DESIGN AND ACCESS STATEMENT

IN CONNECTION WITH FULL PLANNING APPLICATION

INSTALLATION OF 1 NO OUTDOOR HANDLING UNIT

AT

6-8 EMERALD STREET, LONDON WC1N 3QA

DATE: 8 JUNE 2019 **REF: 190408-8**

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1. Introduction

1.1 This Design and Access Statement has been prepared by AGA Projects on behalf of the applicant, Mayfair & Holland Properties Ltd. It is submitted in support of a full planning application for installation of 1no outdoor handling unit on the roof of 6-8 Emerald Street, London WC1N 3QA

1.2 This Design and Access statement should be read in conjunction with all drawings prepared by AGA Projects and other supplementary information including drawings and Noise Impact Assessment

2. Site and Surroundings

The Site

2.1 6-8 Emerald Street is six storey mixed use building comprising commercial unit (8 Emerald St) on lower ground and ground floors and Flats 1-3 (6 Emerald St) on floors 1-4. The building is located on east side of Emerald Street. The building is not and listed and located within Bloomsbury Conservation Area.

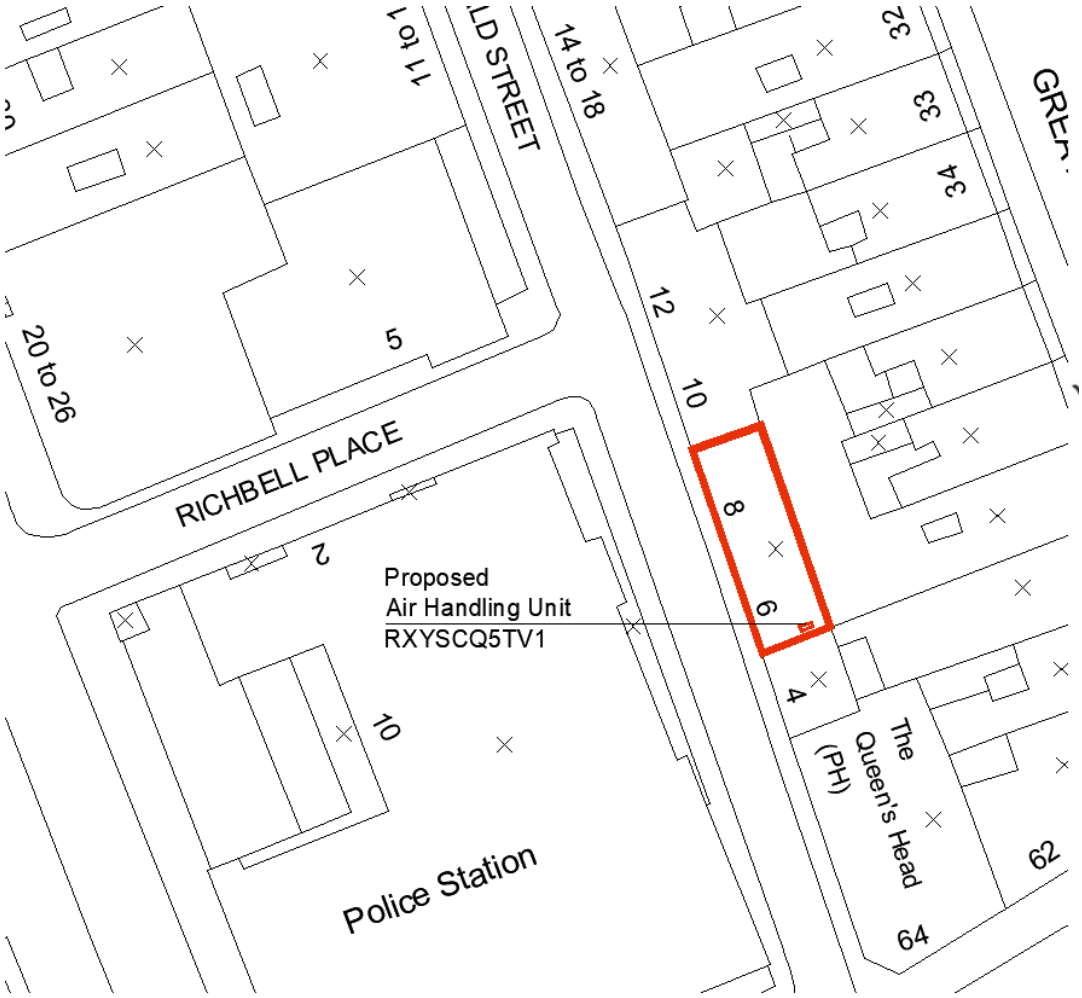


Figure 1. Site Location Plan

3. Planning History

2014/0611/P

6-8 Emerald Street London WC1N 3QA

Installation of ground floor recessed timber entrance door and steps to front elevation

Full Planning Permission Granted on 22-04-2014

2014/0615/P

6-8 Emerald Street London WC1N 3QA

Details of sustainability statement (including elemental cost analysis) as required by condition 6 of planning permission ref 2011/2333/P (dated 13/12/2011), for the change of use of the first to third floors of existing building from offices (Class B1) plus a fourth floor roof extension to accommodate 3 x self contained residential units (2 x 1 bed and 1 x 3 bed Class C3)

Full Planning Permission Granted 13-03-2014

2014/0566/P

6-8 Emerald Street London WC1N 3QA

Variation of condition 3 (amendments to approved drawings to include the installation of ventilation grilles and PV panels) of planning permission ref 2011/2333/P (dated 13/12/2011) for the change of use of the first to third floors of existing building from offices (Class B1) plus a fourth floor roof extension to accommodate 3 x self contained residential units (2 x 1 bed and 1 x 3 bed Class C3)

Full Planning Permission Granted Subject to a Section 106 Legal Agreement ON 04-09-2014

2011/2333/P

6-8 Emerald Street London WC1N 3QA

Change of use of the first to third floors of existing building from offices (Class B1) plus a fourth floor roof extension to accommodate 3 x self contained residential units (2 x 1 bed and 1 x 3 bed Class C3)

Full Planning Permission Granted on 13-12-2011 Subject to a Section 106 Legal Agreement

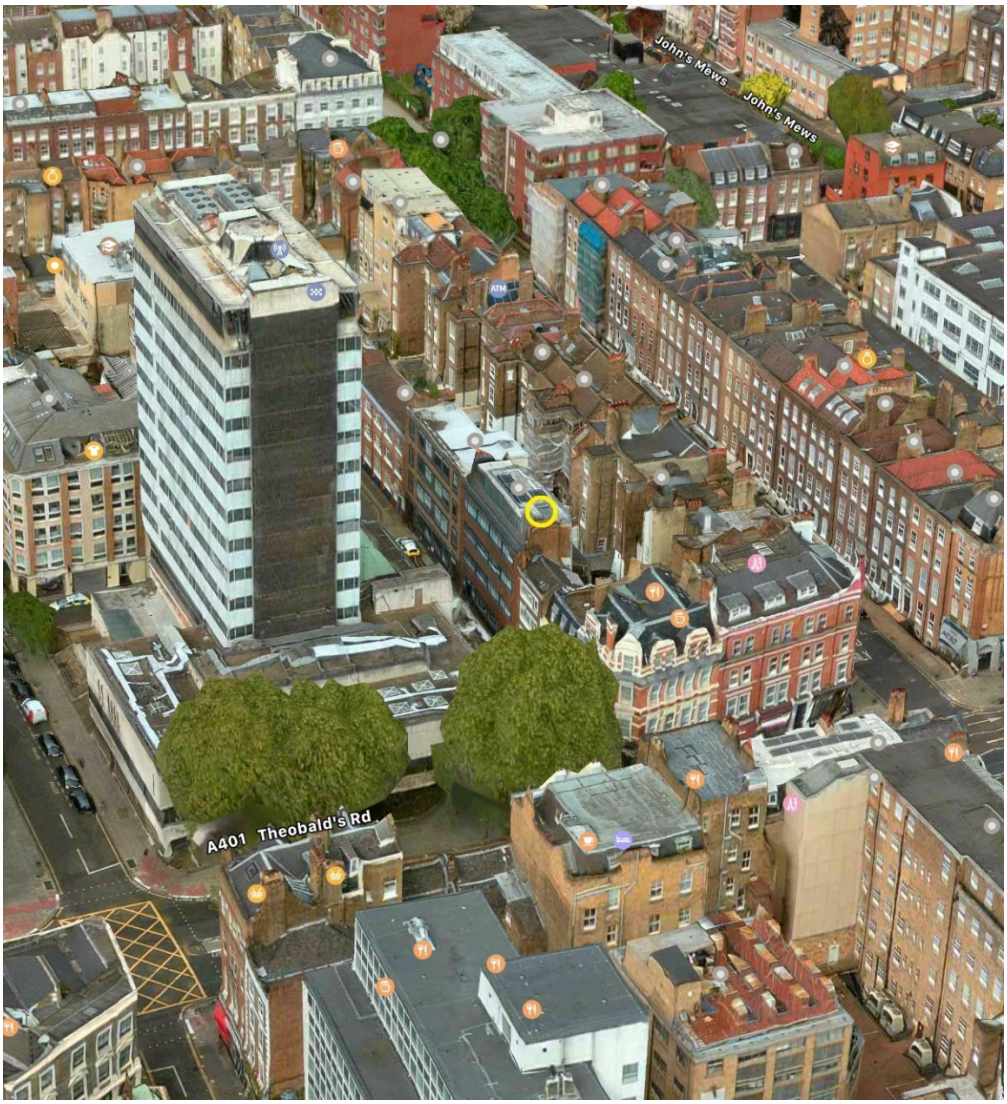
4. Proposal

4.1 The description of development is as follows:

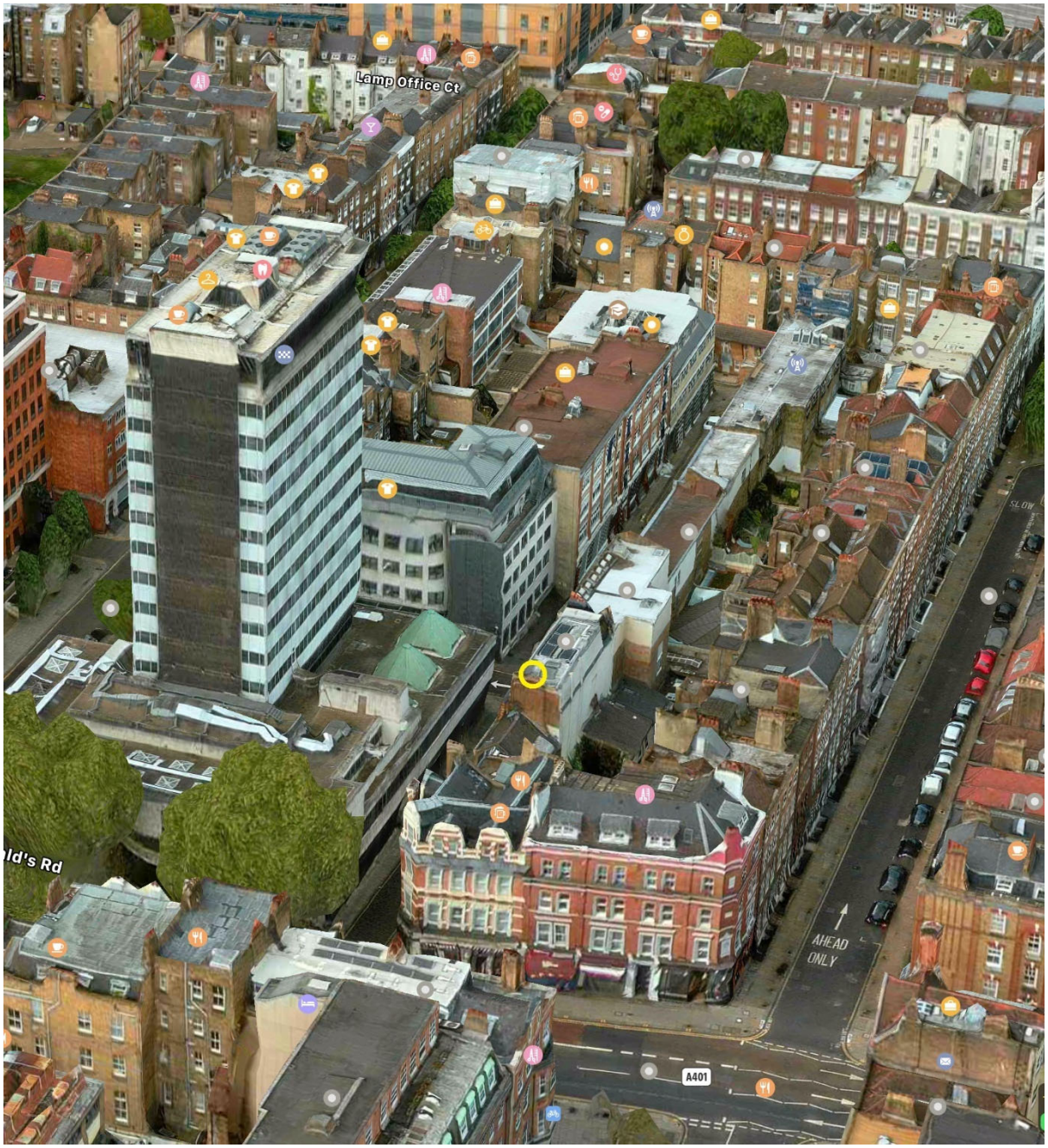
'Installation of 1no Outdoor Air Handling Unit on the Roof'

4.2 The proposed plant is required for commercial part of the building – office unit located on lower ground and ground floors (8 Emerald St) because it gets hot during summer months.

4.3 The proposed position of Daikin unit on the roof next to the chimney was chosen in order to minimize visual impact, hide from neighbouring properties and keep the plant away from residential part of the building.



Photograph 1. Proposed Location of A/C unit on 6-8 Emerald Street Roof



Photograph 2. Proposed Location of A/C unit on 6-8 Emerald Street Roof

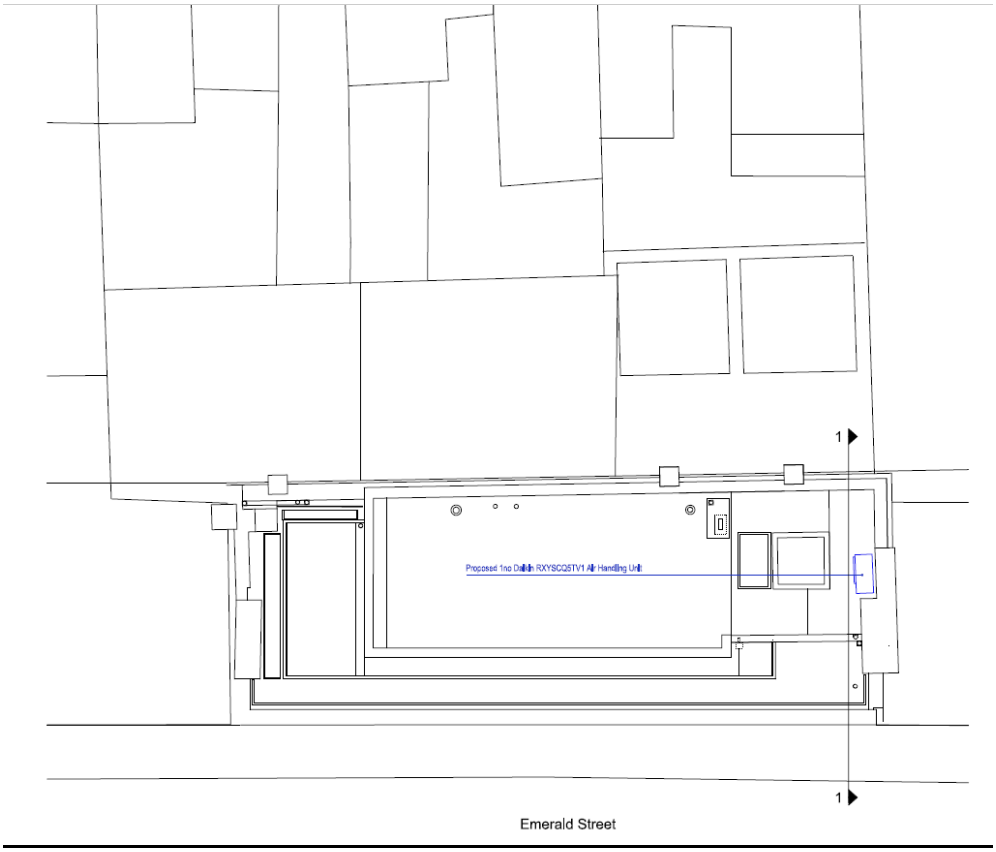


Figure 2. Proposed Location Air Handling Unit on the Roof

The Principle of Development

4.5 The proposal aims to create a comfortable working environment. The requirement for office cooling is one of the main requirements by prospective tenants.

Photograph 3. Proposed Location of A/C unit on 6-8 Emerald Street Roof

Photograph 4. Proposed Location of A/C unit on 6-8 Emerald Street Roof

Access and Maintenance

4.6 As the proposed units are for office use they will operate between the hours 09:00 and 18:00.

4.7 Maintenance regime for air cooling / heating installation will be twice a year cleaning of filters etc. in the form of a spray into the external units.

4.8 The unit will be accessed via residential staircase at 6 Emerald St, then via Flat 3 and roof terrace.

Quantum of Development

4.9 The proposal will not result in any loss or gain of floor space

Scale:

4.10 Dimensions of Daikin RXYSCQ5TV1 air cooling / heating unit:

Height = 823 mm

Width = 940 mm

Depth = 460mm

Sustainability Appraisal

Renewable energy

4.11 The proposed installation will have timer control to ensure that unit does not operate after office hours or weekends. The system will be energy efficient to comply with current Building Regulations.

. 5. Specifications of Proposed Daikin Unit

1 Features

The most compact VRV

- Compact & lightweight single fan design makes the unit almost unnoticeable
- Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, air handling units and Biddle air cutains
- Wide range of indoor units: either connect VRV or stylish indoor units such as Daikin Emura, Nexura ...
- Incorporates VRV IV standards & technologies: Variable Refrigerant Temperature and full inverter compressors
- Customize your VRV for best seasonal efficiency & comfort with the weather dependant Variable Refrigerant Temperature function. Increased seasonal efficiency with up to 28%. No more cold draft by supply of high outblow temperatures
- VRV configurator software for the fastest and most accurate commissioning, configuration and customisation
- Outdoor unit display for quick on-site settings and easy read out of errors together with the indication of service parameters for checking basic functions.
- 3 steps in night quiet mode: step 1: 47dBA, step 2: 44 dBA, step 3: 41 dBA
- Simplified installation & guaranteed optimal efficiency with automatic charging & testing
- Easy compliance with F-gas regulation thanks to automated refrigerant containment check
- Possibility to limit peak power consumption between 30 and 80%, for example during periods with high power demand
- Connectable to all VRV control systems
- Keep your system in top condition via our i-Net service: 24/7 monitoring for maximum efficiency, extended lifetime, immediate service support thanks to failure prediction and a clear understanding of operability and usage

Inverter

2 Specifications

2-1 Technical Specifications					RXYSCQ4TV1	RXYSCQ5TV1
Capacity range				HP	4	5
Cooling capacity	Nom.			kW	12.1 (1)	14.0 (1)
Heating capacity	Nom.			kW	12.1 (2)	14.0 (2)
	Max.			kW	14.2 (2)	16.0 (2)
Power input - 50Hz	Cooling	Nom.		kW	3.43 (1)	4.26 (1)
	Heating	Nom.		kW	3.18 (2)	3.91 (2)
		Max.		kW	4.14 (2)	5.00 (2)
Capacity control	Method				Inverter controlled	
Maximum number of connectable indoor units					64 (3)	
Indoor index connection	Min.				50	62.5
	Nom.				-	
	Max.				130	162.5
Dimensions	Unit	Height		mm	823	
		Width		mm	940	
		Depth		mm	460	
	Packed unit	Height		mm	995	
		Width		mm	1,030	
		Depth		mm	580	
Weight	Unit			kg	94	
	Packed unit			kg	106	
Packing	Material				Carton	
	Weight			kg	3.8	
Packing 2	Material				Wood	
	Weight			kg	5.8	
Packing 3	Material				Plastic	
	Weight			kg	1.1	
Casing	Colour				Daikin White	
	Material				Painted galvanized steel plate	
Heat exchanger	Type				Cross fin coil	
	Fin	Treatment			Anti-corrosion treatment	
Compressor	Quantity				1	
	Type				Hermetically sealed swing compressor	
	Crankcase heater			W	33	
	Model				Inverter	
Fan	Quantity				1	
	Air flow rate	Cooling	Nom.	m^3/min	91	
	External static pressure	Max.		Pa	-	
	Discharge direction				Horizontal	
	Type				Propeller fan	
Fan motor	Quantity				1	
	Model				Brushless DC motor	
	Output			W	200	
Sound power level	Cooling	Nom.		dBA	68 (4)	69 (4)
Sound pressure level	Cooling	Nom.		dBA	51 (5)	52 (5)
Operation range	Cooling	Min.~Max.		°CDB	-5~46	
	Heating	Min.~Max.		°CWB	-20~15.5	
Refrigerant	Type				R-410A	
	Charge			kg	3.7	
				TCO_2eq	7.7	
	GWP				2,087.5	
Refrigerant oil	Type				Synthetic (ether) oil FVC50K	
	Charged volume			l	1.4	

2 Specifications

2-1 Technical Specifications					RXYSCQ4TV1	RXYSCQ5TV1
Piping connections	Liquid	Type			Flare connection	
		OD		mm	9.52	
	Gas	Type			Flare connection	
		OD		mm	15.9	
	Heat insulation				Both liquid and gas pipes	
	Piping length	OU - IU	Max.	m	300	
	Total piping length	System	Actual	m	-	
	Level difference	OU - IU	Outdoor unit in highest position	m	-	
			Indoor unit in highest position	m	-	
Defrost method					Reversed cycle	
Safety devices	Item	01			High pressure switch	
		02			Fan driver overload protector	
		03			Inverter overload protector	
		04			PC board fuse	
		05			Fusible plugs	
PED	Category				Category I	
	Most critical part	Name			Compressor	
		Ps*V		Bar*l	167	

Standard Accessories : Installation manual;

Standard Accessories : Operation manual;

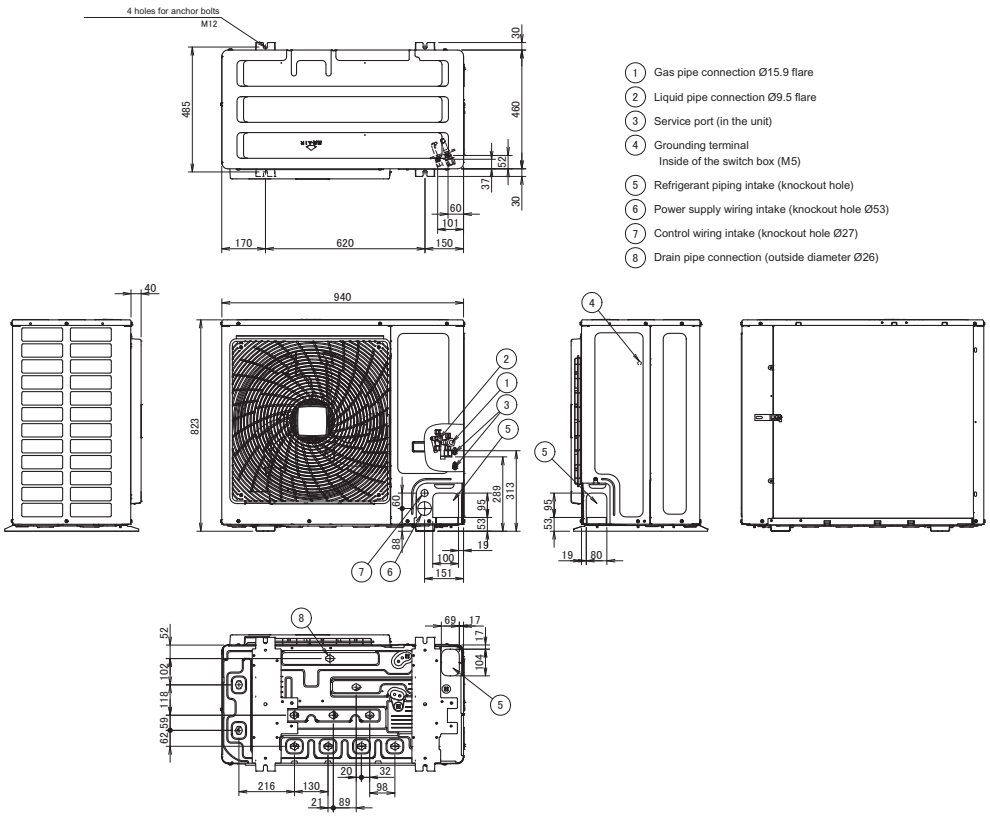
Standard Accessories : Connection pipes;

2-2 Electrical Specifications				RXYSCQ4TV1	RXYSCQ5TV1
Power supply	Name			V1	
	Phase			1~	
	Frequency		Hz	50	
	Voltage		V	220-240	
Voltage range	Min.		%	-10	
	Max.		%	10	
Current	Nominal running current (RLA) - 50Hz	Cooling	A	19.0 (6)	
Current - 50Hz	Minimum circuit amps (MCA)		A	29.1	
	Maximum fuse amps (MFA)		A	32	
	Total overcurrent amps (TOCA)		A	29.1 (7)	
	Full load amps (FLA)	Total	A	0.6	
Wiring connections - 50Hz	For power supply	Quantity		3G	
	For connection with indoor	Quantity		2	
		Remark		F1,F2	
Power supply intake				Both indoor and outdoor unit	

6 Dimensional drawings

6 - 1 Dimensional Drawings

RXYCSQ-TV1



1. Gas pipe connection Ø15.9 flare
2. Liquid pipe connection Ø9.5 flare
3. Service port (in the unit)
4. Grounding terminal
   Inside of the switch box (M5)
5. Refrigerant piping intake (knockout hole)
6. Power supply wiring intake (knockout hole Ø53)
7. Control wiring intake (knockout hole Ø27)
8. Drain pipe connection (outside diameter Ø26)

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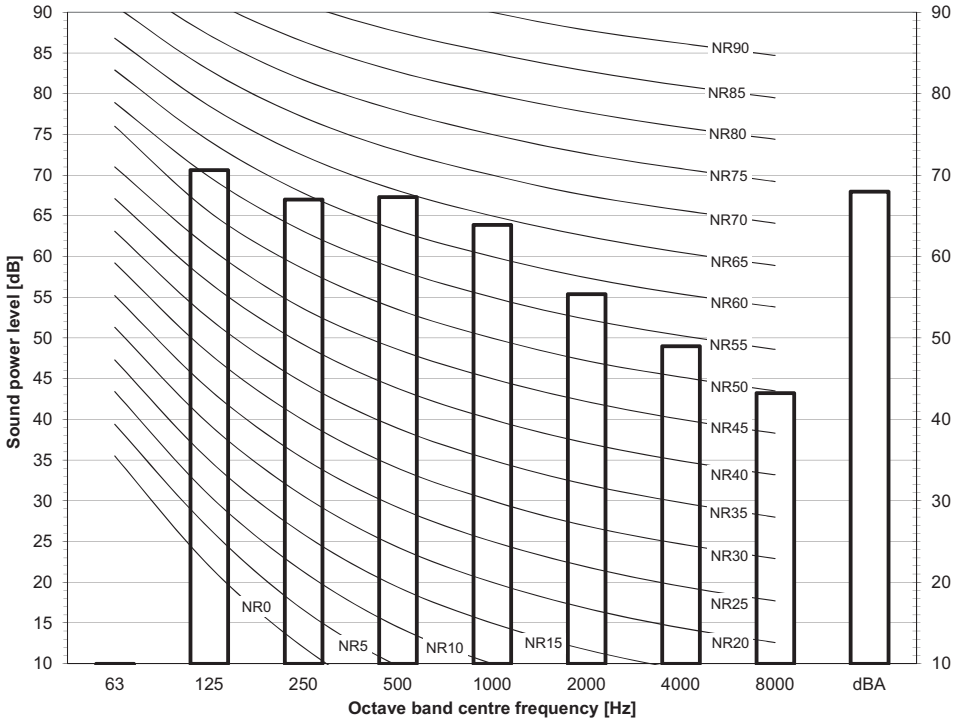
11 Sound data

11 - 1 Sound Power Spectrum

RXYSCQ4TV1



Notes
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = 10E-6µW/m²
- Measured according to ISO 3744

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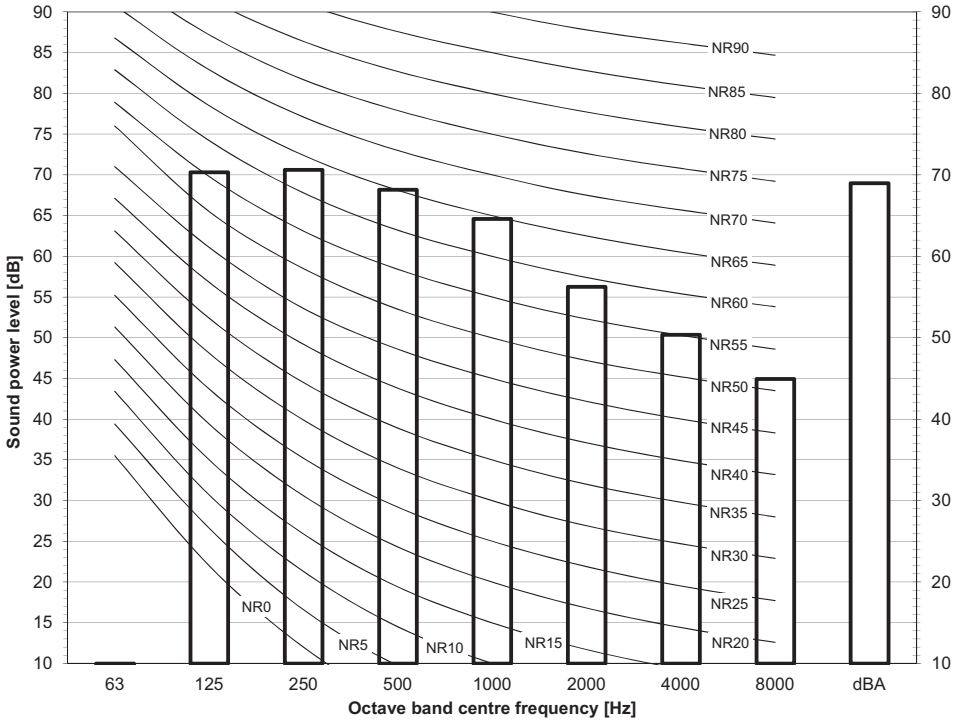
RXYSCQ5TV1



Notes
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- Reference acoustic intensity 0dB = 10E-6µW/m²
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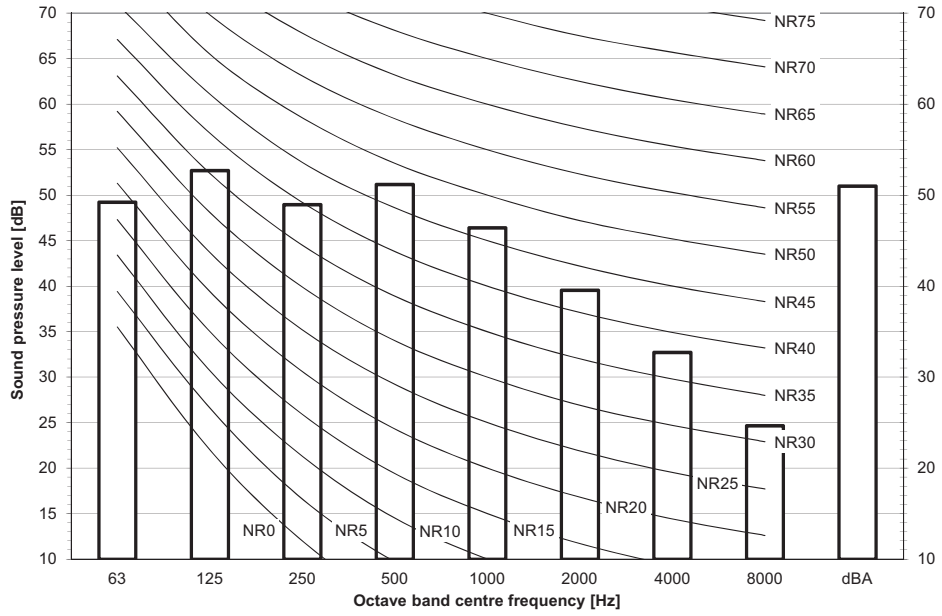
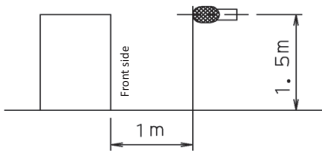
11 Sound data

11 - 2 Sound Pressure Spectrum

RXYSCQ4TV1



Notes
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- dBA = A-weighted sound pressure level (A scale according to IEC).
- Reference acoustic pressure 0 dB = 20 µPa



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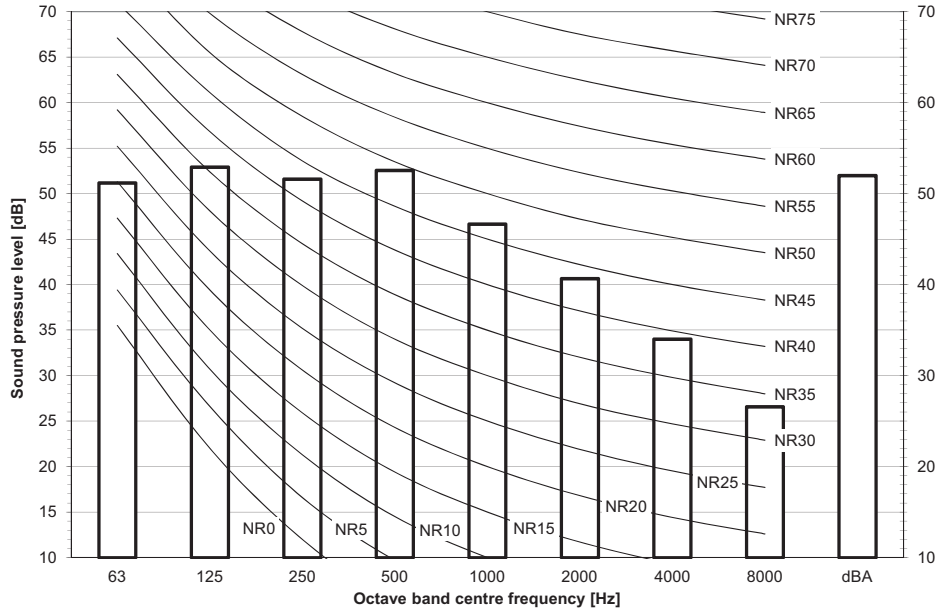
RXYSCQ5TV1



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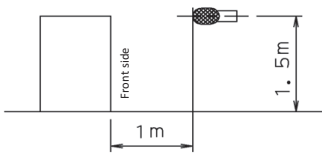

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