

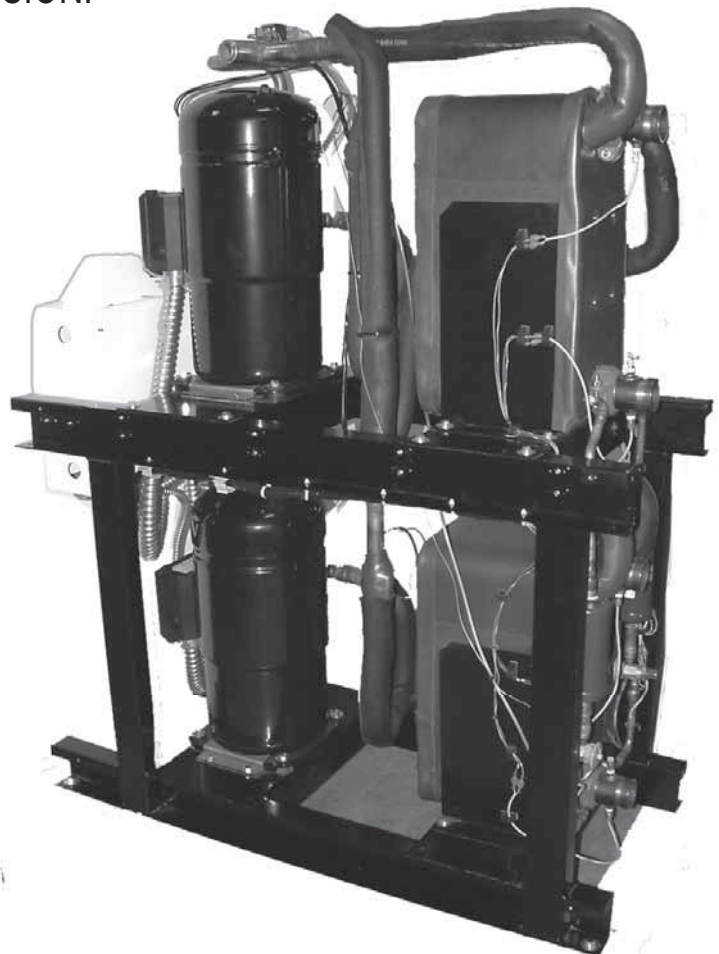


Contractor: _____ P.O.: _____
Engineer: _____
Project Name: _____ Unit Tag: _____

EW Reversible Chiller Submittal Data

Models EW360 & EW540 60Hz - R410a English Language/IP Units

REVISION:



SD1480

WaterFurnace works continually to improve its products. As a result, the design and specifications of each product at the time of order may be changed without notice. Please contact WaterFurnace at 1-800-478-5667 for latest design and specifications. Purchaser's approval of this data set signifies that the equipment is acceptable under the provisions of the job specification. Statements and other information contained herein are not express warranties and do not form the basis of any bargain between the parties, but are merely WaterFurnace's opinion or commendation of its products. The latest version of this document is available at www.waterfurnace.com.

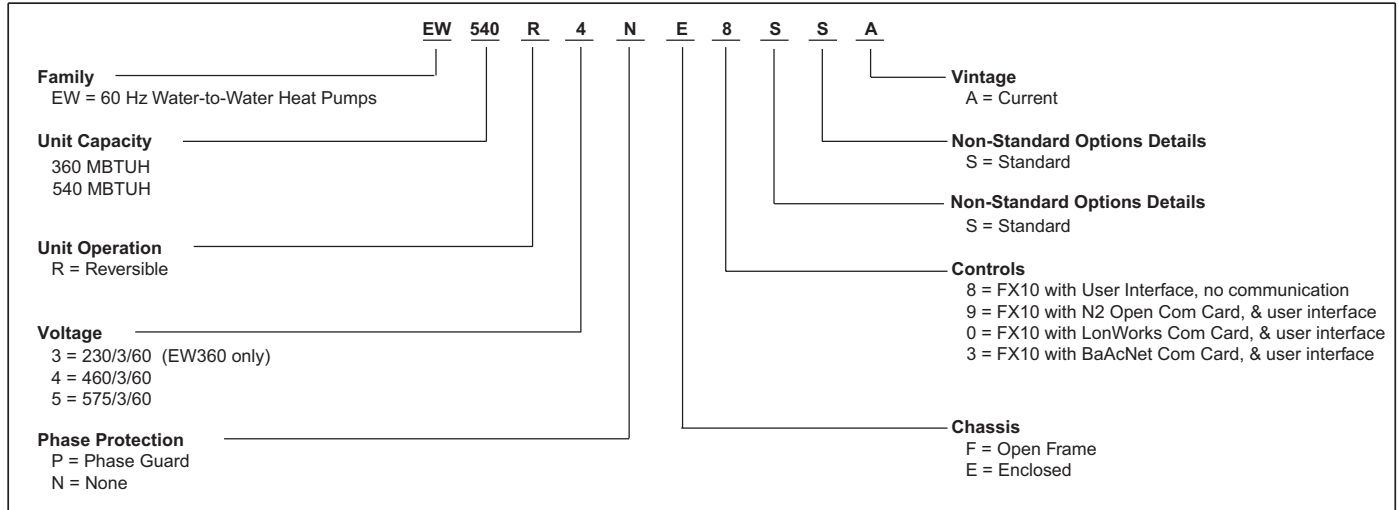
EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

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MODEL NOMENCLATURE



DEFINITIONS

COP = Coefficient of Performance
EER = Energy Efficiency Ratio
ELT = Entering Load Temperature
FLA = Full Load Amps
FT HD = Feet of Head
GPM = Gallons per Minute
HC = Heating Capacity
HE = Heat of Extraction
HR = Heat of Rejection
KPa = KiloPascals

LPS = Liters per Second
KW = Power in KiloWatts
LLT = Leaving Load Temperature
LRA = Locked Rotor Amps
LST = Leaving Source Temperature
MCC = Maximum Continuous Current
PD = Pressure Drop
PSI = Pounds per Square Inch
RLA = Rated Load Amps
TC = Total Cooling Capacity

EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

ARI/ASHRAE/ISO 13256-2 WATER TO WATER RATINGS

English (IP) Units

Model	Capacity	Load Liquid Flow (gpm)	Source Liquid Flow (gpm)	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump					
				Cooling		Heating		Cooling		Heating		Cooling			Heating		
				Load 53.6°F Source 86°F		Load 104°F Source 68°F		Load 53.6°F Source 59°F		Load 104°F Source 50°F		Source °F	Load 53.6°F		Source °F	Load 104°F	
				Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP		Capacity Btuh	EER Btuh/W		Capacity Btuh	COP
EW360	Full	86.0	86.0	335,000	13.6	452,600	4.1	-	-	-	-	77	351,000	15.4	32	296,500	3.0
	Part	86.0	86.0	175,000	14.4	237,600	4.4	-	-	-	-	68	191,500	18.7	41	170,000	3.3
EW540	Full	135.0	135.0	533,400	13.8	691,200	4.1	-	-	-	-	77	558,500	15.6	32	485,800	3.1
	Part	135.0	135.0	277,300	14.5	359,400	4.3	-	-	-	-	68	302,800	18.6	41	282,600	3.5

Notes: All ratings based upon lower Voltage operation of dual voltage rated units. Load coil also called "Indoor" and Source coil also called "Outdoor". "-" not rated.

Metric (SI) Units

Model	Capacity	Load Liquid Flow (lps)	Source Liquid Flow (lps)	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump					
				Cooling		Heating		Cooling		Heating		Cooling			Heating		
				Load 12°C Source 30°C		Load 40°C Source 20°C		Load 12°C Source 15°C		Load 40°C Source 10°C		Source °C	Load 12°C		Source °C	Load 40°C	
				Capacity Watts	EER (W/W)	Capacity Watts	COP	Capacity Watts	EER (W/W)	Capacity Watts	COP		Capacity Watts	EER (W/W)		Capacity Watts	COP
EW360	Full	5.43	5.43	98,183	4.0	132,649	4.1	-	-	-	-	25	102,872	4.5	0	86,899	3.0
	Part	5.43	5.43	51,290	4.2	69,637	4.4	-	-	-	-	20	56,125	5.5	5	49,824	3.3
EW540	Full	8.52	8.52	156,331	4.0	202,579	4.1	-	-	-	-	25	163,687	4.6	0	142,380	3.1
	Part	8.52	8.52	81,272	4.2	105,334	4.3	-	-	-	-	20	88,746	5.5	5	82,825	3.5

Notes: All ratings based upon lower Voltage operation of dual voltage rated units. Load coil also called "Indoor" and Source coil also called "Outdoor". "-" not rated.

ARI 550 CHILLER RATINGS

English (IP) Units

Model	Capacity	Load Liquid Flow (gpm)	Source Liquid Flow (gpm)	Cooling	
				Leaving Load 44°F Ent Source 85 °F	
				Capacity Btuh	EER Btuh/W
EW360	Full	69.0	86.0	345,000	14.0
	Part	69.0	86.0	179,400	14.8
EW540	Full	108.0	135.0	540,000	14.3
	Part	108.0	135.0	280,800	15.0

Notes: All ratings based upon lower Voltage operation of dual voltage rated units. Load coil also called "Indoor" and Source coil also called "Outdoor".

Metric (SI) Units

Model	Capacity	Load Liquid Flow (lps)	Source Liquid Flow (lps)	Cooling	
				Leaving Load 12°C Ent Source 30°C	
				Capacity Watts	EER (W/W)
EW360	Full	4.35	5.43	101,114	4.1
	Part	4.35	5.43	52,579	4.3
EW540	Full	6.81	8.52	158,265	4.2
	Part	6.81	8.52	82,298	4.4

Notes: All ratings based upon lower Voltage operation of dual voltage rated units. Load coil also called "Indoor" and Source coil also called "Outdoor".

SD1480

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EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

PERFORMANCE DATA - HEATING FULL LOAD EW360

ELT F°	EST F°	Load Flow			Source 68 GPM								Source 90 GPM							
		Flow GPM	Press Drop		Heating						Press Drop		Heating						Press Drop	
			PSI	FT HD	LLT	HC	KW	HE	COP	LST	PSI	FT HD	LLT	HC	KW	HE	COP	LST	PSI	FT HD
60	30	68	5.6	12.9	69.1	301.4	18.8	237.2	4.7	22.8	5.8	13.4	69.2	303.4	18.4	240.7	4.8	24.5	9.8	22.6
		90	9.5	21.9	67.1	311.9	18.8	247.7	4.9	22.5	5.8	13.4	67.2	313.8	18.5	250.8	5.0	24.3	9.8	22.6
	40	68	5.6	12.9	70.5	346.1	19.5	279.4	5.2	31.5	5.7	13.2	70.6	348.0	19.1	282.8	5.3	33.5	9.7	22.4
		90	9.5	21.9	68.2	357.6	19.7	290.4	5.3	31.2	5.7	13.2	68.2	359.0	19.2	293.4	5.5	33.3	9.7	22.4
	50	68	5.6	12.9	71.8	390.7	20.2	321.6	5.7	40.2	5.6	12.9	71.9	392.5	19.8	324.9	5.8	42.6	9.6	22.2
		90	9.5	21.9	69.2	403.2	20.5	333.2	5.8	39.9	5.6	12.9	69.3	404.2	20.0	335.9	5.9	42.3	9.6	22.2
	60	68	5.6	12.9	73.0	429.8	21.0	358.1	6.0	49.1	5.6	12.9	73.1	431.7	20.5	361.8	6.2	51.7	9.5	21.9
		90	9.5	21.9	70.1	441.6	21.2	369.2	6.1	48.8	5.6	12.9	70.1	442.5	20.7	371.9	6.3	51.5	9.5	21.9
	70	68	5.6	12.9	74.2	468.8	21.7	394.6	6.3	58.0	5.5	12.7	74.3	470.8	21.2	398.6	6.5	60.9	9.4	21.7
		90	9.5	21.9	71.0	479.9	21.9	405.2	6.4	57.7	5.5	12.7	71.0	480.8	21.4	407.9	6.6	60.7	9.4	21.7
80	30	68	5.5	12.7	89.0	297.2	22.9	219.1	3.8	23.4	5.8	13.4	89.0	298.0	22.8	220.3	3.8	25.0	9.8	22.6
		90	9.2	21.3	86.9	299.5	23.0	220.9	3.8	23.3	5.8	13.4	86.9	302.0	23.0	223.5	3.8	24.9	9.8	22.6
	40	68	5.5	12.7	90.2	337.9	23.9	256.5	4.2	32.2	5.7	13.2	90.3	340.1	23.5	259.8	4.2	34.0	9.7	22.4
		90	9.2	21.3	87.9	345.5	24.0	263.6	4.2	32.0	5.7	13.2	88.1	351.8	23.7	271.0	4.4	33.8	9.7	22.4
	50	68	5.5	12.7	91.5	378.6	24.8	293.9	4.5	41.1	5.6	12.9	91.6	382.1	24.2	299.4	4.6	43.1	9.6	22.2
		90	9.2	21.3	89.0	391.4	25.0	306.2	4.6	40.7	5.6	12.9	89.2	401.6	24.3	318.6	4.8	42.7	9.6	22.2
	60	68	5.5	12.7	92.8	420.7	25.6	333.5	4.8	49.9	5.6	12.9	92.8	423.6	24.7	339.4	5.0	52.2	9.5	21.9
		90	9.2	21.3	89.9	433.8	25.7	346.0	4.9	49.5	5.6	12.9	90.1	440.5	25.1	355.0	5.2	51.9	9.5	21.9
	70	68	5.5	12.7	94.0	462.8	26.3	373.1	5.2	58.7	5.5	12.7	94.1	465.1	25.1	379.3	5.4	61.3	9.4	21.7
		90	9.2	21.3	90.9	476.2	26.5	385.8	5.3	58.3	5.5	12.7	91.0	479.4	25.8	391.5	5.5	61.0	9.4	21.7
100	30	68	5.4	12.5	108.6	283.3	29.2	183.6	2.8	24.4	5.8	13.4	108.6	284.6	28.7	186.8	2.9	25.7	9.8	22.6
		90	9.0	20.8	106.6	289.3	29.3	189.2	2.9	24.3	5.8	13.4	106.7	290.5	28.8	192.4	3.0	25.6	9.8	22.6
	40	68	5.4	12.5	109.8	322.9	29.9	220.8	3.2	33.3	5.7	13.2	109.8	324.8	29.3	224.8	3.2	34.8	9.7	22.4
		90	9.0	20.8	107.6	331.7	30.0	229.3	3.2	33.0	5.7	13.2	107.6	332.9	29.4	232.6	3.3	34.7	9.7	22.4
	50	68	5.4	12.5	111.0	362.4	30.6	258.0	3.5	42.2	5.6	12.9	111.1	364.9	29.9	262.8	3.6	44.0	9.6	22.2
		90	9.0	20.8	108.6	374.1	30.7	269.3	3.6	41.8	5.6	12.9	108.6	375.3	30.0	272.9	3.7	43.7	9.6	22.2
	60	68	5.4	12.5	112.2	403.4	31.3	296.6	3.8	51.0	5.6	12.9	112.3	406.5	30.5	302.4	3.9	53.1	9.5	21.9
		90	9.0	20.8	109.5	415.5	31.4	308.4	3.9	50.7	5.6	12.9	109.6	418.0	30.6	313.5	4.0	52.8	9.5	21.9
	70	68	5.4	12.5	113.5	444.3	32.0	335.2	4.1	59.8	5.5	12.7	113.6	448.0	31.1	342.0	4.2	62.2	9.4	21.7
		90	9.0	20.8	110.5	456.8	32.1	347.4	4.2	59.5	5.5	12.7	110.6	460.6	31.2	354.1	4.3	61.9	9.4	21.7
120	30	68	5.3	12.2	128.5	279.3	36.5	154.8	2.2	25.3	5.8	13.4	128.6	283.6	35.6	162.3	2.3	26.3	9.8	22.6
		90	8.9	20.6	126.4	279.9	36.7	154.8	2.2	25.3	5.8	13.4	126.5	284.6	35.8	162.5	2.3	26.3	9.8	22.6
	40	68	5.3	12.2	129.6	315.0	37.1	188.5	2.5	34.3	5.7	13.2	129.7	318.3	36.2	194.8	2.6	35.5	9.7	22.4
		90	8.9	20.6	127.3	319.0	37.2	192.0	2.5	34.2	5.7	13.2	127.4	322.8	36.3	198.8	2.6	35.4	9.7	22.4
	50	68	5.3	12.2	130.6	350.7	37.7	222.2	2.7	43.3	5.6	12.9	130.7	353.0	36.8	227.3	2.8	44.8	9.6	22.2
		90	8.9	20.6	128.2	358.0	37.7	229.2	2.8	43.0	5.6	12.9	128.3	361.0	36.9	235.1	2.9	44.6	9.6	22.2
	60	68	5.3	12.2	131.7	385.2	38.3	254.6	2.9	52.3	5.6	12.9	131.8	389.5	37.3	262.0	3.1	54.0	9.5	21.9
		90	8.9	20.6	129.0	392.6	38.4	261.7	3.0	52.1	5.6	12.9	129.1	397.7	37.5	269.9	3.1	53.8	9.5	21.9
	70	68	5.3	12.2	132.7	419.6	38.9	287.0	3.2	61.3	5.5	12.7	132.9	426.0	37.9	296.8	3.3	63.2	9.4	21.7
		90	8.9	20.6	129.8	427.1	39.0	294.1	3.2	61.1	5.5	12.7	130.0	434.4	38.0	304.6	3.3	63.0	9.4	21.7

Notes: All capacities in kBtuh.

All temperatures in °F.

Interpolation is permissible, extrapolation is not.

All performance data is based upon the lower voltage of dual voltage rated units.

Rev: 12/22/04 B

SD1480

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EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

PERFORMANCE DATA - HEATING PART LOAD EW360

ELT F°	EST F°	Load Flow			Source 68 GPM								Source 90 GPM							
		Flow GPM	Press Drop		Heating						Press Drop		Heating						Press Drop	
			PSI	FT HD	LLT	HC	KW	HE	COP	LST	PSI	FT HD	LLT	HC	KW	HE	COP	LST	PSI	FT HD
60	30	68	5.6	12.9	64.6	150.7	9.0	119.9	4.9	26.4	5.0	11.6	64.6	151.7	8.8	121.6	5.0	27.2	8.6	19.9
		90	9.5	21.9	63.6	156.0	9.0	125.1	5.1	26.2	5.0	11.6	63.6	156.9	8.9	126.7	5.2	27.1	8.6	19.9
	40	68	5.6	12.9	65.3	176.0	9.4	144.0	5.5	35.6	4.9	11.3	65.4	176.9	9.2	145.7	5.7	36.7	8.5	19.6
		90	9.5	21.9	64.2	181.8	9.4	149.6	5.6	35.5	4.9	11.3	64.2	182.5	9.2	151.0	5.8	36.5	8.5	19.6
	50	68	5.6	12.9	66.1	201.2	9.7	168.1	6.1	44.9	4.8	11.1	66.1	202.1	9.5	169.7	6.2	46.1	8.4	19.4
		90	9.5	21.9	64.8	207.6	9.9	174.0	6.2	44.7	4.8	11.1	64.8	208.2	9.6	175.4	6.4	46.0	8.4	19.4
	60	68	5.6	12.9	66.8	224.8	10.1	190.4	6.5	54.2	4.8	11.0	66.8	225.8	9.8	192.3	6.7	55.6	8.3	19.2
		90	9.5	21.9	65.3	231.0	10.2	196.3	6.7	54.0	4.8	11.0	65.3	231.5	9.9	197.6	6.8	55.5	8.3	19.2
	70	68	5.6	12.9	67.5	248.5	10.4	212.8	7.0	63.5	4.7	10.9	67.6	249.5	10.2	214.9	7.2	65.1	8.2	18.9
		90	9.5	21.9	65.8	254.3	10.5	218.5	7.1	63.4	4.7	10.9	65.8	254.8	10.3	219.9	7.3	65.0	8.2	18.9
80	30	68	5.5	12.7	84.5	148.6	11.0	111.1	4.0	26.6	5.0	11.6	84.5	149.0	10.9	111.7	4.0	27.4	8.6	19.9
		90	9.2	21.3	83.4	149.8	11.1	112.0	4.0	26.6	5.0	11.6	83.5	151.0	11.0	113.3	4.0	27.4	8.6	19.9
	40	68	5.5	12.7	85.2	171.8	11.5	132.7	4.4	36.0	4.9	11.3	85.2	172.9	11.3	134.4	4.5	36.9	8.5	19.6
		90	9.2	21.3	84.0	175.7	11.5	136.4	4.5	35.9	4.9	11.3	84.1	178.9	11.4	140.1	4.6	36.8	8.5	19.6
	50	68	5.5	12.7	85.9	195.0	11.9	154.3	4.8	45.3	4.8	11.1	86.0	196.8	11.6	157.1	5.0	46.4	8.4	19.4
		90	9.2	21.3	84.6	201.6	12.0	160.7	4.9	45.1	4.8	11.1	84.7	206.8	11.7	167.0	5.2	46.2	8.4	19.4
	60	68	5.5	12.7	86.7	220.1	12.3	178.3	5.3	54.6	4.8	11.1	86.7	221.6	11.9	181.2	5.5	55.8	8.3	19.2
		90	9.2	21.3	85.2	227.0	12.4	184.8	5.4	54.4	4.8	11.1	85.3	230.5	12.0	189.4	5.6	55.7	8.3	19.2
	70	68	5.5	12.7	87.4	245.3	12.6	202.2	5.7	63.9	4.7	10.9	87.5	246.5	12.1	205.3	6.0	65.3	8.2	18.9
		90	9.2	21.3	85.8	252.4	12.7	209.0	5.8	63.7	4.7	10.9	85.8	254.1	12.4	211.9	6.0	65.1	8.2	18.9
100	30	68	5.4	12.5	104.3	141.7	14.0	93.8	3.0	27.2	5.0	11.6	104.3	142.3	13.8	95.4	3.0	27.8	8.6	19.9
		90	9.0	20.8	103.3	144.7	14.1	96.6	3.0	27.1	5.0	11.6	103.3	145.3	13.8	98.1	3.1	27.8	8.6	19.9
	40	68	5.4	12.5	105.0	164.1	14.4	115.1	3.4	36.5	4.9	11.3	105.0	165.1	14.1	117.1	3.4	37.3	8.5	19.6
		90	9.0	20.8	103.9	168.7	14.4	119.5	3.4	36.4	4.9	11.3	103.9	169.3	14.1	121.1	3.5	37.2	8.5	19.6
	50	68	5.4	12.5	105.7	186.6	14.7	136.5	3.7	45.9	4.8	11.1	105.7	187.9	14.4	138.9	3.8	46.8	8.4	19.4
		90	9.0	20.8	104.4	192.7	14.7	142.4	3.8	45.7	4.8	11.1	104.4	193.3	14.4	144.1	3.9	46.7	8.4	19.4
	60	68	5.4	12.5	106.4	211.1	15.0	159.8	4.1	55.2	4.8	11.1	106.4	212.7	14.6	162.7	4.3	56.3	8.3	19.2
		90	9.0	20.8	105.0	217.4	15.1	166.0	4.2	55.0	4.8	11.1	105.0	218.7	14.7	168.6	4.4	56.1	8.3	19.2
	70	68	5.4	12.5	107.1	235.5	15.3	183.1	4.5	64.4	4.7	10.9	107.2	237.4	14.9	186.6	4.7	65.7	8.2	18.9
		90	9.0	20.8	105.5	242.1	15.4	189.6	4.6	64.3	4.7	10.9	105.6	244.1	15.0	193.0	4.8	65.6	8.2	18.9
120	30	68	5.3	12.2	124.2	139.6	17.5	79.9	2.3	27.6	5.0	11.6	124.3	141.8	17.1	83.6	2.4	28.1	8.6	19.9
		90	8.9	20.6	123.2	140.0	17.6	79.9	2.3	27.6	5.0	11.6	123.3	142.3	17.2	83.7	2.4	28.1	8.6	19.9
	40	68	5.3	12.2	124.9	160.1	17.8	99.4	2.6	37.0	4.9	11.3	124.9	161.8	17.4	102.5	2.7	37.7	8.5	19.6
		90	8.9	20.6	123.7	162.2	17.9	101.2	2.7	36.9	4.9	11.3	123.8	164.1	17.4	104.6	2.8	37.6	8.5	19.6
	50	68	5.3	12.2	125.5	180.6	18.1	118.9	2.9	46.4	4.8	11.1	125.5	181.8	17.7	121.4	3.0	47.2	8.4	19.4
		90	8.9	20.6	124.2	184.4	18.1	122.6	3.0	46.3	4.8	11.1	124.3	185.9	17.7	125.5	3.1	47.1	8.4	19.4
	60	68	5.3	12.2	126.1	201.5	18.4	138.8	3.2	55.8	4.8	11.0	126.2	203.8	17.9	142.6	3.3	56.7	8.3	19.2
		90	8.9	20.6	124.7	205.4	18.4	142.5	3.3	55.7	4.8	11.0	124.8	208.1	18.0	146.7	3.4	56.6	8.3	19.2
	70	68	5.3	12.2	126.7	222.4	18.7	158.7	3.5	65.2	4.7	10.9	126.8	225.8	18.2	163.8	3.6	66.2	8.2	18.9
		90	8.9	20.6	125.2	226.4	18.7	162.5	3.5	65.1	4.7	10.9	125.3	230.2	18.3	167.9	3.7	66.2	8.2	18.9

Notes: All capacities in kBtuh.

All temperatures in °F.

Interpolation is permissible, extrapolation is not.

All performance data is based upon the lower voltage of dual voltage rated units.

Rev: 12/22/04 B

EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

PERFORMANCE DATA - COOLING FULL LOAD EW360

ELT F°	EST F°	Load Flow			Source 68 GPM								Source 90 GPM							
		Flow GPM	Press Drop		Heating						Press Drop		Heating						Press Drop	
			PSI	FT HD	LLT	TC	KW	HR	EER	LST	PSI	FT HD	LLT	TC	KW	HR	EER	LST	PSI	FT HD
30	50	68	5.5	12.7	21.9	267.0	16.3	322.5	16.4	59.8	5.4	12.5	21.9	267.8	16.0	322.5	16.7	57.4	9.2	21.3
		90	9.4	21.7	23.7	274.8	16.5	331.0	16.7	60.0	5.4	12.5	23.7	276.7	16.2	331.8	17.1	57.6	9.2	21.3
	70	68	5.5	12.7	22.4	249.0	20.0	317.3	12.5	79.6	5.3	12.2	22.4	250.6	19.8	318.2	12.7	77.3	9.1	21.0
		90	9.4	21.7	24.1	258.7	20.3	328.0	12.7	79.9	5.3	12.2	24.1	257.8	19.9	325.7	13.0	77.5	9.1	21.0
	90	68	5.5	12.7	23.3	219.9	24.4	303.1	9.0	99.2	5.2	12.0	23.3	221.4	24.1	303.5	9.2	97.0	9.0	20.8
		90	9.4	21.7	24.8	225.8	24.6	309.7	9.2	99.4	5.2	12.0	24.8	227.5	24.2	310.1	9.4	97.1	9.0	20.8
50	50	68	5.4	12.5	39.1	358.7	17.7	419.0	20.3	62.7	5.4	12.5	39.1	359.8	17.4	419.1	20.7	59.6	9.2	21.3
		90	9.2	21.3	41.5	372.5	17.9	433.5	20.8	63.1	5.4	12.5	41.5	372.6	17.5	432.2	21.3	59.9	9.2	21.3
	70	68	5.4	12.5	39.8	337.7	21.5	411.1	15.7	82.5	5.3	12.2	39.8	334.8	20.9	406.1	16.0	79.3	9.1	21.0
		90	9.2	21.3	42.1	344.3	21.7	418.4	15.9	82.7	5.3	12.2	42.1	344.8	21.0	416.5	16.4	79.5	9.1	21.0
	90	68	5.4	12.5	40.5	311.9	26.3	401.7	11.9	102.2	5.2	12.0	40.5	312.0	26.0	400.7	12.0	99.2	9.0	20.8
		90	9.2	21.3	42.6	321.4	26.0	410.1	12.4	102.4	5.2	12.0	42.6	322.4	25.4	409.1	12.7	99.4	9.0	20.8
70	50	68	5.3	12.2	56.6	442.0	19.3	507.9	22.9	65.4	5.4	12.5	56.9	431.5	18.7	495.5	23.0	61.4	9.2	21.3
		90	9.1	21.0	59.8	446.3	19.5	512.7	22.9	65.5	5.4	12.5	60.0	434.4	18.9	498.9	23.0	61.4	9.2	21.3
	70	68	5.3	12.2	56.5	444.1	23.2	523.2	19.2	85.9	5.3	12.2	56.9	433.7	22.5	510.5	19.3	81.7	9.1	21.0
		90	9.1	21.0	59.7	448.5	23.4	528.5	19.2	86.0	5.3	12.2	60.0	436.6	22.7	514.2	19.2	81.8	9.1	21.0
	90	68	5.3	12.2	57.4	416.2	27.7	510.7	15.0	105.5	5.2	12.0	56.9	430.7	27.1	523.3	15.9	102.0	9.0	20.8
		90	9.1	21.0	60.4	420.4	28.0	515.8	15.0	105.6	5.2	12.0	60.1	432.5	27.4	526.1	15.8	102.1	9.0	20.8
90	50	68	5.2	12.0	75.7	472.5	20.1	541.2	23.5	66.4	5.4	12.5	76.1	458.0	19.4	524.3	23.6	62.0	9.2	21.3
		90	9.0	20.8	79.2	473.2	20.2	542.0	23.5	66.4	5.4	12.5	79.5	459.0	19.5	525.5	23.6	62.0	9.2	21.3
	70	68	5.2	12.0	75.0	493.3	24.5	576.9	20.1	87.5	5.3	12.2	75.5	478.2	23.6	558.8	20.2	82.8	9.1	21.0
		90	9.0	20.8	78.7	494.0	24.5	577.7	20.1	87.5	5.3	12.2	79.0	478.9	23.7	559.7	20.2	82.8	9.1	21.0
	90	68	5.2	12.0	75.0	495.9	29.4	596.1	16.9	108.1	5.2	12.0	75.4	480.8	28.5	578.2	16.9	103.2	9.0	20.8
		90	9.0	20.8	78.6	499.1	29.5	599.8	16.9	108.2	5.2	12.0	78.9	484.0	28.7	581.8	16.9	103.3	9.0	20.8

Notes: All capacities in kBtuh.

All temperatures in °F.

Interpolation is permissible, extrapolation is not.

All performance data is based upon the lower voltage of dual voltage rated units.

Rev: 12/22/04 B

EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

PERFORMANCE DATA - COOLING PART LOAD EW360

ELT F°	EST F°	Load Flow			Source 68 GPM								Source 90 GPM							
		Flow GPM	Press Drop		Heating				Press Drop				Heating						Press Drop	
			PSI	FT HD	LLT	TC	KW	HR	EER	LST	PSI	FT HD	LLT	TC	KW	HR	EER	LST	PSI	FT HD
30	50	68	5.5	12.7	25.8	138.8	8.0	166.3	17.3	55.0	5.4	12.5	25.8	139.3	7.9	166.3	17.6	53.8	9.2	21.3
		90	9.4	21.7	26.7	142.9	8.1	170.6	17.6	55.2	5.4	12.5	26.7	143.9	8.0	171.1	18.0	53.9	9.2	21.3
	70	68	5.5	12.7	26.1	129.5	9.9	163.2	13.1	74.9	5.3	12.2	26.0	130.3	9.8	163.7	13.3	73.8	9.1	21.0
		90	9.4	21.7	26.9	134.5	10.0	168.8	13.4	75.1	5.3	12.2	26.9	134.1	9.8	167.6	13.6	73.8	9.1	21.0
	90	68	5.5	12.7	26.5	114.3	12.0	155.5	9.5	94.7	5.2	12.0	26.5	115.1	11.9	155.7	9.7	93.6	9.0	20.8
		90	9.4	21.7	27.3	117.4	12.1	158.9	9.7	94.8	5.2	12.0	27.3	118.3	12.0	159.1	9.9	93.6	9.0	20.8
50	50	68	5.4	12.5	44.3	186.5	8.7	216.3	21.4	56.6	5.4	12.5	44.3	187.1	8.6	216.4	21.8	55.0	9.2	21.3
		90	9.2	21.3	45.6	193.7	8.8	223.8	21.9	56.8	5.4	12.5	45.6	193.8	8.6	223.2	22.5	55.1	9.2	21.3
	70	68	5.4	12.5	44.7	175.6	10.6	211.9	16.5	76.4	5.3	12.2	44.7	174.1	10.3	209.3	16.9	74.8	9.1	21.0
		90	9.2	21.3	45.9	179.0	10.7	215.6	16.7	76.5	5.3	12.2	45.9	179.3	10.4	214.7	17.3	74.9	9.1	21.0
	90	68	5.4	12.5	45.1	162.2	13.0	206.5	12.5	96.3	5.2	12.0	45.1	162.2	12.8	206.1	12.6	94.7	9.0	20.8
		90	9.2	21.3	46.2	167.1	12.8	211.0	13.0	96.4	5.2	12.0	46.2	167.6	12.6	210.5	13.4	94.8	9.0	20.8
70	50	68	5.3	12.2	63.0	229.8	9.5	262.4	24.1	58.0	5.4	12.5	63.2	224.4	9.3	256.0	24.2	55.9	9.2	21.3
		90	9.1	21.0	64.7	232.1	9.6	264.9	24.1	58.0	5.4	12.5	64.8	225.9	9.3	257.8	24.2	55.9	9.2	21.3
	70	68	5.3	12.2	63.0	230.9	11.5	270.0	20.2	78.2	5.3	12.2	63.2	225.5	11.1	263.5	20.3	76.0	9.1	21.0
		90	9.1	21.0	64.7	233.2	11.6	272.7	20.2	78.3	5.3	12.2	64.8	227.0	11.2	265.4	20.2	76.1	9.1	21.0
	90	68	5.3	12.2	63.4	216.4	13.7	263.1	15.8	98.0	5.2	12.0	63.2	224.0	13.4	269.7	16.7	96.2	9.0	20.8
		90	9.1	21.0	65.0	218.6	13.8	265.8	15.8	98.1	5.2	12.0	64.8	224.9	13.5	271.1	16.6	96.2	9.0	20.8
90	50	68	5.2	12.0	82.6	245.7	10.0	279.7	24.7	58.5	5.4	12.5	82.8	238.2	9.6	270.9	24.8	56.2	9.2	21.3
		90	9.0	20.8	84.4	246.1	10.0	280.1	24.7	58.5	5.4	12.5	84.5	238.7	9.6	271.5	24.8	56.2	9.2	21.3
	70	68	5.2	12.0	82.2	256.5	12.1	297.8	21.2	79.0	5.3	12.2	82.5	248.6	11.7	288.5	21.3	76.6	9.1	21.0
		90	9.0	20.8	84.1	256.9	12.1	298.2	21.2	79.0	5.3	12.2	84.3	249.0	11.7	288.9	21.3	76.6	9.1	21.0
	90	68	5.2	12.0	82.2	257.9	14.5	307.4	17.8	99.3	5.2	12.0	82.4	250.0	14.1	298.1	17.7	96.8	9.0	20.8
		90	9.0	20.8	84.1	259.5	14.6	309.3	17.8	99.4	5.2	12.0	84.2	251.7	14.2	300.0	17.8	96.9	9.0	20.8

Notes: All capacities in kBtuh.

All temperatures in °F.

Interpolation is permissible, extrapolation is not.

All performance data is based upon the lower voltage of dual voltage rated units.

Rev: 12/22/04 B

EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

PERFORMANCE DATA - HEATING FULL LOAD EW540

ELT	EST	LGPM	LWPD		SOURCE 108 GPM						SWPD		SOURCE 135 GPM						SWPD	
			PSI	FT HD	LLT	HC	KW	HE	COP	LST	PSI	FT HD	LLT	HC	KW	HE	COP	LST	PSI	FT HD
60	30	108	3.1	7.2	69.4	491.4	29.0	392.4	5.0	22.5	3.4	7.9	69.5	495.0	28.3	398.4	5.1	23.9	5.0	11.5
		135	4.6	10.7	67.7	503.3	29.1	403.9	5.1	22.3	3.4	7.9	67.8	507.9	28.5	410.7	5.2	23.7	5.0	11.5
	40	108	3.1	7.2	70.6	557.0	30.2	453.9	5.4	31.3	3.3	7.6	70.7	561.1	29.5	460.4	5.6	33.0	4.9	11.2
		135	4.6	10.7	68.7	570.6	30.4	466.9	5.5	31.1	3.3	7.6	68.8	575.8	29.7	474.4	5.7	32.8	4.9	11.2
	50	108	3.1	7.2	71.8	617.4	31.5	510.1	5.8	40.3	3.2	7.4	71.9	622.0	30.7	517.3	5.9	42.1	4.8	11.0
		135	4.6	10.7	69.7	632.5	31.6	524.6	5.9	40.0	3.2	7.4	69.7	638.3	30.9	532.8	6.1	41.9	4.8	11.0
	60	108	3.1	7.2	72.8	672.6	32.7	561.1	6.0	49.3	3.1	7.2	72.9	677.6	31.9	568.8	6.2	51.3	4.6	10.7
		135	4.6	10.7	70.5	689.0	32.9	576.9	6.1	49.0	3.1	7.2	70.6	695.3	32.1	585.7	6.3	51.1	4.6	10.7
	70	108	3.1	7.2	73.8	722.7	33.9	607.0	6.2	58.4	3.0	6.9	73.9	728.0	33.1	615.1	6.4	60.6	4.5	10.3
		135	4.6	10.7	71.3	740.3	34.1	624.0	6.4	58.1	3.0	6.9	71.4	747.0	33.3	633.3	6.6	60.3	4.5	10.3
80	30	108	2.9	6.7	89.1	476.5	35.8	354.5	3.9	23.2	3.4	7.9	89.2	480.0	34.9	360.9	4.0	24.5	5.0	11.5
		135	4.4	10.1	87.5	488.1	35.9	365.5	4.0	23.0	3.4	7.9	87.5	492.6	35.1	372.6	4.1	24.3	5.0	11.5
	40	108	2.9	6.7	90.4	544.1	37.0	417.9	4.3	32.0	3.3	7.6	90.5	548.1	36.1	424.9	4.4	33.5	4.9	11.2
		135	4.4	10.1	88.5	557.3	37.2	430.5	4.4	31.8	3.3	7.6	88.6	562.4	36.4	438.4	4.5	33.3	4.9	11.2
	50	108	2.9	6.7	91.6	605.5	38.2	475.1	4.6	40.9	3.2	7.4	91.6	610.0	37.3	482.7	4.8	42.6	4.8	11.0
		135	4.4	10.1	89.5	620.3	38.4	489.2	4.7	40.7	3.2	7.4	89.6	626.0	37.6	497.8	4.9	42.4	4.8	11.0
	60	108	2.9	6.7	92.6	660.7	39.4	526.1	4.9	50.0	3.1	7.2	92.7	665.6	38.5	534.2	5.1	51.8	4.6	10.7
		135	4.4	10.1	90.3	676.8	39.6	541.5	5.0	49.7	3.1	7.2	90.4	683.0	38.8	550.7	5.2	51.6	4.6	10.7
	70	108	2.9	6.7	93.6	709.8	40.7	571.0	5.1	59.1	3.0	6.9	93.7	715.0	39.7	579.5	5.3	61.1	4.5	10.3
		135	4.4	10.1	91.1	727.0	40.9	587.6	5.2	58.8	3.0	6.9	91.2	733.7	40.0	597.3	5.4	60.9	4.5	10.3
100	30	108	2.7	6.2	108.8	461.1	45.1	307.3	3.0	24.1	3.4	7.9	108.9	464.5	44.0	314.4	3.1	25.2	5.0	11.5
		135	4.1	9.5	107.2	472.3	45.3	317.7	3.1	23.9	3.4	7.9	107.3	476.6	44.3	325.5	3.2	25.0	5.0	11.5
	40	108	2.7	6.2	110.0	525.4	46.1	368.1	3.3	33.0	3.3	7.6	110.1	529.3	45.0	375.8	3.4	34.3	4.9	11.2
		135	4.1	9.5	108.2	538.2	46.3	380.1	3.4	32.7	3.3	7.6	108.3	543.1	45.3	388.5	3.5	34.1	4.9	11.2
	50	108	2.7	6.2	111.2	584.1	47.0	423.6	3.6	41.9	3.2	7.4	111.2	588.4	45.9	431.8	3.8	43.4	4.8	11.0
		135	4.1	9.5	109.1	598.3	47.3	437.0	3.7	41.7	3.2	7.4	109.2	603.8	46.2	446.1	3.8	43.2	4.8	11.0
	60	108	2.7	6.2	112.2	637.3	48.1	473.3	3.9	51.0	3.1	7.2	112.3	642.0	46.9	482.0	4.0	52.6	4.6	10.7
		135	4.1	9.5	110.0	652.8	48.3	488.0	4.0	50.7	3.1	7.2	110.1	658.8	47.2	497.6	4.1	52.4	4.6	10.7
	70	108	2.7	6.2	113.1	684.9	49.0	517.8	4.1	60.1	3.0	6.9	113.2	690.0	47.8	526.9	4.2	62.0	4.5	10.3
		135	4.1	9.5	110.7	701.6	49.2	533.7	4.2	59.8	3.0	6.9	110.8	708.0	48.1	543.8	4.3	61.7	4.5	10.3
120	30	108	2.5	5.8	128.4	441.5	56.6	248.6	2.3	25.3	3.4	7.9	128.5	444.8	55.2	256.5	2.4	26.1	5.0	11.5
		135	3.8	8.9	126.9	452.3	56.8	258.3	2.3	25.1	3.4	7.9	127.0	456.4	55.6	266.8	2.4	25.9	5.0	11.5
	40	108	2.5	5.8	129.5	496.3	57.2	301.3	2.5	34.2	3.3	7.6	129.5	500.0	55.8	309.6	2.6	35.3	4.9	11.2
		135	3.8	8.9	127.8	508.4	57.5	312.4	2.6	34.0	3.3	7.6	127.8	513.1	56.2	321.3	2.7	35.1	4.9	11.2
	50	108	2.5	5.8	130.5	548.5	57.8	351.4	2.8	43.3	3.2	7.4	130.5	552.6	56.4	360.2	2.9	44.5	4.8	11.0
		135	3.8	8.9	128.6	561.9	58.1	363.7	2.8	43.1	3.2	7.4	128.7	567.1	56.8	373.3	2.9	44.3	4.8	11.0
	60	108	2.5	5.8	131.4	598.2	58.4	398.9	3.0	52.4	3.1	7.2	131.5	602.6	57.0	408.1	3.1	53.8	4.6	10.7
		135	3.8	8.9	129.4	612.8	58.7	412.5	3.1	52.1	3.1	7.2	129.4	618.4	57.4	422.5	3.2	53.5	4.6	10.7
	70	108	2.5	5.8	132.3	645.2	59.0	443.9	3.2	61.5	3.0	6.9	132.4	650.0	57.6	453.5	3.3	63.1	4.5	10.3
		135	3.8	8.9	130.1	661.0	59.3	458.6	3.3	61.2	3.0	6.9	130.2	667.0	58.0	469.1	3.4	62.8	4.5	10.3

Notes: All capacities in kBtuh.

All temperatures in °F.

Interpolation is permissible, extrapolation is not.

All performance data is based upon the lower voltage of dual voltage rated units.

SD1480

WaterFurnace works continually to improve its products. As a result, the design and specifications of each product at the time of order may be changed without notice. Please contact WaterFurnace at 1-800-478-5667 for latest design and specifications. Purchaser's approval of this data set signifies that the equipment is acceptable under the provisions of the job specification. Statements and other information contained herein are not express warranties and do not form the basis of any bargain between the parties, but are merely WaterFurnace's opinion or commendation of its products. The latest version of this document is available at www.waterfurnace.com.

EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

PERFORMANCE DATA - HEATING PART LOAD EW540

ELT	EST	LGPM	LWPD		SOURCE 108 GPM						SWPD		SOURCE 135 GPM						SWPD	
			PSI	FT HD	LLT	HC	KW	HE	COP	LST	PSI	FT HD	LLT	HC	KW	HE	COP	LST	PSI	FT HD
60	30	108	3.1	7.2	64.8	253.2	13.9	205.7	5.3	26.1	3.4	7.9	64.9	255.1	13.6	208.7	5.5	26.8	5.0	11.5
		135	4.6	10.7	64.0	259.4	14.0	211.6	5.4	26.0	3.4	7.9	64.0	261.7	13.7	215.1	5.6	26.7	5.0	11.5
	40	108	3.1	7.2	65.5	287.0	14.5	237.5	5.8	35.5	3.3	7.6	65.5	289.1	14.2	240.8	6.0	36.3	4.9	11.2
		135	4.6	10.7	64.5	294.0	14.6	244.2	5.9	35.3	3.3	7.6	64.5	296.7	14.3	248.0	6.1	36.2	4.9	11.2
	50	108	3.1	7.2	66.1	318.2	15.1	266.6	6.2	44.9	3.2	7.4	66.1	320.5	14.7	270.2	6.4	45.9	4.8	11.0
		135	4.6	10.7	65.0	325.9	15.2	274.1	6.3	44.8	3.2	7.4	65.0	328.9	14.8	278.3	6.5	45.8	4.8	11.0
	60	108	3.1	7.2	66.6	346.6	15.7	293.1	6.5	54.4	3.1	7.2	66.7	349.2	15.3	296.9	6.7	55.5	4.6	10.7
		135	4.6	10.7	65.4	355.0	15.8	301.2	6.6	54.2	3.1	7.2	65.5	358.3	15.4	305.7	6.8	55.3	4.6	10.7
	70	108	3.1	7.2	67.1	372.4	16.3	316.8	6.7	64.0	3.0	6.9	67.2	375.1	15.9	320.9	6.9	65.1	4.5	10.3
		135	4.6	10.7	65.8	381.5	16.4	325.6	6.8	63.8	3.0	6.9	65.9	385.0	16.0	330.3	7.0	65.0	4.5	10.3
80	30	108	2.9	6.7	84.7	245.5	17.2	187.0	4.2	26.4	3.4	7.9	84.7	247.3	16.8	190.2	4.3	27.1	5.0	11.5
		135	4.4	10.1	83.8	251.5	17.3	192.6	4.3	26.3	3.4	7.9	83.9	253.8	16.9	196.2	4.4	27.0	5.0	11.5
	40	108	2.9	6.7	85.4	280.4	17.8	219.8	4.6	35.8	3.3	7.6	85.4	282.4	17.3	223.3	4.8	36.6	4.9	11.2
		135	4.4	10.1	84.4	287.2	17.8	226.3	4.7	35.7	3.3	7.6	84.4	289.8	17.5	230.3	4.9	36.5	4.9	11.2
	50	108	2.9	6.7	86.0	312.0	18.3	249.4	5.0	45.2	3.2	7.4	86.0	314.3	17.9	253.2	5.1	46.1	4.8	11.0
		135	4.4	10.1	84.9	319.6	18.4	256.7	5.1	45.1	3.2	7.4	84.9	322.6	18.0	261.0	5.2	46.0	4.8	11.0
	60	108	2.9	6.7	86.5	340.5	18.9	275.9	5.3	54.7	3.1	7.2	86.5	343.0	18.5	279.9	5.4	55.7	4.6	10.7
		135	4.4	10.1	85.3	348.8	19.0	283.8	5.4	54.6	3.1	7.2	85.4	352.0	18.6	288.4	5.5	55.6	4.6	10.7
	70	108	2.9	6.7	87.0	365.7	19.5	299.1	5.5	64.3	3.0	6.9	87.0	368.4	19.1	303.4	5.7	65.4	4.5	10.3
		135	4.4	10.1	85.7	374.6	19.6	307.7	5.6	64.1	3.0	6.9	85.8	378.1	19.2	312.6	5.8	65.2	4.5	10.3
100	30	108	2.7	6.2	104.5	237.6	21.6	163.8	3.2	26.9	3.4	7.9	104.6	239.4	21.1	167.3	3.3	27.4	5.0	11.5
		135	4.1	9.5	103.7	243.4	21.8	169.2	3.3	26.8	3.4	7.9	103.8	245.6	21.3	173.0	3.4	27.4	5.0	11.5
	40	108	2.7	6.2	105.2	270.7	22.1	195.2	3.6	36.3	3.3	7.6	105.2	272.7	21.6	199.0	3.7	37.0	4.9	11.2
		135	4.1	9.5	104.2	277.3	22.2	201.4	3.7	36.2	3.3	7.6	104.3	279.9	21.8	205.6	3.8	36.9	4.9	11.2
	50	108	2.7	6.2	105.7	301.0	22.6	223.9	3.9	45.7	3.2	7.4	105.8	303.2	22.0	228.0	4.0	46.5	4.8	11.0
		135	4.1	9.5	104.7	308.3	22.7	230.9	4.0	45.6	3.2	7.4	104.8	311.1	22.2	235.4	4.1	46.4	4.8	11.0
	60	108	2.7	6.2	106.3	328.4	23.1	249.7	4.2	55.2	3.1	7.2	106.3	330.8	22.5	254.0	4.3	56.1	4.6	10.7
		135	4.1	9.5	105.1	336.4	23.2	257.3	4.3	55.1	3.1	7.2	105.2	339.5	22.7	262.1	4.4	56.0	4.6	10.7
	70	108	2.7	6.2	106.7	352.9	23.5	272.7	4.4	64.8	3.0	6.9	106.8	355.6	22.9	277.3	4.5	65.8	4.5	10.3
		135	4.1	9.5	105.5	361.5	23.6	280.9	4.5	64.6	3.0	6.9	105.6	364.9	23.1	286.0	4.6	65.6	4.5	10.3
120	30	108	2.5	5.8	124.3	227.5	27.2	134.9	2.5	27.4	3.4	7.9	124.4	229.2	26.5	138.8	2.5	27.9	5.0	11.5
		135	3.8	8.9	123.6	233.1	27.3	139.9	2.5	27.3	3.4	7.9	123.6	235.2	26.7	144.1	2.6	27.8	5.0	11.5
	40	108	2.5	5.8	124.9	255.8	27.4	162.1	2.7	36.9	3.3	7.6	124.9	257.6	26.8	166.2	2.8	37.5	4.9	11.2
		135	3.8	8.9	124.0	262.0	27.6	167.9	2.8	36.8	3.3	7.6	124.0	264.4	27.0	172.3	2.9	37.4	4.9	11.2
	50	108	2.5	5.8	125.4	282.7	27.7	188.0	3.0	46.4	3.2	7.4	125.4	284.8	27.1	192.4	3.1	47.1	4.8	11.0
		135	3.8	8.9	124.4	289.6	27.9	194.4	3.0	46.3	3.2	7.4	124.5	292.2	27.3	199.2	3.1	47.0	4.8	11.0
	60	108	2.5	5.8	125.9	308.2	28.0	212.6	3.2	55.9	3.1	7.2	125.9	310.5	27.4	217.1	3.3	56.7	4.6	10.7
		135	3.8	8.9	124.8	315.8	28.2	219.6	3.3	55.8	3.1	7.2	124.9	318.6	27.6	224.6	3.4	56.6	4.6	10.7
	70	108	2.5	5.8	126.3	332.5	28.3	235.8	3.4	65.5	3.0	6.9	126.4	334.9	27.7	240.6	3.5	66.3	4.5	10.3
		135	3.8	8.9	125.2	340.6	28.5	243.4	3.5	65.4	3.0	6.9	125.2	343.7	27.8	248.7	3.6	66.2	4.5	10.3

Notes: All capacities in kBtuh.

All temperatures in °F.

Interpolation is permissible, extrapolation is not.

All performance data is based upon the lower voltage of dual voltage rated units.

SD1480

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EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

PERFORMANCE DATA - COOLING FULL LOAD EW540

ELT	EST	LGPM	LWPD		SOURCE 108 GPM						SWPD		SOURCE 135 GPM						SWPD	
			PSI	FT HD	LLT	TC	KW	HR	EER	LST	PSI	FT HD	LLT	TC	KW	HR	EER	LST	PSI	FT HD
30	50	108	3.4	7.9	22.0	418.1	25.3	504.3	16.5	59.6	3.2	7.4	22.0	421.2	24.7	505.4	17.1	57.7	4.7	11.0
		135	5.0	11.5	23.5	428.3	25.4	515.0	16.9	59.8	3.2	7.4	23.4	432.2	24.8	516.8	17.4	57.9	4.7	11.0
	70	108	3.4	7.9	22.8	377.2	31.3	484.1	12.0	79.2	3.0	6.9	22.7	380.0	30.6	484.4	12.4	77.4	4.5	10.3
		135	5.0	11.5	24.1	386.4	31.5	493.9	12.3	79.4	3.0	6.9	24.0	389.9	30.7	494.7	12.7	77.6	4.5	10.3
	90	108	3.4	7.9	23.7	328.6	37.7	457.3	8.7	98.7	2.8	6.4	23.7	331.0	36.9	456.7	9.0	97.0	4.2	9.8
		135	5.0	11.5	24.9	336.6	37.9	466.0	8.9	98.9	2.8	6.4	24.8	339.7	37.0	465.9	9.2	97.1	4.2	9.8
50	50	108	3.2	7.4	39.0	577.8	27.8	672.6	20.8	62.8	3.2	7.4	38.9	582.1	27.1	674.7	21.4	60.3	4.7	11.0
		135	4.7	11.0	41.0	591.9	27.9	687.2	21.2	63.1	3.2	7.4	40.9	597.3	27.2	690.3	21.9	60.5	4.7	11.0
	70	108	3.2	7.4	39.9	531.1	33.9	646.8	15.7	82.3	3.0	6.9	39.8	535.0	33.1	648.1	16.1	79.9	4.5	10.3
		135	4.7	11.0	41.7	544.0	34.1	660.4	15.9	82.6	3.0	6.9	41.6	549.0	33.3	662.5	16.5	80.1	4.5	10.3
	90	108	3.2	7.4	40.9	478.5	40.4	616.5	11.8	101.8	2.8	6.4	40.8	482.0	39.5	616.8	12.2	99.4	4.2	9.8
		135	4.7	11.0	42.5	490.1	40.7	628.9	12.1	102.0	2.8	6.4	42.4	494.6	39.7	629.9	12.5	99.6	4.2	9.8
70	50	108	3.0	6.9	56.1	725.5	30.2	828.6	24.0	65.8	3.2	7.4	56.0	730.9	29.5	831.6	24.8	62.7	4.7	11.0
		135	4.5	10.3	58.6	743.2	30.4	846.8	24.5	66.2	3.2	7.4	58.5	750.0	29.6	851.1	25.3	63.0	4.7	11.0
	70	108	3.0	6.9	57.0	680.0	36.5	804.6	18.6	85.4	3.0	6.9	56.9	685.0	35.7	806.7	19.2	82.3	4.5	10.3
		135	4.5	10.3	59.4	696.5	36.7	821.8	19.0	85.7	3.0	6.9	59.3	702.9	35.8	825.1	19.6	82.6	4.5	10.3
	90	108	3.0	6.9	58.1	621.4	42.7	767.1	14.6	104.6	2.8	6.4	58.0	626.0	41.7	768.3	15.0	101.7	4.2	9.8
		135	4.5	10.3	60.3	636.5	42.9	783.0	14.8	104.9	2.8	6.4	60.2	642.4	41.9	785.2	15.3	102.0	4.2	9.8
90	50	108	2.8	6.4	73.6	861.2	32.5	972.2	26.5	68.6	3.2	7.4	73.4	867.6	31.8	976.0	27.3	64.9	4.7	11.0
		135	4.2	9.8	76.5	882.2	32.7	993.8	27.0	69.0	3.2	7.4	76.4	890.3	31.9	999.1	27.9	65.3	4.7	11.0
	70	108	2.8	6.4	74.4	819.0	39.1	952.4	20.9	88.2	3.0	6.9	74.2	825.0	38.2	955.3	21.6	84.6	4.5	10.3
		135	4.2	9.8	77.2	838.9	39.3	973.1	21.3	88.6	3.0	6.9	77.1	846.6	38.3	977.4	22.1	84.9	4.5	10.3
	90	108	2.8	6.4	75.5	757.4	45.1	911.1	16.8	107.4	2.8	6.4	75.4	763.0	44.0	913.1	17.3	103.9	4.2	9.8
		135	4.2	9.8	78.2	775.9	45.3	930.4	17.1	107.8	2.8	6.4	78.0	783.0	44.2	933.7	17.7	104.3	4.2	9.8

Notes: All capacities in kBtuh.

All temperatures in °F.

Interpolation is permissible, extrapolation is not.

All performance data is based upon the lower voltage of dual voltage rated units.

EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

PERFORMANCE DATA - COOLING PART LOAD EW540

ELT	EST	LGPM	LWPD		SOURCE 108 GPM						SWPD		SOURCE 135 GPM						SWPD	
			PSI	FT HD	LLT	TC	KW	HR	EER	LST	PSI	FT HD	LLT	TC	KW	HR	EER	LST	PSI	FT HD
30	50	108	3.4	7.9	25.8	217.4	12.5	259.9	17.4	55.0	3.2	7.4	25.8	219.0	12.2	260.5	18.0	54.0	4.7	11.0
		135	5.0	11.5	26.6	222.7	12.5	265.5	17.8	55.1	3.2	7.4	26.6	224.8	12.2	266.4	18.4	54.1	4.7	11.0
	70	108	3.4	7.9	26.3	196.2	15.4	248.9	12.7	74.8	3.0	6.9	26.2	197.6	15.1	249.1	13.1	73.8	4.5	10.3
		135	5.0	11.5	26.9	200.9	15.5	253.9	12.9	74.8	3.0	6.9	26.9	202.8	15.1	254.4	13.4	73.9	4.5	10.3
	90	108	3.4	7.9	26.7	170.9	18.6	234.3	9.2	94.5	2.8	6.4	26.7	172.1	18.2	234.1	9.5	93.6	4.2	9.8
		135	5.0	11.5	27.3	175.0	18.7	238.8	9.4	94.6	2.8	6.4	27.3	176.6	18.2	238.8	9.7	93.6	4.2	9.8
50	50	108	3.2	7.4	44.3	300.5	13.7	347.2	21.9	56.6	3.2	7.4	44.2	302.7	13.4	348.3	22.6	55.3	4.7	11.0
		135	4.7	11.0	45.3	307.8	13.8	354.8	22.3	56.8	3.2	7.4	45.3	310.6	13.4	356.4	23.1	55.4	4.7	11.0
	70	108	3.2	7.4	44.7	276.2	16.7	333.2	16.5	76.4	3.0	6.9	44.7	278.2	16.3	333.9	17.0	75.1	4.5	10.3
		135	4.7	11.0	45.7	282.9	16.8	340.3	16.8	76.5	3.0	6.9	45.6	285.5	16.4	341.4	17.4	75.2	4.5	10.3
	90	108	3.2	7.4	45.3	248.8	19.9	316.8	12.5	96.0	2.8	6.4	45.2	250.6	19.5	317.1	12.9	94.8	4.2	9.8
		135	4.7	11.0	46.1	254.9	20.0	323.3	12.7	96.2	2.8	6.4	46.1	257.2	19.5	323.9	13.2	94.9	4.2	9.8
70	50	108	3.0	6.9	62.8	377.3	14.9	428.1	25.3	58.2	3.2	7.4	62.7	380.1	14.5	429.7	26.1	56.6	4.7	11.0
		135	4.5	10.3	64.1	386.5	15.0	437.6	25.8	58.4	3.2	7.4	64.0	390.0	14.6	439.8	26.7	56.7	4.7	11.0
	70	108	3.0	6.9	63.2	353.6	18.0	415.0	19.6	77.9	3.0	6.9	63.2	356.2	17.6	416.2	20.3	76.4	4.5	10.3
		135	4.5	10.3	64.5	362.2	18.1	424.0	20.0	78.1	3.0	6.9	64.4	365.5	17.7	425.7	20.7	76.5	4.5	10.3
	90	108	3.0	6.9	63.8	323.1	21.1	395.0	15.4	97.5	2.8	6.4	63.8	325.5	20.6	395.7	15.8	96.0	4.2	9.8
		135	4.5	10.3	64.9	331.0	21.2	403.2	15.6	97.7	2.8	6.4	64.9	334.0	20.6	404.4	16.2	96.2	4.2	9.8
90	50	108	2.8	6.4	81.5	447.8	16.0	502.6	27.9	59.6	3.2	7.4	81.4	451.2	15.7	504.6	28.8	57.7	4.7	11.0
		135	4.2	9.8	83.0	458.8	16.1	513.8	28.5	59.8	3.2	7.4	82.9	463.0	15.7	516.6	29.4	57.9	4.7	11.0
	70	108	2.8	6.4	81.9	425.9	19.3	491.7	22.1	79.4	3.0	6.9	81.8	429.0	18.8	493.3	22.8	77.5	4.5	10.3
		135	4.2	9.8	83.3	436.2	19.4	502.4	22.5	79.6	3.0	6.9	83.3	440.2	18.9	504.7	23.3	77.7	4.5	10.3
	90	108	2.8	6.4	82.5	393.9	22.2	469.6	17.7	99.0	2.8	6.4	82.4	396.8	21.7	470.8	18.3	97.2	4.2	9.8
		135	4.2	9.8	83.8	403.4	22.3	479.6	18.1	99.2	2.8	6.4	83.8	407.1	21.8	481.4	18.7	97.4	4.2	9.8

Notes: All capacities in kBtuh.

All temperatures in °F.

Interpolation is permissible, extrapolation is not.

All performance data is based upon the lower voltage of dual voltage rated units.

EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

PHYSICAL DATA

MODEL	CONFIGURATION	COMPRESSOR	REFRIGERANT CHARGE*	TOTAL WEIGHT		CORNER WEIGHTS			
				SHIPPING	INSTALLED	FRONT LEFT	REAR LEFT	FRONT RIGHT	REAR RIGHT
EW360 / EKW090	with enclosure	Scroll (2)	13.0 [5.9]	1305 [592]	1227 [557]	305 [138]	303 [137]	310 [141]	309 [140]
	without enclosure	Scroll (2)	13.0 [5.9]	1143 [518]	1065 [483]	264 [120]	263 [119]	270 [122]	268 [122]
EW540 / EKW130	with enclosure	Scroll (2)	21.25 [9.6]	1920 [871]	1842 [836]	349 [158]	595 [270]	664 [301]	312 [142]
	without enclosure	Scroll (2)	21.25 [9.6]	1808 [820]	1730 [785]	321 [146]	567 [257]	636 [288]	284 [129]

Notes: Weights shown in Pounds, [kg]

* Refrigerant per circuit in Pounds, [kg]

Add 64 lbs [29 kg] for fluid weight when full. (EW360)

Add 110 lbs [50 kg] for fluid weight when full. (EW540)

ELECTRICAL DATA

MODEL	RATED VOLTAGE	VOLTAGE MIN/MAX	COMPRESSOR				TOTAL UNIT FLA	MIN CIRC AMP	MAX FUSE	MAX HACR BREAKER
			QTY	MCC	RLA	LRA				
EW360	208-230/60/3	197/253	2	82.7	52.9	425.0	105.8	119.0	150	150
	460/60/3	414/506	2	37.0	23.7	187.0	47.4	53.3	70	70
	575/60/3	518/633	2	36.4	23.3	148.0	46.6	52.4	70	70
EW540	460/60/3	414/506	2	67.0	42.9	250.0	85.8	96.5	125	125
	575/60/3	518/633	2	50.0	32.0	198.0	64.0	72.0	100	100

Notes: Ratings per each compressor

All fuses RK-5

SOUND DATA

MODEL	dBA
EW540 without enclosure	81
EW540 with enclosure	69

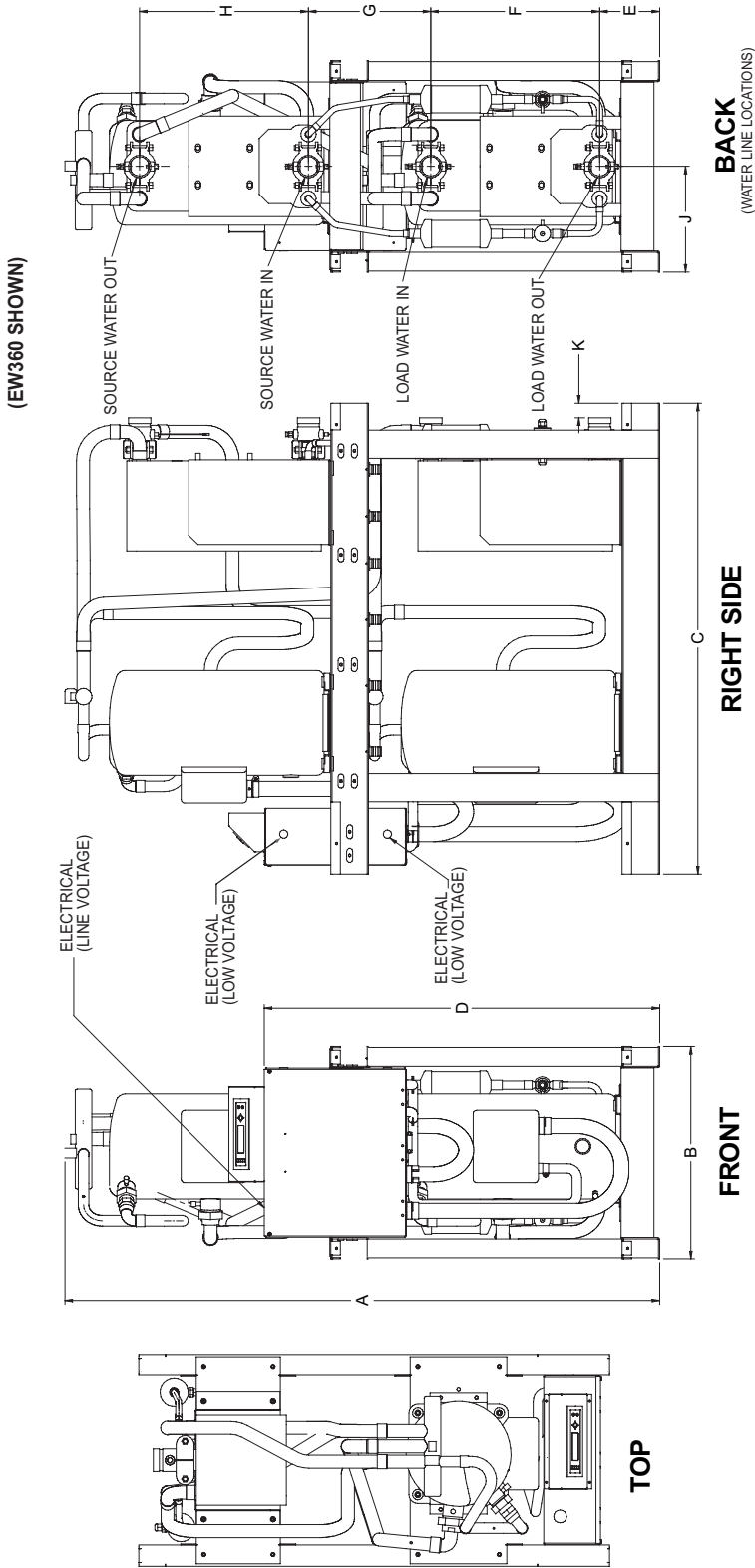
EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

PHYSICAL DIMENSIONS -
WITHOUT ENCLOSURE



Dimensional Data for Unit Without Enclosure

MODEL	A	B	C	D	E	F	G	H	J	K
EW360 / EKW090	63.17 [1605]	22.50 [572]	50.00 [1270]	42.00 [1067]	6.37 [162]	17.95 [456]	12.98 [330]	17.95 [456]	11.25 [286]	1.54 [39]
EW540 / EKW130	70.00 [1778]	22.50 [572]	52.00 [1321]	47.82 [1215]	6.53 [166]	17.00 [432]	19.47 [495]	17.00 [432]	14.26 [362]	0.77 [20]

Notes: All dimensions in inches, [mm]
All water connections are 2" Victaulic

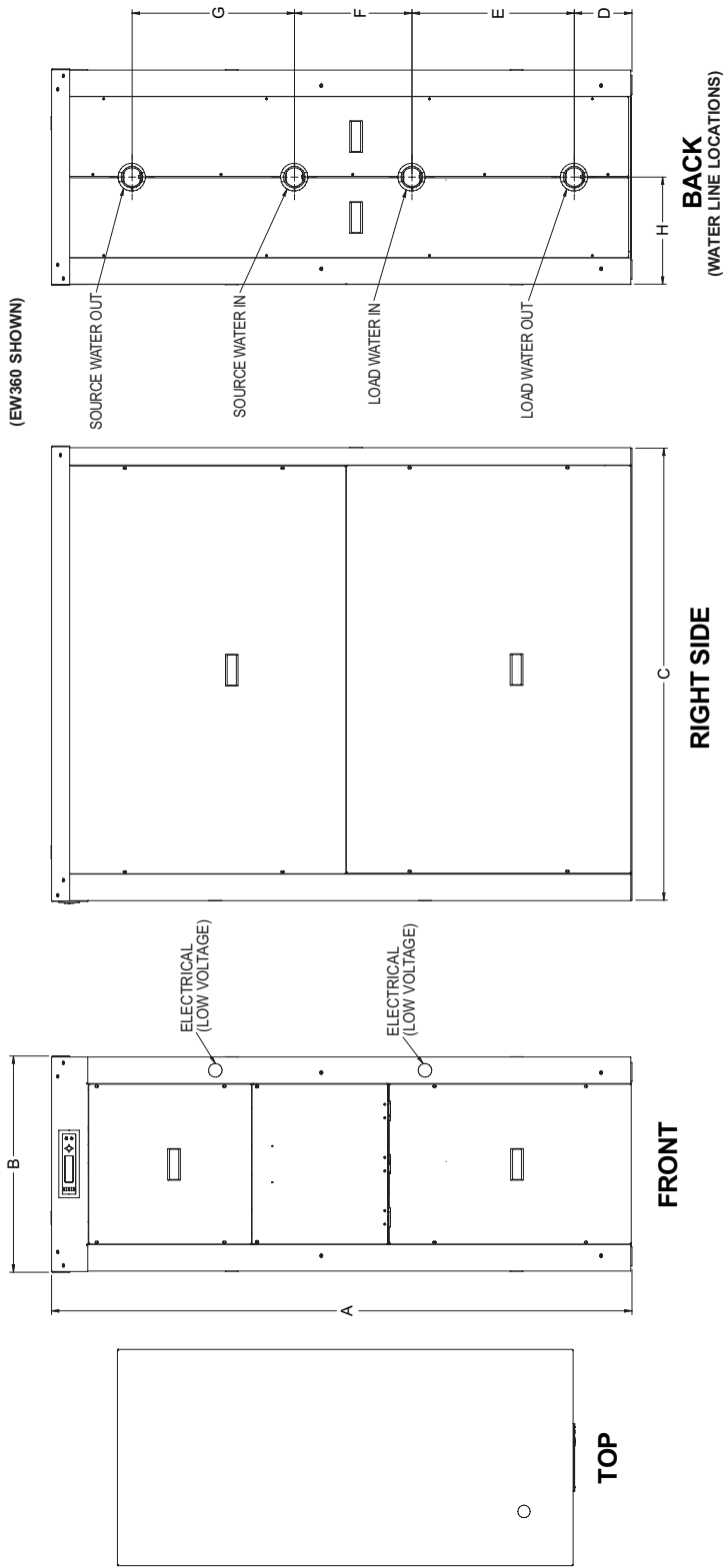
EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

PHYSICAL DIMENSIONS -
WITH ENCLOSURE



Dimensional Data for Unit With Enclosure

MODEL	A	B	C	D	E	F	G	H
EW360 / EKW090	64.16 [1630]	23.92 [608]	50.00 [1270]	6.37 [162]	17.95 [456]	12.98 [330]	17.95 [456]	11.84 [301]
EW540 / EKW130	71.00 [1803]	23.90 [607]	52.35 [1330]	6.53 [166]	17.00 [432]	19.47 [495]	17.00 [432]	14.88 [378]

Notes: All dimensions in inches, [mm]
All water connections are 2" Victaulic

Contractor: _____ P.O.: _____
Engineer: _____
Project Name: _____ Unit Tag: _____

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WIRING SCHEMATIC - 460/60/3 & 575/60/3

Project Name: _____ Unit Tag: _____



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EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

ENGINEERING GUIDE SPECIFICATIONS

Revised 01/06/05

General

The liquid source Reversible Chiller water to water heat pump shall be a single packaged reverse-cycle heating/cooling unit. The unit shall be listed by a nationally recognized safety-testing laboratory or agency, such as ETL Testing Laboratory, Underwriters Laboratory (UL), or Canadian Standards Association (CSA). The unit shall be rated in accordance with American Refrigeration Institute / International Standards Organization (ARI / ISO) and Canadian Standards Association (CSA-US). The liquid source Reversible Chiller water to water heat pump unit, as manufactured by WaterFurnace International, Fort Wayne, Indiana, shall be designed to operate with source liquid temperatures between 30°F [-1.1°C] and 90°F [32.2°C] in cooling, and between 60°F [16°C] and 120°F [49°C] in heating.

Factory Quality

Each unit shall be run tested at the factory using water. Quality control system shall automatically perform via computer: triple leak check, pressure tests, evacuate and accurately charge system, perform detailed heating and cooling mode tests, and quality cross check all operational and test conditions to pass/fail criteria. Units tested without water flow are not acceptable. The units shall be warranted by the manufacturer against defects in materials and workmanship for a period of one year.

Optional Extended Warranty - Extended warranty coverage shall be available.

Frame and Cabinet

Each unit shall be pallet mounted. The frame shall be 10 gauge welded steel coated with gloss black polyester powder coat paint. Paint shall be rated for 1000 hours of salt spray using ASTM B117.

Optional Enclosure - Optional painted sheet metal enclosure shall be factory installed. The optional acoustical enclosure shall be constructed of heavy gauge G60 galvanized sheet metal (Top panel – 18 gauge, Corner panels – 18 gauge, and side panels- 20 gauge) and polyester powder coated gloss white. Paint shall be rated for 1000 hours of salt spray using ASTM B117. All panels shall be lined with 1/2 inch [12.7 mm] thick, 1-1/2 lb./cu. ft. density acoustic type glass fiber insulation. All insulation must meet NFPA 90A. This material shall also provide acoustical benefit. The unit must have a minimum of three access panels for serviceability of compressor compartment. Units having only one access panel to compressor/heat exchangers/expansion device/refrigerant piping shall not be acceptable.

The control box shall have separate holes and knockouts for entrance of line voltage and low voltage control wiring. All factory-installed wiring passing through factory knockouts and openings shall be protected from sheet metal edges at openings by plastic ferrules.

Refrigerant Circuit

All units shall contain 2 sealed refrigerant circuits, each containing a hermetic motor scroll compressor, bidirectional thermal expansion valve assemblies, reversing valve, braze plate heat exchangers, factory installed high and low pressure safety switches, freeze protection, service ports, and liquid line filter dryers. Compressors shall be designed for heat pump duty with internal isolation and mounted on rubber vibration isolators. Compressor motors shall have internal overload protection. Compressors shall be connected to the refrigerant piping with rotolock fittings for ease of service. A high density sound attenuating blanket shall be factory installed around the compressor to reduce sound. The water to refrigerant heat exchangers shall be dual circuit copper brazed plate, 316 stainless steel, capable of withstanding 650 psig [4489 kPa] working pressure on the refrigerant side and 450 psig [3108 kPa] on the water side. The thermal expansion valve assembly shall provide proper superheat over the liquid temperature range with minimal "hunting". The assembly shall operate bi-directionally without the use of check valves. Externally mounted pressure controlled water regulating flow valves are not acceptable.

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EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

ENGINEERING GUIDE SPECIFICATIONS (CONT.)

Revised 01/06/05

Piping and Connections

The units shall have one set of water in and water out connections (heat exchangers are internally piped in parallel). The connection shall be a 2 in. [50.8 mm] Victaulic type grooved mechanical fitting. Grooved couplings shall meet the requirements of ASTM F-1476. Pipes shall be carbon steel, A-53B/A-106B. Pipe ends to be grooved in accordance with standards conforming to ANSI/AWWA C-606. Coupling shall be cast of ductile iron conforming to ASTM A-536, Grade 65-45-12 or malleable iron conforming to ASTM A-47, Grade 32510. Gaskets shall be Grade "E" EPDM compound conforming to ASTM D-2000 Designation 2CA615A25B24F17Z.

Accessory adaptors shall be available to connect the Victaulic type fitting to a 2 in. [50.8 mm] IPT and to a 2 in. [50.8 mm] bolted flange.

Electrical

Controls and safety devices will be factory wired and mounted within the unit. Controls shall include 24 Volt activated compressor contactors, 24VAC-75VA transformer with built in circuit breaker, reversing valve coils, and anti short-cycle protection. A terminal block with screw in terminals will be provided for field control wiring. To prevent short cycling when the safety controls are activated, the reset relay shall provide a lockout circuit that requires resetting of low voltage supply or main circuit breaker. A lockout signal shall be provided to the display to indicate a lockout situation. Units shall be name-plated for use with time delay fuses or HACR circuit breakers. Unit controls shall be 24 Volt and provide heating or cooling as required by the remote thermostat/sensor.

Optional Phase Guard - Phase guard control shall be factory installed.

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EW Reversible Chiller 60Hz Submittal Data

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

ENGINEERING GUIDE SPECIFICATIONS (CONT.)

Revised 01/06/05

Microprocessor Control

The unit shall be controlled using an FX10 microprocessor which sequences all functions and modes of operations. The control shall interface with a (Y,B) thermostat, mechanical or electronic. The control shall have the ability to communicate with N2 Open, BacNet or LonWorks protocols with optional communication card. The control system shall have the following features:

1. Anti-short cycle time delay on compressor operation, time delay shall be a minimum of 3 minutes
2. Random start on power up mode
3. Low voltage protection
4. High voltage protection
5. Unit shutdown on high or low refrigerant pressures
6. Unit shutdown for low water temperature
7. Source and Load heat exchanger low water temperature cutout selectable for water or anti-freeze
8. Automatic intelligent reset (Unit will automatically reset 5 minutes after trip if the fault has cleared. Should a fault reoccur 3 times sequentially then permanent lockout will occur.)
9. A 4 x 20 digit backlit LCD to display the following:
 - a. Entering and leaving water temperatures
 - b. High pressure, low pressure, low voltage, high voltage, low water temperature cutout, and control status
10. The low pressure shall not be monitored for the first 120 seconds after a compressor start command to prevent nuisance safety trips.
11. Remote fault indication on the thermostat
12. An accessory relay output tied to each compressor selectable for normally open or normally closed

Optional N2 Open, BacNet or LonWorks - Units shall have all the features listed above and the control board will be supplied with a interface card of choice. This will permit all units to be daisy chain connected by a 2-wire twisted pair shielded cable. The following points must be available at a central or remote computer location:

1. Space temperature
2. Source leaving water temperature
3. Load leaving water temperature
4. Command of temperature setpoint
5. Cooling status
6. Heating status
7. Unoccupied/Occupied command
8. Compressor shutdown (load shedding) command
9. Emergency shutdown command
10. Cooling command
11. Heating command

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