

AIR HANDLING EQUIPMENT SCHEDULE

ITEM	LOCATION	MODEL NUMBER (TRANE AS STANDARD)	SUPPLY C.F.M.	COOLING COIL													HEATING COIL								SUPPLY FAN		EXHAUST FAN				NOTES						
				AIR SIDE				WATER SIDE				TOTAL FACE AREA (SQ. FT.)	MAX. FACE VEL. (F.P.M.)	MIN. ROWS DEEP	AIR SIDE		WATER SIDE		TOTAL FACE AREA (SQ. FT.)	MAX. FACE VEL. (F.P.M.)	MIN. ROWS DEEP	E.S.P. (IN. WC)	MAX. FAN R.P.M.	BHP	MOTOR HP	E.A. (CFM)	E.S.P. (IN. WC)	MAX. FAN R.P.M.	BHP	MOTOR HP		MIN. O.A. (CFM)	MAX. OPER. WT. (#)				
				ENTERING TEMP. (F)	LEAVING TEMP. (F)	MAX. APD (IN. WC)	GPM	ENTERING TEMP. (F)	LEAVING TEMP. (F)	MAX. APD (IN. WC)	GPM				ENTERING TEMP. (F)	LEAVING TEMP. (F)	MAX. APD (IN. WC)	GPM																ENTERING TEMP. (F)	LEAVING TEMP. (F)	MAX. APD (IN. WC)	GPM
AH 1	MECHANICAL MEZZANINE	M SERIES MCCB017	8,700	78.5	65.8	53.3	52.8	1.0	48.5	42	56	13	16.8	518	6	40.0	56.0	0.15	15.0	180	160	5	14.7	593	1	2.25	1778	9.1	15.0	2100	0.5	1328	1.9	3.0	3500	4500	①②③④⑤⑥⑦
AH 2	MECHANICAL MEZZANINE	M SERIES MCCB014	7,400	78.0	65.3	53.0	52.8	1.0	39.4	42	56	4	14.2	520	6	40.0	55.3	0.15	12.3	180	160	5	13.3	557	1	2.25	1256	8.5	15.0	2100	0.5	1384	1.1	2.0	3000	4000	①②③④⑤⑥
AH 3	MECHANICAL MEZZANINE	M SERIES MCCB014	7,400	79.2	66.5	53.0	52.8	1.0	43.6	42	56	5	14.2	520	6	40.0	55.3	0.15	12.3	180	160	5	13.3	557	1	2.25	2183	8.8	15.0	2100	0.5	1362	1.1	2.0	3500	4000	①②③④⑤⑥
AH 4	MECHANICAL MEZZANINE	M SERIES MCCB014	7,800	78.7	66.0	53.0	52.8	1.0	44.3	42	56	5	14.2	550	6	40.0	55.7	0.15	13.3	180	160	5	13.3	587	1	2.25	2258	9.7	15.0	2100	0.5	1384	1.1	2.0	3400	4000	①②③④⑤⑥

- ① VARIABLE AIR VOLUME HANDLING UNIT WITH HEAT RECOVERY WHEEL.
- ② PROVIDE FILTER SECTIONS WITH 2" THICK, 30% EFFICIENT PLEATED PRE-FILTERS. FILTER SIZE AND QUANTITY SHALL BE MANUFACTURER'S STANDARD WITH MAXIMUM 500 FPM FACE VELOCITY.
- ③ PROVIDE UNIT MOUNTED DISCONNECT SWITCH.
- ④ PROVIDE TWO POINTS OF POWER CONNECTION 120V/1Ø AND 460V/3Ø.
- ⑤ PROVIDE FACTORY MOUNTED VFD FOR SUPPLY FAN.
- ⑥ UNIT WITH HEAT RECOVERY WHEEL WITH 1/6 HP MOTOR, 460V/3Ø.
- ⑦ PROVIDE FACTORY MOUNTED VFD FOR EXHAUST FAN. VFD PROVIDED FOR EXHAUST AIR BALANCING ONLY.

DIFFUSER & REGISTER SCHEDULE

SUPPLY AIR				RETURN or EXHAUST AIR			
ITEM	NECK SIZE	CFM RANGE	TYPE	ITEM	NECK SIZE	CFM RANGE	TYPE
A	6 X 6 - 6"	0 - 190	S1	A	6 X 6	0 - 100	R1
B	8 X 8 - 8"	191 - 310		B	8 X 8	101 - 190	
C	10 X 10 - 10"	311 - 430		C	10 X 10	191 - 300	
D	12 X 12 - 12"	431 - 560		D	12 X 12	301 - 450	
E	14 X 14 - 14"	561 - 695		E	14 X 14	451 - 625	
F	16 X 16 - 16"	696 - 820		F	16 X 16	626 - 810	
G	18 X 18 - 18"	821 - 950		G	18 X 18	811 - 965	
H	20 X 20 - 20"	951 - 1,085		H	20 X 20	966 - 1,110	
I	22 X 22 - 22"	1,086 - 1,200		I	22 X 22	1,111 - 1,255	
J	24 X 24 - 24"	1,201 - 1,330		J	24 X 24	1,256 - 1,375	
K	6 X 6	0 - 125	S2	K	6 X 6	0 - 100	R2
L	8 X 8	126 - 250		L	10 X 10	101 - 200	
M	12 X 8	251 - 350		M	12 X 12	201 - 350	
N	18 X 8	351 - 550		N	18 X 12	351 - 500	
O	20 X 12	551 - 1000		O	30 X 12	501 - 650	
				P	30 X 16	651 - 800	
				Q	36 X 20	801 - 1000	
				R	36 X 30	1001 - 1400	
				S	24 X 24	0 - 1400	R3

DIFFUSER & REGISTER SPECIFICATIONS

SUPPLY AIR:

TYPE S1: TITUS MODEL MCD MODULAR CORE DIFFUSER WITH BORDER TYPE 3 FOR LAY-IN CEILING OR BORDER TYPE 6 FOR BEVELED DROP FACE SURFACE MOUNT. SEE PLANS FOR THROW PATTERN.

TYPE S2: TITUS MODEL 300RS DOUBLE DEFLECTION SIDE WALL SUPPLY AIR GRILLE.

- ⬡ - DIFFUSER TYPE
- (X/Y) - AIR QUANTITY / THROW

RETURN/EXHAUST AIR:

TYPE R1: TITUS MODEL 350RL BLADE TYPE GRILLE WITH 3/4" SPACED BLADES & 35" DEFLECTION, BORDER TYPE 1 FOR FLANGED SURFACE MOUNT OR BORDER TYPE 3 FOR LAY-IN CEILING. INSTALL WITH BLADES OPPOSED TO LINE OF SIGHT.

TYPE R2: TITUS MODEL 350RL 35" DEFLECTION RETURN/ EXHAUST GRILLE.

TYPE R3: TITUS MODEL 50F, 1"x1"x1" ALUMINUM EGG CRATE GRILLE WITH GYPSUM BOARD CEILING FRAME.

FAN SCHEDULE

ITEM	SERVICE	GREENHECK MODEL NUMBER	CFM	ESP	HP	RPM	VOLT/PHASE	MAX OPERATING WEIGHT LBS	NOTES
EF 1	TOILET ROOM EXHAUST	BSQ-90-3	795	0.65	1/3	1725	115/1	100	①③
EF 2	TOILET ROOM EXHAUST	SQ-80-D	200	0.50	1/12	1550	115/1	60	①③④
EF 3	FUME HOOD EXHAUST	BSQ-100-5	1,120	0.75	1/2	1725	115/1	100	②③
EF 4	TOILET ROOM EXHAUST	BSQ-90-3	845	0.50	1/3	1725	115/1	100	①③
EF 5	SCIENCE LAB EXHAUST	BSQ-120-5	1,400	0.75	1/2	1725	115/1	110	③⑤
EF 6	ELECTRICAL ROOM EXHAUST	BSQ-100-3	1,100	0.50	1/3	1725	115/1	90	③⑥

- ① EXHAUST FAN TO OPERATE CONTINUOUSLY.
- ② FAN SHALL OPERATE VIA WALL SWITCH. LOCATE SWITCH ON SCIENCE LAB EXHAUST HOOD WITH PLAQUARD STATING "SCIENCE LAB EXHAUST FAN ON/OFF".
- ③ PROVIDE UNIT MOUNTED DISCONNECT SWITCH, VIBRATION ISOLATORS AND GRAVITY BACKDRAFT DAMPER.
- ④ FURNISH WITH UNIT MOUNTED SOLID STATE SPEED CONTROL.
- ⑤ INTERLOCK OPERATION OF FAN WITH EF-3.
- ⑥ PROVIDE WALL MOUNTED THERMOSTAT AND REQUIRED ACCESSORIES FOR STAND ALONE OPERATION. FAN TO OPERATE WHEN ROOM REACHES 100°F AND TURN OFF WHEN ROOM REACHES 90°F.

VARIABLE FREQUENCY DRIVE SCHEDULE

ITEM	SERVES	HP	V-PH	REMARKS
VFD 1	AH 1	15.0	460/3	①②③④
VFD 2	AH 2	15.0	460/3	①②③④
VFD 3	AH 3	15.0	460/3	①②③④
VFD 4	AH 4	15.0	460/3	①②③④
VFD 5	P 1	7.5	460/3	①②③
VFD 6	P 2	7.5	460/3	①②③
VFD 7	AH 1	3.0	460/3	①②③⑤

- ① FURNISH WITH INTERNAL BYPASS.
- ② PROVIDE PREMIUM EFFICIENCY MOTOR.
- ③ FURNISH WITH 3% INPUT LINE REACTOR, INPUT EMI/RFI FILTERS, DUAL ELEMENT LOW PASS OUTPUT FILTER, NEMA 1 ENCLOSURE, NON-FUSED DISCONNECT WITH THROUGH DOOR INTERLOCK. FILTERS SHALL BE SELECTED BY MANUFACTURER BASED UPON SINGLE LINE DIAGRAM ANALYSIS TO PROHIBIT NOISE FROM BEING IMPOSED ON ADJACENT POWER OR LOW VOLTAGE SYSTEMS PER REQUIREMENTS OF IEEE 519.
- ④ PROVIDE FACTORY MOUNTED VFD ON SUPPLY FAN.
- ⑤ PROVIDE FACTORY MOUNTED VFD ON EXHAUST FAN. VFD PROVIDED FOR EXHAUST AIR BALANCING ONLY.

EQUIPMENT SCHEDULE

ITEM	DESCRIPTION
ACC 1/2	AIR COOLED SCROLL CHILLER: TRANE MODEL #CGAM060, 55.3 TONS, 10.1 FULL LOAD EER, EWT 56°F, LWT 42°F, 95 GPM (MAX), 67 GPM (MIN), 10 FT WPD, EVAPORATOR FOULING FACTOR 0.0001, AMBIANT TEMPERATURE 95°F, 6 CONDENSER FANS, SINGLE POINT POWER CONNECTION, 460V/3Ø, 131.6 MCA, 150 MOCP, 5000 LBS, ACCESS THE LINE UNIT MOUNTED STARTER, HFC-410A. PROVIDE 4" HOUSEKEEPING PAD.
B 1	BOILER: AERCO MODEL MLX-909, 909 MBH INPUT, 781 MBH OUTPUT, 180°F LWT, 160°F EWT, 120V/1Ø, 3.6 FLA, 78 GPM, 10.0 FT OF HEAD MAX PD, 14 PPM OR LESS NOX. MAX DIMENSIONS - 48"WX36"D X 48"H, 6" EXHAUST/INTAKE CONNECTIONS. PROVIDE PRIMARY PUMP AND ACCESSORIES AS RECOMMENDED BY MANUFACTURER. PROVIDE 120V/1Ø POWER CONNECTION AND RELAY FOR PUMP.
P 1/2	CHILLED WATER PUMP: BELL AND GOSSETT SERIES 1510 MODEL 2BC, 190GPM, 60FT, 1750 RPM, 8.5 DIAMETER IMPELLER, 4.3 BHP, 7.5 HP, END SUCTION PUMP WITH VFD. PROVIDE 4" HOUSEKEEPING PAD.
P 3/4	HOT WATER PUMP: BELL AND GOSSETT SERIES 60, MODEL 1/2X1/2X7, 55GPM, 40 FT, 1750 RPM, 6.4 DIAMETER IMPELLER, 1.2 BHP, 2.0 HP, INLINE PUMP. PROVIDE SUPPLEMENTAL SUPPORT, AS REQUIRED.
T 1	CHILLED WATER BUFFER TANK: CEMLINE MODEL V120CWB FOR 120 GALLONS WITH 4" NPT INLET AND OUTLET OPENINGS, 24" DIAMETER, 60" TALL. TANK SHALL BE ASME CODE CONSTRUCTED. ASME WORKING PRESSURE SHALL BE 125 PSI. FURNISH WITH AIR VENT, 1" FLEXIBLE ELASTOMERIC THERMAL INSULATION AND INTERNAL BAFFLE TO DIVERT WATER FLOW.
ET 1	REPLACEABLE BLADDER CHILLED WATER EXPANSION TANK: AMTROL MODEL AX-15V BOTTOM CONNECTION FOR 7.8 GALLON TANK AND 2.4 GALLON ACCEPTANCE VOLUME, ASME STAMPED FOR 125 PSIG WORKING PRESSURE AT 240°F. FURNISH PRECHARGED WITH 1/2" NPT SYSTEM CONNECTION AND CHARGING VALVE. 60 POUNDS MAXIMUM OPERATING WEIGHT. PROVIDE 4" HOUSEKEEPING PAD.
ET 2	REPLACEABLE BLADDER HOT WATER EXPANSION TANK: AMTROL MODEL AX-40V BOTTOM CONNECTION FOR 21.7 GALLON TANK AND 11.3 GALLON ACCEPTANCE VOLUME, 17" DIAMETER, 30" TALL, ASME STAMPED FOR 125 PSIG WORKING PRESSURE AT 240°F. FURNISH PRECHARGED WITH 1/2" NPT SYSTEM CONNECTION AND CHARGING VALVE. 100 POUNDS MAXIMUM OPERATING WEIGHT. PROVIDE 4" HOUSEKEEPING PAD.
AS 1	CHILLED WATER CENTRIFUGAL AIR SEPARATOR: BELL AND GOSSETT ROLAIRTROL MODEL R-4(G) FOR 300GPM WITH REMOVABLE GALVANIZED STEEL SYSTEM STRAINER. 4" FLANGED INLET AND OUTLET OPENINGS, ASME STAMPED FOR 125 PSIG WORKING PRESSURE AT 350°F. PROVIDE SUPPLEMENTAL SUPPORT AS REQUIRED.
AS 2	HOT WATER CENTRIFUGAL AIR SEPARATOR: BELL AND GOSSETT ROLAIRTROL MODEL R-3(G) FOR 190GPM WITH REMOVABLE GALVANIZED STEEL SYSTEM STRAINER. 3" FLANGED INLET AND OUTLET OPENINGS, ASME STAMPED FOR 125 PSIG WORKING PRESSURE AT 350°F. PROVIDE SUPPLEMENTAL SUPPORT AS REQUIRED.
UH 1	CHROMALOX HCH-251M, 2.5 KW 208V/1 WALL-MOUNTED, CONVECTION HEATER. PROVIDE UNIT MOUNTED T-STAT SET TO 55°F. ENCLOSURES SHALL BE CONSTRUCTED OF REINFORCED 16 GAUGE STEEL. THERMAL OVERHEAT PROTECTION SHALL BE LINE VOLTAGE TYPE WITH AUTOMATIC RESET TO TURN HEATING ELEMENTS OFF SHOULD OVERHEATING OCCUR. OPERATION SHALL AUTOMATICALLY RESTORE WHEN CAUSE FOR OVERHEATING IS ELIMINATED. INLET AND OUTLET GRILLES SHALL BE CLOSELY SPACED TO RESTRICT ENTRY FOREIGN OBJECTS. FRONT PANEL SHALL BE FASTENED TO CABINET WITH HIDDEN TAMPER-RESISTANT SCREWS. PROVIDE MANUAL RESET CUTOUT. EACH CABINET CONVECTOR SHALL BE COMPLETELY FACTORY ASSEMBLED, WIRED, TESTED AND SHIPPED AS A SINGLE ASSEMBLY. ENCLOSURE SHALL BE CORROSION RESISTANT. HEATER SHALL BE UL LISTED, CSA CERTIFIED AND MEET REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.
UH 2/3/4/5	CHROMALOX HVH-05-43-30, 5.0 KW 480V/3, FORCED AIR HEATER. PROVIDE UNIT MOUNTED T-STAT SET TO 55°F. PROVIDE UNIT MOUNTED DISCONNECT. THE CABINET SHALL BE 20 GAUGE DIE FORMED FURNITURE GRADE STEEL WITH INTEGRAL ADJUSTABLE LOUVRES. ALL METAL SURFACES OF THE CASE SHALL BE PHOSPHATE COATED TO RESIST CORROSION. MOTORS SHALL BE EQUIPPED WITH BUILT-IN THERMAL OVERLOAD PROTECTION. EACH UNIT SHALL BE EQUIPPED WITH VIBRATION ISOLATORS. FAN SHALL BE ALUMINUM, DIRECTLY CONNECTED TO FAN MOTOR, DYNAMICALLY BALANCED AND DESIGNED SPECIFICALLY FOR UNIT HEATER APPLICATION. HEATER SHALL BE UL LISTED, CSA CERTIFIED AND MEET REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.



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no.	revisions	date
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HARRY HURST MIDDLE SCHOOL WING ADDITION

1 Roadrunner Lane, Destrehan, Louisiana 70047

SCHEDULES

project number 10.0123	drawing number MO.01
date 06.14.2010	phase CD

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