

AIR HANDLER SCHEDULE														
EQUIP. NO.	MANUFACTURER/ MODEL NO.	CFM	O.A. CFM	E.S.P. (IN. W.C.)	COOLING COIL					WATER				
					ROWS (MAX.)	CFM	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	PRESSURE DROP (IN. W.C.)	GPM	EWT (°F)	LWT (°F)
AHU-1	TRANE M SERIES	9100	1450	3.0	6	9100	80	67	52.9	52.7	0.9	66	45	55
REMARKS:														
1. DUCT DROPS TO BE CLOSELY COORDINATED WITH JOISTS/BEAMS. LOCATE UNITS SUCH THAT DROPS FALL BETWEEN JOISTS SPANS.														
2. PROVIDE WITH HIGH CAPACITY COILS. MAXIMUM COIL FACE VELOCITY = 500 FPM.														
3. COILING CAPACITIES BASED ON 95° AMBIENT.														
4. SUPPLY TO BE VFD-DRIVEN														
5. UNIT SHALL BE POWERED BY SINGLE POINT POWER CONNECTION.														
6. FINAL FILTER TO BE WITHIN UNIT CASING DOWNSTREAM OF SUPPLY FAN. ALL SETS OF FILTERS SHALL BE PROVIDED WITH MAGNETIC PRESSURE GAUGES VISIBLE FROM OUTSIDE UNIT.														
7. UNIT TO HAVE SPLIT FACE (UPPER/LOWER) CHILLED WATER COOLING COILS WITH INDEPENDENT CONTROL VALVES FOR DEHUMIDIFICATION SEQUENCE, ECONOMIZER, CFL LIGHTS IN EACH ACCESSIBLE SECTION WIRED TO A SINGLE SWITCH.														

CONTROL SYSTEM NOTES

NEW HVAC CONTROLS SHALL BE FULLY INTEGRATED INTO EXISTING FACILITY DCOS. PROVIDE NEW GRAPHICS AND ALL PROGRAMMING FOR NEW EQUIPMENT. PROVIDE NEW GRAPHIC USER INTERFACE IN NEW ROOF PENTHOUSE, INTERLOCKED WITH EXISTING SYSTEM.

AIR COOLED CHILLER SCHEDULE

EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	TONS (MIN.)	EVAPORATOR BUNDLE				DISCONNECT	ELECTRICAL		UNIT MCA	UNIT MOCP	VOLTS/PH./HZ.	VIBRATION BASE	ISOLATION TYPE	REFRIGERANT	REMARKS
			GPM	EWT (°F)	LWT (°F)	FOULING FACTOR		MOTOR STARTER	H.P.							
CH-1	TRANE COAM-30	30	66	54	44	.00025	35	BY DIV. 16	WYE-DELTA	INTERNAL	70	90	460/3/60	A	1	0.25

REMARKS:

- CAPACITY BASED ON 95° AMBIENT CONDITIONS.
- R-134A, R-407 CHILLERS ARE ACCEPTABLE.

FAN COIL UNIT SCHEDULE

EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	SUPPLY CFM	OSA CFM	E.S.P.	FAN DATA				COOLING CAPACITY/COIL DATA							HEATING CAPACITY/COIL DATA					MOUNTING	VIBRATION ISOLATION				
					SPEED (RPM)	HP	VOLTS/PH./HZ.	FINI PER INCH	ROWS	TOTAL (MBH)	SENS. (MBH)	EWT (°F)	EDB (°F)	EWB (°F)	GPM	WPD (°F)	FINI PER INCH	ROWS	SENS. (MBH)	EWT (°F)		GPM	WPD (°F)	TYPE	BASE	DEFLECTION (N.)
FCU-1	TRANE MODEL FCU-D	800	0	0.25	1070	1/2	120/1/60	10	1	24	21	45	75	63	5	10	10	1	15	180	1	5	HUNG FROM STRUCTURE	3	---	1 1/2"

NOTES:

- MOTORS DIRECT DRIVE, 1070 RPM, ODP.
- HEATING CAPACITY BASED ON 70°EAT, 180°EWT, 30°ΔT.
- PROVIDE BOTTOM INLET, FRONT, GRILLE FACE OUTLET.
- MOUNT IN CEILING.

SHELL AND TUBE HEAT EXCHANGER SCHEDULE

EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	WATER SIDE				STEAM CAPACITY (LBS./HR.)	FOULING FACTOR	TYPE	REMARKS
		EWT (°F)	LWT (°F)	GPM	WPD (°F)				
HX-1	TACO MODEL "C"	150	180	66	5	.0005	15	881	.0005
HX-2	TACO MODEL "C"	150	180	66	5	.0005	15	881	.0005
HX-3	TACO MODEL "C"	45	140	35	5	.0005	15	350	.0005

REMARKS:

- LOCATE UNIT TO FACILITATE SERVICE AND MAINTENANCE BY ALLOWING CLEAR SPACE EQUAL TO UNIT LENGTH.
- CONVERTER TO BE USED FOR DOMESTIC POTABLE WATER.

VENTILATION FAN SCHEDULE

SYMBOL	CFM	S.P. (IN. W.C.)	RPM	MAX. SONES	ELECTRICAL H.P.	VOLTS/PH./HZ.	LOCATION	TYPE	DRIVE	MANUF.	INTERLOCK	REMARKS
VF-1-1	1000	1.3	1050	6	1/3	120/1/60	ABOVE CLG.	INLINE	DIRECT	COOK SOND	DDCS	2
VF-1-2	1000	1.3	1050	6	1/3	120/1/60	ABOVE CLG.	INLINE	DIRECT	COOK SOND	DDCS	2
VF-1-3	1000	1.3	1050	6	1/3	120/1/60	ABOVE CLG.	INLINE	DIRECT	COOK SOND	DDCS	2
EF-1	415	0.5	1050	6	1/8	120/1/60	P.H. ROOF	CENTR. ROOF EXHAUSTER	BELT	COOK ACE-B	DDCS	3
EF-2	180	0.4	1050	6	1/8	120/1/60	ABOVE CLG.	CABINET	DIRECT	COOK SP	DDCS	1
EF-3	365	0.5	1050	6	1/8	120/1/60	ROOF	CENTR. ROOF EXHAUSTER	DIRECT	COOK ACE-B	DDCS	3

REMARKS:

- PROVIDE DISC. SWITCH, BACKDRAFT DAMPER AND SPEED CONTROLLER.
- PROVIDE DISC. SWITCH, BACKDRAFT DAMPER, ISOLATORS, AND SPEED CONTROLLER.
- PROVIDE DISC. SWITCH, BACKDRAFT DAMPER, AND ROOF CURBS.

VAV SCHEDULE

INLET SIZE	MIN. CFM	Mark No.	CLG. CFM	HTG. CFM	HTG. MBH	HTG. TOTAL	Entering Temp	Room Temp	Lvg. Air Temp	HTG GPM	ROWS	Remarks
8	150	VAV 2-1	800	420	2.7	11.4	60	75	85.1	0.9	2	1.2
10	225	VAV 2-1	900	630	4.1	17.1	60	75	85.1	1.4	2	1.2, 3
10	225	VAV 2-2	900	630	4.1	17.1	60	75	85.1	1.4	2	1.2
10	213	VAV 2-3	850	595	3.8	16.2	60	75	85.1	1.3	2	1.2
8	150	VAV 2-4	600	360	2.7	10.2	60	75	86.3	0.8	2	1.2
10	715	VAV 3-1	715	715	3.2	17.8	60	75	83.0	1.4	2	1.2
8	128	VAV 3-2	510	357	2.3	9.7	60	75	85.1	0.8	2	1.2
10	800	VAV 3-3	800	800	3.6	19.9	60	75	83.0	1.6	2	1.2
12	1050	VAV 3-4	1050	1050	4.7	26.1	60	75	83.0	2.1	2	1.2
8	450	VAV 3-5	450	450	2.0	11.2	60	75	83.0	0.9	2	1.2
8	450	VAV 3-6	450	450	2.0	11.2	60	75	83.0	0.9	2	1.2
8	163	VAV 3-7	650	455	2.9	12.4	60	75	85.1	1.0	2	1.2
8	425	VAV 3-8	425	425	1.9	10.6	60	75	83.0	0.8	2	1.2
12	275	VAV 3-9	1100	660	5.0	18.8	60	75	86.3	1.5	2	1.2

REMARKS:

- MANUFACTURER SHALL VERIFY INLET, COIL AND DAMPER SIZES & COORDINATE ANY CHANGES W/MECH. CONTRACTOR.
- TEMPERATURE CONTROLS CONTRACTOR TO PROVIDE POWER FROM J-BOX ABOVE CEILING THROUGH TRANSFORMER ON VAV BOX. CONTROL TRANSFORMER BY EQUIPMENT MANUFACTURER.
- DEDUCTIVE ALTERNATE #1.

REHEAT COIL SCHEDULE

EQUIP. NO.	MANUF.	CFM	COIL					REMARKS
			ROWS (MAX.)	CFM	EDB (°F)	LDB (°F)	PRESSURE DROP (IN. W.C.)	
RHC 1-1	TRANE	1000	2	1000	70	95	0.4	2
RHC 1-2	TRANE	1000	2	1000	70	95	0.4	2
RHC 1-3	TRANE	1000	2	1000	70	95	0.4	2

ENERGY EFFICIENT MOTOR SCHEDULE

SCHEDULED HP (KW)	NOMINAL NEMA EFF.	SCHEDULED HP (KW)	NOMINAL NEMA EFF.	SCHEDULED HP (KW)	NOMINAL NEMA EFF.
1.0 E (0.75)	82.5	10 E (7.4)	89.5	50 E (37.3)	93.0
1.5 E (1.1)	84.0	15 E (11.1)	91.0	60 E (44.7)	93.6
2.0 E (1.5)	84.0	20 E (14.9)	91.0	75 E (55.9)	94.1
3.0 E (2.2)	86.5	25 E (18.8)	91.7	100 E (74.6)	94.1
5.0 E (3.7)	87.5	30 E (22.3)	92.4	125 E (93.2)	94.5
7.5 E (5.6)	88.5	40 E (29.8)	93.0	150 E (111.9)	95.0

NOTE:

REFER TO "MOTORS" SECTION OF THE SPECIFICATIONS.

DESIGNER'S NOTE:

- USE ENERGY EFFICIENT MOTORS FOR 1 HP AND LARGER. WHERE (ENERGY COST/KW) X (HOURS USE/YR) > 50.
- ADD "E" NEXT TO THE MOTOR HP ON THE SCHEDULE TO INDICATE ENERGY EFFICIENT MOTORS. THIS INCLUDES VANEAXIAL FANS, COOLING TOWERS AND CIRCULATING PUMPS (NOT CONDENSATE PUMPS).
- COORDINATE PROJECT WITH ELECTRICAL SPECIFICATIONS FOR ENERGY EFFICIENT MOTORS.
- ABOVE VALUES ARE BASED ON NEMA 1993 EFFICIENCY VALUES THAT AN ENERGY EFFICIENT MOTOR MUST MEET OR EXCEED.

DUCT PRESSURE CLASS TABLE

FAN NO.	DUCT INVOLVED	POSITIVE (P) OR NEGATIVE (N) PRESSURE	MINIMUM PRESSURE CLASS W.G. IN. (MM)
29-SF1 29-SF2 29-SF3	FROM OUTSIDE AIR LOUVER OR RETURN SMOKE DAMPER TO PREHEAT COIL	N	1 (25)
	FROM AFTER FILTER TO SMOKE DAMPER	P	4 (100)
	FROM SMOKE DAMPER TO TERMINAL BOXES	P	3 (75)
	FROM TERMINAL BOXES TO ROOM OUTLETS	P	1/2 (15)
29-RF1	FROM CEILING REGISTER TO RETURN FAN	N	1 (25)
	FROM RETURN FAN TO EXHAUST LOUVER OR RETURN SMOKE DAMPER	P	1 (25)
29-RF2 29-RF3	FROM CEILING REGISTER TO AFM	N	1 (25)
	FROM AFM TO RETURN FAN	N	2 (50)
	FROM RETURN FAN TO EXHAUST LOUVER OR RETURN SMOKE DAMPER	P	1 (25)
29-EF10 29-EF11	FROM KITCHEN HOOD TO EXHAUST FAN	N	2 (50)
29-EF12 29-EF13 29-EF16 29-EF17 29-EF18 29-EF19 29-EF20	FROM ROOM OUTLETS TO EXHAUST FAN	N	1 (25)

DESIGNER'S NOTE:

AS PER SMACNA, THE ABOVE SCHEDULE SHOWING THE DUCT PRESSURE CLASSES WAS MADE FOR A PARTICULAR PROJECT. USE THIS AS AN EXAMPLE AND PROVIDE ONE SIMILAR TO THIS FOR YOUR PROJECT SHOWING ALL FANS WITH DUCTWORK.

DUCT LEAKAGE CLASSIFICATION AND ALLOWABLE LEAKAGE TABLE

DUCT PRESSURE CLASS, W.G. IN. (MM)	SEAL CLASS	APPLICABLE SEALING	SMACNA LEAKAGE CLASS	
			RECTANGULAR DUCT	ROUND DUCT
1/2", 1", 2"	C	TRAVERSE JOINTS ONLY	24	12
3"	B	TRAVERSE JOINTS AND SEAMS	12	6
4", 6", 10"	A	JOINTS, SEAMS AND ALL WALL PENETRATIONS	6	

COMPLETION ITEM NO.

CONSTRUCTION DOCUMENTS - 100% FINALS FULLY SPRINKLERED

PUMP SCHEDULE												
EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	SERVICE	TYPE	GPM	HEAD (F.T.)	RPM	EFF. (%)	ELECTRICAL				REMARKS
								DISCONNECT	MOTOR STARTER	H.P.	MOTOR VOLTS/PH./HZ.	
HWP-1	B&G 28C	CHILLED WATER	END-SUCTION	66	95	1750	54	BY DIV. 16	VFD BY DIV. 15	7.5	460/3/60	1 2
HWP-2	B&G 28C	HOT WATER	END-SUCTION	66	95	1750	54	BY DIV. 16	VFD BY DIV. 15	7.5	460/3/60	1 2
CHWP-1	B&G 28C	CHILLED WATER	END-SUCTION	70	90	1750	54	BY DIV. 16	VFD BY DIV. 15	7.5	460/3/60	1 2
CHWP-2	B&G 28C	CHILLED WATER	END-SUCTION	70	90	1750	54	BY DIV. 16	VFD BY DIV. 15	7.5	460/3/60	1 2

REMARKS:

- BRONZE FITTED.
- PUMP TO BE VFD-DRIVEN

AIR FILTER SCHEDULE

EQUIPMENT NO.	SERVICE	MANUFACTURER/ MODEL NO.	TYPE	MINIMUM EFFICIENCY (%)	CLASS	AIR FLOW (CFM)	MAXIMUM FACE VELOCITY (FPM)	PRESSURE DROP INITIAL (IN. W.C.)	PRESSURE DROP FINAL (IN. W.C.)	MOUNTING	REMARKS
PF-1	AHU-1	FARR 30/30	PLEATED MEDIA	30	2	9100	400	0.3	0.7	SUPPORT FRAME	
FF-1	AHU-1	FARR P-95	PLEATED MEDIA	95	2	9100	400	0.3	0.7	SUPPORT FRAME	

EXPANSION TANK SCHEDULE

EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	SERVICE	ORIENTATION	TYPE	SYSTEM VOLUME (GALLONS)	TANK VOLUME (GALLONS)	ACCEPTANCE VOLUME (GALLONS)	PRE-CHARGE PRESSURE (PSIG)	REMARKS
ET-1	TACO "CA"	HOT WATER	VERTICAL	BLADDER	1020	50	FULL	20	1
ET-2	TACO "CA"	CHILLED WATER	VERTICAL	BLADDER	820	30	FULL	20	1

REMARKS:

- ROUTE DRAIN LINE TO NEAREST FLOOR DRAIN

ELECTRIC UNIT HEATER SCHEDULE

EQUIPMENT NO.	MANUFACTURER MODEL	KW	ELECTRIC HEAT NO. STAGES	VOLTS/PH./HZ	TYPE
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