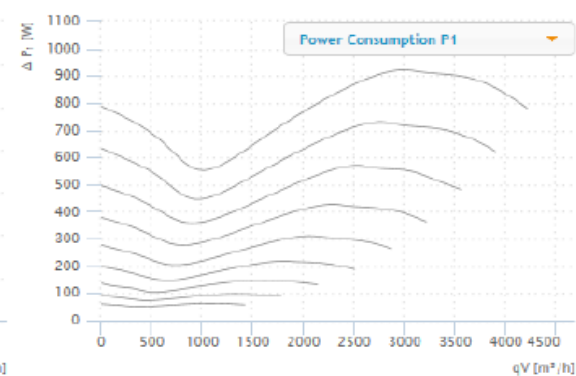
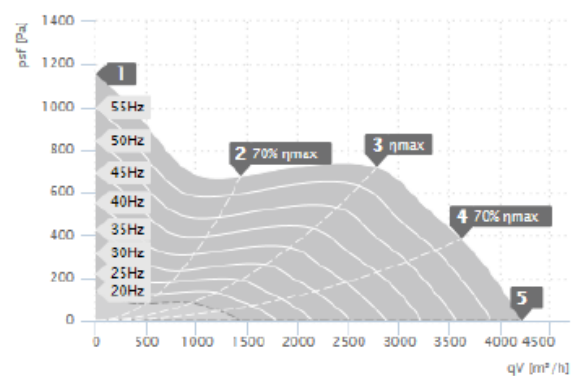
2.03 The fan data sheets are shown below:

Fan Set Specification – RUCK EL 315 D2 01

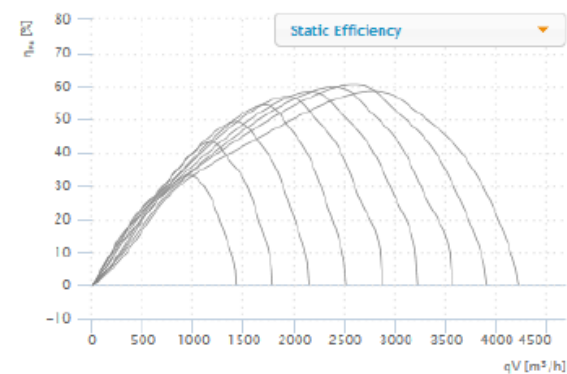
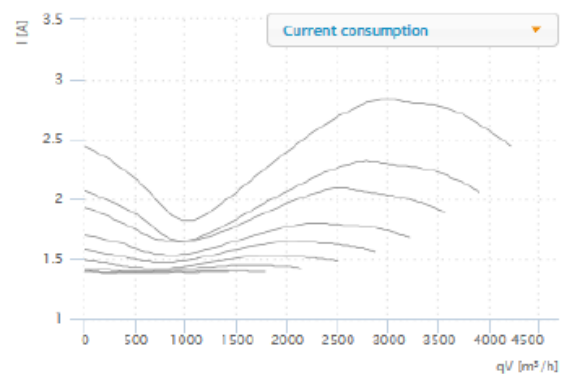
EL 315 D2 01 | 112759



- **Attention! See note at FU-operation**
- Diagonal impeller with stator
- Galvanized metal housing
- Speed controllable
- Integrated thermostatic switch
- Including mounting bracket

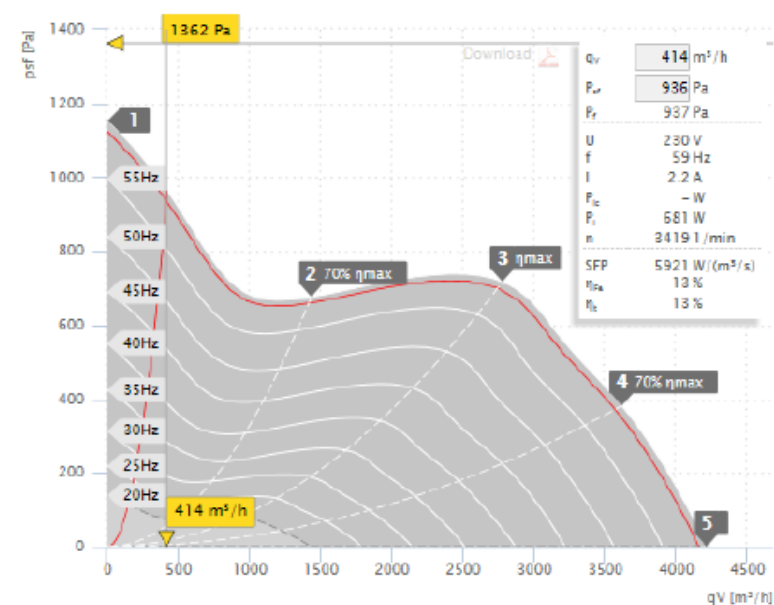


EL 315 D2 01 50 Hz	
Voltage U_N	230 V 3~
Current I_{max}	3 A
Ambient Temperature t_A	40 °C
Medium temperatures t_M	40 °C
Speed Control	f
Motor Protection	TAO
Isolation Class	F
Weight	15,5 kg



Data in accordance with ErP Directive 327/2011 of the European Parliament		
Overall efficiency	%	63.8
Measurement category		A
Efficiency category		statisch
Efficiency grade at optimum energy efficiency point	N	74.8
Speed control		not integrated
Year of manufacture		see nameplate
Commercial registration number		Local District Court Mannheim HRB 560366
Place of manufacturer		ruck Ventilatoren GmbH, Germany
ID-number		112759
Nominal motor power input at optimum energy efficiency point	kW	0.908
Volumetric flow at optimum energy efficiency point	m³/h	2776
Pressure at optimum energy efficiency point	Pa	717
Rotations per minute at the optimum energy efficiency point	1/min	3421
The specific ratio		The specific ratio is close to 1 and significantly below 1.11.
Information on dismantling, recycling and disposal		Observe the user manual of this product.
Optimal life		Observe the user manual of this product.
Description of additional items used when determining the fan energy efficiency, such as ducts, that are not described in the measurement category and not supplied with the fan.		No special items have been used for determining the fan energy efficiency, except the required connection components according to the measurement category.

Sound Measurement (Octave)			Σ	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz	
SPL inlet	L _{VIAE}	dB(A)	1	90	-	70	82	83	85	83	80	72
			2	84	-	59	71	76	79	78	75	70
			3	79	-	44	59	69	74	73	71	70
			4	81	-	45	60	72	76	75	73	73
			5	86	-	56	63	76	81	79	79	78
SPL outlet	L _{VIAE}	dB(A)	1	94	-	74	83	88	91	88	82	75
			2	90	-	65	75	82	87	84	78	71
			3	87	-	52	66	77	85	81	74	67
			4	89	-	54	68	79	86	82	76	69
			5	92	-	54	69	82	90	85	79	73
SPL casing break out	L _{VIA2}	dB(A)	1	75	-	63	61	68	72	68	64	56
			2	73	-	58	56	64	69	64	61	53
			3	70	-	49	49	64	67	60	59	51
			4	72	-	50	50	66	68	63	61	54
			5	75	-	51	52	67	73	65	64	56



Sound power (L _W) dB(A)		Medium Frequency Band								
		Σ	63	125	250	500	1k	2k	4k	8k
Inlet	L _{VIAE}	-	-	-	-	-	-	-	-	-
Outlet	L _{VIAE}	-	-	-	-	-	-	-	-	-
Casing	L _{VIA2}	-	-	-	-	-	-	-	-	-

Operating Point		1	2	3	4	5
Current I	A	2.4	2	2.8	2.7	2.4
Power Consumption P _i	W	783	628	908	893	780
RPM n	1/min	3443	3489	3421	3438	3465
SPL inlet L _{VIAE}	dB(A)	90	84	79	81	86
SPL outlet L _{VIAE}	dB(A)	94	90	87	89	92
SPL casing break out L _{VIA2}	dB(A)	75	73	70	72	75

2.04 A carbon filtration system is deployed to mitigate odour:

Carbon Filtration

THE CARBOPLEAT DISPOSABLE PANEL - GAS PHASE FILTRATION

The Carbopleat Disposable panel filter provides a low cost but effective solution to removing airborne molecular contamination at levels of less than one particle per million. It provides low resistance to air with uniform dispersion of carbon throughout the media. Being fully incinerable, the product is particularly suited for application where this form of disposal of the spent filter is anticipated.

Construction

The Carbopleat Filter contains a dual layer core of pleated carbon impregnated media that is so stiff, it is self supporting and requires no additional metal supporting wire. The pre-filter layer of the media also provides G4 efficiency to EN779. The media is loaded with 220g/m² of 60x50 mesh activated carbon making it both highly effective and long lasting. Adhesive is not used in the media, with the carbon granules thermally bonded into the media; this ensures that 95% of the carbon's surface is utilized in use.

The aerodynamic pack is then fully bonded into a moisture resistant rigid white lined card frame and fitted with an airflow indicator.



Applications

The carbopleat is suitable for most applications to remove airborne molecular contamination at levels of less than one particle per million, typically, furnaces, heating vents, air purifiers and ozone removal devices.

Range

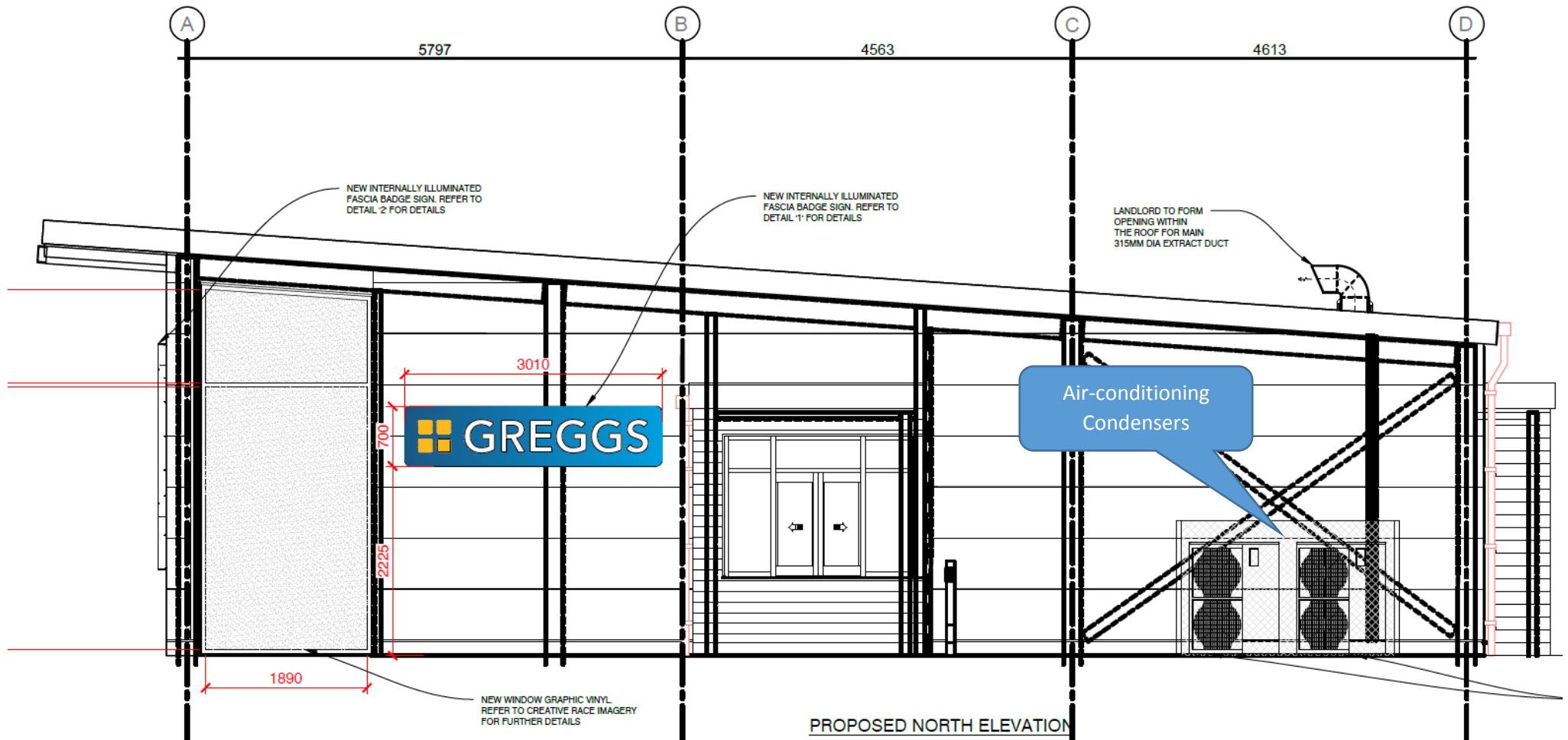
The FP/PL is available in a large range of standard sizes in 2" (50mm) nominal depth and may also be produced in non-standard sizes to suit application requirements.

The key attributes of the product are consistent efficiency, robust construction and long life combined with low replacement cost.

Filter Reference	Dimensions	Media Area (m ²)	Rated Capacity (m ³ /hr)	Initial Resistance (pa)	Carbon Weight (g)
FP/CPL 24242	595x595x47mm	1.18	2040	70	232
FP/CPL 24122	595x296x47mm	0.55	1020	70	109
FP/CPL 24202	595x495x47mm	0.93	1700	70	186

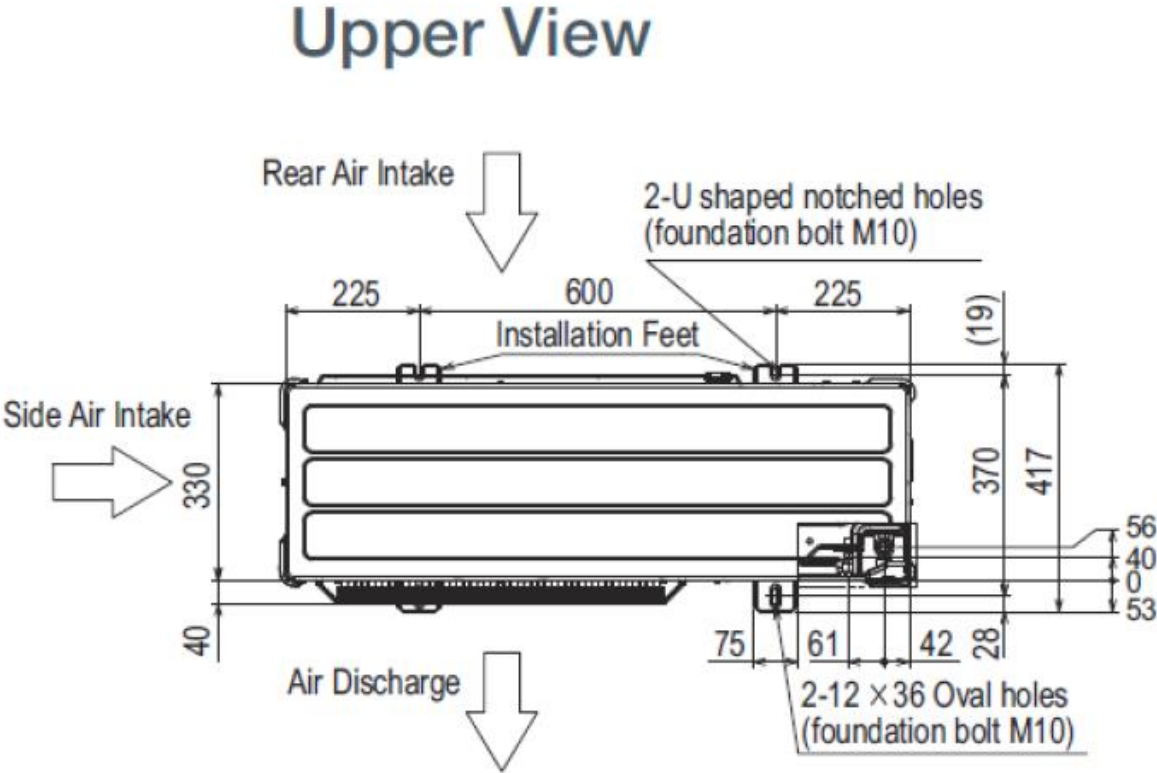
3 Air-Conditioning

3.01 Greggs will have two air-conditioning condensers serving the unit situated at ground level at the rear elevation and secured in a cage:

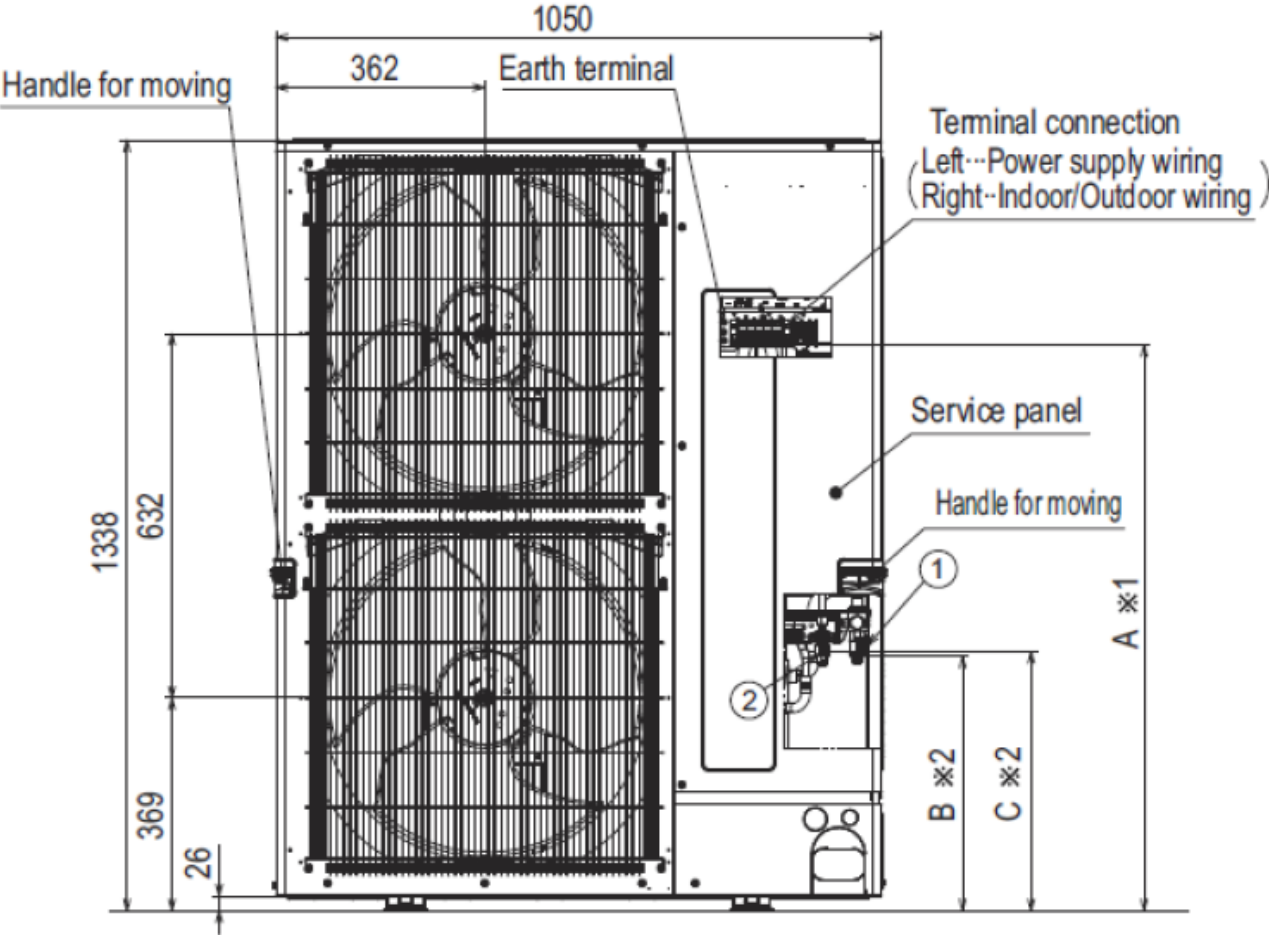


3.02 The two units are a Mitsubishi double (PUZ-ZM140VKA) arranged side by side.

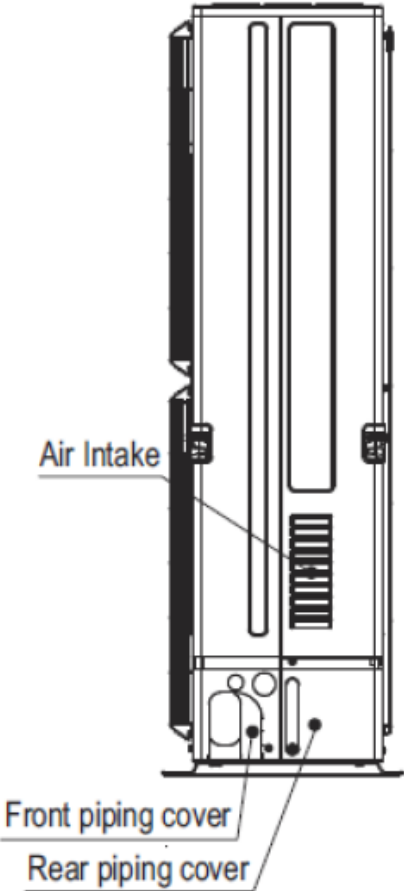
Double (PUZ-ZM140VKA)



Front View

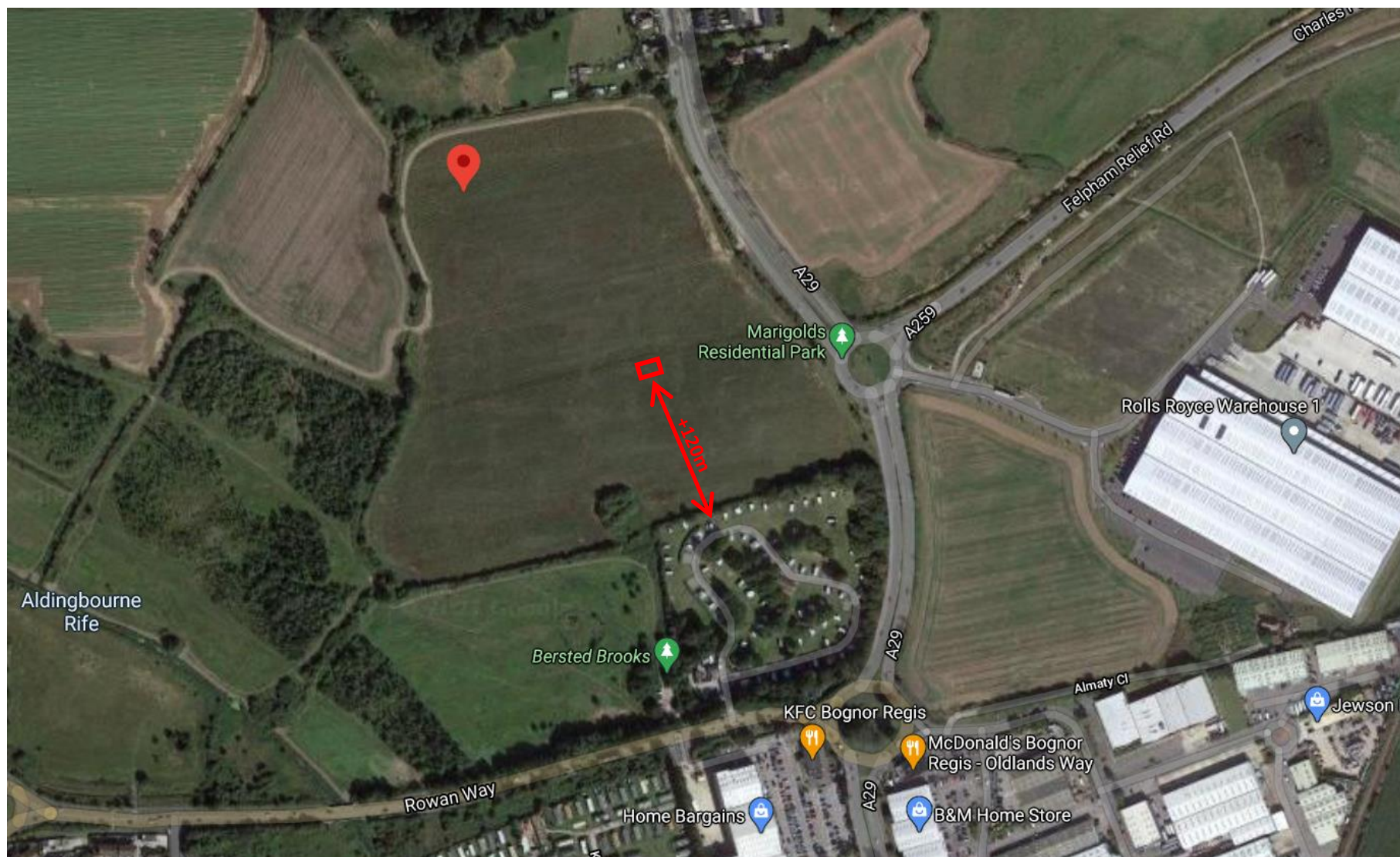


Side View



4 Nearest Residential Dwelling

4.01 The nearest residential accommodation is the caravan park to the South East, which is in excess of 120m away:



4.02 With sound falling off at 6dB for every doubling of the distance there will be negligible impact on the nearest residential dwelling.