TruClimate 100

COMMERCIAL 60 HZ

Water-to-Water Heat Pump
10-50 Tons

Commercial Solutions

Submittal Data
English Language/IP Units
SD2502WNB 03/24

Contractor:________________________ P.O.: ______________

Engineer:____

Project Name:__________________ Unit Tag: ______________

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Model Nomenclature

1-3	4-6	7	8	9	10	11	12	13	14-15	16
NXW	360	R	4	A	E	B	N	N	SS	*

Model Type
NXW – Envision² Series Reversible Chiller

Unit Capacity (MBTUH)
120
180
240
360
600 (Note 1)

Operation
R – Reversible
D – Potable Water Condenser – Heating Only (Note 3)

Voltage Option
3 – 208-230/60/3
4 – 460/60/3
5 – 575/60/3
8 – 380/60/3

Electrical Option
A – Non-fused Disconnect
C – Fused Disconnect

Chassis
E – Enclosed

HydroLink2 Aurora Control Option
B – Standard BACnet (Note 2)

Future
N – None

Future
N - None

Non-Standard Options
SS – Standard

Vintage
* - Factory Use Only

Rev.: 11/20/19

Notes:
1. NXW600 is not available in 208-230/60/3 option.
2. Standard controls option includes BACnet and standalone control.
3. Potable Water units are only available with unit capacity of 120, 180, 240 and 360 MBTUH.

Voltage Availability

Voltage	Model				
	120	180	240	360	600
208-230/60/3	•	•	•	•	N/A
460/60/3	••	••	••	•	•
575/60/3	•	•	•	•	•
380/60/3	••	N/A	N/A	•	•

02/19

Legend:
NA = Not Available
• = Voltage available in this size

C LISTED US
Intertek

All TruClimate 100 NXW Series product is Safety listed under UL1995 thru ETL and performance tested in accordance with standard AHRI/ISO 13256-2.

Contractor: ____________________ P.O.: ____________

Engineer: ________________________________

Project Name: ______________ Unit Tag: ____________

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HydroLink2 Supervisory Control Box Nomenclature

1-3	4	5	6	7	8	9-10	11
HSC	1	A	1	T	F	SS	B

Family
HSC – HydroLink Supervisory Control

Chiller Module
N - NXW – Compact Scroll
D- WCH – Dual Scroll Modular Chiller
S - WCHVE – VS Dual Screw Chiller

Header Rack
A - No Header
B - 4 Pipe Standard (Dedicated Chiller)
C - 4 Pipe Reversing (Dedicated Chiller)
D - 6 Pipe Dedicated (Reversible Chiller)
E - 6 Pipe Standard (Dedicated Chiller)
F - 4 Pipe Standard (Reversible Chiller)

Hydrolink Control
1 – Standard – BACNet

Vintage
B – Current

Non-Standard Option Details
SS – Standard Option

Future
F – Future

Number of Modules
A – 2 modules
B – 3 modules
C – 4 modules
D – 5 modules

Contractor: ______________________ P.O.: ______________

Engineer: ____

Project Name: ________________ Unit Tag: ______________

TruClimate 100
10-50 Ton 60Hz

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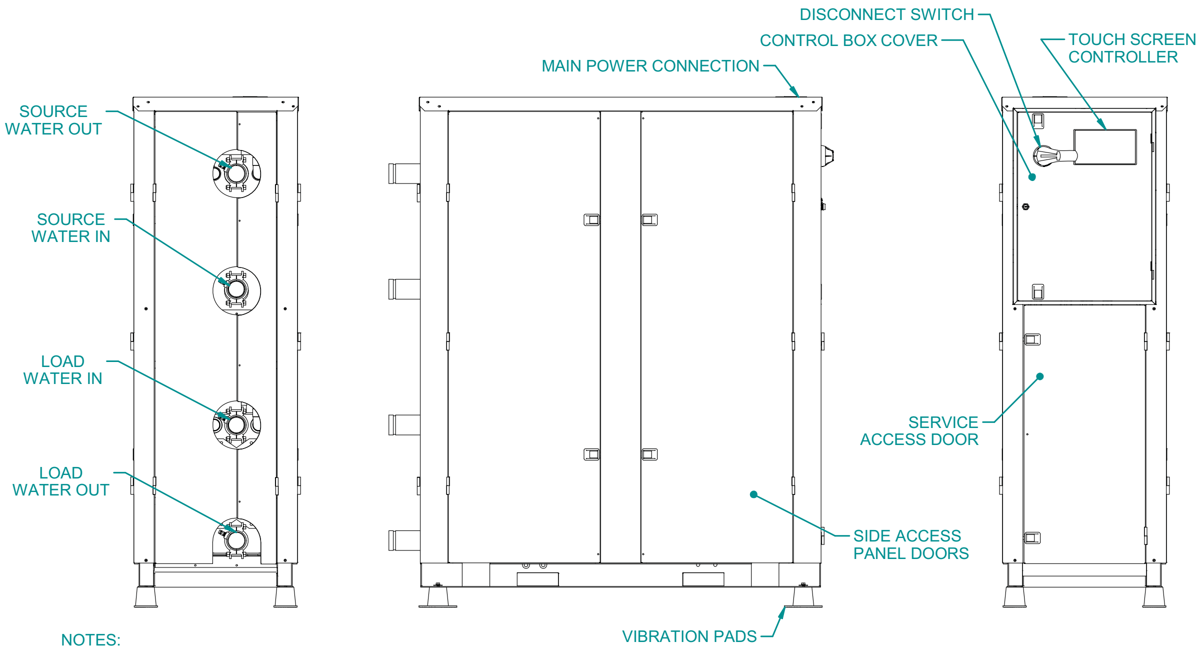
AHRI/ASHRAE/ISO 13256-2 Water-to-Water Ratings

English (IP) Units

Model	Capacity Modulation	Flow Rate		Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
				Cooling EST 86°F ELT 53.6°F		Heating EST 68°F ELT 104°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	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
120	Full	40	40	145,400	16.0	189,000	4.5	161,400	22.5	157,200	3.8	147,700	17.3	118,800	3.0
	Part	40	40	79,300	17.4	101,500	5.1	84,400	24.1	84,600	4.4	82,900	22.2	69,800	3.3
180	Full	60	60	201,300	15.9	263,700	4.6	225,100	21.5	217,000	3.9	208,300	17.2	173,400	3.2
	Part	60	60	105,500	17.0	138,700	5.0	177,700	23.0	112,600	4.2	115,400	20.5	100,900	3.5
240	Full	80	80	265,700	16.0	347,500	4.7	306,900	23.4	280,600	3.9	275,300	17.9	219,400	3.3
	Part	80	80	140,100	16.7	182,100	5.0	163,600	24.6	141,400	4.2	150,000	21.6	115,800	3.5
360	Full	120	120	394,700	16.0	487,600	4.3	452,300	22.1	420,300	4.0	410,200	17.5	339,300	3.3
	Part	120	120	206,000	16.9	256,000	4.6	241,100	23.2	214,400	4.3	223,200	21.2	183,500	3.7
600	Full	200	200	602,000	15.2	798,000	4.3	756,000	19.9	622,000	4.0	633,000	16.5	533,100	3.4
	Part	200	200	313,300	16.1	419,000	4.6	407,000	20.9	318,000	4.3	376,000	19.6	303,900	3.7

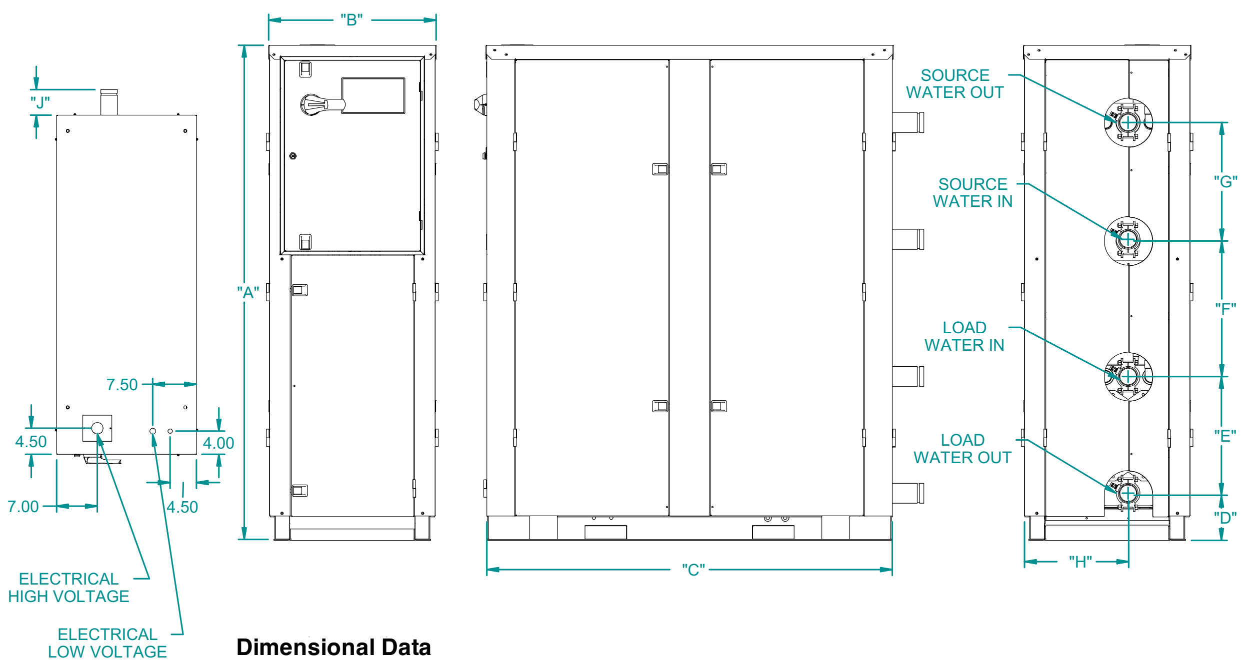
3/5/14

Physical Dimensions (Reversible only)



NOTES:

1. DO NOT SCALE DRAWING.
2. RECOMMENDED TO HAVE 24" CLEARANCE ON ALL SIDES.



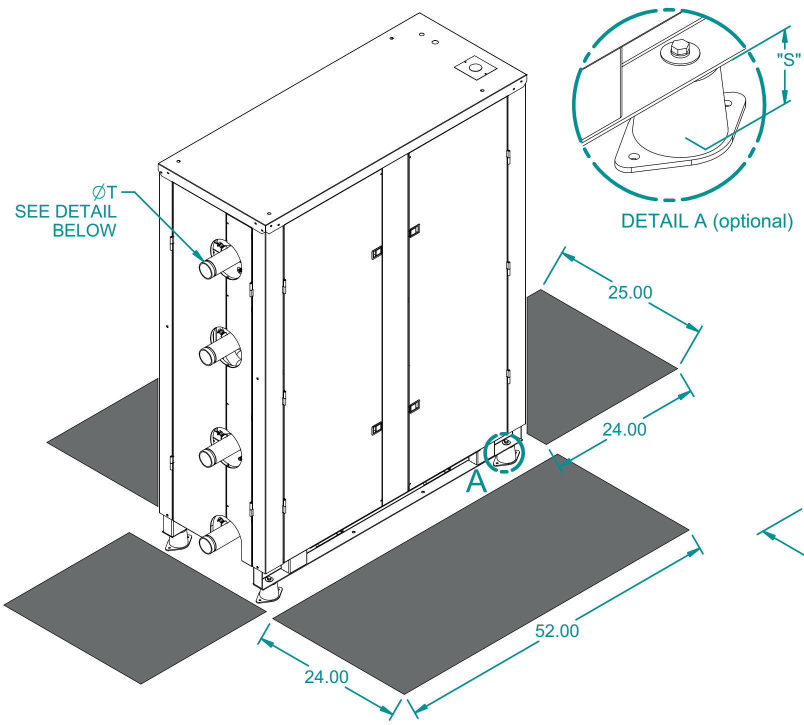
Dimensional Data

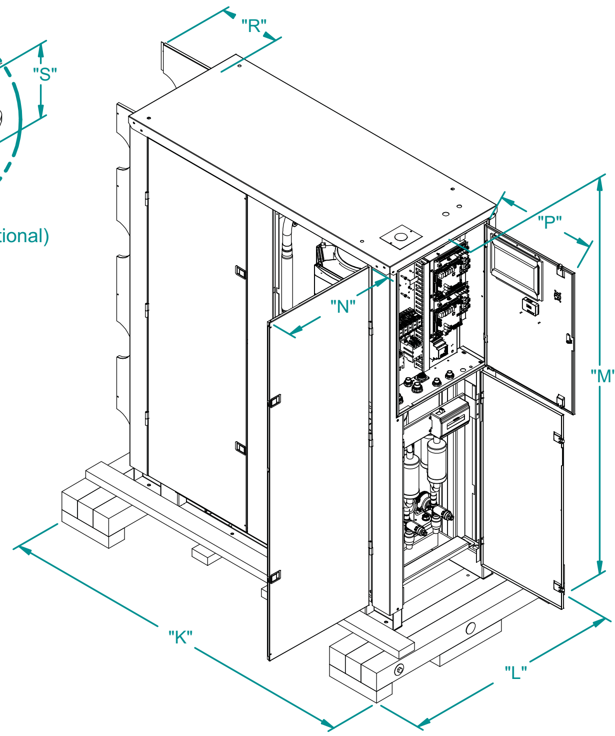
Dimensional Data for unit with enclosure

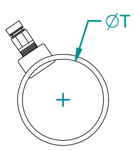
Model	A	B	C	D	E	F	G	H	J
120-180	57.3	24.1	42.5	5.0	17.0	8.8	17.0	11.9	5.8
	[1455]	[612]	[1080]	[127]	[432]	[224]	[432]	[302]	[147]
240-360	64.2	24.1	50.5	6.9	17.0	13.9	17.0	12.1	4.8
	[1631]	[612]	[1283]	[175]	[432]	[353]	[432]	[307]	[122]
600	71.1	24.1	58.5	6.5	17.0	19.5	17.0	15.0	4.4
	[1806]	[610]	[1486]	[165]	[432]	[495]	[432]	[381]	[112]

All dimensions in inches, [mm]

Physical Dimensions (Reversible only) cont.







Dimensional Data

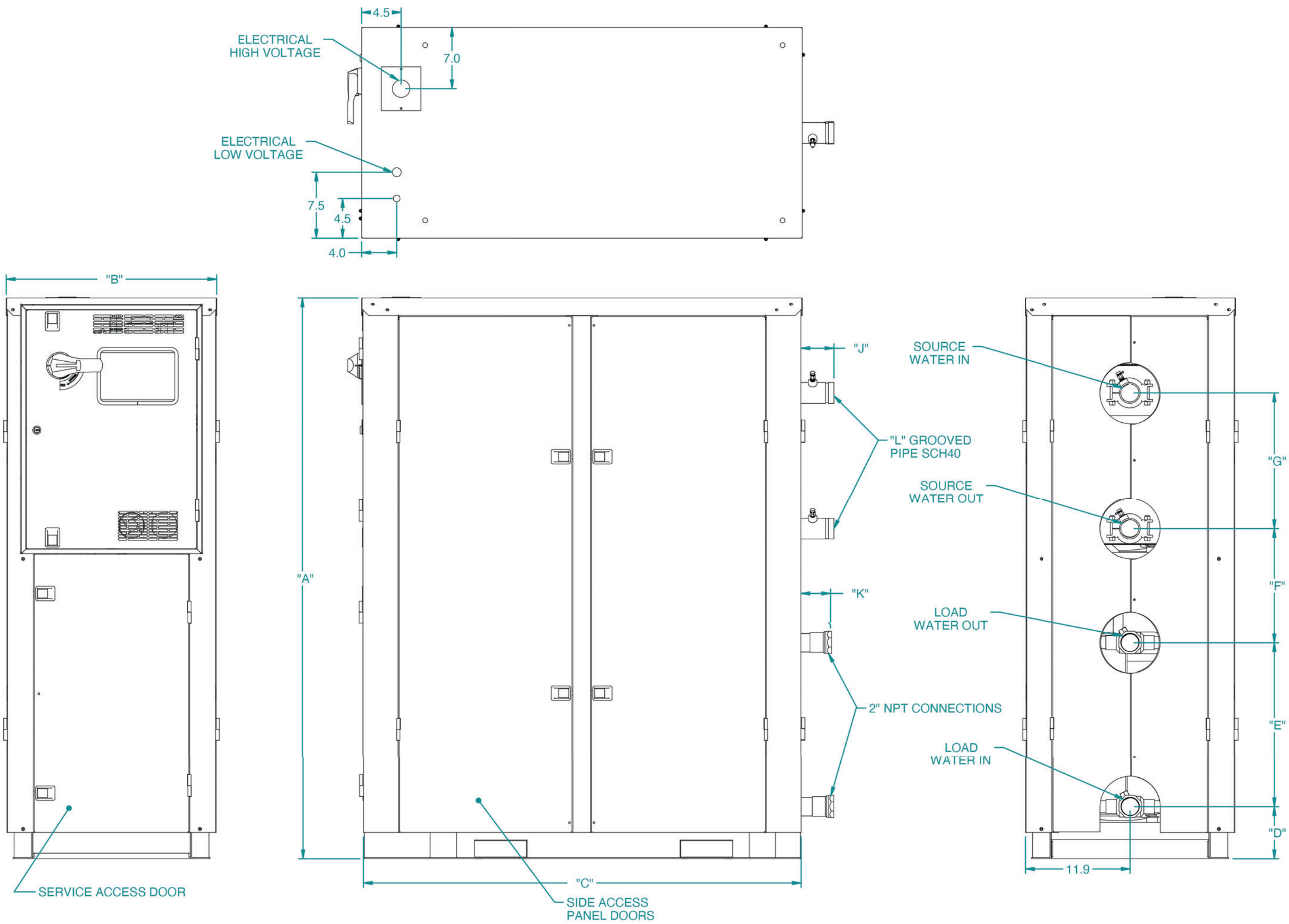
Dimensional Data for unit with enclosure

Model	K	L	M	N	P	R	S	*T
120-180	57.0 [1448]	42.0 [1067]	63.1 [1603]	15.9 [404]	19.5 [495]	9.7 [246]	1.3 [33]	2.0 [51]
240-360	65.0 [1651]	42.0 [1067]	69.9 [1775]	19.9 [505]	19.5 [495]	9.7 [246]	1.8 [46]	2.0 [51]
600	70.0 [1778]	42.0 [1067]	76.8 [1951]	22.0 [559]	19.5 [495]	12.7 [323]	1.8 [46]	2.5 [64]

All dimensions in inches, [mm]

*T - Units shipped with groove pipe connection

Physical Dimensions (Potable Water Option) cont.



Dimensional Data

Dimensional Data for unit with enclosure

Model	A	B	C	D	E	F	G	H	J	K	L
120-180	57.3 [1455]	24.1 [612]	42.5 [1080]	6.2 [157]	13.0 [330]	11.9 [302]	15.4 [391]	11.9 [302]	5.3 [135]	5.9 [150]	2.0 [51]
240-360	64.2 [1630]	24.1 [612]	50.5 [1283]	6.0 [152]	18.8 [478]	13.0 [330]	15.6 [396]	11.9 [302]	4.8 [122]	4.8 [122]	2.0 [51]

All dimensions in inches, [mm]

Contractor: ______________________ P.O.: ______________

Engineer: ____________________________________

Project Name: ________________ Unit Tag: ______________

TruClimate 100
10-50 Ton 60Hz

WaterFurnace
Commercial Solutions

Vibration Isolators

Rubber Isolators

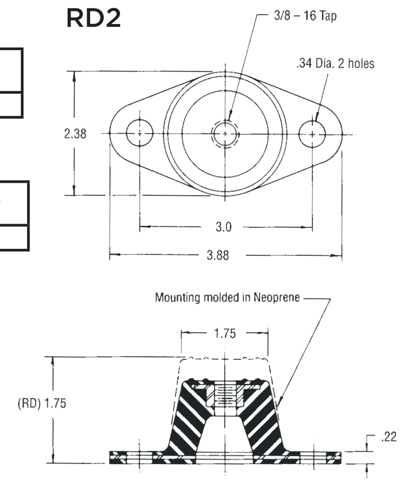
Part Number	Type	Color Code	Max Load, lbs	Deflection, in	Qty
99S502-01	RD2	Green	380	0.50	4

• Compatible with NXW120-180

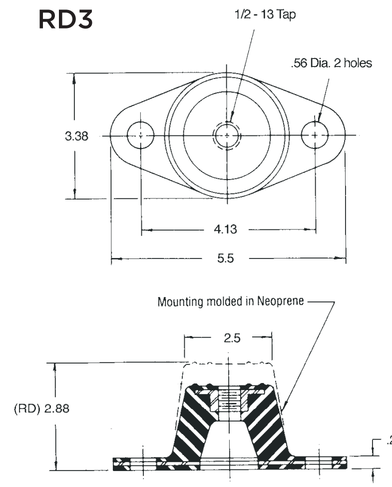
Part Number	Type	Color Code	Max Load, lbs	Deflection, in	Qty
99S502-02	RD3	Green	750	0.50	4

• Compatible with NXW240-600

RD2



RD3



Spring Isolators

Number	Compatible With	Spring Color	Rated Capacity	Rated Deflection	Isolator Constant	Adjustment Bolt	Qty
IS-340-01	120-180	Red	340 lbs	1.13"	300 lbs/in	1/2 x 3.5	4
IS-900-01	240-600	DK Green	900 lbs	1.02"	881 lbs/in	1/2 x 3.5	4

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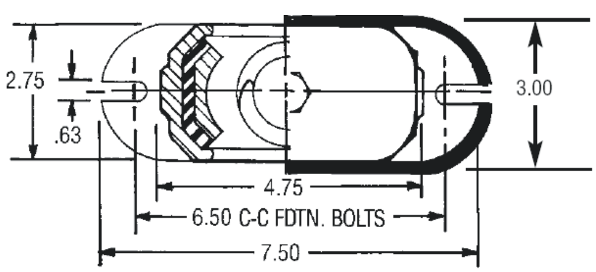

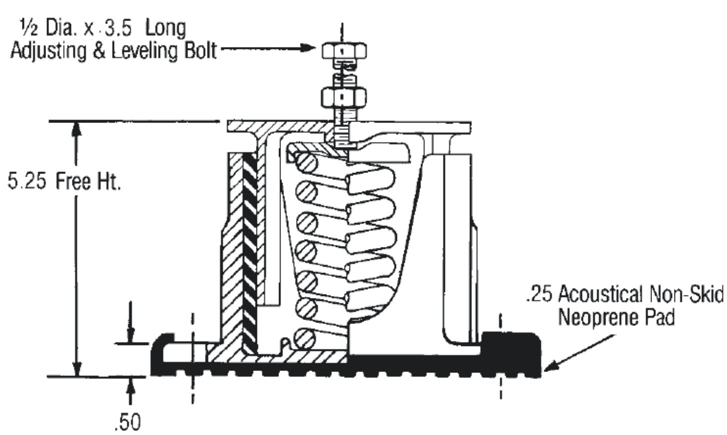

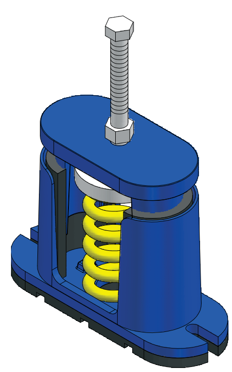

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Physical Data

TruClimate 100 Reversible Chiller

Model	Compressor	Refrigerant Charge*	Total Weight	
			Shipping	Installed
120	Scroll (2)	5.3	720	710
		[2.4]	[327]	[323]
180	Scroll (2)	7.8	838	844
		[3.5]	[381]	[384]
240	Scroll (2)	10.5	1130	1152
		[4.8]	[514]	[524]
360	Scroll (2)	17.9	1320	1388
		[8.1]	[600]	[631]
600	Scroll (2)	18.4	1748	1850
		[8.3]	[795]	[841]

Weights shown in Pounds, [kg] 1/17/2024

* Refrigerant per circuit in Pounds, [kg]
Add 32 lbs [15 kg] for fluid weight when full. (120)
Add 48 lbs [22 kg] for fluid weight when full. (180)
Add 64 lbs [29 kg] for fluid weight when full. (240)
Add 110 lbs [50 kg] for fluid weight when full. (360)
Add 144 lbs [65 kg] for fluid weight when full. (600)

TruClimate 100 Potable Water

Model	Compressor	Refrigerant Charge*	Total Weight	
			Shipping	Installed
120	Scroll (2)	5.3	690	680
		[2.4]	[313]	[308]
180	Scroll (2)	6.2	820	810
		[2.8]	[372]	[367]
240	Scroll (2)	8.3	1105	1100
		[3.8]	[501]	[499]
360	Scroll (2)	9.0	1290	1275
		[4.1]	[585]	[578]

Weights shown in Pounds, [kg] 03/18/2024

Contractor: ______________________ P.O.: ______________

Engineer: ____________________________________

Project Name: ________________ Unit Tag: ______________

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Electrical Data

Model	Rated Voltage	Voltage Min/Max	Compressor[1]			Total Unit FLA	Min Circ Amp	Min Fuse/ HACR	Max Fuse/ HACR[2]
			MCC	RLA	LRA				
120	208-230/60/3	187/253	36.0	23.1	160.0	46.2	52.0	60.0	70
	460/60/3	414/506	19.0	12.2	87.0	24.4	27.5	30.0	35
	575/60/3	517/633	13.5	8.7	62.0	17.4	19.6	20.0	25
	380/60/3	342/418	19.0	12.2	95.0	24.4	27.5	30.0	35
180	208-230/60/3	187/253	45.0	28.8	235.0	57.6	64.8	70.0	90
	460/60/3	414/506	19.0	12.2	110.0	24.4	27.5	30.0	35
	575/60/3	517/633	16.5	10.9	95.0	21.8	24.5	25.0	35
240	208-230/60/3	187/253	52.2	35.2	250.0	70.4	79.2	80.0	110
	460/60/3	414/506	27.0	19.2	140.0	38.4	43.2	45.0	60
	575/60/3	517/633	19.1	14.5	100.0	29.0	32.6	35.0	45
360	208-230/60/3	187/253	75.0	48.1	351.0	96.2	108.2	110.0	150
	460/60/3	414/506	38.6	24.7	197.0	49.4	55.6	60.0	80
	575/60/3	517/633	35.0	22.4	135.0	44.8	50.4	60.0	70
	380/60/3	342/418	51.0	32.7	239.0	65.4	73.6	80.0	100
600	460/60/3	414/506	62.0	39.7	260.0	79.4	89.3	100.0	125
	575/60/3	517/633	45.0	28.8	210.0	57.6	64.8	70.0	90
	380/60/3	342/418	72.0	46.2	310.0	92.4	104.0	110.0	150

HACR circuit breaker in USA only 2/4/19

[1] - MCC, RLA, & LRA rating per compressor. Breaker & FLA sized for both compressors.

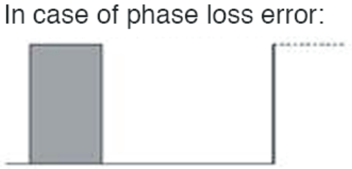
[2] - Equipment supplied with Class J fuses per minimum fuse size.

Compressor Protection Module

An electronic protection module is provided with compressors utilized in model size 600. This module will protect against phase reversal and phase loss at start-up. Protection is active for 5 seconds after the first second of compressor operation. In the event that either phase sequencing or phase loss has occurred the following blink sequence will display on the module.

In case of phase reverse error:

In case of phase loss error:



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 and Notes

Abbreviations and Definitions

ELT = entering load fluid temperature to heat pump
LLT = leaving load fluid temperature from heat pump
LGPM = load flow in gallons per minute
LWPD = load heat exchanger water pressure drop
EST = entering source fluid temperature to heat pump
LST = leaving source fluid temperature from heat pump
SGPM = source flow in gallons per minute
SWPD = source heat exchanger water pressure drop
EER = cooling energy effciency (TC/KW)

PSI = pressure drop in pounds per square inch
FT HD = pressure drop in feet of head
KW = kilowatt
HR = heat rejected in MBTUH
TC = total cooling capacity in MBTUH
COP = coefficient of performance (HC/KW x 3.413)
HC = heating capacity in MBTUH
HE = heat of extraction in MBTUH

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 50°F 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 40°F assumes 15% antifreeze solution.
- Interpolation between ELT, EST, and GPM data is permissible.
- Operation in the gray areas is not recommended.

Contractor: ______________ P.O.: ______________

Engineer: ______________

Project Name: ______________ Unit Tag: ______________

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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 - °F [°C]		**90 [32.2]**	**30 [-1.1]**	**50 [10]**	**90 [32.2]**	**30 [-1.1]**
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.

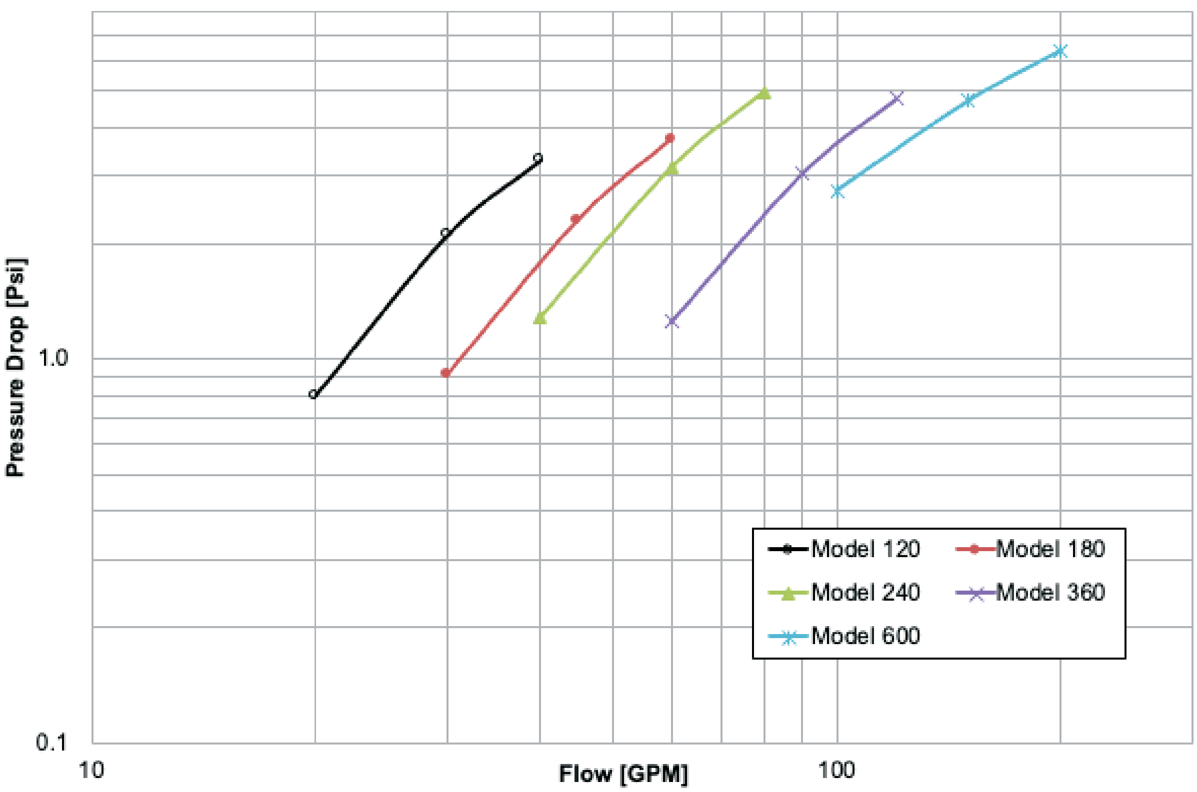
Pressure Drop

Reversible Chiller (Source and Load)

Model	GPM	Pressure Drop (psi)				
		30°F	50°F	70°F	90°F	110°F
120	20	0.8	0.7	0.6	0.6	0.5
	30	2.1	1.9	1.8	1.7	1.5
	40	3.3	3.1	2.9	2.8	2.5
180	30	0.9	0.8	0.7	0.7	0.6
	45	2.3	2.2	2.0	2.0	1.8
	60	3.7	3.5	3.3	3.2	2.9
240	40	1.3	1.2	1.1	1.1	1.0
	60	3.2	3.0	2.9	2.8	2.6
	80	5.0	4.7	4.6	4.4	4.2
360	60	1.3	1.2	1.1	1.0	0.9
	90	3.1	2.9	2.8	2.7	2.4
	120	4.8	4.6	4.4	4.3	3.9
600	100	2.8	2.5	2.4	2.2	2.0
	150	4.7	4.5	4.4	4.0	3.9
	200	6.4	6.2	6.1	5.7	5.6

11/8/2019

Reversible Chiller
Water Pressure Drop vs. Flow at 30˚F

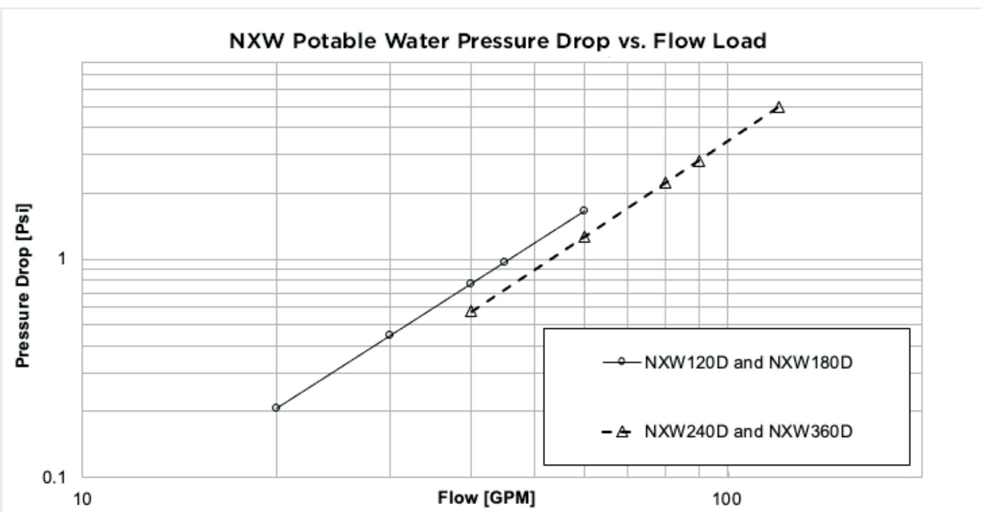


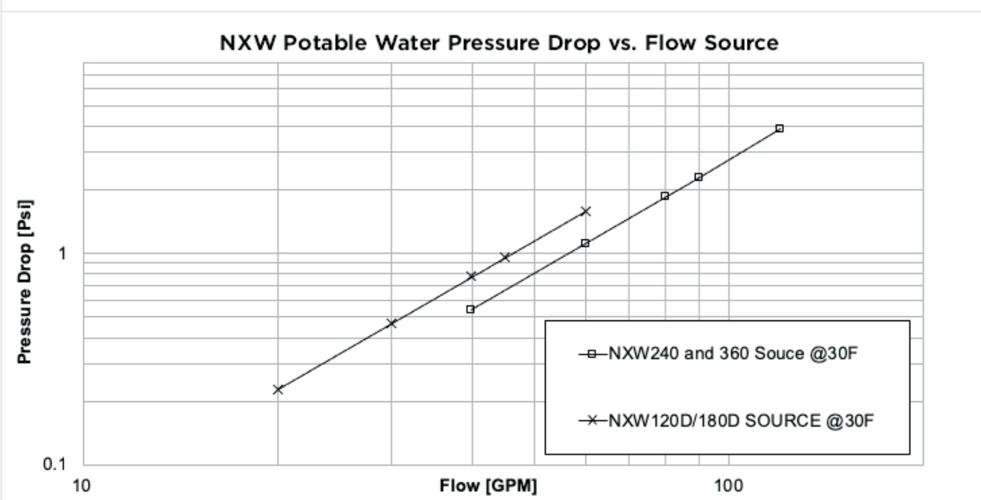
Pressure Drop

TruClimate 100 Potable Water Pressure Drop

Model	GPM	Load Pressure Drop (psi)			Source Pressure Drop (psi)		
		100°F	110°F	120°F	30°F	50°F	70°F
120	20	0.20	0.18	0.18	0.23	0.21	0.20
	30	0.43	0.41	0.40	0.47	0.43	0.40
	40	0.75	0.70	0.71	0.78	0.71	0.67
180	30	0.44	0.44	0.43	0.47	0.43	0.40
	45	0.96	0.95	0.94	0.95	0.88	0.82
	60	1.66	1.64	1.62	1.59	1.47	1.42
240	40	0.58	0.57	0.57	0.54	0.50	0.47
	60	1.27	1.26	1.26	1.11	1.02	0.97
	80	2.24	2.23	2.22	1.85	1.73	1.68
360	60	1.27	1.26	1.26	1.11	1.02	0.97
	90	2.82	2.81	2.80	2.28	2.17	2.10
	120	4.99	4.97	4.96	3.87	3.74	3.63

11/8/2019





Contractor: ______________________ P.O.: ______________

Engineer: ______________________________________

Project Name: ____________________ Unit Tag: ______________

WaterFurnace
Commercial Solutions

120 Performance Data

Heating *(TruClimate 100 Reversible and Potable Water)*

Source		ELT	Load Flow - 20 GPM						Load Flow - 30 GPM						Load Flow - 40 GPM					
EST °F	Flow GPM	°F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F
30	30	60	72.8	128.3	7.1	104.0	5.3	23.1	68.6	128.8	6.9	105.3	5.5	23.0	66.5	129.3	6.7	106.5	5.7	22.9
		80	92.3	122.6	9.6	89.8	3.7	24.0	88.2	123.4	9.3	91.6	3.9	23.9	86.2	124.2	9.0	93.4	4.0	23.8
		100	111.7	117.0	12.1	75.6	2.8	25.0	107.9	118.0	11.8	77.9	2.9	24.8	106.0	119.1	11.4	80.3	3.1	24.6
		120	131.1	111.3	14.6	61.4	2.2	25.9	127.5	112.6	14.2	64.3	2.3	25.7	125.7	114.0	13.7	67.2	2.4	25.5
	40	60	73.3	133.0	7.2	108.6	5.4	24.6	68.9	133.5	6.9	109.8	5.6	24.5	66.7	134.0	6.7	111.0	5.8	24.4
		80	92.6	126.3	9.7	93.4	3.8	25.3	88.5	127.2	9.4	95.3	4.0	25.2	86.4	128.2	9.1	97.3	4.1	25.1
		100	112.0	119.6	12.1	78.2	2.9	26.1	108.1	121.0	11.8	80.9	3.0	26.0	106.1	122.3	11.4	83.5	3.2	25.8
		120	131.3	113.0	14.6	63.0	2.3	26.8	127.6	114.7	14.2	66.4	2.4	26.7	125.8	116.4	13.7	69.7	2.5	26.5
50	20	60	76.2	162.2	7.6	136.5	6.3	36.4	70.9	163.3	7.3	138.4	6.6	36.2	68.2	164.3	7.0	140.4	6.9	36.0
		80	95.5	154.5	10.0	120.3	4.5	38.0	90.4	155.8	9.7	122.9	4.7	37.7	87.9	157.1	9.3	125.4	5.0	37.5
		100	114.7	146.9	12.5	104.2	3.4	39.6	109.9	148.4	12.0	107.3	3.6	39.3	107.5	150.0	11.6	110.4	3.8	39.0
		120	133.9	139.2	15.0	88.0	2.7	41.2	129.4	141.0	14.4	91.7	2.9	40.8	127.1	142.8	13.9	95.4	3.0	40.5
	30	60	77.0	169.7	7.6	143.6	6.5	40.4	71.4	170.9	7.4	145.8	6.8	40.3	68.6	172.2	7.1	148.0	7.1	40.1
		80	96.1	160.6	10.1	126.2	4.7	41.6	90.8	162.2	9.7	129.1	4.9	41.4	88.2	163.9	9.3	132.0	5.1	41.2
		100	115.2	151.6	12.5	108.8	3.5	42.7	110.2	153.6	12.1	112.4	3.7	42.5	107.8	155.6	11.6	115.9	3.9	42.3
		120	134.2	142.5	15.0	91.3	2.8	43.9	129.7	144.9	14.4	95.6	2.9	43.6	127.4	147.3	13.9	99.9	3.1	43.3
	40	60	77.7	177.2	7.7	150.8	6.7	42.5	71.9	178.6	7.5	153.2	7.0	42.3	69.0	180.0	7.2	155.5	7.4	42.2
		80	96.7	166.7	10.1	132.1	4.8	43.4	91.2	168.6	9.8	135.3	5.1	43.2	88.5	170.6	9.4	138.5	5.3	43.1
		100	115.6	156.2	12.6	113.4	3.6	44.3	110.6	158.7	12.1	117.4	3.8	44.1	108.1	161.2	11.6	121.5	4.1	43.9
		120	134.6	145.8	15.0	94.6	2.9	45.3	129.9	148.8	14.4	99.5	3.0	45.0	127.6	151.7	13.9	104.4	3.2	44.8
70	20	60	80.1	200.8	8.0	173.4	7.3	52.7	73.5	202.4	7.7	176.1	7.7	52.4	70.2	204.0	7.4	178.8	8.1	52.1
		80	99.0	190.1	10.5	154.4	5.3	54.6	92.8	192.1	10.0	157.8	5.6	54.2	89.7	194.0	9.6	161.3	5.9	53.9
		100	117.9	179.4	12.9	135.4	4.1	56.5	112.1	181.7	12.4	139.6	4.3	56.0	109.2	184.0	11.8	143.8	4.6	55.6
		120	136.9	168.7	15.3	116.4	3.2	58.4	131.4	171.4	14.7	121.3	3.4	57.9	128.7	174.1	14.0	126.2	3.6	57.4
	30	60	81.1	211.1	8.2	183.2	7.6	57.8	74.2	213.0	7.8	186.3	8.0	57.6	70.7	215.0	7.5	189.5	8.4	57.4
		80	99.9	198.6	10.6	162.6	5.5	59.2	93.4	201.1	10.1	166.6	5.8	58.9	90.2	203.5	9.7	170.5	6.2	58.6
		100	118.6	186.1	12.9	141.9	4.2	60.5	112.6	189.1	12.4	146.8	4.5	60.2	109.6	192.0	11.8	151.6	4.8	59.9
		120	137.4	173.6	15.3	121.3	3.3	61.9	131.8	177.1	14.7	127.0	3.5	61.5	129.0	180.6	14.0	132.7	3.8	61.2
	40	60	82.1	221.4	8.3	193.0	7.8	60.3	74.9	223.7	8.0	196.6	8.2	60.2	71.3	226.0	7.6	200.1	8.7	60.0
		80	100.7	207.1	10.6	170.8	5.7	61.5	94.0	210.1	10.2	175.3	6.0	61.2	90.7	213.0	9.7	179.8	6.4	61.0
		100	119.3	192.8	13.0	148.5	4.4	62.6	113.1	196.4	12.4	154.0	4.6	62.3	110.0	200.0	11.9	159.4	4.9	62.0
		120	137.9	178.6	15.3	126.2	3.4	63.7	132.2	182.8	14.7	132.7	3.6	63.4	129.4	187.0	14.0	139.1	3.9	63.0
90	20	60	83.9	239.4	8.5	210.3	8.2	69.0	76.1	241.5	8.1	213.8	8.7	68.6	72.2	243.6	7.7	217.3	9.2	68.3
		80	102.6	225.7	10.9	188.5	6.1	71.2	95.2	228.3	10.4	192.8	6.4	70.7	91.5	230.9	9.9	197.2	6.9	70.3
		100	Operation not recommended.																	
		120																		
	30	60	85.2	252.5	8.7	222.8	8.5	75.1	77.0	255.1	8.3	226.9	9.0	74.9	72.9	257.8	7.9	230.9	9.6	74.6
		80	103.7	236.6	11.0	199.0	6.3	76.7	96.0	239.9	10.5	204.0	6.7	76.4	92.2	243.2	10.0	209.1	7.1	76.1
		100	Operation not recommended.																	
		120																		
	40	60	86.6	265.5	8.9	235.3	8.8	78.2	77.9	268.8	8.5	239.9	9.3	78.0	73.6	272.0	8.0	244.6	9.9	77.8
		80	104.7	247.5	11.1	209.5	6.5	79.5	96.8	251.5	10.6	215.2	6.9	79.2	92.8	255.4	10.1	221.0	7.4	79.0
		100	Operation not recommended.																	
		120																		

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Note: Operation in shaded areas require special attention to ensure adequate water temperature and flow rates are maintained. Operation outside the limits could result in lockout.

120 Performance Data cont.

Cooling *(TruClimate 100 Reversible only)*

Source		ELT	Load Flow - 20 GPM						Load Flow - 30 GPM						Load Flow - 40 GPM					
EST °F	Flow GPM	°F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F
50	20	50	35.9	140.6	6.3	162.2	22.2	66.2	40.1	147.9	6.7	170.6	22.2	67.1	42.2	155.2	7.0	179.0	22.2	67.9
		70	51.4	185.8	6.9	209.3	27.0	70.9	57.5	187.3	7.1	211.6	26.3	71.2	60.6	188.7	7.4	213.9	25.5	71.4
		90	66.9	231.1	7.4	256.4	31.2	75.6	74.9	226.7	7.6	252.6	29.8	75.3	78.9	222.3	7.8	248.8	28.6	74.9
	30	50	35.9	140.9	6.4	162.7	22.1	60.8	40.1	148.7	6.5	170.8	23.0	61.4	42.2	156.6	6.6	179.0	23.8	61.9
		70	52.3	176.9	6.8	199.9	26.1	63.3	57.8	183.7	6.8	207.1	26.8	63.8	60.5	190.6	6.9	214.2	27.5	64.3
		90	68.7	212.8	7.2	237.2	29.8	65.8	75.4	218.7	7.2	243.3	30.3	66.2	78.8	224.6	7.3	249.4	30.9	66.6
	40	50	35.9	141.2	6.4	163.1	22.0	58.2	40.0	149.6	6.3	171.0	23.8	58.6	42.1	158.0	6.1	178.9	25.8	58.9
		70	53.2	167.9	6.7	190.6	25.2	59.5	58.0	180.2	6.6	202.5	27.5	60.1	60.4	192.4	6.5	214.5	29.8	60.7
		90	70.5	194.5	6.9	218.0	28.3	60.9	76.0	210.7	6.8	234.0	30.9	61.7	78.7	226.9	6.8	250.0	33.5	62.5
70	20	50	37.0	129.7	7.9	156.5	16.5	85.7	41.0	135.6	8.3	164.0	16.3	86.4	42.9	141.5	8.8	171.4	16.2	87.1
		70	52.2	177.7	8.5	206.7	20.9	90.7	58.1	178.3	8.9	208.6	20.1	90.9	61.1	178.9	9.2	210.5	19.3	91.0
		90	67.4	225.8	9.1	256.9	24.7	95.7	75.3	221.0	9.4	253.2	23.4	95.3	79.2	216.3	9.7	249.5	22.2	95.0
	30	50	37.1	129.2	8.0	156.5	16.1	80.4	40.9	136.4	8.1	163.9	16.9	80.9	42.8	143.7	8.1	171.4	17.7	81.4
		70	53.1	169.2	8.5	198.1	20.0	83.2	58.2	177.6	8.5	206.7	20.8	83.8	60.7	186.0	8.6	215.3	21.6	84.4
		90	69.1	209.3	8.9	239.6	23.5	86.0	75.4	218.8	9.0	249.4	24.3	86.6	78.6	228.2	9.1	259.3	25.1	87.3
	40	50	37.1	128.7	8.1	156.4	15.8	77.8	40.9	137.2	7.8	163.9	17.6	78.2	42.7	145.8	7.5	171.3	19.5	78.6
		70	53.9	160.7	8.4	189.4	19.1	79.5	58.2	176.9	8.2	204.8	21.6	80.2	60.3	193.0	8.0	220.2	24.3	81.0
		90	70.7	192.8	8.7	222.3	22.2	81.1	75.6	216.5	8.6	245.7	25.3	82.3	78.0	240.2	8.4	269.0	28.5	83.5
90	20	50	38.1	118.9	9.8	152.2	12.2	105.2	41.5	128.0	9.3	159.8	13.7	106.0	43.1	137.1	8.9	167.3	15.5	106.7
		70	53.8	162.5	10.4	197.8	15.7	109.8	58.6	171.6	9.9	205.2	17.4	110.5	61.0	180.6	9.3	212.5	19.3	111.2
		90	Operation not recommended.																	
	30	50	38.3	117.5	9.8	151.0	12.0	100.1	41.8	122.9	10.0	157.2	12.3	100.5	43.6	128.4	10.2	163.3	12.5	100.9
		70	54.2	158.0	10.3	193.0	15.4	102.9	59.1	163.1	10.5	198.9	15.6	103.3	61.6	168.2	10.7	204.8	15.7	103.7
		90	Operation not recommended.																	
	40	50	38.4	116.1	9.8	149.7	11.8	97.5	41.7	124.3	9.6	157.0	13.0	97.9	43.4	132.5	9.3	164.3	14.2	98.2
		70	54.6	153.6	10.1	188.2	15.1	99.4	58.8	168.3	10.0	202.4	16.8	100.1	60.9	183.0	9.8	216.5	18.6	100.8
		90	Operation not recommended.																	
110	20	50	39.7	102.5	12.2	144.0	8.4	124.4	42.8	108.4	12.2	150.0	8.9	125.0	44.3	114.2	12.3	156.1	9.3	125.6
		70	55.6	144.0	12.8	187.5	11.3	128.8	59.9	151.6	12.9	195.5	11.8	129.6	62.0	159.2	13.0	203.5	12.3	130.3
		90	Operation not recommended.																	
	30	50	39.7	103.0	11.9	143.5	8.7	119.6	42.7	108.8	11.9	149.5	9.1	120.0	44.3	114.6	12.0	155.5	9.6	120.4
		70	55.5	145.2	12.3	187.3	11.8	122.5	59.8	152.6	12.4	195.0	12.3	123.0	62.0	160.0	12.5	202.7	12.8	123.5
		90	Operation not recommended.																	
	40	50	39.6	103.5	11.6	143.0	9.0	117.2	42.7	109.3	11.6	149.0	9.4	117.4	44.2	115.1	11.7	154.9	9.8	117.7
		70	55.4	146.4	11.9	187.0	12.3	119.3	59.8	153.6	12.0	194.5	12.8	119.7	62.0	160.7	12.1	202.0	13.3	120.1
		90	Operation not recommended.																	

Note: Operation in shaded areas require special attention to ensure adequate water temperature and flow rates are maintained. Operation outside the limits could result in lockout.

4/29/14

180 Performance Data

Heating *(TruClimate 100 Reversible and Potable Water)*

Source		ELT	Load Flow - 30 GPM						Load Flow - 45 GPM						Load Flow - 60 GPM					
EST °F	Flow GPM	°F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F
30	45	60	72.3	184.1	10.0	150.0	5.4	23.3	68.3	185.7	9.7	152.4	5.6	23.2	66.2	187.2	9.5	154.9	5.8	23.1
		80	91.8	176.9	12.9	132.7	4.0	24.1	87.9	178.8	12.6	135.8	4.2	24.0	86.0	180.7	12.3	138.9	4.3	23.8
		100	111.3	169.7	15.9	115.5	3.1	24.9	107.6	171.9	15.5	119.2	3.3	24.7	105.8	174.2	15.0	122.8	3.4	24.5
		120	130.8	162.5	18.8	98.2	2.5	25.6	127.3	165.0	18.3	102.5	2.6	25.4	125.6	167.6	17.8	106.8	2.8	25.3
	60	60	72.7	190.1	10.1	155.8	5.5	24.8	68.5	191.8	9.8	158.4	5.7	24.7	66.4	193.5	9.5	161.0	6.0	24.6
		80	92.1	181.9	13.0	137.6	4.1	25.4	88.2	184.0	12.6	140.8	4.3	25.3	86.2	186.0	12.3	144.1	4.4	25.2
		100	111.6	173.7	15.9	119.4	3.2	26.0	107.8	176.1	15.5	123.3	3.3	25.9	106.0	178.5	15.1	127.1	3.5	25.8
		120	131.0	165.5	18.9	101.2	2.6	26.6	127.5	168.3	18.3	105.7	2.7	26.5	125.7	171.1	17.8	110.2	2.8	26.3
50	30	60	75.1	226.4	10.6	190.4	6.3	37.3	70.2	228.5	10.3	193.4	6.5	37.1	67.7	230.5	9.9	196.5	6.8	36.9
		80	94.5	216.8	13.5	170.7	4.7	38.6	89.7	219.2	13.1	174.4	4.9	38.4	87.4	221.5	12.7	178.1	5.1	38.1
		100	113.8	207.2	16.5	151.0	3.7	39.9	109.3	209.9	16.0	155.3	3.8	39.6	107.1	212.6	15.5	159.7	4.0	39.4
		120	133.2	197.6	19.4	131.3	3.0	41.2	128.9	200.6	18.8	136.3	3.1	40.9	126.8	203.6	18.3	141.3	3.3	40.6
	45	60	75.7	236.1	10.7	199.6	6.5	41.1	70.6	238.2	10.4	202.8	6.7	41.0	68.0	240.2	10.0	205.9	7.0	40.8
		80	95.0	225.5	13.7	178.9	4.8	42.0	90.1	227.9	13.2	182.7	5.0	41.9	87.7	230.4	12.8	186.6	5.3	41.7
		100	114.3	214.9	16.6	158.1	3.8	43.0	109.7	217.7	16.1	162.7	4.0	42.8	107.4	220.5	15.6	167.3	4.1	42.6
		120	133.6	204.3	19.6	137.4	3.1	43.9	129.2	207.5	19.0	142.7	3.2	43.7	127.0	210.7	18.4	147.9	3.4	43.4
	60	60	76.4	245.8	10.8	208.9	6.7	43.0	71.0	247.9	10.5	212.1	6.9	42.9	68.3	250.0	10.1	215.4	7.2	42.8
		80	95.6	234.2	13.8	187.1	5.0	43.8	90.5	236.7	13.4	191.1	5.2	43.6	88.0	239.2	12.9	195.1	5.4	43.5
		100	114.8	222.6	16.8	165.3	3.9	44.5	110.0	225.5	16.3	170.1	4.1	44.3	107.6	228.5	15.7	174.8	4.3	44.2
		120	134.1	211.0	19.8	143.5	3.1	45.2	129.5	214.4	19.1	149.0	3.3	45.0	127.3	217.8	18.5	154.6	3.4	44.8
70	30	60	78.3	274.8	11.2	236.5	7.2	54.2	72.3	277.4	10.8	240.4	7.5	54.0	69.3	279.9	10.5	244.3	7.8	53.7
		80	97.5	261.8	14.2	213.5	5.4	55.8	91.8	264.7	13.7	218.0	5.7	55.5	88.9	267.6	13.2	222.6	5.9	55.2
		100	116.6	248.8	17.1	190.4	4.3	57.3	111.2	252.1	16.5	195.6	4.5	57.0	108.5	255.3	16.0	200.8	4.7	56.6
		120	135.7	235.8	20.1	167.3	3.4	58.8	130.6	239.4	19.4	173.2	3.6	58.5	128.1	243.1	18.7	179.1	3.8	58.1
	45	60	79.2	288.2	11.4	249.2	7.4	58.9	72.9	290.7	11.0	253.1	7.7	58.8	69.8	293.2	10.6	257.0	8.1	58.6
		80	98.3	274.1	14.4	225.0	5.6	60.0	92.3	277.1	13.9	229.7	5.8	59.8	89.3	280.0	13.4	234.4	6.1	59.6
		100	117.3	260.1	17.4	200.8	4.4	61.1	111.7	263.5	16.8	206.2	4.6	60.8	108.9	266.9	16.2	211.7	4.8	60.6
		120	136.4	246.1	20.4	176.6	3.5	62.2	131.1	249.9	19.7	182.8	3.7	61.9	128.5	253.8	19.0	189.0	3.9	61.6
	60	60	80.1	301.5	11.6	261.9	7.6	61.3	73.5	304.0	11.2	265.9	8.0	61.1	70.2	306.4	10.7	269.8	8.4	61.0
		80	99.1	286.5	14.6	236.6	5.7	62.1	92.9	289.5	14.1	241.4	6.0	62.0	89.7	292.4	13.6	246.2	6.3	61.8
		100	118.1	271.5	17.7	211.2	4.5	63.0	112.2	275.0	17.0	216.9	4.7	62.8	109.3	278.5	16.4	222.5	5.0	62.6
		120	137.1	256.4	20.7	185.9	3.6	63.8	131.6	260.5	20.0	192.4	3.8	63.6	128.8	264.5	19.2	198.9	4.0	63.4
90	30	60	81.5	323.2	11.9	282.7	8.0	71.2	74.5	326.3	11.4	287.3	8.4	70.8	71.0	329.4	11.0	292.0	8.8	70.5
		80	100.5	306.8	14.8	256.2	6.1	72.9	93.8	310.3	14.3	261.6	6.4	72.6	90.5	313.8	13.7	267.0	6.7	72.2
		100	Operation not recommended.																	
		120																		
	45	60	82.7	340.2	12.1	298.8	8.2	76.7	75.3	343.2	11.6	303.5	8.6	76.5	71.5	346.2	11.2	308.1	9.1	76.3
		80	101.5	322.8	15.1	271.2	6.3	77.9	94.5	326.3	14.5	276.6	6.6	77.7	91.0	329.7	14.0	282.1	6.9	77.5
		100	Operation not recommended.																	
		120																		
	60	60	83.8	357.2	12.4	315.0	8.5	79.5	76.0	360.1	11.9	319.6	8.9	79.3	72.1	362.9	11.4	324.2	9.4	79.2
		80	102.6	338.8	15.4	286.1	6.4	80.5	95.2	342.2	14.8	291.6	6.8	80.3	91.5	345.7	14.2	297.2	7.1	80.1
		100	Operation not recommended.																	
		120																		

Note: Operation in shaded areas require special attention to ensure adequate water temperature and flow rates are maintained. Operation outside the limits could result in lockout.

4/29/14

Contractor: ______________________ P.O.: ______________

Engineer: ______________________________________

Project Name: ________________ Unit Tag: ______________

TruClimate 100
10-50 Ton 60Hz

WaterFurnace
Commercial Solutions

180 Performance Data cont.

Cooling *(TruClimate 100 Reversible only)*

Source		ELT	Load Flow - 30 GPM						Load Flow - 45 GPM						Load Flow - 60 GPM					
EST °F	Flow GPM	°F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F
		50	36.6	200.7	9.3	232.3	21.7	65.5	40.7	209.3	9.3	241.1	22.5	66.1	42.7	217.8	9.4	249.8	23.2	66.7
	30	70	52.6	260.3	10.0	294.3	26.1	69.6	58.0	271.1	10.0	305.3	27.0	70.4	60.6	281.9	10.1	316.3	28.0	71.1
		90	68.7	319.9	10.7	356.3	30.0	73.8	75.2	332.9	10.7	369.5	31.0	74.6	78.5	345.9	10.8	382.8	32.1	75.5
		50	36.4	204.2	9.1	235.3	22.4	60.5	40.5	213.1	9.2	244.3	23.3	60.9	42.6	222.0	9.2	253.4	24.1	61.3
50	45	70	52.4	264.2	9.6	297.1	27.4	63.2	58.0	270.0	9.7	303.1	27.8	63.5	60.8	275.8	9.8	309.1	28.3	63.7
		90	68.4	324.2	10.2	359.0	31.8	66.0	75.5	326.9	10.2	361.9	31.9	66.1	79.0	329.6	10.3	364.7	32.0	66.2
		50	36.2	207.7	9.0	238.3	23.2	57.9	40.4	216.9	9.0	247.6	24.1	58.3	42.5	226.1	9.0	257.0	25.0	58.6
	60	70	52.1	268.2	9.3	300.0	28.7	60.0	58.0	268.9	9.4	300.9	28.7	60.0	61.0	269.6	9.4	301.8	28.6	60.1
		90	68.1	328.6	9.7	361.6	33.9	62.1	75.7	320.9	9.8	354.2	32.9	61.8	79.6	313.2	9.8	346.7	31.8	61.6
		50	37.6	186.3	11.1	224.2	16.8	84.9	41.4	193.7	11.2	231.7	17.4	85.4	43.3	201.0	11.2	239.3	17.9	86.0
	30	70	53.0	254.6	12.1	295.7	21.1	89.7	58.5	259.8	12.2	301.3	21.4	90.1	61.2	264.9	12.3	306.8	21.6	90.5
		90	68.5	322.9	13.0	367.3	24.8	94.5	75.5	325.8	13.2	370.8	24.7	94.7	79.0	328.8	13.3	374.3	24.7	95.0
		50	37.4	189.6	10.8	226.6	17.5	80.1	41.2	197.1	10.9	234.3	18.1	80.4	43.2	204.7	11.0	242.1	18.7	80.8
70	45	70	52.7	259.0	11.7	298.9	22.2	83.3	58.2	264.4	11.8	304.5	22.5	83.5	61.0	269.8	11.8	310.2	22.8	83.8
		90	68.1	328.5	12.5	371.2	26.2	86.5	75.3	331.7	12.6	374.7	26.3	86.7	78.8	334.8	12.7	378.2	26.3	86.8
		50	37.1	192.9	10.6	229.1	18.2	77.6	41.1	200.6	10.7	237.0	18.8	77.9	43.1	208.3	10.7	244.9	19.5	78.2
	60	70	52.4	263.5	11.3	302.1	23.3	80.1	58.0	269.0	11.4	307.8	23.7	80.3	60.8	274.6	11.4	313.5	24.1	80.4
		90	67.7	334.2	12.0	375.1	27.8	82.5	75.0	337.5	12.1	378.6	28.0	82.6	78.6	340.8	12.1	382.1	28.2	82.7
		50	38.8	168.6	13.9	215.8	12.2	104.4	42.2	175.5	13.9	223.0	12.6	104.9	43.9	182.4	14.0	230.2	13.0	105.3
	30	70	54.7	229.7	14.9	280.5	15.5	108.7	59.4	237.5	15.0	288.7	15.8	109.2	61.8	245.3	15.2	297.0	16.2	109.8
		90	Operation not recommended.																	
		50	38.6	170.4	13.6	216.6	12.6	99.6	42.1	177.4	13.6	223.9	13.0	100.0	43.9	184.5	13.7	231.2	13.5	100.3
90	45	70	54.5	233.0	14.4	282.3	16.1	102.5	59.3	241.0	14.5	290.6	16.6	102.9	61.7	249.0	14.7	299.0	17.0	103.3
		90	Operation not recommended.																	
		50	38.5	172.2	13.3	217.4	13.0	97.2	42.0	179.4	13.3	224.8	13.5	97.5	43.8	186.6	13.4	232.3	14.0	97.7
	60	70	54.2	236.3	14.0	284.1	16.9	99.5	59.1	244.5	14.1	292.5	17.4	99.7	61.6	252.7	14.1	300.9	17.9	100.0
		90	Operation not recommended.																	
		50	39.9	150.8	16.6	207.5	9.1	123.8	43.0	157.3	16.7	214.3	9.4	124.3	44.5	163.7	16.8	221.1	9.7	124.7
	30	70	56.3	204.9	17.7	265.2	11.6	127.7	60.4	215.3	17.9	276.2	12.1	128.4	62.5	225.7	18.0	287.3	12.5	129.2
		90	Operation not recommended.																	
		50	39.9	151.1	16.3	206.6	9.3	119.2	43.0	157.7	16.3	213.5	9.6	119.5	44.5	164.3	16.4	220.4	10.0	119.8
110	45	70	56.2	207.0	17.2	265.6	12.1	121.8	60.3	217.6	17.3	276.7	12.6	122.3	62.4	228.2	17.5	287.8	13.1	122.8
		90	Operation not recommended.																	
		50	39.9	151.5	15.9	205.7	9.5	116.9	43.0	158.2	16.0	212.7	9.9	117.1	44.5	164.9	16.0	219.6	10.3	117.3
	60	70	56.1	209.1	16.7	266.0	12.5	118.9	60.2	219.9	16.8	277.2	13.1	119.2	62.3	230.7	16.9	288.3	13.7	119.6
		90	Operation not recommended.																	

4/29/14

240 Performance Data

Heating *(TruClimate 100 Reversible and Potable Water)*

Source		ELT	Load Flow - 40 GPM						Load Flow - 60 GPM						Load Flow - 80 GPM					
EST °F	Flow GPM	°F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F
30	60	60	71.8	235.1	11.9	194.6	5.8	23.5	67.9	235.6	11.6	195.9	5.9	23.5	65.9	236.1	11.4	197.3	6.1	23.4
		80	91.1	222.3	15.9	168.1	4.1	24.4	87.5	224.4	15.9	170.2	4.1	24.3	85.7	226.5	15.9	172.3	4.2	24.3
		100	110.5	209.5	19.9	141.6	3.1	25.3	107.1	213.2	20.2	144.4	3.1	25.2	105.4	216.9	20.4	147.3	3.1	25.1
		120	129.8	196.7	23.9	115.1	2.4	26.2	126.7	202.0	24.4	118.7	2.4	26.0	125.2	207.3	24.9	122.2	2.4	25.9
	80	60	72.3	246.2	11.8	205.8	6.1	24.9	68.2	246.7	11.7	206.9	6.2	24.8	66.2	247.1	11.5	207.9	6.3	24.8
		80	91.4	227.9	15.5	175.1	4.3	25.6	87.7	232.2	15.5	179.2	4.4	25.5	85.9	236.4	15.6	183.3	4.5	25.4
		100	110.5	209.5	19.1	144.3	3.2	26.4	107.3	217.7	19.4	151.5	3.3	26.2	105.6	225.8	19.6	158.7	3.4	26.0
		120	129.6	191.2	22.8	113.5	2.5	27.2	126.8	203.1	23.2	123.8	2.6	26.9	125.4	215.1	23.7	134.1	2.7	26.6
50	40	60	74.5	290.4	13.3	245.1	6.4	37.7	69.7	291.7	12.9	247.8	6.6	37.6	67.3	292.9	12.5	250.4	6.9	37.5
		80	94.0	280.3	17.8	219.5	4.6	39.0	89.4	282.6	17.7	222.2	4.7	38.9	87.1	284.9	17.6	224.9	4.7	38.8
		100	113.5	270.1	22.4	193.8	3.5	40.3	109.1	273.5	22.6	196.6	3.6	40.2	106.9	276.9	22.7	199.3	3.6	40.0
		120	133.0	260.0	26.9	168.1	2.8	41.6	128.8	264.4	27.4	170.9	2.8	41.5	126.7	268.8	27.9	173.8	2.8	41.3
	60	60	75.2	303.8	13.4	258.1	6.6	41.4	70.2	305.4	13.0	261.0	6.9	41.3	67.7	307.0	12.6	263.9	7.1	41.2
		80	94.4	288.4	17.4	228.9	4.8	42.4	89.8	292.5	17.3	233.3	4.9	42.2	87.4	296.7	17.2	237.8	5.0	42.1
		100	113.6	272.9	21.5	199.6	3.7	43.3	109.3	279.6	21.7	205.7	3.8	43.1	107.2	286.3	21.9	211.7	3.8	42.9
		120	132.9	257.4	25.5	170.3	3.0	44.3	128.9	266.7	26.0	178.0	3.0	44.1	126.9	275.9	26.5	185.7	3.1	43.8
	80	60	75.9	317.2	13.5	271.1	6.9	43.2	70.6	319.2	13.2	274.2	7.1	43.1	68.0	321.2	12.8	277.4	7.3	43.1
		80	94.8	296.4	17.1	238.2	5.1	44.0	90.1	302.4	17.0	244.5	5.2	43.9	87.7	308.4	16.9	250.8	5.3	43.7
		100	113.8	275.6	20.6	205.4	3.9	44.9	109.5	285.7	20.8	214.8	4.0	44.6	107.4	295.7	21.0	224.2	4.1	44.4
		120	132.7	254.8	24.1	172.5	3.1	45.7	129.0	268.9	24.6	185.0	3.2	45.4	127.1	283.0	25.0	197.6	3.3	45.1
70	40	60	77.8	356.9	14.6	306.9	7.1	54.7	72.0	358.9	14.1	310.6	7.4	54.5	69.0	360.8	13.6	314.3	7.7	54.3
		80	97.2	343.8	19.4	277.8	5.2	56.1	91.6	348.5	19.2	283.2	5.3	55.8	88.8	353.3	19.0	288.6	5.5	55.6
		100	116.5	330.8	24.1	248.6	4.0	57.6	111.3	338.2	24.2	255.8	4.1	57.2	108.6	345.7	24.3	262.9	4.2	56.9
		120	135.9	317.8	28.8	219.5	3.2	59.0	130.9	327.9	29.2	228.3	3.3	58.6	128.5	338.1	29.6	237.2	3.4	58.1
	60	60	78.6	372.6	14.9	321.7	7.3	59.3	72.5	375.3	14.4	326.1	7.6	59.1	69.5	378.0	13.9	330.6	8.0	59.0
		80	97.7	354.4	19.0	289.6	5.5	60.3	92.0	360.6	18.8	296.5	5.6	60.1	89.2	366.9	18.6	303.4	5.8	59.9
		100	116.8	336.2	23.1	257.5	4.3	61.4	111.5	346.0	23.2	266.9	4.4	61.1	108.9	355.7	23.3	276.2	4.5	60.8
		120	135.9	318.1	27.1	225.5	3.4	62.5	131.0	331.3	27.6	237.3	3.5	62.1	128.6	344.5	28.0	249.1	3.6	61.7
	80	60	79.4	388.2	15.2	336.4	7.5	61.6	73.1	391.7	14.7	341.6	7.8	61.5	69.9	395.2	14.2	346.9	8.2	61.3
		80	98.2	365.0	18.6	301.4	5.7	62.5	92.4	372.7	18.4	309.8	5.9	62.3	89.5	380.4	18.2	318.2	6.1	62.0
		100	117.1	341.7	22.1	266.5	4.5	63.3	111.8	353.7	22.2	278.0	4.7	63.0	109.1	365.7	22.3	289.6	4.8	62.8
		120	135.9	318.4	25.5	231.5	3.7	64.2	131.2	334.7	25.9	246.2	3.8	63.8	128.8	351.0	26.4	261.0	3.9	63.5
90	40	60	81.2	423.3	16.0	368.7	7.8	71.6	74.2	426.0	15.4	373.4	8.1	71.3	70.7	428.8	14.8	378.1	8.5	71.1
		80	100.4	407.4	20.9	336.1	5.7	73.2	93.8	414.5	20.6	344.2	5.9	72.8	90.5	421.6	20.3	352.3	6.1	72.4
		100	Operation not recommended.																	
		120																		
	60	60	82.1	441.3	16.4	385.2	7.9	77.2	74.8	445.1	15.8	391.2	8.3	77.0	71.2	449.0	15.2	397.2	8.7	76.8
		80	101.0	420.4	20.5	350.4	6.0	78.3	94.3	428.7	20.2	359.7	6.2	78.0	90.9	437.0	19.9	369.0	6.4	77.7
		100	Operation not recommended.																	
		120																		
	80	60	83.0	459.3	16.9	401.6	8.0	80.0	75.5	464.2	16.2	409.0	8.4	79.8	71.7	469.2	15.5	416.3	8.9	79.6
		80	101.7	433.5	20.2	364.6	6.3	80.9	94.8	443.0	19.9	375.1	6.5	80.6	91.3	452.4	19.6	385.7	6.8	80.4
		100	Operation not recommended.																	
		120																		

Note: Operation in shaded areas require special attention to ensure adequate water temperature and flow rates are maintained. Operation outside the limits could result in lockout.

4/29/14

Contractor: ______________________ P.O.: ______________

Engineer: ______________________________________

Project Name: ______________ Unit Tag: ______________

WaterFurnace
Commercial Solutions

240 Performance Data cont.

Cooling *(TruClimate 100 Reversible only)*

Source		ELT °F	Load Flow - 40 GPM						Load Flow - 60 GPM						Load Flow - 80 GPM					
EST °F	Flow GPM		LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F
50	40	50	36.5	269.5	11.8	309.8	22.8	65.5	40.5	283.7	12.0	324.7	23.6	66.2	42.6	298.0	12.2	339.6	24.4	67.0
		70	53.3	334.7	12.9	378.8	25.9	68.9	58.6	343.4	13.1	388.1	26.2	69.4	61.2	352.1	13.3	397.4	26.6	69.9
		90	70.0	400.0	14.0	447.8	28.5	72.4	76.6	403.1	14.2	451.5	28.5	72.6	79.8	406.3	14.3	455.1	28.4	72.8
	60	50	36.5	269.6	11.6	309.2	23.2	60.3	40.6	283.4	11.8	323.6	24.0	60.8	42.6	297.2	12.0	338.1	24.8	61.3
		70	53.7	326.3	12.5	369.0	26.0	62.3	58.9	334.5	12.7	377.8	26.3	62.6	61.4	342.7	12.9	386.7	26.6	62.9
		90	70.9	383.0	13.5	428.9	28.5	64.3	77.1	385.6	13.6	432.1	28.3	64.4	80.3	388.2	13.8	435.2	28.2	64.5
	80	50	36.5	269.7	11.4	308.5	23.7	57.7	40.6	283.0	11.6	322.6	24.4	58.1	42.6	296.4	11.8	336.6	25.1	58.4
		70	54.1	317.8	12.1	359.2	26.2	59.0	59.1	325.6	12.3	367.6	26.4	59.2	61.7	333.3	12.5	376.0	26.7	59.4
		90	71.7	366.0	12.9	410.0	28.4	60.2	77.7	368.1	13.1	412.6	28.2	60.3	80.7	370.2	13.2	415.3	28.0	60.4
70	40	50	37.8	244.9	15.0	296.1	16.3	84.8	41.4	257.3	15.2	309.1	17.0	85.5	43.3	269.6	15.3	322.0	17.6	86.1
		70	54.2	315.3	16.2	370.6	19.4	88.5	59.2	324.9	16.4	381.0	19.8	89.1	61.6	334.5	16.7	391.4	20.1	89.6
		90	70.7	385.7	17.4	445.2	22.1	92.3	76.9	392.5	17.7	452.9	22.2	92.6	80.0	399.3	18.0	460.7	22.2	93.0
	60	50	37.7	245.1	14.7	295.1	16.7	79.8	41.4	257.1	14.9	307.8	17.3	80.3	43.3	269.2	15.0	320.5	17.9	80.7
		70	54.5	310.6	15.7	364.2	19.8	82.1	59.3	319.9	15.9	374.2	20.1	82.5	61.8	329.2	16.2	384.3	20.4	82.8
		90	71.2	376.0	16.7	433.2	22.5	84.4	77.2	382.6	17.0	440.6	22.5	84.7	80.3	389.1	17.3	448.1	22.5	84.9
	80	50	37.7	245.2	14.3	294.1	17.1	77.4	41.4	257.0	14.5	306.6	17.7	77.7	43.3	268.8	14.7	319.0	18.3	78.0
		70	54.7	305.8	15.2	357.7	20.1	78.9	59.5	314.8	15.4	367.4	20.4	79.2	61.9	323.8	15.6	377.2	20.7	79.4
		90	71.7	366.3	16.1	421.2	22.8	80.5	77.6	372.6	16.3	428.3	22.8	80.7	80.5	378.8	16.6	435.4	22.9	80.9
90	40	50	39.0	220.4	18.2	282.4	12.1	104.1	42.3	230.8	18.3	293.4	12.6	104.7	44.0	241.3	18.5	304.4	13.0	105.2
		70	55.2	295.9	19.5	362.5	15.2	108.1	59.8	306.4	19.8	373.9	15.5	108.7	62.1	316.8	20.1	385.4	15.8	109.3
		90	Operation not recommended.																	
	60	50	39.0	220.6	17.7	281.1	12.4	99.4	42.3	230.9	17.9	292.0	12.9	99.7	44.0	241.3	18.1	302.9	13.4	100.1
		70	55.3	294.8	18.9	359.3	15.6	102.0	59.8	305.2	19.2	370.6	15.9	102.4	62.1	315.6	19.4	381.9	16.2	102.7
		90	Operation not recommended.																	
	80	50	39.0	220.8	17.3	279.8	12.8	97.0	42.3	231.0	17.5	290.6	13.2	97.3	44.0	241.2	17.6	301.4	13.7	97.5
		70	55.3	293.7	18.3	356.1	16.1	98.9	59.9	304.0	18.5	367.3	16.4	99.2	62.1	314.3	18.8	378.4	16.7	99.5
		90	Operation not recommended.																	
110	40	50	40.2	195.8	21.4	268.7	9.2	123.4	43.2	204.4	21.5	277.8	9.5	123.9	44.7	212.9	21.7	286.8	9.8	124.3
		70	56.2	276.5	22.8	354.3	12.1	127.7	60.4	287.9	23.1	366.8	12.4	128.3	62.5	299.2	23.5	379.4	12.7	129.0
		90	Operation not recommended.																	
	60	50	40.2	196.1	20.8	267.1	9.4	118.9	43.2	204.7	21.0	276.2	9.8	119.2	44.7	213.3	21.1	285.3	10.1	119.5
		70	56.0	279.1	22.1	354.4	12.6	121.8	60.3	290.6	22.4	367.0	13.0	122.2	62.4	302.0	22.7	379.5	13.3	122.7
		90	Operation not recommended.																	
	80	50	40.2	196.3	20.3	265.4	9.7	116.6	43.2	205.0	20.4	274.6	10.0	116.9	44.7	213.6	20.5	283.7	10.4	117.1
		70	55.9	281.7	21.3	354.5	13.2	118.9	60.2	293.3	21.6	367.1	13.6	119.2	62.4	304.9	21.9	379.6	13.9	119.5
		90	Operation not recommended.																	

Note: Operation in shaded areas require special attention to ensure adequate water temperature and flow rates are maintained. Operation outside the limits could result in lockout.

4/29/14

Contractor: ______________________________ P.O.: ___________________

Engineer: ____

Project Name: ______________________ Unit Tag: ___________________

WaterFurnace
Commercial Solutions

360 Performance Data

Heating *(TruClimate 100 Reversible and Potable Water)*

Source		ELT °F	Load Flow - 60 GPM						Load Flow - 90 GPM						Load Flow - 120 GPM					
EST °F	Flow GPM		LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F
30	90	60	72.1	364.4	19.0	299.8	5.6	23.3	68.1	365.7	18.6	302.3	5.8	23.3	66.1	366.9	18.2	304.9	5.9	23.2
		80	91.7	349.7	24.8	265.3	4.1	24.1	87.8	351.2	24.2	268.5	4.2	24.0	85.9	352.7	23.7	271.8	4.4	24.0
		100	111.2	335.0	30.6	230.7	3.2	24.9	107.5	336.8	29.9	234.8	3.3	24.8	105.6	338.5	29.2	238.8	3.4	24.7
		120	130.7	320.3	36.4	196.2	2.6	25.6	127.2	322.3	35.6	201.0	2.7	25.5	125.4	324.3	34.8	205.7	2.7	25.4
	120	60	72.6	377.7	19.1	312.4	5.8	24.8	68.4	379.1	18.7	315.2	5.9	24.7	66.3	380.6	18.3	318.0	6.1	24.7
		80	92.0	361.0	24.9	276.0	4.2	25.4	88.1	362.8	24.4	279.6	4.4	25.3	86.1	364.5	23.8	283.2	4.5	25.3
		100	111.5	344.3	30.7	239.6	3.3	26.0	107.7	346.4	30.0	244.0	3.4	25.9	105.8	348.4	29.3	248.4	3.5	25.9
		120	130.9	327.6	36.5	203.2	2.6	26.6	127.3	330.0	35.6	208.4	2.7	26.5	125.5	332.4	34.8	213.6	2.8	26.4
50	60	60	75.2	455.3	20.5	385.4	6.5	37.2	70.1	452.9	20.0	384.7	6.6	37.2	67.5	450.5	19.5	383.9	6.8	37.2
		80	94.3	428.7	26.3	338.9	4.8	38.7	89.5	428.5	25.7	340.9	4.9	38.6	87.1	428.3	25.0	342.9	5.0	38.6
		100	113.4	402.1	32.1	292.5	3.7	40.3	109.0	404.1	31.3	297.2	3.8	40.1	106.8	406.0	30.5	301.9	3.9	39.9
		120	132.5	375.5	38.0	246.0	2.9	41.8	128.4	379.6	37.0	253.5	3.0	41.6	126.4	383.7	36.0	261.0	3.1	41.3
	90	60	75.6	467.2	20.7	396.7	6.6	41.2	70.3	464.6	20.2	395.8	6.7	41.2	67.7	462.1	19.7	394.9	6.9	41.2
		80	94.6	439.3	26.5	349.0	4.9	42.2	89.8	439.2	25.8	351.1	5.0	42.2	87.3	439.2	25.2	353.3	5.1	42.1
		100	113.7	411.4	32.3	301.2	3.7	43.3	109.2	413.8	31.5	306.5	3.9	43.2	106.9	416.3	30.6	311.7	4.0	43.1
		120	132.8	383.5	38.1	253.5	2.9	44.4	128.6	388.5	37.1	261.8	3.1	44.2	126.6	393.4	36.1	270.2	3.2	44.0
	120	60	76.0	479.1	20.8	408.0	6.7	43.2	70.6	476.3	20.3	406.9	6.9	43.2	67.9	473.6	19.8	405.9	7.0	43.2
		80	95.0	449.9	26.6	359.0	5.0	44.0	90.0	450.0	26.0	361.4	5.1	44.0	87.5	450.1	25.3	363.7	5.2	43.9
		100	114.0	420.7	32.4	310.0	3.8	44.8	109.4	423.6	31.6	315.8	3.9	44.7	107.1	426.5	30.8	321.5	4.1	44.6
		120	133.1	391.5	38.2	261.0	3.0	45.6	128.8	397.3	37.2	270.2	3.1	45.5	126.7	403.0	36.2	279.4	3.3	45.3
70	60	60	78.6	559.5	22.2	483.8	7.4	53.9	72.3	553.7	21.6	479.9	7.5	54.0	69.1	547.9	21.1	475.9	7.6	54.1
		80	97.3	519.0	28.0	423.4	5.4	55.9	91.5	517.3	27.2	424.4	5.6	55.9	88.6	515.6	26.5	425.3	5.7	55.8
		100	115.9	478.5	33.8	363.1	4.1	57.9	110.7	480.9	32.8	368.9	4.3	57.7	108.1	483.4	31.9	374.7	4.4	57.5
		120	134.6	438.0	39.6	302.7	3.2	59.9	129.9	444.6	38.5	313.4	3.4	59.6	127.5	451.2	37.3	324.0	3.5	59.2
	90	60	79.0	570.0	22.4	493.7	7.5	59.0	72.5	563.6	21.8	489.3	7.6	59.1	69.3	557.2	21.2	484.8	7.7	59.2
		80	97.6	528.9	28.2	432.7	5.5	60.4	91.7	527.3	27.4	433.7	5.6	60.4	88.8	525.6	26.6	434.8	5.8	60.3
		100	116.3	487.8	34.0	371.8	4.2	61.7	110.9	490.9	33.0	378.2	4.4	61.6	108.2	494.0	32.0	384.7	4.5	61.5
		120	134.9	446.7	39.8	310.8	3.3	63.1	130.1	454.6	38.6	322.7	3.4	62.8	127.7	462.4	37.5	334.6	3.6	62.6
	120	60	79.3	580.5	22.5	503.6	7.5	61.6	72.7	573.5	22.0	498.6	7.7	61.7	69.4	566.6	21.4	493.7	7.8	61.8
		80	98.0	538.8	28.4	442.0	5.6	62.6	91.9	537.2	27.6	443.1	5.7	62.6	88.9	535.6	26.8	444.2	5.9	62.6
		100	116.6	497.1	34.2	380.4	4.3	63.7	111.1	500.9	33.2	387.6	4.4	63.5	108.4	504.6	32.2	394.7	4.6	63.4
		120	135.2	455.5	40.0	318.8	3.3	64.7	130.3	464.6	38.8	332.0	3.5	64.5	127.9	473.7	37.6	345.2	3.7	64.2
90	60	60	82.1	663.6	23.9	582.1	8.1	70.6	74.5	654.4	23.3	575.1	8.2	70.8	70.8	645.2	22.6	568.0	8.4	71.1
		80	100.3	609.2	29.7	507.9	6.0	73.1	93.5	606.1	28.8	507.8	6.2	73.1	90.1	603.0	27.9	507.7	6.3	73.1
		100	Operation not recommended.																	
		120																		
	90	60	82.4	672.8	24.1	590.7	8.2	76.9	74.7	662.6	23.4	582.7	8.3	77.1	70.9	652.4	22.7	574.8	8.4	77.2
		80	100.6	618.5	29.9	516.5	6.1	78.5	93.7	615.3	29.0	516.3	6.2	78.5	90.2	612.1	28.1	516.2	6.4	78.5
		100	Operation not recommended.																	
		120																		
	120	60	82.7	681.9	24.2	599.2	8.2	80.0	74.9	670.7	23.6	590.3	8.3	80.2	71.0	659.6	22.9	581.5	8.4	80.3
		80	100.9	627.7	30.1	525.0	6.1	81.3	93.9	624.4	29.2	524.8	6.3	81.3	90.4	621.2	28.3	524.7	6.4	81.3
		100	Operation not recommended.																	
		120																		

Note: Operation in shaded areas require special attention to ensure adequate water temperature and flow rates are maintained. Operation outside the limits could result in lockout.

4/29/14

Contractor: ______________________ P.O.: ______________

Engineer: ____

Project Name: __________________ Unit Tag: ______________

WaterFurnace Commercial Solutions

360 Performance Data cont.

Cooling *(TruClimate 100 Reversible only)*

Source		ELT	Load Flow - 60 GPM						Load Flow - 90 GPM						Load Flow - 120 GPM					
EST °F	Flow GPM	°F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F
50	60	50	37.2	384.9	18.3	447.4	21.0	64.9	41.0	404.2	18.7	467.8	21.7	65.6	42.9	423.4	19.0	488.3	22.3	66.3
		70	53.4	498.4	20.2	567.2	24.7	68.9	58.6	511.7	20.5	581.5	25.0	69.4	61.2	525.0	20.8	595.9	25.3	69.9
		90	69.6	611.9	22.0	686.9	27.8	72.9	76.2	619.3	22.3	695.2	27.8	73.2	79.6	626.6	22.6	703.6	27.8	73.5
	90	50	37.2	383.2	18.0	444.5	21.3	59.9	41.1	402.7	18.3	465.1	22.0	60.3	43.0	422.3	18.6	485.8	22.7	60.8
		70	54.0	481.4	19.5	548.0	24.7	62.2	59.0	494.7	19.7	562.1	25.1	62.5	61.5	508.0	20.0	576.2	25.4	62.8
		90	70.7	579.7	21.1	651.6	27.5	64.5	77.0	586.7	21.2	659.1	27.7	64.6	80.1	593.8	21.3	666.6	27.8	64.8
	120	50	37.3	381.5	17.6	441.6	21.7	57.4	41.1	401.3	17.9	462.5	22.4	57.7	43.0	421.1	18.2	483.3	23.1	58.1
		70	54.5	464.5	18.9	528.9	24.6	58.8	59.4	477.8	19.0	542.7	25.1	59.0	61.8	491.1	19.2	556.4	25.6	59.3
		90	71.8	547.5	20.1	616.2	27.2	60.3	77.7	554.2	20.1	622.9	27.5	60.4	80.6	561.0	20.1	629.6	27.9	60.5
70	60	50	38.2	353.3	22.7	430.8	15.6	84.4	41.8	371.0	23.0	449.5	16.1	85.0	43.5	388.7	23.3	468.3	16.7	85.6
		70	54.5	465.8	24.7	550.0	18.9	88.3	59.3	481.4	25.0	566.7	19.2	88.9	61.7	497.0	25.4	583.5	19.6	89.4
		90	70.7	578.3	26.7	669.2	21.7	92.3	76.9	591.7	27.0	684.0	21.9	92.8	79.9	605.2	27.4	698.7	22.1	93.3
	90	50	38.3	352.1	22.2	428.0	15.8	79.5	41.8	370.0	22.5	446.8	16.4	79.9	43.5	387.8	22.8	465.7	17.0	80.3
		70	54.8	455.3	24.0	537.0	19.0	81.9	59.6	470.2	24.2	552.9	19.4	82.3	61.9	485.1	24.5	568.7	19.8	82.6
		90	71.4	558.5	25.7	646.1	21.8	84.4	77.3	570.5	25.9	658.9	22.0	84.6	80.3	582.4	26.2	671.7	22.3	84.9
	120	50	38.3	350.8	21.8	425.2	16.1	77.1	41.8	368.9	22.1	444.2	16.7	77.4	43.6	387.0	22.3	463.1	17.3	77.7
		70	55.2	444.8	23.2	524.1	19.1	78.7	59.8	459.0	23.4	539.0	19.6	79.0	62.1	473.3	23.6	553.9	20.0	79.2
		90	72.0	538.7	24.7	622.9	21.8	80.4	77.8	549.2	24.8	633.8	22.1	80.6	80.7	559.7	24.9	644.7	22.5	80.7
90	60	50	39.3	321.7	27.1	414.1	11.9	103.8	42.5	337.9	27.3	431.2	12.4	104.4	44.1	354.1	27.6	448.3	12.8	104.9
		70	55.6	433.2	29.2	532.8	14.8	107.8	60.0	451.0	29.6	551.9	15.3	108.4	62.2	468.9	29.9	571.1	15.7	109.0
		90	Operation not recommended.																	
	90	50	39.3	320.9	26.5	411.5	12.1	99.1	42.5	337.2	26.8	428.5	12.6	99.5	44.1	353.4	27.0	445.6	13.1	99.9
		70	55.7	429.1	28.4	526.0	15.1	101.7	60.1	445.7	28.7	543.6	15.5	102.1	62.3	462.2	29.0	561.2	15.9	102.5
		90	Operation not recommended.																	
	120	50	39.3	320.1	26.0	408.8	12.3	96.8	42.5	336.5	26.2	425.9	12.8	97.1	44.1	352.8	26.4	442.9	13.3	97.4
		70	55.8	425.1	27.6	519.2	15.4	98.7	60.2	440.3	27.8	535.3	15.8	98.9	62.4	455.6	28.1	551.3	16.2	99.2
		90	Operation not recommended.																	
110	60	50	40.3	290.2	31.5	397.5	9.2	123.2	43.2	304.8	31.7	412.9	9.6	123.8	44.7	319.4	31.9	428.3	10.0	124.3
		70	56.6	400.6	33.7	515.6	11.9	127.2	60.7	420.7	34.1	537.2	12.3	127.9	62.7	440.8	34.5	558.7	12.8	128.6
		90	Operation not recommended.																	
	90	50	40.3	289.8	30.8	394.9	9.4	118.8	43.2	304.4	31.0	410.2	9.8	119.1	44.7	319.0	31.2	425.5	10.2	119.5
		70	56.6	402.9	32.8	515.0	12.3	121.4	60.6	421.1	33.2	534.4	12.7	121.9	62.7	439.3	33.5	553.7	13.1	122.3
		90	Operation not recommended.																	
	120	50	40.4	289.5	30.2	392.4	9.6	116.5	43.2	304.0	30.3	407.6	10.0	116.8	44.7	318.6	30.5	422.7	10.4	117.0
		70	56.5	405.3	32.0	514.4	12.7	118.6	60.6	421.6	32.2	531.6	13.1	118.9	62.7	437.8	32.5	548.8	13.5	119.1
		90	Operation not recommended.																	

Note: Operation in shaded areas require special attention to ensure adequate water temperature and flow rates are maintained. Operation outside the limits could result in lockout.

4/29/14

Contractor: ______________________ P.O.: ______________

Engineer: ____

Project Name: ________________ Unit Tag: ______________

Commercial Solutions

600 Performance Data

Heating *(TruClimate 100 Reversible only)*

Source		ELT	Load Flow - 100 GPM						Load Flow - 150 GPM						Load Flow - 200 GPM					
EST °F	Flow GPM	°F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F	LLT °F	HC MBTUH	Power kW	HE MBTUH	COP	LST °F
30	150	60	71.3	562.9	30.1	460.3	5.5	23.9	67.6	566.3	29.0	467.5	5.7	23.8	65.7	569.7	27.8	474.6	6.0	23.7
		80	90.6	528.0	38.4	397.0	4.0	24.7	87.0	524.4	36.8	398.8	4.2	24.7	85.2	520.8	35.3	400.5	4.3	24.7
		100	109.9	493.1	46.7	333.8	3.1	25.5	106.4	482.6	44.7	330.1	3.2	25.6	104.7	472.0	42.7	326.4	3.2	25.6
		120	129.2	458.2	55.0	270.5	2.4	26.4	125.9	440.7	52.5	261.4	2.5	26.5	124.2	423.2	50.1	252.3	2.5	26.6
	200	60	71.8	591.7	31.1	485.7	5.6	25.1	68.0	597.2	30.0	495.0	5.8	25.1	66.0	602.8	28.9	504.2	6.1	25.0
		80	91.0	551.4	39.2	417.7	4.1	25.8	87.3	545.8	37.5	417.8	4.3	25.8	85.4	540.2	35.9	417.8	4.4	25.8
		100	110.2	511.1	47.3	349.7	3.2	26.5	106.6	494.4	45.1	340.6	3.2	26.6	104.8	477.7	42.9	331.4	3.3	26.7
		120	129.4	470.8	55.4	281.7	2.5	27.2	125.9	443.0	52.6	263.3	2.5	27.4	124.2	415.1	49.9	245.0	2.4	27.6
50	100	60	73.4	667.5	33.0	555.0	5.9	38.9	69.1	684.7	32.3	574.6	6.2	38.5	67.0	701.9	31.6	594.2	6.5	38.1
		80	92.8	639.5	41.5	497.9	4.5	40.0	88.7	650.9	40.2	513.6	4.7	39.7	86.6	662.3	39.0	529.3	5.0	39.4
		100	112.2	611.5	50.0	440.8	3.6	41.2	108.2	617.1	48.2	452.6	3.8	40.9	106.2	622.6	46.4	464.4	3.9	40.7
		120	131.7	583.5	58.5	383.7	2.9	42.3	127.8	583.2	56.2	391.6	3.0	42.2	125.8	583.0	53.8	399.5	3.2	42.0
	150	60	74.0	698.5	34.1	582.0	6.0	42.2	69.9	739.7	34.0	623.7	6.4	41.7	67.8	780.9	33.9	665.3	6.8	41.1
		80	93.3	665.5	42.5	520.4	4.6	43.1	89.2	691.2	41.5	549.7	4.9	42.7	87.2	717.0	40.5	578.9	5.2	42.3
		100	112.6	632.5	50.9	458.8	3.6	43.9	108.6	642.8	49.0	475.6	3.8	43.7	106.5	653.2	47.1	492.5	4.1	43.4
		120	132.0	599.5	59.3	397.2	3.0	44.7	127.9	594.4	56.5	401.6	3.1	44.6	125.9	589.3	53.7	406.0	3.2	44.6
	200	60	74.6	729.4	35.2	609.1	6.1	43.9	70.6	794.6	35.7	672.8	6.5	43.3	68.6	859.8	36.2	736.4	7.0	42.6
		80	93.8	691.4	43.5	542.9	4.7	44.6	89.8	731.6	42.8	585.7	5.0	44.1	87.7	771.8	42.0	628.5	5.4	43.7
		100	113.1	653.4	51.8	476.8	3.7	45.2	108.9	668.6	49.8	498.6	3.9	45.0	106.8	683.7	47.8	520.5	4.2	44.8
		120	132.3	615.4	60.0	410.6	3.0	45.9	128.1	605.6	56.9	411.6	3.1	45.9	126.0	595.7	53.7	412.6	3.3	45.9
70	100	60	76.0	800.9	36.9	675.0	6.4	56.5	71.1	834.1	36.6	709.2	6.7	55.8	68.7	867.3	36.3	743.3	7.0	55.1
		80	95.5	774.4	45.4	619.4	5.0	57.6	90.7	798.8	44.4	647.4	5.3	57.1	88.2	823.1	43.3	675.3	5.6	56.5
		100	115.0	747.9	53.9	563.8	4.1	58.7	110.2	763.4	52.1	585.6	4.3	58.3	107.8	778.9	50.3	607.3	4.5	57.9
		120	134.4	721.3	62.5	508.2	3.4	59.8	129.7	728.0	59.9	523.8	3.6	59.5	127.3	734.7	57.3	539.3	3.8	59.2
	150	60	76.7	834.0	38.2	703.8	6.4	60.6	72.2	913.0	39.0	779.9	6.9	59.6	69.9	992.1	39.9	856.0	7.3	58.6
		80	96.1	802.9	46.6	643.8	5.0	61.4	91.4	858.1	46.2	700.5	5.4	60.7	89.1	913.2	45.7	757.2	5.9	59.9
		100	115.4	771.8	55.1	583.8	4.1	62.2	110.7	803.1	53.3	621.2	4.4	61.7	108.3	834.3	51.5	658.5	4.7	61.2
		120	134.8	740.7	63.6	523.8	3.4	63.0	130.0	748.1	60.5	541.8	3.6	62.8	127.6	755.4	57.4	559.7	3.9	62.5
	200	60	77.3	867.1	39.4	732.5	6.4	62.7	73.2	992.0	41.4	850.6	7.0	61.5	71.2	1116.8	43.4	968.6	7.5	60.3
		80	96.6	831.4	47.8	668.2	5.1	63.3	92.2	917.4	48.0	753.7	5.6	62.5	90.0	1003.3	48.1	839.1	6.1	61.6
		100	115.9	795.7	56.2	603.8	4.1	64.0	111.2	842.7	54.5	656.7	4.5	63.4	108.9	889.7	52.8	709.6	4.9	62.9
		120	135.2	760.0	64.6	539.5	3.4	64.6	130.2	768.1	61.1	559.8	3.7	64.4	127.8	776.2	57.5	580.1	4.0	64.2
90	100	60	78.7	934.3	40.8	795.1	6.7	74.1	73.1	983.5	41.0	843.8	7.0	73.1	70.3	1032.7	41.1	892.4	7.4	72.2
		80	98.2	909.3	49.3	741.0	5.4	75.2	92.6	946.6	48.5	781.2	5.7	74.4	89.8	984.0	47.7	821.3	6.1	73.6
		100	117.7	884.3	57.9	686.8	4.5	76.3	112.1	909.7	56.0	718.6	4.8	75.6	109.4	935.2	54.2	750.3	5.1	75.0
		120	Operation not recommended.																	
	150	60	79.4	969.6	42.2	825.5	6.7	79.0	74.5	1086.4	44.1	936.1	7.2	77.5	72.0	1203.3	45.9	1046.6	7.7	76.0
		80	98.8	940.4	50.7	767.2	5.4	79.8	93.7	1024.9	50.8	851.4	5.9	78.6	91.1	1109.4	50.9	935.6	6.4	77.5
		100	118.2	911.1	59.3	708.9	4.5	80.5	112.8	963.3	57.6	766.7	4.9	79.8	110.2	1015.5	56.0	824.5	5.3	79.0
		120	Operation not recommended.																	
	200	60	80.1	1004.8	43.6	855.9	6.7	81.4	75.9	1189.3	47.2	1028.4	7.4	79.7	73.7	1373.9	50.7	1200.8	7.9	78.0
		80	99.4	971.4	52.2	793.4	5.5	82.1	94.7	1103.1	53.2	921.6	6.1	80.8	92.3	1234.8	54.2	1049.8	6.7	79.5
		100	118.8	938.0	60.7	730.9	4.5	82.7	113.6	1016.9	59.2	814.8	5.0	81.9	111.0	1095.8	57.7	898.7	5.6	81.0
		120	Operation not recommended.																	

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Note: Operation in shaded areas require special attention to ensure adequate water temperature and flow rates are maintained. Operation outside the limits could result in lockout.

600 Performance Data cont.

Cooling *(TruClimate 100 Reversible only)*

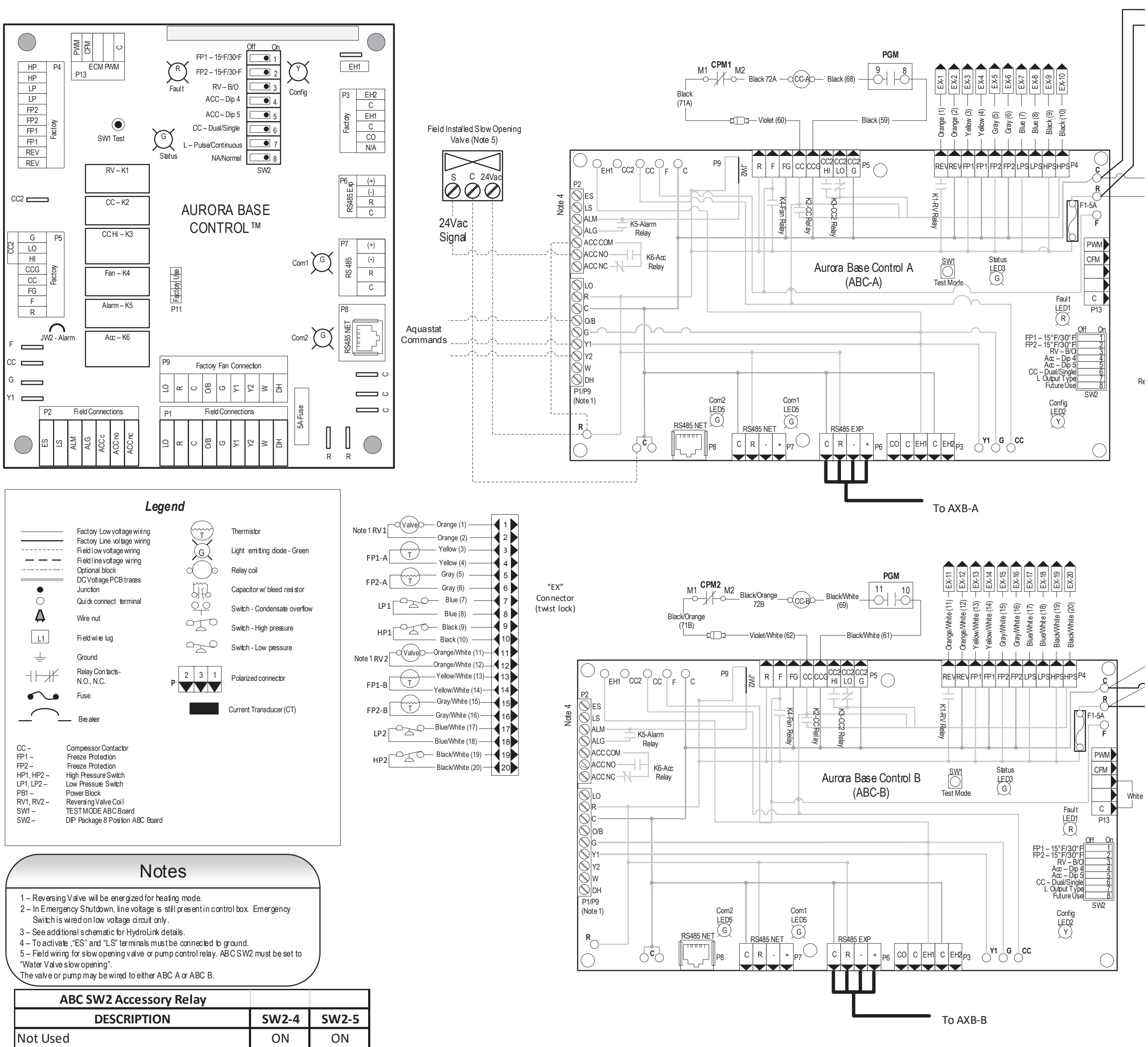
Source		ELT	Load Flow - 100 GPM						Load Flow - 150 GPM						Load Flow - 200 GPM					
EST °F	Flow GPM	°F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F	LLT °F	HC MBTUH	Power kW	HR MBTUH	EER	LST °F
50	100	50	37.6	620.8	29.71	722.1	20.9	64.4	40.9	681.1	31.0	786.7	22.0	65.7	42.6	741.5	32.2	851.3	23.0	67.0
		70	54.0	798.2	33.04	910.9	24.2	68.2	58.8	843.4	34.3	960.3	24.6	69.2	61.1	888.6	35.5	1009.7	25.0	70.2
		90	70.5	975.6	36.38	1099.7	26.8	72.0	76.6	1005.6	37.6	1133.9	26.7	72.7	79.6	1035.7	38.8	1168.2	26.7	73.4
	150	50	37.6	619.0	28.95	717.8	21.4	59.6	41.0	677.1	30.46	781.0	22.2	60.4	42.6	735.2	32.0	844.3	23.0	61.3
		70	54.5	775.9	31.53	883.5	24.6	61.8	59.2	811.3	33.0	923.9	24.6	62.3	61.5	846.8	34.4	964.3	24.6	62.9
		90	71.3	932.8	34.11	1049.2	27.3	64.0	77.4	945.5	35.5	1066.7	26.6	64.2	80.4	958.3	36.9	1084.2	26.0	64.5
	200	50	37.7	617.3	28.19	713.5	21.9	57.1	41.0	673.1	30.0	775.4	22.5	57.8	42.7	729.0	31.7	837.2	23.0	58.4
		70	54.9	753.6	30.02	856.0	25.1	58.6	59.6	779.3	31.7	887.4	24.6	58.9	62.0	805.0	33.4	918.8	24.1	59.2
		90	72.2	889.9	31.84	998.6	27.9	60.0	78.2	885.5	33.4	999.4	26.5	60.0	81.2	881.0	35.0	1000.3	25.2	60.0
70	100	50	38.7	567.2	37.20	694.1	15.2	83.9	41.8	615.8	38.3	746.4	16.1	84.9	43.4	664.4	39.4	798.7	16.9	86.0
		70	55.2	737.5	40.45	875.5	18.2	87.5	59.6	781.7	41.7	923.9	18.8	88.5	61.7	825.9	42.9	972.3	19.3	89.4
		90	71.8	907.9	43.69	1057.0	20.8	91.1	77.4	947.7	45.1	1101.4	21.0	92.0	80.1	987.5	46.4	1145.9	21.3	92.9
	150	50	38.7	566.6	36.06	689.7	15.7	79.2	41.8	614.5	37.2	741.5	16.5	79.9	43.4	662.3	38.4	793.4	17.2	80.6
		70	55.5	725.6	38.61	857.4	18.8	81.4	59.8	765.0	39.9	901.2	19.2	82.0	62.0	804.3	41.2	944.9	19.5	82.6
		90	72.3	884.6	41.16	1025.1	21.5	83.7	77.8	915.5	42.6	1060.8	21.5	84.1	80.5	946.3	44.0	1096.5	21.5	84.6
	200	50	38.7	566.1	34.92	685.2	16.2	76.9	41.8	613.1	36.2	736.7	16.9	77.4	43.4	660.2	37.5	788.1	17.6	77.9
		70	55.7	713.7	36.78	839.2	19.4	78.4	60.0	748.2	38.2	878.4	19.6	78.8	62.2	782.7	39.5	917.6	19.8	79.2
		90	72.8	861.4	38.64	993.2	22.3	79.9	78.2	883.3	40.1	1020.2	22.0	80.2	80.9	905.2	41.6	1047.1	21.8	80.5
90	100	50	39.7	513.6	44.69	666.0	11.5	103.3	42.7	550.4	45.6	706.1	12.1	104.1	44.1	587.3	46.5	746.1	12.6	104.9
		70	56.5	676.9	47.85	840.2	14.1	106.8	60.4	720.1	49.1	887.5	14.7	107.7	62.4	763.3	50.3	934.8	15.2	108.7
		90	Operation not recommended.																	
	150	50	39.7	514.2	43.17	661.5	11.9	98.8	42.6	551.8	44.0	702.0	12.5	99.4	44.1	589.3	44.9	742.5	13.1	99.9
		70	56.5	675.4	45.69	831.3	14.8	101.1	60.4	718.6	46.8	878.4	15.3	101.7	62.4	761.8	48.0	925.6	15.9	102.3
		90	Operation not recommended.																	
	200	50	39.7	514.9	41.66	657.0	12.4	96.6	42.6	553.1	42.4	697.9	13.0	97.0	44.1	591.4	43.2	738.9	13.7	97.4
		70	56.5	673.8	43.54	822.4	15.5	98.2	60.4	717.1	44.6	869.4	16.1	98.7	62.4	760.4	45.7	916.4	16.6	99.2
		90	Operation not recommended.																	
110	100	50	40.8	460.0	52.18	638.0	8.8	122.8	43.5	485.1	52.9	665.7	9.2	123.3	44.9	510.2	53.7	693.5	9.5	123.9
		70	57.7	616.2	55.25	804.8	11.2	126.1	61.2	658.5	56.5	851.1	11.7	127.0	63.0	700.7	57.7	897.4	12.2	127.9
		90	Operation not recommended.																	
	150	50	40.8	461.8	50.29	633.4	9.2	118.4	43.5	489.1	50.82	662.5	9.6	118.8	44.8	516.4	51.3	691.6	10.1	119.2
		70	57.5	625.1	52.78	805.2	11.8	120.7	61.0	672.2	53.8	855.7	12.5	121.4	62.8	719.4	54.8	906.3	13.1	122.1
		90	Operation not recommended.																	
	200	50	40.7	463.7	48.39	628.8	9.6	116.3	43.4	493.1	48.7	659.2	10.1	116.6	44.8	522.6	49.0	689.7	10.7	116.9
		70	57.3	634.0	50.30	805.6	12.6	118.1	60.9	686.0	51.1	860.4	13.4	118.6	62.6	738.1	51.9	915.2	14.2	119.2
		90	Operation not recommended.																	

Note: Operation in shaded areas require special attention to ensure adequate water temperature and flow rates are maintained. Operation outside the limits could result in lockout.

4/29/14

Wiring Schematics

Reversible Chiller HydroLink2 Aurora 120-600



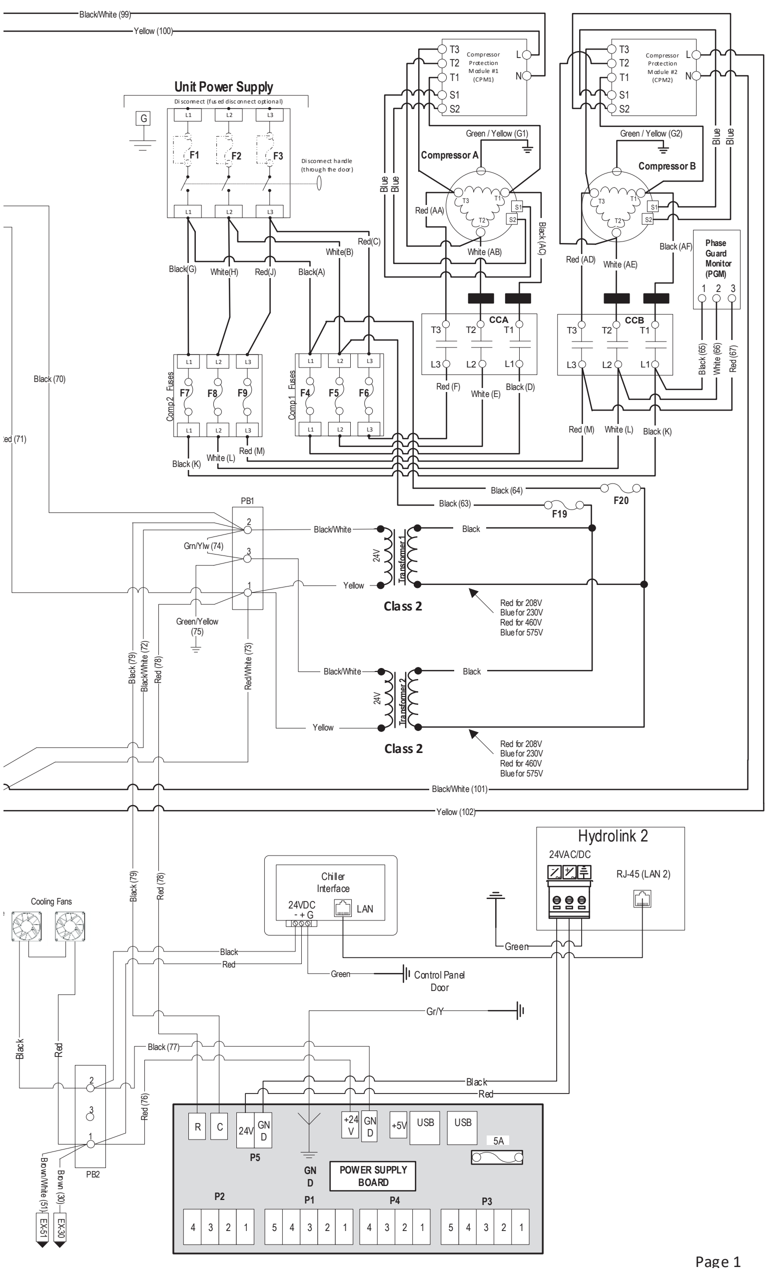
Notes

1 – Reversing Valve will be energized for heating mode.
2 – In Emergency Shutdown, line voltage is still present in control box. Emergency Switch is wired on low voltage circuit only.
3 – See additional schematic for HydroLink details.
4 – To activate "ES" and "LS" terminals must be connected to ground.
5 – Field wiring for slow opening valve or pump control relay. ABC SW2 must be set to "Water Valve slow opening".
The valve or pump may be wired to either ABC A or ABC B.

ABC SW2 Accessory Relay		
DESCRIPTION	**SW2-4**	**SW2-5**
Not Used	ON	ON
Cycle with Compressor	OFF	OFF
Water Valve Slow Opening	ON	OFF
Not Used	OFF	ON

Wiring Schematics cont.

Reversible Chiller HydroLink2 Aurora 120-600



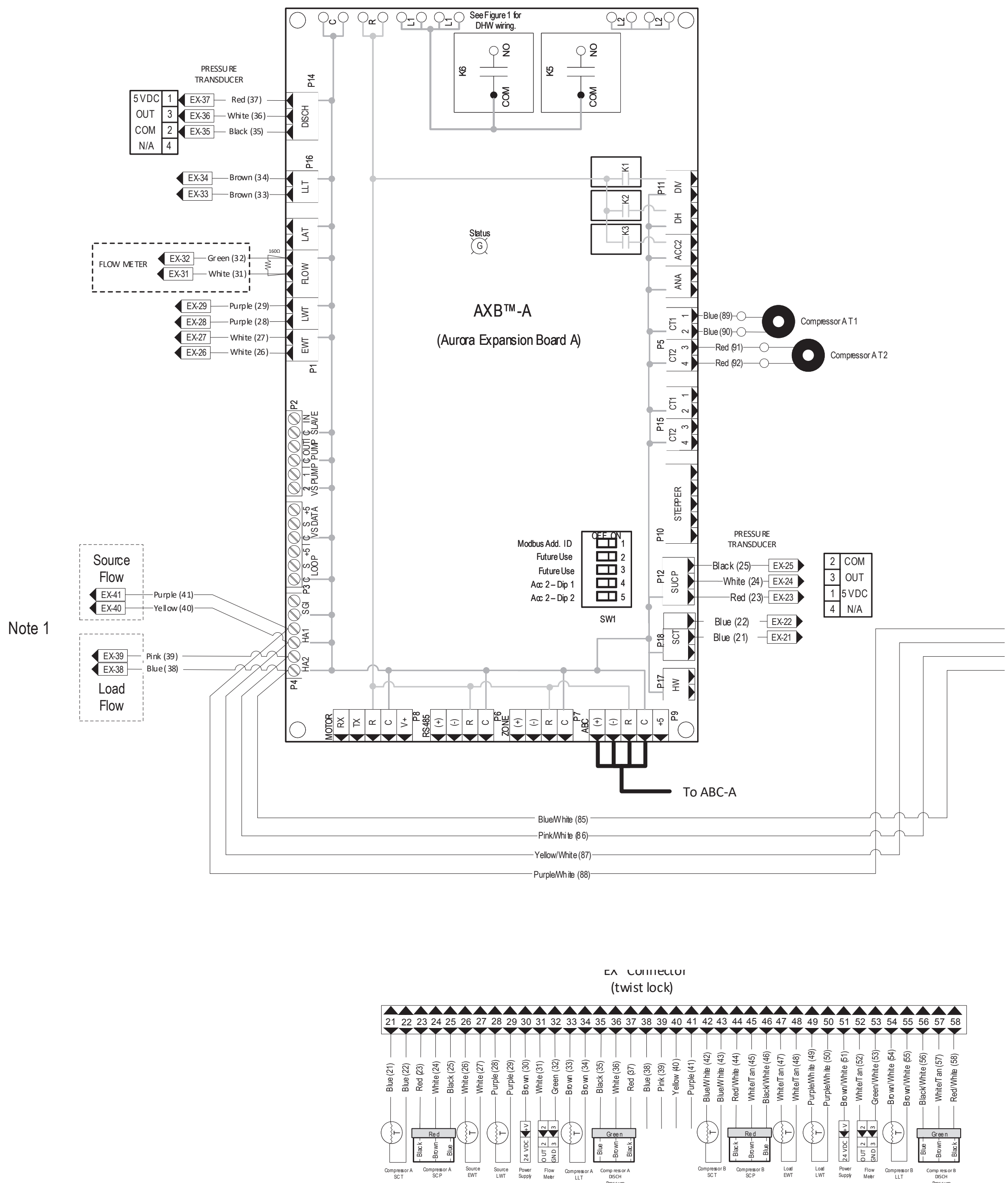
Contractor: ______________________ P.O.: ____________

Engineer: ______________________________

Project Name: ________________ Unit Tag: ____________

Wiring Schematics cont.

Reversible Chiller HydroLink2 Aurora 600 Series



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Contractor: ______________________ P.O.: ______________

Engineer: ______________________________________

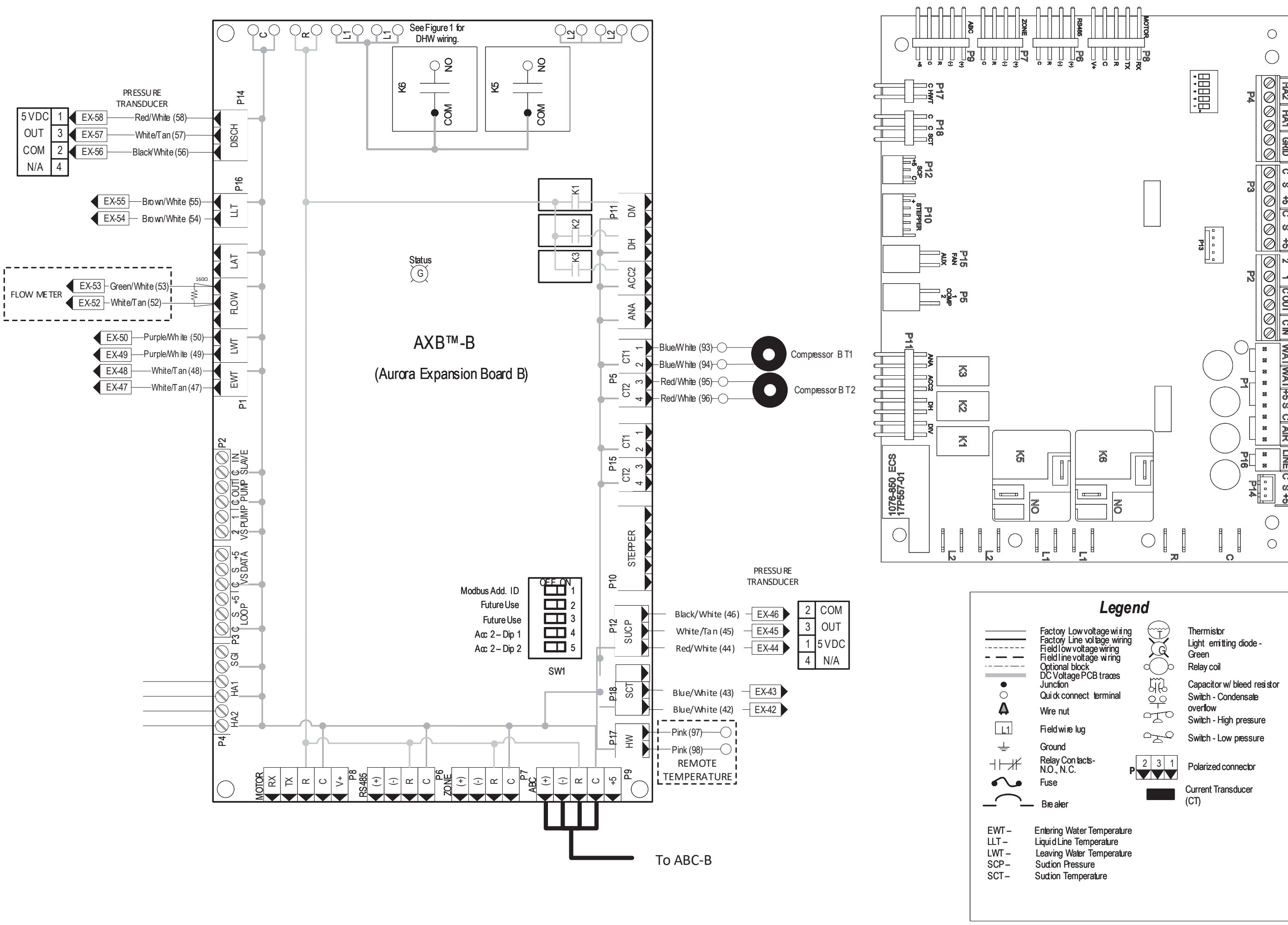
Project Name: ________________ Unit Tag: ______________

TruClimate 100
10-50 Ton 60Hz

WaterFurnace
Commercial Solutions

Wiring Schematics cont.

Reversible Chiller HydroLink2 Aurora 600 Series



Notes

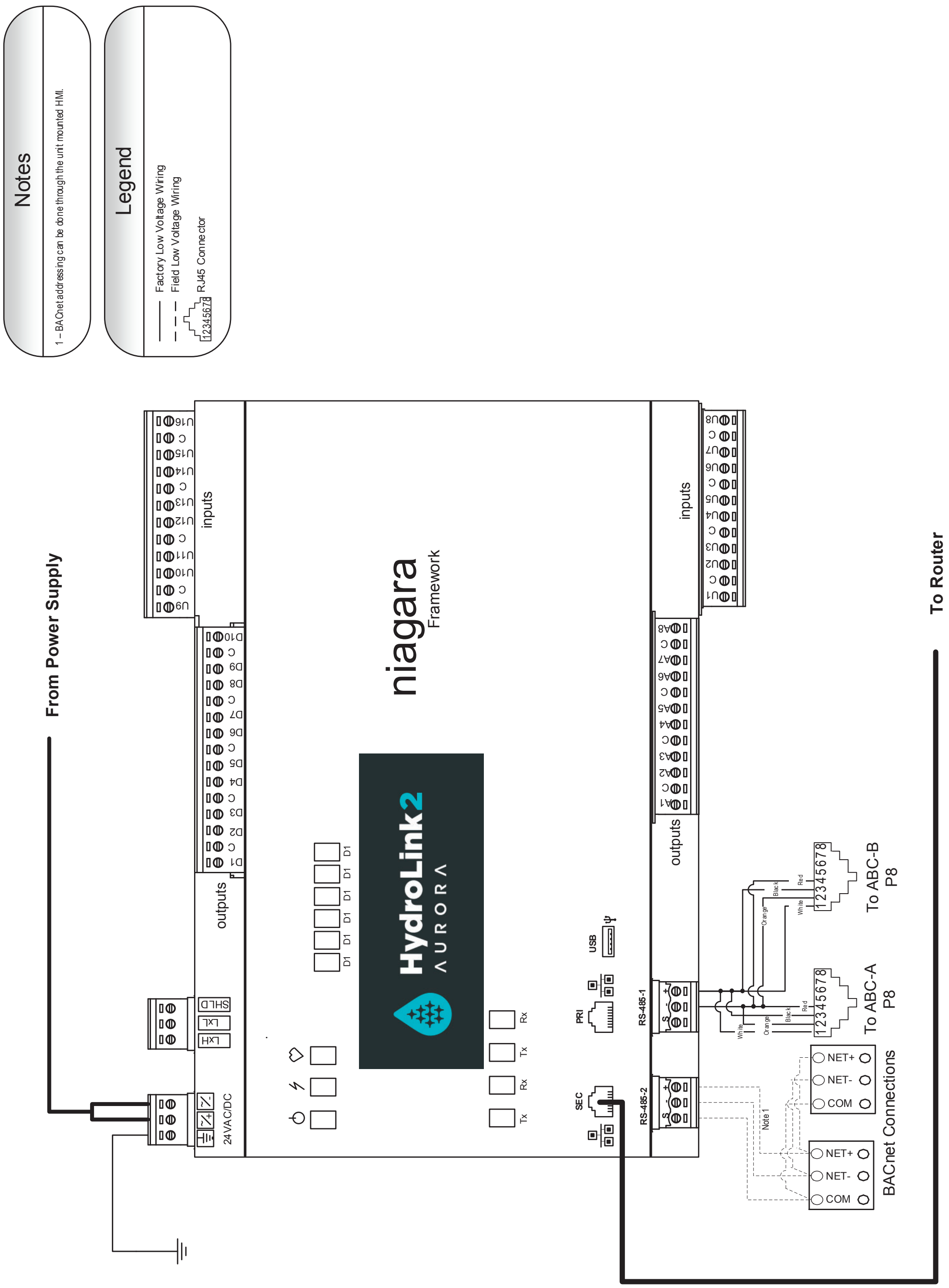
1 - A field installed flow switch is required for the load and source side and must be connected to AXB HA1 and HA2 for the unit to operate. HA1- Source and HA2 – Load.

AXB Accessory 2 DIP Settings		
SW1-4	**SW1-5**	**DESCRIPTION**
ON	ON	Not Used
OFF	ON	Cycles with CC (Normal)
ON	OFF	Not Used
OFF	OFF	Not Used

97P897-14A

Wiring Schematics cont.

HydroLink2 Aurora Control



Engineering Guide Specifications

PART 1 - GENERAL

SUMMARY

The liquid source, water-to-water heat pump shall be a single packaged, reverse-cycle heating/cooling unit. Each unit shall contain microprocessor control for two hermetically sealed, scroll compressors with brazed plate heat exchangers and thermostatic expansion valves.

PERFORMANCE REQUIREMENTS

Fluid Temperature Performance:

Heat Pump shall be capable of continuous operation over the entire range of entering source-fluid temperature of 30°F – 110°F [-1.1°C - 43.3°C] in cooling mode and 30°F – 90°F [-1.1°C - 32.2°C] in heating mode.

Heat Pump shall be capable of continuous operation over the entire range of entering load conditions as indicated in the engineering performance tables.

SUBMITTALS

Product submittal data shall contain manufacturer's specifications for heat pumps showing dimensions, weights, capacities, performance ratings, electrical characteristics, gauges and finishes of materials and installation instructions.

Submit internal electrical wiring diagrams
Submit Control Diagrams and Specifications

QUALITY ASSURANCE

Liquid source, water-water heat pumps shall be tested, rated, and certified in accordance with the following standards.

- ASHRAE 15 for safety code for mechanical refrigeration.
- ASHRAE 147 for refrigerant leaks, recovery, and handling and storage requirements.
- ASHRAE 90.1 – minimum Energy Efficiency compliance for water-to-water heat pumps.
- Comply with NFPA 70 or National Electric Code (N.E.C)
- Comply with UL 1995 and be nationally recognized with ETL
- Tested in accordance with AHRI/ISO/ASHRAE 13256-2

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.

WARRANTY

Standard Warranty: 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.

Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of chillers that fails in materials or workmanship within specified warranty period.

Extended warranties include, but are not limited to, the following:

- Complete heat pump including refrigerant and oil charge.
- Complete compressor and drive assembly.
- Parts only.

PART 2 - PRODUCTS

WATER TO WATER HEAT PUMP EQUIPMENT

Heat pump equipment shall be factory assembled with two refrigerant circuits consisting of scroll compressors, brazed-plate heat exchangers for the evaporator and condenser, microprocessor controls, and safety devices such as refrigerant pressure switches. Units must be field installed with a minimum of a differential waterside pressure switch or flow proving switch on the outlet of the load and source piping.

Frame & Enclosure

Frame shall be constructed of 10 gauge welded steel with forklift pockets in the bottom channel and threaded weld nuts for lifting points in the top of the frame.

Enclosure shall be factory installed and constructed of heavy-gauge G60 galvanized steel coated with polyester powder coat paint. Paint shall be rated for 1,000 hour of salt spray using ASTM B117. Panels, other than control service door, shall be lined with 1/2" inch thick, 1-1/2 lb/cu ft density, glass fiber glass insulation with an foil face, washable backing.

Compressor:

1. Hermetically sealed, scroll compressors with factory charged POE or PVE oil.
2. Suction gas cooled motors operate at 3500 rpm protected by internal overload device. Model sizes 600 protected by external compressor protection module.
3. Brazed connections to system piping utilizing braided stainless steel vibration absorbers on all suction and discharge piping to mitigate vibration.
4. Compressors can be operated separately to provide staged capacity for lighter load conditions.
5. Factory mounted with rubber isolation grommets.
6. Acoustically insulated sound blankets are factory installed around the compressor to reduce sound emanating from the compressor.

Engineering Guide Specifications cont.

Heat Exchangers:

1. The water to refrigerant heat exchangers shall be dual circuit, copper-brazed 316 stainless steel channel plates, capable of withstanding 650 psig working pressure on the refrigerant side and 350 psig on the water side. Refrigerant circuits are separate with a common water supply. This provides optimal part load efficiency compared to using two single circuit heat exchangers. Heat exchangers are designed to work as an evaporator and condenser.
2. Heat exchangers are covered with 3/4" closed-cell insulation on sizes 120-240 and 1" closed-cell insulation on sizes 360-600.
3. Water line connections attached to the heat exchangers are groove type are factory installed with groove coupling and steel pipe nipple. Pipe nipple is insulated and comes with 1/4" NPT pressure/temperature port.

Potable Water Heat Exchangers:

1. The Potable Water option shall be equipped with manifolded double wall single circuit brazed plate heat exchangers. Condenser Inlet and Outlet pipes shall be made of 2 inch copper pipe TYPE L. Double Wall heat exchangers shall be insulated with 3/4" closed cell foam. Potable water condensers inlet and outlet pipes are equipped with 2 inch FNPT fittings. Inlet and Outlet pipes are equipped with 1/4" pressure/temperature ports.

Refrigerant Components:

1. Unit shall utilize R-410A refrigerant type. All system components shall be rated to appropriate UL standards to handle maximum system pressure.
2. Factory charged, sealed system contains optimal refrigerant quantity.
3. Each refrigerant circuit shall utilize a thermostatic expansion valve (TXV) with stainless steel sensing bulb and laser welded diaphragm. TXV will control adequate superheat over the stated operating range as indicated in submittal data.
4. Bidirectional, liquid line filter driers are to be factory installed to provide additional system cleanliness.
5. Factory installed service ports for high and low pressure readings.
6. Optional factory installed pressure gauges mounted below control panel aid in field diagnostics and reduces need for technician applied gauges.

Control Panel

1. Factory installed, wired, and functionally tested at factory before shipment.
2. Single-point power connection to non-fused, or fused rotary-type disconnect in control panel.
3. Factory installed, DIN mounted CUBEFuse with Class J rating wired for protection of each compressor.
4. Low voltage, emergency stop button factory wired and mounted to control panel service door.
5. Factory mounted class 2, control power transformer provides nominal 24 VAC low voltage power supply. Primary to transformer is protected by Class CC fuses.
6. High pressure cut out set at 600 PSIG with manual reset.
7. Low pressure cut out set at 40 PSIG with manual reset.
8. Unit shall have phase loss/reversal for compressor protection.

Controls:

1. The unit shall be controlled using a HydroLink/Aurora microprocessor which sequences all functions and modes of operations.
2. Units shall be capable to communicate thru standard DDC protocols such as Lon, and BACnet (MS/TP)
3. Standalone, non-communicating units are also available that will operate with thermostat, mechanical, or electronic signals. Setpoint or Aquastat mode is capable of controlling to leaving/entering load temperature.
4. The control system shall have the following hardware features:
    - Setpoint, aquastat or network control methods with adjustable PID parameters.
    - 3D color graphics for easier diagnostics
    - 10" color touch WiFi tablet user interface
    - 802.11g WiFi router for local wireless access.
    - BACnet (MSTP) or Lon BAS communication
    - 8 Field defined user relay outputs (N.O.)
    - 2 Field defined analog outputs (0-10V)
    - 6 Field defined digital inputs (0-24VAC)
    - 2 Field defined pressure sensor (0-5V)
    - 2 Field defined current transducer inputs (0-100A)
5. The control system shall have the following functional programming features:
    - Compressor lead/lag control
    - Random start at power up
    - 5 minute Anti-short cycle compressor protection
    - 5 minute minimum compressor run time to ensure oil circulation
    - High and low pressure cutouts
    - Loss of charge protection
    - Slow opening water valve timing
    - Selectable Water coil freeze detection – Refrigerant Temp and Suction Saturation Temp
    - Selectable Water coil freeze detection – Internal HX Fluid Temp Sensing
    - Selectable Water coil freeze alarm –
    - Over/under voltage protection
    - Remote DIP switch override
    - Load shed
    - Emergency shutdown
    - Diagnostic LED's
    - Test mode push button switch
    - Fault Retry with fault history
    - Source and load entering and leaving fluid temperatures
    - Alarm output with optional E code pulsing
    - 4 Accessory output relays with N.O. and N.C.
    - Modbus communication
    - Energy monitoring of current and power for each compressor
    - Refrigerant monitoring of pressures and temperatures including superheat and subcooling

Engineering Guide Specifications cont.

- Performance Monitoring including capacity and heat of extraction/rejection (optional with field installed flow meters)
- Nearly 100 BACnet points available.

Accessories:

1. Additional Items Not Listed Previously:
   - Compressor sound blankets to reduce sound power level of unit.
   - Flow switch to monitor the units presence of flow.
2. Flow Proving Switch
   - A flow proving switch shall be available utilizing high reliability flow sensing technology.
3. Water Connection Adaptor
   - 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. MPT through a braided stainless steel flexible hose with a 400 psi burst rating and a 2 in. pipe union.
4. Differential Pressure Switch
5. Strainers
   - 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 two 2 in. [50.8 mm] wrought copper tees with integral pressure/temperature port.
6. Vibration Isolators
   - 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.

PART 3 - EXECUTION

CHILLER INSTALLATION

Install chillers on support structure indicated.

Equipment Mounting: Install chiller on concrete bases using elastomeric pads. Comply with requirements for vibration isolation devices specified in Division 23 Section "Vibration and Seismic Controls for HVAC Piping and Equipment."

- Minimum Deflection: 1/4 inch.
- Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
- For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
- Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
- Install anchor bolts to elevations required for proper attachment to supported equipment.

Equipment Mounting: Install chiller using elastomeric pads. Comply with requirements for vibration isolation devices specified in Division 23 Section "Vibration and Seismic Controls for HVAC Piping and Equipment."

Equipment Mounting: Install chiller on concrete bases. Comply with requirements for concrete base specified by contractor.

- Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
- For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
- Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
- Install anchor bolts to elevations required for proper attachment to supported equipment.

Maintain manufacturer's recommended clearances for service and maintenance.

Charge chiller with refrigerant and fill with oil if not factory installed.

Install separate devices furnished by manufacturer and not factory installed.

CONNECTIONS

Comply with requirements for piping specified in Division 23 Section "Hydronic Piping." Drawings indicate general arrangement of piping, fittings, and specialties.

Install piping adjacent to chiller to allow service and maintenance.

Evaporator Fluid Connections: Connect to evaporator inlet with shutoff valve, strainer, flexible connector, thermometer, and plugged tee with pressure gage. Connect to evaporator outlet with shutoff valve, balancing valve, flexible connector, flow switch, thermometer, plugged tee with shutoff valve and pressure gage, flow meter, and drain connection with valve. Make connections to chiller with a flange.

Condenser Fluid Connections: Connect to condenser inlet with shutoff valve, strainer, flexible connector, thermometer, and plugged tee with pressure gage. Connect to condenser outlet with shutoff valve, balancing valve, flexible connector, flow switch, thermometer, plugged tee with shutoff valve and pressure gage, flow meter, and drain connection with valve. Make connections to chiller with a flange.

Engineering Guide Specifications cont.

Connect each chiller drain connection with a union and drain pipe, and extend pipe, full size of connection, to floor drain. Provide a shutoff valve at each connection.

STARTUP SERVICE
Engage a factory-authorized service representative to perform startup service.

- Complete installation and startup checks according to manufacturer's written instructions.
- Verify that refrigerant charge is sufficient and chiller has been leak tested.
- Verify that pumps are installed and functional.
- Verify that thermometers and gages are installed.
- Operate chiller for run-in period.
- Check bearing lubrication and oil levels.
- For chillers installed indoors, verify that refrigerant pressure relief device is vented outdoors.
- Verify proper motor rotation.
- Verify static deflection of vibration isolators, including deflection during chiller startup and shutdown.
- Verify and record performance of fluid flow and low-temperature interlocks for evaporator and condenser.
- Verify and record performance of chiller protection devices.
- Test and adjust controls and safeties. Replace damaged or malfunctioning controls and equipment.

Inspect field-assembled components, equipment installation, and piping and electrical connections for proper assembly, installation, and connection.

Contractor: ______________________ P.O.: ______________

Engineer: ______________________________________

Project Name: ________________ Unit Tag: ______________

Revision Guide

Pages:	Description:	Date:	By:
9	Updated Physical Data for Potable Water	18 Mar 2024	SW
Misc.	Updated Physical Data data for NXW600	17 Jan 2024	SW
Misc.	Further naming updates and optional vibration grommets	20 May 2023	JM
Misc.	Implemented product name change	05 Jan 2022	MA
7, 31	Updated dimensional data for double wall chiller	23 Sept 2020	MA
Misc.	Added Potable Water option, updated paint schematic	14 Jan 2020	MA
Misc.	Updated to HydroLink2, updated product renders	20 Feb 2019	MA
Misc.	Updated fault code/tablet instructions, update low voltage graphics	20 May 2018	JM
All	Added HydroLink Control Option, removed FX10	Aug 25 2016	MA
All	First Published	02 Jun 2014	DS