# TPS

Taylor Project Services LLP BUILDING SERVICES CONSULTANTS

**TPSLLP: 21 Bedford Square, London** 

**VRV Schedules – Planning Issue** 

21 Bedford Sg, London VRV Schedule **Revision O** 

## 2-pipe Heat Pump System - Basement Floor

Summer Room Conditions	22 °C DB	50% RH
Winter Room Conditions	20 °C DB	30% RH
Minimum FCU Supply Temperature	12 °C DB Min	11.2 °C WB Min
Fan Coil Cooling S.H.R	0.75 To be confirmed by F	CU manufacturer

Cooling capacities to be selected against external condenser sized at 35°C ambient.

Heating capacities to be selected against -4°C external ambient temperature.

Internal units to be supplied with BS box and controller to facilitate individual heating / cooling.

Internal Units Selected against a nominal NR35 to achieve a maximum open plan room noise level of NR38.

Internal units to be supplied with all recommended fixings, condensate pumps and return air controls.

						Estimated	Coo	oling	Heating			Indoor Unit Data*		
Unit	FCU	Sens	Heating	Primary	Air On	Supply	Sens	Total	Heating	Air	Model /	Notes / Dimensions		
Ref	Area	Cooling	Load	Supply Air	Temp	Air Temp	Duty	Duty		Flow	Speed	HxWxD		
	m²	W/m <sup>2</sup>	W/m <sup>2</sup>	l/s	°C	°C	kW	kW	kW	l/s		(With Decoration Panel)		
VRV/B/1	21	80	80	0	22	22	1.68	2.25	1.68	130	25	FXNQ-A 620x750x200		
VRV/B/2	21	80	80	0	22	22	1.68	2.25	1.68	130	25	FXNQ-A 620x750x200		
VRV/B/3	16	80	80	0	22	22	1.32	1.75	1.32	130	20	FXNQ-A 620x750x200		
VRV/B/4	16	80	80	0	22	22	1.24	1.65	1.24	130	20	FXNQ-A 620x750x200		
VRV/B/5	16	80	80	0	22	22	1.24	1.65	1.24	130	20	FXNQ-A 620x750x200		
Floor Totals	90						7.17	9.55	7.17		110			
												Condenser Details - Daikin RXYSCQ4		
Notes										External Ambient Conditions				
1. System to includ	e iTouch central controller	linked to all	FCU's.									Capacity Index Limit		

System to include iTouch central co nked to all FCU's.

2. Air Flow selected on Nom setting

3. Percentage of design selected on Total Cooling

4. External condensers shall be rated at the above conditions but shall operate reliably in temperatures from -4°C to 35°C

5. All plant selected against Daikin.

6. Each unit to have separate condensate pump if gravity drainage not possible.

Notes / Dimensions	Spigot Con	ifiguration			
HxWxD	No. Off	Blanked	Indoor Unit Type		
(With Decoration Panel)					
FXNQ-A 620x750x200			Vertical Chassis Unit		
FXNQ-A 620x750x200			Vertical Chassis Unit		
FXNQ-A 620x750x200			Vertical Chassis Unit		
FXNQ-A 620x750x200			Vertical Chassis Unit		
FXNQ-A 620x750x200			Vertical Chassis Unit		
Condenser Details - Daikin RXYSCQ4			Percentage of Design		
External Ambient Conditions	ºC S/ºC W	35/-4			
Capacity Index Limit		130	85%		
Nominal Cooling	kW	12.1	79%		
Nominal Heating	kW	12.1	59%		
Limiting Dimensions (HxWxD)	mm				
823x940x460					
Limiting Weight	kg	88			
Electrical Supply	V/Ph/Hz	400/3/50			
Power Input	kW				
Running Current	Amps	5.3			
HRC Fuse Rating	Amps	16			
Max Pipe Length (indoor / outdoor)	m	300			
Max. Pipe lift	m	30			
SPL	dBA @ m	51			

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### 2-pipe Heat Pump System - Ground Floor

Summer Room Conditions	22 °C DB	50% RH
Winter Room Conditions	20 °C DB	30% RH
Minimum FCU Supply Temperature	12 °C DB Min	11.2 °C WB Min
Fan Coil Cooling S.H.R	0.75 To be confirmed by F	CU manufacturer

Cooling capacities to be selected against external condenser sized at 35°C ambient.

Heating capacities to be selected against -4°C external ambient temperature.

Internal units to be supplied with BS box and controller to facilitate individual heating / cooling.

Internal Units Selected against a nominal NR35 to achieve a maximum open plan room noise level of NR38.

Internal units to be supplied with all recommended fixings, condensate pumps and return air controls.

						Estimated	Coo	oling	Heating			Indoor Unit Data*
Unit	FCU	Sens	Heating	Primary	Air On	Supply	Sens	Total	Heating	Air	Model /	Notes / Dimensions
Ref	Area	Cooling	Load	Supply Air	Temp	Air Temp	Duty	Duty		Flow	Speed	HxWxD
	m²	W/m <sup>2</sup>	W/m <sup>2</sup>	l/s	°C	°C	kW	kW	kW	l/s		(With Decoration Panel)
VRV/G/1	22	110	80	0	22	22	2.38	3.17	1.73	175	40	FXNQ-A 620x950x200
VRV/G/2	22	110	80	0	22	22	2.38	3.17	1.73	175	40	FXNQ-A 620x950x200
VRV/G/3	17	85	80	0	22	22	1.45	1.93	1.36	130	20	FXNQ-A 620x750x200
VRV/G/4	24	85	80	0	22	22	2.00	2.67	1.88	130	32	FXNQ-A 620x750x200
VRV/G/5	15	85	80	0	22	22	1.29	1.72	1.22	130	20	FXNQ-A 620x750x200
Floor Totals	99						9.49	12.65	7.91		152	
												Condenser Details - Daikin RXYSCQ5
Notes												External Ambient Conditions

1. System to include iTouch central controller linked to all FCU's. 2. Air Flow selected on Nom setting

3. Percentage of design selected on Total Cooling

4. External condensers shall be rated at the above conditions but shall operate reliably in temperatures from -4°C to 35°C

5. All plant selected against Daikin.

6. Each unit to have separate condensate pump if gravity drainage not possible.

Notes / Dimensions	Spigot Cor	nfiguration			
HxWxD	No. Off	Blanked	Indoor Unit Type		
(With Decoration Panel)					
FXNQ-A 620x950x200			Vertical Chassis Unit		
FXNQ-A 620x950x200			Vertical Chassis Unit		
FXNQ-A 620x750x200			Vertical Chassis Unit		
FXNQ-A 620x750x200			Vertical Chassis Unit		
FXNQ-A 620x750x200			Vertical Chassis Unit		
Condenser Details - Daikin RXYSCQ5			Percentage of Design		
External Ambient Conditions	ºC S∕ºC W	35/-4			
Capacity Index Limit		162	94%		
Nominal Cooling	kW	14	90%		
Nominal Heating	kW	14	57%		
Limiting Dimensions (HxWxD)	mm				
823x940x460					
Limiting Weight	kg	88			
Electrical Supply	V/Ph/Hz	400/3/50			
Power Input	kW				
Running Current	Amps	6.8			
HRC Fuse Rating	Amps	16			
Max Pipe Length (indoor / outdoor)	m	300			
Max. Pipe lift	m	30			
SPL	dBA @ m	51			

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### 2-pipe Heat Pump System - 1st Floor

Summer Room Conditions	22 °C DB	50% RH
Winter Room Conditions	20 °C DB	30% RH
Minimum FCU Supply Temperature	12 °C DB Min	11.2 °C WB Min
Fan Coil Cooling S.H.R	0.75 To be confirmed by F	CU manufacturer

Cooling capacities to be selected against external condenser sized at 35  $^{\circ}\mathrm{C}$  ambient.

Heating capacities to be selected against -4°C external ambient temperature.

Internal units to be supplied with BS box and controller to facilitate individual heating / cooling.

Internal Units Selected against a nominal NR35 to achieve a maximum open plan room noise level of NR38.

Internal units to be supplied with all recommended fixings, condensate pumps and return air controls.

						Estimated	Coc	oling	Heating			Indoor Unit Data*		
Unit	FCU	Sens	Heating	Primary	Air On	Supply	Sens	Total	Heating	Air	Model /	Notes / Dimensions		
Ref	Area	Cooling	Load	Supply Air	Temp	Air Temp	Duty	Duty		Flow	Speed	HxWxD		
	m <sup>2</sup>	W/m <sup>2</sup>	W/m <sup>2</sup>	l/s	°C	°C	kW	kW	kW	l/s		(With Decoration Panel)		
VRV/1/1	23	110	85	0	22	23	2.55	3.40	1.97	175	40	FXNQ-A 620x950x200		
VRV/1/2	23	110	85	0	22	23	2.55	3.40	1.97	175	40	FXNQ-A 620x950x200		
VRV/1/3	29	85	85	0	22	24	2.47	3.29	2.47	175	40	FXNQ-A 620x950x200		
Floor Totals	75						7.57	10.09	6.41		120			
												Condenser Details - Daikin RXYSCQ4		
Notes												External Ambient Conditions		

1. System to include iTouch central controller linked to all FCU's.

2. Air Flow selected on Nom setting

3. Percentage of design selected on Total Cooling

4. External condensers shall be rated at the above conditions but shall operate reliably in temperatures from -4°C to 35°C

5. All plant selected against Daikin.

6. Each unit to have separate condensate pump if gravity drainage not possible.

Spigot Con	figuration	
No. Off	Blanked	Indoor Unit Type
		Vertical Chassis Unit
		Vertical Chassis Unit
		Vertical Chassis Unit
		Percentage of Design
 ºC S/ºC W	35/-4	
	130	92%
kW	12.1	83%
kW	12.1	53%
mm		
kg	88	
V/Ph/Hz	400/3/50	
kW		
Amps	5.3	
Amps	16	
m	300	
m	30	
dBA @ m	51	

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### 2-pipe Heat Pump System - Coach House

Summer Room Conditions	22 °C DB	50% RH
Winter Room Conditions	20 °C DB	30% RH
Minimum FCU Supply Temperature	12 °C DB Min	11.2 °C WB Min
Fan Coil Cooling S.H.R	0.75 To be confirmed by F	CU manufacturer

Cooling capacities to be selected against external condenser sized at 35°C ambient. Heating capacities to be selected against -4°C external ambient temperature.

Internal units to be supplied with BS box and controller to facilitate individual heating / cooling.

Internal Units Selected against a nominal NR35 to achieve a maximum open plan room noise level of NR38.

Internal units to be supplied with all recommended fixings, condensate pumps and return air controls.

Estimated Cooling Hoating Indoor Unit Data*															
	501	<b>C</b>	11	D. dava a	A1.0	Estimateu	000	ming Takat	Heating			Indoor offic Data		Co	
Unit	FCU	Sens	Heating	Primary	Air On	Supply	Sens	Total	Heating	Air	Model /	Notes / Dimensions	Spigot Con	figuration	
Ref	Area	Cooling	Load	Supply Air	Temp	Air Temp	Duty	Duty		Flow	Speed	HxWxD	No. Off	Blanked	Indoor Unit Type
	m²	W/m²	W/m²	l/s	°C	°C	kW	kW	kW	l/s		(With Decoration Panel)			
VRV/G/7	14	100	85	0	22	23	1.35	1.80	1.15	175	20	FXNQ-A 620x750x200			Vertical Chassis Unit
VRV/G/8	16	100	85	0	22	23	1.56	2.09	1.33	130	25	FXNQ-A 620x750x200			Vertical Chassis Unit
VRV/1/4	18	100	85	0	22	26	1.84	2.45	1.56	130	32	FXNQ-A 620x750x200			Vertical Chassis Unit
VRV/1/5	18	100	85	0	22	26	1.84	2.45	1.56	130	32	FXNQ-A 620x750x200			Vertical Chassis Unit
Floor Totals	66						6.59	8.79	5.60		109				
										·		Condenser Details - Daikin RXYSCQ4			Percentage of Design
Notes											External Ambient Conditions	ºC S/ºC W	35/-4		
1. System to include	e iTouch central controller	linked to all	FCU's.									Capacity Index Limit		130	84%
2. Air Flow selected	on Nom setting											Nominal Cooling	kW	12.1	73%
3. Percentage of de	sign selected on Total Coo	ling										Nominal Heating	kW	12.1	46%
4. External condens	ers shall be rated at the at	bove conditio	ons but shall	operate relia	bly in temper	atures from -	4°C to 35°C					Limiting Dimensions (HxWxD)	mm		
5. All plant selected	against Daikin.											823x940x460			
6. Each unit to have	separate condensate pun	np if gravity o	drainage not	possible.								Limiting Weight	kg	88	
7. Each zone to be s	supplied with BS Box											Electrical Supply	V/Ph/Hz	400/3/50	
												Power Input	kW		
												Running Current	Amps	5.3	
												HRC Fuse Rating	Amps	16	
												Max Pipe Length (indoor / outdoor)	m	300	
												Max. Pipe lift	m	30	
												SPL	dBA @ m	51	

Indoor Onit Data					
Notes / Dimensions	Spigot Con	figuration			
HxWxD	No. Off	Blanked	Indoor Unit Type		
(With Decoration Panel)					
FXNQ-A 620x750x200			Vertical Chassis Unit		
FXNQ-A 620x750x200			Vertical Chassis Unit		
FXNQ-A 620x750x200			Vertical Chassis Unit		
FXNQ-A 620x750x200			Vertical Chassis Unit		
Condenser Details - Daikin RXYSCQ4			Percentage of Design		
External Ambient Conditions	ºC S∕ºC W	35/-4			
Capacity Index Limit		130	84%		
Nominal Cooling	kW	12.1	73%		
Nominal Heating	kW	12.1	46%		
Limiting Dimensions (HxWxD)	mm				
823x940x460					
Limiting Weight	kg	88			
Electrical Supply	V/Ph/Hz	400/3/50			
Power Input	kW				
Running Current	Amps	5.3			
HRC Fuse Rating	Amps	16			
Max Pipe Length (indoor / outdoor)	m	300			
Max. Pipe lift	m	30			
SPL	dBA @ m	51			

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## 2-pipe Heat Pump System - Second Floor

Summer Room Conditions	22 °C DB	50% RH
Winter Room Conditions	20 °C DB	30% RH
Minimum FCU Supply Temperature	12 °C DB Min	11.2 °C WB Min
Fan Coil Cooling S.H.R	0.75 To be confirmed by F	CU manufacturer

Cooling capacities to be selected against external condenser sized at 35°C ambient.

Heating capacities to be selected against -4°C external ambient temperature.

Internal units to be supplied with BS box and controller to facilitate individual heating / cooling.

Internal Units Selected against a nominal NR35 to achieve a maximum open plan room noise level of NR38.

Internal units to be supplied with all recommended fixings, condensate pumps and return air controls.

						Estimated	Coc	oling	Heating			Indoor Unit Data*
Unit	FCU	Sens	Heating	Primary	Air On	Supply	Sens	Total	Heating	Air	Model /	Notes / Dimensions
Ref	Area	Cooling	Load	Supply Air	Temp	Air Temp	p <b>Duty</b> Duty			Flow Speed		HxWxD
	m <sup>2</sup>	W/m <sup>2</sup>	W/m <sup>2</sup>	l/s	°C	°C	kW	kW	kW	l/s		(With Decoration Panel)
VRV/2/1	13	110	85	0	22	23	1.44	1.92	1.11	130	20	FXLQ-A 600x1000x232
VRV/2/2	13	110	85	0	22	23	1.44	1.92	1.11	130	20	FXLQ-A 600x1000x232
VRV/2/3	14	110	85	0	22	24	1.53	2.05	1.19	130	25	FXLQ-A 600x1000x232
VRV/2/4	12	85	85	0	22	26	0.99	1.33	0.99	130	20	FXLQ-A 600x1000x232
VRV/2/5	12	85	85	0	22	27	0.99	1.33	0.99	130	20	FXLQ-A 600x1000x232
Floor Totals	64						6.41	8.54	5.40		105	
												Condenser Details - Daikin RXYSCQ4
<u>Notes</u>												External Ambient Conditions

1. System to include iTouch central controller linked to all FCU's.

2. Air Flow selected on Nom setting

3. Percentage of design selected on Total Cooling

4. External condensers shall be rated at the above conditions but shall operate reliably in temperatures from -4°C to 35°C

5. All plant selected against Daikin.

6. Each unit to have separate condensate pump if gravity drainage not possible.

Notes / Dimensions	Spigot Cor	nfiguration	Indoor Unit Type			
HxWxD	No. Off	Blanked				
(With Decoration Panel)						
FXLQ-A 600x1000x232			Floor Mounted Cased			
FXLQ-A 600x1000x232			Floor Mounted Cased			
FXLQ-A 600x1000x232			Floor Mounted Cased			
FXLQ-A 600x1000x232			Floor Mounted Cased			
FXLQ-A 600x1000x232			Floor Mounted Cased			
Condenser Details - Daikin RXYSCQ4			Percentage of Design			
External Ambient Conditions	ºC S∕ºC W	35/-4				
Capacity Index Limit		130	81%			
Nominal Cooling	kW	12.1	71%			
Nominal Heating	kW	12.1	45%			
Limiting Dimensions (HxWxD)	mm					
823x940x460						
Limiting Weight	kg	88				
Electrical Supply	V/Ph/Hz	400/3/50				
Power Input	kW					
Running Current	Amps	5.3				
HRC Fuse Rating	Amps	16				
Max Pipe Length (indoor / outdoor)	m	300				
Max. Pipe lift	m	30				
SPL	dBA @ m	51				

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### 2-pipe Heat Pump System - Third Floor

Summer Room Conditions	22 °C DB	50% RH
Winter Room Conditions	20 °C DB	30% RH
Minimum FCU Supply Temperature	12 °C DB Min	11.2 °C WB Min
Fan Coil Cooling S.H.R	0.75 To be confirmed by F	CU manufacturer

Cooling capacities to be selected against external condenser sized at 35°C ambient.

Heating capacities to be selected against -4°C external ambient temperature.

Internal units to be supplied with BS box and controller to facilitate individual heating / cooling.

Internal Units Selected against a nominal NR35 to achieve a maximum open plan room noise level of NR38.

Internal units to be supplied with all recommended fixings, condensate pumps and return air controls.

						Estimated	Coc	oling	Heating			Indoor Unit Data*			
Unit	FCU	Sens	Heating	Primary	Air On	Supply	Sens	Total	Heating	Air	Model /	Notes / Dimensions			
Ref	Area	Cooling	Load	Supply Air	Temp	Air Temp	Duty	Duty		Flow	Speed	HxWxD			
	m <sup>2</sup>	W/m <sup>2</sup>	W/m <sup>2</sup>	l/s	°C	°C	kW	kW	kW	l/s		(With Decoration Panel)			
VRV/3/1	22	110	85	0	22	23	2.45	3.26	1.89	175	40	FXLQ-A 600x1140x232			
VRV/3/2	14	110	85	0	22	23	1.58	2.11	1.22	130	25	FXLQ-A 600x1000x232			
VRV/3/3	18	85	85	0	22	26	1.49	1.98	1.49	130	25	FXLQ-A 600x1000x232			
VRV/3/4	18	85	85	0	22	26	1.53	2.04	1.53	130	25	FXLQ-A 600x1000x232			
VRV/3/5	18	85	85	0	22	27	1.53	2.04	1.53	130	25	FXLQ-A 600x1000x232			
Floor Totals	90						8.58	11.44	7.66		140				
											Condenser Details - Daikin RXYSCQ5				
Notes											External Ambient Conditions				

1. System to include iTouch central controller linked to all FCU's.

2. Air Flow selected on Nom setting

3. Percentage of design selected on Total Cooling

4. External condensers shall be rated at the above conditions but shall operate reliably in temperatures from -4°C to 35°C

5. All plant selected against Daikin.

6. Each unit to have separate condensate pump if gravity drainage not possible.

Notes / Dimensions	Spigot Cor	nfiguration				
HxWxD	No. Off	Blanked	Indoor Unit Type			
(With Decoration Panel)						
FXLQ-A 600x1140x232			Floor Mounted Cased			
FXLQ-A 600x1000x232			Floor Mounted Cased			
FXLQ-A 600x1000x232			Floor Mounted Cased			
FXLQ-A 600x1000x232			Floor Mounted Cased			
FXLQ-A 600x1000x232			Floor Mounted Cased			
Condenser Details - Daikin RXYSCQ5			Percentage of Design			
External Ambient Conditions	ºC S∕ºC W	35/-4				
Capacity Index Limit		162	86%			
Nominal Cooling	kW	14	82%			
Nominal Heating	kW	14	55%			
Limiting Dimensions (HxWxD)	mm					
823x940x460						
Limiting Weight	kg	88				
Electrical Supply	V/Ph/Hz	400/3/50				
Power Input	kW					
Running Current	Amps	6.8				
HRC Fuse Rating	Amps	16				
Max Pipe Length (indoor / outdoor)	m	300				
Max. Pipe lift	m	30				
SPL	dBA @ m	51				

# 21 Bedford Square, London - Split System

Summer Room Conditions	22 °C DB	50% RH				
Winter Room Conditions	20 °C DB	30% RH				
Minimum FCU Supply Temperature	12 °C DB Min	11.2 °C WB Min				
Fan Coil Cooling S.H.R	0.75 To be confirme	ed by FCU manufacturer				

Cooling capacities to be selected against external condenser sized at 35°C ambient.

Heating capacities to be selected against -4°C external ambient temperature.

Internal units to be supplied with BS box and controller to facilitate individual heating / cooling.

Internal Units Selected against a nominal NR35 to achieve a maximum open plan room noise level of NR38.

Internal units to be supplied with all recommended fixings, condensate pumps and return air controls.

							Estimated	Coc	oling	Heating	Indoor Unit Data*					
Unit	Zone Ref	FCU	Sens	Heating	Primary	Air On	Supply	Sens	Total	Heating	Air	Model /	Notes / Dimensions	Spigot Cor	figuration	
Ref	Boom Ref	Area	Cooling	Load	Supply Air	Temn	Air Temp	Duty	Duty	ricuting	Flow	Sneed	HvWvD	No. Off	Blanked	Indoor Unit Type
Nei	Room Rei	m <sup>2</sup>	$M/m^2$			i enip		Duty	Duty	1347	110 w	Speed	(With Deservice Denel)	NO. OII	Dialikeu	indoor onit rype
		111	VV/111	VV/III	I/S	<u> </u>	- <sup>-</sup> C	KW	KVV	KVV	I/S		(With Decoration Parier)	<b>↓</b> ′		
		. –	<u> </u>	<u> </u>	+									′		
AC/1	RB05	15	250	85	0	22	22	3.75	5.00	1.28	130	60	Daikin FTXS60G	′		Wall Mounted
													Condenser Details - RXS60F	/		
Floor Totals		15						3.75	5.00	1.28		60				
													Condenser Details - Daikin RXS60F			Percentage of Design
<u>Notes</u>													External Ambient Conditions	ºC S/ºC W	35/-4	
1. External conde	ensers shall be rated	d at the abo	ove conditio	ns but shal	ll operate rel	iably in ter	nperatures from	n -4°C to 3	5°C				Capacity Index Limit			
2. All plant select	ted against Daikin.												Nominal Cooling	kW	6	83%
3. Controller to b	e wall mounted wit	thin sever r	oom.										Nominal Heating	kW	7	18%
													Limiting Dimensions (HxWxD)	mm		
													735x825x300	1		
													Limiting Weight	kg	48	
													Electrical Supply	V/Ph/Hz	230/1/50	
													Power Input	kW		
													Running Current	Amps	8.78	
	HRC Fuse Rating							Amps	20							
								Max Pipe Length (indoor / outdoor)	m	30						
													Max. Pipe lift	m	15	
													SPL	dBA @ m	49	