

### AIR COOLED CHILLER SCHEDULE

NOTES:  
 1.MANUFACTURER LISTED IS BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR ALTERNATE MANUFACTURERS.  
 2.SEE SPECIFICATION SECTION 23.84.30 FOR ADDITIONAL REQUIREMENTS.  
 3.PROVIDE CHILLER WITH HOT GAS BYPASS.  
 4.PROVIDE UNIT WITH ACOUSTIC SOUND BLANKET AND LOW SOUND FANS WITH VFD CONTROL.  
 5.CHILLED WATER IS 30% PROPYLENE GLYCOL.

TAG NAME	SERVICE	REFRIGERANT	AMBIENT TEMP °F	MIN. OPERATING AMBIENT TEMP. °F	CAPACITY/PERFORMANCE					EVAPORATOR PERFORMANCE										MAXIMUM ALLOWABLE SOUND POWER IN DB RE 10 <sup>1/3</sup> WATTS OCTAVE BAND CENTER FREQUENCY								COMPRESSION TYPE	ELECTRICAL					MAX. DIMENSIONS			MANUFACTURER	MODEL (NOTE 1)	NOTES			
					DESIGN TONS	STAGES OF UNLOADING	100	75	50	25	NPLV	IPLV	EWT °F	LWT °F	MINIMUM	DESIGN	MAXIMUM	MAX. PRESSURE DROP (FT. W.G.)	FOULING FACTOR	63	125	250	500	1000	2000	4000	NUMBER OF COMPRESSORS		NO. OF POWER CONNECTIONS	VOLTAGE	PHASES	MCA	MOCAP AMPS	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	SCCR				LENGTH	WIDTH	HEIGHT
CH-1M	CHILLED WATER	R410A	105	45	103.3	4	7.8	12.8	15.2	21.5	15.97	17.1	42	54	150	218	625	15	0.001	98	97	93	93	91	87	84	4	HERMETIC SCROLL	1	208 V	3	507	600	MFR	NF	65 KA	144	89	95	YORK	YLA0120SE17XFBSDTX	1,2,3,4,5

### PUMP SCHEDULE

NOTES:  
 1.MANUFACTURER LISTED IS BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR ALTERNATE MANUFACTURERS.  
 2.30% PROPYLENE GLYCOL.  
 3.PUMP IS 100% DUTY.  
 4.PUMP IS 50% DUTY (LEAD/LAQ).  
 5.PUMP IS FLOOR MOUNTED. SEE DETAIL.  
 6.PUMP IS SUSPENDED. SEE DETAIL.

TAG NAME	SERVICE	GPM	PUMP FT. HEAD AT DESIGN	MINIMUM PUMP EFFICIENCY	INLET SIZE	IMPELLER SIZE	ELECTRICAL (NOTE 1)					VIBRATION ISOLATION				MODEL	NOTES		
							HP (NOTE E)	RPM	VOLTAGE	PHASES	DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/ STARTER BY (NOTE A)	CONTROLLER/ STARTER TYPE (NOTE C)	TYPE			DEFL.	MANUFACTURER
CWP-1M	CHILLED WATER	220.0	75	64.5	2.5	5.375	7.5	3600	208	3	MC	NF	MC	VFD	NA	0"	BELL & GOSSETT	2.5x2.5x7B	1,2,3,5
HWP-1M	HOT WATER	50.0	80	55.1	1.5	5.250	5	3600	208	3	MC	NF	MC	VFD	M2	3/4"	BELL & GOSSETT	1.5x1.5x7C	1,4,6
HWP-2M	HOT WATER	50.0	80	55.1	1.5	5.250	5	3600	208	3	MC	NF	MC	VFD	M2	3/4"	BELL & GOSSETT	1.5x1.5x7C	1,4,6

### UNIT HEATER SCHEDULE - HOT WATER

NOTES:  
 1.MANUFACTURER LISTED IS BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR ALTERNATE MANUFACTURERS.

TAG NAME	AREA SERVED	CONFIGURATION	CFM	MBH	GPM	EWT °F	LWT °F	W.P.D. FT. HEAD	HP	RPM	VOLTAGE	PHASES	ELECTRICAL			SCCR	CONTROL	MANUFACTURER	MODEL	NOTES
													DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/ STARTER BY (NOTE A)					
UH-1M	2ND FLOOR MECHANICAL	VERTICAL	990	20	1.3	140	110	5.0	0.05	1550	115	1	MC	NF	MS	5 KA	UH-A	VULCAN	VV-125	1
UH-2M	INTERSTITIAL ATTIC 313	HORIZONTAL	1800	40	2.7	140	110	5.0	0.08	1000	115	1	MC	NF	MS	5 KA	UH-A	VULCAN	HV-108	1

### HEAT EXCHANGER SCHEDULE - LIQUID TO LIQUID

NOTES:  
 1.MANUFACTURER LISTED IS BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR ALTERNATE MANUFACTURERS.  
 2.SHELL AND TUBES SHALL BE 316 STAINLESS STEEL.

TAG NAME	SYSTEM SERVED	TUBESIDE					SHELLSIDE					HEATING SURFACE FT²	MAX. DIMENSIONS		WEIGHT		MANUFACTURER	MODEL	NOTES
		GPM	W.P.D. FT. HEAD	EWT °F	LWT °F	FOULING FACTOR	GPM	W.P.D. FT. HEAD	EWT °F	LWT °F	FOULING FACTOR		LENGTH	DIAMETER	DRY	OPERATING			
HX-1M	BOILERS	85	13.9	135	124	0.00025	85	12.1	110	121	0.00025	72	46"	8"	220	285	BELL & GOSSETT	08042-4 QCHXS	1,2

### LOUVER SCHEDULE

NOTES:  
 1.MANUFACTURER LISTED IS BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR ALTERNATE MANUFACTURERS.  
 2.FIELD VERIFY EXISTING OPENING DIMENSIONS.  
 3.FINISH TYPES: TYPE 1 - MILL FINISH, TYPE 2 - 204-R1 SATIN ANODIZED, TYPE 3 - BAKED ENAMEL FINISH ON PRETREATED PRIME PAINT STANDARD COLOR - SELECTION BY ARCHITECT, TYPE 4 - BAKED EPOXY FINISH ON PRIME COATED METAL STANDARD COLOR - SELECTION BY ARCHITECT, TYPE 5 - DURANODIC BRONZE - LIGHT, MEDIUM, DARK, TYPE 6 - PVDF (KYNAR 500, HYLAR 5000, OR DURANAR), STANDARD COLOR - SELECTION BY ARCHITECT.

TAG NAME	SYSTEM SERVED	CFM	SIZE (INCHES)		FREE AREA VELOCITY	S.P. IN. W.C.	FINISH (NOTE 3)	MANUFACTURER	MODEL	NOTES
			WIDTH	HEIGHT						
L-OA-1M	AHU-2M	1500	31	39	N/A	N/A	RUSKIN	ELF375DX	1,2,3	
L-RLF-1M	RF-2M	1500	31	39	N/A	N/A	RUSKIN	ELF375DX	1,2,3	

### CONDENSER UNIT SCHEDULE

NOTES:  
 1.MANUFACTURER LISTED IS BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR ALTERNATE MANUFACTURERS.

TAG NAME	EQUIPMENT SERVED	NOMINAL DESIGN TONS	REFRIGERANT	AMBIENT TEMP °F	AIRFLOW (CFM)	NUMBER OF CIRCUITS	NUMBER OF FANS	NO. OF POWER CONNECTIONS	VOLTAGE	PHASES	MCA	MOCAP	ELECTRICAL			MAX. DIMENSIONS			WEIGHT	MANUFACTURER	MODEL (NOTE 1)	
													DISCONNECT BY (NOTE A)	DISCONNECT TYPE (NOTE B)	CONTROLLER/ STARTER BY (NOTE A)	SCCR	LENGTH	WIDTH				HEIGHT
ACC-1M	DH-1M	5	R-407C	105.0	5350	1	1	1	208	3	4.1	15	MC	NF	MFR	10 KA	51"	40"	35"	255	DESERT AIRE	RCSS039C

### PIPE INSULATION SCHEDULE (HVAC)

GENERAL NOTES:  
 1. REFER TO THE SPECIFICATIONS FOR TYPE DESCRIPTIONS AND JACKETING REQUIREMENTS. VALUES LISTED BELOW ARE BASED ON ASHRAE / IECC REQUIREMENTS.  
 2. TYPE A INSULATION IS NOT ALLOWED IN NON-AIR CONDITIONED SPACES, SUCH AS MECHANICAL ROOMS, EXTERIOR, ATTICS, ETC.  
 3. TYPE B INSULATION GREATER THAN 1" THICK SHALL BE INSTALLED USING MULTIPLE LAYERS OF 3/4" OR 1" WITH STAGGERED SEAMS.  
 4. PROVIDE RIGID INSERT AT HANGERS, EITHER PRE-MANUFACTURED COUPLINGS (REFER TO PIPE HANGER AND SUPPORTS SPECIFICATIONS) OR TYPE C, D, OR E INSULATION. SEE SPEC. FOR MORE DETAILS.

PIPE SYSTEM	INSULATION TYPE	INSULATION THICKNESS PER NOMINAL PIPE OR TUBE SIZE					NOTES
		< 1"	1" TO < 1.5"	1.5" TO < 4"	4" TO < 8"	≥ 8"	
23 PIPING - COOLING							
CWR - CHILLED WATER RETURN	A (GlsFbr), B (Elasto), C (CelGla)	0.5"	0.5"	1"	1"	1"	
CWS - CHILLED WATER SUPPLY	A (GlsFbr), B (Elasto), C (CelGla)	0.5"	0.5"	1"	1"	1"	
DPP - DRAIN - PIPING	A (GlsFbr), B (Elasto), C (CelGla)	0.5"	0.5"	1"	1"	1"	APPLY INSULATION ONLY TO LOW TEMP DRAINS (55 DEG AND LOWER IE: COOLING COIL CONDENSATE, ICE MACHINE DRAINS, ETC.)
23 PIPING - HEATING							
HWR - HEATING WATER RETURN	A (GlsFbr), C (CelGla)	1.5"	1.5"	2"	2"	2"	
HWS - HEATING WATER SUPPLY	A (GlsFbr), C (CelGla)	1.5"	1.5"	2"	2"	2"	
TWR - THERMAL WATER RETURN	A (GlsFbr), C (CelGla)	1.5"	1.5"	2"	2"	2"	
TWS - THERMAL WATER SUPPLY	A (GlsFbr), C (CelGla)	1.5"	1.5"	2"	2"	2"	
23 PIPING - REFRIGERANT							
HG - REFRIGERANT HOT GAS	A (GlsFbr), B (Elasto), C (CelGla)	1"	1"	1"	1"	1"	
LIQ - REFRIGERANT LIQUID	A (GlsFbr), B (Elasto), C (CelGla)	0.5"	0.5"	1"	1"	1"	
SUC - REFRIGERANT SUCTION	A (GlsFbr), B (Elasto), C (CelGla)	0.5"	0.5"	1"	1"	1"	

### DEHUMIDIFIER SCHEDULE

NOTES:  
 1.MANUFACTURER LISTED IS BASIS OF DESIGN. REFER TO SPECIFICATIONS FOR ALTERNATE MANUFACTURERS.  
 2.PROVIDE SHAFT GROUNDING AS REQUIRED IN THE MOTOR SPECIFICATION. 23.05.13  
 3.PROVIDE WITH DIGITAL CONTROLLER WITH REMOTE TEMPERATURE AND RH SENSORS, OCCUPANCY TIMER W/BAS OVERIDE AND BACNET MS/TP INTERFACE AND REMOTE DISPLAY TERMINAL.  
 4.PROVIDE WITH 2 YEAR COMPRESSOR WARRANTY AND 5 YEAR COIL WARRANTY.  
 5.PROVIDE W/STAINLESS STEEL DRAIN PAN.

TAG NAME	AREA SERVED	NO. OF FANS	CFM TOTAL	MIN. CFM	EXT. S.P.	TYPE	RPM (NOTE D)	BHP (NOTE E)	MHP (NOTE E)	MINIMUM OUTSIDE AIR CFM	NO. OF POWER CONNECTIONS	VOLTAGE	PHASES	MCA	MOPD	ELECTRICAL				SCCR
																DISCONNECT(S)	CONTROLLER STARTER(S)	BY (NOTE A)	TYPE (NOTE B)	
DHU-1M	CRAWL SPACE B19	1	2750	2750	0.3	BD DW/DC	985	1.25	2.0	0	1	208	3	30	45	MFR	NF	MFR	MS	65

### DEHUMIDIFIER SCHEDULE - CONT.

TAG NAME	EAT DB °F	EAT WB °F	TOTAL COOLING MBH	MOISTURE REMOVAL LBS/HR	TOTAL HEAT REJECTION MBH	REFRIGERANT	COMPRESSION TYPE	NOMINAL TONS	TYPE	FACE VELOCITY	FILTER		DIRTY	CLEAN	MAX. DIMENSIONS			WEIGHT	VIBRATION ISOLATION		MANUFACTURER	MODEL	NOTES
											PRESSURE DROP	TYPE			LENGTH	WIDTH	HEIGHT		OPERATING	TYPE			
DHU-1M	70.0	59.7	58.0	16.1	76.0	R-407C	SCROLL	5	4"	MERV 8	500	0.3	0.7	60"	49"	31"	1000	H2	0.750	DESERT AIRE	LW05	1,2,3,4,5	

### SCHEDULE GENERAL NOTES:

A. DISCONNECT AND CONTROLLER STARTER FURNISHED AND INSTALLED BY:  
 MFR = MANUFACTURER  
 EC = ELECTRICAL CONTRACTOR  
 MC = FURNISHED BY MECHANICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR.  
 MFR/EC = FURNISHED LOOSE BY MANUFACTURER INSTALLED BY ELECTRICAL CONTRACTOR...

B. DISCONNECT TYPE:  
 F = FUSED  
 NF = NON-FUSED

C. CONTROLLER STARTER TYPE:  
 FV = FULL VOLTAGE  
 WYE = WYE-DELTA  
 SS = SOLID STATE (SOFT START)  
 MS = MANUAL STARTER  
 VFD = VARIABLE FREQUENCY DRIVE  
 VFD/B = VARIABLE FREQUENCY DRIVE WITH BYPASS

D. FAN RPM SHALL NOT EXCEED 110% OF SCHEDULED VALUE, WITH THE SCHEDULED WHEEL TYPE. SUBSTITUTION OF BI OR BIA FANS FOR FC IS ACCEPTABLE IF EFFICIENCY IS NOT LOWER.

E. NO EQUIPMENT SHALL BE SELECTED ABOVE 90% OF MOTOR NAME PLATE RATING.

F. MUST BE WITHIN +/- 10% OF SCHEDULED RPM.

G. CURB TYPE:  
 MFR = STANDARD CURB BY MANUFACTURER  
 GC = BY GENERAL CONTRACTOR  
 SAC = SOUND ATTENUATOR CURB



10.27.2023

A/E FIRMS	DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
PRIME/ARCH: STRATA ARCHITECTURE 1703 OAK STREET, SUITE 100 KANSAS CITY, MO T: 816.442.8437	SGB		MAURICE BATHHOUSE	626
MEP/ENG: IMEG CORP. 1400 BALTIMORE STREET, SUITE 300 KANSAS CITY, MO T: 816.842.8437	CADD: WMM		MECHANICAL SCHEDULES	180065
	TECH. REVIEW: SGB			PMIS/PKG NO. 318674
	DATE: 10.27.2023		REHABILITATE BATHHOUSES HOT SPRINGS NATIONAL PARK	SHEET 157 OF 286

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