

FAN SCHEDULE

MARK	EF-1	EF-2	EF-3	EF-4	EF-5	EF-6	EF-7	EF-8	MJA-1
CFM	1350	1870	1600	1933	1050	450	100	450	4811
S.P.									
MANUFACTURER									
MODEL NO.									
RPM									
H.P.									
VOLTS/PHASE/Hz									
BD DAMPER									
BRD SCREEN									
DISCONNECT									
BELT DRIVE									
DIRECT DRIVE									
OTHER									
CURB MODEL/SIZE									
ROOF OPENING SIZE									
FURNISHED BY:	HOOD SUPPLIER	HOOD SUPPLIER	HOOD SUPPLIER	HOOD SUPPLIER	HOOD SUPPLIER	HOOD SUPPLIER	HOOD SUPPLIER	HOOD SUPPLIER	HOOD SUPPLIER
INSTALLED BY:	MC	MC	MC	MC	MC	MC	MC	MC	MC
NOTES (REFER TO BELOW)	HOOD #1	HOOD #2	HOOD #3	HOOD #4	HOOD #5	PUBLIC RESTROOMS	EMPLOYEE RR	HOOD #6	

AIR DEVICE SCHEDULE

MARK	TYPE	MTG	DUTY	PRICE	MAX NC	NOTES
A	16" X 16" DIFFUSER	X	4-WAY	SCDA	24	2.3, 5.12
B	16" X 16" DIFFUSER	X	4-WAY	ASDA	18	1.4, 5.13
C	12" X 12" DIFFUSER	X	4-WAY	AKDA	18	1.5, 14
D	22" X 22" DIFFUSER	X	PERF	APDR	17	1.4, 5.9, 13
E	42" X 20" DIFFUSER	X	NA	BOFF	17	1.4, 5.7, 8, 15
F	16" X 14" DIFFUSER	X	NA	BO	19	
G	16" X 10" DIFFUSER	X	NA	BO	19	1.2, 3.5, 8, 12
H	42" X 20" DIFFUSER	X	NA	BOFF	17	1.5, 5.6, 11, 15
I	14" X 6" DIFFUSER	X	NA	SDGE	24	1.2, 3.5

- ALUMINUM CONSTRUCTION.
 - FURNISH W/OPPOSED BLADE DAMPER (WHEN ABOVE NON-ACCESSIBLE CEILING) AND NO BRANCH VOLUME DAMPER IS INDICATED.
 - CEILING MOUNTED OR DUCT MOUNTED.
 - LAMINATING MOUNTED.
 - WHITE FINISH (IN KITCHEN), SATIN BLACK (SOFFIT IN DINING AREA). ALL OTHERS SHALL BE PAINTED TO MATCH CEILING.
 - REGISTER ADJUSTABLE DOUBLE DEFLECTION.
 - FILTER TYPE: HINGED FOR CLEANING.
 - 17" X 17" EGGRATE GRILLE.
 - PERFORATED FACE W/ INSULATED PLENUM PROVIDED BY CONTRACTOR.
 - SQUARE TO ROUND ADAPTOR.
 - 45 DEG. DEFLECTION.
 - 12" X 12" MODULE.
 - 24" X 24" MODULE.
 - EQUALIZING GRID.
 - 48" X 24" MODULE.
- *REF SHEET M1.0 FOR DIFFUSER MOUNTING TYPE. SEE NOTE #3 & #4 THIS SCHEDULE.
- OTHER ACCEPTABLE MANUFACTURERS SHALL BE CARNIS, METAL AIR, NALOR, TUTTLE & BAILEY OR TITUS.

UNIT HEATER SCHEDULE

MARK	MAKE	MODEL	ELECTRIC	AMPS	HTG. CAP. CFM	KW	REMARKS
UH-1	MARKEL	MUH-05-01	208/3/60	24	17BTH350	5	

- PROVIDE WITH THERMOSTAT AND MOUNTING BASKETS.
- MOUNT MAXIMUM 8'-0" ABOVE FINISH FLOOR.

Order Plans @

II	CT	LL	L ⁰
DUCT TYPE			
SUPPLY			
DUCT LOCATION	< 2 IN W.C. (500 PA) ^B	> 2 IN W.C. (500 PA) ^B	EXH RETURN
OUTDOORS ^C	A	A	C A
UNCONDITIONED SPACES	B	A	C B
CONDITIONED SPACES	C	B	B C

DUCT SEAL CLASS	SEALING REQUIREMENTS ^B
A	ALL TRAVERSE JOINTS, LONGITUDINAL SEAMS, & DUCT WALL PENETRATIONS PRESSURE SENSITIVE TAPE SHALL NOT BE USED AS THE PRIMARY SEALANT.
B	ALL TRAVERSE JOINTS, LONGITUDINAL SEAMS, PRESSURE SENSITIVE TAPE SHALL NOT BE USED AS THE PRIMARY SEALANT.
C	TRANSVERSE JOINTS ONLY.

- LONGITUDINAL SEAMS ARE JOINTS ORIENTED IN THE DIRECTION OF AIRFLOW. TRANSVERSE JOINTS ARE CONNECTIONS OF TWO DUCT SECTIONS & ARE ORIENTED PERPENDICULAR TO AIRFLOW. DUCT WALL PENETRATIONS ARE OPENINGS MADE BY ANY SCREW FASTENER, PIPE, ROD OR WIRE. SPIRAL LOCK SEAMS IN ROUND & FLAT OVAL DUCTS NEED NOT BE SEALED. ALL OTHER CONNECTIONS ARE CONSIDERED TRANSVERSE JOINTS, INCLUDING BUT NOT LIMITED TO SPUNNS, TAPS & OTHER V-BRANCH CONNECTIONS, ACCESS DOOR FRAMES AND JAMBS, AND DUCT CONNECTIONS TO EQUIPMENT.

AIR BALANCE SCHEDULE

UNIT	UNIT	OUTSIDE AIR FLOW	RETURN AIR FLOW	SUPPLY AIR FLOW	EXHAUST AIR FLOW	PRESSURE	RETURN PRESSURE
EF-1	EF-1			1,350 CFM	-1,350	-1,350	-1,350
EF-2	EF-2			1,870 CFM	-1,870	-1,870	-1,870
EF-3	EF-3			1,600 CFM	-1,600	-1,600	-1,600
EF-4	EF-4			1,933 CFM	-1,933	-1,933	-1,933
EF-5	EF-5			1,050 CFM	-1,050	-1,050	-1,050
EF-6	EF-6 RR			450 CFM	-450	-450	-450
EF-7	EF-7 RR			100 CFM	-100	-100	-100
EF-8	EF-8			450 CFM	-450	-450	-450
MJA-1	MJA-1	4811					
RTU-1	RTU-1	1500	4600 CFM	6,000 CFM		0+1,500	0
RTU-2	RTU-2	1500	4600 CFM	6,000 CFM		+1,500	0
RTU-3	RTU-3	800	3400 CFM	4,000 CFM		+600	0
RTU-4	RTU-4	800	3400 CFM	4,000 CFM		+600	0
TOTAL		9011	15600 CFM	20,000 CFM	9,800 CFM	+208.00	

OUTDOOR AIR CALCULATION

BAR	160 NET SF	x 100 = 17 PEOPLE	17 x 7.5/0.8 = 160 CFM
	1000		168 x 1.0/0.8 = 38 CFM
BAR DINING	844 SF	x 70 = 59 PEOPLE	59 x 7.5/0.8 = 553 CFM
	1000		844 x 1.0/0.8 = 190 CFM
VESTIBULE	46 SF		46 x 0.0/0.8 = 3 CFM
WAITING	160 SF	x 30 = 6 PEOPLE	6 x 7.5/0.8 = 57 CFM
	1000		344 x 0.0/0.8 = 14 CFM
DINING	1532 SF	x 70 = 107 PEOPLE	107 x 7.5/0.8 = 1004 CFM
	1000		1532 x 1.0/0.8 = 345 CFM
WALKWAY	284 SF		284 x 0.0/0.8 = 22 CFM
CARRY-OUT	97 SF		97 x 0.0/0.8 = 0 CFM
TOTAL BAR/DINING WAITING REQUIRE = 2471 CFM			
TOTAL OA PROVIDED THRU RTU-1, 2 = 3000 CFM			
KITCHEN	1213 NET SF		1213 x 0.0/0.8 = 1001 CFM
STORAGE	57 SF		57 x 0.0/0.8 = 9 CFM
OFFICE	72 SF	x 1 PERSON	1 x 5/0.8 = 6 CFM
			47 x 0.0/0.8 = 4 CFM
TOTAL KITCHEN OA REQUIRED = 1020 CFM			
TOTAL OA PROVIDED THRU RTU-3 & 4 = 1200 CFM			

OUTDOOR AIR VENTILATION FORMULA:

BREATHING ZONE AREA (A₂) X OCCUPANT DENSITY 1000 SF = OCCUPANTS
 OCCUPANTS X PEOPLE OUTDOOR AIR RATE CFM/PERSON (R_P) = CFM
 CFM ZONE AIR DISTRIBUTION EFFECTIVENESS (E_Z) = CFM (1)
 + BREATHING ZONE AREA (A₂) X AREA OUTDOOR AIR RATE (R_A) = CFM
 CFM ZONE AIR DISTRIBUTION EFFECTIVENESS (E_Z) = CFM (2)
 (1) + (2) = TOTAL CFM REQUIRED FOR THAT ZONE

KITCHEN OUTDOOR AIR: BREATHING ZONE AREA (A₂) X 0.7 CFM PER SQ. FT. = CFM
 CFM ZONE AIR DISTRIBUTION EFFECTIVENESS (E_Z) = TOTAL CFM REQUIRED

UNIT DESIGNATION	RTU-1 (BAR & BAR DINING)	RTU-2 (WAITING & DINING)	RTU-3 & 4 (KITCHEN)
MANUFACTURER/MODEL #	LENNOX LCH180U4MJSY	LENNOX LCH180U4MJSY	LENNOX LCH150H4BE3Y
RATED COOLING (BTU/TONS)	207,600 TC/122,500 SC / 15	207,600 TC/122,500 SC / 15	152,200 TC/104,200 SC / 12.5
COOLING STAGES (CHECK ONE)	<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4	<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4
NOMINAL SUPPLY CFM/ HP BLOWER MOTOR	6,000 CFM/ 5 HP	6,000 CFM/ 5 HP	4,000 CFM/ 3 HP
CONDENSER E.A.T. (e.b.)	95°F db	95°F db	95°F db
EVAPORATOR E.A.T. (d.b./e.b.)	80°F db/ 67°F wb	80°F db/ 67°F wb	80°F db/ 67°F wb
COOLING EFFICIENCY (E.E.R./EER)	12.7/20.2	12.7/20.2	11.0/12.4
HEATING (INPUT/OUTPUT MBH)	76.8 IN/76.8 OUT	76.8 IN/76.8 OUT	38.6 IN/38.6 OUT
ELECTRIC HEAT KW STAGE(S) V-P-Hz	30.0KW 1S/208V-3P-60Hz	30.0KW 1S/208V-3P-60Hz	15.0KW 1S/208V-3P-60Hz
COMPRESSOR WARRANTY	5 YEAR MIN.	5 YEAR MIN.	5 YEAR MIN.
HEATER WARRANTY	10 YEAR MIN.	10 YEAR MIN.	10 YEAR MIN.
UNIT ELEC. V/PH/CM/COCP	208V/3P/84/100	208V/3P/84/100	208V/3P/61/80
TOTAL UNIT WEIGHT (AS SPECIFIED)	2570 LBS	2570 LBS	1800 LBS
STANDARD EQUIPMENT, OPTIONS AND ACCESSORIES	1 THRU 12	1 THRU 12	1 THRU 4, 7 THRU 12

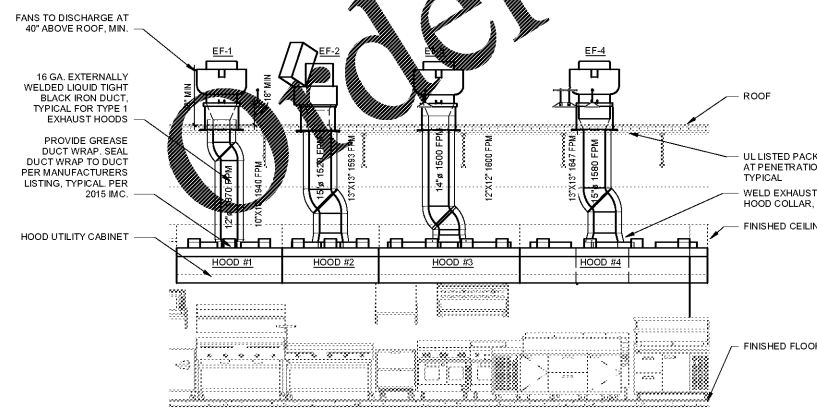
- STANDARD EQUIPMENT, OPTIONS AND ACCESSORIES*
- FULL PERIMETER HURRICANE RATED ROOF CURB, PER MANUFACTURERS RECOMMENDATIONS
 - OUTSIDE AIR INTAKE COVER
 - DUCT FLANGE
 - ECONOMIZER W/ENTHALPY CONTROL & BAROMETRIC RELIEF
 - REMOTE CONTROL OPTION W/ CONTROLS (HOT GAS REHEAT LIMITED TO 50%)
 - ELEC HEAT
 - SUPPLY AIR DUCT DETECTOR FOR UNIT SHUT DOWN, PER AHJ.
 - FACTORY INSTALLED DISCONNECT
 - FRESH AIR TEMPERING KIT (ENABLE DEVICE & INSTALL SENSOR)
 - FACTORY INSTALLED 115VOLT GFI RECEPTACLE (FIELD WIRED)
 - PROVIDE ROOFTOP UNIT WITH A CONDENSATE DRAIN PAN FLOATED SWITCH THAT WILL SHUT DOWN THE CONDENSATE DRAIN OVERFLOW. SHALL SEND A SIGNAL TO THERMOSTAT FOR SHUT OFF.
 - RAIL GUARD.

*ACCESSORIES MAY VARY, CONTACT LENNOX NATIONAL ACCOUNTS LISTED FOR ITEMS FURNISHED.

DUCT HANGER DETAILS

MINIMUM HANGER SIZE FOR RECTANGULAR DUCT				MINIMUM HANGER SIZE FOR ROUND DUCT			
MAXIMUM HALF OF DUCT PERIMETER	PAIR @ 10 FT. SPACING	PAIR @ 8 FT. SPACING		DIA.	MAX. SPACING	WIRE ROD	STRAP
P = 30"	1" X 22 GA.	10 GA. (135")	1" X 22 GA.	10 GA.	12"	ONE 12 GA. 1/4"	1" X 22 GA.
P = 36"	1" X 18 GA.	3/8"	1" X 20 GA.	1/4"	12"	TWO 12 GA. OR 1 1/8 GA.	1" X 22 GA.
P = 42"	1" X 16 GA.	3/8"	1" X 18 GA.	3/8"	12"	TWO 8 GA.	1" X 20 GA.
P = 48"	1" X 14 GA.	3/8"	1" X 16 GA.	3/8"	12"	TWO 3/8"	TWO 1" X 20 GA.
P = 54"	1" X 12 GA.	3/8"	1" X 14 GA.	3/8"	12"	TWO 3/8"	TWO 1" X 18 GA.
P = 60"	1" X 10 GA.	1/2"	1" X 12 GA.	3/8"	12"	TWO 3/8"	TWO 1" X 16 GA.

- NOTES:
- DIMENSIONS OTHER THAN GAUGE ARE IN INCHES.
 - TABLES ALLOW FOR DUCT WEIGHT, 1 LB / SF INSULATION WEIGHT & NORMAL REINFORCEMENT & TRAPEZE WEIGHT, BUT NO EXTERNAL LOADS.
 - STRAPS ARE GALVANIZED STEEL.
 - ALLOWABLE LOADS FOR P/2 ASSUME THAT DUCTS ARE 16 GA. MAXIMUM, EXCEPT THAT WHEN MAXIMUM DUCT DIMENSION (W) IS OVER 60" THEN P/2 MAXIMUM IS 1.25 W.
 - 12, 10 OR 8 GA. WIRE IS STEEL OF BLACK ANNEALED, BRIGHT BASIC OR GALVANIZED TYPE.
- NOTES:
- STRAPS ARE GALVANIZED STEEL; RODS ARE UNCOATED OR GALVANIZED STEEL; WIRE IS BLACK ANNEALED, BRIGHT BASIC OR GALVANIZED STEEL. ALL ARE ALTERNATIVES.
 - TABLE ALLOWS FOR CONVENTIONAL WALL THICKNESS & JOINT SYSTEMS PLUS ONE LB/SF OF INSULATION WEIGHT. IF HEAVIER DUCTS ARE TO BE INSTALLED, ADJUST HANGER SIZES TO BE WITHIN THEIR LOAD LIMITS.



ELEVATION AT MAIN HOOD LINE
 M301 1/4" = 1'-0"



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MECHANICAL SCHEDULES

M301