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Project Name, Location Pollux, Sassenheim

Client Johnson & Johnson

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Calculation Sheet Electrical Load Schedule

DOCUMENT NO.: A21LE038-HCL-1210

REVISION: A

DATE: 01 Mar 2022

Mechanical Equipment	Tag No. P&ID	Load Type	Service	Operation	Usage	Data	V / PH / Hz	Installed Load	SHORT-BREAK (NSA)	NO-BREAK (UPS)	Remarks
								Rated Load			
								kW			
AHU-systems											
AHU-01 IE5 motor		MOTOR (DUTY)	Fan + Motor	VSD	CONT	SC	400 / 3 / 50	44.0	44.0		
AEU-01 IE5 motor		MOTOR (DUTY)	Fan + Motor	VSD	CONT	SC	400 / 3 / 50	37.0	37.0		
AHU-01 Thermal wheel motor		MOTOR (DUTY)	Motor	VSD	CONT	SC	400 / 3 / 50	0.8	0.8		
RCU-01 unit 1 IE5 motor		MOTOR (DUTY)	Fan + Motor	VSD	CONT	SC	400 / 3 / 50	37.0	37.0		
RCU-02 unit 2 IE5 motor		MOTOR (DUTY)	Fan + Motor	VSD	CONT	SC	400 / 3 / 50	44.0	44.0		
Steamhumidifier		SUPPLY		DOL	CONT	HP	400 / 3 / 50	105.0	105.0		
HVAC Fans											
L420-01-1B-005 Dedicated Extract process Bio Kill		MOTOR (DUTY)	TYPICAL AIR FAN	VFD	DSB	HP	400 / 3 / 50	1.5	1.5		
L420-01-1B-006 Dedicated FSC Exhaust Fan		MOTOR (DUTY)	TYPICAL AIR FAN	VFD	DSB	HP	400 / 3 / 50	0.3	0.3		
L420-01-1B-007 Dedicated Chiller Room Exhaust Fan		MOTOR (DUTY)	TYPICAL AIR FAN	VFD	DSB	HP	400 / 3 / 50	0.5	0.5		
L420-01-1B-008 HEPA Filter Booster Fan		MOTOR (DUTY)	TYPICAL AIR FAN	VFD	DSB	HP	400 / 3 / 50	1.5	1.5		
L420-03-1B-003 Dedicated extract process VHP		MOTOR (DUTY)	TYPICAL AIR FAN	VFD	DSB	HP	400 / 3 / 50	1.5	1.5		
L420-03-1B-004 Dedicated VHP recirculation fan		MOTOR (DUTY)	TYPICAL AIR FAN	VFD	DSB	HP	400 / 3 / 50	11.0	11.0		
L420-03-1B-005 Booster fan Safe Change HEPA Filter		MOTOR (DUTY)	TYPICAL AIR FAN	VFD	DSB	HP	400 / 3 / 50	15.0	15.0		
Cooling / Heating generation											
Heatpump 01 Water / Water		MOTOR (DUTY)		DOL	CONT	HP	400 / 3 / 50	70.0	70.0		
Heatpump 02 Air / Water		MOTOR (DUTY)		DOL	CONT	HP	400 / 3 / 50	70.0	70.0		
Heatpump 03 Air / Water		MOTOR (DUTY)		DOL	CONT	HP	400 / 3 / 50	70.0	70.0		
Heatpump 04 Air / Water		MOTOR (DUTY)		DOL	CONT	HP	400 / 3 / 50	70.0	70.0		
Dry Cooler 01		MOTOR (DUTY)		VFD	CONT	HP	400 / 3 / 50	6.0	6.0		
Pumps											
Pump heatpump 01 (Condensor)		MOTOR (DUTY)		VFD	CONT	HP	400 / 3 / 50	2.2	2.2		
Pump heatpump 01 (Evaporator)		MOTOR (DUTY)		VFD	CONT	HP	400 / 3 / 50	2.2	2.2		
Pump heatpump 02		MOTOR (DUTY)		VFD	CONT	HP	400 / 3 / 50	2.2	2.2		
Pump heatpump 03		MOTOR (DUTY)		VFD	CONT	HP	400 / 3 / 50	2.2	2.2		
Pump heatpump 04		MOTOR (DUTY)		VFD	CONT	HP	400 / 3 / 50	2.2	2.2		
Main Distribution pump LTHW		MOTOR (DUTY)		VFD	DSB	HP	400 / 3 / 50	4.0	4.0		Operational
Main Distribution pump LTHW		MOTOR (DUTY)		VFD	DSB	HP	400 / 3 / 50	0.0	0.0		Standby (4 kW)
Main Distribution pump CHW		MOTOR (DUTY)		VFD	CONT	HP	400 / 3 / 50	4.0	4.0		Operational
Main Distribution pump CHW		MOTOR (DUTY)		VFD	CONT	HP	400 / 3 / 50	0.0	0.0		Standby (4 kW)
Pump Heatpump Primary (drycooler)		MOTOR (DUTY)	PANEL LOAD	VFD	CONT	HP	400 / 3 / 50	2.2	2.2		Operational
Pump Heatpump Primary (drycooler)		MOTOR (DUTY)	PANEL LOAD	VFD	CONT	HP	400 / 3 / 50		0.0		Standby (2.2 kW)
Pump Heatpump Secondary (drycooler)		MOTOR (DUTY)	PANEL LOAD	VFD	CONT	HP	400 / 3 / 50	2.2	2.2		Operational
Pump Heatpump Secondary (drycooler)		MOTOR (DUTY)	PANEL LOAD	VFD	CONT	HP	400 / 3 / 50		0.0		Standby (2.2 kW)
Mixing Pump TCU's		MOTOR (DUTY)		VFD	CONT	HP	400 / 3 / 50	0.8	0.8		
Mixing Pump UPS		MOTOR (DUTY)		VFD	CONT	HP	400 / 3 / 50	0.8	0.8		
Antifrost Pump AHU		MOTOR (DUTY)		VFD	CONT	HP	400 / 3 / 50	0.8	0.8		
Watertreatment											
Watercontroller LTHW		SUPPLY	PANEL LOAD	MCB	CONT	HP	230 / 1 /50	0.5	0.5		
Pump magnetic filter LTHW		MOTOR (DUTY)	PANEL LOAD	DOL	DSB	HP	230 / 1 /50	0.3	0.3		
Watercontroller CHW		SUPPLY	PANEL LOAD	MCB	CONT	HP	230 / 1 /50	0.5	0.5		
Pump magnetic filter CHW		MOTOR (DUTY)	PANEL LOAD	DOL	DSB	HP	230 / 1 /50	0.3	0.3		
Watercontroller CW		SUPPLY	PANEL LOAD	MCB	CONT	HP	230 / 1 /50	0.5	0.5		
Pump magnetic filter CW		MOTOR (DUTY)	PANEL LOAD	DOL	DSB	HP	230 / 1 /50	0.3	0.3		
FCUs											
FCU (L0.605) (Cooling)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 /50	0.3	0.3		
FCU (L0.607) (Cooling)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 /50	0.3	0.3		



Calculation Sheet
Electrical Load Schedule

DOCUMENT NO.: A21LE038-HCL-1210

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DATE: 01 Mar 2022

Mechanical Equipment	Tag No. P&ID	Load Type	Service	Operation	Usage	Data	V / PH / Hz	Installed Load	SHORT-BREAK (NSA)	NO-BREAK (UPS)	Remarks
								Rated Load			
								kW			
FCU (L0.607) (Cooling)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 / 50	0.3	0.3		
FCU (L0.604) (Cooling)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 / 50	0.3	0.3		
FCU (L0.604) (Cooling)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 / 50	0.3	0.3		
FCU (L0.351) (Heating)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 / 50	0.3	0.3		
FCU (L0.352) (Heating)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 / 50	0.3	0.3		
FCU (L0.110) (Cooling+Heating)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 / 50	0.3	0.3		
FCU (L0.111) (Heating)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 / 50	0.3	0.3		
FCU (L2.604) (Cooling)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 / 50	0.3	0.3		
FCU (L2.604) (Cooling)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 / 50	0.3	0.3		
FCU (L0.102) (Heating)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 / 50	0.3	0.3		
FCU (L0.105) (Cooling+Heating)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 / 50	0.3	0.3		
FCU (Warehouse) (Cooling)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 / 50	0.3	0.3		
FCU (Warehouse) (Cooling)		MOTOR (DUTY)	Fan + Motor	VSD	CONT	HP	230 / 1 / 50	0.3	0.3		
Mechanical											
Break tank + hydrofor		SUPPLY	PANEL LOAD	DOL	CONT	HP	400 / 3 / 50	4.0	4.0		
Softener Skid		SUPPLY	PANEL LOAD	DOL	CONT	HP	400 / 3 / 50	4.0	4.0		
RO Water Skid		SUPPLY	PANEL LOAD	DOL	CONT	HP	400 / 3 / 50	4.0	4.0		
Electric Waterheater 3.5 kW (L0.200)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.200)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.208)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.208)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.221)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.350)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.350)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.601)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.218)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.218)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.219)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.219)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.112)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 13.5 kW (L0.113)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	13.5	13.5		
Electric Waterheater 3.5 kW (L0.115)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.115)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 13.5 kW (L0.115)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	13.5	13.5		
Electric Waterheater 13.5 kW (L0.115)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	13.5	13.5		
Electric Waterheater 3.5 kW (L0.116)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (L0.116)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 13.5 kW (L0.116)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	13.5	13.5		
Electric Waterheater 13.5 kW (L0.116)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	13.5	13.5		
Electric Waterheater 3.5 kW (Mezzanine)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Electric Waterheater 3.5 kW (Mezzanine)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	3.5	3.5		
Boiler for Emergency showers		SUPPLY		DOL	CONT	HP	230 / 1 / 50	6.0	6.0		
Circulation Pump Emergency Showers		SUPPLY		DOL	CONT	HP	230 / 1 / 50	0.5	0.5		
Electric Heater for City Water Room (1.5 kW)		SUPPLY		DOL	CONT	HP	230 / 1 / 50	1.5	1.5		
Cold Room		SUPPLY		DOL	CONT	HP	400 / 3 / 50	7.5	7.5		
Air Compressor 01		SUPPLY		DOL	CONT	HP	400 / 3 / 50	45.0	45.0		
Air Compressor 02		SUPPLY		DOL	CONT	HP	400 / 3 / 50	0.0	0.0		Standby (45 kW)
Air Dryer 01		SUPPLY		DOL	CONT	HP	400 / 3 / 50	5.0	5.0		
Air Dryer 02		SUPPLY		DOL	CONT	HP	400 / 3 / 50	0.0	0.0		Standby (5 kW)



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Mechanical Equipment	Tag No. P&ID	Load Type	Service	Operation	Usage	Data	V / PH / Hz	Installed Load	SHORT-BREAK (NSA)	NO-BREAK (UPS)	Remarks
								Rated Load			
								kW			
Heat Tracing				DOL	CONT	HP	230 / 1 /50	5.0	5.0		
CAV/VAV/MD Localized Control Panels											
Control Panel			VAV/CAV/MD	DOL	CONT		230 / 1 /50	42.0	42.0	42.00	-
BMS Panel											
Control Panel (4 Panels x 2 kW)			BMS	DOL	CONT		230 / 1 /50	8.0	8.0	8.00	-
Total load								884.0	884.0	50.0	