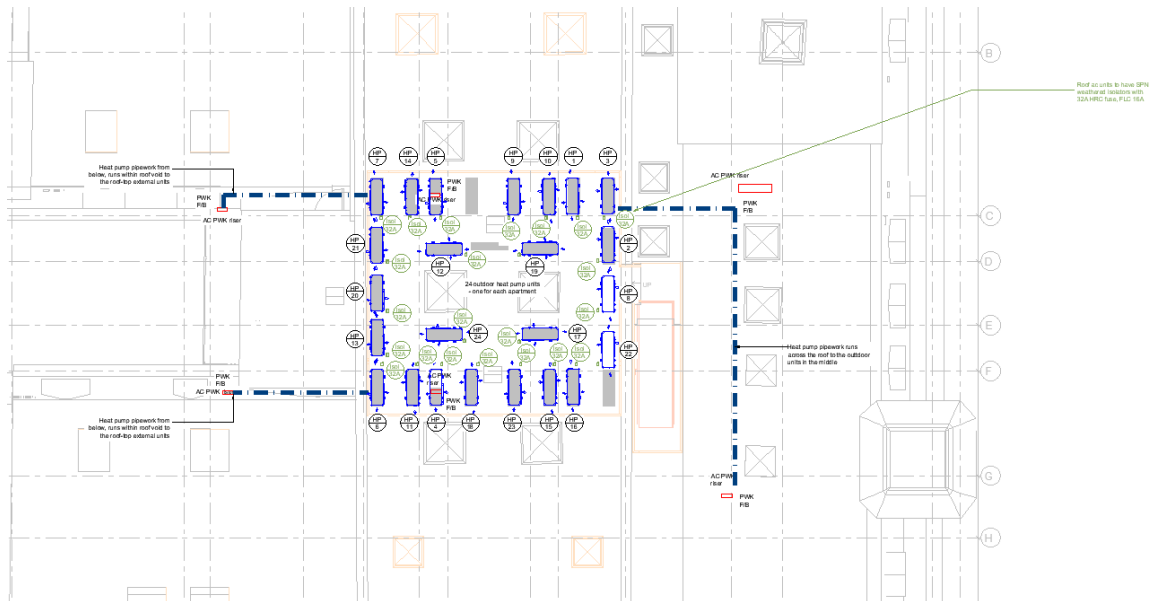


King Street, Manchester

Acoustics and planning information wrt mechanical services

Roof plant



There are two sizes of roof VRF unit:

- Smaller unit for flats 1, 2, 3, 8, 9, 10, 16, 17 will be 46dB(A)
- Larger unit for flats 4-7, 11-15, 18-24 will be 48dB(A)

Flat MVHR

The ventilation units will be in ceiling voids or within utility cupboards, so will be separated from occupants by at least one layer of plasterboard.

The following is Nu Aire's sound data – we will be on curve 2, worst case – the data is very similar for ceiling void and cupboard mounted units

Electrical & Sound ▼

	Maximum power consumption		Sound Power Levels dB re 1pW (Frequency Hz)								dBA @3m
Curve	(Watts)		63	125	250	500	1k	2k	4k	8k	
1	156	Open inlet	48	57	60	53	49	44	33	24	
		Open outlet	57	67	63	64	61	61	52	45	
		Breakout	65	59	58	57	50	46	36	26	40
2	67	Open inlet	43	52	56	48	46	40	30	18	
		Open outlet	54	62	59	62	58	58	48	40	
		Breakout	54	55	52	51	44	42	28	<16	34
3	20	Open inlet	38	44	47	39	36	29	16	<16	
		Open outlet	46	53	49	52	46	44	33	21	
		Breakout	47	46	44	42	34	29	16	<16	25
4	7	Open inlet	33	27	26	16	<16	<16	<16	<16	
		Open outlet	39	34	31	32	22	<16	<16	<16	
		Breakout	41	29	27	20	<16	<16	<16	<16	<16

The maximum power consumption shown above (Watts) is consumed on units running continuously, not taking into account any heat recovery saving and based on SAP Product Characteristic Database (PCDB) testing. The breakout case-radiated dBA values are given for Hemispherical free field radiation at 3m - to obtain the Spherical radiated data, subtract 3 dBA.

Please note: Sound data is provided at a particular duty point for 25%, 50%, 75% and 100%. For accurate sound data at a specific speed duty, please use Nuair's fan selector or call the office on 029 2085 8500.

Planning – roof vents

Central/local ventilation – each flat will have its own ventilation system that will have external intakes and exhausts in the outside walls for the lower floors and through the roof for the top floor.

Central plant will not work with this scheme because:

- Flats are separate with their own independent, metered and maintained systems; there is no provision for central, managed systems
- There is no floor space available to take vertical ducts from a central plant on the roof or in the basement – these would use up too much commercial floor area.

Top floor units will have terminations through the flat roof – below is a typical detail.

