

AIR HANDLING UNITS		
MARK NUMBER	AHU 1	AHU 2 (NOTE 1)
SYSTEM	OFFICE	SUITES
TYPE		
CFM(FUTURE/DAY 1)	8000 CFM	20,000/15,080 CFM
MIN OSA (CFM)	1123 CFM	13,000/6,845 CFM
EXT. STATIC PRESS ("H2O)	1.5"	2.0"
TOTAL STATIC PRESSURE ("H2O)	3.14"	4.22"
RPM	2269 RPM	1791 RPM
MOTOR H.P.	6.2BHP/7.5HP	(2)9.38BHP/(2)10HP
SPEED CONTROLLER	VFD	VFD
CFM	8000 CFM	8235 CFM
EXT. STATIC PRESS ("H2O)	0.75"	1"
TOTAL STATIC PRESSURE ("H2O)	0.82"	1.05"
RPM	986 RPM	1047 RPM
MOTOR BHP/HP	5.11BHP/7.5HP	2.30BHP/3 HP
SPEED CONTROLLER	VFD	VFD
PRE-FILTER TYPE	MERV 8	MERV 13
FINAL FILTER TYPE	-	MERV 13
EAT, DB/WB (°F)	76/60.7 °F	88.7/85.9 °F
LAT, DB/WB (°F)	55.1/52.4 °F	53.4/51.0 °F
SENSIBLE (MBH)	166 MBH	677.5 MBH
TOTAL (MBH)	183.6 MBH	777.4 MBH
A.P.D. ("W.G.)	0.74"	0.83"
CONDENSING UNIT	SEE CU-1	SEE CU-2
HEATING AIRFLOW	4000 CFM	20,000 CFM
EAT (°F)	53 °F	17.8 °F
LAT (°F)	75.6 °F	56.5 °F
CAPACITY (MBH)	86.7 MBH	744 MBH
FLOW RATE (GPM)	5.9 GPM	50.1 GPM
EWI/LWT (°F)	140/110 °F	140/110 °F
A.P.D. ("W.G.)	0.19" W.G.	0.17" W.G.
FLUID PD, FT WG	0.60 FT	6.8 FT
POLYPROPYLENE GLYCOL (%)	30%	30%
2-WAY OR 3-WAY CONTROL VALVE	2-WAY	3-WAY
ISOLATION TYPE	INTERNAL	INTERNAL
SMOKE DETECTOR	YES	YES
DESIGN WEIGHT (LBS)	3500#	9000#
BASIS OF DESIGN: DAIKIN	CAH017GDGC	CAH044GDGM
EMERGENCY POWER	NO	YES (NOTE 2)

NOTES:
1. COOLING/HEATING CAPACITIES SHOWN @ 20,000 CFM SUPPLY.
2. PROVIDE EMERGENCY POWER TO (1) OF (2) SUPPLY FANS ONLY.
3. TYPICAL FOR AHU-1&2: PROVIDE BASEBALL HEIGHT TO ACCOMMODATE DEPTH OF CONDENSATE TRAP. HOUSEKEEPING PAD IS NOT PROVIDED.

PUMPS		
MARK NUMBER	P 6	P 7
SERVICE	B-3&4	B-3&4
TYPE		
FLOW RATE (GPM)	70 GPM	70 GPM
HEAD (FT)	65FT	65FT
MOTOR HP	3-HP	3-HP
VFD	YES	YES
RPM	1750	1750
BASIS OF DESIGN (TACO)	KV1509	KV1509
POLYPROPYLENE GLYCOL (%)	30%	
POWER V/PH	208/3	

EXHAUST FANS							
MARK NUMBER	EF 1	EF 2	EF 3	EF 4	EF 5A	EF 9A	EF 10A
TYPE	BSQ IN-LINE	BSQ IN-LINE	BSQ IN-LINE	IN-LINE	IN-LINE	BSQ IN-LINE	BSQ IN-LINE
SYSTEM	MSC	GPCG 1	NTS	SOLVENT STORAGE	(E)BLDG SUITE 8	(E)BLDG SUITES 1&2	(E)BLDG SUITE 5
CFM	2430	1755	2160 CFM	500 CFM	2025	2160 CFM	1100
TOTAL SP. (IN H2O)	2.25"	1.5"	1.75"	0.50"	4.0"	1.75"	1.20"
RPM	1803	1610	1725	1451	3737	1725	1995
MOTOR HP	2	1	1-1/2	1/4	3	1-1/2	3/4
CONTROLLED BY	VFD/DDC	VFD/DDC	VFD/DDC	VFD/DDC	VFD/DDC	VFD/DDC	VFD/DDC
INTERLOCK WITH							AHU-1
WHEEL TYPE	B.I.	B.I.	B.I.	B.I.	B.I.	B.I.	F.C.
BACKDRAFT DAMPER	YES	YES	YES	YES	YES	YES	2-POS CONTROL
ISOLATION	SPRING	SPRING	SPRING	SPRING	SPRING	SPRING	SPRING
DESIGN WEIGHT (LBS)	155	155	155	155	250	155	155
BASIS OF DESIGN	GREENHECK BSQ-180HP	GREENHECK BSQ-140-10	GREENHECK BSQ-140-15	GREENHECK TCB-1-09-4	GREENHECK GE-9-II	GREENHECK BSQ-140-15	GREENHECK BSQ-100
EMERGENCY POWER	YES	YES	YES	YES	YES	YES	NO

BOILERS	
MARK NUMBER	B 3 B 4
SYSTEM	BUILDING HEAT
FUEL	NAT. GAS
GAS INPUT (MBH)	1000 MBH
NET IBR OUTPUT (MBH)	962
ENT. WATER TEMP (°F)	140
LVG. WATER TEMP (°F)	110
FLOW (GPM)	67 GPM
COMB.AIR INTAKE DIA./EXH VENT	6"ø
POLYPROPYLENE GLYCOL (%)	30%
TURN DOWN	20:1
THERMAL EFFICIENCY(%)	96.2%
BOILER DESIGN WEIGHT (LBS)	2000
BOILER BASIS OF DESIGN	LOCHINVAR CREST FBM1001

SPLIT SYSTEM				
TYPE	DUCT FREE SPLIT SYSTEM	DUCT FREE SPLIT SYSTEM	DUCT FREE SPLIT SYSTEM	DUCT FREE SPLIT SYSTEM
SYSTEM	I.T. ROOM	ELECT. ROOM	API STORAGE	CONF ROOM 110
	COOLING ONLY	COOLING ONLY	HEAT PUMP	HEAT PUMP
INDOOR UNIT MARK NUMBER	IAC 1	IAC 2	IHP 1	IHP 2
OUTDOOR UNIT MARK NUMBER	OAC 1	OAC 2	OHP 1	OHP 2
TYPE (INDOOR UNIT)	WALL MOUNT	WALL MOUNT	WALL MOUNT	WALL MOUNT
NOMINAL CAPACITY (TON)	2	2	1	2
NOMINAL COOLING CAPACITY, BTU/H	24,000	24,000	12,000	22,000
NOMINAL HEATING CAPACITY, BTU/H	12,000	12,000	22,000	22,000
REFRIGERANT TYPE	R410A	R410A	R410A	R410A
DRY AIRFLOW (LOW/MED/HIGH)	420/604/745	420/604/745	420/604/745	420/604/745
SEER/HSPF	18.0	18.0	15.0/8.2	15.0/8.2
MAX PIPING LENGTH (FT.)	98.4	98.4	98.4	98.4
MAX PIPING ELEV. CHANGE	65.6	65.6	65.6	65.6
CONDENSATE PUMP "LITTLE GIANT"	YES, NOTE 2	YES, NOTE 2	YES, NOTE 2	YES, NOTE 2
INDOOR UNIT DESIGN WEIGHT, LBS	26	26	26	26
OUTDOOR UNIT DESIGN WEIGHT, LBS	97	97	97	97
OUTDOOR UNIT MOUNTING KIT	WALL MOUNT	WALL MOUNT	WALL MOUNT	WALL MOUNT
BASIS OF DESIGN: DAIKIN	SR222NMJU/R322NMJU	SR222NMJU/R322NMJU	FR122NMJU/R322NMJU	FR222NMJU/R322NMJU

NOTE:
1. PROVIDE WITH CRANKCASE HEATER, TXV, LOW AMBIENT CONTROL, WINTER START CONTROL, HI-LOW PRESSURE SWITCH, WIND BAFFLE AND ISOLATION RELAY.
2. CONTRACTOR TO DETERMINE ROUTING OF CD LINE AND VERIFY CD PUMP IS OUT OF RANGE.
3. SPACE TEMP TO BE MONITORED BY DDC AND ALARM SENT WHEN TEMP IS OUT OF RANGE.
4. IHP-2/OHP-2 ONLY: PROVIDE A CONTROL INTERLOCK TO RECEIVE START/STOP SIGNAL FROM DDC. ALL OTHER UNITS OPERATE 24/7.
ADD ALTERNATE DESIGN

HEATING WATER COIL		
MARK NUMBER	HC 8.1	HC 8.2
SYSTEM	SUITE 1	SUITE 5
CFM	1020	800
ENTERING AIR TEMP (°F.)	55	55
LEAVING AIR TEMP (°F.)	85	85
ENTERING WATER TEMP. (°F.)	160	160
LEAVING WATER TEMP. (°F.)	120	120
TOTAL CAPACITY (MBH)	33.5	25.9
FLOW RATE (GPM)	1.8	1.4
FACE DIMENSION ("WX"L)	21X16	19.5X12
FACE VELOCITY (FPM)	437	492
MIN ROWS	2	1
MAX FINS/INCH	7	13
MAX AIR PRESS DROP ("H2O)	0.14	0.15
MAX WATER PRESS DROP (FT H2O)	3.6FT	3.6FT
POLYPROPYLENE (%)	30%	30%
SERVED BY	(E)BOILERS	

AIR CONDENSER - COMPRESSOR		
MARK NUMBER	CU 1	CU 2
NOMINAL TONS	20 TONS	70 TONS
LOW AMBIENT CONTROL	YES	YES
EER	13 EER	10.6 EER
COMPRESSOR	2 (NOTE1)	5 (NOTE 1)
REFRIGERANT	R-410	R-410
DESIGN WEIGHT (LBS)	1825 #	3530 #
BASIS OF DESIGN	RCS015D	RCS072D
EMERGENCY POWER	NO	NO

NOTE:
1. AT LEAST ONE COMPRESSOR IS DIGITAL.

ELECTRIC HEATER	
MARK NUMBER	EH 1
TYPE	WALL**
SYSTEM	SIAR 160
KW (120V)	1.5
CONTROLLED BY:	BUILT IN THERMOSTAT
SWITCH LOCATION	---
DESIGN WEIGHT (LBS)	10
BASIS OF DESIGN: QMARK	CWH115
ELECTRICAL CONNECTION	120V

EXPANSION TANK	
MARK NUMBER	ET 1
SYSTEM	B-3/B-4
TANK VOLUME	55.7
ACCEPTANCE VOLUME	22.6
WEIGHT	167
BASIS OF DESIGN: B&G	D-100V

** MOUNT ON WALL @ 6" A.F.F.

VAV BOXES WITH HOT WATER REHEAT - AHU-2 (PROCESS SUITES)																			
MARK NO.	ROOM NAMES	TYPE	MAX COOLING CFM	MAXIMUM HEATING CFM 100%	INLET IN.	OUTLET IN.	SA INLET TEMP DEG. F	SA TEMP AT HEATING DEG. F	REHEAT COIL LOAD MBH	INLET WATER TEMP (F)	OUTLET WATER TEMP (F)	GPM	CONN. IN.	VALVE TYPE	MAX. STATIC LOSS *	MAX. DISCHARGE SOUND POWER LEVEL **	MAX. RADIATED SOUND POWER LEVEL **	CONTROL TYPE	
VAV-1	MSC	VAV	1350	1350	12	16X15	55	85	43.7	140	110	2.9	3/4	2-WAY CONTROL VALVE	0.75	67	59	DDC	
VAV-2	GPCG 1	VAV	1080	1080	12	16X15	55	85	35.0	140	110	2.3	3/4	2-WAY CONTROL VALVE	0.75	67	59	DDC	
VAV-3	NTS	VAV	1480	1480	12	16X15	55	85	48.0	140	110	3.2	3/4	2-WAY CONTROL VALVE	0.75	67	59	DDC	
VAV-4	SOLVENT STORAGE	VAV	1800	1800	14	20X16	55	85	58.3	140	110	3.9	3/4	2-WAY CONTROL VALVE	0.75	67	59	DDC	
VAV-5	OPEN BAY (1ST FLOOR)	VAV	2070	2070	14	20X16	55	85	67.1	140	110	4.5	1	2-WAY CONTROL VALVE	0.75	67	59	DDC	
VAV-6	MEZZANINE	VAV	2500	2500	16	24X18	55	85	81.0	140	110	5.4	1	2-WAY CONTROL VALVE	0.75	67	59	DDC	
VAV-7	MEZZANINE	VAV	2500	2500	16	24X18	55	85	81.0	140	110	5.4	1	2-WAY CONTROL VALVE	0.75	67	59	DDC	
VAV-8	"FUTURE SUITE" /FUTURE R SOLVENT	VAV	2300	2300	16	24X18	55	85	74.5	140	110	5.0	1	2-WAY CONTROL VALVE	0.75	67	59	DDC	
VAV-9	FUTURE SECONDARY DRY	VAV	720	720	10	14X13	55	85	23.3	140	110	1.6	3/4	2-WAY CONTROL VALVE	0.75	67	59	DDC	
VAV-10	FUTURE FLEX 1	VAV	900	900	10	14X13	55	85	29.2	140	110	1.9	3/4	2-WAY CONTROL VALVE	0.75	67	59	DDC	
VAV-11	FUTURE FLEX 2	VAV	900	900	10	14X13	55	85	29.2	140	110	1.9	3/4	2-WAY CONTROL VALVE	0.75	67	59	DDC	
TOTAL			17600	17600					570.2			38.0							

* - INCLUDING COIL, SOUND ATTENUATOR SECTION & VAV BOX
** - THIRD OCTAVE CERTIFIED RATING IN ACCORDANCE WITH ARI STANDARD 880-94

VAV BOXES WITH HOT WATER REHEAT - AHU-1(OFFICE)																					
MARK NO.	TYPE	MAX COOLING CFM	20% OF COOLING CFM	MIN VENTILATION CFM	MIN 300 CFM	MAXIMUM DEADBAND CFM	MAXIMUM HEATING CFM 50% or VENT	INLET IN.	OUTLET IN.	SA INLET TEMP DEG. F	SA TEMP AT HEATING DEG. F	REHEAT COIL LOAD MBH	INLET WATER TEMP (F)	OUTLET WATER TEMP (F)	GPM	CONN. IN.	VALVE TYPE	MAX. STATIC LOSS *	MAX. DISCHARGE SOUND POWER LEVEL **	MAX. RADIATED SOUND POWER LEVEL **	CONTROL TYPE
VAV-1	VAV	440	88	41	0	88	220	8	12X10	55	100	10.7	140	110	0.7	1/2	2-WAY CONTROL VALVE	0.75	67	59	DDC
VAV-2	VAV	230	46	61	115	115	115	6	12X8	55	100	5.6	140	110	0.4	1/2	2-WAY CONTROL VALVE	0.75	67	59	DDC
VAV-3	VAV	520	104	45	0	104	260	8	12X10	55	100	12.6	140	110	0.8	1/2	2-WAY CONTROL VALVE	0.75	67	59	DDC
VAV-4	VAV	295	59	61	148	148	148	6	12X8	55	100	7.2	140	110	0.5	1/2	2-WAY CONTROL VALVE	0.75	67	59	DDC
VAV-5	VAV	780	156	46	0	156	390	10	14X13	55	100	19.0	140	110	1.3	1/2	2-WAY CONTROL VALVE	0.75	67	59	DDC
VAV-6	VAV	550	110	41	0	110	275	8	12X10	55	100	13.4	140	110	0.9	1/2	2-WAY CONTROL VALVE	0.75	67	59	DDC
VAV-7	VAV	500	100	98	0	100	250	8	12X10	55	100	12.2	140	110	0.8	1/2	2-WAY CONTROL VALVE	0.75	67	59	DDC
VAV-8	VAV	500	100	60	0	100	250	8	12X10	55	100	12.2	140	110	0.8	1/2	2-WAY CONTROL VALVE	0.75	67	59	DDC
VAV-9	VAV	1260	252	22	0	252	630	12	16X15	55	100	30.6	140	110	2.0	3/4	2-WAY CONTROL VALVE	0.75	67	59	DDC
VAV-10	VAV	855	171	20	0	171	428	10	14X13	55	100	20.8	140	110	1.4	1/2	2-WAY CONTROL VALVE	0.75	67	59	DDC
VAV-11	VAV	450	90	111	0	111	225	8	12X10	55	100	10.9	140	110	0.7	1/2	2-WAY CONTROL VALVE	0.75	67	59	DDC
VAV-12	VAV	450	90	111	0	111	225	8	12X10	55	100	10.9	140	110	0.7	1/2	2-WAY CONTROL VALVE	0.75	67	59	DDC
VAV-13	VAV	1200	240	81	0	240	600	12	16X15	55	100	29.2	140	110	1.9	3/4	2-WAY CONTROL VALVE	0.75	67	59	DDC
VAV-14	VAV	705	141	146	0	146	363	10	14X13	55	100	17.1	140	110	1.1	1/2	2-WAY CONTROL VALVE	0.75	67	59</	