

WATER COOLED CHILLER SCHEDULE		
MARK	CH-1	CH-2
CAPACITY - TONS	223	223
COND. WATER FLOW - GPM	669	669
COND. WATER TEMP. ENT./LVG. - F/F	85/95	85/95
COND. WATER PRESSURE DROP - FT. W.G.	13	13
CHILLED WATER FLOW - GPM	536	536
CHILLED WATER TEMP. ENT./LVG. - F/F	54/44	54/44
CHILLED WATER PRESS. DROP - FT. W.G.	11	11
COMPRESSORS - NO.	1	1
REFRIGERANT TYPE	R-123 OR R-134A	R-123 OR R-134A
FOULING FACTOR	0.00025	0.00025
INTEGRATED PART LOAD VALUE (IPLV)	0.60	0.60
TOTAL POWER INPUT - KW	134	134
ELECTRICAL - V/ø/Hz	460/3/60	460/3/60
NOTES	1	1

NOTES:  
1. TOTAL UNIT KW BASED ON CHILLER PERFORMANCE AT FULL LOAD CONDITIONS.

COOLING TOWER SCHEDULE	
MARK	CT-1
CAPACITY - TONS	555
COND. WATER FLOW - GPM	1665
COND. WATER TEMP. ENT./LVG. - F/F	95/85
OUTDOOR AIR TEMP. db/wb - F/F	91/80
FANS - NO.	8
MOTOR - HP (EACH FAN)	5
DRIVE TYPE	DIRECT
AIR FLOW - CFM EACH FAN	21,000
BASIN TYPE	FIBERGLASS
BASIN HEATER - KW/STEPS	3/1
ELECTRICAL - V/ø/Hz	460/3/60
WEIGHT (OPERATING)	17,000LBS.
NOTES	1,2,3

NOTES:  
1. SELECT UNIT AT INDICATED CAPACITIES. ACTUAL OPERATING CONDITIONS ARE 446 TONS AT 1338 GPM.  
2. UNIT SHALL BE A FACTORY ASSEMBLED, MODULAR FIBERGLASS COOLING TOWER.  
3. PROVIDE A FACTORY FURNISHED MOUNTING SUB STRUCTURE TO BE MOUNTED AT BOTTOM OF COOLING TOWER 8'-0" A.F.F.

FAN SCHEDULE		
MARK	EF-10	EF-11
FAN TYPE	SIDEWALL PROPELLER FAN	SIDEWALL PROPELLER FAN
AIR QUANTITY - CFM	2,500	2,500
EXT. S.P. - IN. W.G.	0.25	0.25
DRIVE	BELT	BELT
SONES (MAXIMUM)	13.0	13.0
MOTOR - HP	1/2	1/2
ELECTRICAL - V/ø/Hz	120/1/60	120/1/60
NOTES	1,2	1,2

NOTES:  
1. PROVIDE WALL MOUNT COLL. INLET AND MOTOR GUARD, BACKDRAFT DAMPER AND UNIMOUNTED DISCONNECT SWITCH.  
2. MOUNT BOTTOM OF FAN AT 8'-0" A.F.F.  
3. MOUNT BOTTOM OF FAN AT 8'-0" A.F.F.

PUMP SCHEDULE														
MARK	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8	P-9	BUILDING 464	BUILDING 466	BUILDING 473	BUILDING 475	BUILDING 477
SERVICE	CONDENSER WATER	CONDENSER WATER	PRIMARY CHILLED WATER	PRIMARY CHILLED WATER	SECONDARY CHILLED WATER	SECONDARY CHILLED WATER	TERTIARY CHILLED WATER	TERTIARY CHILLED WATER	PRIMARY HEATING WATER	SECONDARY HEATING WATER	TERTIARY CHILLED WATER	TERTIARY CHILLED WATER	TERTIARY CHILLED WATER	EXISTING CHILLED WATER
WATER FLOW - GPM	669	669	535	535	535	535	237	77	116	133	133	133	107	112
TOTAL DYNAMIC HEAD - FT. W.G.	75	75	35	35	160	160	160	16	50	75	75	75	75	-
MOTOR - HP	20	20	7 1/2	7 1/2	50	50	7 1/2	3/4	3	5	5	5	5	-
MOTOR SPEED - RPM	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
ELECTRICAL - V/ø/Hz	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	208/3/60	208/3/60	208/3/60	460/3/60	-
MINIMUM EFFICIENCY - %	75	75	75	75	65	65	65	60	55	60	60	60	60	-
PUMP TYPE	BASE MOUNTED END SUCTION	BASE MOUNTED END SUCTION	BASE MOUNTED END SUCTION	BASE MOUNTED END SUCTION	BASE MOUNTED END SUCTION	BASE MOUNTED END SUCTION	BASE MOUNTED END SUCTION	IN-LINE PUMP	BASE MOUNTED END SUCTION	BASE MOUNTED END SUCTION	BASE MOUNTED END SUCTION	BASE MOUNTED END SUCTION	BASE MOUNTED END SUCTION	EXISTING PUMP
NOTES	1	1,7,8	1,9	1,9	1,2,6,8,9	1,2,6,8,9	1,2,9	4,9	1,2,9	1,2,3	1,2,3	1,2,3	1,2,3	5

NOTES:  
1. PUMP SHALL BE TAKEN PART COUPLING BACK SERVICE TYPE.  
2. PROVIDE A PUMP MOTOR SUITABLE FOR VARIABLE SPEED CONTROL.  
3. REPLACE EXISTING PUMP WITH A NEW PUMP.  
4. PUMP PROVIDED AS PART OF HEATING WATER BOILER PACKAGE.  
5. EXISTING PUMP SHOW FOR REFERENCE PURPOSES ONLY.  
6. PUMPS 1-5 SHALL BE SELECTED FOR PARALLEL OPERATION. INDIVIDUAL PUMP CURVES SHALL INTERSECT THE SYSTEM CURVE AT A POINT EQUAL TO 75% OF THE TOTAL SYSTEM VOLUME (800 GPM).  
7. REQUIRED NET POSITIVE SUCTION HEAD SHALL (NPSHR) SHALL NOT EXCEED 15 FEET.  
8. FUTURE CONDITIONS INDICATED. CURRENT SETUP SHALL BE FOR 420.5 GPM. (841 GPM TOTAL SECONDARY SYSTEM).  
9. PUMP SELECTIONS ARE BASED ON EQUIPMENT WATER PRESSURE DROPS INDICATED ON OTHER SCHEDULES.

ELECTRIC UNIT HEATER SCHEDULE		
MARK	EUH-1	EUH-2
TYPE	HORIZONTAL DISCHARGE	HORIZONTAL DISCHARGE
SUPPLY AIR - CFM	400	400
BLOWER MOTOR - HP	1/25	1/25
HEATER - KW/STEPS	5/1	5/1
ELECTRICAL - V/ø/Hz	277/1/60	277/1/60
MOUNTING HEIGHT	9'-0"	9'-0"
NOTES	1,2	1,2

NOTES:  
1. PROVIDE UNIT MOUNTED DISCONNECT SWITCH.  
2. PROVIDE WALL MOUNTING BRACKET.

Glick/Boehm & Associates, Inc.  
1000 Meeting Street  
Charleston, S.C. 29403  
(803) 727-8377

DRAWING REVISIONS

Rev.	Description	Prep. By	Date	Appr. By
1	DWG. CORRECTED TO AS-BUILT	WJG	11/14/11	WJG

SUBMITTED BY (FIRM REPRESENTATIVE)  
TECHNICAL MANAGER

CHARLESTON AIR FORCE BASE CHARLESTON, SOUTH CAROLINA  
DINING FACILITY  
MECHANICAL SCHEDULES - CPRO

APPROVED BY *WJG* DATE *11/14/11* EPD FOR COMMANDER, WJG

Naval Facilities Engineering Command  
Southern Division  
Charleston, South Carolina

EPIC ENGINEERING INC.  
No. 7188  
No. 000259

RECORD DRAWING DATE: 9/2/10  
CODE LD. NO. 80881  
DRAWING SIZE: D  
SPEC. NO. DE-98-0938  
CONSTR. CONTR. NO. M2467-98-C-0839  
NAVFAC DRAWING NO. 5357983  
SHEET 188 OF 194  
M-603

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