

AIR COOLED CHILLERS															
MARK	MODEL NO.	PERFORMANCE					EVAPORATOR			FLUID MEDIA		ELECTRICAL			REMARKS
		TONS	EER	PLV	REF	GPM	QAT	ENT	LWT	QAT	WPD	KW	MCA	VOLTS	
ACC-1	DAIKIN ACC-004F	51.6	10.0	16.8	R32	146	95° F	56° F	44° F	15.0'	308 PG	61.9	119	460V 3PH	3,750 SEE (1-12)(X) BELOW
1) PACKAGED AIR-COOLED SCROLL CHILLER 2) TWO CIRCUITS WITH TWO ON/OFF COMPRESSORS EACH 3) PAINTED CABINET WITH COIL COVERS AND BASE FRAME WIRE GRILLES 4) SINGLE POINT DISCONNECT WITH 120V CONVENIENCE OUTLET, GROUND FAULT PROTECTION, AND HIGH SCOR RATING > 10 KA 5) REPLACEABLE FILTER DRYER WITH DISCHARGE, LIQUID, AND SUCTION VALVES 6) SINGLE LAYER EVAPORATOR INSULATION AND WATER FLOW INDICATOR 7) PHASE AND OVER/UNDER VOLTAGE PROTECTION 8) ELECTRONIC EXPANSION VALVE 9) SOUND REDUCTION COMPRESSOR BLANKETS 10) MFG'S CONTROLLER WITH SHOCK P-INTERFACE 11) EXTENDED 5-YR COMPRESSOR WARRANTY 12) SPRING ISOLATORS AT ALL BEARING POINTS 13) STD OPERATION TO 35-DEG WITH STD HEAD PRESSURE CONTROL															

HEATING WATER BOILERS															
MARK	MODEL NO.	INPUT MBH	FLUID MEDIA	BURNER/BLOWER			PIPE SIZE		AIR INTAKE	VENT OUTLET	RELIEF PRESS				REMARKS
				AMPS	VOLTS	FUEL	INLET	OUTLET							
B-1	LOCHINVAR WB3399	399,000	HEATING WATER	< 5	120V 1PH	NG	4-1/4" WC	1.5"	1.5"	4" DIA	4" DIA	75 PS			SEE (1-8) BELOW
B-2	LOCHINVAR WB3399	399,000	HEATING WATER	< 5	120V 1PH	NG	4-1/4" WC	1.5"	1.5"	4" DIA	4" DIA	75 PS			SEE (1-8) BELOW
B-3	LOCHINVAR WB3399	399,000	HEATING WATER	< 5	120V 1PH	NG	4-1/4" WC	1.5"	1.5"	4" DIA	4" DIA	75 PS			SEE (1-8) BELOW
B-4	LOCHINVAR WB3399	399,000	HEATING WATER	< 5	120V 1PH	NG	4-1/4" WC	1.5"	1.5"	4" DIA	4" DIA	75 PS			SEE (1-8) BELOW
1) FIRE TUBE WALL MOUNT BOILER 2) CONFIGURE FOR HIGH ALTITUDE 3) SUPPLY WITH A BOILER CIRCULATING PUMP 4) SUPPLY WITH AN AUXILIARY FLOW SWITCH 5) SUPPLY A CONDENSATE NEUTRALIZATION KIT 6) PIPE RELIEF VALVES TO THE FLOOR 7) PIPE CONDENSATE TO A HEADER AND EXTEND TO AIR GAP AT THE FLOOR DRAIN WITH PVC PIPING 8) FURNISH POLYPROPYLENE VENT ADAPTER, PIPING, FITTINGS, AND VERTICAL TERMINATION 9) SUPPLY AN OUTDOOR AIR SENSOR AND A WELL MOUNTED IMMERSION SENSOR FOR SYSTEM WATER TEMP CONTROL (WHERE SPEC'D)															

HYDRONIC CIRCULATING PUMPS															
MARK	MODEL NO.	FLOW GPM	WPD FT HD	PUMP TYPE	FLUID MEDIA	MOTOR		FLANGE SIZE	PIPE SIZE	CONTROL					REMARKS
						HP	RPM	VOLTAGE							
CWP-1	ARMSTRONG 4380 0205	146	54	VERTICAL INLINE	30% PROP GLYCOL	3.0	3300	480 3PH	2.0"	4.0"	CWP SYSTEM PUMP				SEE (1-6) BELOW
HWP-1	ARMSTRONG 4380 2505	220	52	VERTICAL INLINE	30% PROP GLYCOL	5.0	3300	480 3PH	2.5"	4.0"	HW SYSTEM PUMP				SEE (1-6) BELOW
HWP-2	ARMSTRONG 4380 2505	220	52	VERTICAL INLINE	30% PROP GLYCOL	5.0	3300	480 3PH	2.5"	4.0"	HW SYSTEM PUMP				SEE (1-6) BELOW
BP-1	GRUNDFOS UPWAL 25-124	24	9	NET ROTOR	HEATING WATER	120W	-	120V 1PH	1.5"	1.5"	BOILER PUMP				SEE (7-9) BELOW
BP-2	GRUNDFOS UPWAL 25-124	24	9	NET ROTOR	HEATING WATER	120W	-	120V 1PH	1.5"	1.5"	BOILER PUMP				SEE (7-9) BELOW
BP-3	GRUNDFOS UPWAL 25-124	24	9	NET ROTOR	HEATING WATER	120W	-	120V 1PH	1.5"	1.5"	BOILER PUMP				SEE (7-9) BELOW
BP-4	GRUNDFOS UPWAL 25-124	24	9	NET ROTOR	HEATING WATER	120W	-	120V 1PH	1.5"	1.5"	BOILER PUMP				SEE (7-9) BELOW
GP-1	ADVANTAGE CONTROLS MODEL GP-1A	1.5	115	GLYCOL MAKE-UP	30% PROP GLYCOL	0.33	-	120 1PH	-	0.50"	INCLUDED				SEE (10) BELOW
1) CLOSE-COUPLED VERTICAL INLINE PUMP WITH INTEGRATED VARIABLE SPEED CONTROLLER 2) PREMIUM EFFICIENCY TEC MOTOR 3) EMBEDDED BACKL PROTOCOL INTERFACE 4) SUPPLY LINE SIZE MFG'S SUCTION GUIDE AND FLOW-REX VALVE 5) INSTALL 12-IN LONG SPOOL PIECE DOWSTREAM PER MFG 6) INSTALL WITH REDUCERS AT PUMP FLANGES TO MATCH PIPE SIZE 7) PUMP SUPPLIED WITH THE BOILER 8) ECM VARIABLE SPEED MOTOR 9) WIRE TO RESPECTIVE BOILER TDRY CONTACTS 10) DUAL PUMP PACKAGE WITH 55-GAL POLYETHYLENE TANK, LOW LEVEL ALARM RELAY, AND DIGITAL CONTROLLER															

SYSTEM BUFFER TANKS															
MARK	MODEL NO.	SYSTEM	TANK VOLUME	PORT QTY	SOURCE CONNECTION		SYSTEM CONNECTION		SIZE		WT LBS				REMARKS
					SIZE	TYPE	SIZE	TYPE	SIZE	DIA					
BT-1	AMTROL CM81300-4	CHILLED WATER	300 GAL	2	NA	FLG	4"	NA	FLG	4"	36"	80"	3000		SEE (1-5) BELOW
1) INTERNAL BATTLE 2) ASME CODE APPROVED 3) 125 PSIG WORKING PRESSURE 4) SUPPLY SPROTOTOP AIR RELEASE VALVE MOUNTED TO TOP OF TANK 5) INSTALL 1-IN DRAIN PIPE WITH BALL VALVE AND HOSE THREADS															

HYDRONIC EXPANSION TANKS															
MARK	MODEL NO.	SYSTEM VOLUME	TANK VOLUME	EXP WATER	TANK TYPE	FLUID MEDIA	SIZE		TEMP		PRESSURE		SUPPORT		REMARKS
							DIA	HT	MIN	MAX	FILL	RELIEF			
ET-1	AMTROL EXTROL 300-L	600 GAL	80 GAL	80 GAL	BLADDER	30% PG	24"	52"	40F	180F	25 PS	75 PS	FLOOR		SEE (1-5) BELOW
ET-2	AMTROL EXTROL 35-LBC	550 GAL	12 GAL	3.8 GAL	BLADDER	30% PG	12"	38"	40F	75F	25 PS	50 PS	FLOOR		SEE (1-5) BELOW
1) 125 PSIG ASME APPROVED 2) PRE-CHARGE TO THE INDICATED FILL PRESSURE 3) INSTALL ISOLATION VALVE, PRESSURE GAUGE, AND DRAIN VALVE WITH HOSE THREADS AND CAP 4) FLOOR MOUNT IN AN ACCESSIBLE LOCATION 5) SYSTEM VOLUME IS APPROX. GLYCOL TO BE BASED ON CONTRACTOR TAKE-OFFS															

AIR SEPARATORS															
MARK	MODEL NO.	TYPE	SYSTEM SERVED	INLET VELOCITY	FLOW RATE	FLUID MEDIA	CONNECTION		DIMENSIONS		WT LBS				REMARKS
							SIZE	TYPE	DIA	LG					
AS-1	SPROTHERM VSR-400	COALESCING MICRO-BUBBLE	HEATING WATER	4 FPS	220 GPM	30% PG	4"	FLG	9"	20"	24"	50			SEE (1-5) BELOW
AS-2	SPROTHERM VSR-400	COALESCING MICRO-BUBBLE	CHILLED WATER	4 FPS	146 GPM	30% PG	4"	FLG	9"	20"	24"	50			SEE (1-5) BELOW
1) HYDRAULIC SEPARATOR TYPE 1) AIR AND DIRT SEPARATOR TYPE 2) 150 PSIG ASME APPROVED 3) WITH SPROTOTOP AUTOMATIC AIR VENT PIPED TO THE FLOOR DRAIN 4) INSTALL DRAIN VALVE WITH HOSE THREADS AND CAP 5) INSTALL PIPING TO AVOID AIR TRAPS															

MARK	FIXTURE	MFG MODEL AND DESCRIPTION	CONNECTIONS				MOUNTING HEIGHT
			CW	HW	DRAIN	VENT	
WC-1	WALL MOUNT STD WATER CLOSET	AMERICAN STANDARD AFWAL MODEL 2257.101, WALL HUNG, TOP SPUD, WHITE OPEN FRONT SEAT, SLOAN ROYAL MODEL 111 3/5" SFW FLUSHMETER, BATTERY POWERED, SENSOR OPERATED, INFRARED UNIT WITH MECHANICAL OVERRIDE, 1.6 GPF.	1"	-	4"	2"	PER ARCHITECT
WC-2	WALL MOUNT ADA WATER CLOSET	AMERICAN STANDARD AFWAL MODEL 2257.101, WALL HUNG, TOP SPUD, WHITE OPEN FRONT SEAT, SLOAN ROYAL MODEL 111 3/5" SFW FLUSHMETER, BATTERY POWERED, SENSOR OPERATED, INFRARED UNIT WITH MECHANICAL OVERRIDE, 1.6 GPF.	1"	-	4"	2"	PER ARCHITECT
WC-3	FLOOR MOUNT ADA WATER CLOSET	AMERICAN STANDARD WABEDA MODEL 3343.001, FLOOR MOUNT, 16.5" DM HT, TOP SPUD, WHITE OPEN FRONT SEAT, SLOAN ROYAL MODEL 111 3/5" SFW FLUSHMETER, BATTERY POWERED, SENSOR OPERATED, INFRARED UNIT WITH MECHANICAL OVERRIDE, 1.6 GPF.	1"	-	4"	2"	FLOOR MOUNT
UR-1	WALL MOUNT STD URINAL	AMERICAN STANDARD WASHBROOK MODEL 6590.001, WALL HUNG, TOP SPUD, WITH STRAINER, SLOAN ROYAL MODEL 186 3/5" SFW FLUSHMETER, BATTERY POWERED, INFRARED SENSOR OPERATED, 1.0 GPF.	3/4"	-	2"	1-1/2"	PER ARCHITECT
UR-2	WALL MOUNT ADA URINAL	AMERICAN STANDARD WASHBROOK MODEL 6590.001, WALL HUNG, TOP SPUD, WITH STRAINER, SLOAN ROYAL MODEL 186 3/5" SFW FLUSHMETER, BATTERY POWERED, INFRARED SENSOR OPERATED, 1.0 GPF.	3/4"	-	2"	1-1/2"	PER ARCHITECT
LV-1	UNDER COUNTER ADA LAVATORY	AMERICAN STANDARD OVALYN MODEL 0486.221, UNDERCOUNTER MOUNT, DELTA FAUCET MODEL 26C3-943, TWO-HANDLE DECKMOUNT, GOOSENECK SPOUT, BOX, OFFSET GRID DRAIN, WITH TRUEBRO LAVAQUARD INSULATION KIT.	1/2"	1/2"	2"	1-1/2"	COUNTER TOP
SK-1	ADA STAINLESS SINGLE BOWL SINK	ELKAY MODEL 1R4D-2219, SINGLE BOWL, 18 GAUGE, 5.5" DEPTH, OFF-CENTER REAR GRID DRAIN, DELTA FAUCET MODEL 26C3-943, TWO-HANDLE DECKMOUNT, GOOSENECK SPOUT.	1/2"	1/2"	2"	1-1/2"	COUNTER TOP
SK-2	ADA STAINLESS SINGLE BOWL SINK	ELKAY MODEL 1R4D-2219, SINGLE BOWL, 18 GAUGE, 5.5" DEPTH, OFF-CENTER REAR GRID DRAIN, DELTA FAUCET MODEL 26C3-943, TWO-HANDLE DECKMOUNT, GOOSENECK SPOUT, IN-SINK-ERATOR EVOLUTION ESSENTIAL MODEL, 3/4 HP WASTE DISPOSAL.	1/2"	1/2"	2"	1-1/2"	COUNTER TOP
SK-3	ADA STAINLESS DOUBLE BOWL SINK	ELKAY MODEL 1R4D-3319, DOUBLE BOWL, 18 GAUGE, 5.5" DEPTH, REAR CENTER DRAIN, BASKET STRAINER, DELTA FAUCET MODEL 26C3-143, TWO-HANDLE DECKMOUNT, SING SPOUT, IN-SINK-ERATOR EVOLUTION ESSENTIAL MODEL, 3/4 HP WASTE DISPOSAL.	1/2"	1/2"	2"	1-1/2"	COUNTER TOP
DF-1	ADA WATER COOLER	ELKAY MODEL ECSTLRMSK, TWO-LEVEL BARRIER FREE, FRONT/SIDE TOUCH CONTROLS, NON-FILTERED, STAINLESS FINISH, WITH BOTTLE FILLER, INSTALL SERVICE VALVE BENEATH CABINET.	1/2"	-	2"	1-1/2"	PER ARCHITECT
WB-1	WOP BASIN	FIAT MODEL M5B-2424, MOLDED STONE BASIN, DELTA FAUCET MODEL 28C2-383, WALL-MOUNT WITH INTEGRAL CHECK STOP, VACUUM BREAKER, HOSE AND BRACKET.	3/4"	3/4"	3"	1-1/2"	FLOOR MOUNT
1) WALL MOUNT FIXTURES SHALL BE INSTALLED WITH FLOOR MOUNTED CONCEALED ARM TYPE CARRIED SUPPORTS WITHIN THE WALLS. 2) EXPOSED ACCESSORIES SHALL INCLUDE CHROME PLATED BRASS P-TRAPS AND EXTENSIONS, QUARTER-TURN ANGLE STOPS, AND BRANDED STAINLESS STEEL SUPPLIES. 3) ALL WALL PENETRATIONS SHALL BE FINISHED WITH CHROME PLATED ESCUTCHEONS. 4) COORDINATE RM ELEVATIONS AND MOUNTING HEIGHTS WITH ARCHITECTURAL ELEVATIONS AND REQUEST WRITTEN CLARIFICATION WHERE SPECIFICATIONS OFFER							

MARK	FIXTURE	MFG MODEL AND DESCRIPTION	CONNECTIONS				MOUNTING HEIGHT
			CW	HW	DRAIN	VENT	
FD	FLOOR DRAIN	JAY R SMITH SERIES 2005, ROUND TOP, WITH FLASHING COLLAR AND NICKEL BRONZE ADJUSTABLE STRAINER. PRECISE LOCATIONS AS PER ARCHITECT. (2" SIZE U.N.O.)	-	-	2"	1-1/2"	FLOOR
FS	FLOOR SINK	JAY R SMITH SERIES 3420, AOD RESISTANT COATED, 6" DEEP, 12" SQUARE TOP WITH 1/2 ARC GRATE, PRECISE LOCATIONS AS PER ARCHITECT. (3" SIZE U.N.O.)	-	-	3"	1-1/2"	FLOOR
RD	ROOF DRAIN	JAY R SMITH SERIES 1015, WITH ADJUSTABLE EXTENSION, UNDERDECK CLAMP, SUMP RECEIVER, AND CAST IRON DOME.	-	-	LINE	-	ROOF DECK
OD	OVERFLOW DRAIN	JAY R SMITH SERIES 1070, WITH ADJUSTABLE EXTENSION, UNDERDECK CLAMP, PVC STANDPIPE, SUMP RECEIVER, AND CAST IRON DOME.	-	-	LINE	-	ROOF DECK
WH	WALL HYDRANT	JAY R SMITH SERIES 5600T, EXPOSED, QUARTER-TURN, NON-FREEZE, WITH VACUUM BREAKER AND FLOUSE KEY STOP.	3/4"	-	-	-	18" AFG
CO	CLEAN-OUT	JAY R SMITH 4030 SERIES (MOO), NO-HUB TEE WITH STAINLESS COVER, 4020 SERIES (FOO), ROUND AOD NICKEL BRONZE TOP, 4220 SERIES (GEO), ROUND CONCRETE ENCASED CAST IRON COVER.	-	-	LINE	-	VARIES
DS	DISCHARGE SPOUT	JAY R SMITH SERIES 1770, BRONZE DISCHARGE NOZZLE AT 12" AFG.	-	-	LINE	-	VARIES
LV	TEMP LIMITING VALVE	POWERS MODEL E480 UNDER-LAY OR LM485 WITH LINE SIZE CONNECTIONS FOR GROUPS. ASSE 1070, LEAD-FREE, ALL SINKS AND LAVATORIES (SHOWN OR NOT) UNLESS NOTED OTHERWISE.	VARIES	VARIES	-	-	UNDER SINK
TS	TRAP SEAL	JAY R SMITH SERIES 2692, ASSE 1072, BARRIER TYPE, FLOOR DRAIN TRAP SEALER, ALL FLOOR DRAINS UNLESS NOTED OTHERWISE.	-	-	-	-	PER MFG
SA	SHOCK ARRESTOR	PRECISION PLUMBING PRODUCTS SC SERIES, COPPER WITH BRASS PISTON, SIZED AND INSTALLED PER MFG. INSTALL AT ALL FAST-ACTING DEVICES. LOCATE ACCESSIBLE WITH ISOLATION VALVE.	VARIES	VARIES	-	-	PER MFG
AC	APPLIANCE CONNECTION	QUY GREY MODEL WB-1, WHITE POWDER COAT METAL BOX WITH BOTTOM OR TOP 1/4" TURN SERVICE STOP AS REQD. CONFRM INSTALLATION HEIGHT.	1/2"	-	-	-	PER MFG
BP	REDUCED PRESSURE BACKFLOW ASSEMBLY	WATTS MODEL 957 REDUCED PRESSURE TYPE BACKFLOW ASSEMBLY. INSTALL PER LOCAL UTILITY REQUIREMENTS AND PIPE AIR GAP DRAIN TO A FLOOR DRAIN.	VARIES	-	-	-	VARIES
1) ACCESSORIES OF SIMILAR SIZE, MATERIAL, CONSTRUCTION, AND PURPOSE AS MANUFACTURED BY SMITH, JOSAM, MADE, WATTS, ZURN, WOODFORD, AND OTHERS ARE ACCEPTABLE							

WATER HEATERS															
MARK	MODEL NO.	STORAGE	FUEL	INPUT	RECOVERY GPH			SIZE		SET POINT	PIPE CORR	VENTING	VOLTAGE		REMARKS
					RISE	1st HR	2nd HR	DIA	HT						
WH-1	AO SMITH DEN-52	55 GAL	ELEC	12.2 KW	90° F	93	55	24"	56"	120° F	1.25"	N/A	480V 3PH		SEE (1-4) BELOW
1) SIMULTANEOUS DUAL ELEMENTS 2) ASME RELIEF VALVE PIPED TO THE FLOOR DRAIN 3) INCLUDE SIX-YEAR WARRANTY 4) INSTALL WITH BALL VALVE ISOLATION AND DELECTRIC WATERWAYS															

THERMAL EXPANSION TANKS															
MARK	MODEL NO.	SYSTEM VOLUME	TANK VOLUME	EXP WATER	TANK TYPE	FLUID MEDIA	SIZE		TEMP		PRESSURE		SUPPORT	REMARKS	
							DIA	H1	MIN	MAX	FILL	RELIEF			
TK-1	AMTROL THERMEXTROL ST-12	200 GAL	4.4 GAL	3.2 GAL	DIAPHRAGM	DOMESTIC WATER	12"	16"	40°F	140°F	65 PSI	100 PSI	FLOOR OR WALL	SEE (1-2) BELOW	
1) ISO PSC ASME AND NSF APPROVED 2) FLOOR MOUNT OR BRACKET TO WALL WITH UN-STRUT IN ACCESSIBLE LOCATION(S)															