




PACKAGED ROOF TOP UNIT SCHEDULE

UNIT SYMBOL	RTU 1 (NEW)	RTU 2 (NEW)	RTU 3 (NEW)
LOCATION	ROOF	ROOF	ROOF
BLOWER	CFM	2,000 (5-TON)	4,000 (10-TON)
	OUTSIDE AIR (CFM)	500	750
	TSP (IN W.G.)	0.6"	0.7"
COOLING	BHP/H	671.0	1,902.75
	TOTAL (BTU/H)	65,170	115,550
	SENSIBLE (BTU/H)	47,670	93,240
HEATING	AMBIENT (F)	91.0	91.0
	COIL ENTERING	79.8 DB/67.0 WB	78.80 DB/66.30 WB
	COIL LEAVING	57.73 DB/56.64 WB	57.22 DB/56.83 WB
DEHUMIDIFICATION	CAPACITY (BTU/H)	130,000 (INPUT) / 106,600 (OUTPUT)	250,000 (INPUT) / 200,000 (OUTPUT)
	EAT/LAT	51.8/100.2	56.3/102.8
	HOT GAS REHEAT (MBH)	38.45	91.71
ELECTRICAL	COOLING LDB/DPT	75.45/55.96	78.35/56.59
	TEMP RISE (F)	17.72	21.13
	MOISTURE REMOVAL RATE (GPH)	1.98	2.76
ELECTRICAL	POWER SUPPLY	208V/3PH/60HZ	208V/3PH/60HZ
	COMPRESSOR (RLA)	15.9/13.2	19.6/13.2
	CONDENSER MOTOR (FLA)	2.5	2.7
	EVAPORATOR MOTOR (FLA)	3.4	7.3
	MIN. CIRCUIT AMPCACITY	26, HACR = 40	48, HACR = 60
CONTACT: DEREK VAN RIPER PHONE: 714-883-0474 E-MAIL: DEREK.VANRIPER@TRANE.COM		BY TRANE YHC060 DOWN DISCHARGE COMPLETE WITH 24" ROOF MOUNT CURB, ELECTRONIC PROGRAMMABLE THERMOSTAT, HUMIDITY SENSOR, ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF. COMB. FAN MOTOR 0.48 AMPS (DOES NOT OPERATE WITH COMPRESSOR). OPER. WT.: 199 LBS APPROX. SEER=NA EER=11.9, AFUE=81.7%	
		BY TRANE YHC120 DOWN DISCHARGE COMPLETE WITH 24" ROOF MOUNT CURB, ELECTRONIC PROGRAMMABLE THERMOSTAT, HUMIDITY SENSOR, ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF. COMB. FAN MOTOR 0.48 AMPS (DOES NOT OPERATE WITH COMPRESSOR). OPER. WT.: 1608 LBS APPROX. SEER=15.2 EER=12.4, AFUE=80%	
BY TRANE YHC120 DOWN DISCHARGE COMPLETE WITH 24" ROOF MOUNT CURB, ELECTRONIC PROGRAMMABLE THERMOSTAT, HUMIDITY SENSOR, ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF. COMB. FAN MOTOR 0.48 AMPS (DOES NOT OPERATE WITH COMPRESSOR). OPER. WT.: 1608 LBS APPROX. SEER=15.2 EER=12.4, AFUE=80%			
ALL ITEMS RELATED TO HVAC SYSTEM SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR. CONTACT TRANE REPRESENTATIVE ABOVE. 1. THERMOSTATS: REMOTE SENSOR TYPE, 24/7 PROGRAMMABLE AND CAPABLE OF OPERATING ROOFTOP UNITS AND ACCESSORIES "TRANE" BAYSENS119A PROVIDE REMOTE SENSOR BAYSENS077A FOR EACH THERMOSTAT 2. DUCT MOUNTED SMOKE DETECTORS: IONIZATION TYPE/UL LISTED, CSFM CERTIFIED, 24 VAC, BY EDWARDS, DH HOUSING WITH 1551F SENSOR. MECHANICAL CONTRACTOR SHALL ADDITIONALLY PROVIDE AND INSTALL ALL REMOTE RESETS, STROBES, AND ALARMS IF REQUIRED BY CODE & INSPECTOR. CONTRACTOR TO PROVIDE NEW 2" PLEATED FILTERS AT TURNOVER. NOTE: 1. 1.9 AMPS (5 TON) AND 3.8 AMPS (7.5 AND 10 TON) ECONOMIZER INCLUDED IN ELECTRICAL TOTAL MCA PER MANUFACTURER'S LITERATURE. 2. UNIT WEIGHTS ABOVE INCLUDE ACCESSORIES AND CURB. 3. FACTORY OPTIONS SHALL INCLUDE HARD GUARD PROTECTION FOR UNIT. 4. FACTORY OPTIONS SHALL INCLUDE FACTORY INSTALLED DISCONNECTS AND CONVENIENCE OUTLETS (FIELD POWERED REFER TO ELECTRICAL DRAWING). 5. PROVIDE THRU THE BASE ELECTRICAL CONNECTION KIT SCRB21MPW002A01 FOR ALL UNITS. 6. PROVIDE ECONOMIZER FAULT DETECTION FOR ALL UNITS.			

EXHAUST FAN SCHEDULE

FAN NO.				
LOCATION		ROOF	ROOF	ROOF
AREA SERVED		KITCHEN GREASE EXHAUST HOOD #1	KITCHEN GREASE EXHAUST HOOD #2	RESTROOMS
FAN DUTY		AIR EXHAUST	AIR EXHAUST	AIR EXHAUST
FAN TYPE		CENTRIFUGAL BELT-DRIVEN	CENTRIFUGAL BELT-DRIVEN	CENTRIFUGAL BELT-DRIVEN
FAN ARRANGEMENT		UPBLAST	UPBLAST	DOWNBLAST
MIN. WHEEL DIAMETER		-	-	-
PERFORMANCE	C.F.M.	3,450	3,450	450
	T.S.P.	1.25"	1.25"	0.25"
	B.H.P.	1.38	1.38	0.085
	FAN R.P.M.	1223	1223	1128
MOTOR	MOTOR H.P.	2.0	2.0	0.25
	ELEC. CHARACTERISTICS	208V/3PH/60HZ	208V/3PH/60HZ	115V/1PH/60HZ
	MOTOR R.P.M.	1725	1725	-
	MOTOR SPECIAL FEATURES	OPEN DRIP-PROOF	OPEN DRIP-PROOF	OPEN DRIP-PROOF
ACCESSORIES		1. VENTED ROOF CURB 2. HINGED AND CHAINED FAN INSTALLATION FOR DUCT ACCESS	1. VENTED ROOF CURB 2. HINGED AND CHAINED FAN INSTALLATION FOR DUCT ACCESS	1. ROOF CURB 2. BACKDRAFT DAMPER
MANUFACTURER		CAPTIVEAIRE MODEL: EABDU18 WT. 222 LBS	CAPTIVEAIRE MODEL: EABDU18 WT. 222 LBS	CAPTIVEAIRE MODEL: EABDCR7 WT. 108 LBS

NOTES:

1. KITCHEN EXHAUST FANS SHALL BE ELECTRICALLY INTERLOCKED WITH MAKE-UP AIR UNIT AND ROOFTOP UNITS.
2. FOR WIRING DIAGRAM SEE 5/M-501

HVAC CONTROL SETTINGS

EACH HVAC UNIT SHALL BE PROVIDED WITH CONTROLS AS FOLLOWS:

THERMOSTAT: TRANE COMMERCIAL PROGRAMMABLE THERMOSTAT WITH REMOTE TEMPERATURE SENSOR. SEE SHEET M-100 FOR THERMOSTAT AND SENSOR LOCATIONS.

ALL THERMOSTATS SHALL HAVE MANUAL OVERRIDE.

EACH UNIT CONTROL SHALL BE SET UP INITIALLY AS FOLLOWS:

CONTRACTOR SHALL DETERMINE OCCUPIED PERIOD FROM OWNER

FAN OPERATION SHALL BE CONTINUOUS DURING OCCUPIED PERIOD AND
CYCLE WITH COOLING/HEATING DURING UNOCCUPIED PERIOD.

PROGRAMMED SETPOINTS (FOR EACH THERMOSTAT):

COOLING UNOCCUPIED: 85°F.

HEATING OCCUPIED: 68°F.
HEATING UNOCCUPIED: 50°F.

NOTE: DEVIATIONS FROM THE ABOVE MAY RESULT IN UNACCEPTABLE AIR QUALITY, COMFORT AND/OR ENERGY CONSUMPTION.

AIR CURTAIN SCHEDULE

EQUIP.	MFR/MODEL	DESCRIPTION
(M8A)	MARS STD242-11U-0B	UNEHEATED AIR CURTAIN (SERVICE DOOR), 115/1160, WEIGHT 65 LBS. PROVIDED BY PANDA EXPRESS
(M9A)	QUICK-SERV CF-25	AIR CURTAIN (WINDOW NON-HEATED), 120/160, 20 AMP WEIGHT 30 LBS REFERENCE ARCHITECTURAL WINDOW SCHEDULE FOR HEATED OR NON-HEATED UNIT. PROVIDED BY GC.
NOTES: INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS.		

MA-1 CONTROL SETTINGS

EACH UNIT CONTROL SHALL BE SET UP INITIALLY AS FOLLOWS:

FAN OPERATION SHALL BE CONTINUOUS DURING COOKING OPERATION
INTERLOCK WITH KITCHEN EXHAUST FANS. REFER TO HOOD DRAWINGS.

PROGRAMMED SETPOINTS :

COOLING: 85°F.
HEATING: 55°F.

MECHANICAL SPECIFICATIONS

1. WORK INCLUDES INSTALLATION OF HVAC SYSTEMS, INCLUDING GREASE EXHAUST FANS AND MAKE-UP AIR UNIT FOR KITCHEN HOODS, SPACE HEATING/AIR CONDITIONING SYSTEMS, SUPPLY, RETURN, EXHAUST, AND GREASE EXHAUST DUCTWORK, GRILLES, REGISTERS, DIFFUSERS, COMPLETE CONTROLS SYSTEM, INTERLOCK WIRING FOR OPERATION OF KITCHEN HOODS, EXHAUST FANS, AND MAKE-UP AIR UNIT, DUCT INSULATION, AND RELATED ITEMS NECESSARY FOR A COMPLETE FUNCTIONING SYSTEM AS INDICATED ON THE PLANS. FURNISH ALL NEW MATERIALS AND EQUIPMENT UNLESS NOTED OTHERWISE (U.N.O.).
2. DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT AND REQUIRED EQUIPMENT. DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. AS REQUIRED, REFER TO ARCHITECTURAL AND MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. FURNISH AND INSTALL DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND EQUIPMENT SHOWN ON PLANS.
3. CODE COMPLIANCE: ALL WORK COVERED BY THIS SECTION SHALL BE IN ACCORDANCE WITH ALL LOCAL CODES AND ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
4. COORDINATE WORK WITH OTHER TRADES. EQUIPMENT FURNISHED BY OTHERS AND OWNER REQUIREMENTS. PROVIDE DUCT RISERS AND DROPS AS REQUIRED FOR INSTALLATION AND/OR TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK. WORK SHALL BE PERFORMED BY EXPERIENCED TRADESMEN AND THEIR WORK SHALL BE OF HIGH STANDARD ACCEPTABLE TO THE OWNER.
5. DUCTWORK: DUCT SYSTEMS SHALL BE CONSTRUCTED, INSTALLED, SEALED AND INSULATED AS PROVIDED IN THE INT'L ENERGY AND MECHANICAL CODES. SHEET METAL SHALL BE IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS. SHEET METAL SHALL BE GALVANIZED OF LOCK-FORMING QUALITY, ASTM A-525, UNLESS OTHERWISE NOTED. DUCT DIMENSIONS ON DRAWINGS ARE NET INSIDE CLEAR DIMENSIONS ON LINED DUCTS OR SHEET METAL DIMENSIONS ON UNLINED DUCTS. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. ROUND RIGID DUCTWORK SHALL CONFORM TO SMACNA TABLE 3-2.
6. INSTALL DUCT HIGH AS POSSIBLE WITHIN JOIST SPACE. CONSULT ARCHITECT AND ENGINEER FOR ALTERNATE ROUTING IF CONFLICT OCCURS.
7. SEAL ALL TRANSVERSE AND LONGITUDINAL DUCT SEAMS AIR-TIGHT. PROVIDE TURNING VANES AT ALL ELBOWS OR OFFSETS EXCEEDING 30 DEGREES.
8. GREASE EXHAUST SYSTEM: ALL GREASE EXHAUST DUCTS SHALL BE FABRICATED BY WELDED JOINT CONSTRUCTION OF 16 GAUGE WELDED STEEL OR 18 GAUGE STAINLESS STEEL. PROVIDE RATED ACCESS DOORS AT ALL ELBOWS AND OFFSETS NECESSARY FOR COMPLETE CLEANING OF GREASE DUCT. PROVIDE MINIMUM 30"x30" UNOBSTRUCTED ACCESS OR ROUTE FROM THE CEILING TO EACH ACCESS DOOR. DO NOT BLOCK ACCESS WITH PLUMBING, ELECTRICAL OR HVAC OBSTRUCTIONS. ALL ELBOWS SHALL BE LONG RADIUS. GREASE DUCT SHALL BE INSTALLED EITHER IN A RATED ENCLOSURE PROVIDED BY THE GENERAL CONTRACTOR OR WRAPPED WITH FIREMASTER GREASE DUCT WRAP.
9. DUCT INSULATION: PROVIDE DUCT WRAP FOR ALL DUCTS ABOVE CEILING, INCLUDING VERTICAL, HORIZONTAL, RIGID AND FLEXIBLE DUCTS, EXCLUDING PREFABRICATED PREINSULATED DUCTS AND GREASE DUCTS. DUCT WRAP SHALL BE JOHNS MANVILLE MICROLOTE OR EQUAL WITH FOLSK/SKIRKRAFT, 1 IN THICKNESS, 15 POUNDS/FT³ DENSITY. DUCT WRAP SHALL BE BONDED GLASS FIBERS IN THERMOSETTING RESIN MEETING NFPA 90A, WITH K VALUE NOT TO EXCEED 0.23 AT 75 DEGREES F. FLEX SPREAD AND SMOKE DEVELOPED RATINGS SHALL NOT EXCEED 25/50. APPLY 100% ADHESIVE COVERAGE TO SHEET METAL DUCTWORK. PROVIDE ADDITIONAL MECHANICAL FASTENERS ON DUCTS OVER 12" WIDE OR 16" HIGH. MECHANICAL FASTENERS SHALL BE "GRIPNAIL" OR WELDED PIN AND SPEED CLIPS SPACED PER SMACNA STANDARDS.
10. FLEX DUCT: PROVIDE FACTORY ASSEMBLED CLASS 1 AIR DUCT (UL 181) WITH FIBERGLASS INSULATION AND REINFORCED OUTER PROTECTIVE COVER/VAPOR BARRIER. FLEX DUCT SHALL MEET NFPA 90A WITH FLAME SPREAD UNDER 25, SMOKE DEVELOPED UNDER 50 AND SHALL BE RATED FOR 2" W.C. PRESSURE AND 0 TO 250 DEGREE TEMPERATURE. FLEX DUCT MAXIMUM ALLOWED LENGTH TO BE PER LOCAL CODE.
11. PROVIDE INSULATION APPLIED TO COMPLETE BACKPAN OF AIR DEVICES.
12. ACCESS DOOR: PROVIDE HINGED ACCESS PANELS IN DUCTWORK WHERE SHOWN AND AS REQUIRED FOR ACCESS TO DAMPERS OR EQUIPMENT. PROVIDE INSULATED ACCESS DOORS IN INSULATED DUCTWORK.
13. AUTOMATIC TEMPERATURE CONTROL: CONTRACTOR TO PROVIDE AND INSTALL 24/7 PROGRAMMABLE THERMOSTATS AND REMOTE SENSORS.
14. KITCHEN HOOD EQUIPMENT INTERLOCK: PROVIDE ALL INTERLOCK AND CONTROL WIRING FOR KITCHEN HOOD SYSTEMS, WHICH INCLUDES E1, EF2, MAU1 AND ANSUL SYSTEM SHUT DOWN INTERLOCK TO MAKE-UP AIR FAN. UPON ACTIVATION OF ANSUL SYSTEM, MAKE-UP AIR FAN SHALL BE DEACTIVATED. PROVIDE ALL NECESSARY CONTROLS AND WIRING FOR A COMPLETE AND OPERABLE SYSTEM. INTERLOCK GREASE EXHAUST FANS AND MAKE-UP AIR UNIT TO START SIMULTANEOUSLY FROM SWITCH PROVIDED AT HOOD.
15. TEST AND ADJUST EACH PIECE OF EQUIPMENT AND EACH SYSTEM AS REQUIRED TO ASSURE PROPER AIR FLOW AND OPERATION. PROVIDE A CERTIFIED AIR BALANCE REPORT TO OWNER SHOWING DESIGN AND MEASURED AIR VOLUMES, STATIC PRESSURES, FAN RPM'S, ETC. AIR BALANCE CONTRACTOR SHALL ADJUST SYSTEMS TO MINIMIZE NOISE AND VIBRATION, AND TO ASSURE PROPER FUNCTION OF CONTROLS. MAINTENANCE OF TEMPERATURE AND OPERATION. GENERAL CONTRACTOR TO OBTAIN ALL INSPECTIONS REQUIRED BY LOCAL CODE AND GUARANTEE WORK AND INSTALLATION FOR ONE YEAR AFTER ACCEPTANCE BY OWNER. GENERAL CONTRACTOR TO FURNISH OWNER WITH TWO COMPLETE SETS OF AS-BUILT DRAWINGS INDICATING ALL INSTALLED WORK, INCLUDING ALL CONTROL WIRING DIAGRAMS AND INTERLOCK FOR SYSTEM OPERATION.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF ECONOMIZERS INCLUDING INSTALLATION OF ALL NECESSARY SENSORS AND CONNECTIONS TO THERMOSTAT. PROVIDE SUPPORT OF ECONOMIZERS PER MANUFACTURER'S REQUIREMENTS AND TEST FOR PROPER OPERATION PRIOR TO FINAL TEST AND BALANCE.



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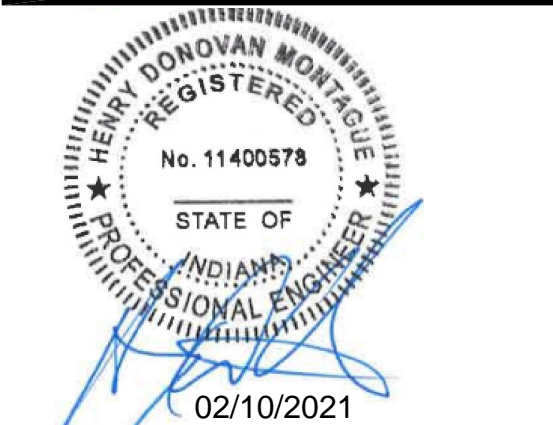
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MECHANICAL NOTES
SPECIFICATIONS & SCHEDULES

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