

ENVISION™

NKW 020 TO 130 kW

Commercial Reversible Chiller - 50 Hz



Submittal Data
English Language
IP/Metric Units
SD1052WN 08/11

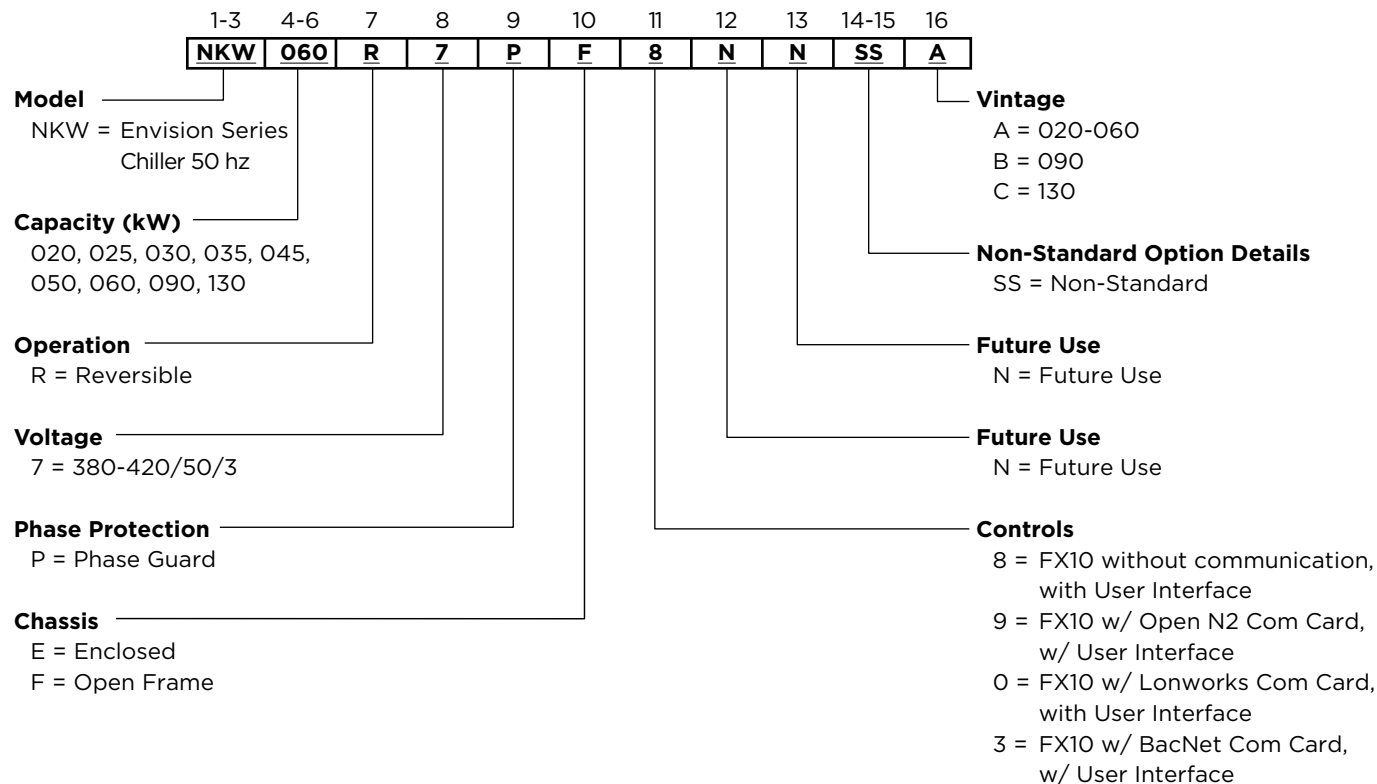
Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____



Model Nomenclature



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AHRI/ASHRAE/ISO 13256-2 Water-to-Water Ratings

Metric (SI) Units

Model	Capacity Modulation	Flow Rate		Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
				Cooling EST 30°C ELT 12°C		Heating EST 20°C ELT 40°C		Cooling EST 15°C ELT 12°C		Heating EST 10°C ELT 40°C		Cooling Full EST 25°C Part EST 20°C ELT 12°C		Heating Full EST 0°C Part ELT 5°C ELT 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
020	Full	1.3	1.3	23,202	3.6	31,018	3.4	26,377	5.6	25,889	2.8	24,912	4.2	20,516	2.6
	Part	1.3	1.3	12,700	4.0	16,608	3.9	14,410	6.2	13,677	3.2	13,921	5.5	11,968	2.9
025	Full	1.6	1.6	25,645	3.5	35,414	3.3	30,530	5.4	29,308	2.8	28,331	4.0	23,202	2.5
	Part	1.6	1.6	14,654	3.9	19,050	3.8	16,364	5.9	15,631	3.2	15,875	5.3	13,677	2.8
030	Full	1.8	1.8	31,262	3.4	42,741	3.2	36,880	5.1	35,414	2.7	33,949	3.9	28,087	2.3
	Part	1.8	1.8	17,585	3.8	22,958	3.6	19,295	5.5	19,050	3.1	19,050	5.0	16,608	2.6
035	Full	2.1	2.1	34,926	3.5	47,138	3.5	40,543	5.5	39,078	3.2	37,857	4.2	31,018	2.6
	Part	2.1	2.1	19,295	3.8	25,156	3.9	21,737	5.7	20,272	3.5	21,249	5.1	18,318	2.9
045	Full	2.6	2.6	41,520	3.4	51,045	3.3	44,695	4.9	46,161	2.9	43,230	3.9	37,368	2.3
	Part	2.6	2.6	21,737	3.7	26,866	3.5	24,424	4.8	23,935	3.2	23,935	4.6	21,737	2.6
050	Full	3.0	3.0	49,336	3.6	62,769	3.5	55,442	5.3	53,488	3.2	51,778	4.2	42,253	2.6
	Part	3.0	3.0	26,133	3.8	33,216	3.9	29,797	5.8	28,331	3.5	29,308	5.1	22,225	2.8
060	Full	3.4	3.4	54,220	3.2	69,852	3.3	62,769	4.9	59,594	2.9	59,105	3.8	47,138	2.3
	Part	3.4	3.4	28,576	3.4	36,635	3.6	33,460	5.1	30,041	3.2	32,239	4.6	24,912	2.5
090	Full	4.9	4.9	82,474	4.5	111,430	4.6	N/A	N/A	N/A	N/A	86,401	5.1	73,007	3.4
	Part	4.9	4.9	43,083	4.8	58,499	4.9	N/A	N/A	N/A	N/A	47,157	6.2	41,852	3.8
130	Full	7.7	7.7	138,509	4.8	179,485	4.8	N/A	N/A	N/A	N/A	145,027	5.4	126,149	3.7
	Part	7.7	7.7	72,007	5.0	93,326	5.0	N/A	N/A	N/A	N/A	78,629	6.5	73,383	4.2

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AHRI 550 Chiller Ratings

Metric (SI) Units

Model	Capacity Modulation	Flow Rate		Cooling	
		Load Liquid Flow	Source Liquid Flow	Leaving Load 7°C Ent Source 29°C	
		L/s	L/s	Capacity Watts	COP (W/W)
020	Full	1.1	1.3	23,813	4.3
	Part	1.1	1.3	12,945	4.7
025	Full	1.3	1.6	26,377	4.1
	Part	1.3	1.6	15,143	4.5
030	Full	1.5	1.8	31,995	4.0
	Part	1.5	1.8	18,073	4.4
035	Full	1.6	2.1	35,903	4.2
	Part	1.6	2.1	19,783	4.5
045	Full	2.0	2.6	42,741	4.0
	Part	2.0	2.6	22,225	4.3
050	Full	2.3	3.0	50,801	4.2
	Part	2.3	3.0	26,866	4.5
060	Full	2.8	3.4	55,686	3.8
	Part	2.8	3.4	29,308	4.0
090	Full	4.0	4.9	84,261	4.1
	Part	4.0	4.9	43,816	4.3
130	Full	6.2	7.7	131,887	4.2
	Part	6.2	7.7	68,581	4.4

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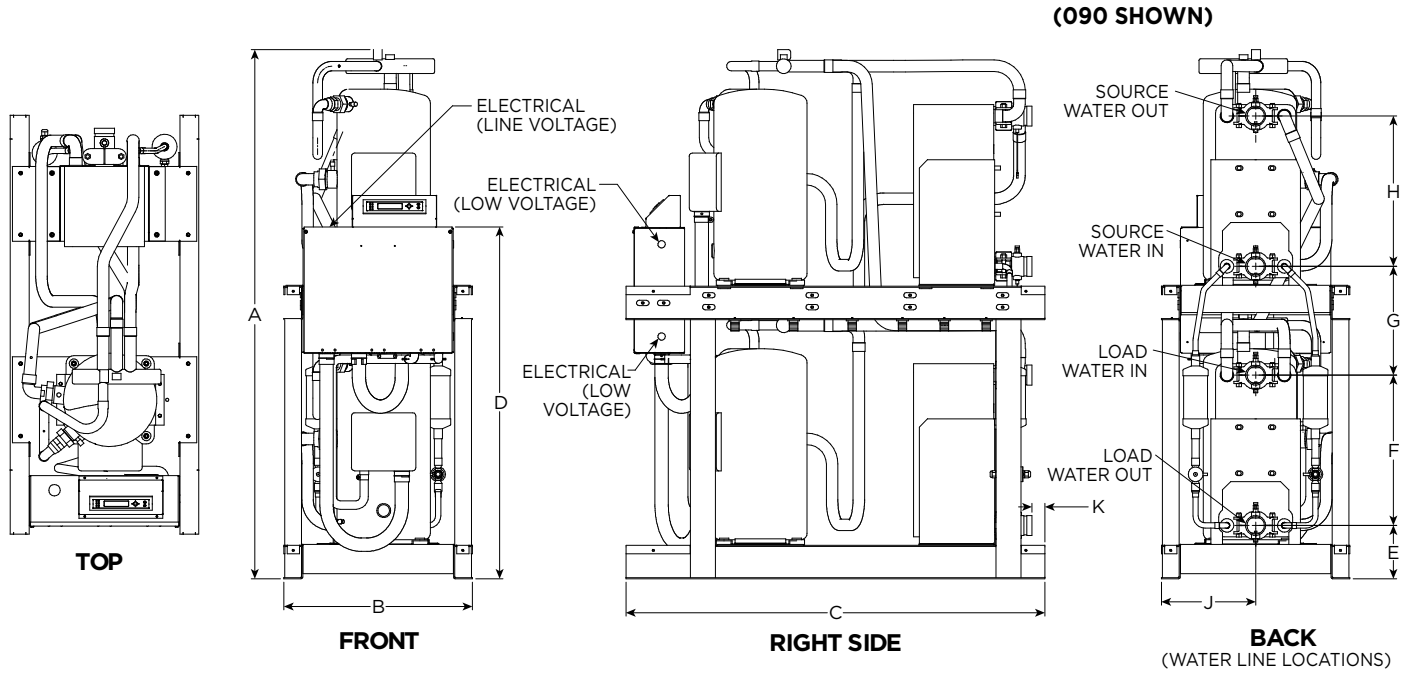
Engineer: _____

Project Name: _____ Unit Tag: _____

NKW REVERSIBLE CHILLER - 50Hz



Physical Dimensions Without Enclosure



Dimensional Data for unit without enclosure

Model	A	B	C	D	E	F	G	H	J	K
020-060	51.0 [1295]	22.5 [572]	38.0 [965]	35.1 [891]	6.1 [155]	17.0 [432]	7.9 [202]	17.0 [432]	11.2 [285]	1.5 [38]
090	63.2 [1605]	22.5 [572]	50.0 [1270]	42.0 [1067]	6.4 [162]	17.0 [432]	13.9 [354]	17.0 [432]	11.3 [286]	1.5 [39]
130	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 in. [50.8 mm] Victaulic

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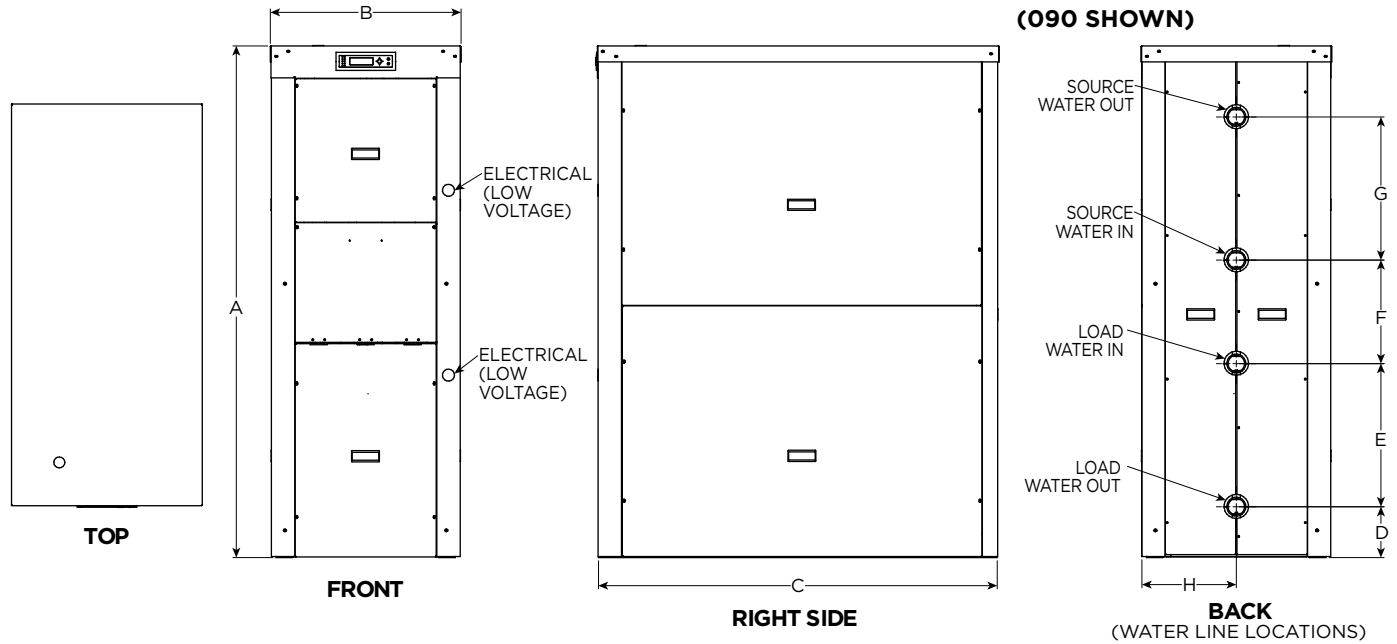
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Project Name: _____ Unit Tag: _____

NKW REVERSIBLE CHILLER - 50Hz



Physical Dimensions With Enclosure



Dimensional Data for unit with enclosure

Model	A	B	C	D	E	F	G	H
020-060	53.0 [1347]	22.4 [568]	38.0 [965]	6.1 [154]	17.0 [432]	7.9 [202]	17.0 [432]	11.2 [285]
090	64.2 [1620]	23.9 [608]	50.0 [1270]	6.4 [162]	17.0 [432]	13.9 [354]	17.0 [432]	11.8 [301]
130	71.0 [1803]	23.9 [607]	52.4 [1330]	6.5 [166]	17.0 [432]	19.5 [495]	17.0 [432]	14.9 [378]

All dimensions in inches, [mm]

All water connections are 2 in. [50.8 mm] Vic-taulic

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Physical Data

Model	Configuration	Compressor	Refrigerant Charge*	Total Weight		Corner Weights			
				Shipping	Installed	Front Left	Rear Left	Front Right	Rear Right
020	with enclosure	Scroll (2)	4.0	705	627	135	175	138	179
			[1.8]	[320]	[284]	[61]	[79]	[63]	[81]
	without enclosure	Scroll (2)	4.0	625	547	115	155	118	159
			[1.8]	[284]	[248]	[52]	[70]	[54]	[72]
025	with enclosure	Scroll (2)	4.3	705	627	135	175	138	179
			[1.9]	[320]	[284]	[61]	[79]	[63]	[81]
	without enclosure	Scroll (2)	4.3	625	547	115	155	118	159
			[1.9]	[284]	[248]	[52]	[70]	[54]	[72]
030	with enclosure	Scroll (2)	4.8	705	627	135	175	138	179
			[2.2]	[320]	[284]	[61]	[79]	[63]	[81]
	without enclosure	Scroll (2)	4.8	625	547	115	155	118	159
			[2.2]	[284]	[248]	[52]	[70]	[54]	[72]
035	with enclosure	Scroll (2)	6.3	733	655	142	182	145	186
			[2.8]	[332]	[297]	[64]	[83]	[66]	[84]
	without enclosure	Scroll (2)	6.3	653	575	122	162	125	166
			[2.8]	[296]	[261]	[55]	[73]	[57]	[75]
045	with enclosure	Scroll (2)	7.0	769	691	151	191	154	195
			[3.2]	[349]	[313]	[69]	[87]	[70]	[88]
	without enclosure	Scroll (2)	7.0	689	611	129	171	124	175
			[3.2]	[313]	[277]	[59]	[78]	[56]	[79]
050	with enclosure	Scroll (2)	7.5	825	747	165	205	168	209
			[3.4]	[374]	[339]	[75]	[93]	[76]	[95]
	without enclosure	Scroll (2)	7.5	755	677	170	210	173	214
			[3.4]	[343]	[307]	[77]	[95]	[78]	[97]
060	with enclosure	Scroll (2)	7.5	825	747	165	205	168	209
			[3.4]	[374]	[339]	[75]	[93]	[76]	[95]
	without enclosure	Scroll (2)	7.5	755	677	170	210	173	214
			[3.4]	[343]	[307]	[77]	[95]	[78]	[97]
090	with enclosure	Scroll (2)	12.3	1125	1047	255	263	260	269
			[5.6]	[510]	[475]	[116]	[119]	[118]	[122]
	without enclosure	Scroll (2)	12.3	963	885	214	223	220	228
			[5.6]	[437]	[401]	[97]	[101]	[100]	[103]
130	with enclosure	Scroll (2)	21.3	1920	1842	349	595	664	312
			[9.6]	[871]	[836]	[158]	[270]	[301]	[142]
	without enclosure	Scroll (2)	21.3	1808	1730	321	567	636	284
			[9.6]	[820]	[785]	[146]	[257]	[288]	[129]

Weights shown in Pounds, [kg]

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* Refrigerant per circuit in Pounds, [kg]

Add 24 lbs [11 kg] for fluid weight when full. (020-030)

Add 32 lbs [15 kg] for fluid weight when full. (035-040)

Add 48 lbs [22 kg] for fluid weight when full. (050-060)

Add 64 lbs [29 kg] for fluid weight when full. (090)

Add 110 lbs [50 kg] for fluid weight when full. (130)

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Electrical Data

Model	Rated Voltage	Voltage Min/Max	Compressor*			Total Unit FLA	Min Circ Amp	Max Fuse/HACR
			MCC	RLA	LRA			
020	380-420/50/3	342/462	13.0	8.3	70.0	16.6	18.7	25
025	380-420/50/3	342/462	15.0	9.6	70.0	19.2	21.6	30
030	380-420/50/3	342/462	16.5	10.6	74.0	21.1	23.8	30
035	380-420/50/3	342/462	19.0	12.2	87.0	24.3	27.4	35
045	380-420/50/3	342/462	19.0	12.2	110.0	24.3	27.4	35
050	380-420/50/3	342/462	25.0	16.0	110.0	32.0	36.0	50
060	380-420/50/3	342/462	27.0	19.2	140.0	34.6	38.9	60
090	380-420/50/3	342/462	39.0	25.0	173.0	49.9	56.2	80
130	380-420/50/3	342/462	67.0	42.9	250.0	85.8	96.5	125

HACR circuit breaker in USA only.

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* - MCC, RLA, & LRA rating per compressor. Breaker and FLA sized for both compressors.

Reference Calculations

Heating Calculations: $LWT = EWT - \frac{HE}{L/s \times 4.2^*}$	Cooling Calculations: $LWT = EWT + \frac{HR}{L/s \times 4.2^*}$
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NOTE: * When using water. Use 4.1 for 15% methanol/water or Environol solution.

Legend and Notes

ABBREVIATIONS AND 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	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 = US gallon 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	TC = total cooling capacity in kW
kPa = kilo Pascals	
kW = kilowatt	

Notes to Performance Data Tables

The following notes apply to all performance data tables:

- Three flow rates are shown for each unit. The lowest flow rate shown is used for geothermal open loop/well water systems with a minimum of 10°C EST. The middle flow rate shown is the minimum geothermal closed loop flow rate. The highest flow rate shown is optimum for geothermal closed loop systems and the suggested flow rate for boiler/tower applications.
- Entering water temperatures below 4°C assumes 15% antifreeze solution.
- Interpolation between ELT, EST, and L/s data is permissible.
- Operation in the gray areas is not recommended.

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Antifreeze Correction

Catalog performance can be corrected for antifreeze use. Please use the following table and note the example given.

Antifreeze Type	Antifreeze % by wt	Heating		Cooling		Pressure Drop
		Load	Source	Load	Source	
EWT - °C		30°C	0°C	7°C	30°C	0°C
Water	0	1.000	1.000	1.000	1.000	1.000
Ethylene Glycol	10	0.991	0.973	0.975	0.991	1.075
	20	0.979	0.943	0.946	0.979	1.163
	30	0.965	0.917	0.920	0.965	1.225
	40	0.955	0.890	0.895	0.955	1.324
	50	0.943	0.865	0.870	0.943	1.419
Propylene Glycol	10	0.981	0.958	0.959	0.981	1.130
	20	0.969	0.913	0.919	0.969	1.270
	30	0.950	0.854	0.866	0.950	1.433
	40	0.937	0.813	0.829	0.937	1.614
	50	0.922	0.770	0.789	0.922	1.816
Ethanol	10	0.991	0.927	0.941	0.991	1.242
	20	0.972	0.887	0.901	0.972	1.343
	30	0.947	0.856	0.866	0.947	1.383
	40	0.930	0.815	0.826	0.930	1.523
	50	0.911	0.779	0.791	0.911	1.639
Methanol	10	0.986	0.957	0.961	0.986	1.127
	20	0.970	0.924	0.928	0.970	1.197
	30	0.951	0.895	0.897	0.951	1.235
	40	0.936	0.863	0.865	0.936	1.323
	50	0.920	0.833	0.835	0.920	1.399



WARNING: Gray area represents antifreeze concentrations greater than 35% by weight and should be avoided due to the extreme performance penalty they represent.

Antifreeze Correction Example

Antifreeze solution is Propylene Glycol 20% by weight for the source and Methanol 10% for the load. Determine the corrected heating at 0°C source and 30°C load as well as pressure drop at 0°C for an Envision Series NKW030. Also, determine the corrected cooling at 30°C source and 7°C load.

The corrected heating capacity at 0°C/30°C would be:

$$27.7 \text{ kW} \times 0.913 \times 0.986 = 24.9 \text{ kW}$$

The corrected cooling capacity at 90°F/50°F would be:

$$30.7 \text{ kW} \times 0.969 \times 0.961 = 28.6 \text{ kW}$$

The corrected pressure drop at 0°C and 1.9 L/s would be:

$$26.2 \text{ kPa} \times 1.270 = 33.3 \text{ kPa}$$

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Pressure Drop

Model	L/s	Pressure Drop (kPa)				
		0°C	10°C	20°C	30°C	45°C
020	0.8	5.5	4.1	2.8	1.4	0.7
	1.1	11.7	10.3	9.0	6.9	5.5
	1.5	18.6	16.5	15.2	13.1	10.3
	1.9	26.2	24.8	22.8	21.4	16.5
025	0.9	7.6	6.2	4.8	3.2	2.3
	1.3	15.2	13.8	12.4	10.3	8.3
	1.8	23.5	22.0	20.1	18.5	14.4
	2.3	33.7	32.2	30.3	28.8	22.8
030	0.9	6.9	5.5	3.4	2.1	0.7
	1.5	17.2	15.9	13.8	12.4	9.0
	1.9	26.2	24.8	22.8	21.4	16.5
	2.5	38.6	37.2	35.2	33.8	26.9
035	1.1	4.8	2.8	2.1	0.7	0.7
	1.7	10.3	9.0	8.3	6.9	6.2
	2.3	21.4	19.3	17.2	15.2	13.1
	3.0	36.1	33.1	29.2	26.2	22.8
045	1.5	7.6	6.2	5.5	4.1	3.4
	2.1	18.6	17.2	15.2	13.1	11.7
	2.8	32.4	29.6	26.2	23.4	20.3
	3.8	50.8	46.9	41.1	37.2	32.4
050	1.6	4.8	3.4	2.1	1.4	0.7
	2.5	9.7	7.6	6.2	4.8	3.4
	3.3	17.2	15.2	13.1	11.0	9.0
	4.5	36.0	32.2	29.0	25.8	21.9
060	1.9	6.2	4.1	2.8	1.4	0.7
	2.8	15.2	13.1	11.0	9.0	6.9
	3.8	29.6	26.2	23.4	20.7	17.2
	5.0	44.7	40.0	36.3	32.6	27.9
090	2.8	10.3	9.0	8.3	7.2	6.6
	4.3	24.8	23.4	22.1	20.7	19.3
	5.7	30.3	28.3	26.2	24.1	22.8
	7.6	40.0	37.9	35.9	33.8	31.7
130	4.3	9.7	8.3	6.9	5.5	4.8
	6.8	23.4	22.1	20.7	18.6	17.2
	8.5	34.5	33.1	31.0	29.0	26.9
	11.4	53.1	51.7	48.3	46.2	42.7

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NKW020 Performance Data

Heating

Source		Load Flow - 0.8 L/s							Load Flow - 1.1 L/s							Load Flow - 1.5 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C		
0	1.1	15	24.4	23.4	4.1	19.4	5.7	-8.4	21.6	23.6	4.0	19.6	5.9	-6.1	20.1	23.8	4.0	19.8	6.0	-4.9		
		25	35.3	22.7	5.5	17.2	4.1	-7.6	32.4	23.0	5.4	17.5	4.2	-5.6	31.1	23.2	5.3	17.9	4.4	-4.5		
		40	46.1	21.9	6.9	15.0	3.2	-6.8	43.4	22.2	6.8	15.4	3.3	-5.0	42.1	22.6	6.7	15.9	3.4	-4.1		
		50	56.9	21.2	8.3	12.8	2.5	-6.0	54.3	21.6	8.2	13.4	2.6	-4.5	53.1	22.0	8.0	13.9	2.7	-3.8		
	1.5	15	24.7	24.1	4.2	19.9	5.8	-8.7	21.7	24.3	4.1	20.2	5.9	-6.2	20.2	24.4	4.0	20.4	6.1	-5.0		
		25	35.5	23.3	5.6	17.7	4.2	-7.8	32.6	23.5	5.5	18.0	4.3	-5.7	31.2	23.8	5.3	18.5	4.5	-4.6		
		40	46.3	22.5	7.0	15.5	3.2	-7.0	43.6	22.8	6.8	16.0	3.3	-5.2	42.2	23.2	6.8	16.4	3.4	-4.2		
		50	57.1	21.7	8.4	13.3	2.6	-6.2	54.5	22.1	8.2	13.9	2.7	-4.6	53.2	22.5	8.1	14.4	2.8	-3.8		
	10	0.8	15	26.1	27.8	4.2	23.7	6.7	1.0	22.7	28.1	4.1	24.0	6.9	3.9	20.9	28.3	4.0	24.3	7.1	5.4	
			25	36.9	27.1	5.6	21.5	4.9	1.8	33.6	27.4	5.5	21.9	5.0	4.4	31.9	27.7	5.4	22.3	5.1	5.8	
			40	47.8	26.3	7.0	19.3	3.8	2.7	44.5	26.7	6.8	19.9	3.9	5.0	42.9	27.1	6.8	20.3	4.0	6.2	
			50	58.6	25.5	8.4	17.1	3.0	3.5	55.4	26.0	8.3	17.8	3.2	5.5	53.9	26.5	8.1	18.4	3.3	6.5	
1.1		15	26.4	28.6	4.2	24.4	6.9	0.8	22.8	28.8	4.1	24.7	7.1	3.8	21.1	29.0	4.1	24.9	7.1	5.3		
		25	37.2	27.8	5.7	22.1	4.9	1.6	33.8	28.1	5.5	22.6	5.1	4.3	32.1	28.4	5.4	23.0	5.2	5.7		
		40	48.0	27.0	7.1	19.9	3.8	2.4	44.7	27.4	6.9	20.5	4.0	4.8	43.1	27.8	6.8	21.0	4.1	6.0		
		50	58.8	26.2	8.5	17.7	3.1	3.3	55.6	26.7	8.3	18.4	3.2	5.3	54.1	27.2	8.2	19.0	3.3	6.4		
1.5		15	26.7	29.3	4.3	25.1	6.9	0.5	23.0	29.6	4.2	25.4	7.1	3.6	21.2	29.8	4.1	25.7	7.3	5.1		
		25	37.5	28.5	5.7	22.8	5.0	1.3	33.9	28.8	5.6	23.2	5.2	4.1	32.2	29.1	5.5	23.6	5.3	5.5		
		40	48.3	27.7	7.1	20.6	3.9	2.2	44.9	28.1	7.0	21.1	4.0	4.7	43.2	28.5	6.8	21.7	4.2	5.9		
		50	59.1	26.9	8.6	18.3	3.1	3.1	55.8	27.4	8.4	19.0	3.3	5.2	54.2	27.9	8.3	19.6	3.4	6.3		
20	0.8	15	28.0	32.8	4.3	28.6	7.7	10.3	23.9	33.1	4.2	28.9	7.9	13.8	21.9	33.3	4.1	29.3	8.2	15.6		
		25	38.8	32.0	5.7	26.4	5.7	11.1	34.8	32.4	5.6	26.8	5.8	14.3	32.9	32.8	5.5	27.3	6.0	15.9		
		40	49.6	31.2	7.2	24.1	4.4	11.9	45.8	31.7	7.0	24.7	4.5	14.9	43.9	32.1	6.8	25.3	4.7	16.3		
		50	60.4	30.4	8.6	21.8	3.5	12.8	56.7	31.0	8.4	22.6	3.7	15.4	54.9	31.5	8.3	23.3	3.8	16.7		
	1.1	15	28.3	33.7	4.3	29.5	7.9	9.9	24.2	34.0	4.2	29.8	8.2	13.6	22.1	34.2	4.2	30.1	8.2	15.4		
		25	39.1	32.9	5.8	27.1	5.7	10.8	35.1	33.2	5.7	27.6	5.9	14.1	33.1	33.6	5.5	28.1	6.1	15.8		
		40	49.9	32.1	7.2	24.9	4.5	11.7	46.0	32.5	7.1	25.4	4.6	14.7	44.1	33.0	6.9	26.1	4.8	16.2		
		50	60.7	31.2	8.7	22.6	3.6	12.6	56.9	31.8	8.5	23.3	3.7	15.2	55.0	32.4	8.3	24.0	3.9	16.6		
	1.5	15	28.7	34.6	4.3	30.3	8.0	9.6	24.4	34.9	4.3	30.6	8.2	13.4	22.2	35.1	4.2	30.9	8.4	15.2		
		25	39.4	33.7	5.8	28.0	5.9	10.5	35.3	34.1	5.7	28.4	6.0	13.9	33.2	34.5	5.6	28.9	6.2	15.6		
		40	50.2	32.9	7.3	25.6	4.5	11.4	46.2	33.4	7.1	26.3	4.7	14.5	44.2	33.8	7.0	26.8	4.8	16.0		
		50	61.1	32.0	8.7	23.4	3.7	12.3	57.1	32.6	8.5	24.1	3.8	15.0	55.2	33.2	8.3	24.9	4.0	16.4		
30	0.8	15	29.9	37.9	4.3	33.5	8.7	19.5	25.2	38.1	4.3	33.9	9.0	23.7	22.8	38.4	4.2	34.3	9.2	25.7		
		25	40.7	37.0	5.8	31.3	6.4	20.4	36.1	37.4	5.7	31.8	6.6	24.2	33.8	37.8	5.6	32.2	6.8	26.1		
		40	Operation not recommended																			
		50	Operation not recommended																			
	1.1	15	30.3	38.8	4.3	34.5	9.0	19.2	25.4	39.1	4.3	34.8	9.0	23.4	23.1	39.4	4.3	35.2	9.3	25.6		
		25	41.1	38.0	5.8	32.1	6.5	20.1	36.4	38.4	5.8	32.6	6.7	23.9	34.0	38.8	5.6	33.2	7.0	25.9		
		40	51.8	37.1	7.3	29.8	5.1	20.9	47.3	37.7	7.2	30.5	5.3	24.5	45.0	38.2	7.0	31.2	5.5	26.3		
		50	Operation not recommended																			
	1.5	15	30.7	39.8	4.4	35.4	9.0	18.8	25.7	40.2	4.3	35.8	9.3	23.2	23.2	40.4	4.3	36.2	9.5	25.4		
		25	41.4	39.0	5.9	33.0	6.6	19.7	36.6	39.4	5.8	33.6	6.9	23.7	34.2	39.8	5.7	34.1	7.0	25.8		
		40	52.2	38.1	7.3	30.7	5.2	20.6	47.6	38.6	7.3	31.4	5.3	24.3	45.2	39.2	7.1	32.1	5.5	26.2		
		50	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW020 Performance Data cont.

Cooling

Source		Load Flow - 0.8 L/s							Load Flow - 1.1 L/s							Load Flow - 1.5 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C		
0	0.8	10	1.3	23.0	3.1	26.2	7.4	8.8	4.0	23.9	3.2	27.1	7.6	9.2	5.3	24.8	3.2	28.0	7.7	9.5		
		20	11.2	26.0	3.3	29.4	7.8	10.0	14.3	27.0	3.4	30.4	7.9	10.4	15.8	28.0	3.5	31.5	8.1	10.8		
		30	21.2	29.0	3.6	32.6	8.1	11.3	24.6	30.1	3.6	33.8	8.3	11.7	26.3	31.2	3.7	34.9	8.4	12.1		
		45	31.2	32.0	3.8	35.8	8.4	12.5	34.9	33.2	3.9	37.1	8.6	13.0	36.8	34.4	3.9	38.4	8.7	13.4		
	1.1	10	0.7	24.5	3.0	27.5	8.3	5.8	3.6	25.5	3.0	28.5	8.5	6.1	5.0	26.5	3.1	29.5	8.6	6.4		
		20	10.6	27.8	3.2	31.0	8.7	6.7	13.8	28.8	3.2	32.1	8.9	7.0	15.4	29.9	3.3	33.2	9.1	7.3		
		30	20.5	31.0	3.4	34.4	9.1	7.6	24.1	32.2	3.5	35.6	9.3	7.9	25.9	33.3	3.5	36.9	9.4	8.2		
		45	30.4	34.2	3.6	37.9	9.4	8.5	34.4	35.5	3.7	39.2	9.6	8.8	36.4	36.8	3.8	40.5	9.8	9.1		
	1.5	10	0.1	26.0	2.8	28.9	9.2	4.4	3.1	27.1	2.9	30.0	9.4	4.6	4.7	28.2	2.9	31.1	9.7	4.8		
		20	9.9	29.5	3.0	32.5	9.7	5.1	13.4	30.7	3.1	33.7	9.9	5.3	15.1	31.8	3.1	35.0	10.1	5.5		
		30	19.7	32.9	3.3	36.2	10.1	5.8	23.6	34.2	3.3	37.5	10.3	6.0	25.5	35.5	3.4	38.8	10.6	6.2		
		45	29.5	36.4	3.5	39.9	10.5	6.4	33.8	37.8	3.5	41.3	10.7	6.7	35.9	39.1	3.6	42.7	10.9	7.0		
10	0.8	10	1.9	21.3	4.3	25.6	5.0	19.7	4.4	22.1	4.4	26.5	5.1	20.0	5.7	22.9	4.4	27.4	5.2	20.4		
		20	11.8	24.5	4.6	29.1	5.3	21.0	14.7	25.5	4.7	30.1	5.5	21.4	16.1	26.4	4.7	31.1	5.6	21.8		
		30	21.7	27.8	4.9	32.6	5.7	22.4	24.9	28.8	5.0	33.8	5.8	22.8	26.6	29.8	5.0	34.9	5.9	23.2		
		45	31.6	31.0	5.2	36.1	6.0	23.7	35.2	32.1	5.3	37.4	6.1	24.2	37.0	33.3	5.3	38.6	6.2	24.6		
	1.1	10	1.5	22.6	4.1	26.7	5.5	16.7	4.1	23.4	4.2	27.6	5.6	17.0	5.4	24.3	4.2	28.6	5.7	17.2		
		20	11.3	26.0	4.4	30.4	5.9	17.7	14.3	27.0	4.5	31.4	6.0	17.9	15.8	28.0	4.5	32.5	6.2	18.2		
		30	21.1	29.4	4.7	34.0	6.3	18.6	24.5	30.5	4.7	35.2	6.4	18.9	26.2	31.6	4.8	36.4	6.6	19.2		
		45	30.9	32.8	5.0	37.7	6.6	19.5	34.7	34.0	5.0	39.0	6.8	19.9	36.7	35.3	5.1	40.4	6.9	20.2		
	1.5	10	1.0	23.8	3.9	27.7	6.1	15.2	3.7	24.7	4.0	28.7	6.2	15.4	5.1	25.7	4.0	29.7	6.4	15.6		
		20	10.7	27.4	4.2	31.6	6.5	16.0	13.9	28.5	4.3	32.7	6.7	16.2	15.5	29.5	4.3	33.9	6.8	16.4		
		30	20.5	31.0	4.5	35.5	7.0	16.7	24.1	32.2	4.5	36.7	7.1	17.0	25.9	33.4	4.6	38.0	7.3	17.2		
		45	30.2	34.6	4.7	39.3	7.3	17.5	34.3	35.9	4.8	40.7	7.5	17.7	36.3	37.2	4.9	42.1	7.6	18.0		
20	0.8	10	2.6	19.6	5.5	25.1	3.6	30.6	4.9	20.4	5.6	25.9	3.7	30.9	6.0	21.1	5.6	26.7	3.7	31.2		
		20	12.4	23.0	5.8	28.9	4.0	32.1	15.1	23.9	5.9	29.8	4.0	32.4	16.4	24.8	6.0	30.8	4.1	32.8		
		30	22.2	26.5	6.2	32.7	4.3	33.5	25.3	27.5	6.3	33.8	4.4	33.9	26.8	28.5	6.4	34.8	4.5	34.3		
		45	Operation not recommended																			
	1.1	10	2.2	20.6	5.2	25.8	3.9	27.6	4.6	21.4	5.3	26.7	4.0	27.9	5.8	22.2	5.4	27.6	4.1	28.1		
		20	12.0	24.2	5.6	29.7	4.3	28.6	14.8	25.1	5.7	30.8	4.4	28.9	16.2	26.0	5.8	31.8	4.5	29.1		
		30	21.7	27.8	5.9	33.7	4.7	29.6	24.9	28.8	6.0	34.8	4.8	29.9	26.6	29.9	6.1	36.0	4.9	30.2		
		45	Operation not recommended																			
	1.5	10	1.9	21.5	5.0	26.5	4.3	26.1	4.3	22.4	5.1	27.5	4.4	26.3	5.6	23.2	5.2	28.4	4.5	26.5		
		20	11.5	25.3	5.3	30.6	4.7	26.9	14.5	26.3	5.4	31.7	4.8	27.1	15.9	27.3	5.5	32.8	5.0	27.3		
		30	21.2	29.0	5.7	34.7	5.1	27.7	24.6	30.2	5.7	35.9	5.2	27.9	26.3	31.3	5.8	37.1	5.4	28.1		
		45	Operation not recommended																			
30	0.8	10	3.2	17.9	6.7	24.6	2.7	41.5	5.3	18.6	6.8	25.3	2.7	41.8	6.4	19.2	6.9	26.1	2.8	42.1		
		20	12.9	21.5	7.1	28.6	3.0	43.1	15.5	22.4	7.2	29.5	3.1	43.4	16.7	23.2	7.3	30.5	3.2	43.8		
		30	22.7	25.2	7.5	32.7	3.4	44.6	25.6	26.1	7.6	33.7	3.4	45.0	27.1	27.1	7.7	34.8	3.5	45.4		
		45	Operation not recommended																			
	1.1	10	3.0	18.6	6.4	24.9	2.9	38.5	5.1	19.3	6.5	25.8	3.0	38.7	6.2	20.0	6.6	26.6	3.0	38.9		
		20	12.6	22.4	6.8	29.1	3.3	39.6	15.2	23.2	6.9	30.1	3.4	39.8	16.5	24.1	7.0	31.1	3.4	40.1		
		30	22.3	26.1	7.2	33.3	3.6	40.6	25.4	27.1	7.3	34.4	3.7	40.9	26.9	28.1	7.4	35.5	3.8	41.2		
		45	Operation not recommended																			
	1.5	10	2.7	19.2	6.1	25.3	3.1	37.0	4.9	20.0	6.2	26.2	3.2	37.2	6.1	20.8	6.3	27.1	3.3	37.4		
		20	12.3	23.2	6.5	29.6	3.6	37.8	15.0	24.1	6.6	30.6	3.7	38.0	16.4	25.0	6.7	31.7	3.7	38.2		
		30	21.9	27.1	6.9	34.0	4.0	38.7	25.1	28.1	7.0	35.1	4.0	38.9	26.7	29.2	7.1	36.2	4.1	39.1		
		45	Operation not recommended																			
45	0.8	10	3.9	16.2	7.8	24.0	2.1	52.4	5.8	16.8	8.0	24.8	2.1	52.7	6.7	17.4	8.1	25.5	2.2	53.0		
		20	13.5	20.1	8.3	28.4	2.4	54.1	15.9	20.8	8.4	29.2	2.5	54.4	17.0	21.6	8.6	30.1	2.5	54.8		
		30	Operation not recommended																			
		45	Operation not recommended																			
	1.1	10	3.7	16.6	7.5	24.1	2.2	49.4	5.6	17.2	7.6	24.8	2.3	49.6	6.6	17.9	7.8	25.6	2.3	49.8		
		20	13.3	20.6	8.0	28.5	2.6	50.5	15.7	21.3	8.1	29.4	2.6	50.8	16.9	22.1	8.2	30.3	2.7	51.0		
		30	Operation not recommended																			
		45	Operation not recommended																			
	1.5	10	3.6	16.9	7.2	24.1	2.4	47.9	5.5	17.6	7.3	24.9	2.4	48.1	6.5	18.3	7.4	25.7	2.5	48.2		
		20	13.1	21.0	7.6	28.7	2.8	48.8	15.6	21.9	7.7	29.6	2.8	48.9	16.8	22.7	7.9	30.6	2.9	49.1		
		30	Operation not recommended																			
		45	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW025 Performance Data

Heating

Source		Load Flow - 0.9 L/s							Load Flow - 1.3 L/s							Load Flow - 1.8 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C		
0	1.3	15	23.9	25.8	4.8	21.0	5.4	-7.9	21.2	26.0	4.7	21.3	5.5	-5.7	19.8	26.2	4.6	21.6	5.7	-4.6		
		25	34.8	25.0	6.4	18.6	3.9	-7.2	32.1	25.3	6.3	19.0	4.0	-5.2	30.8	25.5	6.1	19.4	4.2	-4.3		
		40	45.6	24.2	8.0	16.2	3.0	-6.4	43.1	24.5	7.8	16.7	3.1	-4.7	41.8	24.9	7.7	17.2	3.2	-3.9		
		50	56.5	23.4	9.5	13.8	2.4	-5.6	54.0	23.8	9.4	14.4	2.5	-4.2	52.8	24.2	9.2	15.0	2.6	-3.6		
	1.8	15	24.2	26.5	4.8	21.6	5.5	-8.1	21.3	26.7	4.7	21.9	5.6	-5.9	19.9	26.9	4.7	22.2	5.8	-4.7		
		25	35.0	25.6	6.4	19.2	4.0	-7.4	32.3	25.9	6.3	19.6	4.1	-5.4	30.9	26.2	6.2	20.0	4.2	-4.4		
		40	45.8	24.8	8.0	16.8	3.1	-6.6	43.2	25.2	7.9	17.3	3.2	-4.9	41.9	25.5	7.7	17.8	3.3	-4.0		
		50	56.7	24.0	9.6	14.3	2.5	-5.8	54.2	24.4	9.4	15.0	2.6	-4.4	52.9	24.8	9.3	15.6	2.7	-3.6		
	10	0.9	15	25.6	30.9	5.0	25.9	6.2	1.6	22.3	31.1	4.9	26.2	6.4	4.3	20.7	31.4	4.8	26.6	6.5	5.7	
			25	36.4	29.9	6.6	23.3	4.6	2.4	33.2	30.2	6.4	23.8	4.7	4.9	31.6	30.5	6.3	24.2	4.8	6.1	
			40	47.1	28.8	8.1	20.7	3.5	3.3	44.1	29.2	8.0	21.3	3.7	5.4	42.6	29.7	7.8	21.8	3.8	6.5	
			50	57.9	27.8	9.7	18.1	2.9	4.1	55.0	28.3	9.5	18.8	3.0	5.9	53.6	28.8	9.3	19.5	3.1	6.8	
1.3		15	25.9	31.7	5.0	26.7	6.3	1.3	22.5	32.0	4.9	27.0	6.5	4.1	20.8	32.2	4.9	27.4	6.6	5.6		
		25	36.6	30.7	6.6	24.1	4.6	2.2	33.4	31.0	6.5	24.5	4.8	4.7	31.8	31.3	6.4	25.0	4.9	5.9		
		40	47.4	29.6	8.2	21.4	3.6	3.0	44.3	30.0	8.0	22.0	3.7	5.2	42.7	30.4	7.9	22.6	3.9	6.3		
		50	58.2	28.5	9.8	18.7	2.9	3.9	55.2	29.0	9.6	19.5	3.0	5.8	53.7	29.6	9.4	20.2	3.1	6.7		
1.8		15	26.1	32.5	5.1	27.5	6.4	1.1	22.7	32.8	5.0	27.8	6.6	4.0	20.9	33.0	4.9	28.1	6.8	5.4		
		25	36.9	31.4	6.7	24.8	4.7	1.9	33.6	31.8	6.5	25.3	4.9	4.5	31.9	32.1	6.4	25.7	5.0	5.8		
		40	47.6	30.4	8.3	22.1	3.7	2.8	44.4	30.8	8.1	22.7	3.8	5.1	42.9	31.2	7.9	23.3	3.9	6.2		
		50	58.4	29.3	9.9	19.4	3.0	3.7	55.3	29.8	9.7	20.1	3.1	5.6	53.8	30.3	9.5	20.8	3.2	6.6		
20	0.9	15	27.5	36.7	5.2	31.5	7.0	10.9	23.6	37.0	5.1	31.8	7.2	14.2	21.6	37.2	5.0	32.2	7.4	15.9		
		25	38.2	35.4	6.8	28.6	5.2	11.8	34.4	35.8	6.7	29.1	5.4	14.8	32.5	36.2	6.5	29.6	5.5	16.3		
		40	48.9	34.1	8.4	25.7	4.1	12.7	45.3	34.6	8.2	26.4	4.2	15.4	43.5	35.1	8.0	27.0	4.4	16.7		
		50	59.6	32.8	9.9	22.9	3.3	13.7	56.1	33.4	9.7	23.7	3.4	16.0	54.4	34.0	9.5	24.5	3.6	17.1		
	1.3	15	27.8	37.7	5.3	32.4	7.2	10.6	23.8	37.9	5.2	32.8	7.4	14.0	21.8	38.2	5.1	33.2	7.5	15.7		
		25	38.5	36.3	6.8	29.5	5.3	11.5	34.6	36.7	6.7	30.0	5.5	14.6	32.7	37.1	6.6	30.5	5.6	16.2		
		40	49.2	35.0	8.4	26.6	4.2	12.5	45.5	35.5	8.3	27.2	4.3	15.2	43.6	36.0	8.1	27.9	4.4	16.6		
		50	59.8	33.7	10.0	23.7	3.4	13.4	56.3	34.3	9.8	24.5	3.5	15.8	54.6	34.9	9.6	25.3	3.6	17.0		
	1.8	15	28.1	38.6	5.3	33.3	7.3	10.3	24.0	38.9	5.2	33.7	7.5	13.8	21.9	39.2	5.1	34.1	7.7	15.6		
		25	38.8	37.3	6.9	30.4	5.4	11.2	34.8	37.7	6.8	30.9	5.6	14.4	32.9	38.1	6.6	31.4	5.7	16.0		
		40	49.4	35.9	8.5	27.4	4.2	12.2	45.7	36.4	8.3	28.1	4.4	15.0	43.8	36.9	8.2	28.8	4.5	16.4		
		50	60.1	34.5	10.1	24.5	3.4	13.2	56.5	35.2	9.9	25.3	3.6	15.6	54.7	35.8	9.7	26.1	3.7	16.9		
30	0.9	15	29.4	42.5	5.4	37.0	7.8	20.2	24.8	42.8	5.3	37.4	8.0	24.1	22.6	43.1	5.3	37.9	8.2	26.1		
		25	40.0	40.9	7.0	33.9	5.8	21.2	35.6	41.4	6.9	34.5	6.0	24.8	33.5	41.8	6.8	35.1	6.2	26.5		
		40	Operation not recommended																			
		50	Operation not recommended																			
	1.3	15	29.7	43.6	5.5	38.1	8.0	19.8	25.1	43.9	5.4	38.5	8.2	23.9	22.7	44.2	5.3	39.0	8.4	25.9		
		25	40.3	42.0	7.1	34.9	5.9	20.9	35.9	42.5	6.9	35.5	6.1	24.5	33.6	42.9	6.8	36.1	6.3	26.4		
		40	50.9	40.4	8.7	31.8	4.7	21.9	46.7	41.0	8.5	32.5	4.8	25.2	44.5	41.6	8.3	33.3	5.0	26.8		
		50	Operation not recommended																			
	1.8	15	30.1	44.7	5.5	39.2	8.1	19.5	25.3	45.0	5.4	39.6	8.3	23.6	22.9	45.4	5.3	40.0	8.5	25.7		
		25	40.7	43.1	7.1	36.0	6.1	20.5	36.1	43.5	7.0	36.6	6.2	24.3	33.8	44.0	6.9	37.2	6.4	26.2		
		40	51.2	41.5	8.7	32.7	4.8	21.6	46.9	42.0	8.6	33.5	4.9	25.0	44.7	42.6	8.4	34.3	5.1	26.7		
		50	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW025 Performance Data cont.

Cooling

Source		Load Flow - 0.9 L/s							Load Flow - 1.3 L/s							Load Flow - 1.8 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C		
0	0.9	10	0.5	29.2	3.6	32.8	8.2	9.6	3.4	30.3	3.6	33.9	8.5	9.9	4.9	31.4	3.7	35.1	8.6	10.3		
		20	10.1	33.8	3.9	37.8	8.6	11.2	13.5	35.1	4.0	39.1	8.8	11.6	15.2	36.4	4.0	40.4	9.0	12.0		
		30	19.7	38.4	4.3	42.7	9.0	12.8	23.6	39.9	4.3	44.2	9.2	13.3	25.5	41.3	4.4	45.8	9.3	13.8		
		45	29.3	43.1	4.7	47.7	9.2	14.4	33.7	44.7	4.8	49.4	9.4	14.9	35.8	46.3	4.8	51.1	9.6	15.5		
	1.3	10	-0.1	31.1	3.4	34.5	9.1	6.4	3.0	32.3	3.4	35.8	9.5	6.7	4.6	33.6	3.5	37.1	9.6	6.9		
		20	9.4	36.1	3.7	39.8	9.6	7.5	13.0	37.5	3.8	41.3	9.8	7.8	14.8	38.9	3.9	42.7	10.1	8.2		
		30	18.9	41.0	4.1	45.1	10.0	8.7	23.0	42.6	4.2	46.8	10.2	9.0	25.1	44.2	4.2	48.4	10.5	9.4		
		45	28.4	46.0	4.4	50.4	10.4	9.8	33.0	47.7	4.5	52.2	10.6	10.2	35.3	49.5	4.6	54.0	10.8	10.6		
	1.8	10	-0.7	33.0	3.2	36.3	10.2	4.8	2.6	34.4	3.3	37.6	10.6	5.0	4.2	35.7	3.3	39.0	10.7	5.2		
		20	8.7	38.3	3.6	41.9	10.7	5.7	12.5	39.8	3.6	43.4	11.1	5.9	14.4	41.3	3.7	45.0	11.3	6.2		
		30	18.1	43.6	3.9	47.5	11.2	6.6	22.4	45.3	4.0	49.3	11.3	6.9	24.6	47.0	4.0	51.0	11.7	7.2		
		45	27.4	48.9	4.2	53.2	11.6	7.5	32.3	50.8	4.3	55.1	11.7	7.8	34.8	52.6	4.4	57.0	12.0	8.2		
10	0.9	10	1.1	27.3	4.9	32.2	5.6	20.4	3.8	28.4	4.9	33.3	5.8	20.8	5.2	29.4	5.0	34.4	5.8	21.2		
		20	10.7	31.9	5.2	37.2	6.1	22.1	13.9	33.1	5.3	38.5	6.2	22.5	15.6	34.3	5.4	39.7	6.4	22.9		
		30	20.3	36.6	5.6	42.1	6.5	23.7	24.0	37.9	5.7	43.6	6.7	24.2	25.8	39.3	5.8	45.1	6.8	24.7		
		45	29.9	41.2	5.9	47.1	6.9	25.3	34.1	42.7	6.0	48.7	7.1	25.8	36.2	44.3	6.1	50.4	7.2	26.4		
	1.3	10	0.6	29.0	4.7	33.7	6.2	17.3	3.4	30.2	4.8	34.9	6.4	17.6	4.9	31.3	4.8	36.1	6.5	17.8		
		20	10.1	34.0	5.0	39.0	6.8	18.4	13.4	35.3	5.1	40.4	6.9	18.7	15.2	36.6	5.2	41.8	7.1	19.1		
		30	19.6	38.9	5.3	44.2	7.3	19.6	23.4	40.4	5.4	45.8	7.5	19.9	25.4	41.9	5.5	47.4	7.6	20.3		
		45	29.1	43.8	5.7	49.5	7.7	20.7	33.5	45.5	5.8	51.3	7.9	21.1	35.7	47.2	5.8	53.0	8.1	21.5		
	1.8	10	0.0	30.7	4.5	35.2	6.9	15.7	3.1	32.0	4.5	36.5	7.1	15.9	4.6	33.3	4.6	37.8	7.3	16.2		
		20	9.4	36.0	4.8	40.8	7.6	16.6	13.0	37.4	4.8	42.3	7.7	16.9	14.8	38.9	4.9	43.8	7.9	17.1		
		30	18.8	41.3	5.1	46.4	8.1	17.6	22.9	42.9	5.2	48.0	8.3	17.8	25.0	44.5	5.3	49.7	8.5	18.1		
		45	28.2	46.6	5.4	52.0	8.6	18.4	32.9	48.3	5.5	53.8	8.8	18.7	35.2	50.0	5.6	55.6	8.9	19.1		
20	0.9	10	1.7	25.4	6.2	31.6	4.1	31.4	4.3	26.4	6.3	32.7	4.2	31.7	5.6	27.4	6.4	33.7	4.3	32.1		
		20	11.3	30.0	6.5	36.6	4.6	33.0	14.3	31.2	6.7	37.9	4.7	33.4	15.8	32.3	6.7	39.0	4.8	33.8		
		30	20.9	34.7	6.9	41.5	5.0	34.6	24.4	36.0	7.0	43.0	5.1	35.1	26.2	37.3	7.1	44.4	5.3	35.5		
		45	Operation not recommended																			
	1.3	10	1.2	27.0	5.9	32.9	4.6	28.2	3.9	28.0	6.0	34.0	4.7	28.5	5.3	29.1	6.1	35.2	4.8	28.7		
		20	10.8	31.9	6.3	38.1	5.1	29.4	13.9	33.1	6.4	39.5	5.2	29.7	15.6	34.3	6.4	40.8	5.3	29.9		
		30	20.3	36.8	6.6	43.4	5.6	30.5	23.9	38.2	6.7	44.9	5.7	30.8	25.8	39.6	6.8	46.4	5.8	31.2		
		45	Operation not recommended																			
	1.8	10	0.7	28.5	5.7	34.1	5.0	26.7	3.6	29.7	5.8	35.4	5.2	26.8	5.0	30.8	5.8	36.6	5.3	27.1		
		20	10.2	33.7	6.0	39.7	5.6	27.6	13.5	35.0	6.1	41.1	5.8	27.8	15.2	36.4	6.2	42.5	5.9	28.0		
		30	19.6	38.9	6.3	45.2	6.2	28.4	23.4	40.4	6.4	46.9	6.3	28.7	25.4	41.9	6.5	48.4	6.5	29.0		
		45	Operation not recommended																			
30	0.9	10	2.3	23.6	7.5	31.1	3.1	42.3	4.7	24.4	7.6	32.0	3.2	42.7	5.9	25.3	7.7	33.1	3.3	42.9		
		20	11.9	28.2	7.8	36.0	3.6	43.9	14.8	29.2	8.0	37.2	3.7	44.3	16.2	30.3	8.1	38.4	3.8	44.7		
		30	21.6	32.8	8.2	40.9	4.0	45.5	24.8	34.0	8.3	42.3	4.1	45.9	26.5	35.2	8.4	43.6	4.2	46.4		
		45	Operation not recommended																			
	1.3	10	1.9	24.9	7.2	32.1	3.5	39.2	4.4	25.9	7.3	33.2	3.5	39.4	5.7	26.8	7.4	34.3	3.6	39.7		
		20	11.4	29.8	7.5	37.3	4.0	40.3	14.4	30.9	7.6	38.5	4.1	40.6	15.9	32.1	7.7	39.8	4.1	40.8		
		30	20.9	34.7	7.8	42.5	4.4	41.4	24.4	36.0	7.9	43.9	4.5	41.7	26.2	37.3	8.1	45.4	4.6	42.1		
		45	Operation not recommended																			
	1.8	10	1.5	26.2	6.9	33.1	3.8	37.6	4.1	27.3	7.0	34.3	3.9	37.8	5.4	28.4	7.1	35.4	4.0	38.0		
		20	10.9	31.4	7.2	38.6	4.4	38.5	14.1	32.6	7.3	39.9	4.5	38.7	15.6	33.9	7.4	41.3	4.6	38.9		
		30	20.3	36.6	7.5	44.1	4.9	39.4	24.0	38.0	7.6	45.6	5.0	39.6	25.8	39.4	7.7	47.1	5.1	39.9		
		45	Operation not recommended																			
45	0.9	10	2.9	21.7	8.8	30.5	2.5	53.2	5.1	22.5	8.9	31.4	2.5	53.6	6.2	23.3	9.1	32.4	2.6	53.8		
		20	12.6	26.3	9.1	35.4	2.9	54.8	15.2	27.3	9.3	36.5	2.9	55.2	16.5	28.3	9.4	37.7	3.0	55.6		
		30	Operation not recommended																			
		45	Operation not recommended																			
	1.3	10	2.6	22.8	8.4	31.2	2.7	50.1	4.9	23.7	8.6	32.3	2.8	50.3	6.0	24.6	8.8	33.3	2.8	50.6		
		20	12.1	27.7	8.8	36.5	3.2	51.2	14.9	28.7	8.9	37.6	3.2	51.5	16.3	29.8	9.0	38.8	3.3	51.7		
		30	Operation not recommended																			
		45	Operation not recommended																			
	1.8	10	2.2	24.0	8.1	32.0	3.0	48.6	4.6	24.9	8.3	33.2	3.0	48.7	5.8	25.9	8.3	34.2	3.1	48.9		
		20	11.7	29.1	8.4	37.5	3.5	49.4	14.6	30.2	8.5	38.7	3.6	49.6	16.0	31.4	8.6	40.0	3.6	49.8		
		30	Operation not recommended																			
		45	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW030 Performance Data

Heating

Source		Load Flow - 0.9 L/s							Load Flow - 1.5 L/s							Load Flow - 1.9 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C		
0	1.5	15	24.0	28.0	5.8	22.2	4.8	-7.8	21.1	28.2	5.7	22.5	4.9	-5.6	19.9	28.4	5.6	22.8	5.1	-4.6		
		25	34.8	26.9	8.2	18.7	3.3	-6.8	32.0	27.2	8.0	19.2	3.4	-4.9	30.8	27.5	7.9	19.6	3.5	-4.1		
		40	45.6	25.8	10.5	15.3	2.5	-5.7	43.0	26.1	10.3	15.9	2.5	-4.3	41.8	26.5	10.1	16.4	2.6	-3.6		
		50	56.4	24.6	12.8	11.8	1.9	-4.7	53.9	25.1	12.6	12.5	2.0	-3.6	52.8	25.5	12.3	13.2	2.1	-3.1		
	1.9	15	24.3	28.7	5.9	22.8	4.9	-8.0	21.3	28.9	5.8	23.1	5.0	-5.7	20.0	29.1	5.7	23.4	5.1	-4.7		
		25	35.0	27.5	8.2	19.3	3.4	-7.0	32.2	27.8	8.1	19.8	3.5	-5.0	30.9	28.1	7.9	20.2	3.6	-4.2		
		40	45.8	26.4	10.6	15.8	2.5	-5.9	43.1	26.8	10.4	16.4	2.6	-4.4	41.9	27.1	10.2	17.0	2.7	-3.7		
		50	56.5	25.2	12.9	12.3	2.0	-4.8	54.0	25.7	12.6	13.1	2.0	-3.7	52.9	26.1	12.4	13.7	2.1	-3.2		
	10	0.9	15	26.6	36.5	6.3	30.2	5.8	0.8	22.8	36.8	6.1	30.6	6.0	3.9	21.2	37.0	6.0	31.0	6.1	5.3	
			25	37.2	34.8	8.5	26.3	4.1	2.0	33.6	35.2	8.3	26.9	4.2	4.7	32.1	35.6	8.2	27.4	4.3	5.8	
			40	47.9	33.2	10.8	22.5	3.1	3.2	44.4	33.7	10.5	23.2	3.2	5.4	43.0	34.2	10.4	23.8	3.3	6.4	
			50	58.5	31.6	13.0	18.6	2.4	4.4	55.3	32.2	12.7	19.5	2.5	6.1	53.9	32.7	12.5	20.2	2.6	6.9	
1.5		15	26.9	37.5	6.3	31.2	5.9	0.5	23.0	37.8	6.2	31.6	6.1	3.8	21.3	38.1	6.1	32.0	6.2	5.2		
		25	37.5	35.8	8.6	27.2	4.2	1.7	33.8	36.2	8.4	27.8	4.3	4.5	32.2	36.6	8.3	28.3	4.4	5.7		
		40	48.1	34.1	10.8	23.3	3.1	2.9	44.6	34.7	10.6	24.0	3.3	5.2	43.1	35.1	10.4	24.7	3.4	6.3		
		50	58.7	32.5	13.1	19.4	2.5	4.1	55.4	33.1	12.8	20.3	2.6	6.0	54.0	33.7	12.6	21.1	2.7	6.8		
1.9		15	27.2	38.4	6.4	32.0	6.0	0.3	23.2	38.7	6.2	32.5	6.2	3.6	21.5	39.0	6.1	32.8	6.3	5.0		
		25	37.8	36.7	8.6	28.0	4.2	1.5	34.0	37.1	8.5	28.6	4.4	4.3	32.3	37.5	8.3	29.1	4.5	5.6		
		40	48.4	35.0	10.9	24.0	3.2	2.7	44.8	35.5	10.7	24.8	3.3	5.1	43.2	36.0	10.5	25.5	3.4	6.1		
		50	59.0	33.3	13.2	20.1	2.5	3.9	55.6	33.9	12.9	21.0	2.6	5.9	54.1	34.5	12.7	21.8	2.7	6.7		
20	0.9	15	29.4	45.7	6.7	38.9	6.8	9.3	24.7	46.0	6.6	39.4	7.0	13.3	22.6	46.4	6.5	39.9	7.1	15.1		
		25	39.9	43.5	8.9	34.6	4.9	10.6	35.4	44.0	8.8	35.3	5.0	14.1	33.4	44.5	8.6	35.9	5.2	15.7		
		40	50.3	41.4	11.1	30.3	3.7	11.9	46.1	42.0	10.9	31.1	3.9	15.0	44.2	42.6	10.7	31.9	4.0	16.3		
		50	60.8	39.2	13.3	25.9	3.0	13.2	56.8	40.0	13.0	27.0	3.1	15.8	55.1	40.7	12.8	27.9	3.2	16.9		
	1.5	15	29.8	47.0	6.8	40.2	6.9	8.9	24.9	47.3	6.7	40.7	7.1	13.1	22.8	47.7	6.6	41.1	7.3	14.9		
		25	40.2	44.8	9.0	35.8	5.0	10.3	35.6	45.3	8.8	36.4	5.1	13.9	33.6	45.7	8.7	37.0	5.3	15.5		
		40	50.7	42.5	11.2	31.3	3.8	11.6	46.3	43.2	11.0	32.2	3.9	14.7	44.4	43.8	10.8	33.0	4.1	16.1		
		50	61.1	40.3	13.4	26.9	3.0	12.9	57.0	41.1	13.1	28.0	3.1	15.6	55.2	41.8	12.9	28.9	3.2	16.7		
	1.9	15	30.1	48.1	6.8	41.2	7.0	8.6	25.1	48.5	6.7	41.8	7.2	12.9	23.0	48.8	6.6	42.2	7.4	14.7		
		25	40.6	45.8	9.1	36.8	5.1	10.0	35.8	46.3	8.9	37.5	5.2	13.7	33.8	46.8	8.7	38.1	5.4	15.3		
		40	51.0	43.6	11.3	32.3	3.9	11.3	46.5	44.2	11.0	33.2	4.0	14.6	44.6	44.8	10.9	33.9	4.1	16.0		
		50	61.4	41.3	13.5	27.8	3.1	12.7	57.2	42.1	13.2	28.9	3.2	15.4	55.4	42.8	13.0	29.8	3.3	16.6		
30	0.9	15	32.2	54.9	7.2	47.7	7.6	17.8	26.5	55.3	7.1	48.3	7.8	22.7	24.0	55.7	7.0	48.8	8.0	24.8		
		25	42.5	52.2	9.3	42.9	5.6	19.2	37.1	52.8	9.2	43.7	5.8	23.6	34.8	53.3	9.0	44.3	5.9	25.5		
		40	Operation not recommended																			
		50	Operation not recommended																			
	1.5	15	32.7	56.4	7.3	49.2	7.8	17.3	26.8	56.9	7.1	49.7	8.0	22.4	24.2	57.3	7.0	50.3	8.1	24.6		
		25	42.9	53.7	9.4	44.3	5.7	18.8	37.4	54.3	9.2	45.1	5.9	23.3	35.0	54.8	9.1	45.8	6.0	25.3		
		40	53.2	50.9	11.5	39.4	4.4	20.3	48.0	51.7	11.3	40.4	4.6	24.2	45.7	52.4	11.1	41.3	4.7	26.0		
		50	Operation not recommended																			
	1.9	15	33.1	57.8	7.3	50.5	7.9	16.9	27.1	58.3	7.2	51.1	8.1	22.1	24.5	58.7	7.1	51.6	8.3	24.4		
		25	43.3	55.0	9.5	45.5	5.8	18.4	37.7	55.6	9.3	46.3	6.0	23.1	35.2	56.1	9.1	47.0	6.1	25.1		
		40	53.6	52.1	11.6	40.5	4.5	19.9	48.2	52.9	11.4	41.5	4.6	24.0	45.9	53.6	11.2	42.4	4.8	25.8		
		50	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW030 Performance Data cont.

Cooling

Source		Load Flow - 0.9 L/s							Load Flow - 1.5 L/s							Load Flow - 1.9 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C		
0	0.9	10	0.0	32.9	4.1	37.0	8.0	10.1	3.2	34.2	4.2	38.4	8.2	10.5	4.6	35.4	4.2	39.6	8.4	10.9		
		20	8.8	40.4	4.5	45.0	9.0	12.5	12.8	42.1	4.6	46.7	9.2	13.1	14.5	43.5	4.6	48.1	9.4	13.5		
		30	17.7	48.0	4.9	52.9	9.8	14.9	22.3	49.9	5.0	54.9	10.0	15.6	24.4	51.6	5.1	56.7	10.2	16.1		
		45	26.5	55.6	5.3	60.9	10.4	17.4	31.9	57.8	5.4	63.2	10.7	18.1	34.3	59.8	5.5	65.3	10.9	18.7		
	1.5	10	-0.7	35.2	3.9	39.1	9.0	6.6	2.8	36.6	3.9	40.6	9.4	6.9	4.2	37.9	4.0	41.9	9.5	7.2		
		20	8.0	43.3	4.3	47.6	10.1	8.3	12.2	45.1	4.3	49.4	10.4	8.7	14.1	46.6	4.4	51.1	10.6	9.0		
		30	16.6	51.5	4.7	56.2	11.0	10.0	21.6	53.6	4.8	58.3	11.3	10.4	23.8	55.4	4.8	60.2	11.5	10.8		
		45	25.2	59.6	5.1	64.7	11.7	11.7	31.1	62.0	5.2	67.2	12.0	12.2	33.6	64.1	5.3	69.4	12.2	12.6		
	1.9	10	-1.3	37.2	3.7	40.9	10.0	5.1	2.3	38.8	3.8	42.5	10.3	5.3	3.9	40.2	3.8	44.0	10.5	5.6		
		20	7.2	45.8	4.1	49.9	11.2	6.4	11.7	47.7	4.2	51.9	11.5	6.8	13.6	49.4	4.2	53.7	11.7	7.0		
		30	15.7	54.5	4.5	59.0	12.2	7.8	21.0	56.7	4.6	61.3	12.4	8.2	23.3	58.7	4.6	63.3	12.7	8.5		
		45	24.2	63.2	4.9	68.0	13.0	9.2	30.3	65.7	4.9	70.6	13.4	9.6	33.1	67.9	5.0	72.9	13.6	9.9		
10	0.9	10	0.7	30.6	5.4	36.1	5.6	20.9	3.7	31.8	5.5	37.3	5.8	21.3	5.0	32.9	5.6	38.5	5.9	21.7		
		20	9.6	38.2	5.8	44.0	6.5	23.3	13.3	39.7	5.9	45.6	6.7	23.8	14.9	41.0	6.0	47.0	6.8	24.3		
		30	18.3	45.7	6.3	52.0	7.3	25.8	22.8	47.6	6.3	53.9	7.5	26.3	24.8	49.2	6.5	55.6	7.6	26.9		
		45	27.2	53.3	6.7	59.9	8.0	28.2	32.4	55.4	6.8	62.1	8.2	28.8	34.7	57.3	6.9	64.1	8.3	29.4		
	1.5	10	0.1	32.6	5.2	37.7	6.3	17.4	3.3	33.9	5.3	39.2	6.5	17.8	4.7	35.1	5.3	40.5	6.6	18.0		
		20	8.8	40.6	5.6	46.2	7.3	19.1	12.7	42.3	5.7	48.0	7.5	19.5	14.5	43.7	5.7	49.5	7.6	19.8		
		30	17.4	48.7	6.0	54.7	8.2	20.8	22.2	50.7	6.1	56.7	8.3	21.2	24.3	52.4	6.1	58.5	8.5	21.6		
		45	26.1	56.8	6.3	63.1	9.0	22.5	31.7	59.0	6.5	65.5	9.1	22.9	34.1	61.0	6.6	67.6	9.3	23.4		
	1.9	10	-0.4	34.3	5.0	39.2	6.9	15.9	2.9	35.7	5.0	40.7	7.1	16.2	4.4	37.0	5.1	42.1	7.2	16.4		
		20	8.1	42.8	5.3	48.1	8.0	17.3	12.3	44.6	5.4	50.0	8.2	17.6	14.1	46.1	5.5	51.6	8.4	17.8		
		30	16.7	51.3	5.7	57.0	9.0	18.7	21.7	53.4	5.8	59.2	9.2	19.0	23.8	55.2	5.9	61.1	9.4	19.3		
		45	25.2	59.8	6.1	65.9	9.8	20.0	31.1	62.2	6.2	68.4	10.1	20.4	33.6	64.3	6.3	70.6	10.2	20.7		
20	0.9	10	1.4	28.4	6.8	35.1	4.2	31.8	4.2	29.5	6.8	36.3	4.3	32.2	5.4	30.5	7.0	37.5	4.4	32.5		
		20	10.2	35.9	7.2	43.1	5.0	34.2	13.7	37.3	7.3	44.6	5.2	34.7	15.3	38.6	7.4	46.0	5.2	35.1		
		30	19.1	43.4	7.6	51.0	5.7	36.6	23.3	45.2	7.8	52.9	5.8	37.2	25.2	46.7	7.8	54.5	6.0	37.6		
		45	Operation not recommended																			
	1.5	10	0.9	30.0	6.4	36.4	4.7	28.3	3.8	31.2	6.6	37.8	4.7	28.6	5.1	32.3	6.7	39.0	4.8	28.8		
		20	9.6	37.9	6.9	44.8	5.5	29.9	13.3	39.5	7.0	46.5	5.7	30.3	14.9	40.9	7.1	47.9	5.8	30.6		
		30	18.3	45.9	7.2	53.1	6.3	31.6	22.8	47.8	7.4	55.1	6.5	32.0	24.7	49.4	7.5	56.9	6.6	32.3		
		45	Operation not recommended																			
	1.9	10	0.5	31.3	6.2	37.5	5.1	26.8	3.6	32.7	6.3	39.0	5.2	27.0	4.9	33.9	6.4	40.3	5.3	27.2		
		20	9.1	39.7	6.6	46.3	6.1	28.1	12.9	41.4	6.7	48.0	6.2	28.4	14.6	42.8	6.8	49.6	6.3	28.6		
		30	17.6	48.1	6.9	55.0	6.9	29.4	22.3	50.0	7.1	57.1	7.1	29.8	24.4	51.8	7.2	58.9	7.2	30.1		
		45	Operation not recommended																			
30	0.9	10	2.1	26.1	8.1	34.2	3.2	42.6	4.6	27.2	8.3	35.4	3.3	42.9	5.7	28.1	8.3	36.4	3.4	43.3		
		20	10.9	33.6	8.5	42.1	3.9	45.0	14.2	35.0	8.6	43.6	4.0	45.4	15.6	36.1	8.8	44.9	4.1	45.8		
		30	19.8	41.1	8.9	50.0	4.6	47.4	23.8	42.7	9.1	51.8	4.7	47.9	25.5	44.2	9.2	53.4	4.8	48.4		
		45	Operation not recommended																			
	1.5	10	1.7	27.4	7.8	35.1	3.5	39.2	4.4	28.5	7.8	36.3	3.6	39.4	5.5	29.5	8.0	37.5	3.7	39.6		
		20	10.4	35.2	8.1	43.4	4.3	40.8	13.8	36.7	8.3	44.9	4.4	41.1	15.3	38.0	8.4	46.3	4.5	41.4		
		30	19.2	43.1	8.5	51.6	5.1	42.4	23.3	44.9	8.7	53.5	5.2	42.8	25.2	46.4	8.8	55.2	5.3	43.1		
		45	Operation not recommended																			
	1.9	10	1.4	28.4	7.4	35.8	3.8	37.7	4.1	29.7	7.5	37.2	4.0	37.9	5.3	30.7	7.7	38.4	4.0	38.1		
		20	10.0	36.7	7.8	44.5	4.7	38.9	13.6	38.2	7.9	46.1	4.8	39.2	15.1	39.5	8.0	47.6	4.9	39.4		
		30	18.6	44.9	8.2	53.1	5.5	40.3	23.0	46.7	8.3	55.0	5.6	40.6	24.9	48.3	8.4	56.7	5.7	40.8		
		45	Operation not recommended																			
45	0.9	10	2.8	23.9	9.4	33.3	2.5	53.4	5.1	24.8	9.6	34.4	2.6	53.8	6.1	25.7	9.7	35.4	2.6	54.1		
		20	11.6	31.3	9.8	41.2	3.2	55.8	14.7	32.6	10.0	42.6	3.3	56.3	16.0	33.7	10.1	43.8	3.3	56.6		
		30	Operation not recommended																			
		45	Operation not recommended																			
	1.5	10	2.5	24.8	9.0	33.8	2.8	50.0	4.9	25.8	9.2	35.0	2.8	50.2	5.9	26.7	9.3	35.9	2.9	50.4		
		20	11.2	32.5	9.4	41.9	3.5	51.6	14.4	33.9	9.6	43.4	3.5	51.9	15.8	35.0	9.7	44.7	3.6	52.2		
		30	Operation not recommended																			
		45	Operation not recommended																			
	1.9	10	2.3	25.5	8.7	34.2	3.0	48.5	4.7	26.6	8.8	35.5	3.0	48.7	5.8	27.6	8.9	36.5	3.1	48.9		
		20	10.9	33.6	9.0	42.6	3.7	49.8	14.2	35.0	9.2	44.2	3.8	50.1	15.6	36.2	9.3	45.5	3.9	50.2		
		30	Operation not recommended																			
		45	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW035 Performance Data

Heating

Source		Load Flow - 1.1 L/s							Load Flow - 1.7 L/s							Load Flow - 2.3 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C		
0	1.1	15	23.7	32.4	6.4	25.9	5.0	-7.7	21.1	32.6	6.3	26.3	5.1	-5.6	19.7	32.9	6.2	26.7	5.3	-4.5		
		25	34.4	30.8	8.9	21.9	3.5	-6.6	31.9	31.1	8.8	22.3	3.6	-4.9	30.7	31.4	8.6	22.8	3.7	-4.0		
		40	45.2	29.2	11.4	17.7	2.6	-5.6	42.8	29.6	11.3	18.3	2.6	-4.2	41.6	30.0	11.0	19.0	2.7	-3.5		
		50	55.9	27.6	13.9	13.6	2.0	-4.6	53.6	28.1	13.7	14.4	2.1	-3.5	52.5	28.6	13.4	15.2	2.1	-3.0		
	1.7	15	23.9	33.2	6.5	26.7	5.1	-7.9	21.2	33.5	6.3	27.1	5.3	-5.7	19.8	33.7	6.3	27.5	5.4	-4.6		
		25	34.7	31.6	9.0	22.6	3.5	-6.8	32.1	31.9	8.8	23.1	3.6	-5.0	30.7	32.2	8.7	23.6	3.7	-4.1		
		40	45.3	29.9	11.5	18.4	2.6	-5.8	42.9	30.4	11.3	19.0	2.7	-4.3	41.7	30.8	11.1	19.7	2.8	-3.6		
		50	56.0	28.3	14.0	14.2	2.0	-4.7	53.7	28.8	13.8	15.0	2.1	-3.6	52.6	29.3	13.5	15.8	2.2	-3.1		
	10	1.1	15	25.7	40.3	6.9	33.4	5.8	1.6	22.4	40.6	6.8	33.9	6.0	4.3	20.7	40.9	6.7	34.2	6.1	5.7	
			25	36.4	38.4	9.3	29.1	4.1	2.7	33.2	38.8	9.2	29.7	4.2	5.0	31.6	39.2	9.0	30.2	4.4	6.2	
			40	47.0	36.5	11.8	24.7	3.1	3.8	44.0	37.1	11.7	25.4	3.2	5.7	42.5	37.6	11.4	26.1	3.3	6.7	
			50	57.7	34.6	14.3	20.3	2.4	4.9	54.8	35.3	14.1	21.2	2.5	6.4	53.4	35.9	13.8	22.1	2.6	7.2	
1.7		15	26.0	41.3	6.9	34.4	6.0	1.3	22.6	41.7	6.8	34.8	6.1	4.1	20.9	42.0	6.7	35.3	6.3	5.6		
		25	36.6	39.4	9.4	30.0	4.2	2.4	33.4	39.8	9.3	30.6	4.3	4.8	31.8	40.3	9.1	31.2	4.4	6.1		
		40	47.3	37.5	11.9	25.6	3.1	3.6	44.2	38.0	11.8	26.3	3.2	5.6	42.7	38.5	11.5	27.0	3.4	6.6		
		50	57.9	35.5	14.4	21.1	2.5	4.7	55.0	36.2	14.2	22.0	2.6	6.3	53.6	36.8	13.9	22.9	2.6	7.1		
2.3		15	26.3	42.4	7.0	35.4	6.1	1.1	22.8	42.7	6.8	35.9	6.3	3.9	21.0	43.1	6.8	36.3	6.4	5.4		
		25	36.9	40.4	9.5	30.9	4.3	2.2	33.6	40.9	9.3	31.5	4.4	4.7	31.9	41.3	9.2	32.1	4.5	5.9		
		40	47.5	38.4	12.0	26.4	3.2	3.3	44.3	39.0	11.8	27.1	3.3	5.4	42.8	39.5	11.6	28.0	3.4	6.4		
		50	58.1	36.5	14.6	21.9	2.5	4.4	55.2	37.1	14.3	22.9	2.6	6.2	53.7	37.8	14.0	23.8	2.7	7.0		
20	1.1	15	27.9	49.1	7.4	41.7	6.6	10.6	23.9	49.4	7.3	42.2	6.8	14.0	21.8	49.8	7.2	42.6	6.9	15.7		
		25	38.5	46.8	9.9	36.9	4.7	11.8	34.7	47.3	9.7	37.7	4.9	14.8	32.7	47.8	9.5	38.3	5.0	16.3		
		40	49.1	44.6	12.3	32.3	3.6	12.9	45.4	45.3	12.2	33.1	3.7	15.6	43.6	45.9	11.9	34.0	3.9	16.8		
		50	59.6	42.4	14.8	27.6	2.9	14.2	56.2	43.2	14.6	28.6	3.0	16.3	54.4	43.9	14.3	29.7	3.1	17.4		
	1.7	15	28.3	50.4	7.4	42.9	6.8	10.3	24.1	50.7	7.3	43.4	6.9	13.8	22.0	51.1	7.2	44.0	7.1	15.6		
		25	38.8	48.1	9.9	38.1	4.8	11.5	34.8	48.6	9.8	38.8	5.0	14.6	32.9	49.1	9.6	39.5	5.1	16.1		
		40	49.3	45.8	12.5	33.3	3.7	12.7	45.6	46.5	12.3	34.2	3.8	15.3	43.7	47.1	12.0	35.1	3.9	16.7		
		50	59.9	43.5	15.0	28.5	2.9	13.9	56.3	44.3	14.7	29.6	3.0	16.1	54.6	45.1	14.4	30.7	3.1	17.2		
	2.3	15	28.6	51.6	7.5	44.1	6.9	9.9	24.3	52.0	7.4	44.6	7.0	13.6	22.2	52.4	7.3	45.2	7.2	15.4		
		25	39.1	49.3	10.0	39.3	4.9	11.2	35.1	49.8	9.8	40.0	5.1	14.4	33.1	50.4	9.7	40.7	5.2	15.9		
		40	49.7	47.0	12.6	34.4	3.7	12.4	45.8	47.6	12.3	35.3	3.9	15.2	43.9	48.3	12.1	36.2	4.0	16.6		
		50	60.2	44.6	15.1	29.5	3.0	13.7	56.6	45.4	14.8	30.7	3.1	15.9	54.7	46.2	14.5	31.7	3.2	17.1		
30	1.1	15	30.2	57.8	7.9	49.9	7.3	19.6	25.4	58.3	7.8	50.5	7.5	23.7	23.0	58.7	7.7	51.0	7.7	25.8		
		25	40.6	55.3	10.4	44.9	5.3	20.9	36.1	55.9	10.2	45.7	5.5	24.6	33.8	56.5	10.0	46.5	5.6	26.3		
		40	Operation not recommended																			
		50	Operation not recommended																			
	1.7	15	30.6	59.3	8.0	51.3	7.4	19.2	25.6	59.8	7.8	52.0	7.6	23.4	23.2	60.3	7.7	52.6	7.9	25.6		
		25	41.0	56.7	10.5	46.2	5.4	20.6	36.3	57.3	10.3	47.1	5.6	24.3	34.0	58.0	10.1	47.9	5.7	26.2		
		40	51.4	54.1	13.0	41.1	4.2	21.8	47.0	54.9	12.8	42.1	4.3	25.1	44.8	55.6	12.5	43.1	4.5	26.8		
		50	Operation not recommended																			
	2.3	15	30.9	60.9	8.0	52.9	7.6	18.9	25.9	61.3	7.9	53.4	7.7	23.2	23.4	61.8	7.8	54.0	8.0	25.4		
		25	41.4	58.2	10.6	47.6	5.5	20.2	36.6	58.8	10.3	48.5	5.7	24.1	34.2	59.4	10.2	49.3	5.8	26.0		
		40	51.8	55.5	13.1	42.4	4.2	21.5	47.3	56.3	12.8	43.4	4.4	24.9	45.0	57.1	12.6	44.5	4.5	26.6		
		50	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW035 Performance Data cont.

Cooling

Source		Load Flow - 1.1 L/s							Load Flow - 1.7 L/s							Load Flow - 2.3 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C		
0	1.1	10	1.0	35.6	4.6	40.2	7.7	9.1	3.8	37.0	4.7	41.6	7.9	9.4	5.2	38.3	4.8	43.1	8.0	9.8		
		20	10.0	44.1	5.1	49.1	8.7	11.3	13.4	45.7	5.2	50.9	8.8	11.7	15.1	47.4	5.2	52.6	9.1	12.2		
		30	18.9	52.5	5.5	58.0	9.5	13.6	23.1	54.5	5.6	60.1	9.8	14.1	25.1	56.4	5.7	62.1	9.9	14.6		
		45	27.9	60.9	6.0	66.9	10.2	15.8	32.7	63.2	6.1	69.3	10.4	16.4	35.1	65.5	6.1	71.7	10.7	17.0		
	1.7	10	0.4	37.9	4.4	42.3	8.6	6.0	3.3	39.4	4.5	43.9	8.8	6.3	4.8	40.9	4.6	45.5	8.9	6.6		
		20	9.2	47.0	4.8	51.8	9.7	7.6	12.9	48.8	4.9	53.7	9.9	7.9	14.7	50.6	5.0	55.6	10.1	8.3		
		30	18.1	56.1	5.3	61.3	10.7	9.2	22.4	58.2	5.3	63.5	10.9	9.6	24.6	60.3	5.4	65.7	11.1	9.9		
		45	26.9	65.1	5.7	70.8	11.5	10.8	31.9	67.6	5.8	73.3	11.7	11.2	34.5	70.0	5.8	75.8	12.0	11.7		
	2.3	10	-0.2	40.3	4.2	44.5	9.6	4.5	2.9	41.9	4.3	46.1	9.9	4.7	4.5	43.5	4.3	47.9	10.0	4.9		
		20	8.5	49.9	4.6	54.5	10.8	5.8	12.4	51.9	4.7	56.5	11.1	6.1	14.3	53.8	4.8	58.6	11.3	6.3		
		30	17.2	59.6	5.0	64.6	11.9	7.1	21.8	61.9	5.1	66.9	12.2	7.3	24.1	64.2	5.2	69.3	12.4	7.7		
		45	25.8	69.3	5.4	74.7	12.8	8.3	31.2	71.9	5.5	77.4	13.1	8.7	33.9	74.5	5.6	80.1	13.3	9.0		
10	1.1	10	1.6	33.4	6.0	39.4	5.5	19.9	4.2	34.7	6.1	40.7	5.7	20.3	5.4	35.9	6.2	42.1	5.8	20.7		
		20	10.5	41.9	6.5	48.4	6.5	22.2	13.8	43.4	6.6	50.0	6.6	22.7	15.4	45.0	6.7	51.7	6.7	23.1		
		30	19.5	50.3	6.9	57.3	7.3	24.5	23.4	52.2	7.0	59.2	7.5	25.0	25.4	54.1	7.1	61.3	7.6	25.5		
		45	28.4	58.8	7.4	66.2	8.0	26.7	33.1	61.0	7.5	68.5	8.1	27.3	35.3	63.2	7.6	70.8	8.3	27.9		
	1.7	10	1.1	35.4	5.8	41.1	6.2	16.9	3.8	36.8	5.8	42.6	6.3	17.2	5.2	38.1	5.9	44.1	6.4	17.4		
		20	9.9	44.4	6.2	50.6	7.2	18.5	13.3	46.1	6.3	52.4	7.4	18.8	15.1	47.8	6.4	54.2	7.5	19.1		
		30	18.7	53.4	6.6	60.0	8.1	20.1	22.9	55.4	6.8	62.2	8.2	20.5	24.9	57.5	6.8	64.3	8.4	20.8		
		45	27.6	62.4	7.1	69.5	8.8	21.7	32.4	64.8	7.2	71.9	9.0	22.1	34.8	67.1	7.3	74.4	9.3	22.6		
	2.3	10	0.6	37.3	5.5	42.8	6.8	15.4	3.4	38.9	5.6	44.4	7.0	15.6	4.9	40.4	5.7	46.1	7.1	15.8		
		20	9.3	46.9	5.9	52.8	7.9	16.7	12.9	48.7	6.0	54.7	8.1	16.9	14.7	50.6	6.1	56.7	8.3	17.2		
		30	17.9	56.5	6.3	62.8	8.9	17.9	22.3	58.6	6.4	65.1	9.1	18.2	24.6	60.8	6.5	67.3	9.3	18.5		
		45	26.7	66.0	6.7	72.8	9.8	19.2	31.8	68.5	6.8	75.3	10.0	19.5	34.4	71.0	6.9	77.9	10.2	19.8		
20	1.1	10	2.1	31.2	7.4	38.6	4.2	30.9	4.6	32.4	7.5	39.9	4.3	31.2	5.8	33.6	7.7	41.2	4.4	31.5		
		20	11.1	39.7	7.9	47.6	5.0	33.1	14.2	41.2	8.0	49.2	5.1	33.6	15.7	42.7	8.1	50.8	5.3	33.9		
		30	20.1	48.2	8.3	56.5	5.8	35.4	23.8	50.0	8.5	58.5	5.9	35.9	25.7	51.8	8.6	60.4	6.0	36.4		
		45	Operation not recommended																			
	1.7	10	1.7	32.8	7.1	39.9	4.6	27.8	4.3	34.1	7.3	41.4	4.7	28.1	5.5	35.4	7.3	42.7	4.8	28.3		
		20	10.6	41.8	7.5	49.3	5.5	29.4	13.8	43.4	7.7	51.1	5.7	29.7	15.4	45.0	7.8	52.8	5.8	30.0		
		30	19.4	50.8	8.0	58.7	6.4	31.0	23.3	52.7	8.1	60.8	6.5	31.3	25.3	54.6	8.2	62.8	6.6	31.7		
		45	Operation not recommended																			
	2.3	10	1.3	34.5	6.8	41.3	5.1	26.3	3.9	35.9	6.9	42.8	5.2	26.5	5.3	37.2	7.0	44.2	5.3	26.7		
		20	10.0	43.9	7.2	51.1	6.1	27.6	13.4	45.6	7.3	53.0	6.2	27.8	15.1	47.3	7.4	54.8	6.4	28.1		
		30	18.7	53.3	7.6	61.0	7.0	28.8	22.9	55.4	7.8	63.1	7.1	29.1	24.9	57.4	7.9	65.3	7.3	29.4		
		45	Operation not recommended																			
30	1.1	10	2.7	29.0	8.8	37.8	3.3	41.8	4.9	30.1	8.9	39.0	3.4	42.1	6.1	31.2	9.1	40.3	3.4	42.4		
		20	11.6	37.5	9.3	46.8	4.0	44.1	14.6	38.9	9.4	48.3	4.1	44.4	16.0	40.3	9.6	49.9	4.2	44.8		
		30	20.6	46.0	9.8	55.8	4.7	46.3	24.2	47.7	9.9	57.6	4.8	46.8	25.9	49.5	10.1	59.5	4.9	47.3		
		45	Operation not recommended																			
	1.7	10	2.3	30.3	8.4	38.7	3.6	38.7	4.7	31.5	8.6	40.0	3.7	38.9	5.9	32.6	8.8	41.4	3.7	39.2		
		20	11.2	39.2	8.9	48.1	4.4	40.3	14.3	40.7	9.0	49.7	4.5	40.6	15.8	42.2	9.2	51.4	4.6	40.9		
		30	20.1	48.1	9.3	57.5	5.2	41.9	23.8	49.9	9.5	59.4	5.3	42.2	25.7	51.8	9.6	61.4	5.4	42.6		
		45	Operation not recommended																			
	2.3	10	2.0	31.6	8.1	39.6	3.9	37.2	4.4	32.8	8.3	41.1	4.0	37.4	5.7	34.1	8.3	42.5	4.1	37.6		
		20	10.8	40.9	8.5	49.4	4.8	38.4	13.9	42.5	8.6	51.1	4.9	38.7	15.6	44.1	8.8	52.9	5.0	38.9		
		30	19.6	50.2	8.9	59.1	5.6	39.7	23.4	52.1	9.1	61.2	5.8	39.9	25.4	54.1	9.2	63.3	5.9	40.2		
		45	Operation not recommended																			
45	1.1	10	3.2	26.8	10.2	37.0	2.6	52.7	5.3	27.8	10.4	38.2	2.7	53.0	6.3	28.8	10.5	39.3	2.7	53.3		
		20	12.2	35.3	10.7	46.0	3.3	54.9	14.9	36.7	10.9	47.5	3.4	55.3	16.3	38.0	11.0	49.0	3.4	55.7		
		30	Operation not recommended																			
		45	Operation not recommended																			
	1.7	10	3.0	27.7	9.8	37.6	2.8	49.7	5.2	28.8	9.9	38.7	2.9	49.9	6.2	29.9	10.1	40.0	3.0	50.1		
		20	11.9	36.6	10.3	46.8	3.6	51.2	14.7	38.0	10.4	48.4	3.7	51.5	16.1	39.4	10.6	50.0	3.7	51.8		
		30	Operation not recommended																			
		45	Operation not recommended																			
	2.3	10	2.8	28.6	9.4	38.0	3.1	48.1	5.0	29.8	9.5	39.3	3.1	48.3	6.1	31.0	9.7	40.6	3.2	48.4		
		20	11.6	37.9	9.8	47.7	3.9	49.3	14.5	39.3	10.0	49.3	4.0	49.6	15.9	40.8	10.1	50.9	4.0	49.8		
		30	Operation not recommended																			
		45	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____



NKW045 Performance Data

Heating

Source		Load Flow - 1.5 L/s							Load Flow - 2.1 L/s						Load Flow - 2.8 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	
0	2.1	15	23.3	38.9	7.5	31.4	5.2	-7.3	20.8	39.2	7.4	31.8	5.3	-5.4	19.6	39.5	7.3	32.3	5.5	-4.4	
		25	33.9	36.7	10.3	26.4	3.6	-6.3	31.6	37.1	10.2	26.9	3.6	-4.7	30.4	37.5	9.9	27.5	3.8	-3.9	
		40	44.6	34.4	13.1	21.4	2.6	-5.3	42.4	34.9	12.8	22.1	2.7	-4.1	41.3	35.4	12.7	22.7	2.8	-3.4	
		50	55.3	32.2	15.9	16.3	2.0	-4.3	53.3	32.8	15.6	17.1	2.1	-3.4	52.3	33.3	15.3	18.0	2.2	-2.9	
	2.8	15	23.4	39.9	7.6	32.3	5.3	-7.5	20.9	40.3	7.5	32.8	5.4	-5.5	19.7	40.5	7.3	33.2	5.5	-4.4	
		25	34.1	37.6	10.4	27.2	3.6	-6.5	31.8	38.0	10.3	27.8	3.7	-4.8	30.6	38.4	10.0	28.4	3.8	-4.0	
		40	44.8	35.3	13.3	22.1	2.7	-5.5	42.6	35.8	13.0	22.8	2.8	-4.2	41.4	36.3	12.8	23.6	2.8	-3.5	
		50	55.4	33.0	16.0	17.0	2.1	-4.5	53.4	33.6	15.7	17.9	2.1	-3.5	52.3	34.2	15.4	18.8	2.2	-3.0	
	10	1.5	15	24.8	46.9	8.1	38.8	5.8	2.3	21.9	47.2	7.9	39.3	6.0	4.7	20.4	47.6	7.8	39.8	6.1	6.0
			25	35.4	44.3	10.8	33.6	4.1	3.3	32.7	44.8	10.6	34.2	4.2	5.4	31.2	45.3	10.4	34.9	4.3	6.4
			40	46.1	41.8	13.5	28.3	3.1	4.4	43.4	42.4	13.3	29.1	3.2	6.1	42.1	43.0	13.0	30.0	3.3	6.9
			50	56.7	39.2	16.3	23.0	2.4	5.4	54.2	40.0	15.9	24.1	2.5	6.8	53.0	40.7	15.6	25.1	2.6	7.4
2.1		15	25.1	48.1	8.1	40.0	6.0	2.1	22.1	48.5	8.0	40.5	6.1	4.6	20.5	48.8	7.8	41.0	6.2	5.8	
		25	35.7	45.5	10.8	34.7	4.2	3.2	32.8	46.0	10.7	35.3	4.3	5.3	31.4	46.5	10.4	36.1	4.5	6.3	
		40	46.3	42.9	13.6	29.3	3.2	4.2	43.6	43.5	13.3	30.2	3.3	5.9	42.2	44.1	13.1	31.0	3.4	6.9	
		50	56.8	40.3	16.3	24.0	2.5	5.3	54.4	41.0	16.0	25.0	2.6	6.7	53.1	41.8	15.8	26.0	2.7	7.4	
2.8		15	25.3	49.3	8.2	41.2	6.0	1.8	22.2	49.7	8.0	41.7	6.2	4.4	20.6	50.1	7.9	42.2	6.3	5.7	
		25	35.9	46.7	10.9	35.8	4.3	2.9	33.0	47.2	10.8	36.4	4.4	5.1	31.5	47.7	10.5	37.2	4.5	6.2	
		40	46.5	44.0	13.7	30.3	3.2	4.0	43.7	44.6	13.4	31.2	3.3	5.8	42.3	45.3	13.2	32.1	3.4	6.8	
		50	57.1	41.3	16.5	24.8	2.5	5.1	54.5	42.1	16.2	25.9	2.6	6.6	53.2	42.8	15.8	27.0	2.7	7.3	
20	1.5	15	26.6	55.8	8.6	47.2	6.5	11.8	23.1	56.2	8.5	47.7	6.6	14.7	21.3	56.7	8.3	48.3	6.8	16.2	
		25	37.1	52.9	11.3	41.7	4.7	12.9	33.8	53.5	11.1	42.4	4.8	15.4	32.1	54.1	10.9	43.2	5.0	16.7	
		40	47.7	50.0	14.0	36.0	3.6	14.0	44.6	50.8	13.7	37.1	3.7	16.2	43.0	51.5	13.4	38.1	3.8	17.3	
		50	58.2	47.2	16.7	30.5	2.8	15.1	55.3	48.0	16.3	31.7	2.9	16.9	53.8	48.9	16.0	32.9	3.1	17.8	
	2.1	15	26.9	57.3	8.7	48.6	6.6	11.5	23.3	57.7	8.5	49.2	6.8	14.6	21.4	58.2	8.4	49.7	6.9	16.1	
		25	37.4	54.3	11.3	43.0	4.8	12.6	34.0	54.9	11.2	43.7	4.9	15.3	32.3	55.5	11.0	44.5	5.0	16.6	
		40	47.9	51.4	14.1	37.3	3.6	13.7	44.7	52.1	13.8	38.3	3.8	16.0	43.1	52.8	13.6	39.2	3.9	17.2	
		50	58.4	48.4	16.8	31.7	2.9	14.8	55.5	49.3	16.4	32.9	3.0	16.7	53.9	50.2	16.2	34.0	3.1	17.7	
	2.8	15	27.2	58.7	8.8	50.0	6.7	11.2	23.5	59.2	8.6	50.6	6.9	14.3	21.6	59.6	8.4	51.2	7.1	15.9	
		25	37.7	55.7	11.5	44.2	4.8	12.3	34.2	56.3	11.3	45.1	5.0	15.1	32.4	56.9	11.1	45.8	5.1	16.5	
		40	48.2	52.7	14.2	38.5	3.7	13.5	44.9	53.4	13.9	39.5	3.8	15.8	43.3	54.2	13.7	40.5	4.0	17.0	
		50	58.7	49.7	16.9	32.7	2.9	14.6	55.7	50.6	16.6	34.0	3.0	16.6	54.1	51.5	16.3	35.2	3.2	17.6	
30	1.5	15	28.4	64.7	9.2	55.6	7.1	21.2	24.3	65.2	9.0	56.2	7.2	24.7	22.2	65.7	8.8	56.9	7.4	26.5	
		25	38.8	61.5	11.8	49.7	5.2	22.4	35.0	62.2	11.6	50.6	5.4	25.4	33.0	62.8	11.4	51.4	5.5	27.0	
		40	Operation not recommended																		
		50	Operation not recommended																		
	2.1	15	28.7	66.5	9.3	57.2	7.2	20.9	24.5	66.9	9.1	57.9	7.4	24.5	22.4	67.5	8.9	58.5	7.6	26.3	
		25	39.2	63.1	11.9	51.2	5.3	22.1	35.2	63.8	11.7	52.2	5.5	25.2	33.2	64.5	11.5	53.0	5.6	26.8	
		40	49.6	59.8	14.6	45.3	4.1	23.3	45.9	60.7	14.3	46.4	4.3	26.0	44.0	61.5	14.0	47.5	4.4	27.4	
		50	Operation not recommended																		
	2.8	15	29.1	68.2	9.3	58.8	7.3	20.6	24.7	68.7	9.2	59.5	7.5	24.3	22.6	69.2	9.0	60.2	7.7	26.1	
		25	39.5	64.8	12.0	52.8	5.4	21.8	35.4	65.5	11.8	53.7	5.6	25.1	33.3	66.2	11.6	54.6	5.7	26.7	
		40	49.9	61.4	14.7	46.7	4.2	23.0	46.1	62.3	14.4	47.8	4.3	25.8	44.2	63.1	14.1	49.0	4.5	27.3	
		50	Operation not recommended																		

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW045 Performance Data cont.

Cooling

Source		Load Flow - 1.5 L/s							Load Flow - 2.1 L/s							Load Flow - 2.8 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C		
0	1.5	10	1.9	41.1	5.3	46.4	7.7	8.1	4.3	42.6	5.4	48.0	7.9	8.4	5.6	44.2	5.5	49.7	8.0	8.7		
		20	10.9	51.3	6.0	57.3	8.6	10.2	14.0	53.2	6.1	59.3	8.8	10.6	15.6	55.2	6.1	61.3	9.0	11.0		
		30	20.1	61.5	6.6	68.1	9.3	12.3	23.7	63.8	6.7	70.5	9.6	12.8	25.6	66.2	6.8	72.9	9.8	13.3		
		45	29.2	71.8	7.2	79.0	10.0	14.5	33.4	74.5	7.3	81.8	10.2	15.1	35.6	77.2	7.4	84.6	10.4	15.6		
	2.1	10	1.3	43.7	5.1	48.8	8.6	5.4	3.9	45.5	5.2	50.6	8.8	5.7	5.2	47.2	5.3	52.4	9.0	5.9		
		20	10.3	54.7	5.7	60.4	9.6	6.9	13.5	56.8	5.8	62.6	9.9	7.3	15.2	58.9	5.9	64.8	10.0	7.6		
		30	19.2	65.7	6.3	72.0	10.5	8.5	23.1	68.2	6.4	74.6	10.6	8.9	25.1	70.7	6.5	77.2	10.9	9.2		
		45	28.2	76.6	6.8	83.5	11.2	10.1	32.7	79.5	7.0	86.5	11.4	10.4	35.0	82.4	7.1	89.5	11.6	10.9		
	2.8	10	0.8	46.4	4.9	51.3	9.6	4.1	3.6	48.3	4.9	53.2	9.8	4.3	4.9	50.2	5.0	55.2	10.0	4.4		
		20	9.6	58.1	5.4	63.5	10.7	5.3	13.1	60.4	5.5	65.9	11.0	5.6	14.8	62.7	5.6	68.3	11.2	5.8		
		30	18.4	69.8	6.0	75.8	11.7	6.6	22.5	72.5	6.1	78.6	11.9	6.8	24.6	75.2	6.2	81.3	12.2	7.1		
		45	27.2	81.6	6.6	88.1	12.5	7.8	32.0	84.6	6.7	91.3	12.7	8.1	34.4	87.7	6.8	94.4	13.0	8.4		
10	1.5	10	2.4	38.1	7.3	45.4	5.2	19.0	4.7	39.5	7.4	47.0	5.3	19.3	5.8	41.0	7.5	48.5	5.5	19.6		
		20	11.5	48.6	7.9	56.5	6.1	21.2	14.4	50.4	8.1	58.5	6.2	21.6	15.8	52.2	8.2	60.4	6.4	21.9		
		30	20.6	59.0	8.6	67.6	6.9	23.4	24.0	61.3	8.7	69.9	7.1	23.8	25.8	63.5	8.8	72.3	7.2	24.3		
		45	29.6	69.5	9.2	78.7	7.5	25.6	33.7	72.1	9.3	81.5	7.7	26.1	35.8	74.7	9.5	84.2	7.9	26.7		
	2.1	10	2.0	40.4	7.0	47.4	5.8	16.3	4.4	41.9	7.1	49.0	5.9	16.6	5.6	43.5	7.2	50.7	6.1	16.8		
		20	10.9	51.5	7.6	59.1	6.8	17.9	13.9	53.5	7.7	61.2	7.0	18.2	15.5	55.5	7.8	63.3	7.1	18.4		
		30	19.8	62.6	8.2	70.8	7.6	19.5	23.5	65.0	8.3	73.3	7.8	19.8	25.4	67.4	8.5	75.8	8.0	20.2		
		45	28.7	73.8	8.8	82.6	8.4	21.1	33.1	76.5	8.9	85.5	8.6	21.4	35.3	79.3	9.1	88.4	8.7	21.8		
	2.8	10	1.6	42.6	6.7	49.3	6.4	15.0	4.1	44.4	6.8	51.1	6.6	15.2	5.3	46.1	6.9	52.9	6.7	15.3		
		20	10.3	54.4	7.2	61.6	7.5	16.2	13.6	56.6	7.3	63.9	7.7	16.4	15.2	58.7	7.5	66.1	7.9	16.7		
		30	19.1	66.2	7.8	74.1	8.5	17.5	23.0	68.8	7.9	76.7	8.7	17.8	25.0	71.3	8.1	79.4	8.8	18.0		
		45	27.9	78.0	8.4	86.4	9.3	18.7	32.5	81.0	8.5	89.5	9.5	19.1	34.8	83.9	8.7	92.6	9.7	19.3		
20	1.5	10	3.1	35.1	9.2	44.4	3.8	29.9	5.1	36.5	9.3	45.8	3.9	30.2	6.2	37.8	9.5	47.3	4.0	30.4		
		20	12.1	45.8	9.9	55.7	4.6	32.1	14.7	47.6	10.1	57.7	4.7	32.5	16.1	49.3	10.2	59.5	4.8	32.9		
		30	21.1	56.5	10.6	67.1	5.4	34.4	24.4	58.7	10.8	69.4	5.5	34.8	26.1	60.8	10.9	71.7	5.6	35.3		
		45	Operation not recommended																			
	2.1	10	2.7	37.0	8.8	45.8	4.2	27.2	4.8	38.4	9.0	47.4	4.3	27.4	5.9	39.9	9.1	49.0	4.4	27.7		
		20	11.6	48.3	9.5	57.8	5.1	28.8	14.4	50.1	9.6	59.8	5.2	29.1	15.8	52.0	9.8	61.8	5.3	29.4		
		30	20.4	59.6	10.1	69.7	5.9	30.4	23.9	61.8	10.3	72.1	6.0	30.8	25.7	64.1	10.4	74.5	6.1	31.1		
		45	Operation not recommended																			
	2.8	10	2.3	38.8	8.5	47.3	4.6	25.9	4.6	40.4	8.6	49.0	4.7	26.1	5.8	42.0	8.7	50.7	4.8	26.2		
		20	11.1	50.7	9.1	59.8	5.6	27.2	14.1	52.7	9.2	61.9	5.7	27.4	15.6	54.7	9.3	64.0	5.9	27.6		
		30	19.8	62.6	9.7	72.3	6.5	28.4	23.5	65.0	9.8	74.8	6.6	28.7	25.4	67.4	10.0	77.4	6.8	28.9		
		45	Operation not recommended																			
30	1.5	10	3.6	32.2	11.2	43.3	2.9	40.8	5.6	33.4	11.3	44.7	2.9	41.1	6.5	34.6	11.5	46.1	3.0	41.3		
		20	12.6	43.1	11.9	55.0	3.6	43.1	15.1	44.7	12.1	56.8	3.7	43.4	16.4	46.4	12.2	58.6	3.8	43.8		
		30	21.6	54.0	12.6	66.6	4.3	45.4	24.7	56.1	12.7	68.8	4.4	45.8	26.3	58.1	12.9	71.1	4.5	46.3		
		45	Operation not recommended																			
	2.1	10	3.3	33.6	10.8	44.3	3.1	38.2	5.3	34.9	10.9	45.8	3.2	38.3	6.3	36.2	11.1	47.3	3.3	38.6		
		20	12.2	45.1	11.4	56.4	4.0	39.8	14.8	46.8	11.5	58.3	4.1	40.1	16.2	48.5	11.7	60.2	4.1	40.3		
		30	21.1	56.5	12.0	68.6	4.7	41.4	24.4	58.7	12.2	70.9	4.8	41.7	26.1	60.8	12.4	73.2	4.9	42.0		
		45	Operation not recommended																			
	2.8	10	3.1	35.0	10.2	45.3	3.4	36.8	5.1	36.4	10.4	46.9	3.5	36.9	6.2	37.9	10.6	48.4	3.6	37.1		
		20	11.8	47.0	10.9	57.9	4.3	38.1	14.6	48.8	11.0	59.9	4.4	38.3	16.0	50.7	11.2	61.9	4.5	38.5		
		30	20.6	59.0	11.5	70.5	5.1	39.3	24.0	61.3	11.7	72.9	5.2	39.6	25.8	63.5	11.9	75.4	5.4	39.8		
		45	Operation not recommended																			
45	1.5	10	4.2	29.2	13.1	42.3	2.2	51.7	5.9	30.3	13.3	43.6	2.3	51.9	6.8	31.4	13.5	44.9	2.3	52.2		
		20	13.1	40.4	13.8	54.2	2.9	54.1	15.5	41.9	14.1	56.0	3.0	54.4	16.7	43.4	14.3	57.7	3.0	54.7		
		30	Operation not recommended																			
		45	Operation not recommended																			
	2.1	10	4.0	30.2	12.6	42.8	2.4	49.1	5.8	31.4	12.8	44.1	2.5	49.2	6.7	32.6	13.0	45.6	2.5	49.4		
		20	12.8	41.8	13.3	55.1	3.2	50.7	15.3	43.4	13.5	56.9	3.2	50.9	16.6	45.1	13.7	58.7	3.3	51.2		
		30	Operation not recommended																			
		45	Operation not recommended																			
	2.8	10	3.8	31.2	12.0	43.3	2.6	47.7	5.7	32.5	12.3	44.7	2.7	47.8	6.6	33.8	12.4	46.2	2.7	48.0		
		20	12.6	43.3	12.7	56.0	3.4	49.0	15.1	45.0	12.9	57.9	3.5	49.2	16.4	46.7	13.1	59.8	3.6	49.4		
		30	Operation not recommended																			
		45	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

NKW REVERSIBLE CHILLER - 50Hz

Engineer: _____

Project Name: _____ Unit Tag: _____



NKW050 Performance Data

Heating

Source		Load Flow - 1.6 L/s							Load Flow - 2.5 L/s							Load Flow - 3.3 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C		
0	2.5	15	23.2	43.4	8.4	34.9	5.2	-7.2	20.7	43.7	8.3	35.3	5.2	-5.2	19.4	44.0	8.2	35.8	5.4	-4.2		
		25	33.8	40.9	11.2	29.8	3.7	-6.3	31.5	41.4	10.9	30.5	3.8	-4.7	30.3	41.8	10.8	31.1	3.9	-3.8		
		40	44.5	38.5	13.8	24.7	2.8	-5.4	42.3	39.1	13.6	25.5	2.9	-4.1	41.2	39.6	13.3	26.3	3.0	-3.4		
		50	55.2	36.1	16.5	19.6	2.2	-4.5	53.2	36.7	16.2	20.5	2.3	-3.5	52.2	37.4	15.9	21.5	2.4	-3.0		
	3.3	15	23.3	44.5	8.5	36.0	5.2	-7.4	20.8	44.8	8.4	36.4	5.3	-5.3	19.5	45.1	8.3	36.9	5.5	-4.3		
		25	34.0	42.0	11.3	30.7	3.7	-6.5	31.6	42.4	11.0	31.4	3.9	-4.8	30.4	42.9	10.8	32.0	4.0	-3.9		
		40	44.7	39.5	13.9	25.6	2.8	-5.6	42.4	40.1	13.7	26.4	2.9	-4.2	41.3	40.6	13.4	27.2	3.0	-3.5		
		50	55.4	37.0	16.6	20.4	2.2	-4.7	53.3	37.7	16.3	21.4	2.3	-3.6	52.2	38.3	16.0	22.3	2.4	-3.1		
	10	1.6	15	25.3	55.8	9.3	46.6	6.0	1.8	22.1	56.2	9.1	47.2	6.2	4.5	20.5	56.7	8.9	47.7	6.4	5.8	
			25	35.9	52.7	12.0	40.7	4.4	2.9	32.9	53.3	11.8	41.4	4.5	5.2	31.4	53.8	11.6	42.2	4.6	6.3	
			40	46.4	49.6	14.8	34.8	3.4	3.9	43.7	50.3	14.5	35.8	3.5	5.8	42.2	51.0	14.3	36.7	3.6	6.8	
			50	57.0	46.5	17.5	29.0	2.7	4.9	54.4	47.3	17.2	30.1	2.8	6.5	53.1	48.2	16.8	31.3	2.9	7.3	
2.5		15	25.6	57.3	9.3	48.0	6.1	1.6	22.3	57.7	9.2	48.6	6.3	4.3	20.7	58.2	9.0	49.2	6.5	5.7		
		25	36.1	54.1	12.1	42.0	4.5	2.7	33.1	54.7	11.9	42.8	4.6	5.0	31.5	55.2	11.7	43.6	4.7	6.2		
		40	46.7	50.9	14.9	36.0	3.4	3.7	43.8	51.6	14.6	37.0	3.5	5.7	42.3	52.3	14.3	38.0	3.7	6.7		
		50	57.2	47.7	17.7	30.0	2.7	4.7	54.6	48.6	17.3	31.2	2.8	6.3	53.2	49.4	17.0	32.4	2.9	7.2		
3.3		15	25.8	58.8	9.4	49.3	6.2	1.3	22.4	59.2	9.3	50.0	6.4	4.2	20.8	59.7	9.1	50.6	6.6	5.6		
		25	36.4	55.5	12.2	43.3	4.6	2.4	33.2	56.1	12.0	44.1	4.7	4.8	31.6	56.7	11.8	44.9	4.8	6.1		
		40	46.9	52.2	15.0	37.2	3.5	3.5	43.9	53.0	14.8	38.2	3.6	5.6	42.5	53.7	14.4	39.3	3.7	6.6		
		50	57.4	48.9	17.8	31.1	2.7	4.6	54.7	49.8	17.4	32.4	2.9	6.2	53.3	50.7	17.1	33.6	3.0	7.1		
20	1.6	15	27.7	69.4	10.1	59.3	6.9	10.7	23.7	69.9	9.9	60.0	7.1	14.1	21.7	70.5	9.8	60.7	7.2	15.8		
		25	38.1	65.5	12.9	52.6	5.1	11.9	34.4	66.2	12.8	53.5	5.2	14.9	32.5	66.9	12.5	54.4	5.4	16.3		
		40	48.6	61.7	15.8	45.8	3.9	13.1	45.1	62.5	15.5	47.0	4.0	15.6	43.3	63.4	15.3	48.2	4.2	16.9		
		50	59.0	57.8	18.7	39.1	3.1	14.3	55.8	58.8	18.3	40.5	3.2	16.4	54.1	59.9	17.9	42.0	3.3	17.4		
	2.5	15	28.0	71.2	10.2	61.1	7.0	10.4	23.9	71.8	10.0	61.8	7.2	13.9	21.9	72.3	9.8	62.5	7.4	15.7		
		25	38.4	67.3	13.1	54.2	5.1	11.6	34.6	68.0	12.8	55.1	5.3	14.7	32.7	68.7	12.6	56.1	5.5	16.2		
		40	48.8	63.3	15.9	47.4	4.0	12.8	45.3	64.2	15.7	48.5	4.1	15.4	43.4	65.1	15.3	49.8	4.2	16.8		
		50	59.3	59.3	18.8	40.5	3.1	14.0	55.9	60.4	18.4	42.0	3.3	16.2	54.3	61.5	18.1	43.4	3.4	17.3		
	3.3	15	28.3	73.1	10.3	62.8	7.1	10.1	24.2	73.6	10.1	63.5	7.3	13.7	22.1	74.2	9.9	64.3	7.5	15.5		
		25	38.7	69.0	13.2	55.8	5.2	11.3	34.8	69.7	12.9	56.8	5.4	14.5	32.8	70.5	12.7	57.8	5.6	16.1		
		40	49.1	64.9	16.1	48.8	4.0	12.6	45.4	65.8	15.8	50.1	4.2	15.3	43.6	66.7	15.4	51.3	4.3	16.6		
		50	59.6	60.8	18.9	41.9	3.2	13.8	56.1	61.9	18.6	43.4	3.3	16.1	54.4	63.0	18.3	44.8	3.5	17.2		
30	1.6	15	30.1	83.0	11.0	72.0	7.5	19.6	25.3	83.6	10.8	72.9	7.8	23.7	22.9	84.3	10.6	73.7	8.0	25.8		
		25	40.4	78.4	13.9	64.5	5.6	20.9	35.9	79.2	13.7	65.5	5.8	24.6	33.7	80.0	13.4	66.6	6.0	26.4		
		40	Operation not recommended																			
		50	Operation not recommended																			
	2.5	15	30.4	85.2	11.1	74.1	7.7	19.3	25.6	85.8	10.8	75.0	7.9	23.5	23.1	86.5	10.7	75.8	8.1	25.6		
		25	40.7	80.4	14.0	66.4	5.7	20.6	36.2	81.3	13.8	67.5	5.9	24.3	33.8	82.2	13.5	68.7	6.1	26.2		
		40	51.0	75.7	17.0	58.7	4.5	21.9	46.7	76.8	16.7	60.1	4.6	25.2	44.6	77.8	16.3	61.5	4.8	26.8		
		50	Operation not recommended																			
	3.3	15	30.8	87.4	11.2	76.2	7.8	18.9	25.8	88.0	10.9	77.1	8.1	23.2	23.3	88.7	10.8	77.9	8.2	25.4		
		25	41.1	82.5	14.1	68.4	5.9	20.3	36.4	83.4	13.8	69.5	6.0	24.1	34.1	84.3	13.6	70.7	6.2	26.1		
		40	51.3	77.6	17.1	60.5	4.5	21.6	46.9	78.7	16.8	61.9	4.7	25.0	44.8	79.8	16.5	63.3	4.8	26.7		
		50	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW050 Performance Data cont.

Cooling

Source		Load Flow - 1.6 L/s							Load Flow - 2.5 L/s							Load Flow - 3.3 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C		
0	1.6	10	0.9	51.9	7.0	58.9	7.4	9.2	3.7	53.9	7.2	61.0	7.5	9.6	5.1	55.8	7.3	63.1	7.7	9.9		
		20	10.1	63.1	7.8	70.9	8.1	11.3	13.5	65.5	7.9	73.4	8.3	11.7	15.2	67.8	8.1	75.9	8.4	12.2		
		30	19.2	74.2	8.6	82.8	8.7	13.4	23.2	77.0	8.8	85.8	8.8	13.9	25.2	79.8	8.9	88.8	9.0	14.4		
		45	28.4	85.4	9.4	94.8	9.1	15.5	33.0	88.6	9.6	98.2	9.2	16.1	35.3	91.8	9.8	101.6	9.4	16.7		
	2.5	10	0.3	55.3	6.7	62.0	8.3	6.1	3.3	57.4	6.8	64.3	8.4	6.4	4.8	59.6	6.9	66.5	8.6	6.7		
		20	9.3	67.3	7.5	74.8	9.0	7.6	12.9	69.9	7.6	77.4	9.2	7.9	14.8	72.4	7.7	80.1	9.4	8.2		
		30	18.3	79.3	8.3	87.5	9.6	9.1	22.6	82.3	8.3	90.6	9.9	9.4	24.8	85.3	8.5	93.8	10.0	9.8		
		45	27.4	91.2	9.0	100.2	10.1	10.6	32.3	94.7	9.2	103.8	10.3	11.0	34.8	98.1	9.3	107.4	10.6	11.4		
	3.3	10	-0.3	58.7	6.4	65.1	9.1	4.6	2.9	61.1	6.5	67.6	9.4	4.8	4.4	63.4	6.6	70.0	9.6	5.0		
		20	8.6	71.5	7.1	78.5	10.1	5.8	12.4	74.3	7.3	81.5	10.2	6.0	14.4	77.1	7.3	84.4	10.5	6.3		
		30	17.5	84.3	7.8	92.1	10.8	6.9	22.0	87.5	8.0	95.5	10.9	7.2	24.3	90.7	8.1	98.8	11.2	7.6		
		45	26.3	97.1	8.6	105.6	11.3	8.1	31.6	100.7	8.7	109.4	11.6	8.4	34.2	104.4	8.8	113.2	11.8	8.8		
10	1.6	10	1.6	47.9	9.2	57.1	5.2	20.0	4.2	49.7	9.3	59.1	5.3	20.3	5.5	51.5	9.4	60.9	5.5	20.7		
		20	10.7	59.3	10.0	69.3	5.9	22.1	13.9	61.5	10.2	71.6	6.0	22.6	15.6	63.7	10.3	74.1	6.2	22.9		
		30	19.9	70.6	10.9	81.5	6.5	24.3	23.7	73.2	11.1	84.3	6.6	24.8	25.6	75.9	11.3	87.2	6.7	25.2		
		45	29.0	81.9	11.8	93.7	7.0	26.4	33.4	85.0	11.9	96.9	7.1	26.9	35.6	88.1	12.1	100.2	7.3	27.6		
	2.5	10	1.1	50.9	8.8	59.7	5.8	16.9	3.8	52.9	8.9	61.8	5.9	17.2	5.2	54.9	9.0	63.9	6.1	17.4		
		20	10.1	63.0	9.6	72.6	6.6	18.5	13.5	65.5	9.8	75.2	6.7	18.8	15.2	67.9	9.9	77.8	6.8	19.1		
		30	19.1	75.2	10.4	85.6	7.2	20.0	23.1	78.0	10.6	88.6	7.4	20.3	25.2	80.9	10.8	91.6	7.5	20.7		
		45	28.1	87.3	11.3	98.6	7.8	21.5	32.8	90.6	11.4	102.0	7.9	21.9	35.1	93.9	11.6	105.5	8.1	22.3		
	3.3	10	0.6	53.9	8.3	62.3	6.5	15.4	3.4	56.1	8.5	64.6	6.6	15.7	4.9	58.3	8.7	67.0	6.7	15.8		
		20	9.4	66.8	9.2	76.0	7.3	16.7	13.0	69.5	9.3	78.8	7.4	16.9	14.8	72.1	9.4	81.5	7.7	17.1		
		30	18.3	79.7	9.9	89.7	8.0	17.8	22.6	82.8	10.1	92.9	8.2	18.1	24.7	85.9	10.3	96.1	8.4	18.4		
		45	27.1	92.7	10.8	103.4	8.6	19.1	32.1	96.2	10.9	107.1	8.8	19.4	34.6	99.6	11.1	110.7	9.0	19.7		
20	1.6	10	2.3	43.9	11.3	55.2	3.9	30.8	4.7	45.6	11.5	57.1	4.0	31.1	5.9	47.2	11.7	58.9	4.0	31.4		
		20	11.4	55.4	12.3	67.7	4.5	32.9	14.4	57.5	12.4	69.9	4.6	33.3	15.9	59.6	12.6	72.2	4.7	33.7		
		30	20.5	67.0	13.2	80.1	5.1	35.1	24.1	69.5	13.3	82.8	5.2	35.6	25.9	72.0	13.6	85.6	5.3	36.1		
		45	Operation not recommended																			
	2.5	10	1.8	46.6	10.8	57.4	4.3	27.8	4.3	48.4	11.0	59.4	4.4	28.1	5.6	50.2	11.2	61.4	4.5	28.3		
		20	10.8	58.8	11.8	70.6	5.0	29.3	14.0	61.1	11.9	73.0	5.1	29.6	15.6	63.4	12.1	75.4	5.2	29.9		
		30	19.8	71.1	12.6	83.7	5.7	30.9	23.6	73.8	12.8	86.6	5.8	31.2	25.6	76.5	13.0	89.5	5.9	31.6		
		45	Operation not recommended																			
	3.3	10	1.4	49.2	10.3	59.5	4.8	26.3	4.1	51.2	10.5	61.7	4.9	26.5	5.3	53.2	10.7	63.8	5.0	26.7		
		20	10.2	62.2	11.2	73.4	5.6	27.6	13.6	64.6	11.3	76.0	5.7	27.8	15.2	67.1	11.6	78.7	5.8	28.0		
		30	19.1	75.2	12.1	87.3	6.2	28.7	23.1	78.1	12.3	90.4	6.4	29.0	25.1	81.0	12.4	93.4	6.5	29.3		
		45	Operation not recommended																			
30	1.6	10	3.0	39.9	13.4	53.3	3.0	41.6	5.2	41.4	13.7	55.1	3.0	41.8	6.2	42.9	13.8	56.7	3.1	42.2		
		20	12.1	51.6	14.4	66.0	3.6	43.8	14.9	53.6	14.7	68.2	3.7	44.2	16.3	55.5	14.9	70.4	3.7	44.6		
		30	21.2	63.3	15.4	78.7	4.1	46.0	24.6	65.7	15.7	81.4	4.2	46.4	26.3	68.1	15.9	84.0	4.3	46.9		
		45	Operation not recommended																			
	2.5	10	2.6	42.2	12.9	55.1	3.3	38.7	4.9	43.8	13.1	56.9	3.4	38.9	6.0	45.5	13.3	58.7	3.4	39.1		
		20	11.6	54.6	13.8	68.4	3.9	40.2	14.5	56.7	14.1	70.8	4.0	40.5	15.9	58.8	14.3	73.0	4.1	40.7		
		30	20.5	67.0	14.8	81.9	4.5	41.8	24.1	69.6	15.0	84.6	4.6	42.1	25.9	72.1	15.3	87.4	4.7	42.4		
		45	Operation not recommended																			
	3.3	10	2.2	44.4	12.3	56.8	3.6	37.2	4.6	46.2	12.5	58.7	3.7	37.4	5.8	48.0	12.8	60.8	3.8	37.6		
		20	11.1	57.6	13.3	70.8	4.3	38.4	14.1	59.8	13.4	73.3	4.5	38.6	15.7	62.1	13.7	75.8	4.5	38.8		
		30	19.8	70.7	14.2	84.9	5.0	39.7	23.7	73.4	14.3	87.8	5.1	39.9	25.6	76.2	14.6	90.7	5.2	40.2		
		45	Operation not recommended																			
45	1.6	10	3.7	35.9	15.6	51.5	2.3	52.3	5.7	37.3	15.8	53.1	2.4	52.6	6.6	38.6	16.1	54.7	2.4	52.9		
		20	12.7	47.8	16.7	64.5	2.9	54.6	15.3	49.6	16.9	66.5	2.9	54.9	16.6	51.4	17.2	68.6	3.0	55.3		
		30	Operation not recommended																			
		45	Operation not recommended																			
	2.5	10	3.4	37.8	14.9	52.7	2.5	49.5	5.4	39.3	15.2	54.5	2.6	49.7	6.4	40.8	15.4	56.2	2.6	49.9		
		20	12.3	50.4	16.0	66.4	3.1	51.1	15.0	52.3	16.3	68.6	3.2	51.3	16.4	54.2	16.5	70.7	3.3	51.6		
		30	Operation not recommended																			
		45	Operation not recommended																			
	3.3	10	3.1	39.7	14.3	54.0	2.8	48.1	5.2	41.3	14.5	55.8	2.8	48.2	6.2	42.9	14.8	57.7	2.9	48.4		
		20	11.8	53.0	15.3	68.2	3.5	49.3	14.7	55.0	15.5	70.5	3.6	49.5	16.1	57.1	15.8	72.9	3.6	49.7		
		30	Operation not recommended																			
		45	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW060 Performance Data

Heating

Source		Load Flow - 1.9 L/s							Load Flow - 2.8 L/s						Load Flow - 3.8 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	
0	2.8	15	23.1	49.9	10.5	39.4	4.8	-7.1	20.6	50.3	10.3	39.9	4.9	-5.2	19.4	50.7	10.2	40.5	5.0	-4.2	
		25	33.8	47.1	13.8	33.3	3.4	-6.2	31.5	47.6	13.6	34.0	3.5	-4.6	30.3	48.1	13.3	34.8	3.6	-3.7	
		40	44.5	44.3	17.2	27.2	2.6	-5.2	42.3	45.0	16.8	28.1	2.7	-3.9	41.2	45.6	16.5	29.1	2.8	-3.3	
		50	55.2	41.5	20.5	21.1	2.0	-4.3	53.2	42.3	20.1	22.2	2.1	-3.4	52.2	43.1	19.7	23.4	2.2	-2.9	
	3.8	15	23.3	51.2	10.6	40.6	4.8	-7.3	20.8	51.6	10.4	41.1	4.9	-5.3	19.5	51.9	10.3	41.7	5.1	-4.3	
		25	34.0	48.3	13.9	34.4	3.5	-6.3	31.6	48.8	13.7	35.2	3.6	-4.7	30.4	49.4	13.4	35.9	3.7	-3.8	
		40	44.7	45.5	17.3	28.2	2.6	-5.4	42.4	46.1	17.0	29.1	2.7	-4.1	41.3	46.7	16.7	30.1	2.8	-3.4	
		50	55.4	42.6	20.6	22.0	2.1	-4.4	53.3	43.4	20.2	23.2	2.1	-3.5	52.2	44.2	19.8	24.3	2.2	-3.0	
	10	1.9	15	24.9	62.1	11.1	51.0	5.6	2.3	21.9	62.5	10.9	51.6	5.7	4.8	20.3	63.0	10.8	52.2	5.9	6.1
			25	35.6	58.6	14.4	44.2	4.1	3.3	32.7	59.2	14.1	45.1	4.2	5.4	31.2	59.8	13.8	46.0	4.3	6.5
			40	46.1	55.1	17.7	37.5	3.1	4.3	43.4	55.9	17.3	38.6	3.2	6.1	42.1	56.7	17.0	39.7	3.3	7.0
			50	56.7	51.7	20.9	30.8	2.5	5.3	54.2	52.6	20.5	32.1	2.6	6.8	52.9	53.6	20.2	33.4	2.7	7.4
2.8		15	25.2	63.7	11.2	52.5	5.7	2.1	22.1	64.2	11.0	53.2	5.8	4.6	20.4	64.6	10.8	53.8	6.0	5.9	
		25	35.8	60.1	14.5	45.6	4.1	3.1	32.8	60.8	14.3	46.5	4.3	5.3	31.3	61.4	14.0	47.4	4.4	6.4	
		40	46.3	56.6	17.8	38.8	3.2	4.1	43.6	57.4	17.5	39.9	3.3	5.9	42.2	58.2	17.2	41.0	3.4	6.9	
		50	56.9	53.0	21.1	32.0	2.5	5.2	54.3	54.0	20.7	33.3	2.6	6.6	53.1	55.0	20.3	34.7	2.7	7.4	
3.8		15	25.4	65.3	11.3	54.1	5.8	1.8	22.2	65.8	11.1	54.7	5.9	4.4	20.6	66.3	10.9	55.4	6.1	5.8	
		25	36.0	61.7	14.6	47.1	4.2	2.9	32.9	62.3	14.3	48.0	4.3	5.2	31.4	63.0	14.1	48.9	4.5	6.3	
		40	46.6	58.0	17.9	40.1	3.2	3.9	43.7	58.9	17.6	41.3	3.3	5.8	42.3	59.7	17.3	42.4	3.5	6.8	
		50	57.1	54.4	21.3	33.1	2.6	5.0	54.5	55.4	20.8	34.6	2.7	6.5	53.2	56.4	20.4	36.0	2.8	7.3	
20	1.9	15	27.0	75.5	11.8	63.7	6.4	11.4	23.2	76.1	11.6	64.5	6.6	14.6	21.4	76.6	11.3	65.3	6.8	16.2	
		25	37.5	71.3	15.0	56.3	4.8	12.6	33.9	72.0	14.8	57.3	4.9	15.3	32.2	72.8	14.5	58.3	5.0	16.7	
		40	47.9	67.1	18.3	48.7	3.7	13.7	44.7	68.0	17.9	50.1	3.8	16.1	43.0	69.0	17.6	51.4	3.9	17.2	
		50	58.4	62.9	21.6	41.3	2.9	14.8	55.3	64.0	21.2	42.8	3.0	16.8	53.8	65.2	20.8	44.4	3.1	17.7	
	2.8	15	27.3	77.5	11.8	65.6	6.5	11.2	23.4	78.1	11.7	66.4	6.7	14.4	21.5	78.6	11.4	67.2	6.9	16.0	
		25	37.8	73.1	15.2	58.0	4.8	12.3	34.2	73.9	14.8	59.1	5.0	15.1	32.3	74.7	14.6	60.2	5.1	16.6	
		40	48.2	68.9	18.4	50.4	3.7	13.4	44.8	69.8	18.1	51.7	3.9	15.9	43.2	70.8	17.8	53.1	4.0	17.1	
		50	58.7	64.5	21.8	42.8	3.0	14.6	55.6	65.7	21.3	44.4	3.1	16.6	53.9	66.9	20.9	46.0	3.2	17.6	
	3.8	15	27.6	79.4	11.9	67.5	6.7	10.9	23.7	80.1	11.8	68.3	6.8	14.2	21.7	80.7	11.5	69.2	7.0	15.9	
		25	38.1	75.0	15.3	59.8	4.9	12.1	34.3	75.8	15.0	60.8	5.1	14.9	32.5	76.6	14.7	62.0	5.2	16.4	
		40	48.5	70.6	18.6	52.0	3.8	13.2	45.0	71.6	18.3	53.4	3.9	15.7	43.3	72.6	17.9	54.7	4.1	16.9	
		50	58.9	66.2	21.9	44.3	3.0	14.4	55.7	67.4	21.5	45.9	3.1	16.4	54.1	68.6	21.1	47.5	3.3	17.5	
30	1.9	15	29.1	88.9	12.4	76.5	7.2	20.6	24.6	89.6	12.2	77.4	7.4	24.4	22.4	90.3	12.0	78.3	7.5	26.3	
		25	39.4	84.0	15.7	68.3	5.4	21.9	35.2	84.9	15.4	69.5	5.5	25.2	33.2	85.8	15.1	70.7	5.7	26.9	
		40	Operation not recommended																		
		50	Operation not recommended																		
	2.8	15	29.4	91.3	12.5	78.8	7.3	20.3	24.8	92.0	12.3	79.7	7.5	24.2	22.6	92.7	12.1	80.6	7.7	26.1	
		25	39.7	86.2	15.8	70.4	5.5	21.6	35.5	87.1	15.5	71.6	5.6	25.0	33.3	88.0	15.3	72.8	5.8	26.7	
		40	50.1	81.1	19.1	62.0	4.3	22.8	46.1	82.3	18.8	63.5	4.4	25.8	44.1	83.4	18.3	65.1	4.5	27.3	
		50	Operation not recommended																		
	3.8	15	29.8	93.6	12.6	81.0	7.4	19.9	25.1	94.3	12.4	81.9	7.6	23.9	22.8	95.0	12.2	82.9	7.8	25.9	
		25	40.1	88.4	15.9	72.5	5.6	21.2	35.7	89.3	15.6	73.8	5.7	24.8	33.5	90.3	15.3	75.0	5.9	26.6	
		40	50.4	83.2	19.3	63.9	4.3	22.5	46.3	84.4	18.8	65.5	4.5	25.6	44.3	85.5	18.5	67.0	4.6	27.2	
		50	Operation not recommended																		

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW060 Performance Data cont.

Cooling

Source		Load Flow - 1.9 L/s							Load Flow - 2.8 L/s							Load Flow - 3.8 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C		
0	1.9	10	1.6	55.7	8.2	63.9	6.8	8.6	4.2	57.8	8.3	66.1	6.9	8.9	5.4	59.9	8.4	68.3	7.1	9.2		
		20	10.8	67.9	8.8	76.7	7.7	10.5	14.0	70.5	8.9	79.4	7.9	10.9	15.6	73.0	9.1	82.1	8.0	11.3		
		30	20.1	80.1	9.4	89.6	8.5	12.4	23.8	83.1	9.6	92.7	8.7	12.9	25.7	86.2	9.7	95.9	8.9	13.4		
		45	29.3	92.3	10.1	102.4	9.2	14.4	33.7	95.8	10.2	106.0	9.4	14.9	35.8	99.3	10.4	109.7	9.6	15.5		
	2.8	10	1.0	59.3	7.8	67.2	7.6	5.7	3.8	61.6	7.9	69.6	7.8	5.9	5.2	64.0	8.1	72.0	7.9	6.2		
		20	10.1	72.4	8.4	80.8	8.6	7.1	13.5	75.2	8.5	83.7	8.8	7.3	15.2	78.0	8.7	86.7	9.0	7.7		
		30	19.3	85.5	9.0	94.5	9.5	8.4	23.2	88.8	9.2	97.9	9.7	8.8	25.2	92.0	9.3	101.3	9.9	9.1		
		45	28.4	98.6	9.6	108.2	10.3	9.8	33.0	102.4	9.8	112.1	10.5	10.2	35.3	106.1	9.9	116.0	10.7	10.6		
	3.8	10	0.4	62.9	7.4	70.4	8.5	4.2	3.4	65.5	7.6	73.1	8.6	4.4	4.8	68.0	7.7	75.7	8.9	4.6		
		20	9.4	76.9	8.0	84.9	9.6	5.3	13.0	80.0	8.2	88.1	9.8	5.6	14.8	83.0	8.3	91.2	10.1	5.8		
		30	18.4	90.9	8.6	99.5	10.6	6.4	22.7	94.4	8.7	103.1	10.9	6.7	24.8	97.9	8.8	106.7	11.1	7.0		
		45	27.4	104.9	9.1	114.1	11.5	7.6	32.3	108.9	9.3	118.1	11.8	7.8	34.8	112.8	9.4	122.3	12.0	8.2		
10	1.9	10	2.1	51.9	10.3	62.3	5.0	19.4	4.6	53.9	10.5	64.4	5.1	19.8	5.8	55.9	10.7	66.5	5.2	20.1		
		20	11.3	64.5	11.1	75.6	5.8	21.4	14.3	66.9	11.3	78.2	6.0	21.9	15.8	69.4	11.5	80.8	6.1	22.3		
		30	20.6	77.1	11.9	89.0	6.5	23.5	24.1	80.0	12.1	92.1	6.6	23.9	25.9	82.9	12.3	95.2	6.8	24.4		
		45	29.7	89.7	12.7	102.4	7.1	25.5	33.9	93.1	12.8	105.9	7.3	26.1	36.0	96.4	13.1	109.5	7.4	26.6		
	2.8	10	1.6	55.2	9.9	65.1	5.6	16.6	4.2	57.3	10.1	67.4	5.7	16.8	5.5	59.5	10.2	69.7	5.9	17.1		
		20	10.7	68.7	10.6	79.3	6.5	18.0	13.9	71.3	10.8	82.1	6.6	18.3	15.5	73.9	11.0	84.9	6.7	18.6		
		30	19.8	82.1	11.4	93.5	7.2	19.4	23.6	85.2	11.6	96.8	7.4	19.8	25.5	88.3	11.7	100.1	7.5	20.1		
		45	28.8	95.6	12.1	107.7	7.9	20.9	33.3	99.2	12.3	111.5	8.0	21.3	35.6	102.8	12.5	115.3	8.2	21.7		
	3.8	10	1.1	58.4	9.4	67.9	6.2	15.2	3.8	60.8	9.6	70.4	6.3	15.3	5.2	63.2	9.7	72.9	6.5	15.6		
		20	10.1	72.8	10.1	82.9	7.2	16.3	13.4	75.6	10.3	85.9	7.3	16.5	15.2	78.5	10.5	88.9	7.5	16.7		
		30	19.0	87.1	10.9	97.9	8.0	17.4	23.1	90.4	11.0	101.4	8.2	17.7	25.1	93.8	11.2	105.0	8.4	17.9		
		45	27.9	101.4	11.6	113.0	8.8	18.6	32.7	105.2	11.8	117.0	9.0	18.9	35.1	109.1	11.9	121.0	9.2	19.2		
20	1.9	10	2.7	48.2	12.5	60.7	3.9	30.3	4.9	50.0	12.7	62.7	3.9	30.6	6.1	51.8	12.9	64.7	4.0	30.9		
		20	11.8	61.2	13.4	74.6	4.6	32.4	14.7	63.5	13.7	77.1	4.6	32.8	16.1	65.7	13.9	79.6	4.7	33.2		
		30	21.0	74.1	14.4	88.5	5.2	34.5	24.4	76.9	14.6	91.5	5.3	35.0	26.2	79.7	14.8	94.5	5.4	35.4		
		45	Operation not recommended																			
	2.8	10	2.3	51.1	12.0	63.1	4.3	27.5	4.6	53.1	12.2	65.2	4.4	27.7	5.8	55.1	12.3	67.4	4.5	27.9		
		20	11.3	64.9	12.9	77.7	5.0	28.9	14.3	67.4	13.1	80.4	5.2	29.2	15.8	69.9	13.3	83.1	5.3	29.5		
		30	20.3	78.7	13.8	92.4	5.7	30.4	23.9	81.7	14.0	95.6	5.9	30.8	25.8	84.7	14.2	98.8	6.0	31.1		
		45	Operation not recommended																			
	3.8	10	1.8	54.0	11.4	65.4	4.7	26.1	4.3	56.1	11.6	67.7	4.8	26.2	5.6	58.3	11.8	70.1	4.9	26.4		
		20	10.7	68.6	12.3	80.9	5.6	27.2	13.9	71.3	12.5	83.8	5.7	27.4	15.5	74.0	12.7	86.6	5.8	27.7		
		30	19.6	83.3	13.1	96.4	6.3	28.4	23.5	86.4	13.3	99.8	6.5	28.7	25.4	89.6	13.5	103.2	6.6	28.9		
		45	Operation not recommended																			
30	1.9	10	3.3	44.5	14.7	59.1	3.0	41.2	5.3	46.1	14.9	61.0	3.1	41.5	6.4	47.8	15.1	62.9	3.2	41.8		
		20	12.3	57.8	15.8	73.5	3.7	43.4	15.1	59.9	16.0	75.9	3.7	43.7	16.4	62.1	16.2	78.3	3.8	44.1		
		30	21.4	71.1	16.8	87.9	4.2	45.6	24.8	73.8	17.1	90.9	4.3	46.0	26.4	76.4	17.4	93.8	4.4	46.4		
		45	Operation not recommended																			
	2.8	10	2.9	47.0	14.1	61.0	3.3	38.4	5.1	48.8	14.3	63.0	3.4	38.6	6.2	50.6	14.5	65.1	3.5	38.8		
		20	11.8	61.1	15.1	76.2	4.0	39.9	14.7	63.5	15.3	78.8	4.1	40.2	16.1	65.8	15.6	81.4	4.2	40.4		
		30	20.8	75.2	16.1	91.4	4.7	41.4	24.3	78.1	16.4	94.5	4.8	41.8	26.1	81.0	16.6	97.6	4.9	42.1		
		45	Operation not recommended																			
	3.8	10	2.5	49.5	13.4	62.9	3.7	37.0	4.8	51.5	13.7	65.2	3.8	37.2	5.9	53.5	13.9	67.3	3.9	37.3		
		20	11.3	64.4	14.4	78.9	4.5	38.2	14.3	67.0	14.7	81.6	4.6	38.4	15.8	69.5	14.9	84.4	4.7	38.6		
		30	20.2	79.4	15.4	94.8	5.2	39.4	23.9	82.5	15.7	98.1	5.3	39.7	25.7	85.5	15.9	101.4	5.4	39.9		
		45	Operation not recommended																			
45	1.9	10	3.8	40.7	16.8	57.5	2.4	52.1	5.7	42.2	17.1	59.3	2.5	52.3	6.7	43.8	17.4	61.1	2.5	52.6		
		20	12.9	54.4	18.1	72.4	3.0	54.3	15.4	56.4	18.3	74.8	3.1	54.7	16.7	58.5	18.6	77.1	3.1	55.0		
		30	Operation not recommended																			
		45	Operation not recommended																			
	2.8	10	3.5	42.8	16.2	59.0	2.6	49.3	5.5	44.5	16.4	60.9	2.7	49.5	6.5	46.2	16.7	62.9	2.8	49.7		
		20	12.4	57.3	17.3	74.6	3.3	50.9	15.1	59.5	17.6	77.1	3.4	51.1	16.4	61.7	17.9	79.6	3.5	51.4		
		30	Operation not recommended																			
		45	Operation not recommended																			
	3.8	10	3.2	45.0	15.4	60.4	2.9	47.9	5.3	46.8	15.7	62.5	3.0	48.1	6.3	48.6	15.9	64.5	3.1	48.2		
		20	11.9	60.3	16.6	76.9	3.6	49.2	14.8	62.6	16.8	79.4	3.7	49.3	16.2	65.0	17.1	82.1	3.8	49.6		
		30	Operation not recommended																			
		45	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW090 Performance Data

Heating

Source		Load Flow - 2.8 L/s							Load Flow - 4.3 L/s							Load Flow - 5.7 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C		
0	4.3	15	21.9	65.7	15.0	50.7	4.4	-7.1	19.9	66.3	14.7	51.6	4.5	-4.5	19.2	68.6	14.7	54.0	4.7	-4.6		
		25	34.0	64.7	18.2	46.5	3.6	-6.3	30.9	65.4	17.8	47.5	3.7	-4.2	30.1	65.9	18.0	47.9	3.7	-4.2		
		40	46.0	61.7	23.3	38.5	2.7	-5.4	41.9	62.3	22.8	39.5	2.7	-3.7	41.1	63.7	22.9	40.8	2.8	-3.8		
		50	Operation not recommended							52.9	61.5	28.5	33.0	2.2	-3.3	52.1	61.6	28.6	33.0	2.2	-3.3	
	5.7	15	21.9	66.1	14.6	51.5	4.5	-7.3	19.9	66.8	14.3	52.4	4.7	-3.9	19.2	69.0	14.4	52.4	4.6	-3.9		
		25	34.0	64.9	18.1	46.8	3.6	-6.4	31.0	65.6	17.8	47.8	3.7	-3.6	30.2	66.4	18.0	47.6	3.7	-3.6		
		40	46.1	62.0	22.8	39.2	2.7	-5.6	41.9	62.6	22.4	40.3	2.8	-3.2	41.1	63.9	22.4	40.2	2.8	-3.2		
		50	Operation not recommended							53.0	62.4	27.7	34.7	2.2	-2.9	52.2	62.6	27.9	34.5	2.2	-2.9	
	10	2.8	15	23.4	85.7	15.4	70.3	5.6	2.3	21.2	86.6	15.1	71.5	5.7	5.3	20.3	88.2	15.2	73.0	5.8	6.0	
			25	35.2	82.1	19.9	62.2	4.1	3.2	32.0	82.9	19.5	63.4	4.3	5.9	31.3	84.7	19.5	65.1	4.3	6.5	
			40	46.9	78.4	24.3	54.1	3.2	4.1	42.7	79.2	23.8	55.4	3.3	6.6	42.2	81.1	23.9	57.3	3.4	6.9	
			50	58.6	74.7	28.7	46.0	2.6	5.0	53.3	75.5	28.1	47.4	2.7	7.2	53.1	77.6	28.2	49.4	2.8	7.3	
4.3		15	23.5	87.7	16.1	71.5	5.4	2.0	21.3	88.5	15.8	72.7	5.6	5.2	20.4	91.4	16.0	75.4	5.7	5.1		
		25	35.5	85.0	19.8	65.2	4.3	3.0	32.3	85.8	19.4	66.4	4.4	5.7	31.3	88.7	19.5	69.2	4.6	5.5		
		40	47.5	81.3	24.3	57.0	3.3	3.9	43.1	82.1	23.9	58.3	3.4	6.2	42.2	84.8	24.0	60.8	3.5	6.0		
		50	59.5	78.7	30.0	48.7	2.6	4.8	54.1	79.5	29.4	50.1	2.7	6.7	53.2	81.1	29.4	51.7	2.8	6.6		
5.7		15	23.5	88.1	15.8	72.3	5.6	1.8	21.4	88.9	15.5	73.5	5.8	6.1	20.4	91.6	15.6	73.3	5.7	6.1		
		25	35.6	85.7	19.3	66.5	4.4	2.8	32.3	86.6	18.9	67.7	4.6	6.4	31.5	91.0	19.0	67.6	4.6	6.4		
		40	47.5	81.9	23.8	58.1	3.4	3.7	43.2	82.7	23.3	59.4	3.5	6.9	42.3	85.1	23.4	59.3	3.5	6.9		
		50	59.5	79.2	29.3	49.9	2.7	4.7	54.1	80.0	28.7	51.3	2.8	7.3	53.2	81.8	28.8	51.2	2.8	7.3		
20	2.8	15	25.0	104.3	16.6	87.8	6.3	11.5	22.6	105.4	16.2	89.2	6.5	16.1	21.4	107.3	16.3	91.0	6.6	16.2		
		25	36.6	99.7	20.9	78.8	4.8	12.5	33.3	100.7	20.5	80.2	4.9	16.8	32.3	102.8	20.5	82.3	5.0	16.6		
		40	48.2	95.0	25.2	69.8	3.8	13.5	43.9	95.9	24.7	71.2	3.9	17.5	43.1	98.3	24.8	73.5	4.0	17.1		
		50	59.9	90.3	29.5	60.8	3.1	14.6	54.4	91.2	28.9	62.3	3.2	18.3	54.0	93.8	29.0	64.8	3.2	17.6		
	4.3	15	25.0	108.3	17.3	91.0	6.3	11.2	22.7	109.3	17.0	92.4	6.4	15.1	21.4	111.9	17.1	94.9	6.6	14.9		
		25	37.1	106.9	20.9	85.9	5.1	12.2	33.7	107.9	20.5	87.4	5.3	15.4	32.5	111.1	20.7	90.4	5.4	15.2		
		40	49.0	102.6	25.4	77.2	4.0	13.3	44.6	103.6	24.9	78.7	4.2	16.0	43.4	106.5	25.0	81.5	4.3	15.8		
		50	60.8	96.9	30.9	66.0	3.1	14.3	55.3	97.9	30.3	67.5	3.2	16.7	54.1	99.6	30.4	69.2	3.3	16.6		
	5.7	15	25.0	108.7	16.8	91.9	6.5	10.9	22.7	109.8	16.5	93.3	6.7	16.2	21.5	112.1	16.7	93.2	6.6	16.2		
		25	37.1	107.4	20.0	87.4	5.4	11.9	33.8	108.5	19.6	88.9	5.5	16.4	32.6	111.8	20.1	88.4	5.4	16.5		
		40	49.1	103.4	24.7	78.7	4.2	13.0	44.6	104.5	24.2	80.2	4.3	16.9	43.4	107.4	24.3	80.1	4.3	16.9		
		50	60.9	98.4	30.1	68.2	3.3	14.1	55.4	99.4	29.5	69.8	3.4	17.4	54.2	101.3	29.7	69.7	3.3	17.4		
30	2.8	15	26.5	123.0	17.7	105.3	7.0	20.6	24.1	124.2	17.3	106.9	7.2	26.9	22.4	126.5	17.4	109.1	7.3	26.3		
		25	38.0	117.3	21.9	95.4	5.4	21.8	34.6	118.4	21.5	97.0	5.5	27.7	33.2	121.0	21.6	99.4	5.6	26.8		
		40	Operation not recommended																			
		50	Operation not recommended																			
	4.3	15	26.8	126.3	17.8	108.5	7.1	20.3	24.3	127.5	17.5	110.1	7.3	26.7	22.6	129.9	17.5	112.3	7.4	26.1		
		25	38.3	120.4	22.1	98.3	5.5	21.5	34.8	121.6	21.6	100.0	5.6	27.5	33.4	124.2	21.7	102.5	5.7	26.7		
		40	49.8	114.6	26.3	88.2	4.3	22.6	45.3	115.7	25.8	89.9	4.5	28.3	44.2	118.6	25.9	92.7	4.6	27.2		
		50	Operation not recommended																			
	5.7	15	27.0	129.4	17.9	111.5	7.2	20.0	24.6	130.7	17.6	113.1	7.4	26.4	22.8	133.1	17.7	115.5	7.5	25.9		
		25	38.5	123.4	22.2	101.2	5.6	21.1	35.0	124.7	21.8	102.9	5.7	27.2	33.6	127.3	21.9	105.5	5.8	26.5		
		40	50.0	117.5	26.5	90.9	4.4	22.3	45.5	118.6	26.0	92.6	4.6	28.1	44.4	121.6	26.1	95.5	4.7	27.0		
		50	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW090 Performance Data cont.

Cooling

Source		Load Flow - 2.8 L/s							Load Flow - 4.3 L/s						Load Flow - 5.7 L/s							
EST °C	Flow L/s	ELT °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C		
0	2.8	10	2.3	85.6	11.3	96.9	7.6	7.8	4.7	89.0	11.5	100.4	7.8	8.2	5.8	90.3	11.5	101.8	7.8	8.4		
		20	12.1	99.7	12.1	111.7	8.3	9.2	14.9	103.6	12.2	115.8	8.5	9.6	16.3	105.2	12.3	117.4	8.6	9.9		
		30	21.9	113.7	12.8	126.5	8.9	10.5	25.2	118.2	13.0	131.2	9.1	10.9	26.7	120.0	13.0	133.0	9.2	11.3		
		45	31.8	127.8	13.5	141.2	9.5	11.9	35.4	132.8	13.7	146.5	9.7	12.3	37.1	134.8	13.8	148.6	9.8	12.8		
	4.3	10	1.8	91.4	10.7	102.2	8.5	5.1	4.3	95.0	10.9	105.9	8.7	5.3	5.6	96.6	11.0	107.6	8.8	5.6		
		20	11.5	106.5	11.4	118.0	9.3	6.1	14.5	110.7	11.6	122.3	9.5	6.3	15.9	112.5	11.7	124.2	9.6	6.6		
		30	21.2	121.6	12.1	133.7	10.0	7.0	24.7	126.4	12.3	138.7	10.3	7.3	26.3	128.3	12.4	140.7	10.3	7.6		
		45	31.0	136.7	12.8	149.5	10.6	7.9	34.8	142.1	13.0	155.1	10.9	8.3	36.7	144.2	13.1	157.3	11.0	8.6		
	5.7	10	1.3	97.0	10.3	107.3	9.5	3.8	4.0	100.9	10.4	111.3	9.7	4.0	5.3	102.6	10.5	113.1	9.8	4.2		
		20	10.9	113.1	11.0	124.1	10.3	4.6	14.1	117.5	11.1	128.7	10.6	4.8	15.6	119.5	11.2	130.6	10.7	5.0		
		30	20.6	129.2	11.6	140.7	11.1	5.3	24.2	134.2	11.8	146.0	11.4	5.6	25.9	136.4	11.8	148.2	11.5	5.8		
		45	30.2	145.2	12.3	157.5	11.8	6.1	34.3	150.9	12.5	163.4	12.1	6.4	36.3	153.2	12.5	165.7	12.3	6.6		
10	2.8	10	2.6	81.6	14.5	96.1	5.6	18.9	4.9	84.8	14.8	99.5	5.7	19.2	6.1	86.1	14.9	100.9	5.8	19.5		
		20	12.5	95.5	15.5	110.9	6.2	20.3	15.2	99.2	15.7	114.9	6.3	20.6	16.5	100.7	15.8	116.6	6.4	21.0		
		30	22.3	109.4	16.5	125.9	6.6	21.6	25.4	113.7	16.7	130.4	6.8	22.1	26.9	115.4	16.8	132.2	6.9	22.4		
		45	32.2	123.3	17.4	140.7	7.1	23.0	35.7	128.1	17.7	145.8	7.2	23.4	37.3	130.1	17.7	147.8	7.3	23.9		
	4.3	10	2.2	86.3	13.7	100.0	6.3	16.2	4.1	89.7	13.9	103.6	6.5	16.8	5.1	93.1	14.0	107.2	6.6	17.0		
		20	11.9	106.3	14.9	121.2	7.1	17.1	13.9	110.5	15.2	125.6	7.3	18.2	15.2	111.6	15.3	126.9	7.3	18.3		
		30	21.7	113.7	15.6	129.3	7.3	18.1	24.5	118.2	15.8	134.0	7.5	18.8	26.0	118.3	15.8	134.1	7.5	18.8		
		45	31.4	131.5	16.6	148.2	7.9	19.1	35.2	136.7	16.9	153.6	8.1	19.3	36.9	138.8	17.0	155.7	8.2	19.7		
	5.7	10	1.7	82.6	13.4	96.0	6.1	14.8	4.4	85.8	13.7	99.5	6.3	15.2	5.1	93.2	13.7	106.9	6.8	15.6		
		20	11.4	103.8	14.5	118.3	7.2	15.6	14.1	107.9	14.7	122.6	7.3	16.5	15.4	108.6	14.9	123.4	7.3	16.5		
		30	21.1	110.2	15.0	125.2	7.3	16.4	24.7	114.5	15.3	129.8	7.5	16.8	26.2	114.8	15.3	130.1	7.5	16.8		
		45	30.7	139.4	15.9	155.3	8.8	17.2	34.7	144.9	16.1	161.0	9.0	17.4	36.6	147.1	16.2	163.3	9.1	17.7		
20	2.8	10	3.0	77.5	17.8	95.3	4.4	30.0	5.2	80.6	18.1	98.6	4.5	30.3	6.2	81.8	18.2	100.0	4.5	30.6		
		20	12.9	91.3	19.0	110.3	4.8	31.4	15.4	94.9	19.3	114.1	4.9	31.7	16.7	96.3	19.4	115.7	5.0	32.1		
		30	22.7	105.0	20.1	125.2	5.2	32.8	25.7	109.2	20.5	129.6	5.3	33.2	27.1	110.8	20.6	131.4	5.4	33.6		
		45	Operation not recommended																			
	4.3	10	2.6	81.2	16.6	97.9	4.9	27.2	4.5	84.4	16.9	101.3	5.0	27.7	5.5	86.1	17.0	103.1	5.0	27.8		
		20	12.3	106.8	17.9	124.7	6.0	28.2	13.9	111.0	18.2	129.2	6.1	29.6	15.2	112.1	18.4	130.5	6.1	29.6		
		30	22.1	118.7	19.0	137.6	6.3	29.2	24.2	123.3	19.2	142.6	6.4	30.4	25.7	123.5	19.3	142.8	6.4	30.4		
		45	Operation not recommended																			
	5.7	10	2.2	80.6	16.2	96.7	5.0	25.9	4.5	83.7	16.4	100.1	5.1	26.4	5.5	86.2	16.5	102.7	5.2	26.5		
		20	11.9	104.3	17.4	121.7	6.0	26.7	14.0	108.4	17.7	126.1	6.1	27.8	15.4	109.1	17.9	127.0	6.1	27.8		
		30	21.6	115.0	18.3	133.3	6.3	27.4	24.4	119.5	18.6	138.1	6.4	28.4	25.9	119.7	18.6	138.3	6.4	28.4		
		45	Operation not recommended																			
30	2.8	10	3.4	73.5	21.2	94.6	3.5	41.1	5.4	76.4	21.5	97.9	3.6	41.4	6.4	77.5	21.5	99.1	3.6	41.7		
		20	13.2	87.1	22.5	109.6	3.9	42.5	15.7	90.5	22.8	113.4	4.0	42.8	16.9	91.9	22.9	114.8	4.0	43.2		
		30	23.1	100.7	23.9	124.6	4.2	43.9	25.9	104.7	24.2	128.9	4.3	44.3	27.3	106.3	24.3	130.6	4.4	44.6		
		45	Operation not recommended																			
	4.3	10	3.0	75.0	20.3	95.4	3.7	38.3	4.9	78.0	20.7	98.6	3.8	38.7	5.8	80.3	20.4	100.8	3.9	38.8		
		20	12.8	100.1	21.4	121.5	4.7	39.3	14.3	104.1	21.7	125.8	4.8	40.4	15.6	105.1	22.0	127.1	4.8	40.5		
		30	22.6	119.2	22.7	141.9	5.2	40.2	24.1	123.9	23.1	147.0	5.4	41.8	25.7	124.8	23.2	147.9	5.4	41.9		
		45	Operation not recommended																			
	5.7	10	2.6	75.0	20.1	95.1	3.7	36.9	4.9	78.0	20.4	98.4	3.8	37.4	5.8	80.6	20.0	100.5	4.0	37.5		
		20	12.3	103.6	21.0	124.6	4.9	37.7	14.1	107.7	21.3	129.0	5.1	39.0	15.4	108.1	21.5	129.7	5.0	39.1		
		30	22.1	115.7	22.1	137.7	5.2	38.4	24.4	120.2	22.4	142.6	5.4	39.7	25.8	121.0	22.5	143.5	5.4	39.8		
		45	Operation not recommended																			
45	2.8	10	3.7	69.4	24.4	93.9	2.8	52.2	5.7	72.2	24.8	97.0	2.9	52.5	6.6	73.3	24.9	98.1	2.9	52.8		
		20	13.6	82.9	26.0	108.9	3.2	53.6	15.9	86.2	26.4	112.6	3.3	53.9	17.1	87.5	26.5	114.0	3.3	54.2		
		30	Operation not recommended																			
		45	Operation not recommended																			
	4.3	10	3.4	73.3	23.3	96.6	3.1	49.3	5.4	76.2	23.7	99.9	3.2	49.6	6.4	77.4	23.8	101.3	3.2	49.7		
		20	13.2	87.5	24.9	112.4	3.5	50.3	15.7	91.0	25.3	116.3	3.6	50.6	16.8	92.4	25.4	117.8	3.6	50.8		
		30	Operation not recommended																			
		45	Operation not recommended																			
	5.7	10	3.1	77.0	22.4	99.4	3.4	48.0	5.2	80.0	22.8	102.7	3.5	48.2	6.3	81.4	22.8	104.2	3.6	48.3		
		20	12.8	92.0	23.8	115.8	3.9	48.8	15.4	95.6	24.2	119.8	3.9	48.9	16.6	97.2	24.3	121.5	4.0	49.1		
		30	Operation not recommended																			
		45	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Contractor: _____ P.O.: _____

Engineer: _____



Project Name: _____ Unit Tag: _____

NKW130 Performance Data

Heating

Source		Load Flow - 4.3 L/s							Load Flow - 6.8 L/s							Load Flow - 8.5 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C	LLT °C	HC kW	Power kW	HE kW	COP	LST °C		
0	6.8	15	23.6	127.6	22.3	105.3	5.7	-7.5	20.4	128.8	21.8	106.9	5.9	-5.3	19.5	131.3	22.0	109.3	6.0	-4.4		
		25	34.3	122.1	28.7	93.4	4.3	-6.7	31.1	123.7	28.1	95.7	4.4	-4.6	30.3	126.7	28.2	98.5	4.5	-4.7		
		40	45.2	117.7	36.2	81.5	3.2	-5.8	42.1	119.7	35.4	84.3	3.4	-4.2	41.3	122.6	35.6	87.1	3.4	-4.3		
		50	55.9	112.3	45.4	66.8	2.5	-5.0	53.0	114.7	44.4	70.3	2.6	-3.7	52.3	117.4	44.6	72.8	2.6	-3.7		
	8.5	15	23.7	130.2	22.4	107.8	5.8	-7.7	20.4	131.4	22.0	109.4	6.0	-5.5	19.5	134.0	22.1	111.8	6.1	-4.5		
		25	34.5	123.0	28.0	95.0	4.4	-6.8	31.2	124.6	27.4	97.2	4.5	-3.9	30.4	127.9	27.6	100.3	4.6	-4.0		
		40	45.3	118.6	35.3	83.3	3.4	-5.9	42.1	120.6	34.5	86.1	3.5	-3.6	41.4	123.8	34.8	89.0	3.6	-3.7		
		50	56.1	113.1	44.3	68.7	2.6	-5.1	53.1	115.5	43.3	72.2	2.7	-3.2	52.3	118.5	43.6	74.9	2.7	-3.3		
	10	4.3	15	25.2	153.1	24.0	129.2	6.4	2.2	21.3	154.5	23.5	131.0	6.6	5.2	20.2	157.5	23.6	133.9	6.7	5.9	
			25	35.9	146.8	30.7	116.1	4.8	3.1	32.1	148.7	30.0	118.7	5.0	5.7	31.1	152.0	30.2	121.8	5.0	6.3	
			40	46.6	140.5	37.5	103.0	3.7	3.9	42.8	143.0	36.6	106.3	3.9	6.3	41.9	146.5	36.8	109.7	4.0	6.7	
			50	57.3	134.3	44.3	90.0	3.0	4.8	53.5	137.1	43.2	94.0	3.2	6.8	52.7	141.0	43.4	97.6	3.2	7.1	
6.8		15	25.4	158.9	25.3	133.6	6.3	1.8	21.4	160.3	24.7	135.6	6.5	5.1	20.3	164.2	24.8	139.4	6.6	5.0		
		25	36.2	155.2	30.7	124.5	5.1	2.8	32.4	157.2	30.0	127.2	5.2	5.4	31.3	161.1	30.2	130.9	5.3	5.3		
		40	46.9	149.2	37.7	111.4	4.0	3.7	43.3	151.7	36.9	114.8	4.1	5.8	42.3	155.4	37.1	118.3	4.2	5.7		
		50	57.6	139.4	46.4	93.0	3.0	4.6	54.0	142.4	45.4	97.1	3.1	6.5	53.1	145.9	45.6	100.3	3.2	6.4		
8.5		15	25.7	160.0	24.6	135.4	6.5	1.7	21.4	161.5	24.1	137.4	6.7	6.0	20.4	165.7	24.3	141.5	6.8	5.9		
		25	36.4	156.4	30.0	126.4	5.2	2.6	32.4	158.4	29.3	129.1	5.4	6.3	31.4	162.5	29.5	133.1	5.5	6.1		
		40	47.1	150.2	36.8	113.4	4.1	3.5	43.3	152.8	36.0	116.8	4.2	6.6	42.3	156.8	36.3	120.5	4.3	6.5		
		50	57.8	140.4	45.4	95.1	3.1	4.4	54.1	143.5	44.3	99.2	3.2	7.1	53.2	147.2	44.6	102.7	3.3	7.0		
20	4.3	15	27.0	182.5	25.8	156.8	7.1	11.6	22.5	184.2	25.3	158.9	7.3	15.5	21.2	187.8	25.5	162.3	7.4	16.0		
		25	37.7	174.9	32.2	142.7	5.4	12.5	33.2	177.2	31.6	145.6	5.6	16.1	32.0	181.1	31.8	149.3	5.7	16.5		
		40	48.3	167.2	38.7	128.5	4.3	13.4	43.8	170.1	37.9	132.2	4.5	16.7	42.8	174.3	38.1	136.3	4.6	16.9		
		50	58.9	159.6	45.2	114.4	3.5	14.4	54.5	163.0	44.2	118.9	3.7	17.3	53.6	167.6	44.4	123.2	3.8	17.4		
	6.8	15	27.4	186.0	27.2	158.8	6.8	11.2	22.3	187.7	26.6	161.0	7.0	15.3	21.1	192.2	26.8	165.5	7.2	15.1		
		25	38.0	181.9	32.6	149.4	5.6	12.2	33.3	184.3	31.9	152.4	5.8	15.6	32.1	188.8	32.1	156.7	5.9	15.4		
		40	48.6	174.9	39.3	135.6	4.4	13.2	44.2	177.9	38.4	139.4	4.6	16.1	43.1	182.2	38.6	143.6	4.7	15.9		
		50	59.2	163.9	47.4	116.5	3.5	14.1	55.0	167.5	46.3	121.2	3.6	16.7	53.9	171.6	46.6	125.1	3.7	16.6		
	8.5	15	27.6	187.3	26.5	160.8	7.1	10.9	22.4	189.0	26.0	163.1	7.3	16.4	21.2	194.0	26.2	167.8	7.4	16.3		
		25	38.2	183.3	31.9	151.5	5.8	11.9	33.4	185.7	31.2	154.5	6.0	16.6	32.2	190.5	31.4	159.1	6.1	16.5		
		40	48.8	176.2	38.4	137.8	4.6	12.9	44.3	179.2	37.5	141.7	4.8	17.0	43.1	183.9	37.8	146.1	4.9	16.9		
		50	59.4	165.2	46.3	118.9	3.6	13.9	55.0	168.8	45.2	123.6	3.7	17.5	53.9	173.2	45.5	127.7	3.8	17.4		
30	4.3	15	28.8	212.0	27.7	184.3	7.7	20.9	23.6	213.9	27.1	186.7	7.9	25.9	22.1	218.1	27.3	190.7	8.0	26.2		
		25	39.4	202.9	33.8	169.1	6.0	21.9	34.3	205.6	33.1	172.5	6.2	26.5	32.9	210.1	33.3	176.8	6.3	26.7		
		50	Operation not recommended																			
	6.8	15	29.3	218.6	27.9	190.7	7.8	20.6	23.9	220.6	27.4	193.2	8.1	25.6	22.3	224.9	27.6	197.3	8.2	26.0		
		25	39.8	209.3	34.1	175.2	6.1	21.6	34.5	212.0	33.4	178.7	6.4	26.3	33.1	216.7	33.6	183.1	6.4	26.5		
		40	50.3	200.0	40.3	159.7	5.0	22.6	45.2	203.4	39.5	164.0	5.2	26.9	43.8	208.5	39.7	168.8	5.3	27.0		
		50	Operation not recommended																			
	8.5	15	29.6	223.1	28.1	195.0	8.0	20.3	24.1	225.1	27.5	197.6	8.2	25.5	22.5	229.5	27.7	201.8	8.3	25.9		
		25	40.1	213.6	34.4	179.3	6.2	21.3	34.7	216.4	33.6	182.8	6.4	26.1	33.2	221.2	33.8	187.4	6.5	26.4		
		40	50.6	204.1	40.6	163.5	5.0	22.4	45.3	207.6	39.7	167.9	5.2	26.7	44.0	212.8	39.9	172.9	5.3	26.8		
		50	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Project Name: _____ Unit Tag: _____



NKW130 Performance Data cont.

Cooling

Source		Load Flow - 4.3 L/s							Load Flow - 6.8 L/s							Load Flow - 8.5 L/s						
EST °C	Flow L/s	ELT °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C	LLT °C	TC kW	Power kW	HR kW	COP	LST °C		
0	4.3	10	1.3	164.8	17.5	182.3	9.4	8.9	4.3	172.2	17.8	190.1	9.7	9.3	5.3	175.9	17.9	193.9	9.8	9.6		
		20	11.8	176.3	19.6	195.9	9.0	9.7	14.9	184.2	19.9	204.1	9.2	10.1	16.0	188.2	20.0	208.2	9.4	10.4		
		30	22.2	187.7	21.6	209.4	8.7	10.4	25.6	196.2	22.0	218.2	8.9	10.9	26.7	200.4	22.1	222.5	9.0	11.2		
		45	32.7	199.2	23.7	222.9	8.4	11.2	36.2	208.1	24.1	232.3	8.6	11.7	37.5	212.6	24.3	236.8	8.8	12.0		
	6.8	10	0.6	177.7	16.6	194.2	10.7	5.6	3.8	186.0	16.9	202.9	11.0	5.9	4.9	190.3	16.9	207.2	11.2	6.1		
		20	11.0	190.2	18.5	208.7	10.3	6.1	14.4	199.0	18.9	217.9	10.6	6.4	15.6	203.5	18.9	222.4	10.7	6.6		
		30	21.4	202.8	20.5	223.3	9.9	6.6	25.0	212.0	20.8	232.9	10.2	6.9	26.3	216.7	20.9	237.6	10.3	7.1		
		45	31.8	215.4	22.4	237.8	9.6	7.1	35.7	225.1	22.8	247.9	9.9	7.5	37.0	229.9	22.9	252.8	10.0	7.7		
	8.5	10	0.2	186.3	15.9	202.2	11.7	4.5	3.5	195.3	16.2	211.5	12.1	4.7	4.6	199.9	16.3	216.2	12.3	4.9		
		20	10.5	199.6	17.8	217.4	11.2	4.9	14.1	209.0	18.1	227.2	11.5	5.1	15.3	213.8	18.2	232.0	11.7	5.3		
		30	20.9	213.0	19.7	232.7	10.8	5.3	24.7	222.8	20.0	242.8	11.1	5.6	26.0	227.7	20.1	247.8	11.3	5.8		
		45	31.2	226.3	21.5	247.9	10.5	5.7	35.3	236.5	21.9	258.4	10.8	6.0	36.7	241.6	22.1	263.6	11.0	6.2		
10	4.3	10	2.0	152.4	22.7	175.1	6.7	19.9	4.7	159.3	23.1	182.4	6.9	20.3	5.6	162.7	23.2	185.9	7.0	20.5		
		20	12.4	164.0	24.7	188.7	6.6	20.6	15.3	171.3	25.1	196.5	6.8	21.1	16.4	175.0	25.3	200.3	6.9	21.3		
		30	22.8	175.5	26.7	202.2	6.6	21.4	26.0	183.4	27.2	210.6	6.7	21.9	27.1	187.3	27.4	214.7	6.8	22.1		
		45	33.3	187.0	28.8	215.8	6.5	22.2	36.6	195.4	29.3	224.7	6.7	22.6	37.8	199.6	29.4	229.0	6.8	22.9		
	6.8	10	1.5	143.3	21.4	164.7	6.7	15.9	4.6	150.0	21.8	171.9	6.9	16.2	5.6	153.7	21.9	175.6	7.0	16.4		
		20	11.3	180.1	23.3	203.3	7.7	17.4	14.3	188.4	23.7	212.1	7.9	17.7	15.5	193.0	23.8	216.8	8.1	17.8		
		30	20.9	213.9	25.0	238.9	8.5	18.7	24.1	223.6	25.5	249.2	8.8	19.0	25.6	229.1	25.7	254.8	8.9	19.2		
		45	32.5	232.7	27.3	260.0	8.5	18.1	36.1	243.2	27.8	270.9	8.8	19.6	37.4	215.2	27.9	243.1	7.7	19.9		
	8.5	10	1.1	144.2	20.9	165.1	6.9	14.8	4.5	151.2	21.3	172.5	7.1	15.0	5.5	155.1	21.4	176.5	7.3	15.1		
		20	11.0	181.3	22.8	204.0	8.0	16.0	14.2	189.8	23.2	213.0	8.2	16.2	15.5	194.8	23.2	218.0	8.4	16.3		
		30	20.7	215.4	24.4	239.9	8.8	16.9	24.1	225.3	24.9	250.2	9.0	17.2	25.5	231.2	25.0	256.2	9.2	17.4		
		45	32.0	230.0	26.3	256.2	8.8	16.8	35.8	240.3	26.7	267.1	9.0	17.7	37.1	225.8	26.9	252.7	8.4	18.0		
20	4.3	10	2.6	140.1	27.8	167.9	5.0	30.8	5.1	146.4	28.3	174.7	5.2	31.2	6.0	149.5	28.4	177.9	5.3	31.4		
		20	13.0	151.7	29.8	181.5	5.1	31.6	15.8	158.5	30.4	188.8	5.2	32.0	16.7	161.9	30.5	192.4	5.3	32.2		
		30	23.5	163.2	31.8	195.1	5.1	32.4	26.4	170.6	32.4	203.0	5.3	32.8	27.4	174.2	32.6	206.8	5.3	33.0		
		45	Operation not recommended																			
	6.8	10	2.2	131.7	26.1	157.8	5.0	26.8	5.0	137.9	26.6	164.5	5.2	27.1	5.9	141.3	26.8	168.0	5.3	27.2		
		20	11.9	168.8	28.2	197.0	6.0	28.2	14.7	176.6	28.7	205.2	6.2	28.5	15.9	180.9	28.8	209.7	6.3	28.7		
		30	21.5	203.4	30.1	233.6	6.7	29.6	24.5	212.7	30.7	243.4	6.9	29.9	25.9	217.8	30.9	248.7	7.1	30.1		
		45	Operation not recommended																			
	8.5	10	1.9	132.5	25.5	158.0	5.2	25.7	5.0	138.9	26.0	164.9	5.3	25.9	5.9	142.6	26.1	168.7	5.5	26.0		
		20	11.7	169.9	27.5	197.4	6.2	26.9	14.7	177.9	28.0	205.9	6.4	27.1	15.8	182.5	28.1	210.6	6.5	27.2		
		30	21.4	204.8	29.5	234.3	7.0	27.9	24.5	214.2	30.0	244.2	7.1	28.2	25.9	219.8	30.1	249.9	7.3	28.3		
		45	Operation not recommended																			
30	4.3	10	3.3	127.7	32.9	160.6	3.9	41.8	5.5	133.4	33.6	167.0	4.0	42.1	6.3	136.3	33.7	170.0	4.0	42.3		
		20	13.7	139.3	34.9	174.3	4.0	42.6	16.2	145.6	35.6	181.2	4.1	42.9	17.1	148.7	35.8	184.5	4.2	43.1		
		30	24.1	151.0	36.9	187.9	4.1	43.3	26.8	157.8	37.6	195.4	4.2	43.7	27.8	161.2	37.8	199.0	4.3	43.9		
		45	Operation not recommended																			
	6.8	10	2.9	118.6	31.1	149.7	3.8	37.7	5.5	124.2	31.7	156.0	3.9	37.9	6.3	127.3	31.9	159.2	4.0	38.0		
		20	12.7	154.3	32.9	187.2	4.7	39.0	15.3	161.4	33.5	194.9	4.8	39.3	16.3	165.3	33.7	199.0	4.9	39.4		
		30	22.4	188.1	34.8	222.9	5.4	40.3	25.1	196.7	35.4	232.0	5.6	40.6	26.4	201.5	35.6	237.0	5.7	40.8		
		45	Operation not recommended																			
	8.5	10	2.7	119.4	30.4	149.9	3.9	36.5	5.5	125.2	31.0	156.2	4.0	36.7	6.3	128.4	31.1	159.6	4.1	36.8		
		20	12.5	155.3	32.1	187.4	4.8	37.7	15.2	162.6	32.7	195.3	5.0	37.9	16.3	166.8	32.9	199.7	5.1	38.0		
		30	22.2	189.4	33.9	223.3	5.6	38.8	25.1	198.1	34.5	232.7	5.7	39.0	26.3	203.3	34.7	238.0	5.9	39.1		
		45	Operation not recommended																			
45	4.3	10	3.9	115.3	38.1	153.4	3.0	52.7	6.0	120.5	38.8	159.3	3.1	53.1	6.7	123.1	39.0	162.0	3.2	53.2		
		20	14.3	127.0	40.1	167.1	3.2	53.5	16.6	132.7	40.8	173.5	3.3	53.9	17.4	135.6	41.0	176.6	3.3	54.0		
		30	Operation not recommended																			
		45	Operation not recommended																			
	6.8	10	3.5	122.5	36.2	158.7	3.4	49.6	5.7	128.3	36.9	165.2	3.5	49.8	6.5	131.2	37.1	168.3	3.5	49.9		
		20	13.9	135.2	38.1	173.3	3.5	50.1	16.3	141.4	38.8	180.2	3.6	50.4	17.2	144.6	39.0	183.5	3.7	50.4		
		30	Operation not recommended																			
		45	Operation not recommended																			
	8.5	10	3.3	127.4	35.0	162.4	3.6	48.5	5.5	133.6	35.6	169.2	3.8	48.7	6.3	136.7	35.8	172.5	3.8	48.8		
		20	13.6	140.7	36.8	177.4	3.8	49.0	16.1	147.3	37.4	184.7	3.9	49.2	17.0	150.6	37.6	188.3	4.0	49.2		
		30	Operation not recommended																			
		45	Operation not recommended																			

NOTE: For part load operation, divide capacity by 2.

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Engineer: _____

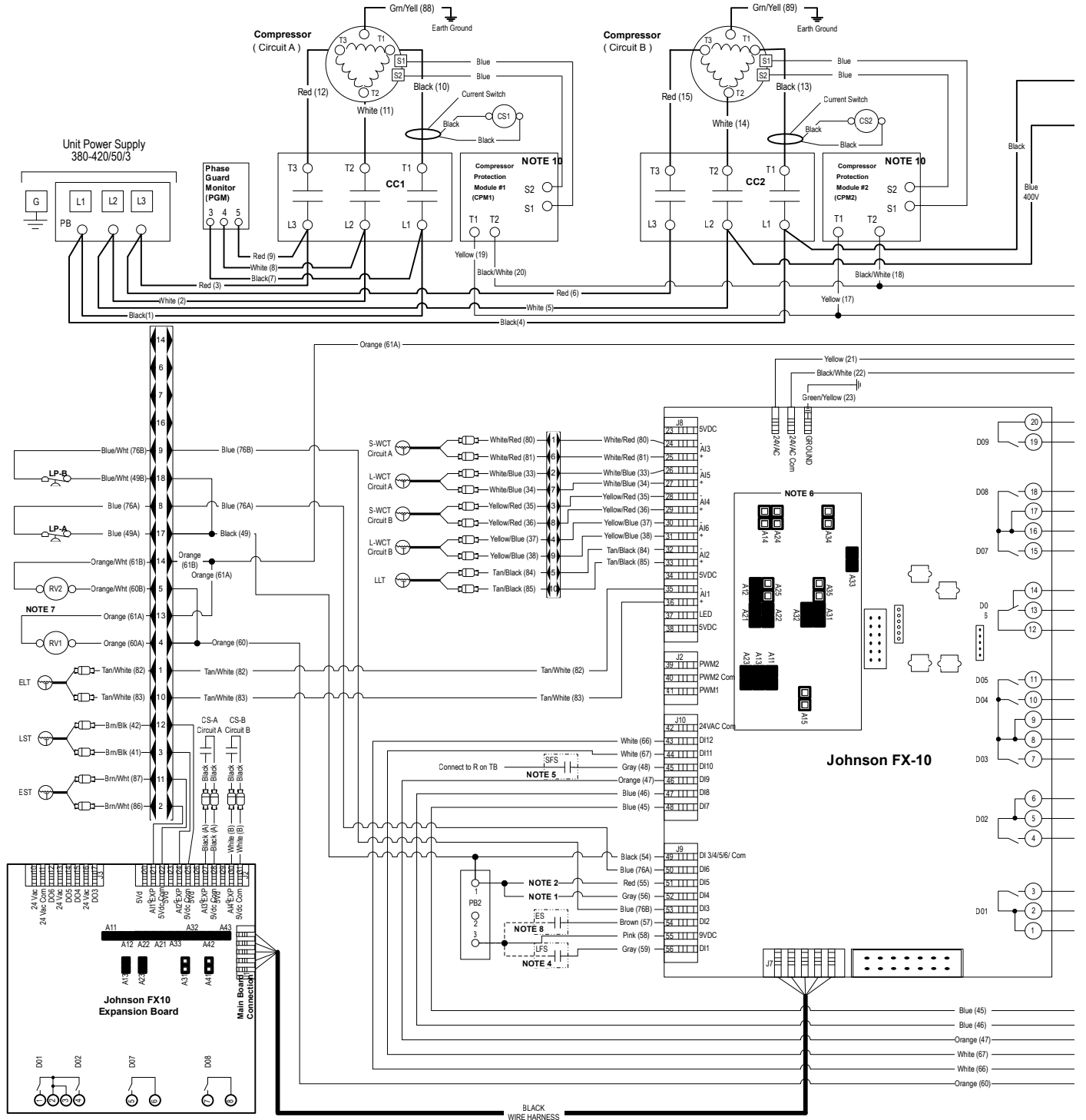
Project Name: _____ Unit Tag: _____

NKW REVERSIBLE CHILLER - 50Hz



Wiring Schematic

380-420/50/3



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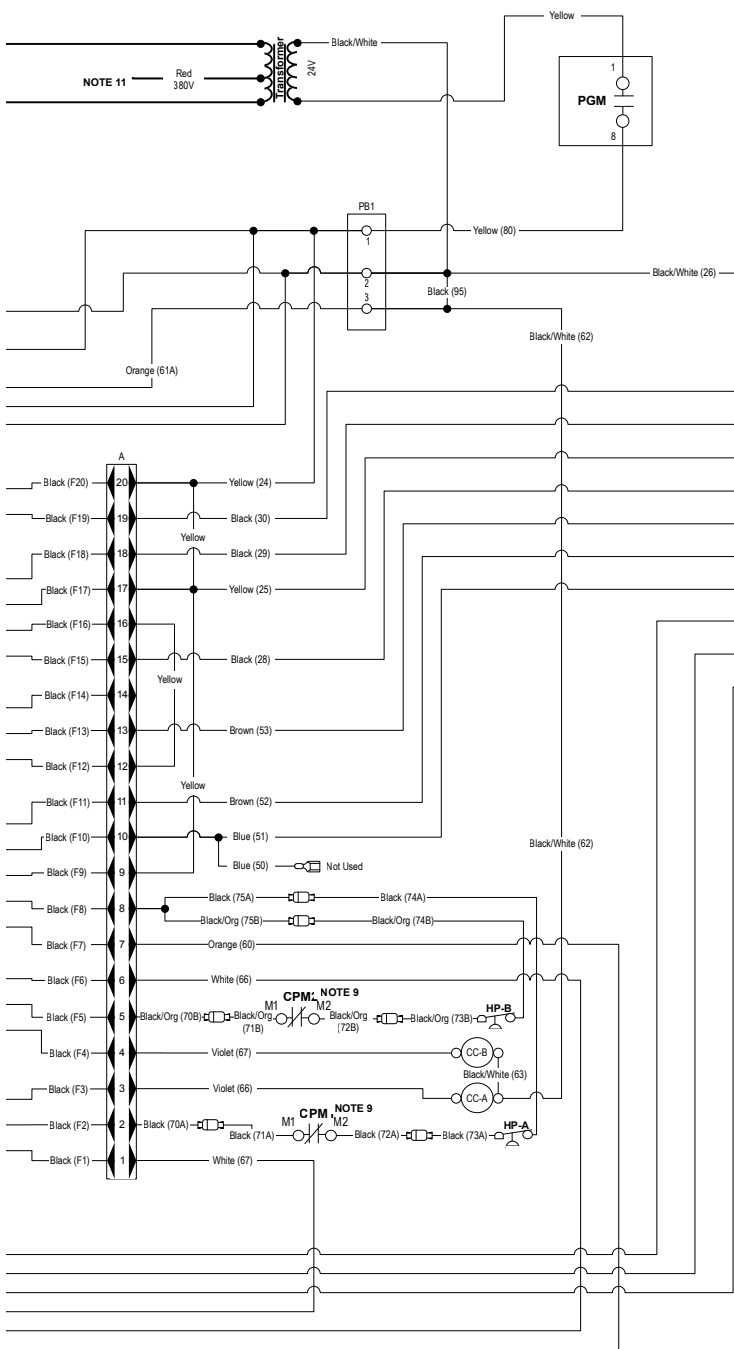
Engineer: _____

Project Name: _____ Unit Tag: _____



Wiring Schematic cont.

380-420/50/3 cont.



Legend

<p>CC – Compressor Contactor CPM – Compressor Protection Module CS – Current Switch ELT – Entering Load Temp ES – Emergency Shutdown EST – Entering Source Temp HP – High Pressure LFS – Load Flow Switch LLT – Leaving Load Temp</p>	<p>LP – Low Pressure LST – Leaving Source Temp L-WCT – Load Water Coil Temp PB – Power Block RV – Reversing Valve SFS – Source Flow Switch S-WCT – Source Water Coil Temp TB – Terminal Board PGM – Phase Guard Monitor</p>
---	---

<p>———— Factory low voltage wiring - - - - - Factory line voltage wiring - - - - - Field low voltage wiring - - - - - Field line voltage wiring - - - - - Optional block - - - - - Field Supplied Option</p> <p> Thermistor Relay coil</p>	<p> Open Jumper Closed Jumper 1/4" Quick Connector Ground</p>
---	---

Notes

- 1 - Disconnect for 15°F [9.4°C] source side freeze detection
- 2 - Disconnect for 15°F [9.4°C] load side freeze detection
- 3 - Acc output is cycled with the lead compressor.
- 4 - A field installed flow switch is required for the load side and must be connected to PB2-3 for the unit to operate.
- 5 - A field installed flow switch is required for the source side and must be connected to R for the unit to operate.
- 6 - Jumpers must be set as shown for correct control operation. If a communication card is present, it must be removed to check the jumpers.
- 7 - Reversing Valve will be energized for heating mode.
- 8 - Used for Emergency Shutdown in conjunction with a normally open relay
- 9 - M1 and M2 are located on the compressor protection modules (CPM1 and CPM2) inside of the compressor junction Boxes. Only used on 090 and 130 models.
- 10 - Only used on the 090 and 130 models.
- 11 - Replace Blue wire on CC2-L2 with Red wire from transformer to operate unit at 380V.

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Engineer: _____

Project Name: _____ Unit Tag: _____



Engineering Guide Specifications

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 Air Conditioning, Heating, and Refrigeration Institute/International Standards Organization (AHRI/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 110°F [43.3°C] in cooling, and between 20°F [-6.7°C] and 90°F [32.2°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 12 months from startup or 18 months from shipment.

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 1,000 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 1,000 hours of salt spray using ASTM B117. All panels shall be lined with 1/2 inch [12.7 mm] thick, 1-1/2 lb/ft³ [24 kg/m³] 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 the 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 detection, 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. A high density sound attenuating blanket shall be factory installed around the compressor to reduce sound. The water to refrigerant heat exchangers shall be interlaced copper-brazed and 316 stainless steel plate, 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 bidirectionally without the use of check valves. Externally mounted pressure controlled water regulating flow valves are not acceptable.

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.

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____



Engineering Guide Specifications cont.

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. Phase Guard protection shall be added to each unit to protect the compressor against loss of phase and reverse rotation. Phase guard control shall be factory installed.

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 5 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 freeze detection
7. Source and Load heat exchanger freeze detection setpoint selectable for water or antifreeze
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, freeze detection setpoint, 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:

- Source leaving water temperature
- Load leaving water temperature
- Emergency shutdown command
- Cooling command
- Heating command

Accessories

Heavy Duty Mounting Springs

WaterFurnace P/N:

IS-325-01 (NKW020-090),

IS-750-01 (NKW130)

Heavy duty mounting springs shall be available for corner mounting and 3 dBA noise reduction. Springs shall be field adjustable and load rated for application.

Flow Proving Switch

WaterFurnace P/N:

FPS300

A flow proving switch shall be available utilizing high reliability flow sensing technology.

Adaptors

WaterFurnace P/N:

CKV160FPT (2 in. [50.8 mm] FPT Adaptor)*

CKV160FL (2 in. [50.8 mm] Flange Pipe Adaptor)*

TKC16S-4 (2 in. [50.8 mm] MPT/2 in. [50.8 mm]

Victaulic Hose)*

*Includes 4 adaptors

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. Accessory adaptors shall also be available to connect the Victaulic type fitting to a 2 in. [50.8 mm] MPT through a braided stainless steel flexible hose with a 400 psi [2758 kPa] burst rating and a 2 in. [50.8 mm] pipe union.