

**SCHEDULES GENERAL NOTES:**

TYPICAL FOR ALL SCHEDULE SHEETS:

- REFER TO ELECTRICAL STANDARD SCHEDULES, ONE LINE DIAGRAM AND PANEL SCHEDULES FOR ADDITIONAL ELECTRICAL INFORMATION
- PROVIDE THE FOLLOWING FACTORY-WIRED ELECTRICAL OPTIONS/ACCESSORIES WHERE INDICATED IN SCHEDULE:
  - A - NON-FUSED DISCONNECT SWITCH
  - B - UNIT SHALL BE SINGLE POINT ELECTRICAL CONNECTION WITH FACTORY INSTALLED DISCONNECTING MEANS AND ALL REQUIRED STARTERS AND CONTROLS
  - C - SERVICE RECEPTACLE
  - D - FUSED DISCONNECT SWITCH
  - E - COMBINATION STARTER
  - F - UNIT SHALL HAVE (2) SINGLE POINT CONNECTIONS WITH FACTORY INSTALLED DISCONNECTING MEANS AND ALL REQUIRED STARTERS AND CONTROLS. (1) CONNECTION SHALL BE FOR CONDENSING SECTION AND (1) CONNECTION SHALL BE FOR THE REMAINDER OF THE UNIT.
- FOR MODULATION/CONTROL TYPE COLUMN, "VFC" INDICATES VARIABLE FREQUENCY CONTROLLERS, "AUTO" INDICATES AUTOMATIC OPERATION (CONTROLLED BY TEMPERATURE CONTROLS OR SELF CONTAINED CONTROLS), "MANUAL" INDICATES HAND OPERATION.
- IF VARIABLE FREQUENCY CONTROLLERS ARE INDICATED TO BE PROVIDED AND ARE NOT INSTALLED INTEGRAL TO THE UNIT, VARIABLE FREQUENCY CONTROLLERS SHALL BE SUPPLIED BY THE MECHANICAL CONTRACTOR (UNLESS OTHERWISE NOTED) AND INSTALLED BY THE ELECTRICAL CONTRACTOR INCLUDING THE LINE SIDE AND LOAD SIDE WIRING TO THE MOTOR AND INCLUDING MISCELLANEOUS STEEL REQUIRED FOR THE SUPPORT AND MOUNTING OF THE VFC. REFER TO FLOOR PLANS FOR LOCATION.
- WHERE EQUIPMENT IS INDICATED TO HAVE A SINGLE POINT ELECTRICAL CONNECTION, THAT EQUIPMENT SHALL COME COMPLETE WITH FACTORY INSTALLED STARTERS, MOTOR OVERLOAD PROTECTION, CONTACTORS, FUSING AND ALL NECESSARY INTERNAL WIRING AND CONTROLS. PROVIDE A FACTORY MOUNTED UNIT DISCONNECTING MEANS WHERE THE ELECTRICAL CONTRACTOR SHALL MAKE SINGLE POINT CONNECTION. INSTALL PACKAGED EQUIPMENT SUCH THAT THE ELECTRICAL CONNECTION AND CONTROLS ARE ACCESSIBLE AND HAVE CLEARANCES MEETING THE NATIONAL ELECTRICAL CODE.
- WHERE PACKAGED EQUIPMENT IS PROVIDED, NAMEPLATE MUST INDICATE MAXIMUM OVERCURRENT PROTECTION BY HACR RATED CIRCUIT BREAKERS OR FUSES. IF FUSE PROTECTION ONLY IS INDICATED, PROVIDE A FUSIBLE DISCONNECT AND FUSES WITH THE UNIT.
- WHERE EQUIPMENT IS DESIGNATED BY MANUFACTURER AND MODEL NUMBER, THIS IS THE BASIS OF DESIGN. IF THE CONTRACTOR ELECTS TO PROVIDE EQUIPMENT BY OTHER SPECIFIED MANUFACTURERS OR PROPOSED ALTERNATE EQUIPMENT BY THE BASIS OF DESIGN MANUFACTURER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REVISIONS TO ELECTRICAL REQUIREMENTS, STRUCTURAL LOADING, OR ARCHITECTURAL AFFURTENANCES AND SHALL INCLUDE THE COST OF SUCH REVISIONS IN HIS BID.
- WHERE EQUIPMENT IS SCHEDULED TO INCLUDE A SERVICE RECEPTACLE, PROVIDE A FACTORY MOUNTED SERVICE RECEPTACLE WITH APPROPRIATE FUSES AND TRANSFORMERS CONNECTED ON THE LINE SIDE OF THE UNIT DISCONNECT. PROVIDE A NAMEPLATE ON THE DISCONNECT SWITCH INDICATING THE PRESENCE OF LIVE POWER TO THE SERVICE RECEPTACLE WHEN HE UNIT DISCONNECT IS IN THE OFF POSITION.
- SIZE ALL EQUIPMENT FEEDERS BASED ON THE LISTED MOP (MAXIMUM OVERCURRENT PROTECTION). REFER TO THE FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE ON THE ELECTRICAL STANDARD SCHEDULES SHEET.

COOLING TOWER SCHEDULE																		
UNIT IDENTIFICATION	TYPE	AIR			FAN				WATER				MODULATION/CONTROL TYPE	ELECTRICAL			MODEL NUMBER	REMARKS
		E.W.B. °F	QUANTITY	HP EACH	FLOW GPM	E.W.T. °F	L.W.T. °F	STATIC LIFT FT. HEAD	WIDTH INCHES	HEIGHT INCHES	DEPTH INCHES	VOLTS		PHASE	OPTIONS/ACCESSORIES			
CT-1	OPEN	78	1	7.5	404.5	95	85	27.72	7'-10 1/2"	14'-9 1/2"	7'-10 1/2"	AUTO	460	3	----	T-150I		

NOTE:  
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2. MODEL NUMBERS ARE DELTA UNLESS OTHERWISE NOTED.

HOT WATER ABSORPTION REFRIGERATION MACHINE SCHEDULE																							
UNIT IDENTIFICATION	NOMINAL CAPACITY TONS	CHILLED WATER					CONDENSER WATER					HOT WATER				MODULATION/CONTROL TYPE	ELECTRICAL					MODEL NUMBER	REMARKS
		FLOW GPM	E.W.T. °F	L.W.T. °F	FOULING FACTOR	MAXIMUM W.P.D. FT. HEAD	FLOW GPM	E.W.T. °F	L.W.T. °F	FOULING FACTOR	MAXIMUM W.P.D. FT. HEAD	E.W.T. °F	L.W.T. °F	MAXIMUM W.P.D. FT. HEAD	FLOW GPM		VOLTS	PHASE	MCA	MOCP	OPTIONS/ACCESSORIES		
CH-1	50	121.1	52	42	0.0001	14.8	404.5	87.8	95	0.0005	22.8	190.4	181.4	31.4	80	AUTO	208	3	4.7	15	B	SC50	40 TONS OF COOLING AVAILABLE WITH 80 GPM HOT WATER MEDIUM

NOTE:  
1. REFER TO SCHEDULES GENERAL NOTES.  
2. MODEL NUMBERS ARE YAZAKI UNLESS OTHERWISE NOTED.

PUMP SCHEDULE																			
UNIT IDENTIFICATION	SYSTEM SERVED	LOCATION	TYPE	COUPLING TYPE	WATERFLOW GPM	FLUID TYPE	COLDEST SYSTEM OPERATING TEMP. °F FOR PUMP SELECTION	PUMP HEAD FT.	OVERLOAD GPM	MINIMUM EFFICIENCY %	MOTOR			MODULATION/CONTROL TYPE	ELECTRICAL			MODEL NUMBER	REMARKS
											BHP	HP	RPM		VOLTS	PHASE	OPTIONS/ACCESSORIES		
CP-3	HOT WATER MEDIUM	HEAT PUMP ROOM OE 141	INLINE	CLOSE	80	WATER	190	70	NON-OVERLOADING	56	2.53	5	1750	AUTO	460	3	----	SERIES 80 2x2x9 1/2 B	
CP-4	CHILLED WATER	HEAT PUMP ROOM OE 141	INLINE	CLOSE	220	WATER	41	95	NON-OVERLOADING	65	8.04	15	1750	AUTO	460	3	----	SERIES 80 3x3x11	
CP-5	CONDENSER WATER	HEAT PUMP ROOM OE 141	INLINE	CLOSE	405	WATER	75	80	NON-OVERLOADING	72	11.4	15	1750	AUTO	460	3	----	SERIES 80 4x4x9 1/2	

NOTE:  
1. REFER TO SCHEDULES GENERAL NOTES.  
2. MODEL NUMBER ARE BELL & GOSSETT UNLESS OTHERWISE NOTED.  
3. FLUID TYPE: W = WATER, PGXX = PROPYLENE GLYCOL SOLUTION XX PERCENTAGE OF GLYCOL, EGXX = ETHYLENE GLYCOL SOLUTION XX PERCENTAGE OF GLYCOL.

AIR & DIRT SEPARATOR SCHEDULE					
INLET/OUTLET PIPE SIZE (INCHES)	MAX SYSTEM FLOW (GPM)	MAX PRESSURE DROP CLEAN (FT HD)	OPERATING WEIGHT (LBS)	TYPE	MODEL NUMBER
4	220	6.0	186	HIGH VELOCITY / AIR & DIRT	VDN 500

NOTE:  
1. MODEL NUMBERS ARE SPIROTHERM UNLESS OTHERWISE NOTED.  
2. SEPARATOR FLANGE CONNECTION MUST BE A MINIMUM OF THE PIPE DIAMETER SIZE OF WHICH THE SEPARATOR IS INSTALLED.  
3. AIR & DIRT SEPARATOR SHALL BE PROVIDED WITH REMOVABLE HEAD

GRILLE, REGISTER, AND DIFFUSER SCHEDULE									
UNIT IDENTIFICATION	TYPE	FACE SIZE	NECK SIZE	FRAME TYPE	ACCESSORY	CONSTRUCTION	FINISH	MODEL NUMBER	REMARKS
S-1	GRILLE	30x60	12#	STEEL	----	STEEL	WHITE	DR180	
E-1	GRILLE	18x12	18x12	STEEL	----	STEEL	WHITE	530	MOUNTED ON SIDE OF EXHAUST DUCTWORK
E-2	GRILLE	36x12	36x12	STEEL	----	STEEL	WHITE	530	MOUNTED ON SIDE OF EXHAUST DUCTWORK

NOTE:  
1. MODEL NUMBERS ARE PRICE UNLESS OTHERWISE NOTED.

FAN SCHEDULE																										
UNIT IDENTIFICATION	SYSTEM SERVED	TYPE	AIRFLOW CFM	T.S.P. IN. W.G.	MINIMUM WHEEL DIAMETER INCHES	RPM	ARRANGEMENT	OUTLET VELOCITY FPM	MOTOR				MODULATION/CONTROL TYPE	ELECTRICAL			MAXIMUM SOUND POWER LEVELS							MODEL NUMBER	REMARKS	
									BHP	HP	RPM	DRIVE TYPE		VOLTS	PHASE	OPTIONS/ACCESSORIES	UNIT INLET Lw BY OCTAVE BAND									
									63 HZ (DB)	125 HZ (DB)	250 HZ (DB)	500 HZ (DB)					1000 HZ (DB)	2000 HZ (DB)	4000 HZ (DB)	8000 HZ (DB)						
EF-1	EXHAUST SYSTEM	ROOF MOUNTED	1500	0.25	13	1352	DOWNBLAST	1613	0.25	1/4	1725	BELT	AUTO	120	1	A	72	75	78	72	64	63	58	57	GB-121	

NOTE:  
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POWER VENTILATOR SCHEDULE																									
UNIT IDENTIFICATION	SYSTEM SERVED	TYPE	AIRFLOW CFM	T.S.P. IN. W.G.	TIP SPEED FPM	FAN RPM	MOTOR				CURB HEIGHT INCHES	MODULATION/CONTROL TYPE	ELECTRICAL			MAXIMUM SOUND POWER LEVELS							MODEL NUMBER	REMARKS	
							BHP	HP	RPM	DRIVE TYPE			VOLTS	PHASE	OPTIONS/ACCESSORIES	UNIT INLET Lw BY OCTAVE BAND									
							63 HZ (DB)	125 HZ (DB)	250 HZ (DB)	500 HZ (DB)						1000 HZ (DB)	2000 HZ (DB)	4000 HZ (DB)	8000 HZ (DB)						
SF-1	SUPPLY MICROTURBINES	ROOF MOUNTED	3300	1	3380	861	1.43	1.5	1725	BELT	2	AUTO	460	3	A	90	88	76	75	74	72	69	62	SAF-115	

NOTE:  
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REVISION 6/12/2014

REVISION ADDENDUM #2

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CONSULTING ENGINEERS

PROJECT TITLE  
WASHTENAW COMMUNITY COLLEGE  
MICROTURBINE PROJECT

SHEET TITLE  
MECHANICAL SCHEDULES

DATE  
5/12/2014  
ISSUE  
CONSTRUCTION DOCUMENTS

SHEET No.  
**M7.1**

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