

ITEM	AIRFLOW CFM		EXT. STATIC IN. WG	COOLING CAPACITY @ 95°F O.A.				ELEC. HEATER KW	REMARKS
	TOTAL	O.A.		TOTAL MBH	SENS. MBH	ENTERING AIR DB °F	WB °F		
	RAC-1	5,500		500	1.0	173	125		
RAC-2	12,000 MAX. 3,600 MIN.	1,500 MAX. 360 MIN.	2.2	403	295	80	67	CARRIER 50P 10.0 EER / 11.8 IEER VAV / DEHUM / DCV	
RAC-3	6,000	700	1.5	173	125	80	67	CARRIER 50HC DEHUM / SAV / 12.2 EER / 13.7 IEER	

- REFER TO ELECTRICAL PLANS FOR POWER CONNECTIONS. REFER TO SPEC SECTION 235310 FOR FURTHER INFORMATION.
- EMCS SHALL CONTROL ROOFTOP AIR CONDITIONER OPERATION.
- INSTALL AN AIR TREATMENT DEVICE(S) IN ALL RAC UNITS.
- PROVIDE ALL ACCESSORIES NECESSARY FOR RAC-2 DEMAND CONTROL VENTILATION OPERATION.

ITEM	AIRFLOW CFM	EXT. STATIC IN. WG	TYPE	MAXIMUM SONE RATING	MAX FAN RPM	MAX. MOTOR HP	REMARKS
EF-1	700	0.75	ROOF CENTRIFUGAL DIRECT DRIVE	9.2	1725	1/4	GREENHECK G EMCS CONTROL
EF-2	265	0.75	ROOF CENTRIFUGAL DIRECT DRIVE	7.8	1725	1/4	GREENHECK G EMCS CONTROL
EF-3	360	0.70	ROOF CENTRIFUGAL DIRECT DRIVE	13.0	1725	1/4	GREENHECK G THERMOSTAT CONTROL

- REFER TO ELECTRICAL PLANS FOR POWER CONNECTIONS. REFER TO SPEC SECTION 232310 FOR FURTHER INFORMATION.
- REFER TO SPEC SECTION 238310 FOR CONTROL SEQUENCES.

OUTDOOR UNIT	INDOOR UNIT	AIRFLOW CFM		EXT. STATIC IN. WG	COOLING CAPACITY @ 95°F O.A.				ELEC. HEATER KW	REMARKS
		TOTAL	O.A.		TOTAL MBH	SENS. MBH	ENTERING AIR DB °F	WB °F		
		DHP-1	DAH-1		780	—	—	24		
DHP-2	DAH-2	780	—	—	24	16	80	67	CARRIER 30AC3 12.5 EER	
DHP-3	DAH-3	420	—	—	18	11	80	67	CARRIER 30AC3 12.5 EER	

- REFER TO ELECTRICAL PLANS FOR POWER CONNECTIONS. REFER TO SPEC SECTION 232310 FOR FURTHER INFORMATION.
- MINIMUM EFFICIENCY IS EER. IF UNIT IS LESS THAN 64 MBH, THEN EFFICIENCY IS SEER.
- INSTALL AN AIR TREATMENT DEVICE(S) IN ALL AH UNITS.
- PROVIDE MANUFACTURER'S 24V INTERFACE FOR CONTROL BY EMCS SYSTEM THERMOSTAT.

ITEM	TYPE	CAPACITY	AIRFLOW CFM	CONTROL	REMARKS
EH-1	ELECTRIC HEATER	20 KW	350	INTEGRAL TSTAT	GMARK MUH WALL BRACKET

- REFER TO ELECTRICAL PLANS FOR POWER CONNECTIONS. REFER TO SPEC SECTION 233110 FOR FURTHER INFORMATION.

DESIGNATION	DESCRIPTION
A	60" LINEAR SLOT DIFFUSER W/ (2) 2.5" SLOTS
B	60" LINEAR SLOT DIFFUSER W/ (1) 2.5" SLOTS
C	60" LINEAR SLOT DIFFUSER W/ (2) 2" SLOTS
D	60" LINEAR SLOT DIFFUSER W/ (1) 2" SLOTS
E	8" ROUND NECK SQUARE PLAQUE FACE DIFFUSER, LAY-IN
F	8" ROUND NECK SQUARE PLAQUE FACE DIFFUSER, LAY-IN
G	8" ROUND NECK, 1"x1" PLAQUE FACE DIFFUSER, FLANGED FRAME
H	8" ROUND NECK, 2"x2" PLAQUE FACE DIFFUSER, FLANGED FRAME
J	12"x12" SUPPLY GRILLE
K	14" NECK ROUND CEILING DIFFUSER
L	8"x6" SIDEWALL SUPPLY GRILLE
M	1"x2" EGGRATE EXHAUST GRILLE, LAY-IN PANEL
N	1"x1" EGGRATE EXHAUST GRILLE, FLANGED FRAME
P	6"x6" SIDEWALL EXHAUST GRILLE
T	48"x48" HEAVY DUTY RETURN GRILLE
V	36"x36" SIDEWALL RETURN GRILLE
W	36"x36" HEAVY DUTY RETURN GRILLE
Z	4"x2" EGGRATE RETURN GRILLE, FLANGED FRAME

- REFER TO SPEC SECTION 232210 FOR FURTHER INFORMATION.

**GENERAL MECHANICAL NOTES**

- THE DRAWINGS SHOW THE GENERAL ARRANGEMENT AND LOCATIONS OF THE MECHANICAL WORK. THE CONTRACTOR SHALL COORDINATE THE MECHANICAL INSTALLATION WITH THE STRUCTURE AND ALL OTHER TRADES. PERFORM ALL WORK IN ACCORDANCE WITH 2012 INTERNATIONAL MECHANICAL CODE (IMC).
- REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF THE CEILING MOUNTED DEVICES.
- DUCTWORK SHOWN ON THE PLANS IS SIZED AND ROUTED BASED ON INFORMATION AVAILABLE DURING DESIGN PHASE FOR CEILING HEIGHTS, STRUCTURAL MEMBERS, ETC. ALL DUCT SIZES AND ROUTINGS MUST BE CONFIRMED IN THE FIELD BY THE CONTRACTOR PRIOR TO FABRICATION AND INSTALLATION. WHERE CONFLICTS ARISE, REFER TO THE ENGINEER.
- REFER TO SENSOR MOUNTING DETAIL FOR MOUNTING HEIGHT.
- ALL CONCEALED SUPPLY AIR AND RETURN AIR DUCTWORK SHALL HAVE ONE LAYER OF TYPE 'A' DUCT WRAP. ALL EXPOSED RECTANGULAR DUCTWORK SHALL HAVE ONE LAYER OF TYPE 'A' DUCT LINER AND SHALL HAVE PAINT GRIP FINISH WITH COLOR SELECTED BY ARCHITECT. ALL EXPOSED ROUND DUCTWORK SHALL DOUBLE-WALL SPIRAL SEAM DUCT AND SHALL HAVE PAINT GRIP FINISH WITH COLOR SELECTED BY ARCHITECT. GENERAL EXHAUST AIR DUCTWORK SHALL NOT BE INSULATED.
- ALL FIRE DAMPERS AND SMOKE DAMPERS (AS APPLICABLE) SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S UL LISTED DETAILS.
- ROOF MOUNTED EQUIPMENT SHALL BE LOCATED 10 FEET MINIMUM FROM ROOF EDGE.
- DEVICES REQUIRED TO BE ACCESSIBLE SHALL NOT BE INSTALLED ABOVE DRYWALL CEILINGS. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF HARD CEILINGS.

MECHANICAL LEGEND	
	SUPPLY AIR DUCT
	RETURN AIR DUCT OR EXHAUST DUCT
	DUCT TRANSITION
	X-DIFFUSER TYPE / V-THROW
	Z-AIRFLOW, CFM
	MD MANUAL DAMPER
	MOTORIZED DAMPER
	VAVD VARIABLE AIR VOLUME DAMPER
	FD FIRE DAMPER
	SD SMOKE DAMPER
	FS FIRE AND SMOKE DAMPER
	FDC FLEXIBLE DUCT CONNECTION
	THERMOSTAT TEMPERATURE SENSOR
	HUMIDISTAT/HUMIDITY SENSOR
	COMBO TEMP/HUMIDITY SENSOR
	DUCT SMOKE DETECTOR
	CO CARBON MONOXIDE DETECTOR
	CO2 CARBON DIOXIDE DETECTOR
	AHU AIR HANDLING UNIT
	VSD VARIABLE SPEED DRIVE
	SAV STAGED AIR VOLUME
	DEHUM DEHUMIDIFICATION
	DHP DUCTLESS HEAT PUMP
	DAH DUCTLESS AIR HANDLER
	RHP ROOFTOP HEAT PUMP
	RAC ROOFTOP AIR CONDITIONER
	ERV ENERGY RECOVERY VENTILATION UNIT
	EH ELECTRIC HEATER
	EF EXHAUST FAN
	AFMS AIR FLOW MEASURING STATION
	EMCS ENERGY MANAGEMENT CONTROL SYSTEM
	TD TRANSFER DUCT
	Ø DIA. DIAMETER
	OA OUTSIDE AIR
	UG UNDERGROUND
	W/ WITH
	AFF ABOVE FINISH FLOOR
	EXTERIOR DUCTWORK
	SPIRAL DUCTWORK
	DOUBLE-WALL DUCTWORK
	LINED DUCTWORK
	FABRIC DUCT
	D HVAC DRAIN PIPING
	G GAS PIPING
	R REFRIGERANT PIPING



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DATE	BY	REVISIONS
APR 17, 2019	JRS	100% CONST. DOCUMENTS
APR 15, 2019	JRS	80% CONST. DOCUMENTS
OCT 29, 2018	JRS	100% DESIGN DEVELOPMENT
SEP 4, 2018	JRS	100% SCHEMATIC DESIGN

201801  
 SHEET NUMBER

M0.01



RELEASED FOR CONSTRUCTION  
 FACILITY CODE: 625-0312

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ITEM	SERVICE	OCTAVE BAND CENTER Hz							
		63	125	250	500	1K	2K	4K	8K
		RAC-2							
	DISCHARGE Lw	93.6	93.8	89.0	89.6	79.9	73.8	66.6	57.3
	INLET Lw	85.6	75.8	70.0	69.6	62.9	62.8	53.6	41.3

- SCHEDULED SOUND POWER LEVELS ARE MAXIMUM LEVELS ALLOWED WITHIN DESIGN LIMITS. EXCEEDING THESE LIMITS WILL REQUIRE ADDITIONAL DUCT SILENCER PERFORMANCE AT NO ADDITIONAL COST.

ITEM	SERVICE	AIRFLOW CFM	P.D. IN. WG	VELOCITY FPM	SIZE	DYNAMIC INSERTION LOSS (dB)								AIRFLOW GENERATED NOISE (dB)							
						63	125	250	500	1 K	2K	4K	8K	63	125	250	500	1 K	2K	4K	8K
						S-1	RAC-2 SUPPLY AIR ELBOW	12,000	0.4	1,300	36"H x 36"W, L1=24", L2=24"	16	25	38	54	56	41	36	33	70	57
S-2	RAC-2 RETURN AIR ELBOW	12,000	0.4	1,300	40"H x 26"W, L1=12", L2=36"	16	25	38	54	56	41	36	33	70	57	53	54	56	56	53	52

- SCHEDULED DYNAMIC INSERTION LOSSES ARE MINIMUM LEVELS ALLOWED WITHIN DESIGN LIMITS. IF EQUIPMENT SOUND POWER LEVELS EXCEED THEIR SCHEDULED VALUES, DUCT SILENCER PERFORMANCE MUST BE INCREASED ACCORDINGLY AT NO ADDITIONAL COST.
- REFER TO SPEC SECTION 239110 FOR FURTHER INFORMATION.