TPS

Taylor Project Services LLP

BUILDING SERVICES CONSULTANTS

TPSLLP : **25 Bedford Square, London**

VRV Schedules – Planning Issue

2-pipe Heat Pump System - Basement & 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 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	Cooling		Heating	Indoor Unit Data*					
Unit Ref	FCU Area m^2	Sens Cooling W/m^2	Heating Load W/m^2	Primary Supply Air l/s	Air On Temp °C	Supply Air Temp °C	**Sens Duty kW**	Total Duty kW	Heating kW	Air Flow l/s	Model / Speed	Notes / Dimensions HxWxD (With Decoration Panel)	Spigot Configuration No. Off	Spigot Configuration Blanked	Indoor Unit Type
VRV/B/1	10	80	80	0	22	22	**0.83**	1.11	0.83	130	20	FXNQ-A 620x750x200			Vertical Chassis Unit
VRV/B/2	21	80	80	0	22	22	**1.66**	2.22	1.66	130	25	FXNQ-A 620x750x200			Vertical Chassis Unit
VRV/B/3	11	80	80	0	22	22	**0.88**	1.17	0.88	130	20	FXNQ-A 620x750x200			Vertical Chassis Unit
VRV/B/4	10	80	80	0	22	22	**0.77**	1.02	0.77	130	20	FXNQ-A 620x750x200			Vertical Chassis Unit
VRV/G/1	19	110	85	0	22	22	**2.12**	2.82	1.64	130	32	FXNQ-A 620x750x200			Vertical Chassis Unit
VRV/G/2	19	110	85	0	22	22	**2.09**	2.79	1.62	130	32	FXNQ-A 620x750x200			Vertical Chassis Unit
Floor Totals	**90**						**8.35**	**11.14**	**7.40**		**149**				

Notes

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.
7. Each zone to be supplied with BS Box

Condenser Details - Daikin RXYSCQ5			Percentage of Design
External Ambient Conditions	ºC S/ºC W	35/-4	
Capacity Index Limit		162	92%
Nominal Cooling	kW	14	80%
Nominal Heating	kW	14	53%
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	

2-pipe Heat Pump System - Ground and 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 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	Cooling		Heating	Indoor Unit Data*					
Unit Ref	FCU Area m^2	Sens Cooling W/m^2	Heating Load W/m^2	Primary Supply Air l/s	Air On Temp °C	Supply Air Temp °C	**Sens Duty kW**	Total Duty kW	Heating kW	Air Flow l/s	Model / Speed	Notes / Dimensions HxWxD (With Decoration Panel)	Spigot Configuration No. Off	Spigot Configuration Blanked	Indoor Unit Type
VRV/G/3	11	85	85	0	22	23	**0.89**	1.19	0.89	130	20	FXNQ-A 620x750x200			Vertical Chassis Unit
VRV/G/4	11	85	85	0	22	23	**0.94**	1.25	0.94	130	20	FXNQ-A 620x750x200			Vertical Chassis Unit
VRV/1/1	23	110	85	0	22	24	**2.48**	3.31	1.92	175	40	FXNQ-A 620x950x200			Vertical Chassis Unit
VRV/1/2	23	110	85	0	22	25	**2.48**	3.31	1.92	175	40	FXNQ-A 620x950x200			Vertical Chassis Unit
VRV/1/3	18	85	85	0	22	26	**1.49**	1.98	1.49	130	20	FXNQ-A 620x750x200			Vertical Chassis Unit
VRV/1/4	18	85	85	0	22	27	**1.53**	2.04	1.53	130	20	FXNQ-A 620x750x200			Vertical Chassis Unit
Floor Totals	**102**						**9.81**	**13.07**	**8.68**		**160**				

Notes

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.
7. Each zone to be supplied with BS Box

Condenser Details - Daikin RXYSCQ5			Percentage of Design
External Ambient Conditions	ºC S/ºC W	35/-4	
Capacity Index Limit		162	99%
Nominal Cooling	kW	14	93%
Nominal Heating	kW	14	62%
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	

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 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	Cooling		Heating	Indoor Unit Data*					
Unit Ref	FCU Area m^2	Sens Cooling W/m^2	Heating Load W/m^2	Primary Supply Air l/s	Air On Temp °C	Supply Air Temp °C	**Sens Duty kW**	Total Duty kW	Heating kW	Air Flow l/s	Model / Speed	Notes / Dimensions HxWxD (With Decoration Panel)	Spigot Configuration No. Off	Spigot Configuration Blanked	Indoor Unit Type
VRV/2/1	12	110	85	0	22	23	**1.29**	1.72	1.00	130	20	FXLQ-A 600x1000x232			Floor Mounted Cased
VRV/2/2	12	110	85	0	22	23	**1.32**	1.76	1.02	130	20	FXLQ-A 600x1000x232			Floor Mounted Cased
VRV/2/3	12	110	85	0	22	24	**1.36**	1.82	1.05	130	20	FXLQ-A 600x1000x232			Floor Mounted Cased
VRV/2/4	18	85	85	0	22	26	**1.49**	1.98	1.49	130	20	FXLQ-A 600x1000x232			Floor Mounted Cased
VRV/2/5	18	85	85	0	22	27	**1.49**	1.98	1.49	130	20	FXLQ-A 600x1000x232			Floor Mounted Cased
Floor Totals	**71**						**6.95**	**9.27**	**6.05**		**100**				

Notes

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.
7. Each zone to be supplied with BS Box

Condenser Details - Daikin RXYSCQ4			Percentage of Design
External Ambient Conditions	ºC S/ºC W	35/-4	
Capacity Index Limit		130	77%
Nominal Cooling	kW	12.1	77%
Nominal Heating	kW	12.1	50%
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	

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 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	Cooling		Heating	Indoor Unit Data*					
Unit Ref	FCU Area m^2	Sens Cooling W/m^2	Heating Load W/m^2	Primary Supply Air l/s	Air On Temp °C	Supply Air Temp °C	**Sens Duty kW**	Total Duty kW	Heating kW	Air Flow l/s	Model / Speed	Notes / Dimensions HxWxD (With Decoration Panel)	Spigot Configuration No. Off	Spigot Configuration Blanked	Indoor Unit Type
VRV/3/1	22	110	85	0	22	23	**2.45**	3.26	1.89	130	40	FXLQ-A 600x1140x232			Floor Mounted Cased
VRV/3/2	14	110	85	0	22	23	**1.58**	2.11	1.22	130	20	FXLQ-A 600x1000x232			Floor Mounted Cased
VRV/3/3	18	85	85	0	22	26	**1.49**	1.98	1.49	130	20	FXLQ-A 600x1000x232			Floor Mounted Cased
VRV/3/4	18	85	85	0	22	27	**1.49**	1.98	1.49	130	20	FXLQ-A 600x1000x232			Floor Mounted Cased
Floor Totals	**72**						**7.01**	**9.34**	**6.09**		**100**				

Notes
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.
7. Each zone to be supplied with BS Box

Condenser Details - Daikin RXYSCQ4			Percentage of Design
External Ambient Conditions	ºC S/ºC W	35/-4	
Capacity Index Limit		130	77%
Nominal Cooling	kW	12.1	77%
Nominal Heating	kW	12.1	50%
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	

25 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 confirmed 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	Cooling		Heating	Indoor Unit Data*					
Unit Ref	Zone Ref Room Ref	FCU Area m^2	Sens Cooling W/m^2	Heating Load W/m^2	Primary Supply Air l/s	Air On Temp °C	Supply Air Temp °C	**Sens Duty kW**	Total Duty kW	Heating kW	Air Flow l/s	Model / Speed	Notes / Dimensions HxWxD (With Decoration Panel)	Spigot Configuration No. Off	Spigot Configuration Blanked	Indoor Unit Type
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				

Notes

1. External condensers shall be rated at the above conditions but shall operate reliably in temperatures from -4°C to 35°C
2. All plant selected against Daikin.
3. Controller to be wall mounted within sever room.

Condenser Details - Daikin RXS60F			Percentage of Design
External Ambient Conditions	ºC S/ºC W	35/-4	
Capacity Index Limit			
Nominal Cooling	kW	6	83%
Nominal Heating	kW	7	18%
Limiting Dimensions (HxWxD)	mm		
735x825x300			
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	