Schedule of Air Handling Units

Summary of Air Handling Units

Ref	System	Plant Location	Configuration	Unit	Limiting Dimensions W x L x H (mm)	Dry Weight (kg)	Duty (excl Margin))		Supply Temp. (Winter/ Summer) (°C db)	Components (see component detail sheets for duties and further details)
							Air Volume m^3/s	External Static Pa		
AHU/01 (SW)	4th& 5th floor Ventilation	5th Floor AHU Plant Room	Combined heat recovery unit	Supply	1770 x 2412 x 1971	948	3.080	380	20/26	Inlet Damper, Filter, Thermal Wheel Heat Recovery, Supply Fan, Electric Heater Battery, Outlet Damper, Thermal Wheel
				Extract			2.880	380	-	Inlet Damper, Filter, Thermal Wheel Heat Recovery, Supply Fan, Electric Heater Battery, Outlet Damper, Thermal Wheel
AHU/02 (SE)	4th& 5th floor Ventilation	5th Floor AHU Plant Room	Combined heat recovery unit	Supply	1770 x 2412 x 1971	948	2.960	380	20/26	Inlet Damper, Filter, Thermal Wheel Heat Recovery, Supply Fan, Electric Heater Battery, Outlet Damper, Thermal Wheel
				Extract			2.830	380	-	Inlet Damper, Filter, Thermal Wheel Heat Recovery, Supply Fan, Electric Heater Battery, Outlet Damper, Thermal Wheel
AHU/03 (NE)	4th& 5th floor Ventilation	5th Floor AHU Plant Room	Combined heat recovery unit	Supply	1770 x 2412 x 1971	948	2.912	380	20/26	Inlet Damper, Filter, Thermal Wheel Heat Recovery, Supply Fan, Electric Heater Battery, Outlet Damper, Thermal Wheel
				Extract			2.782	380	-	Inlet Damper, Filter, Thermal Wheel Heat Recovery, Supply Fan, Electric Heater Battery, Outlet Damper, Thermal Wheel
AHU/04 (NW)	4th& 5th floor Ventilation	5th Floor AHU Plant Room	Combined heat recovery unit	Supply	1770 x 2412 x 1971	948	2.726	380	20/26	Inlet Damper, Filter, Thermal Wheel Heat Recovery, Supply Fan, Electric Heater Battery, Outlet Damper, Thermal Wheel
				Extract			2.003	380	-	Inlet Damper, Filter, Thermal Wheel Heat Recovery, Supply Fan, Electric Heater Battery, Outlet Damper, Thermal Wheel

Mechanical Performance Requirements to BS EN 1886

Ref	System	Casing Strength Class	Casing Air Leakage Class	Thermal Transmittance Class	Thermal Bridging Class	Sound Power Levels to Surroundings (dBA)				Notes
						63,125	250,500	1K, 2K	4K,8K	
AHU/01 (SW)	General Ventilation	CEN D2	L2	T2	TB2	42,62	45,51	58,57	50,38	Unit to be Eurovent certified
AHU/02 (SE)	General Ventilation	CEN D2	L2	T2	TB2	42,62	45,51	58,57	50,38	Unit to be Eurovent certified
AHU/03 (NE)	General Ventilation	CEN D2	L2	T2	TB2	42,62	45,51	58,57	50,38	Unit to be Eurovent certified
AHU/04 (NW)	General Ventilation	CEN D2	L2	T2	TB2	42,62	45,51	58,57	50,38	Unit to be Eurovent certified

Notes

1. Duties are based upon current configuration and pressure drop allowances for system components. Contractor to validate duties based on final coordinated design configuration and selected system components.
2. SFP at 25% of design flow rate is to be no greater than that achieved at 100% of design flow rate.
3. Filters are to be replaced with new after commissioning and before the AHU SFP is checked for Building Regulations Part L compliance
4. All fans and access sections to be provided with bulkhead lighting. Separate electrical feed to be provided for lighting to allow maintenance to be carried out without running the fan. Lights, cabelling and glands in holes through casing to be installed by fan manufacturer. Cabling to be left coiled up externally to unit for connection by the electrical contractor.
5. Ensure access side is coordinated with fan locations.
6. Unit selections based upon S&P RHE 10000 HDR DI, provide as equal and approved. Contact Luke Mulford; lmulford@solerpalau.com
7. Units to be mounted on anti-vibration mounts comprising steel beam base free standing 200mm spring underneath with minimum static deflection of 25mm
9. Units to be provided with packaged controllers with BACnet IP connection to BMS. Units to be enabled by BMS. Units to be hard-wired to fire brigade ventilation switch.

Schedule of Air Handling Units Components Duty and Details

Ref	AHU/01 (SW)				
Component	Details	Units	Duty	Offered Duty	Notes
		Supply Unit			
Inlet Damper					
Inlet	Sound Power Levels (Inlet) (LWA)	63Hz	42		
		125Hz	69		
		250Hz	68		
		500Hz	70		
		1KHz	72		
		2KHz	67		
		4KHz	61		
		8KHz	54		
Filter	Airflow through filter	m³/s	3.1		
	Filter Class (ISO 16890-1 2016)		ePM1 55%		
Heat Recovery	Type		Thermal Wheel		
	Winter Fresh air on	°C db	-5		
	Winter Fresh air off	°C db	14.0		
	Winter Efficiency	%	76.1		
	Summer Fresh air on	°C db	32		
	Summer Fresh air off	°C db	25.9		
	Summer Efficiency	%	76.1		
	Coil				
	Volume	l			
	Ethylene Glycol	%			
	Pipe Size	mm			
	Summer Flow Rate	l/s			
	Winter Flow Rate	l/s			
	Summer Output	kW	22.36		
	Winter Output	kW	90.21		
Supply Fan	Type				
	Design air flow	m³/s	3.0		
	Unit external static pressure at max' air flow	Pa	380		
	Specific fan power	W/litre/s	0.98		AHU total (supply+extract) 1.92W/l/s
	Total efficiency of fan/motor/drive to BS EN ISO 12759	%	67.1		Unit to be supplied complete with internal anti-vibration fan mountings
		63Hz	44		Unit to be supplied complete with internal anti-

	Sound Power Levels (Outlet) (LWA)	125Hz	69		vibration fan mountings. Spectra presented is A-weighted.
		250Hz	64		
		500Hz	81		
		1KHz	82		
		2KHz	78		
		4KHz	74		
		8KHz	66		
	Motor / Drive details		VSD		Variable Speed Drive
	Motor type	EC			Efficiency class
	Rated Current	A	4.6		
	Nominal Power	kW	2.95		
Electric Heater Battery	Output	kW	48		
	Voltage	V	400		
	Absorbed current	A	69		
Exhaust Unit					
Filter	Airflow through filter	m³/s	2.9		
	Filter Class (ISO 16890-1 2016)		ePM10 80%		
Inlet	Sound Power Levels (Inlet) (LWA)	63Hz	42		
		125Hz	69		
		250Hz	68		
		500Hz	69		
		1KHz	72		
		2KHz	67		
		4KHz	61		
		8KHz	54		
Extract Fan	**Type**				
	Design air flow	m³/s	2.88		
	Unit external static pressure at max' air flow	Pa	380		
	Specific fan power	W/litre/s	0.94		AHU total (supply+extract) 1.92W/l/s
	Total efficiency of fan/motor/drive to BS EN ISO 12759	%	67.1		
	Sound Power Levels (Outlet) (LWA)	63Hz	44		Unit to be supplied complete with internal anti-vibration fan mountings
		125Hz	69		
		250Hz	64		
		500Hz	81		
		1KHz	82		
		2KHz	78		
		4KHz	73		
		8KHz	65		
	Motor / Drive details		VSD		Variable Speed Drive
	Motor type	EC			

	Rated current	A	4.6		
	Nominal power	kW	2.82		
Heat Recovery	**Type**		Thermal Wheel		
	Winter Fresh air on	°C db	-5		
	Winter Return air on	°C db	20		
	Summer Fresh air on	°C db	32		
	Summer Return air on	°C db	24		
	Summer Efficiency	%	76.1		
Outlet Damper					

Ref	AHU/02 (SE)				
Component	**Details**	**Units**	**Duty**	**Offered**	**Notes**
		Supply Unit			
Inlet Damper					
Inlet	Sound Power Levels (Inlet) (LWA)	63Hz	42		
		125Hz	69		
		250Hz	68		
		500Hz	70		
		1KHz	72		
		2KHz	67		
		4KHz	61		
		8KHz	54		
Filter	Airflow through filter	m³/s	3.0		
	Filter Class (ISO 16890-1 2016)		ePM1 55%		
Heat Recovery	**Type**		Thermal Wheel		
	Winter Fresh air on	°C db	-5		
	Winter Fresh air off	°C db	14.0		
	Winter Efficiency	%	76.1		
	Summer Fresh air on	°C db	32		
	Summer Fresh air off	°C db	25.9		
	Summer Efficiency	%	76.1		
	Summer Output	kW	22.36		
	Winter Output	kW	90.21		
Supply Fan	**Type**				
	Design air flow	m³/s	3.0		
	Unit external static pressure at max' air flow	Pa	380		
	Specific fan power	W/litre/s	0.98		AHU total (supply+extract) 1.92W/l/s
	Total efficiency of fan/motor/drive to BS EN ISO 12759	%	67.1		Unit to be supplied complete with internal anti-vibration fan mountings
		63Hz	44		Unit to be supplied complete with internal anti-

	Sound Power Levels (Outlet) (LWA)	125Hz	69		vibration fan mountings. Spectra presented is A-weighted.
		250Hz	64		
		500Hz	81		
		1KHz	82		
		2KHz	78		
		4KHz	74		
		8KHz	66		
	Motor / Drive details		VSD		Variable Speed Drive
	Motor type	EC			Efficiency class
	Rated Current	A	4.6		
	Nominal Power	kW	2.95		
Electric Heater Battery	Output	kW	48		
	Voltage	V	400		
	Absorbed current	A	69		
Exhaust Unit					
Filter	Airflow through filter	m³/s	2.8		
	Filter Class (ISO 16890-1 2016)		ePM10 80%		
Inlet	Sound Power Levels (Inlet) (LWA)	63Hz	42		
		125Hz	69		
		250Hz	68		
		500Hz	69		
		1KHz	72		
		2KHz	67		
		4KHz	61		
		8KHz	54		
Extract Fan	**Type**				
	Design air flow	m³/s	2.8		
	Unit external static pressure at max' air flow	Pa	380		
	Specific fan power	W/litre/s	0.94		AHU total (supply+extract) 1.92W/l/s
	Total efficiency of fan/motor/drive to BS EN ISO 12759	%	67.1		
	Sound Power Levels (Outlet) (LWA)	63Hz	44		Unit to be supplied complete with internal anti-vibration fan mountings
		125Hz	69		
		250Hz	64		
		500Hz	81		
		1KHz	82		
		2KHz	78		
		4KHz	73		
		8KHz	65		
	Motor / Drive details		VSD		Variable Speed Drive
	Motor type	EC			
	Rated current	A	4.6		

	Nominal power	kW	2.82		
Heat Recovery	**Type**		Thermal Wheel		
	Winter Fresh air on	°C db	-4		
	Winter Fresh air off	°C db	14		
	Winter Efficiency	%	76.1		
	Summer Fresh air on	°C db	30		
	Summer Fresh air off	°C db	26.5		
	Summer Efficiency	%	76.1		
Outlet Damper					

Ref	AHU/03 (NE)				
Component	**Details**	**Units**	**Duty**	**Offered Duty**	**Notes**
		Supply Unit			
Inlet Damper					
Inlet	Sound Power Levels (Inlet) (LWA)	63Hz	42		
		125Hz	69		
		250Hz	68		
		500Hz	70		
		1KHz	72		
		2KHz	67		
		4KHz	61		
		8KHz	54		
Filter	Airflow through filter	m³/s	2.9		
	Filter Class (ISO 16890-1 2016)		ePM1 55%		
Heat Recovery	**Type**		Thermal Wheel		
	Winter Fresh air on	°C db	-5		
	Winter Fresh air off	°C db	14.0		
	Winter Efficiency	%	76.1		
	Summer Fresh air on	°C db	32		
	Summer Fresh air off	°C db	25.9		
	Summer Efficiency	%	76.1		
	Summer Output	kW	22.36		
	Winter Output	kW	90.21		
Supply Fan	**Type**				
	Design air flow	m³/s	2.9		
	Unit external static pressure at max' air flow	Pa	380		
	Specific fan power	W/litre/s	0.98		AHU total (supply+extract) 1.92W/l/s
	Total efficiency of fan/motor/drive to BS EN ISO 12759	%	67.1		Unit to be supplied complete with internal anti-vibration fan mountings

	Sound Power Levels (Outlet) (LWA)	63Hz	44		Unit to be supplied complete with internal anti-vibration fan mountings. Spectra presented is A-weighted.
		125Hz	69		
		250Hz	64		
		500Hz	81		
		1KHz	82		
		2KHz	78		
		4KHz	74		
		8KHz	66		
	Motor / Drive details		VSD		Variable Speed Drive
	Motor type	EC			Efficiency class
	Rated Current	A	4.6		
	Nominal Power	kW	2.95		
Electric Heater Battery	Output	kW	48		
	Voltage	V	400		
	Absorbed current	A	69		
Exhaust Unit					
Filter	Airflow through filter	m³/s	2.8		
	Filter Class (ISO 16890-1 2016)		ePM10 80%		
Inlet	Sound Power Levels (Inlet) (LWA)	63Hz	42		
		125Hz	69		
		250Hz	68		
		500Hz	69		
		1KHz	72		
		2KHz	67		
		4KHz	61		
		8KHz	54		
Extract Fan	**Type**				
	Design air flow	m³/s	2.8		
	Unit external static pressure at max' air flow	Pa	380		
	Specific fan power	W/litre/s	0.94		AHU total (supply+extract) 1.92W/l/s
	Total efficiency of fan/motor/drive to BS EN ISO 12759	%	67.1		
	Sound Power Levels (Outlet) (LWA)	63Hz	44		Unit to be supplied complete with internal anti-vibration fan mountings
		125Hz	69		
		250Hz	64		
		500Hz	81		
		1KHz	82		
		2KHz	78		
		4KHz	73		
		8KHz	65		
	Motor / Drive details		VSD		Variable Speed Drive
	Motor type	EC			

	Rated current	A	4.6		
	Nominal power	kW	2.82		
Heat Recovery	**Type**		Thermal Wheel		
	Winter Fresh air on	°C db	-4		
	Winter Fresh air off	°C db	14		
	Winter Efficiency	%	76.1		
	Summer Fresh air on	°C db	30		
	Summer Fresh air off	°C db	26.5		
	Summer Efficiency	%	76.1		
Outlet Damper					

Ref	AHU/04 (NW)				
Component	**Details**	**Units**	**Duty**	**Offered Duty**	**Notes**
		Supply Unit			
Inlet Damper					
Inlet	Sound Power Levels (Inlet) (LWA)	63Hz	42		
		125Hz	69		
		250Hz	68		
		500Hz	70		
		1KHz	72		
		2KHz	67		
		4KHz	61		
		8KHz	54		
Filter	Airflow through filter	m³/s	2.7		
	Filter Class (ISO 16890-1 2016)		ePM1 55%		
Heat Recovery	**Type**		Thermal Wheel		
	Winter Fresh air on	°C db	-5		
	Winter Fresh air off	°C db	14.0		
	Winter Efficiency	%	76.1		
	Summer Fresh air on	°C db	32		
	Summer Fresh air off	°C db	25.9		
	Summer Efficiency	%	76.1		
Supply Fan	**Type**				
	Design air flow	m³/s	2.7		
	Unit external static pressure at max' air flow	Pa	380		
	Specific fan power	W/litre/s	0.98		AHU total (supply+extract) 1.92W/l/s
	Total efficiency of fan/motor/drive to BS EN ISO 12759	%	67.1		Unit to be supplied complete with internal anti-vibration fan mountings
		63Hz	44		Unit to be supplied complete with internal anti-

	Sound Power Levels (Outlet) (LWA)	125Hz	69		vibration fan mountings. Spectra presented is A-weighted.
		250Hz	64		
		500Hz	81		
		1KHz	82		
		2KHz	78		
		4KHz	74		
		8KHz	66		
	Motor / Drive details		VSD		Variable Speed Drive
	Motor type	EC			Efficiency class
	Rated Current	A	4.6		
	Nominal Power	kW	2.95		
Electric Heater Battery	Output	kW	48		
	Voltage	V	400		
	Absorbed current	A	69		
Exhaust Unit					
Filter	Airflow through filter	m³/s	2.0		
	Filter Class (ISO 16890-1 2016)		ePM10 80%		
Inlet	Sound Power Levels (Inlet) (LWA)	63Hz	42		
		125Hz	69		
		250Hz	68		
		500Hz	69		
		1KHz	72		
		2KHz	67		
		4KHz	61		
		8KHz	54		
Extract Fan	**Type**				
	Design air flow	m³/s	2		
	Unit external static pressure at max' air flow	Pa	380		
	Specific fan power	W/litre/s	0.94		AHU total (supply+extract) 1.92W/l/s
	Total efficiency of fan/motor/drive to BS EN ISO 12759	%	67.1		
	Sound Power Levels (Outlet) (LWA)	63Hz	44		Unit to be supplied complete with internal anti-vibration fan mountings
		125Hz	69		
		250Hz	64		
		500Hz	81		
		1KHz	82		
		2KHz	78		
		4KHz	73		
		8KHz	65		
	Motor / Drive details		VSD		Variable Speed Drive
	Motor type	EC			
	Rated current	A	4.6		

	Nominal power	kW	2.82		
Heat Recovery	**Type**		Thermal Wheel		
	Winter Fresh air on	°C db	-4		
	Winter Fresh air off	°C db	14		
	Winter Efficiency	%	76.1		
	Summer Fresh air on	°C db	30		
	Summer Fresh air off	°C db	26.5		
	Summer Efficiency	%	76.1		
Outlet Damper					