

BOILER SCHEDULE

MARK	MFG.	MODEL #	BOILER				BURNER BLOWER			ACCESSORIES
			MIN. OUTPUT (MBH)	DESIGN PRESSURE (PSI)	MIN. EFF. (%)	GAS INPUT (MBH)	VOLTS/PHASE	MOTOR FLA	MOTOR MOC	
B1	LOCHINVAR	FBN1001	982	180	96.2	1,000	120/1	1.5	15	PTRV, CH, FS, EMS, CT, LW
B2	LOCHINVAR	FBN1001	982	180	96.2	1,000	120/1	1.5	15	PTRV, CH, FS, EMS, CT, LW
B3	LOCHINVAR	FBN1001	982	180	96.2	1,000	120/1	1.5	15	PTRV, CH, FS, EMS, CT, LW
B4	LOCHINVAR	FBN1001	982	180	96.2	1,000	120/1	1.5	15	PTRV, CH, FS, EMS, CT, LW

NOTES:
1. ALL BOILERS SHALL BE PROVIDED UNDER ALTERNATE BID NO. 3.

ABBREVIATIONS:
PTRV - PRESSURE AND TEMPERATURE RELIEF VALVE, 75 PSIG.
CH - CONDENSATE HEAT EXCHANGER
FS - FLOW SWITCH
EMS - EMS GATEWAY
CT - CONDENSATE TRAP
LW - LOW WATER CUT-OFF

PUMP SCHEDULE - AHU COILS

MARK	MAN.	SERIES	SIZE	INLET	DISCH.	GPM	TOTAL HEAD (FT.)	NPSH (FT.)	TYPE	WORK CLASS (PSI)	HP	RPM	VOLT/PH	CONST.	FLUID PUMPED	FLUID TEMP.
P1H	BG	PL-30	-	1"	1"	4.4	18.7	-	IL	150	.083	2650	120/1	BF	HW	180
P1C	BG	PL-36	-	1.25"	1.25"	11.7	20.2	-	IL	150	.17	3300	120/1	BF	CW	42
P2H	BG	PL-55	-	2"	2"	27.2	18.8	-	IL	150	.4	3250	120/1	BF	HW	180
P2C	BG	E-90	2AAC	2"	2"	60.8	22.3	5	IL	150	.75	1725	120/1	BF	CW	42
P3H	BG	PL-36	-	1.5"	1.5"	21.2	18.8	-	IL	150	.17	3300	120/1	BF	HW	180
P3C	BG	E-90	2AAC	2"	2"	53.8	20.0	5	IL	150	.75	1725	120/1	BF	CW	42
P4H	BG	PL-30	-	1"	1"	7.9	18.8	-	IL	150	.083	2650	120/1	BF	HW	180
P4C	BG	PL-36	-	1.5"	1.5"	17.5	18.8	-	IL	150	.17	3300	120/1	BF	CW	42
P5H	BG	PL-36	-	1.5"	1.5"	19.3	18.8	-	IL	150	.17	3300	120/1	BF	HW	180
P5C	BG	E-90	1.5AB	1.5"	1.5"	40.0	33.8	3	IL	150	1.0	1725	120/1	BF	CW	42
P6H	BG	PL-36	-	1.5"	1.5"	19.3	18.8	-	IL	150	.17	3300	120/1	BF	HW	180
P6C	BG	E-90	1.5AB	1.5"	1.5"	40.0	33.8	3	IL	150	1.0	1725	120/1	BF	CW	42
P7H	BG	PL-36	-	1.5"	1.5"	19.3	18.8	-	IL	150	.17	3300	120/1	BF	HW	180
P7C	BG	E-90	1.5AB	1.5"	1.5"	40.0	33.8	3	IL	150	1.0	1725	120/1	BF	CW	42
P8H	BG	PL-36	-	1.5"	1.5"	19.3	18.8	-	IL	150	.17	3300	120/1	BF	HW	180
P8C	BG	E-90	1.5AB	1.5"	1.5"	40.0	33.8	3	IL	150	1.0	1725	120/1	BF	CW	42
P9H	BG	PL-36	-	1.5"	1.5"	19.3	18.8	-	IL	150	.17	3300	120/1	BF	HW	180
P9C	BG	E-90	1.5AB	1.5"	1.5"	40.0	33.8	3	IL	150	1.0	1725	120/1	BF	CW	42
P10H	BG	PL-36	-	1.5"	1.5"	19.3	18.8	-	IL	150	.17	3300	120/1	BF	HW	180
P10C	BG	E-90	1.5AB	1.5"	1.5"	40.0	33.8	3	IL	150	1.0	1725	120/1	BF	CW	42
P11H	BG	PL-55	-	2"	2"	36.8	18.8	-	IL	150	.4	3250	120/1	BF	HW	180
P11C	BG	E-90	2AAC	2"	2"	82.5	18.8	5	IL	175	.75	1800	120/1	BF	CW	42
P12H	BG	PL-36	-	1.5"	1.5"	15.0	18.8	-	IL	150	.17	3300	120/1	BF	HW	180
P12C	BG	PL-36	-	1.5"	1.5"	16.5	18.8	-	IL	150	.17	3300	120/1	BF	CW	42
PMAU2	BG	E-90	1.5AB	1.5"	1.5"	41.1	33.8	3	IL	150	1.0	1725	120/1	BF	HW	180

NOTES:
1. CONTRACTOR SHALL CONFIRM EXISTING POWER V/PH, PRIOR TO SUBMITTING EQUIPMENT.

ABBREVIATIONS:
NPSH - NET POSITIVE SUCTION HEAD
IL - IN-LINE
BF - BRONZE FITTED
BG - BELL & GOSSETT
AB - ALL BRONZE
AI - ALL IRON
HW - HOT WATER
CW - CHILLED WATER

TRIPLE DUTY VALVE SCHEDULE

MARK	PUMP	MAN.	MODEL	SIZE	GPM	MAX. HEAD (FT.)	PIPE SIZE (IN.)	GPM (NOTE #1)
TD1H	P1H	BG	3DV	1"	4.4	3.0	1"	
TD1C	P1C	BG	3DV	1.25"	11.7	3.0	1.5"	
TD2H	P2H	BG	3DV	2"	27.2	3.0	2"	20.0
TD2C	P2C	BG	3DS-2S	2"	60.8	3.0	2.5"	60.0
TD3H	P3H	BG	3DV	1.5"	21.2	3.0	2"	10.0
TD3C	P3C	BG	3DS-2S	2"	53.8	3.0	2.5"	62.0
TD4H	P4H	BG	3DV	1"	7.9	3.0	1.25"	
TD4C	P4C	BG	3DV	1.5"	17.5	3.0	1.5"	
TD5H	P5H	BG	3DV	1.5"	19.3	3.0	1.5"	
TD5C	P5C	BG	3DS-2S	2"	40.0	3.0	2"	
TD6H	P6H	BG	3DV	1.5"	19.3	3.0	1.5"	
TD6C	P6C	BG	3DS-2S	2"	40.0	3.0	2"	
TD7H	P7H	BG	3DV	1.5"	19.3	3.0	1.5"	
TD7C	P7C	BG	3DS-2S	2"	40.0	3.0	2"	
TD8H	P8H	BG	3DV	1.5"	19.3	3.0	1.5"	
TD8C	P8C	BG	3DS-2S	2"	40.0	3.0	2"	
TD9H	P9H	BG	3DV	1.5"	19.3	3.0	1.5"	
TD9C	P9C	BG	3DS-2S	2"	40.0	3.0	2"	
TD10H	P10H	BG	3DV	1.5"	19.3	3.0	1.5"	
TD10C	P10C	BG	3DS-2S	2"	40.0	3.0	2"	
TD11H	P11H	BG	3DV	2"	36.8	3.0	2"	28.0
TD11C	P11C	BG	3DS-2S	2"	82.5	3.0	3"	83.0
TD12H	P12H	BG	3DV	1.5"	15.0	3.0	1.5"	15.0
TD12C	P12C	BG	3DV	1.5"	16.5	3.0	1.5"	16.5
TDMAU2	PMAU2	BG	3DS-2S	2"	41.1	3.0	2"	21.0

NOTES:
1. COIL PUMPS HAVE ALL BEEN SIZED FOR FUTURE ANTICIPATED MAXIMUM FLOWRATE. FOR ALL EXISTING COILS TO REMAIN, TAB CONTRACTOR SHALL BALANCE THE FLOWRATE TO THE VALUE SCHEDULED BELOW.

ABBREVIATIONS:
BG - BELL & GOSSETT

PIPING MATERIAL SCHEDULE

SYSTEM	PIPING				MATERIAL	MAT.	TYPE	MAX. WORKING		FIELD TEST		
	SIZE	TYPE	SCH	GRD				PRESS (PSI)	TEMP (°F)	PRESS (PSI)	TIME	
CONDENSATE DRAIN	ALL	M	-	-	B88	CP	DR/S	10FT	40/70	10FT	1 HR	
HOT WATER SUPPLY & RETURN	0.5"-2.5"	L	-	-	B88	CP	SJ	125	80-200	150	1 HR	
HOT WATER SUPPLY & RETURN	3" & UP	SL/CW	40	A	A120	CS/BLK	CS	WELD	125	80-200	150	1 HR
CHILLED WATER SUPPLY & RETURN	0.5"-2.5"	L	-	-	B88	CP	SJ	125	45-80	180	1 HR	
CONDENSATE WATER SUPPLY & RETURN	0.5"-2.5"	L	-	-	B88	CP	SJ	125	45-80	150	1 HR	
CONDENSER WATER SUPPLY & RETURN	3" & UP	SL/CW	40	A	A120	CS/BLK	CS	WELD	125	45-80	150	1 HR
REFRIGERANT PIPING	ALL	ACR	-	-	B280	CP	S	150	40-140	+200	+4 HR	
TEMP. & PRESSURE RELIEF DRAIN	ALL	M	-	-	B88	CP	DR/S	10FT	40-140	10FT	1 HR	
CONDENSATE DRAIN SERVING BOILER	ALL	DWV	40	-	2665	PVC	DR/SW	10FT	100	10FT	1 HR	
BOILER/WH INTAKE AIR VENT	ALL	VENT	40	-	2665	PVC	DR/SW	10FT	100	10FT	1 HR	
BOILER/WH EXHAUST AIR VENT	ALL	EXHAUST	80	-	F441	CPVC	SW	100	180	150	1 HR	
NATURAL GAS ABOVE GRADE	0.5"-2.5"	CW	40	A	A53	CS	MI	THRD	1	100	1 HR	
DOMESTIC WATER PIPING ABOVE GRADE	ALL	L	-	-	B88	CP	SJ	120	40-180	150	1 HR	

ATP - ANGIO TRUSS PIPE
BLK - BLACK
BS - BELL & SPIGOT
CF - CRIMPED FITTING
CI - CAST IRON
CP - COPPER
CS - CARBON STEEL
CTD - PIPE LINE SERVICE COMPANY X-TRU-COAT EXTRUDED OVER PIPE
CW - CONTINUOUS WELD
DI - DUCTILE IRON
DR - DRAINAGE FITTING
GLV - GALVANIZED
HF - HEAT FUSED
LC - LEAD CARBIDE
MI - MALLEABLE IRON
MJ - MECHANICAL JOINT
NG - NEOPRENE GASKET
NH - NYLON
PE - POLYETHYLENE
PVC - POLYVINYL CHLORIDE
S - SOLDER JOINT - SILVER BRAZING ALLOY
SJ - SOLDER JOINT 95-5 TIN-ANTIMONY
SL - SEAMLESS STEEL
SS - STANDARD STRENGTH - SERVICE WEIGHT
SW - THREADED WELD
TS - TY-SEAL
TRHD - THREADED
VOP - VITRIFIED CLAY PIPE
WELD - WELDED
XH - EXTRA HEAVY

* PRESSURE TESTING REQUIREMENTS FOR THE REFRIGERANT PIPING SYSTEMS SHALL BE AS REQUIRED BY THE UNIT MANUFACTURER. TESTING PROCEDURES AND RESULTS SHALL BE DOCUMENTED AND SUBMITTED FOR REVIEW.

PUMP SCHEDULE

MARK	MAN.	SERIES	SIZE	INLET	DISCH.	GPM	TOTAL HEAD (FT.)	NPSH (FT.)	TYPE	WORK CLASS (PSI)	HP	RPM	VOLT/PH	CONST.	FLUID PUMPED	FLUID TEMP.
CWP1	BG	e-1510	2.5AC	3"	2.5"	280	85	10.4	BMES	125	10	3550	480/3	AI	CW	42
CWP2	BG	e-1510	2.5AC	3"	2.5"	280	85	10.4	BMES	125	10	3550	480/3	AI	CW	42
CP1	BG	e-1510	3BD	4"	3"	420	60	7.1	BMES	125	10	1770	480/3	AI	CDW	85
CP2	BG	e-1510	3BD	4"	3"	420	60	7.1	BMES	125	10	1770	480/3	AI	CDW	85
HWP1	BG	e-1510	2AD	2.5"	2"	170	100	9.6	BMES	125	7.5	3550	480/3	AI	HW	180
HWP2	BG	e-1510	2AD	2.5"	2"	170	100	9.6	BMES	125	7.5	3550	480/3	AI	HW	180
BP1	BG	e-90	2AAC	2"	2"	48	12	2.8	IL	125	.33	1725	120/1	BF	HW	180
BP2	BG	e-90	2AAC	2"	2"	48	12	2.8	IL	125	.33	1725	120/1	BF	HW	180
BP3	BG	e-90	2AAC	2"	2"	48	12	2.8	IL	125	.33	1725	120/1	BF	HW	180
BP4	BG	e-90	2AAC	2"	2"	48	12	2.8	IL	125	.33	1725	120/1	BF	HW	180
DHWP1	BG	EOCIRC	N40-200	2"	2"	42	30	-	IL	175	1.0	3082	208/1	AI	HW	180

NOTES:
1. HWP1 & HWP2 SHALL BE PROVIDED WITH INVERTER DUTY MOTORS COMPATIBLE WITH VFD. THE VFD'S SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
2. CONTRACTOR SHALL CONFIRM EXISTING POWER V/PH, PRIOR TO SUBMITTING EQUIPMENT.
3. HOT WATER PUMPS "HWP1" & "HWP2" AND BOILER PUMPS "BP1" THRU "BP4" SHALL BE PROVIDED UNDER ALTERNATE BID NO. 3.
4. CHILLED WATER PUMPS "CWP1" & "CWP2" SHALL BE PROVIDED UNDER ALTERNATE BID NO. 2.
5. CONDENSER WATER PUMPS "CP1" & "CP2" SHALL BE PROVIDED UNDER ALTERNATE BID NO. 2.

ABBREVIATIONS:
NPSH - NET POSITIVE SUCTION HEAD
IL - IN-LINE
BMES - BASE MOUNTED, END SUCTION
BF - BRONZE FITTED
BG - BELL & GOSSETT
AB - ALL BRONZE
AI - ALL IRON
HW - HOT WATER
CW - CHILLED WATER
CDW - CONDENSER WATER

WATER SPECIALTIES SCHEDULE

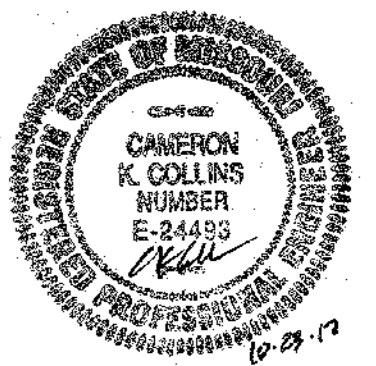
SYSTEM	CHILLED WATER	CONDENSER WATER	HEATING HOT WATER
SYSTEM OPERATING TEMP.	44	85	180
SYSTEM WORKING PRESSURE	75	75	75
TRIPLE DUTY VALVE(S)			
MANUFACTURER	BELL & GOSSETT	BELL & GOSSETT	BELL & GOSSETT
MODEL NO./QUANTITY	3DS-68/2	3DS-68/2	3DS-68/2
GPM/WPD (FT.)	280/0.7	420/1.5	170/1.9
SIZE	6"	6"	4"
SUCTION DIFFUSER(S)			
MANUFACTURER	BELL & GOSSETT	BELL & GOSSETT	BELL & GOSSETT
MODEL NO./QUANTITY	ED-3/2	GE-3/2	EO-3/2
GPM/WPD (FT.)	280/3.2	420/3.0	170/3.4
SIZE	6"	6"	4"
AIR ELIMINATOR & DIRT SEPARATOR(S)			
MANUFACTURER	SP1ROTHERM	-	SP1ROTHERM
MODEL NO./QUANTITY	VDT 600 FA/1	-	VDT 500 FA/1
GPM/WPD (FT.)	540/3.0	-	340/2.0
SIZE	6"	-	6"

NOTES:
1. CHILLED AND CONDENSER WATER SPECIALTIES SHALL BE PROVIDED UNDER ALTERNATE BID #2.
2. HOT WATER SPECIALTIES SHALL BE PROVIDED UNDER ALTERNATE BID #3.

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