

UNIT ID	MANUFACTURER	EFFICIENCY	MODEL	AREA SERVED	NOMINAL TONS	TOTAL CFM	OUTSIDE AIR	SUPPLY FAN						HEATING								COOLING								ELECTRICAL												OPERATING WEIGHT			NOTES
RTU-1	CARRIER	STANDARD	50TC002	KITCHEN	10	2000	700	0.58	0.78	0.47	3	61.8	12.0	111.5	82.3	100.1	61.0	68.1	208	3	94	95	100	3.4	11.2	12.2	1176	1-19																	
RTU-2	CARRIER	STANDARD	50TC008	SERVICE STATION	7.5	2625	500	EX	EX	-	3	48.0	12.0	81.4	55.3	100.1	78.0	65.6	208	3	62	63	90	3.4	11.2	12.2	-	1-19																	
RTU-3	CARRIER	STANDARD	50TC008	DINING	8.5	3400	500	EX	EX	-	3	0.0	31.8	36.0	68.3	100.1	77.1	68.1	208	3	67	120	125	3.4	11.2	12.2	-	1-17																	

HOOD SCHEDULE

UNIT ID	MANUFACTURER	HOOD LENGTH	MODEL	CFM	TYPE	DRIVE	FAN RPM	S.P.	HP.	VOLTS	PHASE	SERVICE	INTERLOCKED WITH	NOTES/ACCESSORIES
EF-1	CAPITARE	4'-0"	DL121FA	450	ROOF	DIRECT	1500	0.5	1/4	115	1	BACKHOUSE OVEN	HOOD CONTROL	1,2,3,4,5,6,7,8
EF-2	CAPITARE	5'-3"	DL031FA	625	ROOF	DIRECT	1212	0.5	1/2	115	1	TOASTER AND TURBO	HOOD CONTROL	1,2,3,4,5,7,8
EF-3	CAPITARE	-	CFA 250CA	225	CABINET	DIRECT	830	0.125	0.22	120	1	RESTROOMS	OCCUPANCY SENSORS	2, 6, 9
EF-4	CAPITARE	-	CFA 250CA	225	CABINET	DIRECT	830	0.125	0.22	120	1	RESTROOMS	OCCUPANCY SENSORS	2, 6, 9

DIFFUSER AND REGISTER SCHEDULE

UNIT ID	MANUFACTURER	MODEL	SIZE	DESCRIPTION	REMARKS
A	METALAIR	5700 AL	24"x24"	ALUMINUM 2-CORE SQUARE FACE DIFFUSER WITH ROUND NECK, ALUMINUM WITH ADJUSTABLE DISCHARGE AND RADIAL OPPOSED BLADE DAMPER, MODEL DS	1,2,3,4,5
B	METALAIR	5700 AL	12"x12"	ALUMINUM 2-CORE SQUARE FACE DIFFUSER WITH ROUND NECK, ALUMINUM WITH ADJUSTABLE DISCHARGE AND RADIAL OPPOSED BLADE DAMPER, MODEL DS	1,2,3,4,5
C	METALAIR	RH	24"x24"	ALUMINUM RETURN GRILLE -0.567" SPACING SET AT 45 DEGREE ANGLE, VOLUME CONTROL, OPPOSED BLADE DAMPERS, MODEL FBDA	1,2,4
D	METALAIR	RH	12"x12"	ALUMINUM RETURN GRILLE -0.567" SPACING SET AT 45 DEGREE ANGLE, VOLUME CONTROL, OPPOSED BLADE DAMPERS, MODEL FBDA	1,2,4

ROOF TOP UNIT SCHEDULE

NOTES:

- ELECTRICAL CONNECTION TO BE SINGLE POINT AND TO BE THROUGH THE BOTTOM OF THE UNIT.
- PROVIDE DISCONNECT SWITCH AND AN UNPOWERED GFCI RECEPTACLE.
- 1" ROOF CURB - CONTRACTOR SHALL FIELD INSULATE.
- CABINET WITH 1/2" PBERGLASS INSULATION.
- 2 STAGE COOLING WITH 2 SPEED INDOOR FAN MOTOR (SAV).
- DUAL ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF.
- PROVIDE 8-WIRE 24VAC AUTOMATIC CHANGEVER, 2-STAGE HEAT/COOL, REMOTELY PROGRAMMABLE THERMOSTAT.
- REMOTE SENSORS SHALL BE PROVIDED IN SPACE WIRE BACK TO PROGRAMMABLE, 24 HOUR, 7 DAY, THERMOSTATS.
- ANTI SHORT CYCLE TIMER.
- THROWAWAY 2" FILTERS (MERV 8).
- PROVIDE LOW AMBIENT COOLING CAPABILITY DOWN TO 55 DEGREE F.
- PROVIDE ALL COMPRESSORS WITH 5 YEAR WARRANTY.
- RETURN AIR SMOKE DETECTOR - UNIT MOUNTED.
- MULTI-SPEED INDOOR FAN BY SYSTEM.
- PROVIDE EACH UNIT WITH FACTORY OPTIONAL CONDENSATE DRAIN PAN OVERFLOW SWITCH, IF ACTIVATED SWITCH SHALL SHUT DOWN UNIT.
- UNIT TO BE PROVIDED WITH H-MEASURER SYSTEM OPTION.
- RTU-3 SHALL BE CONFIGURED WITH VERTICAL DISCHARGE FOR THE SUPPLY AND HORIZONTAL INTAKE FOR THE RETURN. PROVIDE WITH HORIZONTAL ECONOMIZER.

GENERAL NOTES:

- ALL WORK SHALL COMPLY WITH ALL LOCAL AND STATE CODES AND AUTHORITIES HAVING JURISDICTION.
- THE CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND ARRANGE ALL REQUIRED INSPECTIONS.
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS AND TRADES.
- THESE DRAWINGS, AS PREPARED, ARE DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS CONSTRUCTION OF THE PROJECT AND THE WORK OF THE TRADES WILL PERMIT. EQUIPMENT LOCATIONS INDICATED ARE APPROXIMATE. COORDINATE EXACT LOCATIONS AND REQUIRED CLEARANCES WITH EQUIPMENT SUPPLIER AND ALL TRADES PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL THE EQUIPMENT INDICATED WITHIN THE MECHANICAL DRAWINGS UNLESS OTHERWISE NOTED. ALL EQUIPMENT SHALL BE UL LISTED, VERIFY LOCATION AND DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND/OR INSTALLATION.
- ALL ROOF PENETRATIONS SHALL BE AT THE CONTRACTOR'S EXPENSE. COORDINATE WITH OWNER'S ROOFING CONTRACTOR SO AS NOT TO VOID ANY EXISTING ROOF WARRANTIES.
- EACH UNIT GENERATING CONDENSATE SHALL BE PROVIDED WITH A CONDENSATE DRAIN WITH EXTERNAL, 4" DEEP P-TRAP. EXTEND DRAIN TO A ROOF MOUNTED SPLASH PAD OR AN ACCEPTABLE LOCATION REQUIRED BY CODE.
- DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSION.
- ALL METAL DUCT AND AIR DISTRIBUTION DEVICES SHALL BE INSULATED WITH R-6, 75 DENSITY FOIL BACKED INSULATION WITH FIRE AND SMOKE RATING 25-50.
- JALL DUCTWORK SHALL BE FABRICATED, INSTALLED, SEALED, AND INSULATED PER THE LATEST ISSUE OF SMACNA LOW-VELOCITY DUCT MANUAL.
- UNLESS OTHERWISE NOTED, ALL SUPPLY TAKEOFFS SHALL HAVE A MANUAL VOLUME CONTROL DAMPER.
- ALL FLEX DUCT SHALL BE UL LISTED, R-6, FOIL-BACKED, CLASSIFIED AS A CLASS 1 AIR DUCT, MAXIMUM LENGTH TO BE 12'-0" PER DROP OR PER LOCAL CODE.
- THE CONTRACTOR SHALL COORDINATE DIFFUSER LOCATIONS ON SITE WITH THE MOST RECENT REFLECTED CEILING PLAN.
- THE CONTRACTOR IS TO MAKE ALL LOW-VOLTAGE WIRING CONNECTIONS FOR ALL HVAC EQUIPMENT INCLUDING TEMPERATURE CONTROLS, ROOF TOP UNITS, SMOKE DETECTOR AND CONTRACTOR PANEL.
- PROVIDE AND INSTALL SMOKE DETECTORS IN EACH ROOF TOP AIR CONDITIONING UNIT RETURN DUCT GREATER THAN 2000 CFM. CONTRACTOR SHALL PROVIDE INTERCONNECTION AND WIRE TO THE FIRE ALARM CONTROL PANEL. IF REQUIRED, DETECTOR SHALL BE REMOTE TEST STATIONS MOUNTED IN THE OFFICE NEAR THE RESPECTIVE THERMOSTATS. VERIFY CODE REQUIREMENTS FOR SMOKE DETECTORS IN BOTH THE SUPPLY AND RETURN AIR STREAMS.
- THE ENTIRE INSTALLATION SHALL BE GUARANTEED FREE OF DEFECTS AND CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DEFECTIVE MATERIAL OR EQUIPMENT AT NO COST TO THE OWNER FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY ARCHITECT OR ENGINEER.
- ALL WORK SHALL BE SUBJECT TO THE CONCURRENCE AND APPROVAL OF THE ARCHITECT AND OWNER. THE ARCHITECT SHALL BE NOTIFIED OF ANY AND ALL DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. FAILURE OF PROPER NOTIFICATION DOES NOT RELIEVE THE CONTRACTOR OF THE CONTRACTOR SHALL CORRECT ANY AND ALL WORK ARISING FROM SUCH FAILURE TO COORDINATE DISCREPANCIES TO THE SATISFACTION OF THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL, UPON COMPLETION OF PROJECT, PERFORM A COMPLETE TEST AND BALANCE OF ALL EQUIPMENT. PROVIDE A WRITTEN REPORT TO THE ARCHITECT. ALL CAPACITIES SHALL BE SET TO WITHIN ±10% OF AMOUNTS INDICATED ON THE FLOOR PLAN AND SCHEDULES.
- SEE HOOD SHEETS FOR HOOD SYSTEM REQUIREMENTS.

DBI HVAC NATIONAL ACCOUNTS

DBI HAS NATIONALLY ACCOUNTED TWO HVAC MANUFACTURERS TO SUPPLY ROOFTOP EQUIPMENT FOR THE BRAND. CONTACT INFORMATION IS AS NOTED FOR EACH OF THE MANUFACTURERS BELOW.

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VENTILATION SCHEDULE

SYSTEMS	MIN. REQUIRED VENT. (CFM)	TOTAL MIN. REQUIRED VENT. (CFM)	PROVIDED VENT. (CFM)	MIN. REQUIRED EXHAUST (CFM)	PROVIDED EXHAUST (CFM)
KITCHEN/BAR PREP	19	19	700	426	450
STORAGE - BACK OF HOUSE	19	38	-	-	-
DINING	225	244	-	-	-
ENTRY/ORDER	188	432	-	-	-
SERVING	76	508	-	-	-
OFFICE	11	519	1,000	-	-
RESTROOMS	-	530	-	140	225
STORAGE - GAS STATION	27	567	-	-	-
GAS STATION - SALES	252	819	-	-	-
TOTALS	798	798	1,700	566	675

AIR BALANCE SCHEDULE

UNIT	AREA	DIRTY SUPPLY AIR	CLEAN SUPPLY AIR	RETURN AIR	EXHAUST AIR
RTU-1	BACK	1200 CFM	1000 CFM	3300 CFM	-
RTU-2	FRONT	500 CFM	500 CFM	2500 CFM	-
RTU-3	FRONT	500 CFM	500 CFM	2500 CFM	-
EF-1	OVEN	-	-	-	450 CFM
EF-2	TOASTER	-	-	-	525 CFM
EF-3	RESTROOMS	-	-	-	225 CFM
EF-4	RESTROOMS	-	-	-	225 CFM
TOTAL		2700 CFM	2500 CFM	8800 CFM	1425 CFM

2012 VAMC EXHAUST CALCULATIONS

KITCHEN/BAR PREP

Exhaust Rate = 426 CFM/MIN REQUIRED EXHAUST RATE

RESTROOMS

Exhaust Rate = 140 CFM/MIN REQUIRED EXHAUST RATE

2012 VAMC VENTILATION CALCULATIONS

DINING

SECTION 403.3.1.1 - EQUATION 4-1
 $V_{oz} = R_p R_z + R_e A_z$
 $R_p = 0.3$ CFM/PERSON (TABLE 403.3)
 $R_z = 1$ PEOPLE (BASED ON 15 OCCUPANTS/1000 S.F. FROM TABLE 403.1)
 $R_e = 0.12$ CFM/FT² (TABLE 403.3)
 $A_z = 183$ FT²
 $V_{oz} = 190$ CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE

SECTION 403.3.1.3 - EQUATION 4-2
 $V_{oz} = V_{bz} E_z$
 $V_{bz} = 180$ CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE
 $E_z = 0.80$ ZONE AIR DISTRIBUTION EFFECTIVENESS (TABLE 403.3.1.2)
 $V_{oz} = 225$ CFM/MIN. ZONE OUTDOOR AIRFLOW

ENTRY/ORDER

SECTION 403.3.1.1 - EQUATION 4-1
 $V_{oz} = R_p R_z + R_e A_z$
 $R_p = 0.3$ CFM/PERSON (TABLE 403.3)
 $R_z = 1$ PEOPLE (BASED ON 15 OCCUPANTS/1000 S.F. FROM TABLE 403.1)
 $R_e = 0.12$ CFM/FT² (TABLE 403.3)
 $A_z = 151$ FT²
 $V_{oz} = 151$ CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE

SECTION 403.3.1.3 - EQUATION 4-2
 $V_{oz} = V_{bz} E_z$
 $V_{bz} = 180$ CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE
 $E_z = 0.80$ ZONE AIR DISTRIBUTION EFFECTIVENESS (TABLE 403.3.1.2)
 $V_{oz} = 188$ CFM/MIN. ZONE OUTDOOR AIRFLOW

SERVING

SECTION 403.3.1.1 - EQUATION 4-1
 $V_{oz} = R_p R_z + R_e A_z$
 $R_p = 0.3$ CFM/PERSON (TABLE 403.3)
 $R_z = 1$ PEOPLE (BASED ON 15 OCCUPANTS/1000 S.F. FROM TABLE 403.1)
 $R_e = 0.12$ CFM/FT² (TABLE 403.3)
 $A_z = 252$ FT²
 $V_{oz} = 61$ CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE

SECTION 403.3.1.3 - EQUATION 4-2
 $V_{oz} = V_{bz} E_z$
 $V_{bz} = 81$ CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE
 $E_z = 0.80$ ZONE AIR DISTRIBUTION EFFECTIVENESS (TABLE 403.3.1.2)
 $V_{oz} = 76$ CFM/MIN. ZONE OUTDOOR AIRFLOW

STORAGE - BACK OF HOUSE

SECTION 403.3.1.1 - EQUATION 4-1
 $V_{oz} = R_p R_z + R_e A_z$
 $R_p = 0.3$ CFM/PERSON (TABLE 403.3)
 $R_z = 1$ PEOPLE (BASED ON 15 OCCUPANTS/1000 S.F. FROM TABLE 403.1)
 $R_e = 0.12$ CFM/FT² (TABLE 403.3)
 $A_z = 128$ FT²
 $V_{oz} = 15$ CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE

SECTION 403.3.1.3 - EQUATION 4-2
 $V_{oz} = V_{bz} E_z$
 $V_{bz} = 15$ CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE
 $E_z = 0.80$ ZONE AIR DISTRIBUTION EFFECTIVENESS (TABLE 403.3.1.2)
 $V_{oz} = 19$ CFM/MIN. ZONE OUTDOOR AIRFLOW

STORAGE - GAS STATION

SECTION 403.3.1.1 - EQUATION 4-1
 $V_{oz} = R_p R_z + R_e A_z$
 $R_p = 0.3$ CFM/PERSON (TABLE 403.3)
 $R_z = 1$ PEOPLE (BASED ON 15 OCCUPANTS/1000 S.F. FROM TABLE 403.1)
 $R_e = 0.12$ CFM/FT² (TABLE 403.3)
 $A_z = 27$ FT²
 $V_{oz} = 22$ CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE

SECTION 403.3.1.3 - EQUATION 4-2
 $V_{oz} = V_{bz} E_z$
 $V_{bz} = 22$ CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE
 $E_z = 0.80$ ZONE AIR DISTRIBUTION EFFECTIVENESS (TABLE 403.3.1.2)
 $V_{oz} = 27$ CFM/MIN. ZONE OUTDOOR AIRFLOW

GAS STATION - SALES

SECTION 403.3.1.1 - EQUATION 4-1
 $V_{oz} = R_p R_z + R_e A_z$
 $R_p = 0.3$ CFM/PERSON (TABLE 403.3)
 $R_z = 1$ PEOPLE (BASED ON 15 OCCUPANTS/1000 S.F. FROM TABLE 403.1)
 $R_e = 0.12$ CFM/FT² (TABLE 403.3)
 $A_z = 201$ FT²
 $V_{oz} = 201$ CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE

SECTION 403.3.1.3 - EQUATION 4-2
 $V_{oz} = V_{bz} E_z$
 $V_{bz} = 201$ CFM/MIN. OUTDOOR AIRFLOW AT THE BREATHING ZONE
 $E_z = 0.80$ ZONE AIR DISTRIBUTION EFFECTIVENESS (TABLE 403.3.1.2)
 $V_{oz} = 252$ CFM/MIN. ZONE OUTDOOR AIRFLOW

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Dunkin' Brands

PROJECT NO.: 17229

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A Division of LMHT Associates

NO DESCRIPTION DATE SCALE DRAWN CKD APPD

1 OWNER COMMENTS (RESTROOM CHANGE) 5/27/18

DATE: 3-18-18

SET REVISIONS

NO. DESCRIPTION DATE SCALE DRAWN CKD APPD

1 OWNER COMMENTS (RESTROOM CHANGE) 5/27/18

SHEET REVISIONS

DD FRESH BREW 1.0
908 MARKET DRIVE, EMPORIA, VA

MECHANICAL SCHEDULES AND NOTES

PC# 358084

M-2.0