



9000 Conservation Way  
Fort Wayne, IN USA 46809

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

# **E** SERIES

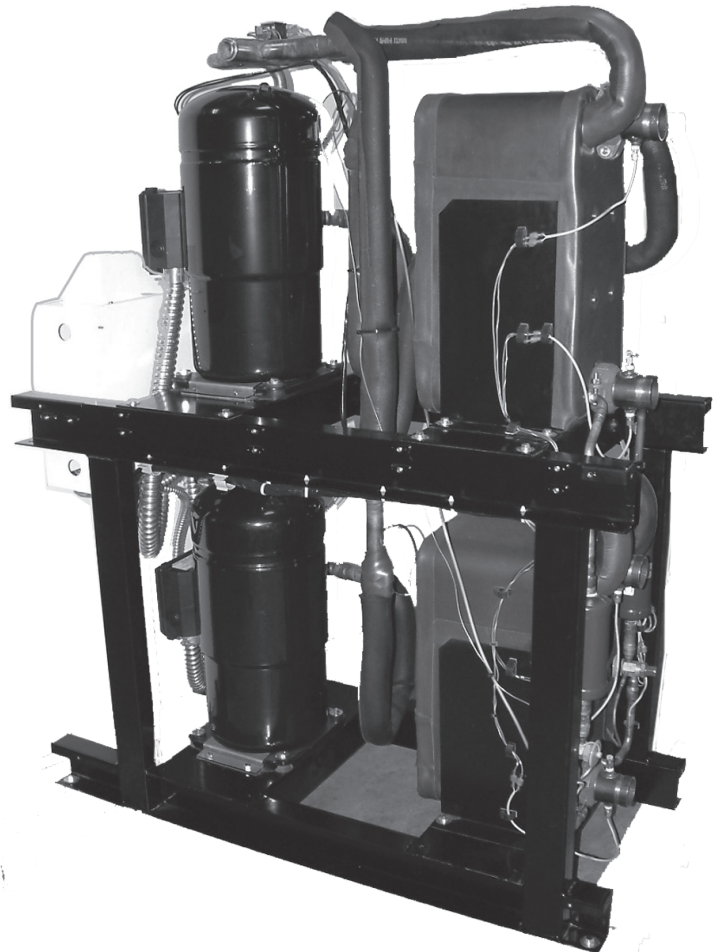
## EKW Reversible Chiller

# Submittal Data

### Models EKW090 & EKW130

### 50Hz-R410a

### English Language/SI Units



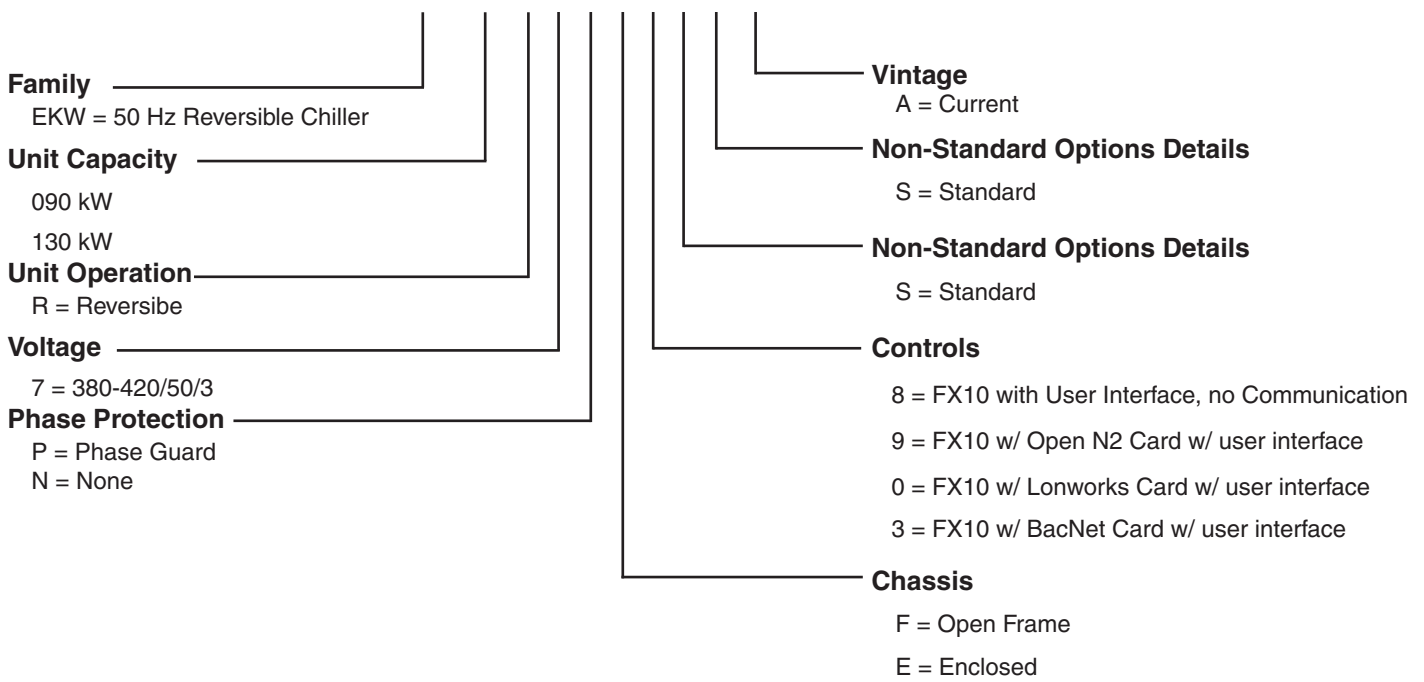
# EKW Reversible Chiller 50Hz Submittal Data



## MODEL NOMENCLATURE

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

**EKW 090 R 7 N F 8 S S A**



## DEFINITIONS

- |  |   |
|--|---|
| COP = coefficient of performance                     | L/s = liters per second                               |
| EER = cooling energy efficiency (TC/kW)              | LLT = leaving load fluid temperature from heat pump   |
| ELT = entering load fluid temperature to heat pump   | LRA = locked rotor amps                               |
| EST = entering source fluid temperature to heat pump | LST = leaving source fluid temperature from heat pump |
| FLA = full load amps                                 | LWPD = load heat exchanger water pressure drop        |
| FtHd = pressure drop in feet of head                 | MCC = maximum continuous current                      |
| GPM = gallons per minute                             | PD = pressure drop                                    |
| HC = heating capacity in kW                          | PSI = pressure drop in pounds per square inch         |
| HE = heat of extraction in kW                        | RLA = run load amps                                   |
| HR = heat rejected in kW                             | SGPM = source flow in gallons per minute              |
| kPa = kilo Pascals                                   | TC = total cooling capacity in kW                     |
| kW = kilowatt  |   |

# EKW Reversible Chiller 50Hz Submittal Data



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

## Rating Point Data

**ARI/ISO 13256-2**  
**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
EKW090	Full	72.2	72.2	281,400	14.6	380,200	4.4	-	-	-	-	77	294,800	16.6	32	249,100	3.2
	Part	72.2	72.2	147,000	15.5	199,600	4.7	-	-	-	-	68	160,900	20.1	41	142,800	3.6
EKW130	Full	135.0	135.0	472,592	15.6	612,403	4.6	-	-	-	-	77	494,831	17.6	32	430,419	3.5
	Part	135.0	135.0	245,688	16.4	318,428	4.8	-	-	-	-	68	268,281	21.0	41	250,384	4.0

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/ISO 13256-2**  
**Metric (SI) Units**

Model	Capacity	Load Liquid Flow L/s	Source Liquid Flow L/s	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	COP (W/W)	Capacity Watts	COP	Capacity Watts	COP (W/W)	Capacity Watts	COP		Capacity Watts	COP (W/W)		Capacity Watts	COP
EKW090	Full	4.56	4.56	82,474	4.3	111,430	4.4	-	-	-	-	25	86,401	4.9	0	73,007	3.2
	Part	4.56	4.56	43,083	4.5	58,499	4.7	-	-	-	-	20	47,157	5.9	5	41,852	3.6
EKW130	Full	8.52	8.52	138,509	4.6	179,485	4.6	-	-	-	-	25	145,027	5.2	0	126,149	3.5
	Part	8.52	8.52	72,007	4.8	93,326	4.8	-	-	-	-	20	78,629	6.2	5	73,383	4.0

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

**BS EN 14511 Ratings (Tested in accordance)**  
**Metric (SI) Units**

Model	Capacity	Load Liquid Flow (L/s)	Source Liquid Flow (L/s)	Cooling		Load Liquid Flow (L/s)	Source Liquid Flow (L/s)	Heating	
				LLT 18°C LST 35°C				LLT 35°C LST -3°C	
				Capacity kW	COP			Capacity kW	COP
EKW090	Full	5.70	4.30	110.1	5.2	4.30	5.70	65.6	4.1
	Part	5.70	4.30	56.1	5.4	4.30	5.70	35.7	4.3
EKW130	Full	8.50	6.80	172.3	5.4	6.80	8.50	126.6	4.9
	Part	8.50	6.80	85.7	5.4	6.80	8.50	65.2	4.9

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

# EKW Reversible Chiller 50Hz Submittal Data



## PERFORMANCE DATA— HEATING FULL LOAD EKW090

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

ELT °C	EST °C	Load Flow		Source 4.3 L/s							Source 5.7 L/s						
		Flow L/s	PD kPa	Heating					PD kPa	Heating					PD kPa		
				LLT	HC	kW	HE	COP		LST	LLT	HC	kW	HE		COP	LST
15.6	-1.1	4.3	38.6	19.9	66.3	14.7	51.6	4.5	-4.5	34.5	19.9	66.8	14.3	52.4	4.7	-3.9	59.3
		5.7	65.5	19.2	68.6	14.7	54.0	4.7	-4.6	34.5	19.2	69.0	14.4	52.4	4.6	-3.9	59.3
	4.4	4.3	38.6	20.6	77.4	15.2	62.2	5.1	0.4	33.8	20.6	77.8	14.9	63.0	5.2	1.1	58.6
		5.7	65.5	19.8	80.0	15.3	64.7	5.2	0.2	33.8	19.8	80.3	15.0	62.8	5.2	1.1	58.6
	10.0	4.3	38.6	21.3	88.5	15.8	72.7	5.6	5.2	33.1	21.4	88.9	15.5	73.5	5.8	6.1	57.9
		5.7	65.5	20.4	91.4	16.0	75.4	5.7	5.1	33.1	20.4	91.6	15.6	73.3	5.7	6.1	57.9
	15.6	4.3	38.6	22.0	98.9	16.4	82.6	6.0	10.2	32.7	22.1	99.4	16.0	83.4	6.2	11.2	57.2
		5.7	65.5	20.9	101.6	16.5	85.1	6.1	10.0	32.7	20.9	101.9	16.1	83.3	6.2	11.2	57.2
	21.1	4.3	38.6	22.7	109.3	17.0	92.4	6.4	15.1	32.4	22.7	109.8	16.5	93.3	6.7	16.2	56.5
		5.7	65.5	21.4	111.9	17.1	94.9	6.6	14.9	32.4	21.5	112.1	16.7	93.2	6.6	16.2	56.5
26.7	-1.1	4.3	37.9	30.9	65.4	17.8	47.5	3.7	-4.2	34.5	31.0	65.6	17.8	47.8	3.7	-3.6	59.3
		5.7	63.4	30.1	65.9	18.0	47.9	3.7	-4.2	34.5	30.2	66.4	18.0	47.6	3.7	-3.6	59.3
	4.4	4.3	37.9	31.6	75.6	18.6	57.0	4.1	0.7	33.8	31.6	76.1	18.3	57.8	4.2	1.4	58.6
		5.7	63.4	30.7	77.3	18.7	58.6	4.1	0.6	33.8	30.8	78.7	18.5	57.6	4.1	1.4	58.6
	10.0	4.3	37.9	32.3	85.8	19.4	66.4	4.4	5.7	33.1	32.3	86.6	18.9	67.7	4.6	6.4	57.9
		5.7	63.4	31.3	88.7	19.5	69.2	4.6	5.5	33.1	31.5	91.0	19.0	67.6	4.6	6.4	57.9
	15.6	4.3	37.9	33.0	96.9	19.9	76.9	4.9	10.5	32.7	33.0	97.5	19.3	78.3	5.1	11.4	57.2
		5.7	63.4	31.9	99.9	20.1	79.8	5.0	10.3	32.7	32.0	101.4	19.5	78.0	5.0	11.4	57.2
	21.1	4.3	37.9	33.7	107.9	20.5	87.4	5.3	15.4	32.4	33.8	108.5	19.6	88.9	5.5	16.4	56.5
		5.7	63.4	32.5	111.1	20.7	90.4	5.4	15.2	32.4	32.6	111.8	20.1	88.4	5.4	16.5	56.5
37.8	-1.1	4.3	37.2	41.9	62.3	22.8	39.5	2.7	-3.7	34.5	41.9	62.6	22.4	40.3	2.8	-3.2	59.3
		5.7	62.0	41.1	63.7	22.9	40.8	2.8	-3.8	34.5	41.1	63.9	22.4	40.2	2.8	-3.2	59.3
	4.4	4.3	37.2	42.5	72.2	23.3	48.9	3.1	1.2	33.8	42.5	72.7	22.9	49.8	3.2	1.8	58.6
		5.7	62.0	41.7	74.2	23.4	50.8	3.2	1.1	33.8	41.7	74.5	22.9	49.7	3.2	1.8	58.6
	10.0	4.3	37.2	43.1	82.1	23.9	58.3	3.4	6.2	33.1	43.2	82.7	23.3	59.4	3.5	6.9	57.9
		5.7	62.0	42.2	84.8	24.0	60.8	3.5	6.0	33.1	42.3	85.1	23.4	59.3	3.5	6.9	57.9
	15.6	4.3	37.2	43.8	92.9	24.4	68.5	3.8	11.1	32.7	43.9	93.6	23.8	69.8	3.9	11.9	57.2
		5.7	62.0	42.8	95.7	24.5	71.2	3.9	10.9	32.7	42.8	96.2	23.9	69.7	3.9	11.9	57.2
	21.1	4.3	37.2	44.6	103.6	24.9	78.7	4.2	16.0	32.4	44.6	104.5	24.2	80.2	4.3	16.9	56.5
		5.7	62.0	43.4	106.5	25.0	81.5	4.3	15.8	32.4	43.4	107.4	24.3	80.1	4.3	16.9	56.5
48.9	-1.1	4.3	36.5	52.9	61.5	28.5	33.0	2.2	-3.3	34.5	53.0	62.4	27.7	34.7	2.2	-2.9	59.3
		5.7	61.4	52.1	61.6	28.6	33.0	2.2	-3.3	34.5	52.2	62.6	27.9	34.5	2.2	-2.9	59.3
	4.4	4.3	36.5	53.5	70.5	28.9	41.5	2.4	1.7	33.8	53.5	71.2	28.2	42.9	2.5	2.2	58.6
		5.7	61.4	52.6	71.4	29.0	42.3	2.5	1.7	33.8	52.7	72.2	28.4	42.8	2.5	2.2	58.6
	10.0	4.3	36.5	54.1	79.5	29.4	50.1	2.7	6.7	33.1	54.1	80.0	28.7	51.3	2.8	7.3	57.9
		5.7	61.4	53.2	81.1	29.4	51.7	2.8	6.6	33.1	53.2	81.8	28.8	51.2	2.8	7.3	57.9
	15.6	4.3	36.5	54.7	88.7	29.9	58.8	3.0	11.7	32.7	54.8	89.7	29.1	60.5	3.1	12.4	57.2
		5.7	61.4	53.6	90.4	29.9	60.5	3.0	11.6	32.7	53.7	91.6	29.2	60.5	3.1	12.4	57.2
	21.1	4.3	36.5	55.3	97.9	30.3	67.5	3.2	16.7	32.4	55.4	99.4	29.5	69.8	3.4	17.4	56.5
		5.7	61.4	54.1	99.6	30.4	69.2	3.3	16.6	32.4	54.2	101.3	29.7	69.7	3.3	17.4	56.5

All capacities in kW  
 All temperature in °C.  
 Interpolation is permissible extrapolation is not.

# EKW Reversible Chiller 50Hz Submittal Data



## PERFORMANCE DATA— HEATING PART LOAD EKW090

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

ELT °C	EST °C	Load Flow		Source 4.3 L/s							Source 5.7 L/s						
		Flow L/s	PD kPa	Heating					PD kPa	Heating					PD kPa		
				LLT	HC	kW	HE	COP		LST	LLT	HC	kW	HE		COP	LST
15.6	-1.1	4.3	38.6	17.9	35.1	7.2	27.9	4.9	-2.9	34.5	40.2	35.4	7.0	28.3	5.0	-2.6	59.3
		5.7	65.5	17.5	36.4	7.2	29.2	5.1	-3.0	34.5	40.4	36.6	7.0	28.3	5.0	-2.6	59.3
	4.4	4.3	38.6	18.2	41.0	7.5	33.6	5.5	2.3	33.8	50.2	41.3	7.3	34.0	5.7	2.7	58.6
		5.7	65.5	17.8	42.4	7.5	34.9	5.6	2.2	33.8	50.3	42.6	7.3	33.9	5.6	2.7	58.6
	10.0	4.3	38.6	18.6	46.9	7.7	39.2	6.1	7.4	33.1	60.4	47.1	7.6	39.6	6.2	7.9	57.9
		5.7	65.5	18.1	48.4	7.8	40.6	6.2	7.3	32.7	60.5	48.5	7.6	39.5	6.2	7.9	57.9
	15.6	4.3	38.6	19.0	52.4	8.0	44.4	6.5	12.7	32.7	70.1	52.6	7.8	44.8	6.7	13.2	57.2
		5.7	65.5	18.4	53.9	8.1	45.8	6.7	12.6	32.7	70.2	54.0	7.9	44.7	6.7	13.2	57.2
	21.1	4.3	38.6	19.3	57.9	8.3	49.6	7.0	17.9	32.4	79.7	58.2	8.1	50.1	7.2	18.5	56.5
		5.7	65.5	18.7	59.3	8.4	51.0	7.1	17.8	32.4	79.8	59.4	8.1	50.0	7.1	18.5	56.5
26.7	-1.1	4.3	37.9	28.9	34.6	8.7	25.9	4.0	-2.8	34.5	36.2	34.7	8.7	26.0	4.0	-2.5	59.3
		5.7	63.4	28.5	34.9	8.8	26.1	4.0	-2.8	34.5	36.3	35.2	8.8	26.0	4.0	-2.5	59.3
	4.4	4.3	37.9	29.3	40.1	9.1	30.9	4.4	2.4	33.8	45.1	40.3	9.0	31.4	4.5	2.8	58.6
		5.7	63.4	28.8	41.0	9.2	31.8	4.5	2.4	33.8	45.3	41.7	9.0	31.3	4.5	2.8	58.6
	10.0	4.3	37.9	29.6	45.5	9.5	36.0	4.8	7.6	33.1	54.2	45.9	9.3	36.6	5.0	8.1	57.9
		5.7	63.4	29.1	47.0	9.5	37.5	4.9	7.6	32.7	54.4	48.2	9.3	36.6	4.9	8.1	57.9
	15.6	4.3	37.9	30.0	51.3	9.8	41.6	5.3	12.8	32.7	64.6	51.7	9.4	42.3	5.5	13.3	57.2
		5.7	63.4	29.5	52.9	9.8	43.1	5.4	12.7	32.7	64.7	53.7	9.6	42.1	5.4	13.3	57.2
	21.1	4.3	37.9	30.4	57.2	10.0	47.2	5.7	18.0	32.4	75.0	57.5	9.6	47.9	6.0	18.6	56.5
		5.7	63.4	29.8	58.9	10.1	48.7	5.8	17.9	32.4	75.1	59.3	9.8	47.6	5.8	18.6	56.5
37.8	-1.1	4.3	37.2	39.9	33.0	11.2	21.9	3.0	-2.5	34.5	28.3	33.2	10.9	22.2	3.0	-2.3	59.3
		5.7	62.0	39.6	33.7	11.2	22.5	3.0	-2.6	34.5	28.4	33.9	11.0	22.2	3.0	-2.3	59.3
	4.4	4.3	37.2	40.3	38.3	11.4	26.8	3.3	2.7	33.8	37.1	38.5	11.2	27.3	3.4	3.0	58.6
		5.7	62.0	39.8	39.3	11.5	27.9	3.4	2.6	33.8	37.2	39.5	11.2	27.3	3.4	3.0	58.6
	10.0	4.3	37.2	40.6	43.5	11.7	31.8	3.7	7.9	33.1	46.2	43.8	11.4	32.4	3.8	8.3	57.9
		5.7	62.0	40.1	44.9	11.7	33.2	3.8	7.8	32.7	46.3	45.1	11.5	32.4	3.8	8.3	57.9
	15.6	4.3	37.2	41.0	49.2	11.9	37.3	4.1	13.1	32.7	56.2	49.6	11.6	38.0	4.3	13.6	57.2
		5.7	62.0	40.4	50.7	12.0	38.7	4.2	13.0	32.7	56.3	51.0	11.7	37.9	4.2	13.6	57.2
	21.1	4.3	37.2	41.4	54.9	12.2	42.7	4.5	18.3	32.4	66.4	55.4	11.9	43.5	4.7	18.8	56.5
		5.7	62.0	40.7	56.4	12.3	44.2	4.6	18.2	32.4	66.5	56.9	11.9	43.5	4.6	18.8	56.5
48.9	-1.1	4.3	36.5	51.0	32.6	13.9	18.6	2.3	-2.3	34.5	22.0	33.1	13.6	19.5	2.4	-2.1	59.3
		5.7	61.4	50.6	32.6	14.0	18.6	2.3	-2.3	34.5	22.1	33.2	13.7	19.4	2.4	-2.1	59.3
	4.4	4.3	36.5	51.3	37.3	14.2	23.2	2.6	2.9	33.8	30.0	37.7	13.8	23.9	2.7	3.2	58.6
		5.7	61.4	50.9	37.8	14.2	23.6	2.7	2.9	33.8	30.1	38.3	13.9	23.9	2.7	3.2	58.6
	10.0	4.3	36.5	51.6	42.1	14.4	27.7	2.9	8.2	33.1	38.2	42.4	14.1	28.3	3.0	8.5	57.9
		5.7	61.4	51.2	43.0	14.4	28.6	3.0	8.1	32.7	38.3	43.3	14.1	28.3	3.0	8.5	57.9
	15.6	4.3	36.5	52.0	47.0	14.6	32.4	3.2	13.4	32.7	46.8	47.5	14.3	33.3	3.3	13.8	57.2
		5.7	61.4	51.4	47.9	14.6	33.2	3.3	13.4	32.7	46.9	48.5	14.3	33.2	3.3	13.8	57.2
	21.1	4.3	36.5	52.3	51.9	14.8	37.0	3.5	18.7	32.4	55.4	52.6	14.5	38.2	3.6	19.1	56.5
		5.7	61.4	51.7	52.8	14.9	37.9	3.5	18.6	32.4	55.5	53.7	14.5	38.1	3.6	19.1	56.5

All capacities in kW  
 All temperature in °C.  
 Interpolation is permissible extrapolation is not.  
 All performance data is based upon the lower voltage of dual voltage rated units.

# EKW Reversible Chiller 50Hz Submittal Data



## PERFORMANCE DATA— COOLING FULL LOAD EKW090

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

ELT °C	EST °C	Load Flow		Source 4.3 L/s							Source 5.7 L/s						
		Flow L/s	PD kPa	Cooling						PD kPa	Cooling						PD kPa
				LLT	TC	kW	HR	COP	LST		LLT	TC	kW	HR	COP	LST	
-1.1	10.0	4.3	37.9	-5.5	66.7	12.8	79.5	5.2	15.2	37.2	-5.5	67.0	12.6	79.6	5.3	14.2	63.4
		5.7	64.8	-4.7	68.7	12.9	81.6	5.3	15.3	37.2	-4.8	69.2	12.7	81.9	5.5	14.3	63.4
	21.1	4.3	37.9	-5.2	62.3	15.7	78.0	4.0	26.2	36.5	-5.2	62.7	15.6	78.2	4.0	25.2	62.7
		5.7	64.8	-4.5	64.7	15.9	80.6	4.1	26.4	36.5	-4.5	64.5	15.6	80.1	4.1	25.3	62.7
	32.2	4.3	37.9	-4.7	54.9	19.1	74.1	2.9	37.1	35.8	-4.7	55.3	18.9	74.2	2.9	36.1	62.0
		5.7	64.8	-4.1	56.4	19.3	75.7	2.9	37.2	35.8	-4.1	56.9	19.0	75.9	3.0	36.2	62.0
10.0	10.0	4.3	37.2	4.1	89.7	13.9	103.6	6.5	16.8	37.2	4.4	85.8	13.7	99.5	6.3	15.2	63.4
		5.7	6.4	5.1	93.1	14.0	107.2	6.6	17.0	37.2	5.1	93.2	13.7	106.9	6.8	15.6	63.4
	21.1	4.3	37.2	4.5	84.4	16.9	101.3	5.0	27.7	36.5	4.5	83.7	16.4	100.1	5.1	26.4	62.7
		5.7	63.4	5.5	86.1	17.0	103.1	5.0	27.8	36.5	5.5	86.2	16.5	102.7	5.2	26.5	62.7
	32.2	4.3	37.2	4.9	78.0	20.7	98.6	3.8	38.7	35.8	4.9	78.0	20.4	98.4	3.8	37.4	62.0
		5.7	63.4	5.8	80.3	20.4	100.8	3.9	38.8	35.8	5.8	80.6	20.0	100.5	4.0	37.5	62.0
21.1	10.0	4.3	36.5	13.9	110.5	15.2	125.6	7.3	18.2	37.2	14.1	107.9	14.7	122.6	7.3	16.5	63.4
		5.7	62.7	15.2	111.6	15.3	126.9	7.3	18.3	37.2	15.4	108.6	14.9	123.4	7.3	16.5	63.4
	21.1	4.3	36.5	13.9	111.0	18.2	129.2	6.1	29.6	36.5	14.0	108.4	17.7	126.1	6.1	27.8	62.7
		5.7	62.7	15.2	112.1	18.4	130.5	6.1	29.6	36.5	15.4	109.1	17.9	127.0	6.1	27.8	62.7
	32.2	4.3	36.5	14.3	104.1	21.7	125.8	4.8	40.4	35.8	14.1	107.7	21.3	129.0	5.1	39.0	62.0
		5.7	62.7	15.6	105.1	22.0	127.1	4.8	40.5	35.8	15.4	108.1	21.5	129.7	5.0	39.1	62.0
32.2	10.0	4.3	35.8	24.5	118.2	15.8	134.0	7.5	18.8	37.2	24.7	114.5	15.3	129.8	7.5	16.8	63.4
		5.7	62.0	26.0	118.3	15.8	134.1	7.5	18.8	37.2	26.2	114.8	15.3	130.1	7.5	16.8	63.4
	21.1	4.3	35.8	24.2	123.3	19.2	142.6	6.4	30.4	36.5	24.4	119.5	18.6	138.1	6.4	28.4	62.7
		5.7	62.0	25.7	123.5	19.3	142.8	6.4	30.4	36.5	25.9	119.7	18.6	138.3	6.4	28.4	62.7
	32.2	4.3	35.8	24.1	123.9	23.1	147.0	5.4	41.8	35.8	24.4	120.2	22.4	142.6	5.4	39.7	62.0
		5.7	62.0	25.7	124.8	23.2	147.9	5.4	41.9	35.8	25.8	121.0	22.5	143.5	5.4	39.8	62.0

All capacities in kW  
 All temperature in °C.  
 Interpolation is permissible extrapolation is not.  
 All performance data is based upon the lower voltage of dual voltage rated units.

# EKW Reversible Chiller 50Hz Submittal Data



## PERFORMANCE DATA— COOLING PART LOAD EKW090

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

ELT °C	EST °C	Load Flow		Source 4.3 L/s							Source 5.7 L/s						
		Flow L/s	PD kPa	Cooling						PD kPa	Cooling						PD kPa
				LLT	TC	kW	HR	COP	LST		LLT	TC	kW	HR	COP	LST	
-1.1	10.0	4.3	37.9	-3.4	34.7	6.3	41.0	5.5	12.7	37.2	-3.4	34.8	6.2	41.0	5.6	12.2	63.4
		5.7	64.8	-3.0	35.7	6.4	42.1	5.6	12.8	37.2	-3.0	36.0	6.3	42.2	5.7	12.2	63.4
	21.1	4.3	37.9	-3.2	32.4	7.8	40.1	4.2	23.7	36.5	-3.2	32.6	7.7	40.3	4.2	23.2	62.7
		5.7	64.8	-2.9	33.6	7.9	41.5	4.3	23.8	36.5	-2.9	33.5	7.7	41.2	4.3	23.3	62.7
	32.2	4.3	37.9	-3.0	28.5	9.5	38.0	3.0	34.7	35.8	-3.0	28.8	9.3	38.1	3.1	34.2	62.0
		5.7	64.8	-2.7	29.3	9.5	38.9	3.1	34.8	35.8	-2.7	29.6	9.4	38.9	3.1	34.3	62.0
10.0	10.0	4.3	37.2	7.0	46.6	6.9	53.5	6.8	13.5	37.2	7.1	44.6	6.7	51.3	6.6	12.7	63.4
		5.7	63.4	7.5	48.4	6.9	55.3	7.0	13.6	37.2	7.5	48.4	6.8	55.2	7.1	12.9	63.4
	21.1	4.3	37.2	7.1	43.9	8.3	52.2	5.3	24.5	36.5	7.2	43.5	8.1	51.6	5.4	23.8	62.7
		5.7	63.4	7.6	44.7	8.4	53.1	5.3	24.6	36.5	7.6	44.8	8.1	53.0	5.5	23.9	62.7
	32.2	4.3	37.2	7.4	40.5	10.2	50.7	4.0	35.5	35.8	7.4	40.5	10.1	50.6	4.0	34.9	62.0
		5.7	63.4	7.8	41.8	10.1	51.8	4.1	35.6	35.8	7.8	41.9	9.9	51.7	4.3	34.9	62.0
21.1	10.0	4.3	36.5	17.4	57.4	7.5	64.9	7.7	14.2	37.2	17.4	56.1	7.3	63.3	7.7	13.3	63.4
		5.7	62.7	18.1	58.0	7.5	65.5	7.7	14.3	37.2	18.1	56.4	7.3	63.8	7.7	13.4	63.4
	21.1	4.3	36.5	17.3	57.7	9.0	66.7	6.4	25.5	36.5	17.4	56.4	8.7	65.1	6.5	24.5	62.7
		5.7	62.7	18.0	58.3	9.1	67.4	6.4	25.5	36.5	18.1	56.7	8.8	65.5	6.4	24.6	62.7
	32.2	4.3	36.5	17.6	54.1	10.7	64.8	5.0	36.5	35.8	17.5	56.0	10.5	66.5	5.3	35.7	62.0
		5.7	62.7	18.2	54.6	10.9	65.5	5.0	36.5	35.8	18.2	56.2	10.6	66.8	5.3	35.7	62.0
32.2	10.0	4.3	35.8	28.2	61.4	7.8	69.2	7.9	14.5	37.2	28.3	59.5	7.5	67.0	7.9	13.5	63.4
		5.7	62.0	29.0	61.5	7.8	69.3	7.9	14.5	37.2	29.1	59.7	7.6	67.2	7.9	13.5	63.4
	21.1	4.3	35.8	28.0	64.1	9.5	73.6	6.7	25.9	36.5	28.2	62.1	9.2	71.3	6.8	24.9	62.7
		5.7	62.0	28.8	64.2	9.5	73.7	6.7	25.9	36.5	28.9	62.2	9.2	71.4	6.8	24.9	62.7
	32.2	4.3	35.8	28.0	64.4	11.4	75.8	5.7	37.2	35.8	28.1	62.5	11.1	73.5	5.6	36.1	62.0
		5.7	62.0	28.8	64.9	11.4	76.3	5.7	37.2	35.8	28.9	62.9	11.1	74.0	5.7	36.1	62.0

All capacities in kW  
 All temperature in °C.  
 Interpolation is permissible extrapolation is not.  
 All performance data is based upon the lower voltage of dual voltage rated units.

# EKW Reversible Chiller 50Hz Submittal Data



## PERFORMANCE DATA— HEATING FULL LOAD EKW130

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

ELT °C	EST °C	Load Flow		Source 6.8 L/s							Source 8.5 L/s								
		Flow L/s	PD kPa	Heating							PD kPa	Heating							PD kPa
				LLT	HC	kW	HE	COP	LST	LLT		HC	kW	HE	COP	LST			
15.6	-1.1	6.8	21.4	20.2	127.6	22.8	104.8	5.6	-4.9	23.5	20.2	128.5	22.2	106.3	5.8	-4.2	34.4		
		8.5	31.8	19.3	130.7	22.9	107.8	5.7	-5.0	23.5	19.4	131.9	22.4	109.5	5.9	-4.3	34.4		
	4.4	6.8	21.4	20.8	144.6	23.7	120.9	6.1	0.1	22.8	20.8	145.7	23.2	122.5	6.3	0.9	33.5		
		8.5	31.8	19.8	148.2	23.8	124.3	6.2	-0.1	22.8	19.9	149.5	23.3	126.2	6.4	0.8	33.5		
	10.0	6.8	21.4	21.4	160.3	24.7	135.6	6.5	5.1	22.1	21.4	161.5	24.1	137.4	6.7	6.0	32.8		
		8.5	31.8	20.3	164.2	24.8	139.4	6.6	5.0	22.1	20.4	165.7	24.3	141.5	6.8	5.9	32.8		
	15.6	6.8	21.4	21.9	174.7	25.7	149.0	6.8	10.2	21.4	21.9	176.0	25.0	150.9	7.0	11.2	31.8		
		8.5	31.8	20.7	178.9	25.8	153.1	6.9	10.0	21.4	20.8	180.6	25.2	155.3	7.2	11.1	31.8		
	21.1	6.8	21.4	22.3	187.7	26.6	161.0	7.0	15.3	20.7	22.4	189.0	26.0	163.1	7.3	16.4	30.8		
		8.5	31.8	21.1	192.2	26.8	165.5	7.2	15.1	20.7	21.2	194.0	26.2	167.8	7.4	16.3	30.8		
26.7	-1.1	6.8	20.0	31.1	123.7	28.1	95.7	4.4	-4.6	23.5	31.2	124.6	27.4	97.2	4.5	-3.9	34.4		
		8.5	30.1	30.3	126.7	28.2	98.5	4.5	-4.7	23.5	30.4	127.9	27.6	100.3	4.6	-4.0	34.4		
	4.4	6.8	20.0	31.8	141.3	29.0	112.2	4.9	0.4	22.8	31.8	142.3	28.3	114.0	5.0	1.1	33.5		
		8.5	30.1	30.9	144.7	29.2	115.5	5.0	0.3	22.8	30.9	146.0	28.5	117.5	5.1	1.0	33.5		
	10.0	6.8	20.0	32.4	157.2	30.0	127.2	5.2	5.4	22.1	32.4	158.4	29.3	129.1	5.4	6.3	32.8		
		8.5	30.1	31.3	161.1	30.2	130.9	5.3	5.3	22.1	31.4	162.5	29.5	133.1	5.5	6.1	32.8		
	15.6	6.8	20.0	32.9	171.6	31.0	140.6	5.5	10.5	21.4	32.9	172.8	30.2	142.6	5.7	11.4	31.8		
		8.5	30.1	31.8	175.7	31.1	144.6	5.6	10.3	21.4	31.8	177.4	30.4	146.9	5.8	11.3	31.8		
	21.1	6.8	20.0	33.3	184.3	31.9	152.4	5.8	15.6	20.7	33.4	185.7	31.2	154.5	6.0	16.6	30.8		
		8.5	30.1	32.1	188.8	32.1	156.7	5.9	15.4	20.7	32.2	190.5	31.4	159.1	6.1	16.5	30.8		
37.8	-1.1	6.8	18.6	42.1	119.7	35.4	84.3	3.4	-4.2	23.5	42.1	120.6	34.5	86.1	3.5	-3.6	34.4		
		8.5	28.3	41.3	122.6	35.6	87.1	3.4	-4.3	23.5	41.4	123.8	34.8	89.0	3.6	-3.7	34.4		
	4.4	6.8	18.6	42.7	136.4	36.2	100.2	3.8	0.8	22.8	42.8	137.4	35.3	102.1	3.9	1.5	33.5		
		8.5	28.3	41.8	139.8	36.4	103.4	3.8	0.7	22.8	41.9	141.0	35.6	105.5	4.0	1.4	33.5		
	10.0	6.8	18.6	43.3	151.7	36.9	114.8	4.1	5.8	22.1	43.3	152.8	36.0	116.8	4.2	6.6	32.8		
		8.5	28.3	42.3	155.4	37.1	118.3	4.2	5.7	22.1	42.3	156.8	36.3	120.5	4.3	6.5	32.8		
	15.6	6.8	18.6	43.8	165.5	37.7	127.8	4.4	10.9	21.4	43.8	166.7	36.8	129.9	4.5	11.8	31.8		
		8.5	28.3	42.7	169.5	37.9	131.6	4.5	10.8	21.4	42.7	171.1	37.1	134.0	4.6	11.7	31.8		
	21.1	6.8	18.6	44.2	177.9	38.4	139.4	4.6	16.1	20.7	44.3	179.2	37.5	141.7	4.8	17.0	30.8		
		8.5	28.3	43.1	182.2	38.6	143.6	4.7	15.9	20.7	43.1	183.9	37.8	146.1	4.9	16.9	30.8		
48.9	-1.1	6.8	17.3	53.0	114.7	44.4	70.3	2.6	-3.7	23.5	53.1	115.5	43.3	72.2	2.7	-3.2	34.4		
		8.5	26.5	52.3	117.4	44.6	72.8	2.6	-3.7	23.5	52.3	118.5	43.6	74.9	2.7	-3.3	34.4		
	4.4	6.8	17.3	53.6	128.9	44.9	84.0	2.9	1.4	22.8	53.6	129.8	43.8	86.0	3.0	2.0	33.5		
		8.5	26.5	52.7	132.0	45.1	86.9	2.9	1.3	22.8	52.7	133.2	44.1	89.1	3.0	1.9	33.5		
	10.0	6.8	17.3	54.0	142.4	45.4	97.1	3.1	6.5	22.1	54.1	143.5	44.3	99.2	3.2	7.1	32.8		
		8.5	26.5	53.1	145.9	45.6	100.3	3.2	6.4	22.1	53.2	147.2	44.6	102.7	3.3	7.0	32.8		
	15.6	6.8	17.3	54.5	155.3	45.8	109.5	3.4	11.6	21.4	54.6	156.5	44.7	111.7	3.5	12.3	31.8		
		8.5	26.5	53.5	159.1	46.1	113.0	3.5	11.5	21.4	53.5	160.6	45.1	115.5	3.6	12.2	31.8		
	21.1	6.8	17.3	55.0	167.5	46.3	121.2	3.6	16.7	20.7	55.0	168.8	45.2	123.6	3.7	17.5	30.8		
		8.5	26.5	53.9	171.6	46.6	125.1	3.7	16.6	20.7	53.9	173.2	45.5	127.7	3.8	17.4	30.8		

**Notes:** All capacities in kW.  
 All temperatures in °C.  
 Interpolation is permissible, extrapolation is not.  
 All performance data is based upon the lower voltage of dual voltage rated units.



# EKW Reversible Chiller 50Hz Submittal Data



## PERFORMANCE DATA— HEATING PART LOAD EKW130

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

ELT °C	EST °C	Load Flow		Source 6.8 L/s							Source 8.5 L/s						
		Flow L/s	PD kPa	Heating					PD kPa	Heating					PD kPa		
				LLT	HC	kW	HE	COP		LST	LLT	HC	kW	HE		COP	LST
15.6	-1.1	6.8	21.4	17.9	65.7	10.9	54.8	6.0	-3.1	23.5	18.0	66.2	10.7	55.6	6.2	-2.7	34.4
		8.5	31.8	17.5	67.4	11.0	56.4	6.1	-3.2	23.5	17.5	68.0	10.7	57.2	6.3	-2.8	34.4
	4.4	6.8	21.4	18.3	74.5	11.4	63.1	6.5	2.2	22.8	18.3	75.1	11.1	64.0	6.8	2.6	33.5
		8.5	31.8	17.8	76.3	11.4	64.9	6.7	2.1	22.8	17.8	77.0	11.2	65.8	6.9	2.5	33.5
	10.0	6.8	21.4	18.5	82.6	11.9	70.8	7.0	7.4	22.1	18.6	83.2	11.6	71.7	7.2	7.9	32.8
		8.5	31.8	18.0	84.6	11.9	72.7	7.1	7.4	22.1	18.0	85.4	11.7	73.8	7.3	7.9	32.8
	15.6	6.8	21.4	18.8	90.0	12.3	77.7	7.3	12.7	21.4	18.8	90.7	12.0	78.6	7.5	13.3	31.8
		8.5	31.8	18.2	92.2	12.4	79.8	7.4	12.7	21.4	18.2	93.0	12.1	80.9	7.7	13.2	31.8
	21.1	6.8	21.4	19.1	96.7	12.8	83.9	7.6	18.1	20.7	19.1	97.4	12.5	84.9	7.8	18.7	30.8
		8.5	31.8	18.4	99.1	12.8	86.2	7.7	18.0	20.7	18.4	100.0	12.6	87.4	8.0	18.6	30.8
26.7	-1.1	6.8	20.0	29.0	63.8	13.5	50.3	4.7	-2.9	23.5	29.0	64.2	13.2	51.1	4.9	-2.6	34.4
		8.5	30.1	28.6	65.3	13.5	51.8	4.8	-3.0	23.5	28.6	65.9	13.2	52.7	5.0	-2.6	34.4
	4.4	6.8	20.0	29.3	72.8	13.9	58.9	5.2	2.3	22.8	29.3	73.3	13.6	59.7	5.4	2.7	33.5
		8.5	30.1	28.8	74.6	14.0	60.6	5.3	2.3	22.8	28.8	75.3	13.7	61.6	5.5	2.7	33.5
	10.0	6.8	20.0	29.6	81.0	14.4	66.6	5.6	7.6	22.1	29.6	81.6	14.1	67.6	5.8	8.0	32.8
		8.5	30.1	29.1	83.0	14.5	68.5	5.7	7.5	22.1	29.1	83.8	14.2	69.6	5.9	8.0	32.8
	15.6	6.8	20.0	29.9	88.4	14.9	73.5	5.9	12.9	21.4	29.9	89.1	14.5	74.6	6.1	13.4	31.8
		8.5	30.1	29.3	90.6	14.9	75.6	6.1	12.8	21.4	29.3	91.4	14.6	76.8	6.3	13.3	31.8
	21.1	6.8	20.0	30.1	95.0	15.3	79.6	6.2	18.2	20.7	30.1	95.7	15.0	80.7	6.4	18.8	30.8
		8.5	30.1	29.5	97.3	15.4	81.9	6.3	18.1	20.7	29.5	98.2	15.1	83.1	6.5	18.7	30.8
37.8	-1.1	6.8	18.6	40.0	61.7	17.0	44.7	3.6	-2.7	23.5	40.0	62.2	16.6	45.6	3.7	-2.4	34.4
		8.5	28.3	39.6	63.2	17.1	46.1	3.7	-2.8	23.5	39.6	63.8	16.7	47.1	3.8	-2.5	34.4
	4.4	6.8	18.6	40.3	70.3	17.4	52.9	4.0	2.5	22.8	40.3	70.8	17.0	53.9	4.2	2.9	33.5
		8.5	28.3	39.9	72.0	17.5	54.6	4.1	2.5	22.8	39.9	72.7	17.1	55.6	4.3	2.8	33.5
	10.0	6.8	18.6	40.6	78.2	17.7	60.4	4.4	7.8	22.1	40.6	78.7	17.3	61.4	4.6	8.2	32.8
		8.5	28.3	40.1	80.1	17.8	62.2	4.5	7.7	22.1	40.1	80.8	17.4	63.4	4.6	8.2	32.8
	15.6	6.8	18.6	40.9	85.3	18.1	67.2	4.7	13.1	21.4	40.9	85.9	17.7	68.2	4.9	13.6	31.8
		8.5	28.3	40.3	87.4	18.2	69.2	4.8	13.1	21.4	40.3	88.2	17.8	70.4	5.0	13.5	31.8
	21.1	6.8	18.6	41.1	91.7	18.5	73.2	5.0	18.5	20.7	41.1	92.3	18.0	74.3	5.1	19.0	30.8
		8.5	28.3	40.5	93.9	18.6	75.3	5.1	18.4	20.7	40.5	94.7	18.1	76.6	5.2	18.9	30.8
48.9	-1.1	6.8	17.3	51.0	59.1	21.3	37.8	2.8	-2.5	23.5	51.0	59.5	20.8	38.7	2.9	-2.2	34.4
		8.5	26.5	50.6	60.5	21.4	39.1	2.8	-2.5	23.5	50.7	61.1	21.0	40.1	2.9	-2.3	34.4
	4.4	6.8	17.3	51.3	66.4	21.5	44.9	3.1	2.8	22.8	51.3	66.9	21.0	45.9	3.2	3.1	33.5
		8.5	26.5	50.9	68.0	21.7	46.4	3.1	2.8	22.8	50.9	68.7	21.2	47.5	3.2	3.1	33.5
	10.0	6.8	17.3	51.5	73.4	21.8	51.6	3.4	8.1	22.1	51.6	73.9	21.3	52.7	3.5	8.5	32.8
		8.5	26.5	51.1	75.2	21.9	53.3	3.4	8.1	22.1	51.1	75.9	21.4	54.5	3.5	8.4	32.8
	15.6	6.8	17.3	51.8	80.0	22.0	58.0	3.6	13.5	21.4	51.8	80.6	21.5	59.2	3.8	13.8	31.8
		8.5	26.5	51.3	82.0	22.1	59.9	3.7	13.4	21.4	51.3	82.7	21.6	61.1	3.8	13.8	31.8
	21.1	6.8	17.3	52.0	86.3	22.2	64.1	3.9	18.8	20.7	52.0	87.0	21.7	65.3	4.0	19.2	30.8
		8.5	26.5	51.4	88.4	22.4	66.1	4.0	18.7	20.7	51.5	89.3	21.9	67.4	4.1	19.2	30.8

**Notes:** All capacities in kW.  
 All temperatures in °C.  
 Interpolation is permissible, extrapolation is not.  
 All performance data is based upon the lower voltage of dual voltage rated units.

# EKW Reversible Chiller 50Hz Submittal Data



## PERFORMANCE DATA— COOLING FULL LOAD EKW130

Contractor: \_\_\_\_\_ P.O.: \_\_\_\_\_  
 Engineer: \_\_\_\_\_  
 Project Name: \_\_\_\_\_ Unit Tag: \_\_\_\_\_

ELT °C	EST °C	Load Flow		Source 6.8 L/s							Source 8.5 L/s						
		Flow L/s	PD kPa	Cooling						PD kPa	Cooling						PD kPa
				LLT	TC	kW	HR	COP	LST		LLT	TC	kW	HR	COP	LST	
-1.1	10.0	6.8	23.5	-5.0	108.6	19.8	128.4	5.5	14.6	22.1	-5.1	109.4	19.4	128.8	5.6	13.7	32.7
		8.5	34.4	-4.3	111.2	19.9	131.2	5.6	14.7	22.1	-4.4	112.2	19.5	131.7	5.8	13.8	32.7
	21.1	6.8	23.5	-4.7	98.0	24.6	122.5	4.0	25.5	20.7	-4.7	98.7	24.0	122.7	4.1	24.7	30.8
		8.5	34.4	-4.0	100.3	24.7	125.1	4.1	25.6	20.7	-4.0	101.3	24.1	125.4	4.2	24.7	30.8
	32.2	6.8	23.5	-4.2	85.3	29.6	114.9	2.9	36.4	19.2	-4.2	86.0	28.9	114.9	3.0	35.5	29.2
		8.5	34.4	-3.6	87.4	29.8	117.2	2.9	36.5	19.2	-3.7	88.2	29.0	117.2	3.0	35.6	29.2
10.0	10.0	6.8	22.1	4.6	150.0	21.8	171.9	6.9	16.2	22.1	4.5	151.2	21.3	172.5	7.1	15.0	32.7
		8.5	32.7	5.6	153.7	21.9	175.6	7.0	16.4	22.1	5.5	155.1	21.4	176.5	7.3	15.1	32.7
	21.1	6.8	22.1	5.0	137.9	26.6	164.5	5.2	27.1	20.7	5.0	138.9	26.0	164.9	5.3	25.9	30.8
		8.5	32.7	5.9	141.3	26.8	168.0	5.3	27.2	20.7	5.9	142.6	26.1	168.7	5.5	26.0	30.8
	32.2	6.8	22.1	5.5	124.2	31.7	156.0	3.9	37.9	19.2	5.5	125.2	31.0	156.2	4.0	36.7	29.2
		8.5	32.7	6.3	127.3	31.9	159.2	4.0	38.0	19.2	6.3	128.4	31.1	159.6	4.1	36.8	29.2
21.1	10.0	6.8	20.7	14.3	188.4	23.7	212.1	7.9	17.7	22.1	14.2	189.8	23.2	213.0	8.2	16.2	32.7
		8.5	30.8	15.5	193.0	23.8	216.8	8.1	17.8	22.1	15.5	194.8	23.2	218.0	8.4	16.3	32.7
	21.1	6.8	20.7	14.7	176.6	28.7	205.2	6.2	28.5	20.7	14.7	177.9	28.0	205.9	6.4	27.1	30.8
		8.5	30.8	15.9	180.9	28.8	209.7	6.3	28.7	20.7	15.8	182.5	28.1	210.6	6.5	27.2	30.8
	32.2	6.8	20.7	15.3	161.4	33.5	194.9	4.8	39.3	19.2	15.2	162.6	32.7	195.3	5.0	37.9	29.2
		8.5	30.8	16.3	165.3	33.7	199.0	4.9	39.4	19.2	16.3	166.8	32.9	199.7	5.1	38.0	29.2
32.2	10.0	6.8	19.2	24.1	223.6	25.5	249.2	8.8	19.0	22.1	24.1	225.3	24.9	250.2	9.0	17.2	32.7
		8.5	29.2	25.6	229.1	25.7	254.8	8.9	19.2	22.1	25.5	231.2	25.0	256.2	9.2	17.4	32.7
	21.1	6.8	19.2	24.5	212.7	30.7	243.4	6.9	29.9	20.7	24.5	214.2	30.0	244.2	7.1	28.2	30.8
		8.5	29.2	25.9	217.8	30.9	248.7	7.1	30.1	20.7	25.9	219.8	30.1	249.9	7.3	28.3	30.8
	32.2	6.8	19.2	25.1	196.7	35.4	232.0	5.6	40.6	19.2	25.1	198.1	34.5	232.7	5.7	39.0	29.2
		8.5	29.2	26.4	201.5	35.6	237.0	5.7	40.8	19.2	26.3	203.3	34.7	238.0	5.9	39.1	29.2

**Notes:** All capacities in kW.  
 All temperatures in °C.  
 Interpolation is permissible, extrapolation is not.  
 All performance data is based upon the lower voltage of dual voltage rated units.

# EKW Reversible Chiller 50Hz Submittal Data



## PERFORMANCE DATA— COOLING PART LOAD EKW130

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

ELT °C	EST °C	Load Flow		Source 6.8 L/s							Source 8.5 L/s						
		Flow L/s	PD kPa	Cooling						PD kPa	Cooling						PD kPa
				LLT	TC	kW	HR	COP	LST		LLT	TC	kW	HR	COP	LST	
-1.1	10.0	6.8	23.5	-3.2	56.5	9.8	66.2	5.8	12.4	22.1	-3.2	56.9	9.6	66.4	6.0	11.9	32.7
		8.5	34.4	-2.8	57.8	9.8	67.7	5.9	12.4	22.1	-2.8	58.4	9.6	68.0	6.1	12.0	32.7
	21.1	6.8	23.5	-3.0	50.9	12.1	63.1	4.2	23.4	20.7	-3.0	51.3	11.8	63.2	4.3	22.9	30.8
		8.5	34.4	-2.6	52.2	12.2	64.4	4.3	23.4	20.7	-2.6	52.7	11.9	64.5	4.4	23.0	30.8
	32.2	6.8	23.5	-2.7	44.4	14.6	59.0	3.0	34.4	19.2	-2.7	44.7	14.3	59.0	3.1	33.9	29.2
		8.5	34.4	-2.4	45.4	14.7	60.1	3.1	34.4	19.2	-2.4	45.9	14.3	60.2	3.2	34.0	29.2
10.0	10.0	6.8	22.1	7.2	78.0	10.8	88.8	7.3	13.2	22.1	7.2	78.6	10.5	89.1	7.5	12.6	32.7
		8.5	32.7	7.7	79.9	10.8	90.7	7.4	13.3	22.1	7.7	80.7	10.5	91.2	7.7	12.6	32.7
	21.1	6.8	22.1	7.4	71.7	13.1	84.8	5.5	24.2	20.7	7.4	72.2	12.8	85.1	5.6	23.6	30.8
		8.5	32.7	7.9	73.5	13.2	86.7	5.6	24.2	20.7	7.9	74.1	12.9	87.0	5.8	23.6	30.8
	32.2	6.8	22.1	7.7	64.6	15.7	80.3	4.1	35.1	19.2	7.6	65.1	15.3	80.4	4.3	34.5	29.2
		8.5	32.7	8.1	66.2	15.7	81.9	4.2	35.2	19.2	8.1	66.8	15.3	82.1	4.4	34.6	29.2
21.1	10.0	6.8	20.7	17.6	98.0	11.7	109.7	8.4	14.0	22.1	17.5	98.7	11.4	110.1	8.6	13.2	32.7
		8.5	30.8	18.2	100.4	11.8	112.1	8.5	14.1	22.1	18.2	101.3	11.5	112.7	8.8	13.3	32.7
	21.1	6.8	20.7	17.8	91.8	14.1	106.0	6.5	24.9	20.7	17.8	92.5	13.8	106.3	6.7	24.2	30.8
		8.5	30.8	18.4	94.1	14.2	108.3	6.6	25.0	20.7	18.4	94.9	13.9	108.8	6.9	24.3	30.8
	32.2	6.8	20.7	18.1	83.9	16.5	100.4	5.1	35.9	19.2	18.1	84.5	16.1	100.7	5.2	35.1	29.2
		8.5	30.8	18.6	86.0	16.6	102.6	5.2	35.9	19.2	18.6	86.7	16.2	102.9	5.4	35.2	29.2
32.2	10.0	6.8	19.2	28.0	116.3	12.6	128.9	9.2	14.7	22.1	28.0	117.2	12.3	129.4	9.5	13.7	32.7
		8.5	29.2	28.8	119.1	12.7	131.8	9.4	14.8	22.1	28.7	120.2	12.3	132.6	9.7	13.8	32.7
	21.1	6.8	19.2	28.2	110.6	15.1	125.7	7.3	25.7	20.7	28.2	111.4	14.8	126.2	7.5	24.8	30.8
		8.5	29.2	28.9	113.3	15.2	128.5	7.4	25.8	20.7	28.9	114.3	14.8	129.2	7.7	24.9	30.8
	32.2	6.8	19.2	28.5	102.3	17.4	119.7	5.9	36.6	19.2	28.5	103.0	17.0	120.1	6.0	35.7	29.2
		8.5	29.2	29.2	104.8	17.5	122.3	6.0	36.6	19.2	29.2	105.7	17.1	122.8	6.2	35.8	29.2

**Notes:** All capacities in kW.  
 All temperatures in °C.  
 Interpolation is permissible, extrapolation is not.  
 All performance data is based upon the lower voltage of dual voltage rated units.

# EKW Reversible Chiller 50Hz Submittal Data



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

## Physical Data

### Weight Data for unit with and without enclosure

Model	Configuration	Compressor	Refrigerant Charge*	Total Weight		Corner Weights			
				Shipping	Installed	Front Left	Rear Left	Front Right	Rear Right
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 [519]	1065 [483]	264 [120]	263 [119]	270 [122 ]	268 [122]
EKW130	with enclosure	Scroll (2)	21.2 [9.6]	1920 [871]	1842 [836]	349 [158]	595 [270]	664 [301]	312 [142]
	without enclosure	Scroll (2)	21.2 [9.6]	1808 [820]	1730 [785]	321 [146]	567 [257]	636 [288]	284 [129]

Weights shown in Pounds, [kg]

\* Refrigerant per circuit in Pounds, [kg]

Add 64 lbs [29 kg] for fluid weight when full. (EKW090)

Add 110 lbs [50 kg] for fluid weight when full. (EKW130)

## Sound Data

### Sound Data for unit with and without enclosure

Model	Sound Rating*	
EKW090	65 dBA	with enclosure
	76 dBA	no enclosure
EKW130	68 dBA	with enclosure
	78 dBA	no enclosure

\*test standard condition was ARI550

## Electrical Data

Model	Rated Voltage	Voltage Min/Max	Compressor				Total Unit FLA	Min Circ Amp	Max Fuse	Max HACR Breaker
			Qty	MCC	RLA	LRA				
EKW090	380-420/50/3	342/462	2	37.0	23.7	198.0	47.4	53.3	70	70
EKW130	380-420/50/3	342/462	2	48.0	42.9	250.0	85.8	96.5	125	125

Ratings per each compressor.

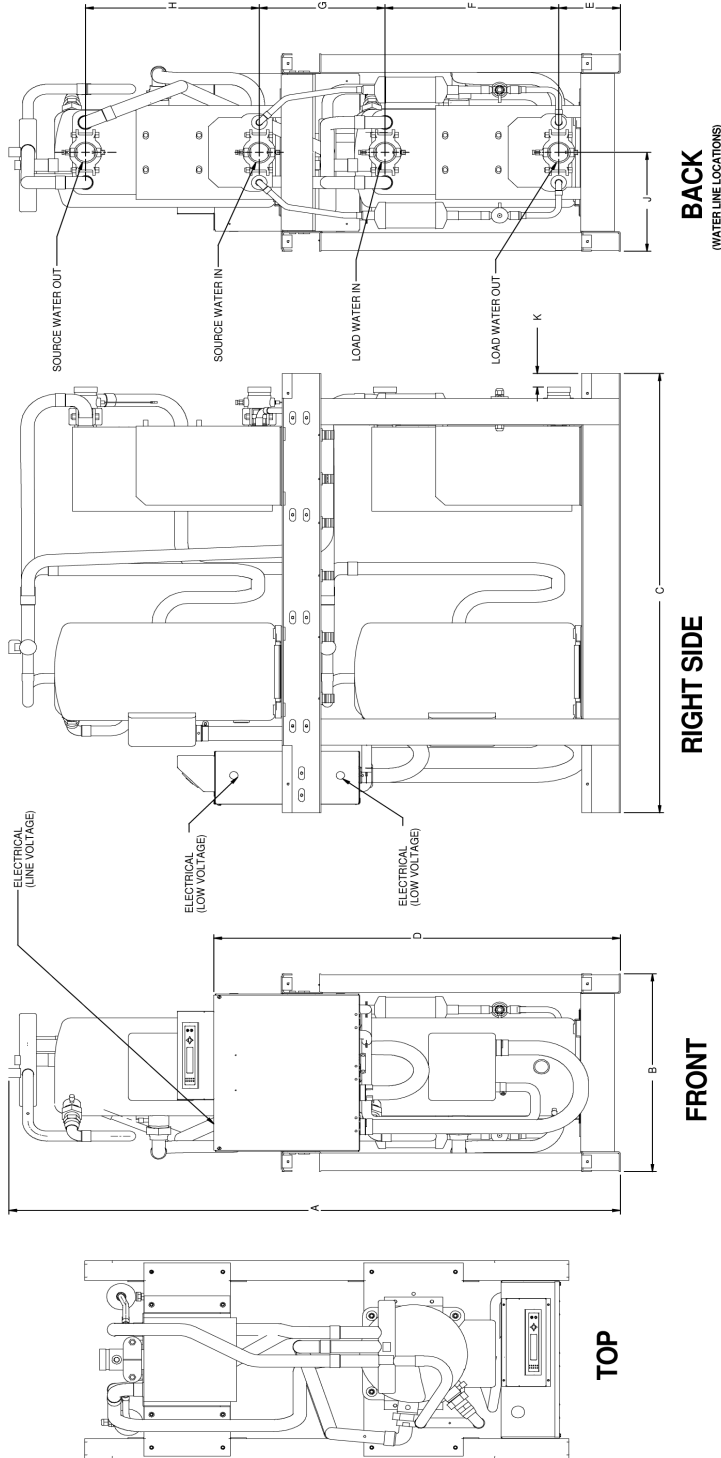
All fuses RK-5.

# EKW Reversible Chiller 50Hz Submittal Data



## PHYSICAL DIMENSIONS— WITHOUT ENCLOSURE

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



### Dimensional Data for unit without enclosure

Model	A	B	C	D	E	F	G	H	J	K
EKW090	63.2 [1605]	22.5 [572]	50.0 [1270]	42.0 [1067]	6.4 [162]	18.0 [456]	13.0 [330]	18.0 [456]	11.3 [286]	1.5 [39]
EKW130	70.0 [1778]	22.5 [572]	52.0 [1321]	47.8 [1215]	6.5 [166]	17.0 [432]	19.5 [495]	17.0 [432]	14.3 [362]	0.8 [20]

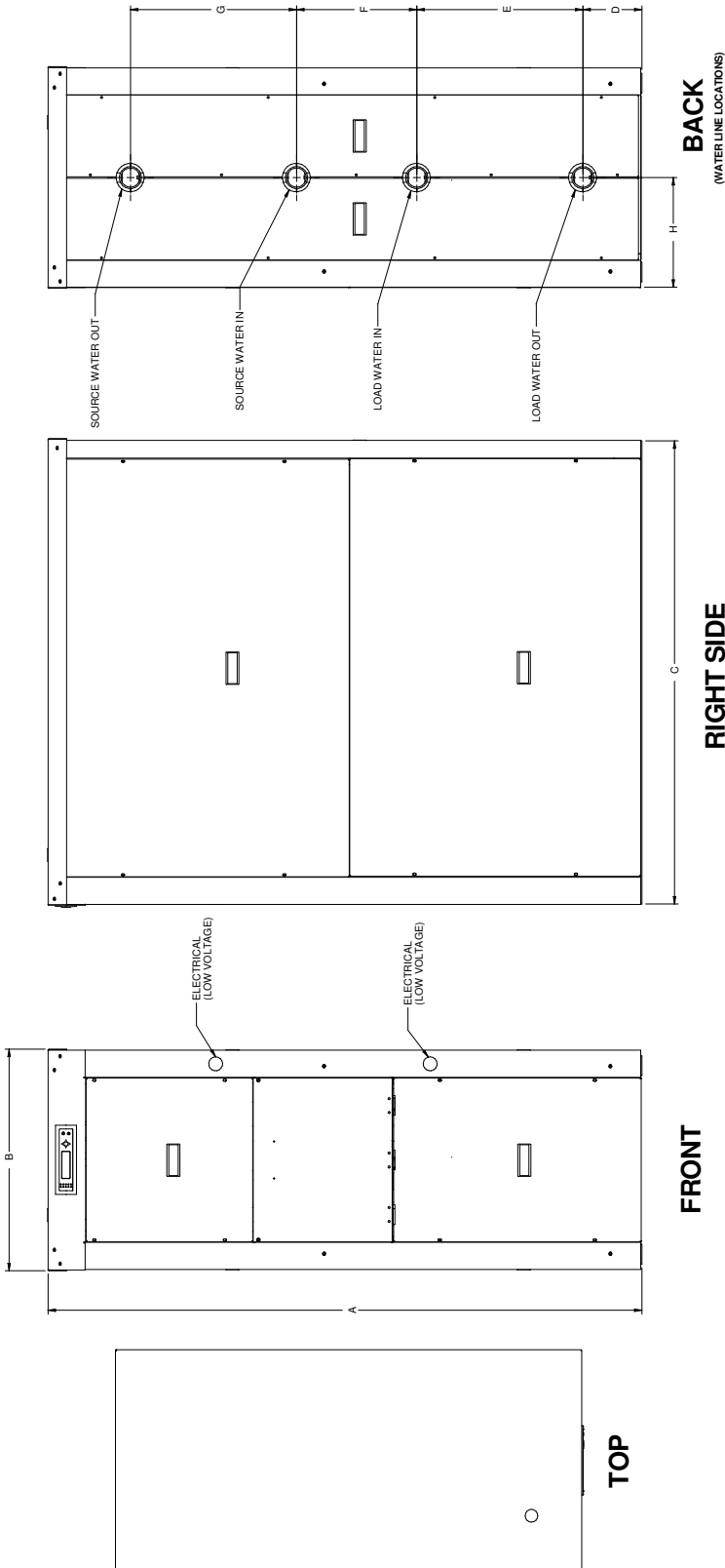
All dimensions in inches, [mm]  
All water connections are 2" Victaulic

# EKW Reversible Chiller 50Hz Submittal Data



## PHYSICAL DIMENSIONS WITH ENCLOSURE

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



**Dimensional Data for unit with enclosure**

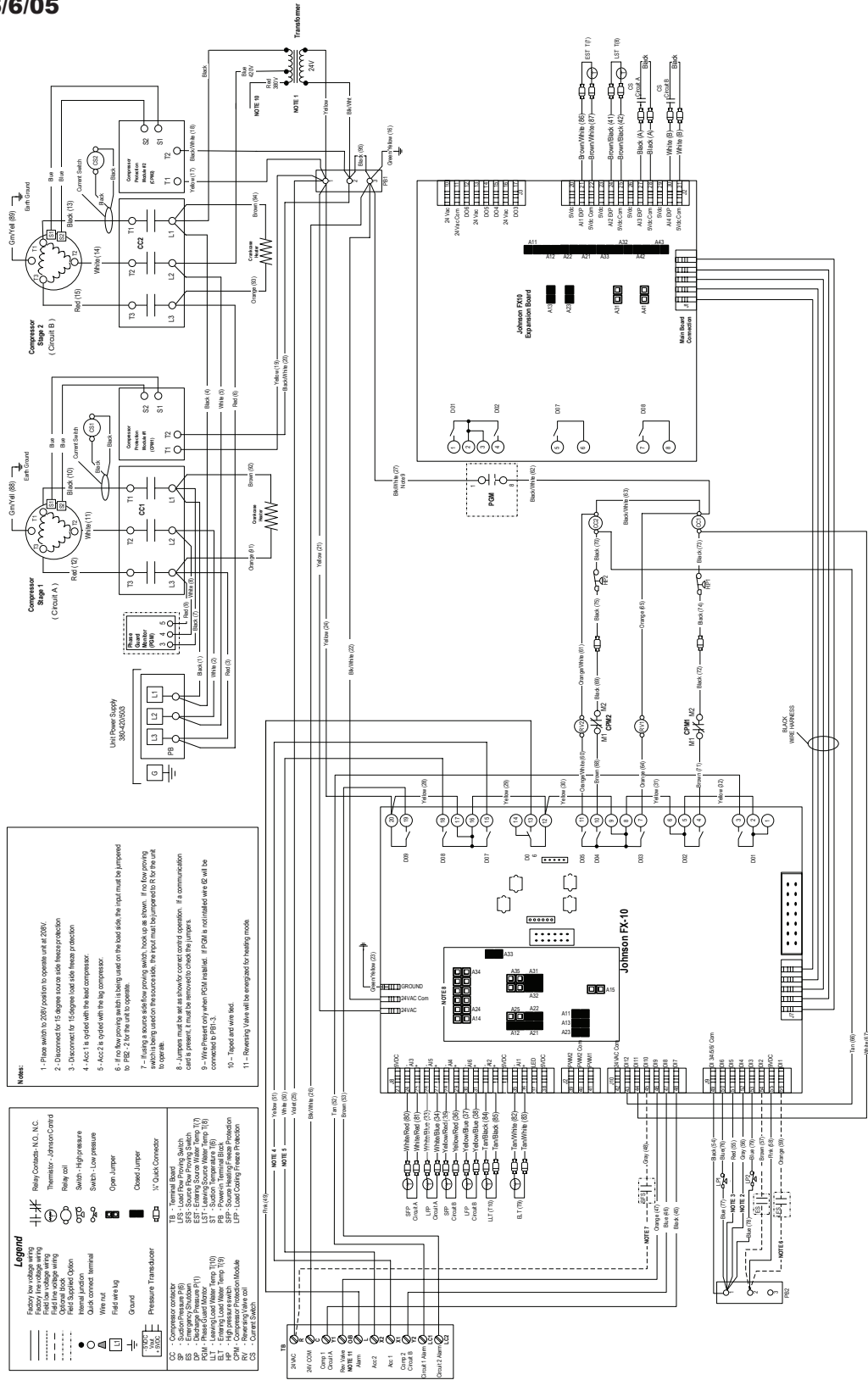
Model	A	B	C	D	E	F	G	H
EKW090	64.2 [1630]	23.9 [608]	50.0 [1270]	6.4 [162]	18.0 [456]	13.0 [330]	18.0 [456]	11.8 [301]
EKW130	71.0 [1803]	23.9 [607]	52.4 [1330]	6.5 [166]	17.0 [432]	19.5 [495]	17.0 [432]	14.9 [378]

# EKW Reversible Chiller 50Hz Submittal Data



**WIRING SCHEMATIC—**  
**380-420/50/3**  
**97P684-03 6/6/05**

Contractor: \_\_\_\_\_ P.O.: \_\_\_\_\_  
 Engineer: \_\_\_\_\_  
 Project Name: \_\_\_\_\_ Unit Tag: \_\_\_\_\_



- Notes:**
- 1- Place switch to 200V position to operate unit at 208V.
  - 2- Disconnect for 15 degree source side freeze protection.
  - 3- Disconnect for 15 degree load side freeze protection.
  - 4- Acc1 is tied with the load compressor.
  - 5- Acc2 is tied with the big compressor.
  - 6- If the flow proving switch is being used on the load side, the input must be jumped to FREQ-2 for the unit to operate.
  - 7- If using a source side flow proving switch, hook up as shown. If no flow proving switch is being used on the source side, the input must be jumped to R for the unit to operate.
  - 8- Jumper must be set as shown for correct control operation. If a communication card is present, check for instructions to check the jumper.
  - 9- Wire the control system as shown on the PGM installed. If PGM is not installed wire as shown on the PGM-1.
  - 10 - Reversing Valve will be engaged for heating mode.
  - 11 - Reversing Valve will be engaged for cooling mode.

**Legend**

Factory low voltage wiring  
 Field low voltage wiring  
 Factory high voltage wiring  
 Field high voltage wiring  
 Field supplied option  
 Wire nut  
 Wire out  
 Quick connect terminal  
 Pressure Transducer

CC - Compressor Contactor  
 SF - Suction Pressure (PSI)  
 DP - Discharge Pressure (PSI)  
 EL - Evaporator Superheat (Temp 1/10)  
 LL - Load Water Temp (Temp 1/10)  
 EL - Evaporator Water Temp (Temp 1/10)  
 CW - Cooling Water Temp (Temp 1/10)  
 CPM - Compressor Protection Module  
 LFP - Load Cooling Freeze Protection  
 CS - Current Switch

TR - Terminal Block  
 LFS - Load Flow Proving Switch  
 SPS - Suction Pressure Switch  
 DP - Discharge Pressure Switch  
 ESP - Evaporator Superheat Temp 1/10  
 SST - Suction Superheat Temp 1/10  
 LLT - Load Water Temp 1/10  
 ELT - Evaporator Water Temp 1/10  
 CWT - Cooling Water Temp 1/10  
 LFP - Load Cooling Freeze Protection  
 CS - Current Switch

Relay Contacts: N.O. N.C.  
 Transformer: Johnson Control  
 Relay coil  
 Switch: High pressure  
 Switch: Low pressure  
 Open Jumper  
 Closed Jumper  
 1/2" Quick Connector  
 TB - Terminal Block  
 LFS - Load Flow Proving Switch  
 SPS - Suction Pressure Switch  
 DP - Discharge Pressure Switch  
 ESP - Evaporator Superheat Temp 1/10  
 SST - Suction Superheat Temp 1/10  
 LLT - Load Water Temp 1/10  
 ELT - Evaporator Water Temp 1/10  
 CWT - Cooling Water Temp 1/10  
 LFP - Load Cooling Freeze Protection  
 CS - Current Switch



## ENGINEERING GUIDE SPECIFICATIONS

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

### 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 WFI, 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.





**ENGINEERING GUIDE  
SPECIFICATIONS (CONT.)**

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

**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.*



## ENGINEERING GUIDE SPECIFICATIONS (CONT.)

Contractor: \_\_\_\_\_ P.O.: \_\_\_\_\_

Engineer: \_\_\_\_\_

Project Name: \_\_\_\_\_ Unit Tag: \_\_\_\_\_

### 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