

PACKAGED ROOF TOP UNIT SCHEDULE (WITH ENERGY RECOVERY)																																													
SYMBOL	TYPE / CONFIGURATION	AREA SERVED	NOMINAL TONS	SUPPLY FAN		RETURN/EXHAUST FAN		ENERGY RECOVERY DATA																COOLING DATA (99 °F AMBIENT)		HEATING DATA					ELECTRICAL DATA		O.S.A. (CODE REQUIREMENTS)		OPERATING WEIGHT	MANUFACTURER AND MODEL	REMARKS								
				CFM	ESP	HP	V/ø	CFM	ESP	HP	V/ø	TYPE	WHEEL CFM (MAXIMUM)		WINTER DESIGN						SUMMER DESIGN						TEMP. DATA	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	TYPE	TEMP. DATA		INPUT CAPACITY (MBH)	OUTPUT CAPACITY (MBH)				TURNDOWN RATIO	V/ø	MCA (AMPS)	MROPD (AMPS)	MINIMUM (CFM)	MAXIMUM (CFM)		
													SUPPLY	EXHAUST	EDB	EWB	LDB	EDB	EWB	LDB	EDB	EWB	LDB	LWB	EDB	EWB					LDB	EDB												EWB	
																																													EDB
AHU 1	ROOF MOUNTED / SEE PLANS	GYMNASIUM	18.0	8000	1.0	7.5	208/3	8000	0.75	5.0	208/3	WHEEL	2350	2150	-3.0	-3.0	47.1	72.0	60.0	--	99.0	63.0	79.4	61.8	99.0	63.0	--	76.2	62.0	210.1	180.3	INDIRECT GAS	66.5	106.6	450.0	300.8	20:1	208/3ø	114.9	150	0	2350	12,000	McQUAY MODEL RPR-018C	①②③④⑤
AHU 2	ROOF MOUNTED / SEE PLANS	CAFETORIUM	18.0	8000	1.0	7.5	208/3	8000	1.0	5.0	208/3	WHEEL	2350	2150	-3.0	-3.0	47.1	72.0	60.0	--	99.0	63.0	79.4	61.8	99.0	63.0	--	76.2	62.0	210.1	180.3	INDIRECT GAS	66.5	106.6	450.0	300.8	20:1	208/3ø	114.9	150	0	2350	12,000	McQUAY MODEL RPR-018C	①②③④⑤

- ① APPROVED MANUFACTURERS VENMAR, TEMPTROL, INNOVENT
- ② CAPACITIES FOR FANS AND COILS ARE BASED ON 3500 FEET ELEVATION.
- ③ PROVIDE UNIT WITH ARI CERTIFIED ENTHALPY WHEEL, MODULATING MOTORIZED OUTDOOR EXHAUST, RECIRCULATION, OUTDOOR BYPASS AND EXHAUST BYPASS DAMPERS, 100% ECONOMIZER CAPABILITIES, 5" ROOF TOP UNIT BASE, LIFTING LUGS, 2" DOUBLE WALL CONSTRUCTION, PREMIUM EFFICIENCY MOTORS, 2" THICK (MERV 8) FILTERS, ROOF CURB, INTERNAL VIBRATION ISOLATION, 1" DEFLECTION, AND SINGLE POINT ELECTRICAL CONNECTION.
- ④ PROVIDE STAND-ALONE DDC CONTROLS COMPLETE WITH MICRO TECH II CONTROL PACKAGE, ROOM SENSOR, CONTROL PAD, AND BACNET CAPABILITIES FOR CONNECTION TO BUILDING MANAGEMENT SYSTEM. PROVIDE CO2 CONTROLS TO MODULATE OUTSIDE AND RETURN AIR. PROVIDE VFD ON RETURN/EXHAUST FAN AND FROST CONTROL WITH FREE COOLING WHEEL CONTROL. THE MAXIMUM ALLOWABLE TOTAL HARMONIC DISTURBANCE SHALL BE 3%.
- ⑤ MANUFACTURER SHALL PROVIDE WARRANTY ON ROOF TOP UNIT: 2 YEAR PARTS, 5 YEAR WHEEL WARRANTY AND EXTENDED 10-YEAR WARRANTY ON GAS HEATER.

ENERGY RECOVERY UNIT SCHEDULE																										
SYMBOL	SUPPLY FAN			EXHAUST FAN			WINTER DESIGN						SUMMER DESIGN						ELECTRICAL		MIN EFF	WEIGHT (LBS)	MANUFACTURER & MODEL	REMARKS		
	CFM	ESP	HP	CFM	ESP	HP	SUPPLY			EXHAUST			SUPPLY			EXHAUST			MCA	MOCP					V/ø	
							EDB	EWB	LDB	EDB	EWB	LDB	EDB	EWB	LDB	EDB	EWB	LDB								
 A1	3575	1.1"	3	2510	1.1"	2	3.0	0.0	42.7	70.0	53.7	13.4	96.0	62.0	81.8	72.0	59.6	92.3	30.1	40	208/3	80%	1700	COOK MODEL ERV-3500	①②③④⑤	
 A2	3250	1.1"	3	2240	1.1"	1 1/2	3.0	0.0	43.2	70.0	53.7	11.7	96.0	62.0	81.6	72.0	59.6	92.9	26.2	35	208/3	83%	1700	COOK MODEL ERV-3500	①②③④⑤	
 C1	3575	1.1"	3	2870	1.1"	2	3.0	0.0	45.5	70.0	53.7	17.1	96.0	62.0	80.8	72.0	59.6	91.0	30.1	40	208/3	75%	1700	COOK MODEL ERV-3500	①②③④⑤	
 C2	2775	1.1"	2	2145	1.1"	1 1/2	3.0	0.0	47.4	70.0	53.7	12.6	96.0	62.0	80.1	72.0	59.6	92.6	20.1	30	208/3	82%	1700	COOK MODEL ERV-3500	①②③④⑤	
 D1	2930	1.1"	2	1875	1.1"	1 1/2	3.0	0.0	42.1	70.0	53.7	9.0	96.0	62.0	82.0	72.0	59.6	93.9	20.0	30	208/3	88%	1700	COOK MODEL ERV-3500	①②③④⑤	

- ① APPROVED ALTERNATE MANUFACTURERS: GREENHECK (MODEL ERV) AND CARNES (MODEL WEBE).
- ② PROVIDE WITH ON/OFF FROST PREVENTION CONTROLS, SINGLE POINT POWER CONNECTION, FACTORY 2" – 30% FILTERS IN EACH AIR STREAM, MOTORIZED OUTDOOR AIR INTAKE, RETURN AIR BACKDRAFT DAMPER, EXHAUST AIR BACKDRAFT DAMPER, INTERNAL VIBRATION ISOLATION ON EACH FAN, INTAKE WEATHER HOOD, EXHAUST WEATHER HOOD, HINGED ACCESS DOORS, MANUFACTURER'S ROOF CURB, DOUBLE-WALL CONSTRUCTION, DUCT ADAPTORS, WHEEL ROTATION SENSOR, DIRTY FILTER SENSOR, ECONOMIZER CONTROL, AND LORENIZED FINISH. PROVIDE UNIT WITH UL APPROVAL LISTING AND 15-YEAR WARRANTY ON HEAT EXCHANGER.
- ③ CONNECT UNIT TO DDC CONTROL SYSTEM AND SEQUENCE AS INDICATED ON SHEET M-6.2.
- ④ MANUFACTURER SHALL PROVIDE AND INSTALL GRAHAM MODEL VLT 6000 VARIABLE FREQUENCY DRIVES FOR EXHAUST AND SUPPLY FANS. THE DRIVES SHALL BE PROVIDED WITH A CONTROLS INTERFACE TO INTEGRATE WITH THE AWARDED DDC CONTRACTOR. THE DRIVES SHALL BE PROVIDED WITHOUT DISCONNECTS AND BYPASSES.
- ⑤ DDC CONTRACTOR SHALL PROVIDE, WIRE AND COMMISSION AN EBTRON ADVANTAGE SILVER SERIES AIRFLOW MONITOR (MODEL STA104-P) FOR THE SUPPLY AND EXHAUST FANS. THE HVAC COTNRACTOR SHALL INSTALL THE SENSORS IN THE DUCTWORK.

PUMP SCHEDULE													
SYMBOL	UNIT TYPE	SERVICE	CAPACITY			MOTOR			SUCTION DIFFUSER	TRIPLE DUTY VALVE	OPERATING WEIGHT (LBS)	MANUFACTURER AND MODEL	REMARKS
			FLOW (GPM)	HEAD (FT)	MIN EFF	HP	RPM	V/ø					
 1	BASE MOUNTED	CONDENSER WATER	385	110	73	20	1750	208/3	FE-3	3DS-5B	625	B&G SERIES 1510-3G	①②
 2	BASE MOUNTED	CONDENSER WATER	385	110	73	20	1750	208/3	FE-3	3DS-5B	625	B&G SERIES 1510-3G	①②
 3	INLINE	BYPASS FILTER	5	10	--	92 W	2940	115/1	N/A	N/A	10	B&G NRF-22	①
 4	INLINE BOOSTER	HEAT PUMP HP-B3	5	35	--	1/6	3300	115/1	N/A	N/A	N/A	B&G SERIES PL-36	①

- ① APPROVED ALTERNATE MANUFACTURERS: ARMSTRONG, TACO, PACO & PEERLESS.
- ② PROVIDE UNIT WITH INVERTER DUTY, PREMIUM EFFICIENCY MOTOR WITH CLASS F INSULATION.

VARIABLE FREQUENCY DRIVE SCHEDULE									
SYMBOL	SYSTEM LOCATION	SERVICE HORSEPOWER	V/ø	PURPOSE	MANUFACTURER AND MODEL		REMARKS		
 1	CONDENSER WATER PUMP (P-1)	20	208/3	MAINTAIN CONDENSER WATER LOOP PRESSURIZATION	GRAHAM MODEL VLT 6000		①②③④		
 2	CONDENSER WATER PUMP (P-2)	20	208/3	MAINTAIN CONDENSER WATER LOOP PRESSURIZATION	GRAHAM MODEL VLT 6000		①②③④		

- ① APPROVED MANUFACTURER: AAB, MAGNETEK, RELIANCE
- ② PROVIDE W/FUSED DISCONNECT (W/FUSES), NEMA 1 ENCLOSURE, WALL MOUNTING BRACKETS, FACTORY AUTHORIZED START-UP.
- ③ PROVIDE WITH BACNET CONTROL SYSTEM INTERFACE.
- ④ PROVIDED BY THE DDC CONTRACTOR, INSTALLED BY THE ELECTRICAL CONTRACTOR.

HEAT EXCHANGER SCHEDULE															
SYMBOL	SYSTEM	HEATING MODE				COOLING MODE				HX FLOW (GPM)		MAX PRESSURE LOSS (PSI)		MANUFACTURER AND MODEL	REMARKS
		WELL SIDE		CONDENSER SIDE		WELL SIDE		CONDENSER SIDE		WELL SIDE	CONDENSER SIDE	WELL SIDE	CONDENSER SIDE		
		EWT (°F)	LWT (°F)	EWT (°F)	LWT (°F)	EWT (°F)	LWT (°F)	EWT (°F)	LWT (°F)						
HX 1	CONDENSER LOOP	55.0	48.0	45.0	52.0	55.0	77.5	85.0	62.4	200	200	5.0	5.0	B&G MODEL P20-140-TL	1 2 3

- ① APPROVED ALTERNATE MANUFACTURER: ALFA LAVAL, MUELLER
- ② PROVIDE WITH 316 S.S. PLATES AND NITRIL HT GASKETS.
- ③ PIPING CONNECTIONS TO HEAT EXCHANGER AS SHOWN ON PIPING SCHEMATICS MAY NOT REFLECT EACH MANUFACTURER'S ACTUAL CONNECTION ORDER.

E (WITH ENERGY RECOVERY)																
COOLING DATA (99 °F AMBIENT)			HEATING DATA						ELECTRICAL DATA			O.S.A. (CODE REQUIREMENTS)		OPERATING WEIGHT	MANUFACTURER AND MODEL	REMARKS
DATA	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	TYPE	TEMP. DATA		INPUT CAPACITY (MBH)	OUTPUT CAPACITY (MBH)	TURNDOWN RATIO	V/ø	MCA (AMPS)	MROPD (AMPS)	MINIMUM (CFM)	MAXIMUM (CFM)			
EWB					EDB	LDB										
62.0	210.1	180.3	INDIRECT GAS	66.5	106.6	450.0	300.8	20:1	208/3ø	114.9	150	0	2350	12,000	McQUAY MODEL RPR-018C	①②③④⑤
62.0	210.1	180.3	INDIRECT GAS	66.5	106.6	450.0	300.8	20:1	208/3ø	114.9	150	0	2350	12,000	McQUAY MODEL RPR-018C	①②③④⑤

BASE, LIFTING LUGS, 2" DOUBLE WALL CONSTRUCTION, PREMIUM EFFICIENCY MOTORS, 2" THICK (MERV 8) FILTERS, ROOF CURB, INTERNAL VIBRATION ISOLATION, 1" DEFLECTION, AND SINGLE POINT

CONTROLS TO MODULATE OUTSIDE AND RETURN AIR. PROVIDE VFD ON RETURN/EXHAUST FAN AND FROST CONTROL WITH FREE COOLING WHEEL CONTROL. THE MAXIMUM ALLOWABLE TOTAL HARMONIC

KITCHEN EXHAUST HOOD SCHEDULE											MANUFACTURER AND MODEL	REMARKS
SYMBOL	TYPE	HOOD DIMENSIONS		EXHAUST AIR			MAKE-UP AIR					
		LENGTH	WIDTH	AIRFLOW CFM	DUCT CONNECTION	MAX S.P. LOSS	AIRFLOW CFM	DUCT CONNECTION	MAX S.P. LOSS			
	KITCHEN EXHAUST HOOD (CANOPY) (TYPE-II)	11'-6"	9'-0"	5,980	22X22	0.75	4,184	(2) 10X24	0.25	CAPTIVE AIRE (2) 5424R-BACK TO BACK	①②	
	KITCHEN EXHAUST HOOD (WALL) (TYPE-II)	3'-6"	3'-6"	700	11X10	0.25	--	--	--	CAPTIVE AIRE 4224VH2	①③	

- ① APPROVED ALTERNATE HOOD MANUFACTURER: GREENHECK, E-CON AIR, DUO AIRE
- ② PROVIDE WITH PRE-WIRED REMOTE MOUNTED HOOD CONTROL PANEL (INCLUDING ALL CONTROLS, CONTACTORS, STARTERS, LIGHTS AND SURFACE MOUNTED SWITCHES), EXHAUST/SUPPLY COLLARS, SURFACE MOUNTED PILOT LIGHT.
- ③ PROVIDE WITH EXHAUST COLLAR AND EXHAUST FAN SWITCH ON HOOD.

MAKE-UP AIR FAN SCHEDULE												
SYM	TYPE	AREA SERVED	BLOWER				ELECTRICAL		MAXIMUM SONES	OPERATING WEIGHT (LBS)	MANUFACTURER AND MODEL	REMARKS
			CFM	ESP	MAXIMUM RPM	DRIVE	HP	V/ø				
MAU 1	FILTERED KITCHEN SUPPLY	HOOD H-1	4,184	0.50	725	BELT	1 1/2	208/3	18.5	425	COOK MODEL 150KSP-B	①②

- ① ALTERNATE MANUFACTURERS: GREENHECK, CARNES, ACME, PENN, CAPTIVE AIRE.
- ② PROVIDE WITH MANUFACTURER'S ROOF CURB, BIRDSCREEN, FILTERS, BACKDRAFT DAMPER, AND PRE-WIRED NEMA 3R ELECTRICAL DISCONNECT SWITCH.

EXHAUST FAN SCHEDULE												
SYM	TYPE	AREA SERVED	BLOWER				ELECTRICAL		MAXIMUM SONES	OPERATING WEIGHT (LBS)	MANUFACTURER AND MODEL	REMARKS
			CFM	ESP	MAXIMUM RPM	DRIVE	HP/W	V/ø				
EF 1	CENTRIFUGAL ROOFTOP UPBLAST	AREA 'C' RESTROOMS	800	0.50	1200	BELT	1/4 HP	120/1	7.7	100	COOK MODEL ACRU 120R2B	①③⑤
EF 2	CENTRIFUGAL ROOFTOP UPBLAST	AREA 'A' RESTROOMS	800	0.50	1200	BELT	1/4 HP	120/1	7.7	100	COOK MODEL ACRU 120R2B	①③⑤
EF 3	CENTRIFUGAL ROOFTOP UPBLAST	AREA 'B' RESTROOMS	800	0.50	1200	BELT	1/6 HP	120/1	7.7	100	COOK MODEL ACRU 120R2B	①③⑤
EF 4	CEILING CABINET	NURSE D115	100	0.40	1025	DIRECT	72 W	120/1	2.0	25	COOK MODEL GC-144	①②⑤
EF 5	CEILING CABINET	TOILET D116	100	0.40	1025	DIRECT	72 W	120/1	2.0	25	COOK MODEL GC-144	①②⑤
EF 6	CEILING CABINET	TOILET D136	100	0.40	1025	DIRECT	72 W	120/1	2.0	25	COOK MODEL GC-144	①②⑤
EF 7	CENTRIFUGAL ROOFTOP UPBLAST	AREA 'D' RESTROOMS	500	0.50	1500	BELT	1/6 HP	120/1	8.2	55	COOK MODEL ACRU 100R2B	①③⑤
EF 8	CENTRIFUGAL ROOFTOP UPBLAST	MECHANICAL ROOM	1,500	0.25	1125	BELT	1/4 HP	120/1	10.4	75	COOK MODEL ACRU 135-R3B	①③⑤
EF 9	CENTRIFUGAL ROOFTOP UPBLAST	HOOD H-1	5,980	1.00	890	BELT	2 HP	208/3	17.3	350	COOK MODEL VCR 245V9B	①④⑥
EF 10	CENTRIFUGAL ROOFTOP UPBLAST	HOOD H-2	700	0.50	1060	BELT	1/6 HP	120/1	5.9	110	COOK MODEL ACRU 135R3B	①③⑦
EF 11	CEILING CABINET	TIME OUT D133	75	0.40	890	DIRECT	59 W	120/1	1.5	40	COOK MODEL GC-144	①②⑤