
Document Title Calculation AHU's

Project Name, Location Pollux, Sassenheim

Client Johnson & Johnson

Document Number A21LE038-HCL-1240

Current Revision B

Issue Date 01 Mar 2022

Revision Description Issued for Basis of Design

Originator 5.1.2.e

Technical Approval 5.1.2.e

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DPS Project Number A21LE038

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Previous Revisions							
Revision	Date	By	Check	Approvals			Revision Description
			Tech	QA	PM	Client	
A	26 Jan 2022	MFN	AST	Electronically Approved			Issued for Concept

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AHU no.	Coil	Airflow AHU [m ³ /h]	Temperature [°C]	Absolute humidity [g/kg]	Sensible efficiency [%]	Latent efficiency [%]	Return temperature [°C]	Absolute humidity [g/kg]	Temperature out calc. (max) [°C]	Absolute humidity (max) [g/kg]	Temperature sel. [°C]	Absolute humidity sel. [g/kg]	tsteam [°C]	φsteam of φwater [kg/h]	h1 [J/kg]	h2 [J/kg]	ΔH [kJ/kg]	Required Capacity HEATING [kW]	Required Capacity COOLING [kW]	Required STEAM [kg/h]	Comments
AHU 1 AEU 1 Make-up	Heat Recovery Winter	57,732	-15.0	1.0	75.0	71.0	18.0	3.82	9.8	3.00	9.8	3.0	-	-	-12.6	17.3	29.9	-	-	-	
	Heat Recovery Summer	57,732	35.0	18.35	73.0	58.0	24.0	9.67	27.0	13.32	27.0	13.32	-	-	82.1	60.9	-21.1	-	-	-	
	Cooling	57,732	28.0	13.32	-	-	-	-	14.0	10.25	-	-	-	-	62.0	39.9	22.1	-	410	-	
	Heating	57,732	9.8	3.0	-	-	-	-	18.0	2.6	-	-	-	-	17.3	24.6	7.3	148	-	-	
	Steam humidification	57,732	18.0	2.6	-	-	-	-	18.3	4.20	-	-	100.0	111	24.6	29.0	4.3	-	-	111	
RCU 1	Cooling	49,646	22.0	10.53	-	-	-	-	18.0	10.53	-	-	-	-	48.8	44.7	4.1	-	65	-	
RCU 2	Cooling	59,444	22.0	10.53	-	-	-	-	18.0	10.53	-	-	-	-	48.8	44.7	4.1	-	78	-	
Other connections:																					
	ISO 7 (Reheaters)	59,444	18.0	5.8					21.0	5.8	-	-	-	-	32.7	35.8	3.0	64			
	ISO 8 (Reheaters)	49,646	18.0	5.8					21.0	5.8	-	-	-	-	32.7	35.8	3.0	53			
	CNC+NC (Reheaters)	16,360	18.0	5.8					21.0	5.8	-	-	-	-	32.7	35.8	3.0	17			
	DATAROOM (2x)																		20		
	UPS																		30		
	WAREHOUSE (2 Nos. FCU)																		25		
	TCU (12 Nos.)																		22		
	BIOKILL TANK																		20		
	AUTOCCLAVE FCU																		5		
	COMPR SKIDS																		40		
	ISOLATOR																		14		
	COLDROOM CONDENSOR																		15		
	FCU (7 Nos. 3kW cooling Each)																		24		
	FCU (6 Nos. 1.5kW heating Each)																	9			
	NEUTRALISATION TANKS																		15		
Total HVAC utility load:																		291	783	111	