

SUBMITTAL SET
AFFINITY
GEOTHERMAL HEAT PUMPS
DUAL-CAPACITY HYDRONIC

MODELS: YAWT100 - 180 (8 THRU 15 NOMINAL TONS)







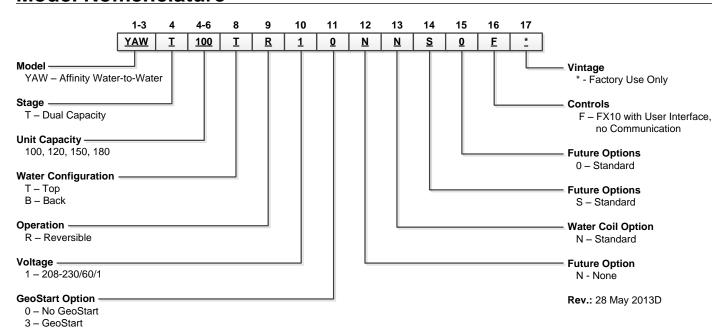
Due to continuous product improvement, specifications are subject to change without notice.

Visit us on the web at www.york.com

Additional rating information can found at **www.ahridirectory.org**

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

Model Nomenclature







Affinity hydronic units are Safety listed under UL1995 thru ETL and performance tested in accordance with standard AHRI/ISO 13256-2.

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

AHRI Data

AHRI/ASHRAE/ISO 13256-2 English (IP) Units

				Wa	ater Loop F	leat Pump		Ground Water Heat Pump				Ground Loop Heat Pump			
Model Capacity Modulation		Flow Rate		Cooling Heating EST 86°F EST 68°F ELT 53.6°F ELT 104°F		3°F	Cooling EST 59°F ELT 53.6°F		Heating EST 50°F ELT 104°F		Cooling Full EST 77°F Part EST 68°F ELT 53.6°F		Heating Full EST 32°F Part ELT 41°F ELT 104°F		
		Sgpm	Lgpm	Capacity Btuh	EER Btuh/W	Capacity Btuh	СОР	Capacity Btuh	EER Btuh/W	Capacity Btuh	СОР	Capacity Btuh	EER Btuh/W	Capacity Btuh	СОР
100	Full	23	23	93,000	14.6	125,000	4.0	105,000	22.0	103,000	3.3	100,000	16.8	82,000	3.0
100	Part	23	23	50,000	15.8	65,000	4.6	56,000	24.5	53,000	3.7	54,000	22.0	47,000	3.4
420	Full	28	28	103,000	14.0	142,000	4.0	123,000	21.6	118,000	3.3	114,000	16.2	93,000	3.0
120	Part	28	28	58,000	15.5	76,000	4.4	65,000	22.4	62,500	3.7	63,000	21.1	55,000	3.4
150	Full	32	32	129,000	13.5	199,000	4.0	153,000	21.1	148,000	3.2	147,000	16.0	123,000	2.8
150	Part	32	32	72,000	15.3	101,000	4.3	75,000	22.0	73,000	3.7	78,000	20.7	70,000	3.3
180	Full	36	36	150,000	13.3	221,000	3.9	175,000	19.8	173,000	3.1	165,000	15.8	139,000	2.7
180	Part	36	36	78,000	15.0	113,000	4.2	89,000	20.9	87,000	3.7	86,000	18.4	82,000	3.5

All ratings based upon 208V operation.

3/21/11

Energy Star Compliance Table

Model	Tier 3						
Wodei	Ground Water	Ground Loop					
100	Yes	Yes					
120	Yes	Yes					
150	No	No					
180	No	No					

03/12/13

Energy Star Rating Criteria

In order for water-source heat pumps to be Energy Star rated they must meet or exceed the minimum efficiency requirements listed below.

Tier 3: 1/1/2012 - No Effective End Date Published

	EER	COF
Closed loop water-to-air	17.1	3.6
Open loop water-to-air	21.1	4.1
Closed loop water-to-water	16.1	3.1
Open loop water-to-water	20.1	3.5

Contractor:	P.O.:	Affinity Dual-Capacity Hydronic Series 8 - 15 Tons 60Hz
Engineer:		_
Project Name:	Unit Tag:	

AHRI Data cont.

The performance standard AHRI/ASHRAE/ISO 13256-2 became effective January 1, 2000. This new standard has three major categories: Water Loop, Ground Water, and Ground Loop.

Unit of Measure: The Cooling COP

The cooling efficiency is measured in EER (US version measured in Btuh per Watt. The Metric version is measured in a cooling COP (Watt per Watt) similar to the traditional COP measurement.

Pump Power Correction Calculation

Within each model, only one water flow rate is specified for all three groups and pumping Watts are calculated using the following formula. This additional power is added onto the existing power consumption.

• Pump power correction = (gpm x 0.0631) x (Press Drop x 2990) / 300

Where 'gpm' is waterflow in gpm and 'Press Drop' is the pressure drop through the unit heat exchanger at rated water flow in feet of head.

ISO Capacity and Efficiency Calculations

Tost Conditions

The following equations illustrate cooling calculations:

- ISO Cooling Capacity = Cooling Capacity (Btuh) x 3.412
- ISO EER Efficiency (W/W) = ISO Cooling Capacity (Btuh) x 3.412 / [Power Input (Watts) + Pump Power Correction (Watt)] The following equations illustrate heating calculations:
- ISO Heating Capacity = Heating Capacity (Btuh) x 3.412
- ISO COP Efficiency (W/W) = ISO Heating Capacity (Btuh) x 3.412 / [Power Input (Watts) + Pump Power Correction (Watt)]

rest Conditions	ISO/AHRI 13256-2 WLHP	ISO/AHRI 13256-2 GWHP	ISO/AHRI 13256-2 GLHP
Cooling			
Liquid Entering Indoor Side - °F	53.6	53.6	53.6
Standard Rating Test			
Liquid Entering Heat Exchanger - °F	86	59	77
Part-load Rating Test			
Liquid Entering Heat Exchanger	86	59	68
Fluid Flow Rate	*	*	*
Heating			
Liquid Entering Indoor Side - °F	104	104	104
Standard Rating Test			
Liquid Entering Outdoor-side Heat Exchanger - °F	68	50	32
Part-load Rating Test			
Liquid Entering Outdoor-side Heat Exchanger	68	50	41
Fluid Flow Rate	*	*	*

Conversions Water Flo

Water Flow (lps) = GPM x 0.0631 Press Drop (Pascals) = Press Drop (ft hd) x 2990

NOTES: *Flow rate is specified by the manufacturer

WLHP = Water Loop Heat Pump; GWHP = Ground Water Heat Pump;

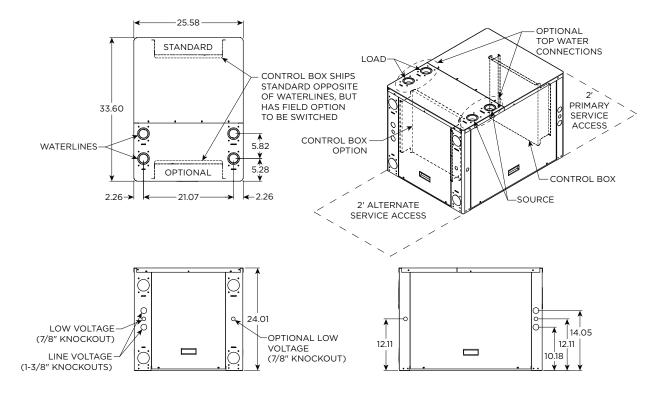
GLHP = Ground Loop Heat Pump

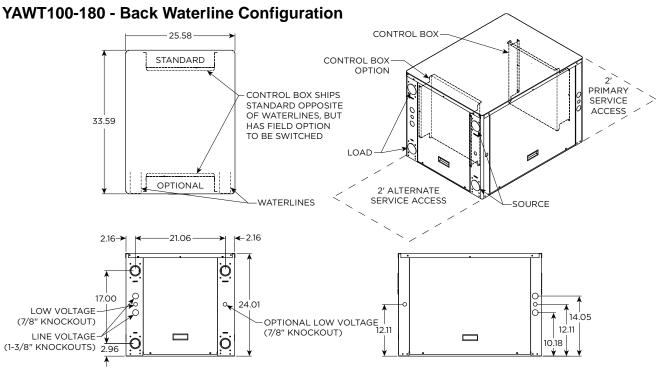
SD1007WK6 06/13 4 Page _____ of ____

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

Dimensional Data

YAWT100-180 - Top Waterline Configuration





Contractor:	P.O.:	— Annity Dual-Capacity H
Engineer:		_
Project Name:	Unit Tag:	_

Physical Data

Model	Model					
Wodel	100	120	150	180		
Compressor (2 each)		Sc	roll			
Factory Charge R410A, oz [kg]	62 [1.76]	62 [1.76]	62 [1.76]	62 [1.76]		
Load Water Connection						
FPT - in	2	2	2	2		
Source Water Connection						
FPT - in	2	2	2	2		
Weight - Operating, lb [kg]	390 [177]	400 [181]	400 [181]	420 [190]		
Weight - Packaged, lb [kg]	385 [175]	395 [179]	395 [179]	415 [188]		

3/9/09

Electrical Data

	Supply	Rated	Voltage	Compressor*			Load	Source	Total	Min	Max	
Model	Supply Circuit	Voltage	Min/Max	мсс	RLA	LRA	LRA**	Pump FLA	Pump FLA	Unit FLA	Circ Amp	Fuse/ HACR
100	L1/L2	208-230/60/1	187/253	41.2	26.4	134.0	47.0	-	-	26.4	33.0	50
100	L3/L4	208-230/60/1	187/253	41.2	26.4	134.0	47.0	4.2	4.2	34.8	41.4	60
120	L1/L2	208-230/60/1	187/253	47.0	30.1	145.0	51.0	-	-	30.1	37.6	60
120	L3/L4	208-230/60/1	187/253	47.0	30.1	145.0	51.0	4.2	4.2	38.5	46.0	70
150	L1/L2	208-230/60/1	187/253	42.0	26.9	145.0	51.0	-	-	26.9	33.6	60
150	L3/L4	208-230/60/1	187/253	42.0	26.9	145.0	51.0	4.2	4.2	35.3	42.0	60
400	L1/L2	208-230/60/1	187/253	50.0	32.1	185.0	65.0	-	-	32.1	40.1	70
180	L3/L4	208-230/60/1	187/253	50.0	32.1	185.0	65.0	4.2	4.2	40.5	48.5	80

HACR circuit breaker in USA only

3/7/13

^{*} Ratings per each compressor - unit supplied with two ** With optional GeoStart

Contractor: P.O.:

Engineer: Unit Tag:

Load and Source Pressure Drop

Madal	ODM.	Pressure Drop (psi)								
Model	GPM	30°F	50°F	70°F	90°F	110°F				
	15	1.0	0.8	0.5	0.3	0.1				
100	23	2.5	2.2	2.0	1.7	1.3				
100	30	3.8	3.6	3.3	3.1	2.4				
	34	4.5	4.3	4.0	3.8	3.0				
	18	1.6	1.3	1.1	0.8	0.6				
120	28	3.4	3.2	2.9	2.7	2.1				
120	36	4.9	4.7	4.4	4.2	3.3				
	40	5.6	5.4	5.1	4.9	3.9				
	21	2.1	1.9	1.6	1.4	1.0				
150	32	4.2	3.9	3.7	3.4	2.7				
150	42	6.0	5.8	5.5	5.3	4.2				
	50	7.5	7.3	7.0	6.8	5.5				
	24	2.7	2.4	2.2	1.9	1.5				
180	36	4.9	4.7	4.4	4.2	3.3				
100	48	7.1	6.9	6.6	6.4	5.1				
	60	9.3	9.1	8.8	8.6	7.0				

3/9/09

Reference Calculations

Heating Calculations:	Cooling Calculations:						
$LWT = EWT - \frac{HE}{GPM \times 500^*}$	$LWT = EWT + \frac{HR}{GPM \times 500^*}$						

NOTE: * When using water. Use 485 for 15% methanol/water or Environol solution.

Legend

Abbreviations and Definitions

FLT = entering load fluid temperature to heat pump PSI = pressure drop in pounds per square inch LLT = leaving load fluid temperature from heat pump FT HD = pressure drop in feet of head LGPM = load flow in gallons per minute ΚW = kilowatt LWPD = load heat exchanger water pressure drop HR = heat rejected in MBTUH EST = entering source fluid temperature to heat pump TC = total cooling capacity in MBTUH = leaving source fluid temperature from heat pump COP = coefficient of performance (HC/KW x 3.413)

EER = cooling energy effciency (TC/KW)

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

Antifreeze Correction

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

Antifrance Type	Antifreeze %	Hea	iting	Coo	Pressure	
Antifreeze Type	by wt	Load	Source	Load	Source	Drop
EWT - °F [°C]		80 [26.7]	30 [-1.1]	50 [10.0]	90 [32.2]	30 [-1.1]
Water	0	1.000	1.000	1.000	1.000	1.000
	10	0.990	0.973	0.976	0.991	1.075
	20	0.978	0.943	0.947	0.979	1.163
Ethylene Glycol	30	0.964	0.917	0.921	0.965	1.225
	40	0.953	0.890	0.897	0.955	1.324
	50	0.942	0.865	0.872	0.943	1.419
	10	0.981	0.958	0.959	0.981	1.130
Durandana Olivad	20	0.967	0.913	0.921	0.969	1.270
Propylene Glycol	30	0.946	0.854	0.869	0.950	1.433
	40	0.932	0.813	0.834	0.937	1.614
	50	0.915	0.770	0.796	0.922	1.816
	10	0.986	0.927	0.945	0.991	1.242
	20	0.967	0.887	0.906	0.972	1.343
Ethanol	30	0.944	0.856	0.869	0.947	1.383
	40	0.926	0.815	0.830	0.930	1.523
	50	0.907	0.779	0.795	0.911	1.639
	10	0.985	0.957	0.962	0.986	1.127
	20	0.969	0.924	0.929	0.970	1.197
Methanol	30	0.950	0.895	0.897	0.951	1.235
	40	0.935	0.863	0.866	0.936	1.323
	50	0.919	0.833	0.836	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 30°F source and 80°F load as well as pressure drop at 30°F for an YAWT120. Also, determine the corrected cooling at 90°F source and 50°F load.

The corrected heating capacity at 30°F/80°F would be: $98,500 \text{ MBTUH} \times 0.913 \times 0.985 = 88,582 \text{ MBTUH}$ The corrected cooling capacity at $90^{\circ}\text{F}/50^{\circ}\text{F}$ would be: $113,200 \times 0.969 \times 0.962 = 105,523 \text{ MBTUH}$ The corrected pressure drop at 30°F and 36 GPM would be: $4.9 \text{ psi} \times 1.270 = 6.22 \text{ psi}$

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

YAWT100 - Performance Data

Cooling Capacity

Sou	irce	1		Load	Flow - 1	5 GPM			I		oad Flov	r - 23 GPI	М				oad Flov	v - 30 GPI	л	
EST	Flow	ELT	LLT	TC	Power	HR	EED	LST	LLT	TC	Power	HR		LST	LLT	TC	Power	HR		LST
°F	GPM	°F	°F	MBTUH	kW	MBTUH	EER	°F	°F	MBTUH	kW	MBTUH	EER	°F	°F	MBTUH	kW	MBTUH	EER	°F
		50	35.6	108.0	3.80	121.0	28.4	46.1	40.3	111.7	3.91	125.1	28.6	46.7	42.3	115.0	4.00	128.6	28.8	47.2
	15	70	54.3	117.9	3.90	131.2	30.2	47.5	59.4	121.7	3.99	135.3	30.5	48.0	61.7	125.0	4.07	138.9	30.7	48.5
		90	73.0	127.9	4.00	141.5	32.0	48.9	78.6	131.7	4.07	145.6	32.3	49.4	81.0	135.0	4.13	149.1	32.7	49.9
		110 50	91.6 35.3	137.8	4.10 3.69	151.8 122.7	33.6 29.8	50.2 40.7	97.7 40.1	141.6	4.15 3.80	155.8 126.7	34.1 29.9	50.8 41.0	100.3 42.2	145.0 116.9	4.20 3.89	159.3 130.2	34.5	51.2 41.3
		70	54.0	120.3	3.76	133.1	32.0	41.6	59.2	124.1	3.86	137.3	32.2	41.9	61.5	127.5	3.94	141.0	32.3	42.3
30	23	90	72.6	130.4	3.83	143.5	34.1	42.5	78.3	134.5	3.92	147.9	34.4	42.9	80.8	138.1	3.99	151.7	34.6	43.2
i		110	91.3	140.6	3.90	153.9	36.1	43.4	97.4	144.9	3.97	158.5	36.5	43.8	100.1	148.7	4.04	162.5	36.8	44.1
		50	35.1	112.0	3.60	124.3	31.1	38.3	40.0	115.5	3.71	128.2	31.2	38.5	42.1	118.6	3.80	131.6	31.2	38.8
	20	70	53.7	122.3	3.64	134.8	33.6	39.0	59.0	126.3	3.74	139.1	33.7	39.3	61.4	129.7	3.83	142.8	33.8	39.5
	30	90	72.3	132.7	3.68	145.2	36.1	39.7	78.1	137.0	3.78	149.9	36.3	40.0	80.6	140.9	3.87	154.1	36.4	40.3
		110	90.9	143.0	3.72	155.7	38.4	40.4	97.1	147.8	3.82	160.8	38.7	40.7	99.9	152.0	3.90	165.3	39.0	41.0
		50	36.6	100.3	5.23	118.1	19.2	65.7	41.0	103.7	5.33	121.9	19.5	66.2	42.9	106.7	5.41	125.2	19.7	66.7
	15	70	55.1	111.5	5.37	129.8	20.8	67.3	60.0	115.0	5.45	133.6	21.1	67.8	62.1	118.1	5.52	137.0	21.4	68.3
		90	73.6	122.7	5.51	141.4	22.3	68.9	79.0	126.3	5.57	145.3	22.7	69.4	81.4	129.6	5.63	148.8	23.0	69.8
		110 50	92.2 36.4	133.9	5.65	153.1	23.7	70.4	98.0	137.7	5.69	157.1 123.1	24.2	70.9	100.6 42.8	141.0	5.73 5.26	160.6	24.6	71.4 61.0
		70	54.9	113.5	5.09 5.19	119.4 131.2	21.9	60.4 61.4	40.8 59.8	105.4	5.18 5.27	135.1	22.2	60.7 61.7	62.0	108.4 120.4	5.26	126.3 138.6	20.6	62.0
50	23	90	73.3	124.9	5.28	142.9	23.6	62.4	78.8	128.9	5.35	147.1	24.1	62.8	81.2	132.3	5.41	150.8	24.5	63.1
		110	91.8	136.3	5.38	154.7	25.3	63.5	97.8	140.6	5.44	159.1	25.9	63.8	100.4	144.3	5.49	163.1	26.3	64.2
		50	36.2	103.6	4.98	120.6	20.8	58.0	40.7	106.9	5.06	124.2	21.2	58.3	42.7	109.9	5.13	127.3	21.4	58.5
		70	54.6	115.3	5.03	132.4	22.9	58.8	59.7	119.0	5.11	136.4	23.3	59.1	61.8	122.3	5.18	140.0	23.6	59.3
	30	90	73.1	126.9	5.09	144.2	25.0	59.6	78.6	131.1	5.16	148.7	25.4	59.9	81.0	134.8	5.23	152.6	25.8	60.2
		110	91.5	138.5	5.14	156.0	26.9	60.4	97.6	143.2	5.21	161.0	27.5	60.7	100.2	147.3	5.28	165.2	27.9	61.0
		50	37.7	92.5	6.65	115.2	13.9	85.4	41.7	95.6	6.74	118.7	14.2	85.8	43.4	98.4	6.83	121.7	14.4	86.2
	15	70	56.0	105.0	6.83	128.3	15.4	87.1	60.6	108.3	6.91	131.9	15.7	87.6	62.6	111.3	6.97	135.1	16.0	88.0
	10	90	74.3	117.4	7.02	141.4	16.7	88.8	79.5	121.0	7.07	145.1	17.1	89.4	81.7	124.1	7.12	148.4	17.4	89.8
		110										recomme								
		50	37.5	94.0	6.49	116.1	14.5	80.1	41.6	97.1	6.56	119.5	14.8	80.4	43.3	99.8	6.63	122.4	15.1	80.6
70	23	70 90	55.8 74.1	106.7 119.4	6.61 6.74	129.2 142.4	16.1	81.2 82.4	60.4 79.3	110.2	6.67 6.79	132.9 146.4	16.5 18.2	81.6 82.7	62.5 81.6	113.2 126.6	6.73	136.2 149.9	16.8	81.8 83.0
		110	74.1	119.4	0.74	142.4	17.7	02.4	79.3			recomme		02.1	01.0	120.0	0.03	149.9	16.5	63.0
		50	37.3	95.3	6.35	116.9	15.0	77.8	41.4	98.4	6.40	120.2	15.4	78.0	43.3	101.1	6.45	123.1	15.7	78.2
		70	55.6	108.2	6.42	130.1	16.8	78.7	60.3	111.8	6.47	133.8	17.3	78.9	62.3	114.9	6.52	137.1	17.6	79.1
İ	30	90	73.9	121.1	6.49	143.2	18.7	79.5	79.1	125.1	6.54	147.5	19.1	79.8	81.4	128.7	6.58	151.2	19.5	80.1
İ		110								Oper	ation not	recomme	nded							
		50	38.7	84.8	8.08	112.3	10.5	105.0	42.4	87.6	8.16	115.5	10.7	105.4	44.0	90.1	8.24	118.2	10.9	105.8
	15	70	56.9	98.5	8.30	126.8	11.9	106.9	61.2	101.6	8.37	130.2	12.1	107.4	63.0	104.4	8.42	133.1	12.4	107.8
	15	90	75.0	112.2	8.53	141.3	13.2	108.8	79.9	115.7	8.57	144.9	13.5	109.3	82.1	118.7	8.61	148.1	13.8	109.7
		110										recomme								
		50	38.5	85.9	7.89	112.8	10.9	99.8	42.3	88.8	7.94	115.9	11.2	100.1	43.9	91.3	7.99	118.6	11.4	100.3
90	23	70 90	56.7 74.8	99.9	8.04 8.19	127.3 141.8	12.4	101.1	61.0 79.8	103.2 117.6	8.08 8.22	130.7 145.6	12.8 14.3	101.4 102.7	62.9 81.9	106.0 120.8	8.12 8.25	133.8 149.0	13.1	101.6 103.0
		110	74.0	113.9	0.19	141.0	13.9	102.3	13.0			recomme		102.7	01.9	120.0	0.25	149.0	14.6	103.0
		50	38.4	86.9	7.73	113.2	11.2	97.5	42.2	89.8	7.75	116.2	11.6	97.7	43.8	92.4	7.78	118.9	11.9	97.9
		70	56.5	101.1	7.81	127.7	12.9	98.5	60.9	104.5	7.84	131.2	13.3	98.7	62.8	107.5	7.86	134.3	13.7	99.0
	30	90	74.6	115.3	7.90	142.2	14.6	99.5	79.6	119.2	7.92	146.2	15.1	99.7	81.8	122.6	7.94	149.7	15.4	100.0
İ		110								Oper	ation not	recomme	nded							
		50	39.7	77.0	9.50	109.4	8.1	124.6	43.1	79.6	9.58	112.2	8.3	125.0	44.5	81.8	9.65	114.7	8.5	125.3
	15	70	57.7	92.0	9.77	125.3	9.4	126.7	61.7	95.0	9.83	128.5	9.7	127.1	63.5	97.5	9.88	131.2	9.9	127.5
	13	90								Oper	ation not	recomme	nded							
		110																		
		50	39.6	77.8	9.29	109.5	8.4	119.5	43.0	80.4	9.32	112.3	8.6	119.8	44.5	82.8	9.36	114.7	8.8	120.0
110	23	70	57.6	93.1	9.46	125.4	9.8	120.9	61.6	96.2	9.49	128.6	10.1	121.2	63.4	98.9	9.52	131.4	10.4	121.4
		90								Oper	ation not	recomme	nded							
		110 50	39.5	78.5	9.10	109.5	8.6	117.3	42.9	81.2	9.10	112.3	8.9	117.5	44.4	83.6	9.10	114.6	9.2	117.6
		70	57.5	94.0	9.10	125.4	10.2	117.3	61.5	97.2	9.10	128.6	10.6	117.5	63.3	100.1	9.10	131.5	10.9	117.6
	30	90	57.5	5-4.0	0.20	120.4	10.2	110.4	01.0					110.0	00.0	100.1	5.20	101.0	10.0	110.0
		110								Oper	ation not	recomme	nded							
																				4/1/10

 $\textbf{NOTE:} \ \text{For part load application, divide capacity by 2}.$

4/1/10

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

YAWT100 - Performance Data

Heating Capacity

Sou	rce	Load Flow - 15 GPM								L	oad Flov	v - 23 GPI	И		Load Flow - 30 GPM					
EWT	Flow	ELT	LLT	HC	Power	HE	СОР	LST	LLT	HC	Power	HE	COP	LST	LLT	HC	Power	HE	СОР	LST
°F	GPM	° F	° F 72.2	91.3	kW 5.01	MBTUH 74.2	5.3	°F 20.1	° F 68.2	94.5	kW 4.85	MBTUH 78.0	5.7	° F	° F 66.5	97.3	kW 4.71	MBTUH	6.1	° F 24.6
		80	91.9	89.2	6.64	66.6	3.9	21.1	88.0	94.5	6.46	70.1	4.2	23.2	86.3	94.7	6.31	81.2 73.2	4.4	25.1
	23	100	111.6	87.2	8.28	58.9	3.1	22.1	107.8	89.8	8.08	62.2	3.3	24.6	106.1	94.7	7.91	65.1	3.4	25.7
		120	131.3	85.1	9.91	51.3	2.5	23.2	127.6	87.4	9.70	54.3	2.6	25.3	126.0	89.5	9.51	57.0	2.8	26.2
30		60	72.3	92.0	5.10	74.6	5.3	20.1	68.4	96.3	4.94	79.4	5.7	23.1	66.7	100.0	4.80	83.6	6.1	24.4
		80	92.0	89.9	6.77	66.8	3.9	21.1	88.2	93.9	6.59	71.4	4.2	23.8	86.5	97.4	6.43	75.4	4.4	25.0
	30	100	111.7	87.9	8.43	59.1	3.1	22.1	108.0	91.6	8.24	63.5	3.3	24.5	106.3	94.8	8.07	67.3	3.4	25.5
		120	131.4	85.8	10.10	51.3	2.5	23.2	127.8	89.2	9.89	55.5	2.6	25.2	126.1	92.2	9.70	59.1	2.8	26.1
		60	73.6	102.2	5.00	85.1	6.0	38.7	69.2	105.4	4.84	88.9	6.4	42.3	67.2	108.3	4.70	92.3	6.8	43.8
		80	93.3	100.1	6.62	77.5	4.4	39.7	89.0	103.1	6.44	81.1	4.7	42.9	87.0	105.7	6.29	84.2	4.9	44.4
	15	100	113.1	98.1	8.20	69.9	3.5	37.4	108.8	100.7	8.00	73.3	3.7	43.6	106.9	103.1	7.88	76.2	3.8	44.9
		120	132.8	96.0	9.87	62.3	2.9	41.7	128.6	98.4	9.65	65.5	3.0	44.3	126.7	100.5	9.47	68.2	3.1	45.5
İ		60	74.4	107.7	5.12	90.2	6.2	38.0	69.7	111.9	4.95	95.0	6.6	41.7	67.7	115.5	4.81	99.1	7.0	43.4
		80	94.1	105.6	6.78	82.5	4.6	39.0	89.5	109.5	6.59	87.0	4.9	42.4	87.5	112.9	6.43	91.0	5.1	43.9
50	23	100	113.8	103.5	8.44	74.7	3.6	40.0	109.3	107.2	8.23	79.1	3.8	43.1	107.4	110.3	8.06	82.9	4.0	44.5
		120	133.5	101.5	10.10	67.0	2.9	41.1	129.1	104.8	9.87	71.1	3.1	43.8	127.2	107.7	9.68	74.7	3.3	45.0
		60	75.0	112.4	5.23	94.6	6.3	37.4	70.2	117.5	5.06	100.2	6.8	41.3	68.1	121.9	4.90	105.1	7.3	43.0
		80	94.7	110.4	6.92	86.8	4.7	38.4	90.0	115.1	6.73	92.2	5.0	42.0	88.0	119.3	6.56	96.9	5.3	43.5
	30	100	114.4	108.3	8.61	78.9	3.7	39.5	109.8	112.8	8.40	84.1	3.9	42.7	107.8	116.7	8.21	88.7	4.2	44.1
		120	134.2	106.3	10.30	71.1	3.0	40.5	129.6	110.4	10.07	76.1	3.2	43.4	127.6	114.1	9.87	80.4	3.4	44.6
		60	75.2	113.9	5.10	96.5	6.5	57.1	70.3	118.4	4.94	101.6	7.0	61.2	68.2	122.4	4.80	106.0	7.5	62.9
i		80	94.9	111.8	6.74	88.8	4.9	58.2	90.1	116.1	6.57	93.7	5.2	61.9	88.0	119.8	6.41	97.9	5.5	63.5
	15	100	114.6	109.8	8.39	81.1	3.8	59.2	109.9	113.7	8.19	85.8	4.1	62.5	107.8	117.2	8.02	89.8	4.3	64.0
i	l	120	134.4	107.7	10.03	73.5	3.1	60.2	129.7	111.4	9.82	77.9	3.3	63.2	127.6	114.6	9.63	81.7	3.5	64.6
Ī		60	76.5	124.0	5.24	106.1	6.9	55.8	71.2	129.2	5.06	111.9	7.5	60.3	68.9	133.8	4.91	117.0	8.0	62.2
	-00	80	96.3	122.0	6.92	98.3	5.2	56.9	91.0	126.9	6.73	103.9	5.5	61.0	88.7	131.2	6.55	108.8	5.9	62.7
70	23	100	116.0	119.9	8.60	90.6	4.1	57.9	110.8	124.5	8.39	95.9	4.4	61.7	108.6	128.6	8.20	100.6	4.6	63.3
		120	135.7	117.8	10.28	82.8	3.4	59.0	130.6	122.2	10.05	87.9	3.6	62.4	128.4	126.0	9.85	92.4	3.7	63.8
Ī		60	77.7	132.9	5.37	114.6	7.3	54.7	72.1	138.7	5.17	121.0	7.9	59.5	69.6	143.7	5.00	126.7	8.4	61.6
	30	80	97.4	130.8	7.08	106.7	5.4	55.8	91.9	136.3	6.86	112.9	5.8	60.2	89.4	141.1	6.68	118.3	6.2	62.1
	30	100	117.2	128.8	8.79	98.8	4.3	56.8	111.7	134.0	8.56	104.8	4.6	60.9	109.2	138.5	8.36	110.0	4.9	62.7
		120	136.9	126.7	10.50	90.9	3.5	57.9	131.4	131.6	10.25	96.7	3.8	61.6	129.1	135.9	10.03	101.7	4.0	63.2
		60	76.7	125.6	5.20	107.9	7.1	75.6	71.4	131.4	5.04	114.2	7.6	80.1	69.1	136.5	4.90	119.8	8.2	82.0
	15	80	96.5	123.5	6.87	100.1	5.3	76.7	91.2	129.1	6.69	106.2	5.7	80.8	88.9	133.9	6.53	111.6	6.0	82.6
	15	100								Oper	ation not	recomme	nded							
ļ		120									ation not	recomme	nueu							
		60	78.7	140.4	5.36	122.1	7.7	73.7	72.7	146.6	5.17	128.9	8.3	78.8	70.1	152.0	5.01	134.9	8.9	81.0
90	23	80	98.4	138.3	7.06	114.2	5.7	74.8	92.5	144.2	6.86	120.9	6.2	79.5	90.0	149.4	6.68	126.6	6.6	81.6
"		100								Oper	ation not	recomme	nded							
[120																		
		60	80.4	153.3	5.50	134.6	8.2	72.1	73.9	159.9	5.29	141.8	8.9	77.7	71.0	165.6	5.10	148.2	9.5	80.1
	30	80	100.2	151.3	7.23	126.6	6.1	73.1	93.7	157.5	7.00	133.6	6.6	78.4	90.9	163.0	6.80	139.8	7.0	80.7
		100								Oper	ation not	recomme	nded							
		120																		3/7/13

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

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

YAWT120 - Performance Data

Cooling Capacity

90 18 70 56.8 118.9 10.00 153.0 11.9 110.4 61.2 123.2 10.09 157.6 12.2 111.0 63.0 126.7 10.15 161.3 12.5 111.5 110.0	Sou	irce		Load Flow - 18 GPM Load Flow - 28 GPM Load Flow - 36 GPM									И								
10								EER						EER						EER	
10		<u> </u>						24.3					_	25.0	_		_			25.5	
10 10 10 10 10 10 10 10		40	70	54.0	143.7	5.43	162.2	26.5	51.6	59.4	148.9	5.47	167.5	27.2	52.3	61.5	153.0	5.51	171.8	27.8	52.9
18 50 38.4 31.3 50.6 38.6 28.0 42.2 40.3 18.5 50 18.5 26.7 43.3 42.2 19.9 5.3 17.1 29.9 45.2 42.9 42.2 43.9 43.5 43.1 43.9 43.8 43.1 43.9 43.8 43.1 43.9 43.8 43.1 43.9 43.8 43.1 43.9 43.8 43.1 43.9 43.8 43.1 43.9 43.8 43.1 43.9 43.8 43.1 43.9 43.8 43.1 43.9 43.8 43		18	90	72.3	159.3	5.60	178.4	28.5	53.8	78.2	165.1	5.64	184.4	29.2	54.6	80.6	169.7	5.68	189.1	29.9	55.2
10			110	90.6	175.0	5.77	194.7	30.3	56.0	97.0	181.3	5.81	201.2	31.2	56.8	99.6	186.4	5.85	206.4	31.9	57.5
28 90 718 6183 634 6191 509 45.8 77.9 690.7 535 680 317 463 303 174.4 538 182.8 324 48.8 43.9			50	35.4	131.3	5.05	148.6	26.0	42.9	40.3	136.1	5.10	153.5	26.7	43.3	42.2	139.9	5.13	157.4	27.3	43.7
90 78.8 168.8 5.31 181.9 30.9 45.8 77.9 1897 5.35 188.0 31.7 48.3 80.3 177.4 6.38 169.8 182.4 48.8 43.9 169.7 181.0 40.0 181.0 40.0 180.7 171.0 40.0 180.7 180.5 180.0 180.7 180.5 180.0 180.7 180.0 180.0 180.7 180.0 180.0 180.7 180.0 180.0 180.0 180.0 180.7 180.0 1	30	28	70	53.6	147.6	5.18	165.2	28.5	44.4	59.1	152.9	5.22	170.7	29.3	44.8	61.3	157.1	5.26	175.1	29.9	45.2
8	"			_									_				_				
10							-		_			_						_	$\overline{}$		
10 10 10 10 10 10 10 10					_						 										
10 88 88 1840 5.16 2016 357 434 984 98.4 190.7 5.20 2084 88.6 439 99.1 99.1 99.1 98.0 524 2139 37.4 44.3 18 70 550 35.7 1986 6.79 19.2 17.6 69.1 41.1 124.1 684 147.4 18.1 667 42.9 12.7 6.89 18.5 10. 18.5 70. 1		36									_										
10 50 38.7 119.8 6.79 142.9 17.6 69.1 41.1 124.1 68.4 47.4 81.8 69.7 42.9 27.5 68.9 151.0 18.5 70.1										-											
## 70 55.0 15.4 6.85 55.1 15.9 71.2 60.0 140.3 7.01 164.2 20.0 71.9 82.0 144.2 7.06 168.3 20.4 72.4					_								_		_		_				
18													_								
90 10 91.5 168.8 2.29 191.6 2.29 75.6 97.7 172.8 73.5 197.9 23.5 76.4 100.0 177.6 7.40 202.8 24.0 70.0 70.6 70.5		18			_												_				
70			110												76.4	100.1				24.0	
Page Page			50	36.2	123.8	6.51	146.0	19.0	62.7	40.8	128.3	6.56	150.7	19.5	63.1	42.7	131.8	6.61	154.4	20.0	63.4
10 90 726 1964 6.78 179.6 231 65.6 78.4 162.1 6.83 185.4 237 66.1 807 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10	₅₀	20	70	54.4	140.1	6.64	162.8	21.1	64.2	59.6	145.2	6.70	168.0	21.7	64.6	61.7	149.2	6.74	172.2	22.1	65.0
Page So 35.9 27.1 62.9 48.5 20.2 59.9 40.6 31.6 63.4 153.3 20.6 60.2 42.5 135.3 63.8 157.1 21.2 60.5 60.0 72.1 160.7 65.5 182.9 24.7 62.2 78.1 166.5 65.5 188.9 25.4 62.6 80.5 171.2 60.5 187.2 20.6 61.7 110 80.3 177.6 66.0 200.1 26.9 63.3 96.8 184.0 66.6 206.7 27.6 63.8 96.5 189.1 67.0 21.2 22.2 64.1 64.5 79.0 65.9 62.2 78.1 18.5 83.3 184.1 13.8 82.2 43.4 118.8 84.4 147.5 141.8 89.7 141.8 89.7 172.3 65.8 189.1 67.0 21.2 22.2 64.1 64.5 172.3 65.8 69.8 189.1 67.0 21.2 22.2 64.1 64.5 67.8 69.0 79.1 64.5 67.8 69.0 79.1 64.5 67.8 69.0 79.1 64.5 69.0 79.1 64.5 69.0 79.1 64.5 69.0 79.1 64.5 69.0 79.1 64.5 79.8 69.1 67.0 69.0 79.1 64.5 79.8 69.1 67.5 69.0 79.1 64.5 79.8 69.1 69.0 79.0 6	50	20	90	72.6	156.4	6.78	179.6	23.1	65.6	78.4	162.1	6.83	185.4	23.7	66.1	80.7	166.6	6.88	190.1	24.2	66.5
70 9.0 7.0 54.0 43.9 6.40 65.7 22.5 61.0 59.4 14.91 6.45 171.1 23.1 61.4 61.5 153.2 6.40 175.4 23.6 61.7												6.97			67.6			7.01			68.1
99				35.9			148.5			40.6	131.6	6.34			60.2	42.5		6.38	157.1		60.5
110 90.3 177.6 6.60 200.1 26.9 63.3 96.0 184.0 6.66 200.7 27.6 63.8 99.5 189.1 6.70 212.0 28.2 64.1 70. 55.9 127.2 8.48 156.1 150.9 90.8 60.6 131.8 85.5 160.9 154. 155.5 135.4 8.61 164.8 157.7 92.0 74.1 142.8 8.65 172.3 16.5 93.0 79.4 148.0 8.72 177.7 17.0 93.7 81.5 152.1 8.78 182.1 17.3 94.3 110.0 17.0 17.0 17.0 17.0 17.0 17.0 18.5 18.5 18.2 18.2 17.3 94.3 17.0 17.0 17.0 18.5 18.5 18.2 1		36		-																	
18													_								
18					-								_								
18					_																
110		18		_	_						_		_								
Page Fig.				74.1	142.0	8.03	172.3	10.5	93.0	79.4					93.7	61.5	132.1	0.70	102.1	17.3	94.5
Part				37 1	116.3	7 97	143.5	14.6	82.5	41 4					82.9	43.1	123.8	8.09	151.4	15.3	83.2
90 73.4 149.1 8.25 177.2 18.1 85.4 79.0 154.5 8.32 182.9 18.6 85.9 81.2 158.8 8.37 187.3 19.0 86.3 100 Coparation not recommended Coparation not recommen													_								
90 75.0 13.6 10.1 7.70 146.4 15.6 79.8 41.1 124.4 7.76 150.9 16.0 80.1 42.9 127.9 7.81 154.5 16.4 80.3 70 54.8 137.1 7.81 163.8 17.6 80.9 59.9 142.1 7.87 168.9 18.0 81.3 61.9 146.0 7.93 173.1 18.4 81.5 16	70	28																			
90 72.9 15.4.1 7.81 163.8 17.6 80.9 59.9 142.1 7.87 168.9 18.0 81.3 61.9 146.0 7.93 173.1 18.4 81.5 90 72.9 154.1 7.93 181.2 19.4 82.1 78.6 159.7 7.99 187.0 20.0 82.5 80.9 164.1 8.05 191.6 20.4 82.8			110								Oper	ation not	recomme	nded							
90 72.9 154.1 7.93 181.2 19.4 82.1 78.6 159.7 7.99 187.0 20.0 82.5 80.9 164.1 8.05 191.6 20.4 82.8 Point			50	36.7	120.1	7.70	146.4	15.6	79.8	41.1	124.4	7.76	150.9	16.0	80.1	42.9	127.9	7.81	154.5	16.4	80.3
90 72.9 154.1 7.93 181.2 19.4 82.1 78.6 159.7 7.99 187.0 20.0 82.5 80.9 164.1 8.05 191.6 20.4 82.8 110		26	70	54.8	137.1	7.81	163.8	17.6	80.9	59.9	142.1	7.87	168.9	18.0	81.3	61.9	146.0	7.93	173.1	18.4	81.5
90 28		36	90	72.9	154.1	7.93	181.2	19.4	82.1	78.6	159.7	7.99	187.0	20.0	82.5	80.9	164.1	8.05	191.6	20.4	82.8
18			110								Oper	ation not	recomme	nded							
90 75.0 134.6 10.17 169.3 13.2 112.6 80.0 139.4 10.25 174.4 13.6 113.3 82.0 143.3 10.32 178.5 13.9 113.8 90 75.0 134.6 10.17 169.3 13.2 112.6 80.0 139.4 10.25 174.4 13.6 113.3 82.0 143.3 10.32 178.5 13.9 113.8 90 74.2 141.8 9.72 174.9 11.5 102.3 42.0 112.7 9.50 145.1 11.9 102.6 43.6 115.8 9.56 148.5 12.1 102.9 90 74.2 141.8 9.72 174.9 14.6 105.2 79.5 146.9 9.80 180.3 15.0 105.7 81.6 151.0 9.86 184.6 15.3 106.1 110			-	38.5	103.3	9.84	136.8	10.5	108.2	42.4	107.0	9.92	140.8	10.8	108.8	43.9	110.0	9.98	144.0	11.0	109.2
90 110 1		18																			111.5
90 28				75.0	134.6	10.17	169.3	13.2	112.6	80.0					113.3	82.0	143.3	10.32	178.5	13.9	113.8
90				07.0	100.0	0.40	1400	44.5	100.0	40.0			_		100.0	40.0	145.0	0.50	440.5	10.1	100.0
90 74.2 141.8 9.72 174.9 14.6 105.2 79.5 146.9 9.80 180.3 15.0 105.7 81.6 151.0 9.86 184.6 15.3 106.1 110				-							_										
110 10 110 113.2 9.10 144.2 12.4 99.6 41.6 117.2 9.17 148.5 12.8 99.9 43.3 120.5 9.23 152.0 13.1 100.1 10 10 10 10 10 10 10	90	28			_								_								
110 Solid				14.4	171.0	3.12	174.3	14.0	100.2	1 3.0					100.7	01.0	131.0	3.00	104.0	10.0	100.1
110 36 70 55.5				37.4	113.2	9,10	144.2	12.4	99.6	41.6					99.9	43.3	120.5	9,23	152.0	13.1	100.1
110 15.8 10.2 10.2 10.5 10.2 10.5 10.2 10.5 10.2 10.5 10.2 10.5 10.5 10.2 10.5 1					_						_										101.4
110 Operation not recommended Operation not recommende		36																			102.6
18																					
18 90 Operation not recommended 110 28 50 38.8 101.2 10.88 138.4 9.3 122.0 42.5 104.9 10.97 142.3 9.6 122.4 44.0 107.8 11.04 145.5 9.8 122.7 70 56.9 117.8 11.04 155.5 10.7 123.5 61.3 122.1 11.13 160.0 11.0 123.9 63.0 125.5 11.20 163.7 11.2 124.2 9.0 11.0 Operation not recommended 110 Operation not recommended 120 38.2 106.2 10.50 142.0 10.1 119.5 42.1 110.0 10.58 146.1 10.4 119.7 43.7 113.1 10.65 149.4 10.6 120.0 10.1 10.1 110.1			50	39.4	95.0	11.36	133.8	8.4	127.8	43.0					128.3	44.4	101.2	11.53	140.5	8.8	128.7
110		10	70	57.7	110.7	11.53	150.0	9.6	130.0	61.8	114.7	11.62	154.3	9.9	130.6	63.5	117.9	11.70	157.8	10.1	131.0
110 28 50 38.8 101.2 10.88 138.4 9.3 122.0 42.5 104.9 10.97 142.3 9.6 122.4 44.0 107.8 11.04 145.5 9.8 122.7		18	90								Oper	ation not	recommo	nded							
110 28			110								Oper	alion not	recomme	nueu							
90 Operation not recommended 50 38.2 106.2 10.50 142.0 10.1 119.5 42.1 110.0 10.58 146.1 10.4 119.7 43.7 113.1 10.65 149.4 10.6 120.0				38.8	_			9.3			-	10.97	142.3	9.6		44.0					122.7
90 110 Operation not recommended	110	28		56.9	117.8	11.04	155.5	10.7	123.5	61.3	122.1	11.13	160.0	11.0	123.9	63.0	125.5	11.20	163.7	11.2	124.2
36 106.2 106.2 10.50 142.0 10.1 119.5 42.1 110.0 10.58 146.1 10.4 119.7 43.7 113.1 10.65 149.4 10.6 120.0	"	_~									Oper	ation not	recomme	nded							
36 70 56.3 123.5 10.64 159.9 11.6 120.7 60.9 128.0 10.73 164.6 11.9 121.0 62.7 131.6 10.80 168.4 12.2 121.2 90 110 Operation not recommended																					
90 Operation not recommended											_										120.0
110 Operation not recommended		36		56.3	123.5	10.64	159.9	11.6	120.7	60.9	128.0	10.73	164.6	11.9	121.0	62.7	131.6	10.80	168.4	12.2	121.2
											Oper	ation not	recomme	nded							
A I A I A			110																		4/1/10

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

4/1/10

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

YAWT120 - Performance Data

Heating Capacity

Sou	irce			Load	Flow - 1	В GPM				L	oad Flov	v - 28 GPI	И			L	oad Flov	v - 36 GPN	1	
EWT °F	Flow GPM	ELT °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	СОР	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	СОР	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F
		60	71.0	98.9	5.36	80.6	5.4	21.0	67.3	102.4	5.44	83.8	5.5	24.0	65.8	105.2	5.51	86.4	5.6	25.2
	28	80	90.7	96.2	7.16	71.8	3.9	22.0	87.1	99.6	7.26	74.9	4.0	24.7	85.7	102.4	7.34	77.3	4.1	25.7
		100	110.4	93.6	8.96	63.0	3.1	23.0	106.9	96.9	9.08	65.9	3.1	25.3	105.5	99.6	9.18	68.3	3.2	26.2
30		120	130.1	90.9	10.76	54.2	2.5	24.0	126.7	94.2	10.90	57.0	2.5	25.9	125.4	96.9	11.01	59.3	2.6	26.7
		60	71.2	101.2	5.40	82.8	5.5	20.8	67.6	106.1	5.51	87.3	5.6	23.8	66.1	110.0	5.60	90.9	5.8	25.0
	36	80	90.9	98.5	7.20	74.0	4.0	21.8	87.4	103.4	7.33	78.4	4.1	24.4	86.0	107.2	7.43	81.9	4.2	25.5
		100	110.7	95.9	9.00	65.2	3.1	22.8	107.2	100.6	9.15	69.4	3.2	25.0	105.8	104.5	9.27	72.8	3.3	26.0
		120	130.4	93.2	10.80	56.4	2.5	23.7	127.0	97.9	10.97	60.5	2.6	25.7	125.7	101.7	11.10	63.8	2.7	26.5
		60	72.6	113.4	5.53	94.5	6.0	39.5	68.4	116.9	5.59	97.8	6.1	43.0	66.7	119.7	5.63	100.5	6.2	44.4
	18	80	92.3	110.7	7.33	85.7	4.4	40.5	88.2	114.2	7.41	88.9	4.5	43.6	86.5	117.0	7.47	91.5	4.6	44.9
		100	112.0	108.0	9.13	76.9	3.5	41.5	108.0	111.5	9.23	80.0	3.5	44.3	106.3	114.2	9.30	82.5	3.6	45.4
		120	131.7	105.4	10.93	68.1	2.8	42.4	127.8	108.7	11.04	71.1	2.9	44.9	126.2	111.4	11.13	73.4	2.9	45.9
		60 80	73.3 93.0	119.7 117.1	5.63 7.43	100.5 91.7	6.2 4.6	38.8 39.8	68.9 88.7	124.5 121.8	5.70 7.52	105.1 96.1	6.4 4.7	42.5 43.1	67.1 87.0	128.4 125.6	5.76 7.60	108.7 99.7	6.5 4.8	44.0 44.5
50	28	100	112.7	117.1	9.23	82.9	3.6	40.8	108.5	119.1	9.34	87.2	3.7	43.1	106.8	125.6	9.43	99.7	3.8	44.5
		120	132.4	111.7	11.03	74.1	3.0	41.8	128.3	116.4	11.16	78.3	3.1	44.4	126.7	122.8	11.26	81.6	3.8	45.5
		60	73.9	124.8	5.70	105.4	6.4	38.3	69.3	130.6	5.79	110.9	6.6	42.1	67.5	135.3	5.87	115.2	6.8	43.6
		80	93.6	122.1	7.50	96.5	4.8	39.3	89.1	127.9	7.61	101.9	4.9	42.7	87.4	132.5	7.70	106.2	5.0	44.1
	36	100	113.3	119.5	9.30	87.7	3.8	40.3	108.9	125.2	9.43	93.0	3.9	43.4	107.2	129.7	9.53	97.2	4.0	44.6
		120	133.0	116.8	11.10	78.9	3.1	41.2	128.7	122.4	11.25	84.1	3.2	44.0	127.1	127.0	11.37	88.2	3.3	45.1
		60	74.5	130.7	5.77	111.1	6.6	57.7	69.7	136.1	5.82	116.2	6.9	61.7	67.8	140.4	5.87	120.3	7.0	63.3
		80	94.2	128.1	7.57	102.2	5.0	58.6	89.5	133.4	7.64	107.3	5.1	62.3	87.6	137.6	7.70	111.3	5.2	63.8
	18	100	113.9	125.4	9.37	93.4	3.9	59.6	109.3	130.6	9.46	98.4	4.0	63.0	107.5	134.8	9.53	102.3	4.1	64.3
i i		120	133.6	122.7	11.17	84.6	3.2	60.6	129.1	127.9	11.28	89.4	3.3	63.6	127.3	132.1	11.37	93.3	3.4	64.8
		60	75.6	140.5	5.90	120.4	7.0	56.6	70.5	146.7	5.96	126.3	7.2	61.0	68.4	151.6	6.01	131.0	7.4	62.7
		80	95.3	137.9	7.70	111.6	5.3	57.6	90.3	143.9	7.78	117.4	5.4	61.6	88.3	148.8	7.85	122.0	5.6	63.2
70	28	100	115.0	135.2	9.50	102.8	4.2	58.6	110.1	141.2	9.60	108.5	4.3	62.3	108.1	146.0	9.68	113.0	4.4	63.7
l l		120	134.7	132.5	11.30	94.0	3.4	59.6	129.9	138.5	11.42	99.5	3.6	62.9	128.0	143.3	11.51	104.0	3.6	64.2
		60	76.5	148.4	6.00	127.9	7.2	55.8	71.1	155.1	6.07	134.4	7.5	60.4	68.9	160.5	6.13	139.6	7.7	62.2
	36	80	96.2	145.7	7.80	119.1	5.5	56.8	90.9	152.4	7.89	125.5	5.7	61.0	88.8	157.8	7.97	130.6	5.8	62.7
	30	100	115.9	143.1	9.60	110.3	4.4	57.7	110.7	149.7	9.71	116.6	4.5	61.7	108.6	155.0	9.80	121.6	4.6	63.2
		120	135.6	140.4	11.40	101.5	3.6	58.7	130.5	147.0	11.53	107.6	3.7	62.3	128.5	152.2	11.63	112.5	3.8	63.7
		60	76.5	148.1	6.00	127.6	7.2	75.8	71.1	155.3	6.06	134.6	7.5	80.4	68.9	161.0	6.10	140.2	7.7	82.2
	18	80	96.2	145.4	7.80	118.8	5.5	76.8	90.9	152.5	7.87	125.7	5.7	81.0	88.8	158.2	7.93	131.2	5.8	82.7
		100								Oper	ation not	recomme	nded							
		120												,						
		60	77.9	161.4	6.17	140.3	7.7	74.4	72.1	168.8	6.22	147.6	8.0	79.5	69.7	174.8	6.27	153.4	8.2	81.5
90	28	80	97.6	158.7	7.97	131.5	5.8	75.4	91.9	166.1	8.04	138.7	6.1	80.1	89.6	172.0	8.10	144.4	6.2	82.0
		100								Oper	ation not	recomme	nded							
		120	70.4	170.0	0.00	1505	0.0	70.0	70.6					70.7	70.6	405.6	0.40	1016	0.5	00.0
		60	79.1	172.0	6.30	150.5	8.0	73.3	72.8	179.7	6.36	158.0	8.3	78.7	70.3	185.8	6.40	164.0	8.5	80.9
	36	80	98.8	169.3	8.10	141.7	6.1	74.3	92.6	176.9	8.17	149.1	6.3	79.4	90.2	183.0	8.23	154.9	6.5	81.4
		100								Oper	ation not	recomme	nded							
		120																		3/7/13

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

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

YAWT150 - Performance Data

Cooling Capacity

Sou	ırce			Load	Flow - 2	1 GPM					oad Flow	v - 32 GP	М				oad Flov	v - 42 GPI	М	
EST	Flow	ELT	LLT	TC	Power	HR	EER	LST	LLT	TC	Power	HR	EER	LST	LLT	TC	Power	HR	EER	LST
°F	GPM	°F	°F	MBTUH	kW	MBTUH		°F	°F	MBTUH	kW	MBTUH		°F	°F	MBTUH	kW	MBTUH		°F
		50	35.3	153.9	5.76	173.5	26.7	46.5	40.0	159.9	5.9	179.9	27.3	47.1	42.1	165.4	5.94	185.7	27.9	47.7
	21	70 90	52.3 69.3	185.8 217.7	6.22 6.69	207.0 240.5	29.8 32.6	49.7 52.9	57.9 75.9	193.1 226.3	6.3	214.7 249.5	30.5	50.4 53.8	60.5 78.9	199.8 234.1	6.42	221.7 257.6	31.1 34.0	51.1 54.5
		110	86.2	249.6	7.15	274.0	34.9	56.1	93.8	259.5	7.3	284.2	35.7	57.1	97.2	268.4	7.37	293.5	36.4	58.0
		50	34.3	164.4	5.5	183.1	30.0	41.4	39.3	171.1	5.6	190.1	30.7	41.9	41.6	177.3	5.7	196.6	31.3	42.3
		70	51.1	198.7	5.93	218.9	33.5	43.7	57.1	206.7	6.0	227.3	34.3	44.2	59.8	214.0	6.11	234.9	35.0	44.7
30	32	90	67.8	233.1	6.37	254.8	36.6	45.9	74.9	242.4	6.5	264.4	37.5	46.5	78.1	250.8	6.57	273.2	38.2	47.1
İ		110	84.5	267.4	6.8	290.7	39.3	48.2	92.6	278.0	6.9	301.6	40.2	48.8	96.3	287.6	7.0	311.5	41.0	49.5
İ		50	33.4	173.9	5.24	191.8	33.2	39.1	38.7	181.3	5.3	199.4	34.1	39.5	41.0	188.0	5.40	206.4	34.8	39.8
	42	70	50.0	210.5	5.66	229.8	37.2	40.9	56.3	219.1	5.8	238.8	38.1	41.4	59.2	227.0	5.83	246.9	38.9	41.8
	72	90	66.5	247.1	6.08	267.8	40.6	42.8	73.9	257.0	6.2	278.1	41.6	43.2	77.3	266.0	6.27	287.4	42.4	43.7
		110	83.0	283.7	6.50	305.8	43.6	44.6	91.6	294.8	6.6	317.4	44.6	45.1	95.5	305.0	6.70	327.9	45.5	45.6
		50	36.4	143.2	7.49	168.8	19.1	66.1	40.7	148.9	7.6	174.9	19.6	66.7	42.7	154.0	7.73	180.4	19.9	67.2
	21	70	53.3	175.2	8.02	202.5	21.9	69.3	58.6	182.1	8.1	209.9	22.4	70.0	61.0	188.4	8.26	216.6	22.8	70.6
		90	70.3 87.2	207.2	8.54 9.06	236.3 270.0	24.3	72.5 75.7	76.5 94.5	215.3 248.5	9.2	244.9	24.8	73.3 76.7	79.4 97.8	222.7 257.1	8.80 9.34	252.8 289.0	25.3 27.5	74.1 77.5
		50	35.5	151.8	7.2	176.2	21.2	61.0	40.1	158.0	7.3	182.8	21.7	61.4	42.2	163.7	7.4	188.8	22.2	61.8
		70	52.3	185.8	7.65	211.9	24.3	63.2	57.9	193.3	7.8	219.8	24.9	63.7	60.5	200.1	7.89	227.0	25.4	64.2
50	32	90	69.1	219.9	8.15	247.7	27.0	65.5	75.7	228.6	8.3	256.9	27.6	66.1	78.7	236.6	8.40	265.2	28.2	66.6
		110	85.8	253.9	8.6	283.4	29.4	67.7	93.5	263.9	8.8	293.9	30.0	68.4	97.0	273.0	8.9	303.4	30.6	69.0
İ		50	34.8	159.6	6.84	182.9	23.3	58.7	39.6	166.3	6.9	190.1	23.9	59.1	41.8	172.5	7.05	196.6	24.5	59.4
İ	42	70	51.4	195.5	7.32	220.5	26.7	60.5	57.3	203.5	7.4	228.9	27.4	60.9	60.0	210.8	7.54	236.6	28.0	61.3
		90	68.0	231.4	7.79	258.0	29.7	62.3	75.0	240.7	7.9	267.7	30.4	62.7	78.1	249.2	8.03	276.6	31.0	63.2
		110	84.5	267.4	8.27	295.6	32.3	64.1	92.6	277.9	8.4	306.6	33.1	64.6	96.3	287.5	8.53	316.6	33.7	65.1
		50	37.4	132.6	9.22	164.1	14.4	85.6	41.4	137.8	9.4	169.8	14.7	86.2	43.2	142.6	9.51	175.0	15.0	86.7
	21	70	54.3	164.6	9.81	198.1	16.8	88.9	59.3	171.1	10.0	205.1	17.2	89.5	61.6	177.0	10.11	211.5	17.5	90.1
		90	71.3	196.6	10.39	232.1	18.9	92.1	77.2	204.4	10.6	240.4	19.4	92.9	79.9	211.4	10.71	248.0	19.7	93.6
		110		1								recomme		21.2	10.0					212
		50	36.7	139.2	8.8	169.3	15.8	80.6	40.9	144.9	9.0	175.5	16.2	81.0	42.9	150.1	9.1	181.1	16.5	81.3
70	32	70	53.5	172.9 206.7	9.37 9.93	204.9	18.5	82.8	58.8	179.9 214.9	9.52	212.4	18.9 21.3	83.3	61.1 79.4	186.2 222.4	9.66	219.2	19.3	83.7
		90	70.3	200.7	9.93	240.5	20.8	85.0	76.6		10.09	249.3 recomme		85.6	79.4	222.4	10.23	257.3	21.7	86.1
		50	36.2	145.2	8.44	174.0	17.2	78.3	40.5	151.4	8.6	180.7	17.7	78.6	42.5	157.0	8.70	186.7	18.0	78.9
i		70	52.8	180.5	8.97	211.1	20.1	80.1	58.3	187.9	9.1	219.0	20.6	80.4	60.7	194.7	9.25	226.2	21.0	80.8
	42	90	69.4	215.8	9.51	248.2	22.7	81.8	76.0	224.5	9.7	257.4	23.2	82.3	78.9	232.3	9.80	265.8	23.7	82.7
		110								Oper	ation not	recomme	nded							
		50	38.4	122.0	10.96	159.3	11.1	105.2	42.1	126.8	11.1	164.8	11.4	105.7	43.8	131.1	11.30	169.7	11.6	106.2
	21	70	55.3	154.0	11.60	193.6	13.3	108.4	60.0	160.1	11.79	200.3	13.6	109.1	62.1	165.6	11.96	206.4	13.8	109.7
	۱ ۲۱	90	72.3	186.1	12.24	227.8	15.2	111.7	77.9	193.4	12.44	235.9	15.5	112.5	80.5	200.1	12.62	243.1	15.8	113.2
		110										recomme								
		50	37.9	126.6	10.5	162.4	12.1	100.1	41.8	131.8	10.6	168.2	12.4	100.5	43.5	136.6	10.8	173.4	12.6	100.8
90	32	70	54.8	160.0	11.09	197.9	14.4	102.4	59.6	166.5	11.27	205.0	14.8	102.8	61.8	172.4	11.43	211.4	15.1	103.2
		90	71.6	193.5	11.71	233.4	16.5	104.6	77.4	201.2	11.90	241.7	16.9	105.1	80.1	208.2	12.07	249.3	17.2	105.6
		110 50	37.5	130.9	10.04	165.1	13.0	97.9	41.5	136.4	10.2	171.3	13.4	98.2	43.3	141.5	10.35	176.8	13.7	98.4
		70	54.2	165.5	10.04	201.8	15.6	99.6	59.2	172.3	10.2	209.2	16.0	100.0	61.5	178.5	10.35	215.9	16.3	100.3
	42	90	70.9	200.2	11.22	238.5	17.8	101.4	77.0	208.2	11.40	247.1	18.3	100.0	79.7	215.5	11.57	255.0	18.6	100.3
		110	. 5.5									recomme				2.0.0		200.0	.0.0	702
		50	39.4	111.3	12.69	154.6	8.8	124.7	42.8	115.7	12.9	159.7	9.0	125.2	44.3	119.7	13.08	164.3	9.2	125.7
	24	70	56.3	143.4	13.39	189.1	10.7	128.0	60.7	149.1	13.61	195.5	11.0	128.6	62.7	154.2	13.81	201.3	11.2	129.2
	21	90																		
		110								Oper	ation not	recomme	naed							
		50	39.1	114.1	12.1	155.5	9.4	119.7	42.6	118.7	12.3	160.8	9.6	120.1	44.1	123.0	12.5	165.7	9.8	120.4
110	32	70	56.0	147.2	12.81	190.9	11.5	121.9	60.4	153.1	13.02	197.5	11.8	122.3	62.5	158.5	13.21	203.5	12.0	122.7
''		90								Oper	ation not	recomme	nded							
		110				1-0-1											10			115
		50	38.9	116.6	11.64	156.3	10.0	117.4	42.4	121.5	11.8	161.9	10.3	117.7	44.0	126.0	12.00	166.9	10.5	117.9
	42	70	55.7	150.6	12.29	192.5	12.3	119.2	60.2	156.7	12.49	199.3	12.6	119.5	62.3	162.3	12.67	205.6	12.8	119.8
		90								Oper	ation not	recomme	nded							
		110																		2/15/10

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

2/15/10

Contractor:	P.O.:	
Engineer:		
Proiect Name:	Unit Tag:	

YAWT150 - Performance Data

Heating Capacity

Sou	irce	1		Load	Flow - 21	I GPM			Load Flow - 32 GPM							Load Flow - 42 GPM					
EWT °F	Flow GPM	ELT °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	СОР	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	СОР	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	СОР	LST °F	
		60	72.6	132.7	7.7	106.4	5.0	19.9	68.4	133.8	7.6	107.9	5.2	23.3	66.4	134.7	7.4	109.3	5.3	24.8	
	32	80	92.0	126.1	11.0	88.6	3.4	21.6	88.0	127.6	10.8	90.8	3.5	24.3	86.1	128.9	10.6	92.7	3.6	25.6	
	32	100	111.4	119.6	14.3	70.9	2.5	23.2	107.6	121.4	14.0	73.6	2.5	25.4	105.9	123.0	13.7	76.1	2.6	26.4	
30		120	130.8	113.0	17.6	53.1	1.9	24.9	127.2	115.2	17.2	56.5	2.0	26.5	125.6	117.1	16.9	59.6	2.0	27.2	
30		60	72.9	135.9	7.8	109.4	5.1	19.6	68.6	137.0	7.6	111.0	5.3	23.1	66.6	138.0	7.5	112.4	5.4	24.6	
	42	80	92.3	129.2	11.1	91.5	3.4	21.3	88.2	130.7	10.9	93.6	3.5	24.1	86.3	132.0	10.7	95.6	3.6	25.4	
	72	100	111.7	122.5	14.4	73.5	2.5	23.0	107.8	124.3	14.1	76.3	2.6	25.2	106.0	126.0	13.8	78.8	2.7	26.2	
		120	131.0	115.8	17.7	55.5	1.9	24.7	127.4	118.0	17.3	58.9	2.0	26.3	125.7	120.0	17.0	62.0	2.1	27.0	
		60	75.6	163.4	8.3	135.3	5.8	37.1	70.3	164.7	8.1	137.1	6.0	41.4	67.9	165.9	8.0	138.7	6.1	43.4	
	21	80	94.9	156.0	11.2	117.8	4.1	38.8	89.9	157.8	11.0	120.3	4.2	42.5	87.6	159.4	10.8	122.6	4.3	44.2	
		100	114.2	148.6	14.1	100.4	3.1	40.4	109.4	150.8	13.9	103.5	3.2	43.5	107.3	152.8	13.6	106.4	3.3	44.9	
		120	133.4	141.2	17.1	82.9	2.4	42.1	129.0	143.9	16.7	86.8	2.5	44.6	127.0	146.3	16.4	90.3	2.6	45.7	
		60	76.0	168.0	8.3	139.6	5.9	36.7	70.6	169.3	8.2	141.4	6.1	41.2	68.1	170.5	8.0	143.1	6.2	43.2	
50	32	80	95.3	160.3	11.3	121.8	4.2	38.4	90.1	162.1	11.1	124.4	4.3	42.2	87.8	163.8	10.9	126.7	4.4	44.0	
"	02	100	114.5	152.7	14.2	104.1	3.1	40.1	109.7	155.0	14.0	107.3	3.3	43.3	107.5	157.1	13.7	110.3	3.4	44.7	
		120	133.8	145.1	17.2	86.4	2.5	41.8	129.2	147.8	16.9	90.3	2.6	44.4	127.2	150.3	16.5	93.9	2.7	45.5	
		60	76.4	172.0	8.4	143.4	6.0	36.3	70.8	173.4	8.2	145.3	6.2	40.9	68.3	174.7	8.1	147.0	6.3	43.0	
	42	80	95.6	164.2	11.4	125.5	4.2	38.1	90.4	166.1	11.2	128.0	4.4	42.0	88.0	167.8	11.0	130.4	4.5	43.8	
		100	114.9	156.4	14.4	107.5	3.2	39.8	109.9	158.8	14.1	110.8	3.3	43.1	107.7	160.9	13.8	113.8	3.4	44.6	
		120	134.2	148.6	17.3	89.5	2.5	41.5	129.5	151.4	17.0	93.5	2.6	44.2	127.3	154.0	16.7	97.1	2.7	45.4	
		60	78.8	197.8	8.9	167.5	6.5	54.0	72.5	199.3	8.7	169.6	6.7	59.4	69.6	200.8	8.6	171.5	6.9	61.8	
	21	80	98.0	189.3	11.5	150.1	4.8	55.7	92.0	191.4	11.3	153.0	5.0	60.4	89.2	193.4	11.1	155.6	5.1	62.6	
		100	117.2	180.8	14.1	132.7	3.8	57.4	111.5	183.5	13.8	136.3	3.9	61.5	108.9	186.0	13.6	139.6	4.0	63.4	
		120	136.4	172.3	16.7	115.3	3.0	59.0	131.0	175.6	16.4	119.7	3.1	62.5	128.5	178.6	16.1	123.7	3.3	64.1	
		60	79.4	203.2	8.9	172.7	6.7	53.6	72.8	204.8	8.8	174.9	6.8	59.1	69.8	206.3	8.6	176.8	7.0	61.6	
70	32	80	98.5	194.5	11.6	155.0	4.9	55.2	92.3	196.7	11.4	157.9	5.1	60.1	89.5	198.7	11.2	160.6	5.2	62.4	
		100	117.7	185.8	14.2	137.3	3.8	56.9	111.8	188.6	13.9	141.0	4.0	61.2	109.1	191.1	13.7	144.4	4.1	63.1	
		120	136.9	177.1	16.9	119.6	3.1	58.6	131.3	180.5	16.5	124.1	3.2	62.2	128.7	183.5	16.2	128.2	3.3	63.9	
		60	79.8	208.2	9.0	177.4	6.8	53.1	73.1	209.8	8.8	179.6	7.0	58.8	70.1	211.3	8.7	181.6	7.1	61.4	
	42	80	99.0	199.2	11.7	159.4	5.0	54.8	92.6	201.5	11.4	162.5	5.2	59.8	89.7	203.6	11.2	165.2	5.3	62.1	
		100	118.1	190.3	14.3	141.5	3.9	56.5	112.1	193.2	14.0	145.3	4.0	60.9	109.3	195.8	13.8	148.7	4.2	62.9	
		120	137.3	181.4	17.0	123.5	3.1	58.2	131.6	184.9	16.6	128.1	3.3	62.0	129.0	188.0	16.3	132.3	3.4	63.7	
		60	82.1	232.1	9.5	199.7	7.2	71.0	74.6	233.9	9.3	202.1	7.4	77.4	71.2	235.6	9.2	204.3	7.5	80.3	
	21	80	101.2	222.6	11.8	182.3	5.5	72.6	94.1	225.1	11.6	185.6	5.7	78.4	90.8	227.4	11.4	188.6	5.9	81.0	
		100								Oper	ation not	recomme	nded								
		120																			
		60	82.7	238.5	9.6	205.9	7.3	70.4	75.0	240.4	9.4	208.3	7.5	77.0	71.5	242.1	9.2	210.6	7.7	80.0	
90	32	80	101.8	228.7	11.9	188.2	5.6	72.1	94.5	231.3	11.7	191.5	5.8	78.0	91.1	233.6	11.5	194.6	6.0	80.7	
		100								Oper	ation not	recomme	nded								
		120																			
		60	83.3	244.3	9.6	211.4	7.4	69.9	75.4	246.2	9.5	214.0	7.6	76.6	71.8	248.0	9.3	216.3	7.8	79.7	
	42	80	102.3	234.3	12.0	193.4	5.7	71.6	94.8	236.9	11.7	196.9	5.9	77.7	91.4	239.3	11.5	200.0	6.1	80.5	
		100								Oper	ation not	recomme	nded								
		120																		0/=::	
IOTE -		B		ivide can																3/7/13	

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

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

YAWT180 - Performance Data

Cooling Capacity

Sou	rce	l		Load	Flow - 24	4 GPM					oad Flow	r - 36 GPI	М			L	oad Flow	v - 48 GPI	/	
EST	Flow	ELT	LLT	TC	Power	HR	EER	LST	LLT	TC	Power	HR	EER	LST	LLT	TC	Power	HR	EER	LST
°F	GPM	°F	°F	MBTUH	kW	MBTUH		°F	°F	MBTUH	kW	MBTUH		°F	°F	MBTUH	kW	MBTUH		°F
		50	35.5	173.5	6.83	196.8	25.4	46.4	40.0	180.0	6.9	203.7	26.0	47.0	42.2	186.6	7.04	210.6	26.5	47.5
	24	70 90	52.4 69.3	211.1	7.58 8.32	237.0 277.2	27.9	49.7 53.1	57.8 75.7	219.1 258.2	7.7 8.5	245.3 287.0	28.5 30.5	50.4 53.9	60.5 78.9	227.0 267.5	7.81 8.58	253.7 296.8	29.1 31.2	51.1 54.7
		110	86.1	286.4	9.07	317.4	31.6	56.4	93.5	297.2	9.2	328.6	32.3	57.4	97.2	308.0	9.35	339.9	32.9	58.3
		50	34.6	184.8	6.5	207.0	28.4	41.5	39.3	192.0	6.6	214.6	29.0	41.9	41.7	199.3	6.7	222.2	29.7	42.3
		70	51.2	225.2	7.23	249.9	31.1	43.9	57.0	233.9	7.3	258.9	31.8	44.4	59.9	242.5	7.46	268.0	32.5	44.9
30	36	90	67.9	265.6	7.94	292.7	33.4	46.3	74.7	275.7	8.1	303.2	34.2	46.8	78.1	285.8	8.19	313.7	34.9	47.4
		110	84.5	306.0	8.7	335.5	35.3	48.6	92.4	317.5	8.8	347.5	36.1	49.3	96.3	329.0	8.9	359.5	36.9	50.0
İ		50	33.7	196.1	6.21	217.3	31.6	39.1	38.7	204.1	6.3	225.6	32.4	39.4	41.2	212.0	6.40	233.8	33.1	39.7
	48	70	50.1	239.2	6.89	262.7	34.7	40.9	56.2	248.6	7.0	272.5	35.5	41.4	59.3	258.0	7.10	282.2	36.3	41.8
1	40	90	66.5	282.4	7.57	308.2	37.3	42.8	73.7	293.2	7.7	319.4	38.2	43.3	77.3	304.0	7.80	330.6	39.0	43.8
		110	82.9	325.5	8.25	353.6	39.5	44.7	91.2	337.8	8.4	366.3	40.3	45.3	95.4	350.0	8.50	379.0	41.2	45.8
		50	36.5	162.2	9.03	193.0	18.0	66.1	40.6	168.3	9.2	199.6	18.3	66.6	42.7	174.4	9.31	206.2	18.7	67.2
	24	70	53.7	195.9	9.83	229.5	19.9	69.1	58.7	203.3	10.0	237.4	20.4	69.8	61.2	210.7	10.14	245.3	20.8	70.4
		90	70.9 88.0	229.7 263.4	10.63	265.9 302.4	21.6	72.2 75.2	76.8 94.8	238.3	10.8 11.6	275.2 312.9	22.1	72.9 76.1	79.7 98.2	247.0 283.3	10.96 11.78	284.4 323.4	22.5	73.7 77.0
		50	35.7	171.4	8.6	200.9	19.8	61.2	40.1	178.1	8.8	208.1	20.3	61.6	42.3	184.9	8.9	215.2	20.8	62.0
		70	52.7	207.4	9.40	239.5	22.1	63.3	58.0	215.4	9.5	248.0	22.6	63.8	60.7	223.4	9.69	256.4	23.0	64.2
50	36	90	69.7	243.4	10.16	278.1	23.9	65.4	76.0	252.6	10.3	287.8	24.5	66.0	79.1	261.9	10.48	297.6	25.0	66.5
		110	86.7	279.3	10.9	316.6	25.6	67.6	93.9	289.9	11.1	327.7	26.1	68.2	97.5	300.4	11.3	338.8	26.7	68.8
i		50	34.9	180.7	8.25	208.8	21.9	58.7	39.6	188.0	8.4	216.5	22.5	59.0	41.9	195.3	8.50	224.3	23.0	59.3
	48	70	51.8	218.9	8.97	249.5	24.4	60.4	57.4	227.4	9.1	258.5	25.0	60.8	60.2	236.0	9.25	267.6	25.5	61.1
İ		90	68.6	257.1	9.70	290.2	26.5	62.1	75.2	266.9	9.9	300.5	27.1	62.5	78.5	276.8	10.00	310.9	27.7	63.0
		110	85.4	295.3	10.43	330.9	28.3	63.8	93.0	306.4	10.6	342.5	28.9	64.3	96.8	317.5	10.75	354.2	29.5	64.8
	24	50	37.4	150.9	11.24	189.2	13.4	85.8	41.3	156.6	11.4	195.5	13.7	86.3	43.2	162.3	11.59	201.8	14.0	86.8
		70	54.9	180.7	12.09	222.0	15.0	88.5	59.6	187.5	12.3	229.4	15.3	89.1	61.9	194.3	12.46	236.9	15.6	89.7
		90	72.5	210.6	12.94	254.7	16.3	91.2	77.9	218.5	13.1	263.3	16.6	91.9	80.6	226.4	13.34	271.9	17.0	92.7
		110		1.50.0								recomme		21.0	10.0					21.0
		50	36.8	158.0	10.8	194.8	14.7	80.8	40.9	164.2	10.9	201.5	15.0	81.2	42.9	170.4	11.1	208.3	15.4	81.6
70	36	70	54.2 71.6	189.6 221.2	11.57 12.39	229.1	16.4	82.7	59.1 77.2	196.9 229.6	11.75 12.58	237.0 272.5	16.8 18.3	83.2	61.5 80.1	204.2	11.93	244.9	17.1	83.6 85.6
		90	71.0	221.2	12.39	263.4	17.9	84.6	11.2			recomme		85.1	60.1	236.0	12.77	281.5	18.6	05.0
		50	36.2	165.2	10.28	200.3	16.1	78.3	40.4	171.9	10.4	207.5	16.5	78.6	42.6	178.6	10.60	214.8	16.8	78.9
		70	53.5	198.5	11.06	236.2	17.9	79.8	58.5	206.3	11.2	244.6	18.4	80.2	61.1	214.1	11.40	253.0	18.8	80.5
	48	90	70.7	231.8	11.83	272.1	19.6	81.3	76.6	240.7	12.0	281.7	20.0	81.7	79.6	249.5	12.20	291.2	20.5	82.1
		110								Oper	ation not	recomme	nded							
		50	38.4	139.6	13.44	185.5	10.4	105.5	42.0	144.8	13.7	191.4	10.6	106.0	43.7	150.1	13.86	197.4	10.8	106.4
	24	70	56.2	165.5	14.34	214.5	11.5	107.9	60.5	171.8	14.57	221.4	11.8	108.5	62.6	178.0	14.79	228.4	12.0	109.0
	24	90	74.0	191.5	15.24	243.5	12.6	110.3	79.0	198.7	15.48	251.5	12.8	111.0	81.4	205.9	15.72	259.5	13.1	111.6
		110								Oper	ation not	recomme	nded							
		50	37.9	144.7	12.9	188.6	11.2	100.5	41.6	150.3	13.1	195.0	11.5	100.8	43.5	156.0	13.3	201.3	11.7	101.2
90	36	70	55.7	171.8	13.74	218.7	12.5	102.2	60.1	178.4	13.96	226.0	12.8	102.6	62.3	185.0	14.17	233.4	13.1	103.0
		90	73.4	199.0	14.61	248.8	13.6	103.8	78.5	206.5	14.83	257.1	13.9	104.3	81.1	214.1	15.06	265.5	14.2	104.7
		110 50	37.5	149.8	12.32	191.8	12.2	98.0	41.3	155.8	12.5	recomme 198.5	12.5	98.3	43.3	161.9	12.70	205.2	12.7	98.6
		70	55.2	178.1	13.14	223.0	13.6	98.0	59.7	185.1	13.35	230.6	13.9	98.3	62.0	192.1	13.55	238.3	14.2	99.9
	48	90	72.8	206.5	13.14	254.1	14.8	100.6	78.1	214.4	14.18	262.8	15.1	100.9	80.7	222.3	14.40	271.4	15.4	101.3
		110	- 2.5		10.07			.00.0				recomme		.00.0	00					101.0
		50	39.3	128.3	15.65	181.7	8.2	125.1	42.6	133.1	15.9	187.3	8.4	125.6	44.3	137.9	16.13	193.0	8.6	126.1
	ا ۱	70	57.5	150.3	16.60	207.0	9.1	127.2	61.3	156.0	16.86	213.5	9.3	127.8	63.3	161.6	17.11	220.0	9.4	128.3
	24	90											ndod							
		110								Oper	ation not	recomme	naed							
		50	39.1	131.3	15.0	182.5	8.8	120.1	42.4	136.4	15.2	188.4	9.0	120.5	44.1	141.6	15.5	194.3	9.2	120.8
110	36	70	57.2	154.0	15.91	208.3	9.7	121.6	61.1	160.0	16.16	215.1	9.9	121.9	63.1	165.9	16.41	221.9	10.1	122.3
		90								Oper	ation not	recomme	nded							
		110																		
		50	38.8	134.3	14.36	183.3	9.4	117.6	42.2	139.8	14.6	189.5	9.6	117.9	44.0	145.2	14.80	195.7	9.8	118.2
	48	70	56.9	157.7	15.23	209.7	10.4	118.7	60.9	163.9	15.46	216.7	10.6	119.0	62.9	170.1	15.70	223.7	10.8	119.3
		90								Oper	ation not	recomme	nded							
		110																		2/15/10

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

2/15/10

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

YAWT180 - Performance Data

Heating Capacity

Sou	irce			Load	Flow - 24	4 GPM				L	oad Flov	v - 36 GPI	И			Load Flow - 48 GPM				
EWT	Flow	ELT	LLT	HC	Power	HE	СОР	LST	LLT	HC	Power	HE	COP	LST	LLT	HC	Power	HE	COP	LST
°F	GPM	°F	°F	MBTUH	kW	MBTUH		°F	°F	MBTUH	kW	MBTUH		°F	°F	MBTUH	kW	MBTUH		°F
		60	72.7	152.0	9.7	119.1	4.6	20.1	68.5	153.2	9.5	120.8	4.7	23.3	66.4	154.3	9.3	122.5	4.8	24.9
	36	80	92.0	143.7	12.6	100.6	3.3	21.6	88.1	145.2	12.4	102.9	3.4	24.3	86.1	146.8	12.2	105.2	3.5	25.6
		100	111.3	135.4	15.6	82.1	2.5	23.2	107.6	137.3	15.3	85.0	2.6	25.3	105.8	139.2	15.0	87.9	2.7	26.3
30		120	130.6	127.0	18.6	63.6	2.0	24.7	127.2	129.3	18.2	67.1	2.1	26.3	125.5	131.6	17.9	70.7	2.2	27.1
		60	73.0	155.9	9.7	122.7	4.7	19.8	68.7	157.1	9.6	124.5	4.8	23.1	66.6	158.3	9.4	126.2	4.9	24.7
	48	80	92.3	147.4	12.7	104.0	3.4	21.3	88.3	149.0	12.5	106.3	3.5	24.1	86.3	150.5	12.3	108.7	3.6	25.5
		100	111.6	138.8	15.7	85.2	2.6	22.9	107.8	140.8	15.4	88.2	2.7	25.1	105.9	142.8	15.1	91.1	2.8	26.2
		120 60	130.9	130.3	18.7	66.4	2.0	24.5 37.3	127.4	132.6	18.4	70.0 154.8	2.1	26.1	125.6 67.9	135.0	18.0	73.6	2.2	26.9
			75.6	187.3	10.1	152.8	5.4		70.5	188.8	10.0		5.6	41.4		190.2	9.8	156.8	5.7	43.5
	24	80	94.8	177.3	13.1	132.6	4.0	39.0	90.0	179.3	12.9	135.3	4.1	42.5	87.5	181.2	12.7	138.0	4.2	44.3
		100	113.9	167.4	16.1	112.3	3.0	40.6	109.4	169.7	15.8	115.8	3.1	43.6	107.2	172.1	15.5	119.2	3.3	45.0
		120	133.1	157.4	19.1	92.1	2.4	42.3	128.9	160.2	18.8	96.2	2.5	44.7	126.8	163.1	18.4	100.3	2.6	45.8
		60	76.0	192.3	10.2	157.5	5.5	36.9	70.8	193.7	10.0	159.5	5.7	41.1	68.1	195.2	9.9	161.6	5.8	43.3
50	36	80 100	95.2 114.3	182.0 171.8	13.2 16.2	136.9 116.3	4.0 3.1	38.6 40.3	90.2	184.0 174.2	13.0 15.9	139.7 119.8	4.2 3.2	42.2 43.3	87.7 107.4	185.9 176.6	12.7 15.6	142.4 123.3	4.3 3.3	44.1 44.9
		120	133.5	161.5	19.3	95.8	2.5	42.0	129.1	164.4	18.9	100.0	2.6	44.4	127.0	167.4	18.5	104.2	2.6	45.7
		60	76.4	197.2	10.3	162.1	5.6	36.5	71.0	198.7	10.9	164.2	5.8	40.9	68.3	200.2	9.9	166.3	5.9	43.1
		80	95.6	186.7	13.3	141.2	4.1	38.2	90.5	188.7	13.1	144.0	4.2	42.0	87.9	190.7	12.8	146.9	4.4	43.1
	48	100	114.7	176.2	16.4	120.3	3.2	40.0	109.9	178.7	16.1	123.9	3.3	43.1	107.5	181.2	15.8	127.4	3.4	44.7
		120	133.8	165.7	19.4	99.4	2.5	41.7	129.4	168.7	19.0	103.7	2.6	44.2	127.2	171.7	18.7	108.0	2.7	45.5
		60	78.9	226.5	10.7	190.1	6.2	54.2	72.7	228.3	10.5	192.5	6.4	59.3	69.6	230.0	10.7	194.8	6.5	61.9
		80	97.9	214.7	13.7	167.9	4.6	56.0	92.1	217.0	13.5	171.0	4.7	60.5	89.1	219.3	13.2	174.2	4.9	62.7
	24	100	116.9	202.8	16.8	145.7	3.5	57.9	111.4	205.7	16.4	149.6	3.7	61.7	108.7	208.6	16.1	153.6	3.8	63.6
		120	135.9	191.0	19.8	123.4	2.8	59.7	130.8	194.5	19.4	128.2	2.9	62.9	128.2	197.9	19.0	132.9	3.0	64.5
		60	79.4	232.5	10.8	195.8	6.3	53.7	73.0	234.3	10.6	198.2	6.5	59.0	69.8	236.0	10.4	200.6	6.7	61.6
		80	98.4	220.3	13.8	173.2	4.7	55.6	92.4	222.7	13.6	176.4	4.8	60.2	89.4	225.1	13.3	179.6	5.0	62.5
70	36	100	117.3	208.2	16.9	150.6	3.6	57.5	111.7	211.1	16.6	154.6	3.7	61.4	108.9	214.1	16.3	158.6	3.9	63.4
		120	136.3	196.0	20.0	127.9	2.9	59.3	131.1	199.6	19.6	132.8	3.0	62.6	128.5	203.1	19.2	137.7	3.1	64.3
l		60	79.9	238.5	10.8	201.5	6.5	53.2	73.3	240.3	10.6	203.9	6.6	58.7	70.1	242.1	10.5	206.4	6.8	61.4
		80	98.8	226.0	13.9	178.5	4.8	55.1	92.7	228.4	13.7	181.8	4.9	59.9	89.6	230.8	13.4	185.0	5.0	62.3
	48	100	117.8	213.5	17.0	155.5	3.7	57.0	112.0	216.6	16.7	159.6	3.8	61.1	109.1	219.6	16.4	163.7	3.9	63.2
		120	136.8	201.0	20.1	132.4	2.9	59.0	131.4	204.7	19.7	137.4	3.0	62.4	128.7	208.3	19.3	142.4	3.2	64.1
		60	82.1	265.8	11.2	227.5	6.9	71.0	74.9	267.8	11.0	230.2	7.1	77.2	71.2	269.8	10.8	232.8	7.3	80.3
		80	101.0	252.0	14.3	203.2	5.2	73.1	94.2	254.7	14.0	206.8	5.3	78.5	90.7	257.5	13.8	210.4	5.5	81.2
	24	100					V		¥											
i i		120								Oper	ation not	recomme	nded							
		60	82.7	272.7	11.3	234.2	7.1	70.5	75.3	274.8	11.1	236.9	7.3	76.8	71.5	276.9	10.9	239.6	7.4	80.0
		80	101.6	258.7	14.4	209.5	5.3	72.5	94.5	261.4	14.2	213.2	5.4	78.2	91.0	264.2	13.9	216.8	5.6	81.0
90	36	100								-										
		120								Oper	ation not	recomme	nded							
		60	83.3	279.7	11.4	240.9	7.2	69.9	75.7	281.9	11.2	243.7	7.4	76.5	71.8	284.0	11.0	246.5	7.6	79.7
		80	102.1	265.3	14.5	215.7	5.4	72.0	94.9	268.2	14.3	219.5	5.5	77.8	91.3	271.0	14.0	223.2	5.7	80.7
	48	100																		
		120								Oper	ation not	recomme	nded							
120															3/7/13					

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

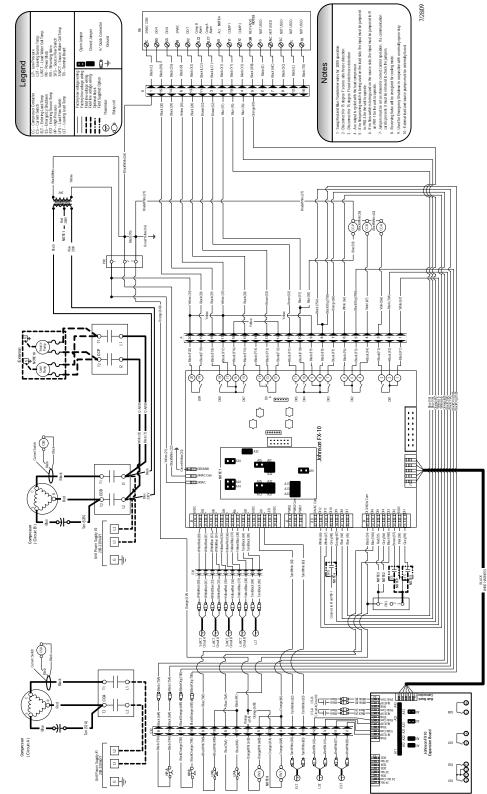
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Contractor:	P.O.:
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Wiring Schematics

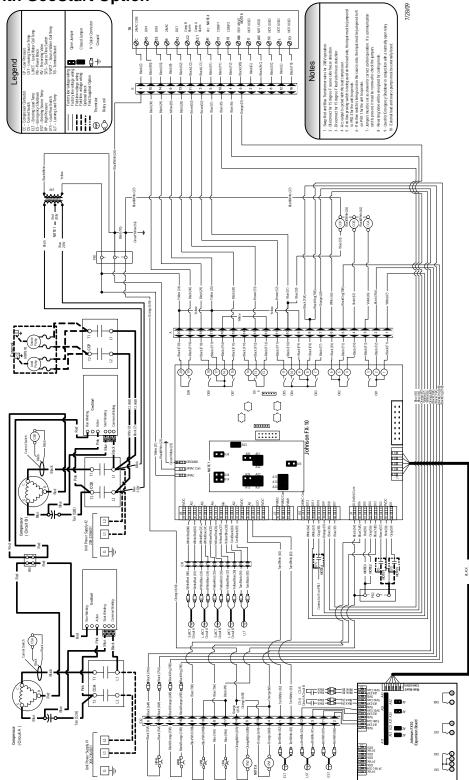
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Engineer:	
Project Name:	Unit Tag:

Wiring Schematics cont.

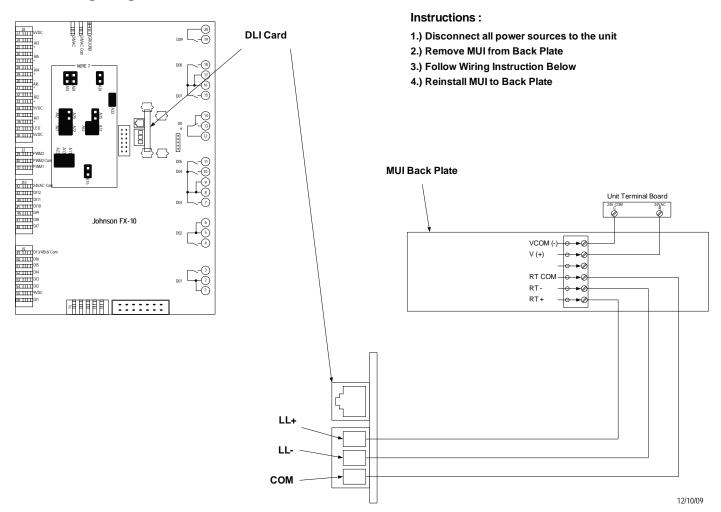
208-230/60/1 with GeoStart Option



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

Wiring Schematics cont.

MUI Wiring Diagram



Contractor:	P.O.:	
Engineer:		
Proiect Name:	Unit Tag:	

Engineering Guide Specifications

General

The liquid source 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 water-to-water heat pump unit 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 30°F [-1.1°C] and 90°F [32.2°C] in heating.

Casing and Cabinet

The cabinet shall be fabricated from heavy-gauge galvanized steel and finished with corrosion-resistant powder coating. This corrosion protection system shall meet the stringent 1,000 hour salt spray test per ASTM B117. The interior shall be insulated with 1/2″ thick, multi-density, coated glass fiber for noise suppression.

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. The control box shall be field switchable from front to back for improved application flexibility with quick attach low voltage harnesses. The control box is shipped standard on the opposite end of the water connections.

Refrigerant Circuit

All units shall contain two (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 scroll types 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, 316 stainless plate steel, capable of withstanding 650 psig [4489 kPa] working pressure on the refrigerant side and 450 psig [3108 kPa] on the water side. The thermal expansion valve assembly shall provide proper superheat over the liquid temperature range with minimal "hunting." The assembly shall operate bidirectionally without the use of check valves. Externally mounted pressure controlled water regulating flow valves are not acceptable.

Piping and Connections

Supply and return water connections shall be 2 in. [50.8 mm] FPT copper fittings fixed to the cabinet by use of a captive fitting, which eliminates the need for backup pipe wrenches.

Optional Back/Top Mount Water Connections - shall be factory installed to the back corner post or top panel by use of a captive fitting, which eliminates the need for backup pipe wrenches.



WARNING: Warranty is void if strainers are not used on the entering side of the load and source.

Electrical

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

Optional GeoStart (Compressor Soft Starter) - shall be factory installed for use in applications that require low starting amps, reduced compressor start-up noise, off-grid, and improved start-up behavior. GeoStart shall reduce normal starting current by 60% on 208/60/1 units.

Microprocessor Control

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

- 1. Anti-short cycle time delay on compressor operation, time delay shall be a minimum of 3 minutes
- 2. Random start on power up mode
- 3. Low voltage protection
- 4. High voltage protection
- 5. Unit shutdown on high or low refrigerant pressures
- 6. Unit shutdown for low water temperature
- Source and Load heat exchanger low water temperature cutout selectable for water or anti-freeze
- 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.)

Affinity Dual-Capacity Hydronic Serie	95
8 - 15 Tons 60H	łz

Contractor:	P.O.:	
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Engineering Guide Specifications cont.

- 9. A 4 x 20 digit backlit LCD to display the following:
 - a. Entering and leaving water temperatures
 - High pressure, low pressure, low voltage, high voltage, low water temperature cutout, and control status
- 10. The low pressure shall not be monitored for the first 120 seconds after a compressor start command to prevent nuisance safety trips.
- 11. Remote fault indication on the thermostat
- 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 Flow Proving Switch

P/N - FPS300

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

Strainer Connection Kit

P/N - CKNDW1

A strainer connection kit shall be available and includes a 2 in. [50.8 mm] Y-strainer with self-aligning screen and 1 in. [25.4 mm] blow-off port to reduce debris that will enter the heat exchanger. Strainers should be made of a brass body with a 316 stainless steel screen. Connection kit shall also include a 2 in. [50.8 mm] wrought copper tee with integral pressure/temperature port.

Strainer Hose Kit Set

P/N - HHK162S

A strainer hose kit set shall be available and includes a 2 in. strainer loaded with 20-40 mesh screen and blow down valve, 2 in. stainless steel braid hose, 2 in. ball valve with integral pressure/temperature port and a JIC swivel fitting on the supply and 2 in. stainless steel braid hose and 2 in. ball valve with integral pressure/temperature port and a JIC swivel fitting on the return hose. The hose kit assembly shall be pressure rated at 300 psi working pressure.

NOTE: A strainer kit is required on both sides to reduce heat exchanger fouling and potential damage.

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Revision Guide

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