

AIR HANDLING UNITS

AHU	SERVICE LOCATION	TOTAL AIR CFM	OUTSIDE AIR CFM	COOLING COIL TOTAL MBH	COOLING COIL SENS MBH	COIL FACE VELOCITY FPM	COIL ENT. AIR TEMP	COIL LG. AIR TEMP	GPW	EMT/LWT F	MIN. # OF ROWS	MAX. WATERSIDE F.D. FT.	ELECTRICAL VOLT/PH/Hz	SUPP. FAN HP	CFM	MAXIMUM MECHANICAL WEIGHT LBS	REMARKS			
AHU-1	REST OF BLDG	13,000	2,306	607.0	393.1	488	79.3	86.9	51.6	51.4	85.0	51.4	460/3/60	2.5	13,000	3,830	1 THRU 13. 16			
AHU-2	CALIBRATION LABS	7,650	2,014	443.4	283.8	350	76.7	84.2	42.8	42.6	73.2	40/52.1	10	8.5	460/3/60	1.75	15.0	7,650	3,845	1 THRU 15

NOTES:

- DESIGN BASED ON MCOUAY AIR HANDLER UNITS.
- EQUIPMENT SHALL COMPLY WITH ALL REQUIREMENTS OF RFP CONTRACT NO N69450-07-D-0057.
- PROVIDE VFD'S WITH BYPASS AND HARMONIC MITIGATORS.
- PROVIDE RETURN AND OUTSIDE AIR DAMPERS IN FILTER SECTION.
- EQUIPMENT FOOTPRINT SHOWN ON DRAWINGS SHALL BE MAXIMUM DIMENSIONS.
- PROVIDE SOLID DOUBLE WALL PANELS WITH R-8.33 INSULATION.
- PROVIDE UNIT 6" BASE RAIL.
- PROVIDE PREMIUM EFFICIENCY INVERTER RATED MOTORS.
- PROVIDE FACTORY INSTALLED UV LIGHT @ COOLING COIL.
- DOOR KILL SWITCHES WIRED TO UV LIGHTS ON DOORS DOWNSTREAM
- OF COOLING COIL.
- REFER TO AHU WRITTEN SPECIFICATION FOR ALL UNIT REQUIREMENTS
- AHU SHALL HAVE ACCESS DOORS (12"MIN.) BEFORE AND AFTER EACH COIL.
- MAX. COIL FINS PER INCH SHALL BE 9 FOR AHU-1 & 12 FOR AHU-2
- PROVIDE A DIFFERENTIAL PRESSURE SWITCH ACROSS EACH SET OF FILTERS.
- INSTALL EMERGENCY DRIP PAN UNDER AHU-2 AND PROVIDE DRAINAGE TO THE NEAREST FLOOR DRAIN ON THE MEZANINE.
- PROVIDE MERV 8A PRE-FILTERS AND MERV 14A FINAL FILTERS. FINAL FILTERS TO BE LOCATED UPSTREAM OF CHILLED WATER COIL.
- PROVIDE MERV 8 PRE-FILTERS AND VARICEL SH CARTRIDGE (85% EFF.) FINAL FILTERS. FINAL FILTERS TO BE LOCATED UPSTREAM OF CHILLED WATER COIL.

VAV SCHEDULE

MARK	COOLING CFM	HEATING CFM	HEATING GPM	VOLT/PH/Hz	TEMPERATURE RISE	DISCHARGE TEMP	INLET NECK SIZE (IN)
VAV-1	709	213	0.9	120/1/60	37.0	90.0	8
VAV-2	512	205	0.7	120/1/60	29.4	82.4	7
VAV-3	665	200	0.8	120/1/60	37.9	90.9	8
VAV-4	306	107	0.5	120/1/60	37.7	90.7	6
VAV-5	188	67	0.5	120/1/60	37.5	90.5	4
VAV-6	285	114	0.5	120/1/60	37.4	90.4	6
VAV-7	2,285	690	2.8	120/1/60	37.7	90.7	14
VAV-8	2,669	1,068	3.6	120/1/60	31.2	84.2	16
VAV-9	1,627	651	2.2	120/1/60	30.8	83.81	12
VAV-10	257	77	0.5	120/1/60	38.7	91.7	5
VAV-11	238	71	0.5	120/1/60	37.4	90.4	5
VAV-12	212	64	0.5	120/1/60	37.5	90.5	5
VAV-13	1,359	408	1.7	120/1/60	38.3	91.3	12
VAV-14	64	26	0.5	120/1/60	29.7	82.7	4
VAV-15	64	26	0.5	120/1/60	29.7	82.7	4
VAV-16	1,084	434	1.7	120/1/60	36.8	89.8	9
VAV-17	106	42	0.5	120/1/60	32.3	85.3	4
VAV-18	1,281	512	2.1	120/1/60	37.7	90.7	10
VAV-19	256	102	0.5	120/1/60	36.9	89.9	6

NOTES:

- DESIGN BASED ON NALOR MODEL 30RW
- ENTERING HEATING WATER TEMPERATURE IS 130F
- HEATING COIL SHALL BE 2 ROW MINIMUM
- PROVIDE TWO WAY CONTROL VALVES.
- DDC CONTROLLER PROVIDED BY CONTROL CONTRACTOR AND INSTALLED BY FACTORY
- PROVIDE FACTORY INSTALLED TRANSFORMER 120V/24V
- EACH UNIT SHALL BE TAGGED FROM THE FACTORY

WITH THE CORRESPONDING MARK.

- MAX. AIR PRESSURE DROP SHALL BE 0.2" W.G. AND NTPA 90A.
- TERMINALS SHALL MEET REQUIREMENTS OF UL 181 AND NTPA 90A.
- TERMINALS ARE SINGLE DUCT. DDC WITH STANDARD MULTIPoint CENTER AVERAGE VELOCITY SENSOR.
- UPSIZE BRANCH DUCT CONNECTION BY 2."
- PROVIDE THERMOSTATS FOR ALL VAVS. INTERLOCK WITH 13. VAV-18 WILL HAVE A 3-WAY VALVE.

DIFFUSERS, REGISTERS AND GRILLES

DESIG.	CFM	NECK SIZE (IN.)	MAX. ΔP (IN.)	MAX NC	MODEL
①	0-140	6ø	.1	30	24x24 LAY-IN, SUPPLY TYPE L, WHITE NALOR MODEL # AUNI
	140-220	8ø			
	220-315	10ø			
②	315-470	12ø	.1	30	12x12 LAY-IN, SUPPLY TYPE L, WHITE NALOR MODEL # AUNI
	470-650	14ø			
	650-850	16ø			
③	0-2000	22"x22"	.1	30	24x24 LAY-IN RETURN AIR 1/2x1/2x1/2 EGG CRATE WHITE ALUM. NALOR #51TEC
	0-520	12"x12"			
	2000-5700	48"x24"			
④	150-300	14"x6"	.1	30	SUPPLY AIR, 3/4" SPACING DOUBLE DEFLECTION WHITE ALUM. WITH AIR FOIL TYPE BLADES NALOR MODEL # 51DB
	300-400	16"x16"			
	400-500	10ø			
⑤	500-750	12ø	.1	30	24x48 LAY-IN, MODULAR CORE (SUPPLY TYPE L, WHITE NALOR MODEL # 92TRP-2AL-1-2-48X24-L-AW
	750-1000	14ø			
	1000-1250	16ø			
⑥	1250-1500	18ø	.1	30	24x48 LAY-IN, MODULAR CORE (SUPPLY TYPE L, WHITE NALOR MODEL # 92TRP-2AL-1-2-48X24-L-AW
	1500-1750	20ø			
	1750-2000	22ø			
⑦	2000-2500	24ø	.1	30	24x48 LAY-IN, MODULAR CORE (SUPPLY TYPE L, WHITE NALOR MODEL # 92TRP-2AL-1-2-48X24-L-AW
	2500-3000	26ø			
	3000-3500	28ø			
⑧	3500-4000	30ø	.1	30	24x48 LAY-IN, MODULAR CORE (SUPPLY TYPE L, WHITE NALOR MODEL # 92TRP-2AL-1-2-48X24-L-AW
	4000-4500	32ø			
	4500-5000	34ø			
⑨	5000-5500	36ø	.1	30	24x48 LAY-IN, MODULAR CORE (SUPPLY TYPE L, WHITE NALOR MODEL # 92TRP-2AL-1-2-48X24-L-AW
	5500-6000	38ø			
	6000-6500	40ø			
⑩	6500-7000	42ø	.1	30	24x48 LAY-IN, MODULAR CORE (SUPPLY TYPE L, WHITE NALOR MODEL # 92TRP-2AL-1-2-48X24-L-AW
	7000-7500	44ø			
	7500-8000	46ø			

NOTES:

- PROVIDE PASTER RING FOR GYPSUM CEILING.
- COORDINATE WITH ARCHITECTURAL CEILING PLAN TO LOCATE ALL GRILLS AND DIFFUSERS.

PUMPS

UNIT NO.	HPM	TDH-FT	FLUID	TEMPERATURE F	ELECTRICAL V/Hz/PH	MINIMUM HP	RPM	SPEED	DESIGN BASIS
HHWP-1	55	65	H ₂ O	130	460/60/3	3.0	1750	VARIABLE	ARMSTRONG 4030 1.5K1X8
HHWP-2	55	65	H ₂ O	130	460/60/3	3.0	1750	VARIABLE	ARMSTRONG 4030 1.5K1X8
CWP-1	160	70	H ₂ O	40	460/60/3	7.5	1750	VARIABLE	ARMSTRONG 4030 3X2X10
CWP-2	160	70	H ₂ O	40	460/60/3	7.5	1750	VARIABLE	ARMSTRONG 4030 3X2X10

NOTES:

- MOTORS TO BE ODP
- ALL VARIABLE SPEED MOTORS SHALL BE INVERTER DUTY RATED FOR VFD APPLICATIONS
- PUMPS SHALL BE BASE MOUNTED END SUCTION TYPE.
- PUMPS SHALL BE ALIGNED BY A FACTORY REP. AFTER INSTALLATION OF PUMP AND PIPING SYSTEM.
- PUMP TO BE NON-OVERLOADING OVER OPERATING PUMP CURVE.
- PROVIDE PUMP BASE RAIL AND SUCTION DIFFUSER.
- PROVIDE A CONCRETE INERTIA PAD. CONCRETE PAD SHALL REST ON SOLID NEOPRENE ISOLATION PADS.
- CONCRETE INERTIA PAD SHALL BE APPROXIMATELY 2-1/2 TIMES THE WEIGHT OF THE COMPLETE PUMP ASSEMBLY.
- PUMP EFFICIENCY SHALL COMPLY WITH ASHRAE ENERGY CODE 90.1. PUMP AND MOTOR SHALL MEET ALL REQUIREMENTS OF RFP CONTRACT NO N69450-07-C-0062

VFD SCHEDULE

DESIG.	SERVICE LOCATION	ELECTRICAL VOLT/PH/Hz
VFD-1	AHU-1	460/3/60
VFD-2	AHU-2	460/3/60
VFD-3	HHWP-1	460/3/60
VFD-4	HHWP-2	460/3/60
VFD-5	CWP-1	460/3/60
VFD-6	CWP-2	460/3/60

NOTES:

- REFER TO EQUIPMENT SCHEDULES FOR HP.

FAN SCHEDULE

DESIGN	LOCATION	QTY.	CFM	ESP IN W.G.	HP or VOLT/PH/Hz (WATTS)	MODEL NO.	NOTES
ET-1	BATHROOM/JANITOR	1	555	0.5	1/8	115/1/60	TWIN CITY MODEL DSI 100A 1-2

NOTES:

- PROVIDE BACKDRAFT DAMPERS.
- PROVIDE SOLID STATE SPEED CONTROLLER.

AIR COOLED WATER CHILLERS

DESIG.	TONS	MCA/MOP	WATER TEMP ENT/LE	TEMP L/W	HPM	MAX PRESS DROP FT/H ₂ O	VOLTAGE	MODEL	OPERATING WEIGHT	NOTES
ACCU-1	100	230/250	54	40	160	5.4	460/3/60	AGZ100C	6,397	1-7

NOTES:

- AMBIENT AIR CONDITIONS AT 100F DB.
- DESIGN BASED ON MCOUAY CHILLERS.
- PROVIDE SINGLE POINT POWER ENTRY AND MECHANICAL DISCONNECT SWITCH.
- PROVIDE WITH FACTORY HEAD PRESSURE CONTROL FOR OPERATION TO OF OUTSIDE AIR TEMPERATURE TESTS AND REPORT FACTORY FIELD PART NUMBER AND OPERATIONAL TESTS AND REPORT TO BE INCLUDED BY MANUFACTURER. THE STARTUP SHALL INCLUDE MEASURED CONDITIONS AND SHALL INDICATE UNIT IS ADJUSTED AND OPERATING PER MANUFACTURERS REQUIREMENTS.
- GUARDS FOR THE CHILLER CONDENSER COILS.
- PROVIDE IMMERSON APPLIED BAKED PHENOLIC OR OTHER APPROVED COATING ON CONDENSER COILS. FIELD APPLIED COATINGS ARE NOT ACCEPTABLE.

LOUVER SCHEDULE:

LOUVERS SHALL BE STATIONARY DRAINABLE TYPE WITH DRAIN GUTTERS IN EACH BLADE AND DOWNSPOUTS IN JAMBS AND MULLIONS. IN EACH BLADE AND DOWNSPOUTS IN JAMBS AND MULLIONS. STATIONARY DRAINABLE BLADES SHALL BE CONTINUED WITHIN A 4-1/8" FRAME. LOUVER COMPONENTS (HEADS, JAMBS, SILLS, BLADES & MULLIONS) SHALL BE FACTORY ASSEMBLED BY THE MANUFACTURER BY TOWER CRANES AND LIFTED INTO PLACE BY SHIPING SHALL BE PROVIDED BY THE FACTORY. LOUVER DESIGN SHALL INCORPORATE OVERBALL SIZES REQUIRED. LOUVER DESIGN SHALL INCORPORATE STRUCTURAL SUPPORTS REQUIRED TO WITHSTAND A WIND LOAD OF 140 MPH WIND.

LOUVERS SHALL BE UNITED ENERTECH #DCH-D-4 606376 EXTRUDED ALUMINIUM CONSTRUCTION AS FOLLOWS:
 FRAME: 4-1/8" DEEP, .081 NOMINAL WALL THICKNESS.
 BLADES: .081 NOMINAL WALL THICKNESS, DRAINABLE.
 BLADES ARE POSITIONED AT 35 DEGREE ANGLE AND SPACED @ 1/2" ON CENTER TO CENTER.
 FINISH: ALUMINIUM IN REMOVABLE FRAME.
 FINISH: SELECT FINISH SPECIFICATIONS FROM UNITED ENERTECH FINISHES BROCHURE.

PUBLISHED LOUVER PERFORMANCE DATA BEARING THE AMCA CERTIFIED RATINGS SEAL FOR AIR PERFORMANCE & WATER PENETRATION MUST BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION AND MUST DEMONSTRATE PRESSURE DROP AND WATER PENETRATION EQUAL TO OR LESS THAN THE UNITED ENERTECH MODEL SPECIFIED.

BROADMOOR
 BUILDING by DESIGN
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DRAWING REVISIONS				
REV.	DESCRIPTION	PREP BY	DATE	APPROV.
0	FINAL DESIGN		10/29/08	CB

NAS JRB New Orleans Belle Chase, Louisiana
NAVAIRSEFAC CALIBRATION BLDG.
 HVAC SCHEDULE - SHEET 1 OF 2
 APPROVED DATE: AUGUST 22, 2008 EFD FOR COMMANDER, NAFAC

NAVFAC
 Naval Facilities Engineering Command
 Southeast Division, Jacksonville, FL

RECORD DRAWING DATE
 CODE ID NO. -
 DRAWING SIZE: D
 SPEC. NO. OR -
 CONSTR. CONTR. NO.
 NAVFAC DRAWING NO. 15030531
 SHEET 2 OF 15

HUSEMAN & Associates
 3923 N HO SERVICE RD
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 Job No. 090301
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 Designed By: AB
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