

WALL LOUVERS												
TAG	MODEL NUMBER	TYPE	DUTY	DEPTH (INCHES)	FACE AREA W/H (INCHES)	MIN FREE AREA (SQ)	CFM	MAX PRESSURE DROP (IN WC)	INTERLOCKED WITH	ACTUATOR TYPE	MATERIAL	ACCESSORIES/ REMARKS
WL.QN1-1	ESD-635	STATIONARY	EXHAUST	6	80X84	29.70	30,585	0.14	GENERATOR	N/A	ALUMINUM	1,3
WL.QN1-2	ESD-635	STATIONARY	INTAKE	6	80X84	35.00	20,000	0.07	GENERATOR	N/A	ALUMINUM	1,3
WL.QN1-2	ESD-635	STATIONARY	INTAKE	6	48X90	19.00	14,185	0.08	N/A	N/A	ALUMINUM	2,3
WL.QNF	ESD-635	STATIONARY	EXHAUST	6	80X20	4.90	3,600	0.08	N/A	N/A	ALUMINUM	2,3
WL.TRM	ESD-635	STATIONARY	EXHAUST	6	80X72	25.27	23,600	0.12	N/A	N/A	ALUMINUM	2,3
WL.FPE	ESD-635	STATIONARY	EXHAUST	6	80X24	6.40	4,500	0.07	N/A	N/A	ALUMINUM	2,3
WL.FPI	EAC-601	OPERABLE	INTAKE	6	80X28	6.20	4,500	0.08	EF-FF	NORMALLY OPEN	ALUMINUM	3,11
WL.BOLU	EAC-601	STATIONARY	INTAKE	6	30X20	1.43	735	0.04	EF-BOIL	NORMALLY CLOSED	ALUMINUM	1,3
WL.BOE	ESD-635	STATIONARY	INTAKE	6	30X20	1.43	735	0.07	N/A	N/A	ALUMINUM	1,3
WL.STI	ESD-635	STATIONARY	INTAKE	6	18X16	0.65	450	0.07	EF-ST	N/A	ALUMINUM	1,3
WL.POI	EAC-601	STATIONARY	INTAKE	6	24X18	1.04	515	0.05	EF-POOL	NORMALLY CLOSED	ALUMINUM	2,3
WL.POE	ESD-635	STATIONARY	EXHAUST	6	24X18	1.15	515	0.05	N/A	N/A	ALUMINUM	1,3
WL.PW	EAC-601	STATIONARY	INTAKE	6	16X16	0.23	150	0.05	EF-PW	NORMALLY CLOSED		
WL.GARI	ESD-635	STATIONARY	INTAKE	6	192X84	71.90	40,000	0.05		N/A	ALUMINUM	3
NOTES (APPLY TO ALL LOUVERS): A. FINAL COLOR SELECTION SHALL BE MADE BY ARCHITECT AT TIME OF SHOP DRAWINGS APPROVAL. B. ALL LOUVERS SHALL BE AMCA CERTIFIED FOR AIR PERFORMANCE AND WATER PENETRATION. C. ALL INTAKE LOUVERS SHALL BE PROTECTED BY SCREENS. RESIDENTIAL: NOT <1/4" AND NOT >1/2"; COMMERCIAL: >1/4" AND NOT >1".												
ACCESSORIES/REMARKS: 1. MOTORIZED DAMPER BEHIND LOUVER 2. GRAVITY BACK DRAFT DAMPER BEHIND LOUVER 3. ALUMINUM BRD SCREEN 4. INSECT SCREEN 5. KYNAR 500 FINISH 6. BAKED ENAMEL FINISH 7. FACTORY APPLIED PRIMER FINISH (FOR FIELD PAINTING - PAINTING IS BY OTHERS)												
SELECTIONS ARE BASED ON GREENHECK EQUAL PRODUCTS: AIRCLUTE, ARROW, CARNES, CONSTRUCTION SPECIALTIES, LOUVERS & DAMPERS, POTTORFF, RUSKIN, SAFE-AIR DOWCO.												

DUCTLESS MINI SPLIT SYSTEM																																						
TAG	SERIES FAN COIL UNIT/HEAT PUMP UNIT	AREA SERVED	LEVEL	FAN COIL		CAPACITY			SEER	HSPF	APPROX. WEIGHT (LBS) DSS/DCU	ACCESSORIES																										
				TYPE	TOTAL CFM	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	HP HEAT (MBH)																														
DFODCU ELEC	PLA36PUY36	MAIN ELE	LOWER LEVEL 2	W	920	36.0	28.8	-	21	-	53/139	1,3,4,5,6,7,8																										
DFODCU EM	PLA36PUY36	EMERGENCY ELEC	LOWER LEVEL 2	W	920	36.0	28.8	-	21	-	53/139	1,3,4,5,6,7,8																										
DFODCU MDF	PKA30PUY30	MDF/MOPF	LEVEL 01	W	705	30.0	23.1	-	18.5	-	53/139	1,3,4,5,6,7,8																										
DFHDHP LB	(3) MS212MX2-3C30	SOUTH PARKING ELEV LOBBY(L2,L2L1, L1, L1.5,L2,L3)	SEE PLAN	W	310	28.4	-	30.0	19.0	10.6	53/137	1,3,4,5,6,7,8																										
DFHDHP A	(2) MS212MX2-3C24	LOBBY VESTIBULE(L2,L2L1)	SEE PLAN	W	310	24.0	-	26.0	19.0	10.6	53/137	1,3,4,5,6,7,8																										
DFODCU ELE4	PKA18PUY18	ELE ROOM	L4,L1	W	310	18.0	13.9	-	19.8	-	32/139	1,3,4,5,6,7,8																										
DFODCU ELE2	PLA42PUY42	ELE ROOM	L2	W	920	42.0	33.6	-	21	-	53/139	1,3,4,5,6,7,8																										
DFODCU ELER	PKA12PUY12	ELE ROOM	LS,L12	W	310	12.0	10.6	-	19.8	-	32/139	1,3,4,5,6,7,8																										
DFHDHP PW	PKA1PUZ24	DOG WASH	LEVEL 01	C	635	24.0	16.3	25.0	16.6	10.4	82/210	1,3,4,5,6,7,8																										
DFHDHP FCC	PKA12PUZ12	FIRE COMMAND	LEVEL 01	W	310	12.0	10.6	18.0	21	10.2	32/139	1,3,4,5,6,8																										
DFODCU IDF	PKA18PUY18	IDF ROOM	LEVEL 01	W	310	18.0	13.9	-	19.8	-	32/139	1,3,4,5,8																										
DFODCU ELE	PKA30PUY30	ELE RM IDF	L15	W	705	30.0	21.6	-	18.5	-	53/139	1,3,4,5,6,7,8																										
DFHDHP EMR	PKA1PUZ30	ELEVATOR MECH RM	ROOF	W	705	30.0	21.6	30.0	18.5	9.6	53/139	1,3,4,5,8																										
<div>NOTES (APPLY TO ALL UNITS):</div> <div>A. COOLING CAPACITIES ARE BASED ON AN INDOOR EAT OF 80°F DB/67°F WB AND 95°F AMBIENT AND A PROJECT ELEVATION OF 102'. B. HEAT PUMP HEATING CAPACITY BASED ON AN INDOOR EAT OF 68°F DB AND 41°F ENTERING OUTDOOR UNIT. C. 410A. D. REFER TO HVAC GENERAL NOTES AND DETAILS FOR ADDITIONAL INFORMATION. E. INDOOR AND OUTDOOR UNITS SHALL BE INSTALLED PER PLANS, MANUFACTURER'S RECOMMENDATIONS AND LOCAL CODE REQUIREMENTS. F. DISCONNECT SWITCH FOR OUTDOOR UNIT FURNISHED BY DIV 23, INSTALLED BY DIV 26. G. UNITS SHALL BE EQUIPPED WITH AN INTERNAL CONDENSATE TRAP OR CHECK VALVE. H. UNITS SHALL MEET SEER2/HSPF2.</div> <div><div>LEGEND</div><div>FAN COIL UNIT TYPE: C - CEILING CASSETTE W - WALL HUNG</div></div> <tr><td colspan="13"><div>ACCESSORIES (THIS LIST IS NOT ALL INCLUSIVE. IN ADDITION, PROVIDE MANUFACTURER RECOMMEND ACCESSORIES FOR SAFE AND PROPER OPERATION):</div><div>6. WALL MOUNTING KIT FOR OUTDOOR UNIT 7. METAL DRAIN PAN FOR OUTDOOR UNIT, DIVERSITECH OR APPROVED EQUAL 8. LOW AMBIENT WIND BAFFLE 9. GUIDES SHALL BE PROVIDED FOR CONCEALED INSTALLATION 10. MOUNTING STAND</div></td></tr> <tr><td colspan="13"><div>SELECTIONS BASED ON PRODUCTS BY MITSUBISHI EQUAL PRODUCTS BY CARRIER, DAIKIN, LG, JCI, TRANE, SAMSUNG, TOSHIBA, PANASONIC, SANYO</div></td></tr>													<div>ACCESSORIES (THIS LIST IS NOT ALL INCLUSIVE. IN ADDITION, PROVIDE MANUFACTURER RECOMMEND ACCESSORIES FOR SAFE AND PROPER OPERATION):</div> <div>6. WALL MOUNTING KIT FOR OUTDOOR UNIT 7. METAL DRAIN PAN FOR OUTDOOR UNIT, DIVERSITECH OR APPROVED EQUAL 8. LOW AMBIENT WIND BAFFLE 9. GUIDES SHALL BE PROVIDED FOR CONCEALED INSTALLATION 10. MOUNTING STAND</div>													<div>SELECTIONS BASED ON PRODUCTS BY MITSUBISHI EQUAL PRODUCTS BY CARRIER, DAIKIN, LG, JCI, TRANE, SAMSUNG, TOSHIBA, PANASONIC, SANYO</div>												
<div>ACCESSORIES (THIS LIST IS NOT ALL INCLUSIVE. IN ADDITION, PROVIDE MANUFACTURER RECOMMEND ACCESSORIES FOR SAFE AND PROPER OPERATION):</div> <div>6. WALL MOUNTING KIT FOR OUTDOOR UNIT 7. METAL DRAIN PAN FOR OUTDOOR UNIT, DIVERSITECH OR APPROVED EQUAL 8. LOW AMBIENT WIND BAFFLE 9. GUIDES SHALL BE PROVIDED FOR CONCEALED INSTALLATION 10. MOUNTING STAND</div>																																						
<div>SELECTIONS BASED ON PRODUCTS BY MITSUBISHI EQUAL PRODUCTS BY CARRIER, DAIKIN, LG, JCI, TRANE, SAMSUNG, TOSHIBA, PANASONIC, SANYO</div>																																						

ROOFTOP UNITS (NATURAL GAS HEAT)																												
TAG	MANUF	EQUIP SERIES	AREA SERVED	SYSTEM TYPE	SUPPLY FAN				POWER EXHAUST				NET COOLING				HEATING				FILTERS			WEIGHT (LB)	ACCESSORIES			
					TOTAL	AIRFLOW (CFM)		MAX. MOTOR HP	ESP (IN WC)	AIRFLOW (CFM)	ESP (IN WC)	CAPACITY (MBH)			EAT (F)		EFFICIENCY	NO. OF CONTROL STAGES	MERV RATING	MERV RATING								
						MIN	MAX.					NOM TONS	TOT	SENS	DB	WB					IEER	SEER	MIN INPUT			MIN OUTPUT	EAT (F)	% AFUE
RTU R-1	CARRIER	48LCRA17	L16 AMENITY	SZ-VAV	4,800	480	820	7 1/2	1.5	4500.0	0.4	17.5	168.8	123.8	78.40	64.7	18.4	12.5	310.0	251.0	60	81.0	-	3	8	13	2,095	ALL
<div>NOTES (APPLY TO ALL UNITS):</div> <div>A. SCHEDULED COOLING CAPACITY IS BASED ON THE FOLLOWING OUTDOOR AMBIENT TEMPERATURE: 95°F DB AND A PROJECT ELEVATION OF 109'.</div> <div>B. REFRIGERANT SHALL BE R-410A.</div> <div>C. SINGLE CIRCUIT WITH TWO COMPRESSORS AND THREE STAGES OF COOLING</div> <div>D. RETURN AND OUTSIDE AIR DAMPERS SHALL BE CLASS 1 LOW-LEAKAGE TYPE.</div> <div>E. EQUIP ALL UNITS 6 TONS AND LARGER WITH CRANKCASE HEATERS.</div> <div>F. RTUS SHALL BE PROVIDED WITH 2" PLATED DISPOSABLE FILTERS. CONDENSATE OVERFLOW SWITCH IN PRIMARY DRAIN PAN. MOTORIZED OUTSIDE AIR DAMPER, STAINLESS STEEL HEAT EXCHANGER WITH DIRECT SPARK IGNITION AND 10 YEAR WARRANTY. COMPRESSOR ANTI-RECYCLE CONTROLS. SINGLE POINT POWER CONNECTION. COOLING OPERATION DOWN TO 40°F. 14" HIGH INSULATED ROOF CURB WITH BASE SLOPED TO MATCH ROOF PITCH.</div> <div>G. VARIABLE FLOW FAN SYSTEMS SHALL BE PROVIDED WITH VARIABLE SPEED DRIVE AND AIR FLOW MEASURING DEVICE TO MONITOR AND CONTROL OUTSIDE AIR VOLUME. AIR FLOW MEASURING STATION BY CONTROL CONTRACTOR</div> <div>H. COORDINATE WITH THE ELECTRICAL DRAWINGS FOR THE REQUIRED SHORT CIRCUIT CURRENT RATINGS OF THE PANELBOARD SERVING THE MULTI-MOTOR OR COMBINATION-LOAD EQUIPMENT. THE EQUIPMENT NAMEPLATE SHALL BEAR A RATING OF NO LESS THAN THE PANELBOARD RATING.</div> <div>I. MAXIMUM CFM DURING ECONOMIZER MODE SHALL BE 4800 CFM</div>																												
<div>ACCESSORIES (THIS LIST IS NOT ALL INCLUSIVE. IN ADDITION, PROVIDE MANUFACTURER RECOMMEND ACCESSORIES FOR SAFE AND PROPER OPERATION):</div> <div>1. 7-DAY PROGRAMMABLE THERMOSTAT WITH FAN-ON-AUTO CONTROL, AND AUTO HEATING/COOLING CHANGEOVER. PROVIDE HUMIDISTAT.</div> <div>2. LOCKING THERMOSTAT COVER</div> <div>3. POWERED EXHAUST</div> <div>4. AIR MONITORING STATION BY OTHERS</div> <div>5. UNIT MOUNTED FACTORY DISCONNECT</div> <div>6. SMOKE DETECTORS: MOUNT IN RETURN AIRSTREAM</div> <div>7. MODULATING HOT GAS RE-HEAT ADAPTIVE DEHUMIDIFICATION SYSTEM. CONTROLS & WALL MOUNTED HUMIDISTAT</div> <div>8. ECONOMIZER FAULT DETECTION AND DIAGNOSTICS (FDD)</div> <div>9. KINETICS KHM-1008 SOUND BARRIER MATERIAL, INSIDE OF ROOF CURB AND ON TOP OF ROOF DECK</div> <div>10. GFG 15 AMP CONVENIENCE OUTLET POWERED ON LINE SIDE OF DISCONNECT</div> <div>11. PHASE MONITORING PROTECTION</div> <div>12. RTU DEMAND CONTROL VENTILATION WIRING AND CONTROLS. PROVIDE WITH ONE WALL MOUNTED CO2 SENSOR AND ADDITIONAL SENSORS WHERE INDICATED</div> <div>13. CONDENSER COIL HAIL GUARDS</div> <div>14. DRIVE BELT FORWARD CURVE</div> <div>15. MANUFACTURER STARTUP</div> <div>16. ECONOMIZER INTEGRATED DIFFERENTIAL ENTHALPY TYPE, SIZED FOR 100% SUPPLY AIR CAPACITY. CAPABLE OF SIMLTANEOUS ECONOMIZER AND COMPRESSOR OPERATION. WITH BAROMETRIC RELIEF, UNLESS SPECIFIED WITH POWERED EXHAUST</div> <div>18. 18" HIGH ROOF CURB</div> <div>EQUIPMENT SELECTIONS BASED ON PRODUCTS INDICATED. SUBJECT TO COMPLIANCE WITH ALL PRODUCTS, EQUAL PRODUCTS BY: CARRIER, TRANE, JOHNSON CONTROLS, LENNOX, DAIKIN, RHEEM.</div>													<div>SYSTEM DESCRIPTION AND REQUIREMENTS:</div> <div>PROVIDE THE FOLLOWING FEATURES LISTED BELOW FOR THE SYSTEM TYPES IDENTIFIED FOR EACH RTU:</div> <div>CU: CONSTANT VOLUME, VARIABLE TEMPERATURE. PROVIDE WITH 7-DAY PROGRAMMABLE AUTO CHANGEOVER SYSTEM WITH HS RE-HEAT COIL, SPACE HUMIDISTAT AND CONTROLS.</div> <div>CB-VAV: CHANGEOVER BYPASS VARIABLE VOLUME. PROVIDE WITH HOT GAS RE-HEAT ADAPTIVE DEHUMIDIFICATION SYSTEM, BYPASS DAMPER FOR CONSTANT SPEED FAN OPERATION.</div> <div>SAV: STAGED AIR VOLUME FOR RTUS WITH 2-STAGE COOLING SHALL CONSIST OF MULTI-SPEED INDOOR FAN. FAN SPEED SHALL ADJUST TO MATCH COMPRESSOR OPERATION STAGINGS. PROVIDE WITH HOT GAS RE-HEAT ADAPTIVE DEHUMIDIFICATION SYSTEM, COIL, HUMIDISTAT, AND CONTROLS.</div> <div>SZ-VAV: SINGLE ZONE VARIABLE AIR VOLUME (VAV). PROVIDE WITH VARIABLE SPEED DRIVE ON FAN AND INTERNAL CONTROLS TO ALLOW COMPRESSOR TO OPERATE WITH VARIABLE AIRFLOWS. RTU SHALL OPERATE AT CONSTANT DISCHARGE AIR TEMPERATURE CONTROL.</div> <div>MZ-VAV: MULTIPLE ZONE VAV SHALL BE PROVIDED WITH SAME FEATURES AS SZ-VAV, BUT FAN SHALL BE CONTROLLED BY SIGNAL FROM DUCT MOUNTED STATIC PRESSURE SENSOR.</div>															

GRILLES, REGISTERS & DIFFUSERS - RESIDENTIAL										
TAG	MFG	SERIES	BLOW DIRECTION	DUTY	NECK SIZE (INCHES)	FACE SIZE	DAMPER	MATERIAL	TYPE	ACCESSORIES
RA	AIRMATE	100	3-WAY	SUPPLY	SEE DWGS	SEE DWGS	YES	STEEL	STAMPED SUPPLY REGISTER	1,3,4
RB	AIRMATE	200	N/A	SUPPLY	SEE DWGS	SEE DWGS	YES	STEEL	DOUBLE DEFLECTION SUPPLY REGISTER FOR SIDEWALL	1,3,4
RC	AIRMATE	170	N/A	RETURN/EX	SEE DWGS	SEE DWGS	NO	STEEL	STAMPED RETURN GRILLE	3
RD	AIRMATE	170FF	N/A	RETURN	SEE DWGS	SEE DWGS	NO	STEEL	STAMPED RETURN GRILLE W/FILTER	2,3
<p>NOTES (APPLY TO ALL AIR DEVICES):</p> <p>A. REFER TO ARCHITECTURAL DRAWINGS FOR TYPE OF CEILING AND/OR SUSPENSION SYSTEM.</p> <p>B. FINISH SHALL...</p> <p>C. DRYER...</p> <p>D. STEEL...</p> <p>E. REFER TO PLANS AND DETAILS FOR DWELLING UNIT SOFFIT GRILLE SIZES AND TYPES.</p>										
<p>ACCESSORIES:</p> <p>1. MOLDED INSULATION (R-6) BLANKET ON BACK PAN</p> <p>2. 1" MERV 8 FILTER (MAX. VELOCITY OF 200 FPM; 0.10 INCHES W.G. INITIAL RESISTANCE; FLANDERS PRE-PLAT 40 LPD).</p> <p>3. FINISH SHALL BE CUSTOM COLOR SELECTED BY THE ARCHITECT. SUBMIT COLOR CHART WITH SHOP DRAWINGS.</p> <p>4. BALANCING DAMPER AT THE GRILLE</p> <p>EQUAL PRODUCTS: HART & COOLEY, LIMA, TRUAIRE, USAIRE, SPEED-GRILLE, SHOEMAKER.</p>										

ELECTRIC HEATERS							
TAG	SERIES	TYPE	MOUNTING	OUTPUT CAPACITY (KW)	MOUNTING HEIGHT	APPROX. WEIGHT (LBS)	ACCESSORIES
EW-H-A	AFA	WALL HEATER	SURFACE	3.0	12"	25	1, 2, 3
EW-H-B	AFA	WALL HEATER	SURFACE	4.8	12"	25	1, 2, 3
EUH-A	5100	UNIT HEATER	HORIZONTAL/VERTICAL	5.0	8'-0"	30	1, 2, 5
EUH-B	5100	UNIT HEATER	HORIZONTAL/VERTICAL	7.5	8'-0"	30	1, 2, 5
EUH-C	5100	UNIT HEATER	HORIZONTAL/VERTICAL	10.0	8'-0"	30	1, 2, 5
ECH-A	3380	CEILING HEATER	RECESSED	2.0	CEILING	30	1, 2, 5
WH-F-A	FDI	IN-FLOOR HEATER	IN FLOOR	1.5	-	-	1, 6
<p>NOTES (APPLY TO ALL HEATERS):</p> <p>A. ALL HEATERS SHALL BE UL OR ETL TESTED AND LISTED.</p> <p>B. OUTPUT CAPACITY SCHEDULED IS AT INSTALLED VOLTAGE. COORDINATE WITH ELECTRICAL DWGS.</p> <p>C. ALL HEATERS SHALL HAVE THERMAL OVERLOAD PROTECTION.</p> <p>D. STAIRWELL AND SPRINKLER RISER ROOM HEATERS - THERMOSTAT SETPOINT SHALL BE 45°F.</p> <p>ACCESSORIES:</p> <p>1. INTEGRAL TAMPERPROOF THERMOSTAT</p> <p>2. INTEGRAL DISCONNECT SWITCH</p> <p>3. SURFACE MOUNTING KIT</p> <p>4. SEMI-RECESS MOUNTING KIT</p> <p>5. UNIVERSAL WALL/CEILING MOUNTING BRACKET</p> <p>6. WALL MOUNTED THERMOSTAT</p> <p>7. TEE BAR CEILING MOUNTING KIT</p> <p>8. CERTIFIED FOR ZERO CLEARANCE TO WALL OR CEILING</p> <p>SELECTIONS BASED ON PRODUCTS BY RAYWALL</p> <p>EQUAL PRODUCTS BY MARKEL, BERKO, QMARK, INDECO</p>							

SMOKE CONTROL/PRESSURIZATION FANS														
TAG	MANUF.	MODEL	AREA SERVED	FAN TYPE	FAN SELECTION CONDITIONS					INLET dBA (dB)	WEIGHT (LB)	CONTROL	ACCESSORIES	
					AIRFLOW (CFM)	ESP (IN WC)	TSP W/SYST EM..	MOTOR BHP	MOTOR HP					RPM
SPF-1	GREENHECK	AX-90-275-0625	STAIR A	AXIAL	26,000	1.80	1.80	17.00	20.0	1770	87	895	1, 2	1,2,3,4.
SPF-2	GREENHECK	AX-90-275-0620	STAIR B	AXIAL	24,000	1.80	1.70	12.50	15.0	1770	88	895	1, 2	1,2,3,4.
SPF-3	GREENHECK	AX-80-275-0630	STAIR C	AXIAL	21,000	1.50	1.90	11.70	15.0	1770	85	750	1, 2	1,2,3,4.
SPF-2-1	GREENHECK	AX-72-190-0630	STAIR C	INLINE	13,000	1.00	1.40	7.60	10.0	1770	81	500	1, 2	1,2,3,5.
NOTES (APPLIES TO ALL UNITS): FANS SHALL BE PROVIDED WITH THE FOLLOWING: A. VARIABLE FREQUENCY DRIVE. B. EXTERIOR FANS SHALL BE PROVIDED WITH WEATHER HOOD AND BIRDSCREEN. C. PRESSURIZATION FANS: 2-POSITION, PARALLEL BLADE MOTOR OPERATED CLASS 1 SMOKE DAMPER, DESIGNED AND SET UP TO FAIL IN THE OPEN POSITION. DAMPER SHALL BE CAPABLE OF BEING 100% OPEN WITHIN 75 SECONDS OF INITIATION SIGNAL. D. SMOKE EXHAUST FANS: 2-POSITION, PARALLEL BLADE MOTOR OPERATED CLASS 1 SMOKE DAMPER, DESIGNED AND SET UP TO FAIL IN THE OPEN POSITION. DAMPER SHALL BE CAPABLE OF BEING 100% OPEN WITHIN 75 SECONDS OF INITIATION SIGNAL. E. BELT DRIVE FANS SHALL BE PROVIDED WITH 1.5 TIMES THE NUMBER OF BELTS REQUIRED FOR THE DESIGN DUTY POINT WITH A MINIMUM OF TWO BELTS. F. FANS SHALL BE LISTED IN ACCORDANCE WITH UL - POWER VENTILATORS FOR SMOKE CONTROL SYSTEMS. G. FANS SHALL BE CERTIFIED TO BEAR THE AMCA LABEL FOR AIR AND SOUND PERFORMANCE. H. SELECTIONS ARE BASED ON A PROJECT ELEVATION OF 109'. CFM HAS BEEN CORRECTED FOR ALTITUDE. I. MOTORS CONTROLLED BY A VARIABLE FREQUENCY DRIVE (VFD) SHALL BE INVERTER DUTY MOTORS AND SHALL BE COMPATIBLE WITH THE PARTICULAR MANUFACTURER'S DRIVE THAT IS USED. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. K. PRESSURIZATION FANS SHALL HAVE A DUCT SMOKE DETECTOR FURNISHED BY ELECTRICAL, INSTALLED BY MECHANICAL AND WIRED BY ELECTRICAL. REFER TO DETAILS AND SPECIFICATIONS FOR SEQUENCE OF OPERATION.														
ACCESSORIES: 1. VARIABLE FREQUENCY DRIVE 2. DISCONNECT SWITCH (FURNISHED BY MECHANICAL, INSTALLED BY ELECTRICAL) 3. DIFFERENTIAL PRESSURE SWITCH FOR OPERATING VERIFICATION 4. MOUNTING BRACKETS - BASE FOR ROOF MOUNTING 5. PROVIDE SPRING HANGER WITH MIN. 2" DEFLECTION.														
EQUIPMENT SELECTIONS BASED ON PRODUCTS INDICATED. SUBJECT TO COMPLIANCE WITH ALL PRODUCTS, EQUAL PRODUCTS BY: COOK, PENN-BARRY, CARNES, TWIN CITY, AEROVENT.														
CONTROLS (APPLIES TO ALL FANS): 1. INTERLOCK DAMPERS TO BE OPEN WHEN FAN IS ENERGIZED AND CLOSED WHEN THE FAN IS DE-ENERGIZED. 2. DIFFERENTIAL PRESSURE SENSOR ACROSS FAN TO CONFIRM FAN OPERATION, TO BE ANNUNCIATED ON FIREMAN'S CONTROL PANEL.														

SPLIT SYSTEM HEAT PUMP UNITS - DWELLING UNITS																	
TAG	SERIES AIR HANDLER/HEAT PUMP UNIT	UNIT TYPE SERVED	AIR HANDLER						CAPACITY					SEER2	HSPF2	APPROX. WEIGHT (AHHPP) (LBS)	ACCESSORIES
			TYPE	TOTAL CFM	OA SOURCE	OA CFM	MAX FAN HP	ESP (IN WC)	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	HEAT PUMP HEAT (MBH)	AUXILIARY HEAT OUTPUT (kW)					
												240V	208V				
AH-AHP-A	FMC4018/GH45M4H18	S1,S3, A2,	P	600	M	SEE CALC	0.5	0.60	17.1	13.0	18.1	5.0	3.8	15.2	7.5	109166	1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 16
AH-A1HP-A1	AWST18/GS2H5018	S2, A3,	W	600	M	SEE CALC	0.5	0.60	17.0	12.9	17.1	5.0	3.8	14.3	7.5	101170	1, 2, 3, 4, 5, 6, 7, 8, 14
AH-A2HP-A2	FTQ18/RZQ18	A10,(2,1,3), A11,(2,1,3), ADQ2,(2,1,3), AD3,(2,1,3), , AD4,(2,1,3)	W	800	M	SEE CALC	0.5	0.60	17.0	12.9	20.0	5.0	3.8	15.6	8.1	101170	1, 2, 3, 4, 5, 6, 7, 8, 13, 15
AH-BHP-B	AWST24/GS2H5024	A1,A4, AS(E),A6, A7,B7	W	800	M	SEE CALC	0.5	0.60	23.0	17.5	22.4	5.0	3.8	14.3	7.5	130175	1, 2, 3, 4, 5, 6, 7, 8, 14, 15
AH-B1HP-B1	FTQ24/RZQ24	AD10,(2,1,3), A12,(2,1,3),	W	800	M	SEE CALC	0.5	0.60	23.6	17.9	27.0	5.0	3.8	16.2	8.7	101175	1, 2, 3, 4, 5, 6, 7, 8, 13, 15
AH-CHP-C	AWST30/GS2H5030	AS(W),	W	1,000	M	SEE CALC	0.5	0.60	28.4	21.6	28.8	5.0	3.8	14.3	7.5	123226	1, 2, 3, 4, 5, 6, 7, 8, 14
AH-C1HP-C	AWST30/GS2H5030	A8, AD5,B2,B10	W	1,000	M	SEE CALC	0.5	0.60	28.4	21.6	28.8	8.0	6.0	14.3	7.5	123226	1, 2, 3, 4, 5, 6, 7, 8, 14
AH-C2HP-C2	FTQ30/RZQ30	A8 (A,L,S), A9,(2,1,3)	W	1,000	M	SEE CALC	0.5	0.60	25.8	19.6	34.0	8.0	6.0	15.6	9.1	123226	1, 2, 3, 4, 5, 6, 7, 8, 13, 15
AH-DHP-D	AWST36/GS2H5036	B1,B3,B4	W	1,200	M	SEE CALC	0.5	0.60	34.6	26.3	33.3	8.0	6.0	14.3	7.5	123227	1, 2, 3, 4, 5, 6, 7, 8, 14
AH-D1HP-D1	FTQ36/RZQ36	B10,(4,1,5), B9,(2,1,3)	W	1,200	M	SEE CALC	0.5	0.60	35.8	27.2	40.0	8.0	6.0	16.4	8.8	123227	1, 2, 3, 4, 5, 6, 7, 8, 13, 15
AH-EHP-E	AMST48/GS2H5048	B5,B6	C	1,600	M	SEE CALC	0.5	0.60	45.5	34.6	46.9	10.0	7.5	15.2	7.8	162276	1, 2, 3, 4, 5, 6, 7, 8, 14
AH-E1HP-E1	FTQ48/RZQ48	B9,(2,1,3)	C	1,600	M	SEE CALC	0.5	0.60	47.5	36.1	46.8	10.0	7.5	15.3	8.8	162276	1, 2, 3, 4, 5, 6, 7, 8, 13, 15

NOTES (APPLIES TO ALL UNITS):

A. COOLING CAPACITIES ARE BASED ON AN INDOOR EAT OF 80°F DB/67°F WB AND/6°F AMBIENT AND A PROJECT ELEVATION OF 1097'.

B. 14.3 SEER2 MINIMUM UNITS WITH R-10A. MINIMUM 7.8 HSPF2. SUBMIT AHRF CERTIFIED CAPACITIES FOR ACTUAL EQUIPMENT TO BE INSTALLED.

C. PERFORMANCE FOR GOODMAN SYSTEM HEATING CAPACITY BASED ON AN INDOOR EAT OF 68°F DB AND 47°F ENTERING OUTDOOR TEMP. FOR DAIKIN SYSTEM IS BASED ON 5 DEG F ENTERING OUTDOOR TEMP.

D. ESP DOES NOT INCLUDE COIL, FILTER, CASING AND ACCESSORY LOSSES.

E. REFER TO HVAC GENERAL NOTES AND DETAILS FOR ADDITIONAL INFORMATION.

F. ADJUST MOTOR SPEED TAP IN FIELD TO PROVIDE TOTAL CFM LISTED FOR EACH AIR HANDLER.

G. INDOOR AND OUTDOOR UNITS SHALL BE INSTALLED PER PLANS, MANUFACTURER'S RECOMMENDATIONS AND LOCAL CODE REQUIREMENTS.

H. PRIMARY CONDENSATE SHALL BE SIZED, TRAPPED AND ROUTED PER PLANS AND DETAILS.

J. FOR LONG LINE APPLICATIONS, PROVIDE ACCESSORIES AS RECOMMENDED BY THE MANUFACTURER.

K. SEE DRAWINGS FOR AIR HANDLER ORIENTATION.

L. ELECTRIC HEAT SHALL OPERATE ONLY WHEN IN THE DEFROST MODE OR WHEN THE HEATING LOAD CANNOT BE MET BY THE COMPRESSOR ALONE.

M. SEE DWELLING VENTILATION CALC FOR VENTILATION AIRFLOW.

O. IF THE OUTDOOR UNIT IS INSTALLED IN A LOCATION WHERE ICE MELT FROM THE DEFROST CYCLE MIGHT POSE A NUISANCE, PROVIDE A DRIP PAN WITH DRAIN LINE. SEE PLANS FOR ROUTING.

LEGEND

TYPE:
C - CLOSET
P - PANCAKE
W - WALL HUNG
H - HORIZONTAL


OA SOURCE:
M - MECHANICAL
N - NATURAL

ACCESSORIES (THIS LIST IS NOT ALL INCLUSIVE. IN ADDITION, PROVIDE MANUFACTURER RECOMMEND ACCESSORIES FOR SAFE AND PROPER OPERATION):

1. EEC COMPLIANT 7 DAY PROGRAMMABLE THERMOSTAT; MANUAL CHANGE OVER WITH COMPRESSOR ANTI-RECYCLE PROTECTION, 2-STAGE HEATING, ADAPTIVE SETBACK RECOVERY AND TIME DELAY RELAY
2. INDOOR UNIT - SINGLE POINT POWER WIRING KIT WITH DISCONNECTING MEANS AND OVERLOAD PROTECTION. (COORDINATE WITH ELECTRICAL SUBCONTRACTOR)
3. OUTDOOR UNIT - DISCONNECT FURNISHED BY MECHANICAL; INSTALLED BY ELECTRICAL. (COORDINATE WITH ELECTRICAL SUBCONTRACTOR)
4. FACTORY MOUNTED THERMAL EXPANSION VALVE TO ACHIEVE 14 SEER RATING (IF REQUIRED)
5. BI-FLOW REFRIGERANT FILTER DRIER IF REQUIRED BY MANUFACTURER (LOCATE PER MANUFACTURER'S RECOMMENDATION)
6. SAF-T-SWITCH INSTALLED IN SECONDARY CONDENSATE DRAIN FOR OVERFLOW PROTECTION OR ROUTE FULL SIZE OUTLET CONNECTION THRU CEILING WITH ESCUTCHEON
7. HARD START KIT
8. CRANKCASE HEATER
9. FILTER RACK WITH 1" THICK DISPOSABLE MERV 6 FILTER
10. INDOOR PANCAKE UNIT - HINGED AND GASKETED CEILING ACCESS PANEL FOR MAINTENANCE AND REMOVAL. MFR IS CARRIER
11. INDOOR PANCAKE UNIT - FULLY INSULATED ENCLOSURE
12. PANCAKE UNIT - HEAT PUMP KIT
13. HORIZONTAL OUTDOOR UNIT. MFR IS CARRIER. PROVIDE WALL MOUNTING BRACKET AND METAL DRAIN PAN FOR OUTDOOR UNIT. DIVERSITECH OR APPROVED EQUAL.
14. BASIS OF DESIGN IS GOODMAN
15. BASIS OF DESIGN IS DAIKIN
16. BASIS OF DESIGN IS CARRIER

SELECTIONS BASED ON PRODUCTS BY GOODMAN OR CARRIER. SEE NOTE FOR MORE INFO

EQUAL PRODUCTS BY GOODMAN, FIRST COMPANY, SUNTHERM, ASPEN, CARRIER, BRYANT, TRANE, YORK, LENNOX, RHEEM.

SPLIT SYSTEM HEAT PUMP UNITS - COMMON AREAS																	
TAG		MODEL NUMBER AIR HANDLER/HEAT PUMP UNIT	AREA SERVED	AIR HANDLER				CAPACITY					SEER2	HSPF2	APPROX. WEIGHT (AHHPP) (LBS)	ACCESSORIES	
				TYPE	TOTAL CFM	OA CFM	MAX HP	ESP (IN WC)	TOTAL COOLING (MBH)	SENSIBLE COOLING (MBH)	HP HEATING (MBH)	AUXILIARY HEAT OUTPUT (kW)					
												24V					208V
AHL-1HP-L1		FTQ18/RZQ18	L1 OFFICES	C	600	125	3/4	0.60	40.0	30.4	42.0	5.0	3.8	16.0	9.2	117135	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
AHL-1HP-L1		FTQ24/RZQ24	L1 OFFICES	C	800	170	3/4	0.60	24.0	17.1	27.0	5.0	3.8	16.2	8.7	117135	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
AHL-2HP-L2		FTQ48/RZQ48	LOBBY	C	1,600	200	3/4	0.60	48.0	37.3	46.8	10.0	7.5	15.3	8.8	179219	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
AHL-3HP-L3		FTQ48/RZQ48	LOBBY	C	1,600	SEE PLAN	3/4	0.60	48.0	37.3	46.8	10.0	7.5	15.3	8.8	179219	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
AHL-4HP-L4		FTQ24/RZQ24	L1.5 MAIL & MEZZ	C	800	SEE PLAN	3/4	0.60	24.0	17.1	27.0	5.0	3.8	16.2	8.7	117135	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
AHL-5HP-L5		FTQ24/RZQ24	L1 PACKAGE AND CORR	C	800	170	3/4	0.60	24.0	17.1	27.0	8.0	6.0	16.2	8.7	117135	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
AH-CORRHP-CORR		FTQ36/RZQ36	CORRIDOR	C	1,200	150	3/4	0.60	34.8	27.5	40.0	10.0	7.5	16.4	8.8	117135	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
AH-MAINTHP-MAINT		FTQ30/RZQ30	L1 MAINT. RM	C	1,000	175	3/4	0.60	30.0	17.1	34.0	8.0	6.0	15.6	9.1	117135	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
AH-L4-1HP-L4.1		AMST36/GSZH636	L4 CARDIO	C	1,200	SEE PLAN	3/4	0.60	34.8	27.5	34.4	10.0	7.5	15.2	7.8	162238	1, 2, 3, 4, 5, 6, 7, 8, 9
AH-L4-2HP-L4.2		AMST48/GSZH648	L4 FITNESS	C	1,600	300	3/4	0.60	45.5	35.9	46.0	10.0	7.5	15.2	7.8	162238	1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12
AH-L4-3HP-L4.3		AMST24/GSZH624	L4 CONWORKING	C	800	180	3/4	0.60	23.2	18.3	22.8	8.0	6.0	15.2	7.5	128172	1, 2, 3, 4, 5, 6, 7, 8, 9
AH-L4-4HP-L4.4		AMST48/GSZH648	L4 CONWORKING	C	1,600	SEE PLAN	3/4	0.60	45.5	35.9	46.0	10.0	7.5	15.2	7.8	162238	1, 2, 3, 4, 5, 6, 7, 8, 9
AH-L4-5HP-L4.5		AMST48/GSZH648	FITNESS	C	1,600	300	3/4	0.60	45.5	35.9	46.0	10.0	7.5	15.2	7.8	162238	1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12
AH-L4-6HP-L4.6		AMST48/GSZH648	YOGA	C	1,600	200	3/4	0.60	45.5	35.9	46.0	10.0	7.5	15.2	7.8	162238	1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 12
AHL-16-1HP-L16.1		AMST24/GSZH624	LOUNGE ENTRY	C	800	SEE PLAN	3/4	0.60	23.2	18.3	22.8	8.0	6.0	15.2	7.5	128172	1, 2, 3, 4, 5, 6, 7, 8, 9

NOTES:
A. COOLING CAPACITIES ARE BASED ON AN INDOOR EAT OF 80°F DB/67°F WB AND 9°F DB ENTERING OUTDOOR UNIT AND A PROJECT ELEVATION OF 1097'.
B. 14.3 SEER2 MINIMUM UNITS WITH R-10A. MINIMUM 7.8 HSPF2. SUBMIT AHRF CERTIFIED CAPACITIES FOR ACTUAL EQUIPMENT TO BE INSTALLED.
C. HEAT PUMP HEATING CAPACITY BASED ON AN INDOOR EAT OF 68°F DB AND 47°F ENTERING OUTDOOR FOR GOODMAN AND 5 DEG F ENTERING OUTDOOR FOR DAIKIN UNIT
D. ESP DOES NOT INCLUDE COIL, FILTER, CASING AND ACCESSORY LOSSES.
E. REFER TO HVAC GENERAL NOTES AND DETAILS FOR ADDITIONAL INFORMATION.
F. ADJUST MOTOR SPEED TAP IN FIELD TO PROVIDE TOTAL CFM LISTED FOR EACH AIR HANDLER.
G. INDOOR AND OUTDOOR UNITS SHALL BE INSTALLED PER PLANS, MANUFACTURER'S RECOMMENDATIONS AND LOCAL CODE REQUIREMENTS.
H. PRIMARY CONDENSATE SHALL BE SIZED, TRAPPED AND ROUTED PER PLANS AND DETAILS.
J. FOR LONG LINE APPLICATIONS, PROVIDE ACCESSORIES AS RECOMMENDED BY THE MANUFACTURER.
K. SEE DRAWINGS FOR AIR HANDLER ORIENTATION.
L. ELECTRIC HEAT SHALL OPERATE ONLY IN DEFROST MODE OR WHEN THE HEATING LOAD CANNOT BE MET BY THE COMPRESSOR ALONE.
M. IF THE OUTDOOR UNIT IS INSTALLED IN A LOCATION WHERE ICE MELT FROM THE DEFROST CYCLE MIGHT POSE A NUISANCE, PROVIDE A DRIP PAN WITH DRAIN LINE. SEE PLANS FOR ROUTING.

LEGEND
TYPE:
C - CLOSET
P - PANCAKE
W - WALL HUNG

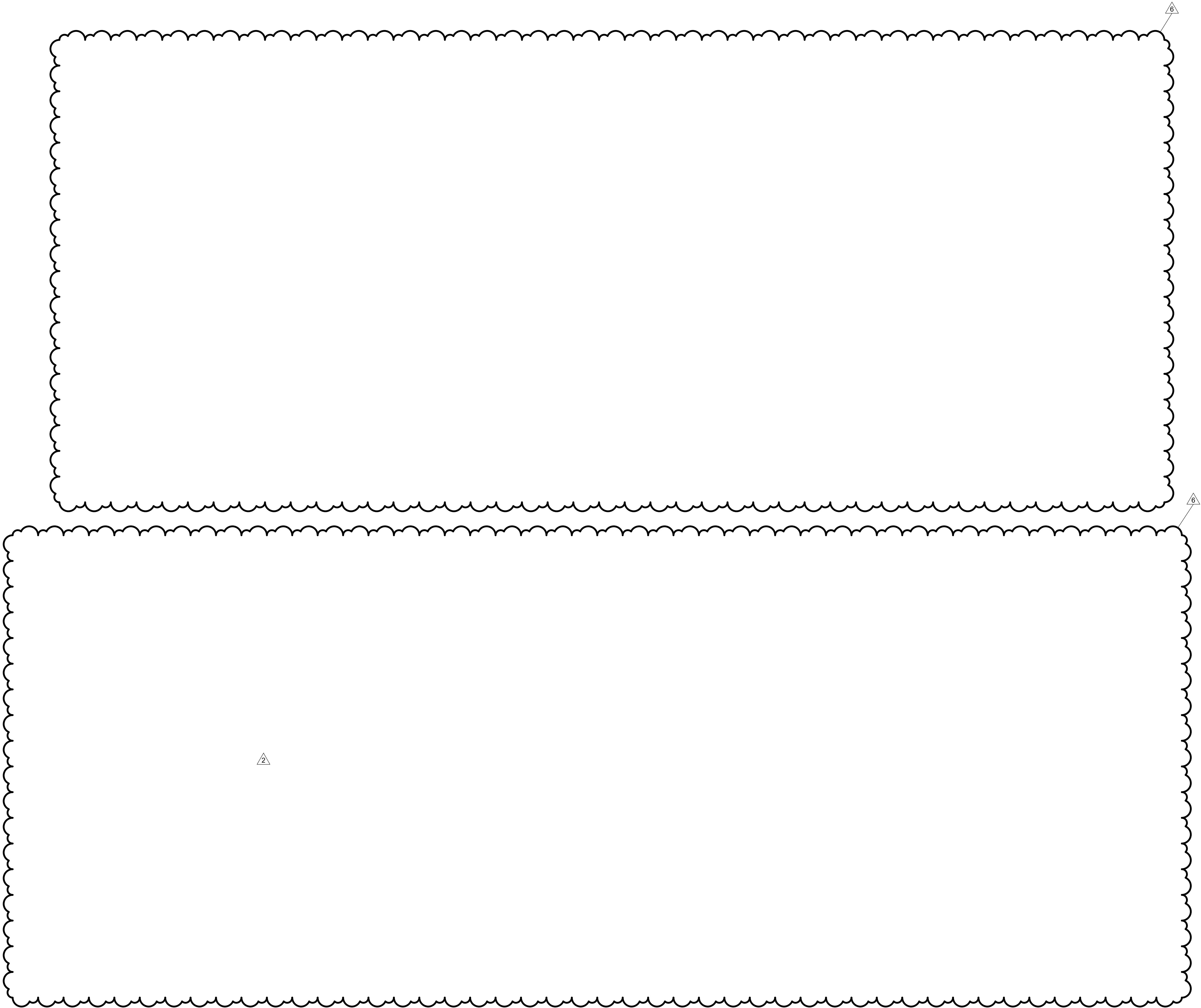
ACCESSORIES (THIS LIST IS NOT ALL INCLUSIVE. IN ADDITION, PROVIDE MANUFACTURER RECOMMEND ACCESSORIES FOR SAFE AND PROPER OPERATION):

1. 7-DAY PROGRAMMABLE THERMOSTAT; AUTOMATIC CHANGE OVER WITH COMPRESSOR ANTI-RECYCLE PROTECTION AND TIME DELAY RELAY (Honeywell RT19000 OR APPROVED EQUAL)
2. INDOOR UNIT - SINGLE POINT POWER WIRING KIT WITH DISCONNECTING MEANS AND OVERLOAD PROTECTION. (COORDINATE WITH ELECTRICAL SUBCONTRACTOR)
3. OUTDOOR UNIT - DISCONNECT FURNISHED BY MECHANICAL; INSTALLED BY ELECTRICAL. (COORDINATE WITH ELECTRICAL SUBCONTRACTOR)
4. FACTORY MOUNTED THERMAL EXPANSION VALVE TO ACHIEVE 14 SEER RATING (IF REQUIRED)
5. BI-FLOW REFRIGERANT FILTER DRIER IF REQUIRED BY MANUFACTURER (LOCATE PER MANUFACTURER'S RECOMMENDATION)
6. SAF-T-SWITCH INSTALLED IN SECONDARY CONDENSATE DRAIN FOR OVERFLOW PROTECTION OR ROUTE FULL SIZE OUTLET CONNECTION THRU CEILING WITH ESCUTCHEON
7. HARD START KIT
8. CRANKCASE HEATER
9. FILTER RACK WITH 1" THICK DISPOSABLE MERV 6 FILTER
10. HORIZONTAL OUTDOOR UNIT. MFR IS CARRIER. PROVIDE WALL MOUNTING BRACKET AND METAL DRAIN PAN FOR OUTDOOR UNIT; DIVERSITECH OR APPROVED EQUAL.
11. WALL MOUNTED CO2 SENS...
12. BI-POLAR IONIZATION UNIT

SELECTIONS BASED ON PRODUCTS BY CARRIER AND GOODMAN

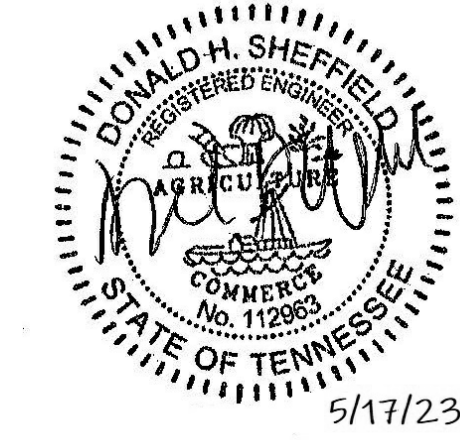
EQUAL PRODUCTS BY GOODMAN, FIRST COMPANY, SUNTHERM, ASPEN, CARRIER, BRYANT, TRANE, YORK, LENNOX, RHEEM, AIRMARK.

FANS														
TAG	MANUF.	MODEL	TYPE	DUTY	CFM	SP (IN WC)	MAX. MOTOR SIZE	RPM	DRIVE	MAX. SONES	APPROX. WEIGHT (LBS)	CONTROLLED BY	EMERGENCY POWER	ACCESSORIES/REMARKS
EF-A	BROAN	LP50100DC	CC	UNIT BATH EXH	50	0.25	26.9W	N/A	D	1.5	10	CA	NO	1, 3, 13,
EF-B	GREENHECK	SP-A110	CC	PUBLIC BATH EXH	70	0.4	17W	900	D	1.1	12	CS	NO	1, 3, 13,
EF-C	GREENHECK	SP-A190	CC	GROUP PUBLIC BATH EXH	140	0.4	44W	1400	D	1.5	20	CS	NO	1, 3, 13,
EF-D	BROAN	LP50100DC	CC&WC	UNIT KITCHEN FAN	100	0.3	26.9W	N/A	D	1.5	10	CA	NO	1, 3, 13,
EF-GEN	GREENHECK	SQ-160-VG	ILC	GENERATOR RM	3600	0.6	2	1398	D	16.7	200	CB	YES	2,3,9, 20, 25, 31,37
EF-TRFM	GREENHECK	USF-49	UCF	TRANSFORMER RM	23600	0.75	7 1/2	360	D	13.3	2200	CB	YES	2, 3, 11,20, 32,36
EF-TR-1	GREENHECK	USF-22-86	UCF	TRASH RMS	4000	1.2	1 1/2	1235	D	70DBA	355	CN	NO	2, 3, 11,20, 27, 32,
EF-FP	GREENHECK	SQ-16-VG	ILC	FIRE PUMP ROOM	4500	0.5	2	1500	DECM	19.5	190	CB	YES	2, 3, 5, 7, 9, 12, 23
EF-PW	GREENHECK	SP-A290	CC	DOGWASH	150	0.5	81W	910	D	2.0	30	CS	NO	2,3,13
EF-POOL	GREENHECK	SQ-96-VG	ILC	POOL EQUIP. RM	515	0.4	115HP	1600	D	7.7	80	CN	NO	2,3,9,14
EF-TR-5	GREENHECK	USF-18-87	UCF	TRASH RMS	3700	1.2	1 1/2 HP	1920	D	67DBA	270	CN	NO	2, 3, 11,20, 27, 32,
EF-LD	GREENHECK	SQ-130	ILC	LOADING DOCK	1600	0.5	3/4	1725	VFD	10.6	150	CJ	NO	2,3,9,11,14
EF-LD-1	GREENHECK	SQ-160-VG	ILC	LOADING DOCK	2360	0.5	3/4	1725	VFD	8.4	110	CJ	NO	2,3,9,11,14
EF-FAR	GREENHECK	CSP-A390	ILC	FARS	250	0.5	69 W	1655	D	NA	45	CB	NO	2,3,9,14
EF-BIKE	GREENHECK	CSP-8200	CAB	BIKE STORAGE	375	0.8	179 W	1025	D	NA	25	CB	NO	2,3,9,14
EF-BULK	GREENHECK	CSP-A390-VG	CAB	BULK STORAGE	200	0.8	60 W	1725	D	NA	58	CB	NO	2,3,9,14
EF-ST	GREENHECK	CSP-780	CAB	TENANT STORAGE	450	0.8	258 W	1726	D	NA	59	CB	NO	2,3,9,14
EF-IDF	GREENHECK	SP-A190	CC	IDF ROOM	200	0.6	1/4	1726	D	NA	59	CB	NO	2,3,9,14
EF-BOL	GREENHECK	SQ-130	ILC	BOILER RM	735	0.6	1/4	1726	D	NA	59	CB	NO	2,3,9,11,14
GEF-A	GREENHECK	AER-20-VG	WP	GARAGE	2700	0.6	1	1750	D	20.0	180	CN	NO	1,3,7,9,18,20,27,28,32
GEF-B	GREENHECK	AER-42	WP	GARAGE	20,000	0.6	7 1/2	1750	VFD	54.0	700	CJ	NO	1,3,7,11,18,20,27,28,32
GEF-C	GREENHECK	SQ-24-VG	ILC	GARAGE	13,500	0.8	10	1750	VFD	59.0	402	CJ	NO	1,3,9,11,14
GEF-D	GREENHECK	SQ-100	ILC	GARAGE	1,000	0.8	1/2	1750	D	9.0	100	CN	NO	1,3,9,11,14
GEF-E	GREENHECK	AER-24-03	WP	GARAGE	8,000	0.8	5	1750	VFD	85 DBA	253	CJ	NO	1,3,7,11,18,20,27,28,32
NOTES:														
A. SELECTIONS ARE BASED ON A PROJECT ELEVATION OF 0'091". CMH HAS BEEN CORRECTED FOR ALTITUDE.														
B. GREASE REMOVAL FANS SHALL BE LISTED FOR GREASE REMOVAL (UL 702) AND ELECTRICAL (UL 705)														
C. REFER TO DETAILS FOR ADDITIONAL OPTIONS, ACCESSORIES, MOUNTING ARRANGEMENT, ETC.														
D. FOR FANS THAT ARE PART OF A SMOKE MANAGEMENT SYSTEM, REFER TO THE SMOKE CONTROL FAN SCHEDULE														
E. WEIGHTS INCLUDE ACCESSORIES, CURBS, MOTORS, ETC.														
F. FANS THAT ARE SCHEDULED TO RUN CONTINUOUSLY SHALL HAVE IEC 60034-1 CONTINUOUS DUTY RATED MOTORS.														
G. FANS THAT ARE INTERCONNECTED WITH LIGHTING CONTROLS (E.G. LIGHT SWITCH) MAY NOT BE THE SAME VOLTAGE AS THE LIGHTING CIRCUIT. COORDINATE WITH THE ELECTRICAL CONTRACTOR AND PROVIDE RELAYS/CONTROLS AS REQUIRED.														
H. REFER TO AIR HANDLING UNIT SCHEDULE FOR OA CFM AND BALANCE ACCORDINGLY.														
I. FANS SHALL BE CERTIFIED AND BEAR THE HVI-2100 OR AMCA LABEL FOR AIR AND SOUND PERFORMANCE.														
K. MOTORS CONTROLLED BY A VARIABLE FREQUENCY DRIVE (VFD) SHALL BE INVERTER DUTY MOTORS AND SHALL BE COMPATIBLE WITH THE PARTICULAR MANUFACTURER'S DRIVE THAT IS USED. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.														
FAN TYPES:														
CC - CEILING CENTRIFUGAL														
CAB - IN LINE CABINET														
RCD - ROOF CENTRIFUGAL DOWNBLAST														
RCU - ROOF CENTRIFUGAL UPBLAST														
WC - WALL CENTRIFUGAL														
ILC - IN-LINE CENTRIFUGAL														
WP - WALL PROPELLER														
RUP - ROOF UPBLAST PROPELLERAXIAL														
TA - TUBE AXIAL														
UCF - UTILITY CENTRIFUGAL FAN														
CJ - CIRCULATION FAN														
ACF - AIR CURTAIN														
FS - FAN-TESTED SUPPLY														
ILM - IN-LINE MIXED FLOW														
DRIVE TYPE:														
D - DIRECT														
B - BELT														
FAN CONTROL NOTES:														
CA - WALL SWITCH - REFER TO ELECTRICAL DWGS.														
CB - WALL MOUNTED THERMOSTAT														
CC - START/STOP SWITCH WITH INDICATOR LIGHT														
CD - INTERLOCK WITH BASTMELOCK														
CE - INTERLOCK WITH MOTORIZED DAMPER/COMBINATION LOUVER														
CF - SWITCH ON FACE OF KITCHEN HOOD														
CG - DOOR SWITCH (JAMB MOUNTED)														
CH - VARIABLE FREQUENCY DRIVE														
CJ - CONZAG GAS MONITORING AND CONTROL SYSTEM														
CL - WALL MOUNTED HUMIDITY SENSOR (DEWPOINT MODEL FS-300)														
CM - INTERLOCK WITH _____														
CN - CONTINUOUS OPERATION														
CP - WALL MOUNTED TIMER (0-30 MINUTES LABELED "KITCHEN VENTILATION"														
CQ - INTERLOCK WITH GAS MONITORING SYSTEM/BOILER CONTROLS														
CR - INTERLOCK WITH VENTILATION CONTROLLER/AIR HANDLER														
CS - OCCUPANCY SENSOR - REFER TO ELECTRICAL DWGS.														
ACCESSORIES:														
1. GRAVITY BACKDRAFT DAMPER														
2. MOTORIZED BACKDRAFT DAMPER														
3. FACTORY MOUNTED DISCONNECT SWITCH														
4. COMBINATION STARTER/DISCONNECT (FOR MOUNTING BY ELECTRICAL)														
5. MINIMUM 14" HIGH INSULATED ROOF CURB														
6. MANUFACTURER'S STANDARD WALL CAP														
7. BIRD SCREEN														
8. INSECT SCREEN														
9. SPEED CONTROLLER FOR BALANCING PURPOSES (FOR MOUNTING BY ELECTRICAL)														
10. SPEED CONTROLLER														
11. VARIABLE FREQUENCY DRIVE (FOR MOUNTING BY ELECTRICAL)														
12. EC MOTOR														
13. ENERGY STAR														
14. VIBRATION ISOLATION KIT (NEOPRENE ISOLATORS)														
15. CEILING RADIATION DAMPER														
16. WALL MOUNTED SWITCH WITH HUMIDITY SENSOR (FOR MOUNTING BY ELECTRICAL)														
17. ALUMINUM CONSTRUCTION														
18. INLET GUARD														
19. OUTLET GUARD														
20. MOTOR COVER/BELT GUARD														
21. ACOUSTICAL CURB														
22. EXPLOSION PROOF MOTOR														
23. NON-SPARKING CONSTRUCTION														
24. COATING ON AIRSTREAM COMPONENTS														
25. INSULATED HOUSING														
26. ANGLED FILTER BOX WITH 1" MERV 8 FILTERS														
27. 1" SPRING TIE VIBRATION ISOLATORS														
28. WALL HOUSING WITH CLOSURE ANGLES														
29. WALL COLLAR WITH CLOSURE ANGLES														
30. 45 DEGREE WEATHERHOOD WITH BIRDSCREEN														
31. MOTORIZED DAMPER WITH END SWITCH														
32. OSHA MOTOR SIDE GUARD														
33. LOUVER MOUNTING														
34. REVERSIBLE AIRFLOW														
35. EXTENDED GREASE LINES														
36. FLOOR MOUNTED EQUIPMENT RAIL WITH 2" SPRING ISOLATOR														
37. HANGER WITH VIBRATION ISOLATION KIT (SPRING ISOLATOR)														
38. DOOR SWITCH (JAMB MOUNTED)														
39. OVERHEAD MOUNTING KIT AND 9' CORD AND PLUG														
40. WALL MOUNTED TIMER SWITCH (0-30 MINUTES) - LABEL "KITCHEN VENTILATION FAN" (FOR MOUNTING BY ELECTRICAL)														
41. DISCONNECT SWITCH (FOR MOUNTING BY ELECTRICAL)														
42. ALUMINUM DAMPER														
43. CORD AND PLUG														
44. MERV 6 FILTER														
UNLESS NOTED OTHERWISE, SELECTIONS ARE BASED ON PRODUCTS BY GREENHECK OR MANUFACTURER NOTED.														
EQUAL PRODUCTS: PENNBARRY, CARNES, COOK, AOME, TWIN CITY, DELTA BREEZ PROVIDED THE PRODUCTS MEET OR EXCEED THE SCHEDULED PERFORMANCE AND SPECIFICATIONS.														



PARKING GARAGE FAN SCHEDULE																				
TAG	QTY	MODEL	MANUFACTURER	MOTOR TYPE	WEIGHT (LBS)	IMPELLER	FAN BLADE SIZE (mm.)	STARTER TYPE	THRUST (N)	AIRFLOW (CFM)	OUTLET VELOCITY (FPM)	RPM	VOLTS	PH	POWER (kW)	CURRENT (A)	GARAGE INSTALLED SOUND (dBA @ 8m)	FREE-FIELD SOUND (dBA @ 3m)	CONTROL	NOTES
TRF-A	SEE PLAN	JetVent JVEC-LP	Zoo Fans	Premium Efficiency EC	196	Backward-curved Centrifugal	450	NONE	46.8	3178	4554	1770	480	3	1.7	2.9	77	69	FAN SPEED PROPORTIONAL TO SENSORS IN JETVENT...	1, 2, 3, 4, 5,6,7
NOTES: 1. INTEGRATED SOFT-START IN EC MOTOR, DO NOT USE EXTERNAL STARTER 2. FAN MUST HAVE DEDICATED INPUTS FOR TWO (2) EXTERNAL SENSORS. SENSORS DO NOT REQUIRE EXTERNAL POWER. 3. FAN SPEED TO RUN PROPORTIONAL TO SENSOR OR BAS DEMAND. REFER TO JETVENT FAN CONTROL SEQUENCE. 4. GARAGE INSTALLED SOUND LEVEL MEASURED 8M FROM FAN WITH MULTIPLE FANS OPERATING. 5. SOUND MEASUREMENTS IN ACCORDANCE WITH ISO 13347. PARKING GARAGE INSTALLED SOUND LEVELS MUST BE PROVIDED. 6. FANS TO BE FULL VARIABLE SPEED CONTROLLABLE AND PROVIDE SENSOR VALUES, FAN STATUS, AND FAULT CODES VIA MODBUS. SYSTE... 7. FREE-FIELD SOUND LEVEL MEASURED 3M FROM FAN WITH MULTIPLE FANS OPERATING.																				
JetVent Fan Control Sequence																				
TAG	MODEL	QTY	JETVENT FAN ACTIVATION...		EXHUAST FAN ACTIVATION LEVEL		LEVEL FOR MAXIMUM FAN...		NOTES											
SEN-NO2	SEN-NO2	0	1 PPM		3 PPM		5 PPM		1,2											
SEN-CO	SEN-CO	0	10 PPM		30 PPM		50 PPM		1,2											
SEN-CN.DIG	SEN-CN.DIG	29	CO	10 PPM	30 PPM		50 PPM		1,2											
			NO2	1 PPM	3 PPM		5 PPM		1,2											
NOTES: 1. FAN SPEED PROPORTIONAL FROM FAN ACTIVATION LEVEL TO LEVEL FOR MAXIMUM SPEED....																				

ODOR ELIMINATOR						
TAG	SERIES	TYPE	MOUNTING	OUTPUT CAPACITY (W)	APPROX. WEIGHT (LBS)	ACCESSORIES
OED-A	S600	DE-IONIZATION	SURFACE	360.0	25	1, 2, 3
NOTES (APPLY TO ALL HEATERS): A. UNIT SHALL BE UL OR ETL TESTED AND LISTED. B. PROVIDE DISCONNECT SWITCH. ACCESSORIES: 1. LOCKABLE ACCESS DOOR 2. INTERNAL DISCONNECT SWITCH 3. SURFACE MOUNTING KIT 4. CORD AND PLUG SELECTIONS BASED ON PRODUCTS BY SANU/AIR						



JSE

Jordan & Skala Engineers

4275 Shackelford Rd. • Suite 200
Norcross, GA 30093-2997
p. 770.447.5547 • f. 770.448.0262

Project Number: 22010076
Drawn By: Author Checked By: Checker



REVISION INFORMATION

RFI	5/11/2023
2 PERMIT COMMENTS	5/05/2023
6 ADDENDUM #1	06/30/2024

PROJECT #	21128
ISSUE DATE	2024.08.30