

Method Statement No: /MD
Issued: 11.05.23
Revised:
Revision:

Coolair Services Ltd



Controlled Document

**C/O CREATIVE LYNX LIMITED TRADING AS HAVAS LYNX GROUP 52 PRINCESS STREET, MANCHESTER
M1 6JX**

**METHOD STATEMENT FOR THE INSTALLATION & COMMISSIONING OF NEWLY PROPOSED SAMSUNG
AIR CONDITIONING VRF SYSTEM.**

ITEM	DESCRIPTION
1.	Objective
2.	Location
3.	Method / Description of Work
4.	Effect to the client
5.	Works to Commence
6.	Specialist Sub-Contractors
7.	Access / Egress
8.	Safety Precautions
9.	Specialist Safety Requirements
10.	Temporary Supplies
11.	Site Plant
12.	Tool Box Talks
13.	Induction
14.	Plant and Equipment
15.	Manual Handling
16.	Sequence of Works
17.	Fire Precautions / Emergency Procedures
18.	Welfare
19.	Communication
20.	Enclosures
21.	Testing and Inspection

Installation Engineer:	TBC
Engineers Assistant	TBC
Commissioning Engineer:	TBC
Project Manager:	MATTHEW DAVENPORT
Prepared by	MATTHEW DAVENPORT
Site Contact:	DARREN DREW-SMITH
Call Reference(s):	

I of Coolair Services Ltd)
Confirm I have read and understand the MS/RA attached.

Signed
Dated
Witnessed

I of Coolair Services Ltd)
Confirm I have read and understand the MS/RA attached.

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1.	Objective
	Installation of newly proposed Samsung VRF system to 4 th Floor of 52 princess street Manchester.
2.	Location
	Basement car park, Service Riser, Emergency staircase ceiling voids, Toilet service riser, 4 th Floor open plan office.
3.	Method / Description of Work
	Installation of new Samsung VRF Heat-recovery system serving the 4 th floor of 52 Princess Street Manchester. All associated pipework, cables, interconnecting wiring will be installed on heavy duty cable tray throughout, inclusive of and all fixings' materials where required. On completion of the installation the system will be tested and commissioned with client demonstration. **** Works permits MUST be obtained before any works commence ****
4.	Effect to the client
	Restricted Access to Areas, Local Noise and Disruption
5.	Works to Commence
	TBC following landlord approval.
6.	Specialist Sub-Contractors
	Refrigerant Pipe work Installation Contractor
7.	Access / Egress
	Access to and from the work area via Havas Lynx designated site routes identified in site induction. Parking: TBA on site Deliveries: Procedures to be issued at Site Induction.
8.	Safety Precautions
	- All works as Havas Lynx/Coolair Health & Safety Policy Manual - COSHH Assessments and Data Sheets

	• P.P.E. (Hard hats, Safety footwear, High visibility vest, Rough handling gloves. Safety Glasses/Goggles and Ear Defenders as indicated in associated COSHH Assessments) and any mandatory items – details of these items are to be provided prior to commencement of works • Risk Assessments • Hot Works Permit: to be issued by site. • All operatives attending have been H&S site inducted prior to commencing any works.
9.	Specialist Safety Requirements
	All operatives to hold current CSCS card appropriate for the works being carried out.
10.	Temporary Supplies
	110V Site Power: available on site. Safety Lighting: If required by Site Task Lighting be provided as necessary by Coolair Services Limited All electrical equipment to be PAT tested, test label to be attached to each item tested.
11.	Site Plant
	<u>For Installation Works:</u> Podium Tower - Erected only by PASMA trained operatives. WAKU Ladders - Under permit only issued by Site. Oxygen & Acetylene Brazing Pack - to be removed from site when not in use. Fire Extinguishers: to be at hand during any hot works. Hand Tools General hand tools and battery-operated drills will be used. Mapp Gas Fire Extinguishers: to be at hand during any hot works. Hand Tools General hand tools and battery-operated drills will be used. <u>For Pressure Testing & Commissioning</u> Nitrogen Bottles: to be man-handled to area: these will be in small bottle of 5kg. Gauges Hand Tools Vac pump R410A Refrigerant
12.	Tool Box Talks
	To be carried out weekly by services Foreman, typical topics: • Health & safety and impact on production. Awareness of other activities • Quality and protection • Manual Handling • Working at heights • Risk assessments
13.	Induction
	All operatives will attend specific site induction before commencing work on site.

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	Method statement and risk assessments will be read, understood & signed by operatives on their allocated tasks prior to commencement of work. Record of inductions to be kept. • Health & safety • Emergency procedures • Tasks and activities • Quality and protection																											
14.	Plant and Equipment																											
	<table><tr><th colspan="3">VRF</th></tr><tr><td>1</td><td>PURY-P550YNW</td><td>Outdoor Unit</td></tr><tr><td>1</td><td>CMB-M1012V-JA1</td><td>CMB Box</td></tr><tr><td>2</td><td>CMY-Y102SS-G2</td><td>Branch Pipes</td></tr><tr><td>8</td><td>PKFY-P63VKM-E</td><td>Wall Units</td></tr><tr><td>2</td><td>PKFY-P25VLM-E</td><td>Wall Units</td></tr><tr><td>2</td><td>PKFY-P15VLM-E</td><td>Wall Units</td></tr><tr><td>2</td><td>PEFY-M32VMA</td><td>Ducted Units</td></tr><tr><td>12</td><td>PAR-41MAA</td><td>Remote Controllers</td></tr></table>	VRF			1	PURY-P550YNW	Outdoor Unit	1	CMB-M1012V-JA1	CMB Box	2	CMY-Y102SS-G2	Branch Pipes	8	PKFY-P63VKM-E	Wall Units	2	PKFY-P25VLM-E	Wall Units	2	PKFY-P15VLM-E	Wall Units	2	PEFY-M32VMA	Ducted Units	12	PAR-41MAA	Remote Controllers
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15.	Manual Handling																											
	Coolair Operatives have had manual handling training and are advised to only lift what they are comfortable in doing so. Manual handling has been assessment and is detailed in separate Risk Assessment for the associated tasks.																											
16.	Sequence of Works																											
	All relevant COSHH information and Risk Assessments will be read prior to commencement of works. All work permits to be available and issued to appropriate parties before any works commence – permits to be applied for and issued by Site Personal Protective Equipment issued to operatives will be worn at all times, to suit the appropriate tasks and site conditions. Installation Works: Manufacturers / Suppliers, hand over certificates for Mobile Access Equipment indicating safe working loads and emergency procedures to be to hand. Co-ordinate installation works with other trades, mark out service apertures / holes, identify builders work attendances and requirements to be provided by site. Plant, Equipment, tools, refrigerant pipe, insulation, control cables, and general installation materials will be manually loaded on each floor, utilising suitable access equipment where appropriate. (Manual handling aids – forklifts, pallet trucks and Genie lifts).																											

The refrigerant pipe work and associated control wiring will be installed and supported on cable tray throughout. The condensate drain infrastructure will be independently supported and both services will be installed within service risers from the basement car park, through each floor up too where it enters the 4th floor. It's noted the risers will need to be boarded on each floor (by others/site) in order for the works to take place – permits must be in place before any riser works are carried out.

The new indoor fan coil units & master central box will be lifted into position by a team of 2 engineers, engineers have specific training in manual handling and are instructed to only lift objects in which they feel comfortable in doing so. All units will be fixed to the walls/ stud partitions & ceilings infrastructure as per the tender drawing issued and with approved fixing materials.

The new external condensing unit will be situated in the basement car park on rubber mounted flexi feet close to the existing high-level louvres for the air discharge and to aid in airflow around the units. The units will be positioning by a team of engineers with the use of a pump truck/skoots where required.

All installed pipe work will be insulated with Class 'O' insulation. Multi-core control / communication cable will be installed to connect the controllers, indoor units and their respective external condenser units, the interconnecting cable to follow the main refrigerant pipe route. The cable will be fixed along its route by plastic tie wraps, which will be fitted around the refrigerant pipe work and insulation at 400mm intervals, excess from the ties will be cut back to as short as possible.

A new Gravity condensate drain will be installed utilising UPVC drain where achievable, routed and terminated into local stacks. Both the refrigerant pipe work and condensate infrastructures will be fixed to the building structure utilising only approved fixings and proprietary brackets / universal channel support systems.

Fire precautions will be undertaken in accordance with the relevant COSHH information, Risk Assessments and Hot Works Permits. Only certified Operatives will carry out brazing operations.

Note - Throughout the works period, all work areas will be kept clean and tidy, and free of rubbish and clutter. Waste materials and rubbish to be managed in accordance with the site environmental policy. All materials when not in use will be secured in a safe manner. At the end of the day / shift open ends of pipe work will be capped off to prevent the ingress of dirt, dust etc, and all permits will be signed off, and returned to the appropriate parties.

On completion of the installation works pressure will take place.

Pressure Testing:

Pressure testing /Commission will take place at the outdoor units – this area will be isolated for the duration of our Pressure tests. Access to the indoors units will also be required for monitoring purposes.

Sequence of Pressure Test:

Add dry Nitrogen to system pipework at the following pressures/times: -

Pressurise system pipework to 3 bar for 3 minutes

Increase to 15 bar for 3 minutes

Increase to 40 bar – strength test for a period that is acceptable to show any signs of deformation to the pipework.

Drop pressure to 33 bar and leave for 12 hours, no loss in pressure permissible.

Check pressure in system the following morning providing system has held pressure at 33 bar.

System to remain under pressure @ 3.5 bar until commissioning can take place.

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	In the eventuality of a leak/loss of pressure occurring during pressure test our engineer will carry out leak detection procedure. - Initially the leak will be located via sound "hissing sound" found at either flare nut or brazed joint connections. - If not audibly detected, leak detection spray will then be applied to each flare nut / brazed joint connection. - The leak is then identified via leak detection spray which will cause the flare nut / brazed joint to bubble. - Nitrogen is then released out of the outdoor unit through a manifold gauge set meaning a regulated release. - Flare nut will be replaced or the brazed joint will be re brazed (repair the leak). - Leak detection spray will be applied to repaired flare nut/brazed joint to ensure leak repair has been successful. - On completion, pressure test will then take place. (Please refer to previous procedures). On completion of power (by others) commissioning can take place:- Commissioning System can be evacuated of dry nitrogen using VAC pump. Note Nitrogen is then released at the outdoor unit through a manifold gauge set meaning a regulated release following the test. Check installation of condensate drain pipe work from the indoor fan coil unit. All pipe work to be securely fixed. Check installation of refrigeration pipe work between indoor unit and outdoor air-cooled condensing unit. All joints to be securely fixed. All joints to be brazed in accordance with standard industry procedures. Leak/Pressure test completed. Calculate system pipe length to obtain correct additional gas charge in accordance with manufacturer's guidelines. Charge system with correct operating refrigerant: (R410A) Wiring Checks Check cabling from termination points to installed plant is secured. Check interconnecting control wiring to circuit drawing. Final Commissioning Record ambient temperature. Record room temperature. Energise electrical supplies and check operation of system. Check circuit protection. Operate systems over full range observing room conditions. Adjust systems until optimum room conditions are achieved. Record final room conditions. Record gas charge of each system inside condensing unit.
17.	Fire Precautions/Emergency Procedures
	All operatives to be made aware of procedures in the site induction and fire plan. Coolair to provide fire extinguishers to comply with hot works permit in areas as required. The nearest hospital to site is Salford Royal Stott Ln, Salford M6 8HD. Tel: 999 for emergency

18.	Welfare
	Toilets and wash up facilities – available on site
19.	Communication
	Mobile phone between Site Representative and Engineer. TBC
20.	Enclosures
	Risk Assessments for the following: - RA02 – Leak/Pressure Testing RA06 – Installation Works RA07 – Commissioning RA09 – Deliveries & Distribution RA010 – Brazing Hot Works RA012 – Working at Height Risk Assessment RA023 - Construction Manual Handling Risk Assessment RA024 – Ladders Supplementary Information: - COSHH Assessments / Data Sheets (available on request)
21.	Testing and Inspection
	In accordance with Manufacturers and Coolair Services Limited Procedures.