

# SUBMITTAL DATA



R-454B / 60Hz



SDW5-0017S



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

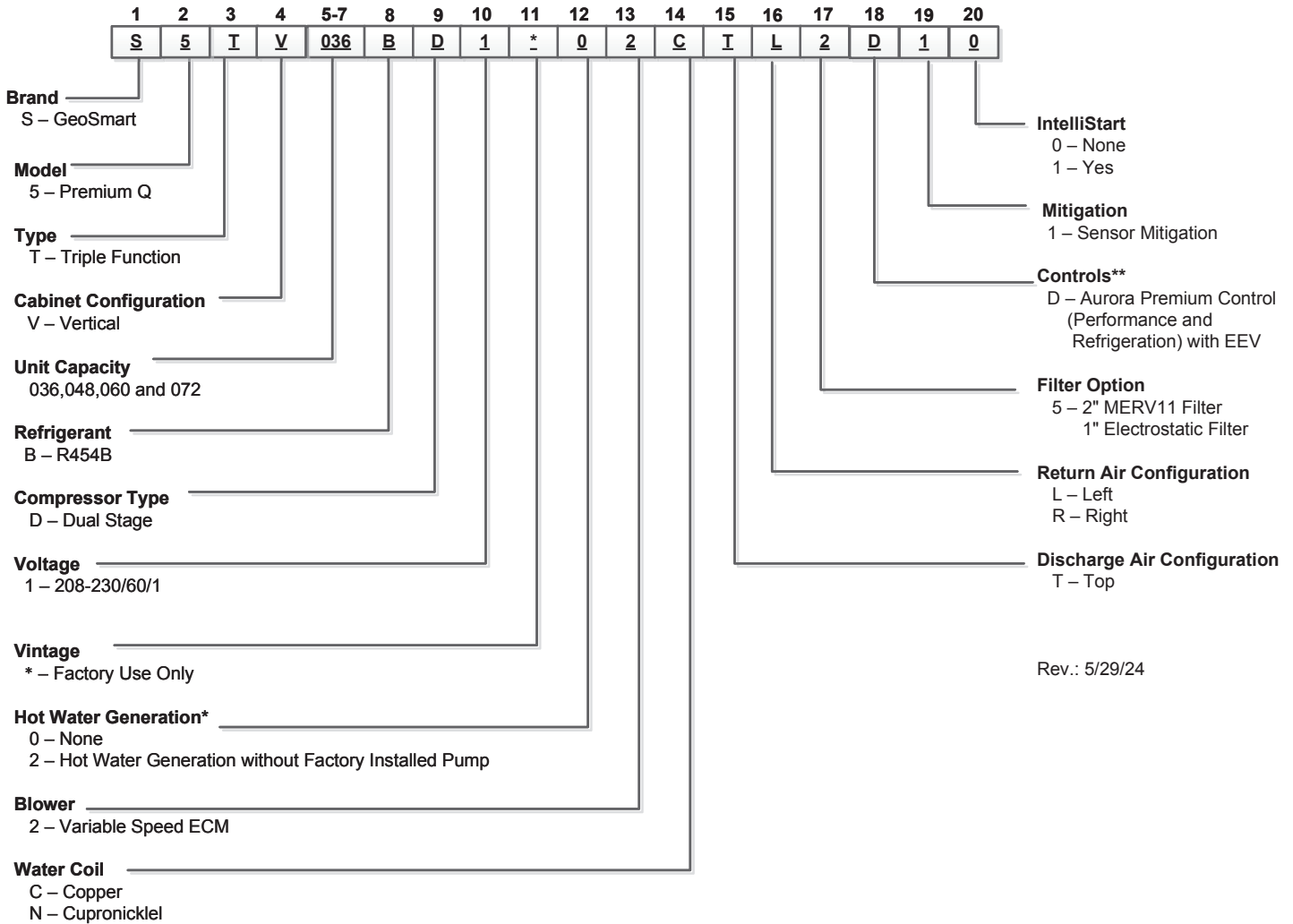
Engineer: \_\_\_\_\_

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

Premium Q Series  
3 - 6 Tons 60Hz

**GEOSMART**  
ENERGY

## Nomenclature



Rev.: 5/29/24

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## AHRI/ISO 13256-1 Performance Ratings

Model	Capacity Modulation	Flow Rate		Ground Water Heat Pump				Ground Loop Heat Pump			
				Cooling EWT 59°F		Heating EWT 50°F		Cooling Brine Full Load 77°F Part Load 68°F		Heating Brine Full Load 32°F Part Load 41°F	
		gpm	cfm	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
036	Full	9	1200	41,400	26.90	35,700	5.10	38,000	20.10	29,300	4.30
	Part	8	1000	30,800	33.60	25,400	5.20	29,600	27.80	23,500	4.70
048	Full	12	1600	52,500	24.50	47,400	4.70	49,100	18.50	38,400	4.10
	Part	11	1400	39,200	32.60	34,100	5.20	37,600	26.40	30,400	4.60
060	Full	16	1800	67,900	23.90	56,000	4.60	63,700	17.90	47,300	4.00
	Part	14	1500	48,900	31.00	38,400	4.80	47,900	25.60	35,100	4.30
072	Full	18	2000	77,700	23.00	70,700	4.50	71,500	17.80	56,100	3.90
	Part	16	1500	58,000	29.50	52,300	4.50	55,300	25.00	46,600	4.10

8/1/24

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Premium Q Series  
3 - 6 Tons 60Hz



## AHRI/ISO 13256-1 Performance Ratings

### Energy Star Compliance Table

Model	Tier 3	
	Ground Water	Ground Loop
<b>036</b>	Yes	Yes
<b>048</b>	Yes	Yes
<b>060</b>	Yes	Yes
<b>072</b>	Yes	Yes

8/29/23

### 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	COP
<b>Water-to-Air</b>		
Ground Loop	17.1	3.6
Ground Water	21.1	4.1
<b>Water-to-Water</b>		
Ground Loop	16.1	3.1
Ground Water	20.1	3.5



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

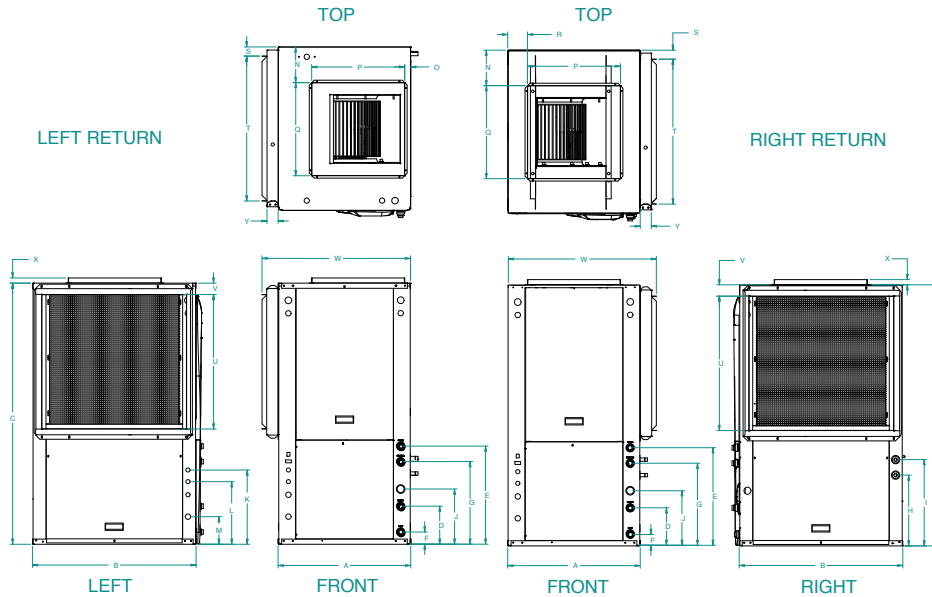
Engineer: \_\_\_\_\_

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

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ENERGY

## Dimensional Data



Vertical Topflow Model	Overall Cabinet			Water Connections										Electrical Connections			
	A	B	C	D	E	F	G	H	I	J	Loop Water FPT	Hydronic Water FPT	HWG (O.D.)	K	L	M	
	Width	Depth	Height	Loop In	Hydronic Out	Hydronic In	Loop Out	HWG In	HWG Out	Condensate				1/2" cond Low Voltage	1/2" cond Ext Pump	3/4" cond Power Supply	
036	in.	25.6	31.6	50.4	7.3	18.9	2.3	15.9	13.6	16.6	10.6	1" Swivel	1" Swivel	1/2" Stub	14.4	12.1	5.3
	cm.	65.0	80.3	128.0	18.5	48.0	5.8	40.4	34.5	42.2	26.9				36.6	30.7	13.5
048	in.	25.6	31.6	54.4	7.3	18.9	2.3	15.9	15.9	18.9	10.6	1" Swivel	1" Swivel	1/2" Stub	14.4	12.1	5.3
	cm.	65.0	80.3	138.2	18.5	48.0	5.8	40.4	40.4	48.0	26.9				36.6	30.7	13.5
060	in.	25.6	31.6	58.4	7.3	18.9	2.3	15.9	15.9	18.9	10.6	1" Swivel	1" Swivel	1/2" Stub	14.4	12.1	5.3
	cm.	65.0	80.3	148.3	18.5	48.0	5.8	40.4	40.4	48.0	26.9				36.6	30.7	13.5
072	in.	25.6	31.6	58.4	7.3	18.9	2.3	15.9	15.9	18.9	10.6	1" Swivel	1" Swivel	1/2" Stub	14.4	12.1	5.3
	cm.	65.0	80.3	148.3	18.5	48.0	5.8	40.4	40.4	48.0	26.9				36.6	30.7	13.5

Vertical Topflow Model	Discharge Connection duct flange installed (±0.10 in)					Return Connection using std deluxe filter rack (±0.10 in)						Misc	
	N	O	P	Q	R	S	T	U	V	W	X	Y	
			Supply Width	Supply Depth		Return Depth	Return Height						
036	in.	6.9	1.1	18.0	18.0	3.8	1.7	28.1	26.0	1.7	28.7	1.0	2.1
	cm.	17.5	2.8	45.7	45.7	9.7	4.3	71.4	66.0	4.3	72.9	2.5	5.3
048	in.	6.9	1.1	18.0	18.0	3.8	1.7	28.1	30.0	1.7	28.7	1.0	2.1
	cm.	17.5	2.8	45.7	45.7	9.7	4.3	71.4	76.2	4.3	72.9	2.5	5.3
060	in.	6.9	1.1	18.0	18.0	3.8	1.7	28.1	34.0	1.7	28.7	1.0	2.1
	cm.	17.5	2.8	45.7	45.7	9.7	4.3	71.4	86.4	4.3	72.9	2.5	5.3
072	in.	6.9	1.1	18.0	18.0	3.8	1.7	28.1	34.0	1.7	28.7	1.0	2.1
	cm.	17.5	2.8	45.7	45.7	9.7	4.3	71.4	86.4	4.3	72.9	2.5	5.3

Condensate is 3/4" PVC female glue socket and is switchable from side to front 11/14/23  
Unit shipped with deluxe 2" (field adjustable to 1") duct collar/filter rack extending from unit 3.25" and is suitable for duct connection.  
Discharge flange is field installed and extends 1" [25.4mm] from cabinet  
Decorative molding and water connections extend 1.2" [30.5mm] beyond front of cabinet.

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

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

Premium Q Series  
3 - 6 Tons 60Hz



## Physical Data

Model	036	048	060	072
Compressor (1 each) Factory Charge R-454B, oz [kg]	<b>Copeland Scroll</b>			
	62 [1.75]	76 [2.15]	98 [2.77]	98 [2.77]
<b>ECM Fan Motor &amp; Blower</b>				
Fan Motor Type/Speeds	<b>ECM Variable Speed</b>			
Fan Motor- hp [W]	1/2 [373]	1/2 [373]	1 [746]	1 [746]
Blower Wheel Size (Dia x W), in. [mm]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]
<b>Coax and Water Piping</b>				
Loop Water Connections Size - Swivel - in [mm]	1" [25.4]	1" [25.4]	1" [25.4]	1" [25.4]
Hydronic Water Connections Size - Swivel - in [mm]	1" [25.4]	1" [25.4]	1" [25.4]	1" [25.4]
HWG Connection Size - Stub - in [mm]	1/2" [12.7]	1/2" [12.7]	1/2" [12.7]	1/2" [12.7]
Coax & Piping Water Volume - gal [l]	1.3 [4.9]	1.6 [6.1]	1.6 [6.1]	1.6 [6.1]
<b>Vertical</b>				
Air Coil Dimensions (H x W), in. [mm]	28 x 25 [711 x 635]	32 x 25 [813 x 635]	36 x 25 [914 x 635]	36 x 25 [914 x 635]
Air Coil Total Face Area, ft2 [m2]	4.9 [0.451]	5.6 [0.570]	6.3 [0.641]	6.3 [0.641]
Air Coil Tube Size, in [mm]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]
Air Coil Number of rows	3	3	4	4
Filter Standard - 2" [51mm] Pleated MERV11 Disposable, in [mm]	28 x 30 [712 x 762]	32 x 30 [813 x 762]	36 x 30 [914 x 762]	36 x 30 [914 x 762]
Weight - Operating, lb [kg]	425	530	540	540
Weight - Packaged, lb [kg]	445	550	560	560

11/2/23

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## Auxiliary Heat Ratings

Model	KW		Stages	BTU/HR		Min CFM		
	208V	230V		208V	230V		036	048 - 072
<b>EAL10B</b>	7.2	9.6	2	24,600	32,700	1100	•	•
<b>EAL15B</b>	10.8	14.4	2	36,900	49,100	1250	•	•
<b>EAL20B</b>	14.4	19.2	2	49,200	65,500	1500		•

Air flow level for auxiliary heat (Aux) must be equal to or above the minimum CFM in this table

## Auxiliary Heat Electrical Data

Model	Supply	Heater Amps		Min Circuit Amp		Max Fuse (USA)		Max Fuse (CAN)		Max CKT BRK	
	Circuit	208 V	240 V	208 V	240 V	208 V	240 V	208 V	240 V	208 V	240 V
<b>EAL10</b>	Single	34.7	40	53.3	60	60	60	60	60	60	60
<b>EAL15</b>	Single	52.0	60	75.0	85	80	90	80	90	70	100
	L1/L2	34.7	40	53.3	60	60	60	60	60	60	60
	L3/L4	17.3	20	21.7	25	25	25	25	25	20	30
<b>EAL20</b>	Single	69.3	80	96.7	110	100	110	100	110	100	100
	L1/L2	34.7	40	53.3	60	60	60	60	60	60	60
	L3/L4	34.7	40	43.3	50	45	50	45	50	40	50

All heaters rated single phase 60 cycle and include unit fan load

All fuses type "D" time delay (or HACR circuit breaker in USA)

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

## Electrical Data

Model	Rated Voltage	Voltage Min/Max	Compressor				Int Pump FLA	Ext Loop FLA	Fan Motor FLA	Total Unit FLA	Min Circ Amp	Max Fuse/HACR
			MCC	RLA	LRA	LRA**						
036	208-230/60/1	187/253	22.7	14.6	90.0	32.4	1.07	5.4	4.0	25.1	28.7	40
048	208-230/60/1	187/253	28.6	18.3	138.0	49.7	1.07	5.4	4.0	28.8	33.3	50
060	208-230/60/1	187/253	39.3	25.2	147.3	51.5	1.07	5.4	7.0	38.7	45.0	70
072	208-230/60/1	187/253	43.7	28.0	160.0	56.0	1.07	5.4	7.0	41.5	48.5	70

Rated Voltage of 208-230/60/1.

HACR circuit breaker in USA only.

Local electrical codes overrule any wiring recommendations.

\* With optional 1 HP ECM motor

\*\*With optional IntelliStart

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Min/Max Voltage of 187/254.

All fuses Class RK-5.



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## Blower Performance Data

MODEL	MAX ESP	AIR FLOW SPEED SETTINGS											
		1	2	3	4	5	6	7	8	9	10	11	12
<b>036</b>	<b>0.50</b>	650	750 G	850	1000	<b>1100</b> L	<b>1200</b>	<b>1300</b> H	<b>1400</b>	<b>1500</b>	1550 Aux		
<b>048</b>	<b>0.50</b>	650	800 G	900	1050	1150	<b>1250</b>	<b>1350</b> L	<b>1450</b>	<b>1550</b> H	1575 Aux		
<b>060</b>	<b>0.75</b>	800	950 G	1100	1300	<b>1500</b> L	<b>1750</b>	<b>1950</b> H	<b>2100</b>	<b>2300</b>	2325 Aux		
<b>072</b>	<b>0.75</b>	800	950 G	1100	1300	<b>1500</b>	<b>1750</b> L	<b>1950</b>	<b>2100</b> H	<b>2300</b>	2325 Aux		

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Factory settings are at recommended G-L-H-Aux speed settings

L-H settings MUST be located within boldface CFM range

"Aux" is factory setting for auxiliary heat and must be equal to or above the "H" setting as well as at least the minimum required for the auxiliary heat package

"G" may be located anywhere within the airflow table

CFM is controlled within ±5% up to the maximum ESP

Max ESP includes allowance for wet coil and standard filter

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## Operating Limits

Operating Limits	Cooling		Heating	
	°F	°C	°F	°C
<b>Air Limits</b>				
Minimum Ambient Air	45	7.2	45	7.2
Rated Ambient Air	80	26.7	70	21.1
Max. Ambient Air	100	37.8	85	29.4
Minimum Entering Air	50	10.0	40	4.4
Rated Entering Air db/wb	80.6/66.2	27/19	68	20.0
Maximum Entering Air db/wb	110/83	43/28.3	80	26.7
<b>Water Limits</b>				
Minimum Entering Water	30	-1.1	20	-6.7
Normal Entering Water	50-110	10-43.3	30-70	-1.1
Maximum Entering Water	120	48.9	90	32.2

**NOTES:** Minimum/maximum limits are only for start-up conditions, and are meant for bringing the space up to occupancy temperature. Units are not designed to operate at the minimum/maximum conditions on a regular basis. The operating limits are dependant upon three primary factors: 1) water temperature, 2) return air temperature, and 3) ambient temperature. When any of the factors are at the minimum or maximum levels, the other two factors must be at the normal level for proper and reliable unit operation.

## Definitions

### Abbreviations and Definitions

HWR = Hot Water Return  
 HWS = Hot Water Supply  
 CWR = Cold Water Return  
 CWS = Cold Water Supply  
 HVR = Heat Recovery Return  
 HVS = Heat Recovery Supply  
 HVP = High Voltage Panel  
 LVP = Low Voltage Panel  
 TC = Total Cooling Capacity in MBTUH  
 MBTUH = Thousands of British Thermal Units per hour  
 LWT = Leaving Water Temperature

EWT = Entering Water Temperature  
 EER = Energy Efficiency Ratio (TC/kW)  
 COP = Coefficient of Performance (HC/kW x 3.413)  
 PSI = Pressure drop in pounds per square inch  
 HC = Heating Capacity in MBTUH  
 HE = Heat of Extraction in MBTUH  
 kW = kilowatt  
 ft hd = pressure drop in feet of head  
 HR = Heat of Rejection

## Reference Calculations

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

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

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

## Correction Factor Tables

### Air Flow Corrections (Dual Capacity Part Load)

Airflow		Cooling				Heating		
cfm Per Ton of Clg	% of Nominal	Total Cap	Sens Cap	Power	Heat of Rej	Htg Cap	Power	Heat of Ext
240	60	0.922	0.778	0.956	0.924	0.943	1.239	0.879
275	69	0.944	0.830	0.962	0.944	0.958	1.161	0.914
300	75	0.957	0.866	0.968	0.958	0.968	1.115	0.937
325	81	0.970	0.900	0.974	0.970	0.977	1.075	0.956
350	88	0.982	0.933	0.981	0.980	0.985	1.042	0.972
375	94	0.991	0.968	0.991	0.991	0.993	1.018	0.988
<b>400</b>	<b>100</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
425	106	1.007	1.033	1.011	1.008	1.007	0.990	1.010
450	113	1.013	1.065	1.023	1.015	1.012	0.987	1.018
475	119	1.017	1.099	1.037	1.022	1.018	0.984	1.025
500	125	1.020	1.132	1.052	1.027	1.022	0.982	1.031
520	130	1.022	1.159	1.064	1.030	1.025	0.979	1.034

5/30/06

### Air Flow Corrections (Dual Capacity Full Load)

Airflow		Cooling				Heating		
cfm Per Ton of Clg	% of Nominal	Total Cap	Sens Cap	Power	Heat of Rej	Htg Cap	Power	Heat of Ext
240	60	0.922	0.786	0.910	0.920	0.943	1.150	0.893
275	69	0.944	0.827	0.924	0.940	0.958	1.105	0.922
300	75	0.959	0.860	0.937	0.955	0.968	1.078	0.942
325	81	0.971	0.894	0.950	0.967	0.977	1.053	0.959
350	88	0.982	0.929	0.964	0.978	0.985	1.031	0.973
375	94	0.992	0.965	0.982	0.990	0.993	1.014	0.988
<b>400</b>	<b>100</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
425	106	1.007	1.034	1.020	1.010	1.007	0.990	1.011
450	113	1.012	1.065	1.042	1.018	1.013	0.983	1.020
475	119	1.017	1.093	1.066	1.026	1.018	0.980	1.028
500	125	1.019	1.117	1.092	1.033	1.023	0.978	1.034
520	130	1.020	1.132	1.113	1.038	1.026	0.975	1.038

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### Cooling Capacity Corrections

Entering Air WB °F	Total Clg Cap	Sensible Cooling Capacity Multipliers - Entering DB °F										Power Input	Heat of Rejection
		60	65	70	75	80	80.6	85	90	95	100		
55	0.898	0.723	0.866	1.048	1.185	*	*	*	*	*	*	0.985	0.913
60	0.912		0.632	0.880	1.078	1.244	1.260	*	*	*	*	0.994	0.927
63	0.945			0.768	0.960	1.150	1.175	*	*	*	*	0.996	0.954
65	0.976			0.694	0.881	1.079	1.085	1.270	*	*	*	0.997	0.972
66.2	0.983			0.655	0.842	1.040	1.060	1.232	*	*	*	0.999	0.986
<b>67</b>	<b>1.000</b>			0.616	0.806	<b>1.000</b>	1.023	1.193	1.330	1.480	*	<b>1.000</b>	<b>1.000</b>
70	1.053				0.693	0.879	0.900	1.075	1.205	1.404	*	1.003	1.044
75	1.168					0.687	0.715	0.875	1.040	1.261	1.476	1.007	1.141

NOTE: \* Sensible capacity equals total capacity at conditions shown.

3/28/12

### Heating Capacity Corrections

Ent Air DB °F	Heating Corrections		
	Htg Cap	Power	Heat of Ext
45	1.062	0.739	1.158
50	1.050	0.790	1.130
55	1.037	0.842	1.096
60	1.025	0.893	1.064
65	1.012	0.945	1.030
68	1.005	0.976	1.012
<b>70</b>	<b>1.000</b>	<b>1.000</b>	<b>1.000</b>
75	0.987	1.048	0.970
80	0.975	1.099	0.930

11/10/09

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## Antifreeze Corrections

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
EWT - °F [°C]		30 [-1.1]	90 [32.2]	30 [-1.1]
Water	0	1.000	1.000	1.000
Ethylene Glycol	10	0.973	0.991	1.075
	20	0.943	0.979	1.163
	30	0.917	0.965	1.225
	40	0.890	0.955	1.324
	50	0.865	0.943	1.419
Propylene Glycol	10	0.958	0.981	1.130
	20	0.913	0.969	1.270
	30	0.854	0.950	1.433
	40	0.813	0.937	1.614
	50	0.770	0.922	1.816
Ethanol	10	0.927	0.991	1.242
	20	0.887	0.972	1.343
	30	0.856	0.947	1.383
	40	0.815	0.930	1.523
	50	0.779	0.911	1.639
Methanol	10	0.957	0.986	1.127
	20	0.924	0.970	1.197
	30	0.895	0.951	1.235
	40	0.863	0.936	1.323
	50	0.833	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. Determine the corrected heating and cooling performance at 30°F and 90°F respectively as well as pressure drop at 30°F for NS\*O22-ECM.

The corrected cooling capacity at 90°F would be: 22,400 MBtu/h x 0.969 = 21,706 MBtu/h

The corrected heating capacity at 30°F would be: 14,500 MBtu/h x 0.913 = 13,239 MBtu/h

The corrected pressure drop at 30°F and 6 gpm would be: 6.6 feet of head x 1.270 = 8.38 feet of head



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

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

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

## Pressure Drop

Model	GPM	Pressure Drop (psi)				
		30°F	50°F	70°F	90°F	110°F
<b>036 full load</b>	5	2.5	2.3	2.2	2.0	1.9
	7	3.9	3.6	3.4	3.2	2.9
	9	5.3	5.0	4.7	4.5	4.1
	11	6.7	6.5	6.0	5.8	5.3
<b>036 part load</b>	4	2.0	1.9	1.8	1.6	1.5
	6	3.1	2.9	2.7	2.5	2.3
	8	4.5	4.2	3.9	3.7	3.4
	10	5.9	5.5	5.1	4.9	4.5
<b>048 full load</b>	6	1.8	1.7	1.6	1.5	1.4
	9	3.2	3.0	2.8	2.6	2.4
	12	4.8	4.5	4.2	3.9	3.6
	15	6.4	6.0	5.6	5.2	4.8
<b>048 part load</b>	5	1.5	1.4	1.3	1.2	1.1
	8	2.8	2.6	2.5	2.3	2.1
	11	4.2	3.9	3.7	3.4	3.2
	14	5.6	5.2	4.9	4.5	4.3
<b>060 full load</b>	8	2.3	2.2	2.0	1.9	1.7
	12	4.8	4.5	4.2	3.9	3.6
	16	7.3	6.8	6.4	6.0	5.5
	20	9.8	9.1	8.6	8.1	7.4
<b>060 part load</b>	6	1.6	1.5	1.4	1.3	1.2
	10	3.6	3.4	3.2	3.0	2.8
	14	5.8	5.4	5.1	4.8	4.4
	18	8.0	7.4	7.0	6.6	6.0
<b>072 full load</b>	12	4.5	4.3	4.0	3.7	3.5
	15	7.0	6.6	6.2	5.8	5.4
	18	9.4	8.9	8.3	7.5	7.2
	21	11.6	11.2	10.4	9.2	9.0
<b>072 part load</b>	10	3.1	2.9	2.7	2.5	2.3
	13	5.0	4.7	4.4	4.1	3.8
	16	7.2	6.8	6.3	5.9	5.5
	19	9.5	9.0	8.4	7.7	7.3

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

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

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

**Performance Data**

**036 High Speed**

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT	Airflow cfm	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC MBtu/h	Airflow cfm	TC MBtu/h	SC MBtu/h	S/T Ratio	Power kW	HR MBtu/h	EER	HWC MBtu/h
20	5.0	2.6	5.9	Operation not recommended							Operation not recommended							
	7.0	4.0	9.2	Operation not recommended							Operation not recommended							
	9.0	5.5	12.7	1050 1250	25.0 25.4	2.21 2.19	17.4 17.9	92.0 88.8	3.31 3.40	2.8 2.5								
30	5.0	2.5	5.8	Operation not recommended							Operation not recommended							
	7.0	3.9	8.9	1050 1250	27.7 28.5	2.15 2.22	20.4 21.0	94.4 91.1	3.78 3.77	2.9 2.7	1050 1250	32.1 32.7	19.9 21.8	0.62 0.67	1.18 1.24	36.2 36.9	27.3 26.3	- -
	9.0	5.3	12.3	1050 1250	28.6 29.1	2.26 2.24	20.9 21.5	95.2 91.6	3.71 3.81	3.0 2.8	1050 1250	32.3 33.1	19.9 21.8	0.62 0.66	1.14 1.20	36.2 37.2	28.3 27.6	- -
40	5.0	2.4	5.6	Operation not recommended							Operation not recommended							
	7.0	3.7	8.7	1050 1250	31.7 32.7	2.25 2.29	24.1 24.9	98.0 94.2	4.14 4.18	3.4 3.1	1050 1250	36.5 37.2	24.0 26.2	0.66 0.70	1.39 1.46	41.3 42.2	26.2 25.4	- -
	9.0	5.2	12.0	1050 1250	32.4 33.4	2.27 2.32	24.6 25.5	98.5 94.7	4.19 4.23	3.5 3.1	1050 1250	36.8 37.6	24.0 26.2	0.65 0.70	1.35 1.42	41.4 42.4	27.2 26.6	- -
50	5.0	2.3	5.4	1050 1250	34.5 35.5	2.29 2.32	26.7 27.6	100.4 96.3	4.42 4.49	3.6 3.3	1050 1250	38.8 40.8	25.4 28.3	0.66 0.69	1.69 1.78	44.5 46.9	23.0 23.0	1.7 1.8
	7.0	3.6	8.4	1050 1250	35.8 36.9	2.34 2.37	27.8 28.8	101.5 97.3	4.48 4.56	3.7 3.4	1050 1250	39.6 41.6	25.7 28.6	0.65 0.69	1.59 1.67	45.0 47.3	24.9 24.9	1.6 1.8
	9.0	5.0	11.6	1050 1250	36.6 37.7	2.36 2.39	28.5 29.5	102.2 97.9	4.54 4.62	3.8 3.5	1050 1250	40.0 42.1	27.5 30.5	0.69 0.72	1.55 1.63	45.3 47.7	25.8 25.8	1.5 1.7
60	5.0	2.3	5.3	1050 1250	37.7 38.9	2.36 2.38	29.6 30.8	103.2 98.8	4.67 4.79	4.1 3.8	1050 1250	37.9 39.8	25.3 28.2	0.67 0.71	1.89 1.97	44.4 46.5	20.1 20.2	2.1 2.2
	7.0	3.5	8.1	1050 1250	39.4 40.6	2.43 2.44	31.1 32.3	104.7 100.1	4.75 4.87	4.2 3.9	1050 1250	38.8 40.7	25.6 28.4	0.66 0.70	1.80 1.87	45.0 47.1	21.6 21.8	2.0 2.1
	9.0	4.9	11.2	1050 1250	40.3 41.7	2.45 2.47	31.9 33.2	105.6 100.9	4.81 4.95	4.3 4.0	1050 1250	39.2 41.2	27.0 30.0	0.69 0.73	1.75 1.83	45.2 47.4	22.4 22.5	1.8 2.0
70	5.0	2.2	5.1	1050 1250	18.2 42.9	2.44 2.47	39.9 34.5	100.1 101.8	2.19 5.09	4.7 4.3	1050 1250	37.1 39.6	25.2 29.6	0.68 0.75	2.07 2.17	40.3 46.8	18.5 18.2	2.6 2.8
	7.0	3.4	7.9	1050 1250	43.0 44.4	2.52 2.52	34.4 35.8	107.9 102.9	5.00 5.16	4.8 4.4	1050 1250	38.1 39.7	25.5 28.3	0.67 0.71	2.00 2.07	44.9 47.0	19.0 19.2	2.4 2.6
	9.0	4.7	10.9	1050 1250	44.1 45.6	2.55 2.54	35.4 36.9	108.9 103.8	5.07 5.26	5.0 5.6	1050 1250	38.5 40.2	26.5 29.4	0.69 0.73	1.95 2.03	45.1 47.1	19.7 19.8	2.3 2.5
80	5.0	2.1	4.9	1050 1250	44.2 45.7	2.52 2.50	35.6 37.2	108.9 103.9	5.14 5.37	5.2 4.8	1050 1250	35.5 36.9	24.8 27.5	0.70 0.75	2.31 2.38	43.3 45.0	15.3 15.5	3.2 3.4
	7.0	3.3	7.6	1050 1250	46.7 48.3	2.61 2.59	37.8 39.5	111.2 105.8	5.23 5.47	5.3 4.9	1050 1250	36.4 37.9	25.1 27.8	0.69 0.73	2.23 2.30	44.0 45.7	16.3 16.5	3.0 3.3
	9.0	4.5	10.5	1050 1250	48.1 49.7	2.65 2.61	39.0 40.8	112.4 106.8	5.32 5.58	5.5 5.1	1050 1250	36.8 38.4	25.7 28.5	0.70 0.74	2.18 2.25	44.3 46.0	16.9 17.0	2.8 3.1
90	5.0	2.0	4.7	1050 1250	47.4 49.1	2.59 2.55	38.6 40.4	111.8 106.4	5.36 5.64	5.9 5.4	1050 1250	33.8 35.0	24.3 27.0	0.72 0.77	2.53 2.59	42.4 43.9	13.4 13.5	4.0 4.3
	7.0	3.2	7.3	1050 1250	50.4 52.2	2.71 2.66	41.2 43.1	114.5 108.7	5.45 5.75	6.0 5.6	1050 1250	34.8 36.1	24.6 27.3	0.71 0.76	2.46 2.52	43.2 44.7	14.2 14.3	3.7 4.1
	9.0	4.4	10.1	1050 1250	52.0 53.8	2.75 2.68	42.6 44.7	115.9 109.9	5.55 5.88	6.2 5.8	1050 1250	35.8 36.5	25.4 27.5	0.71 0.75	2.41 2.47	44.0 44.9	14.9 14.8	3.5 3.9
100	5.0	2.0	4.6	Operation not recommended							Operation not recommended							
	7.0	3.1	7.1	1050 1250	32.7 33.8	2.42 2.39	24.2 26.9	97.4 93.8	4.74 4.79	2.76 2.80	42.1 43.4	11.9 12.1	4.6 5.0					
	9.0	4.2	9.8	1050 1250	33.1 34.2	2.41 2.37	24.1 26.7	97.3 93.6	4.73 4.76	2.71 2.76	42.3 43.6	12.2 12.4	4.4 4.8					
110	5.0	1.9	4.4	Operation not recommended							Operation not recommended							
	7.0	2.9	6.8	1050 1250	30.6 31.5	2.38 2.64	23.8 26.4	97.8 94.0	3.06 3.08	4.11 4.20	10.0 10.2	5.6 6.1						
	9.0	4.1	9.4	1050 1250	31.0 31.8	2.35 2.59	23.5 25.9	97.6 94.2	3.01 3.04	4.12 4.22	10.3 10.5	5.2 5.8						
120	5.0	1.8	4.2	Operation not recommended							Operation not recommended							
	7.0	2.8	6.5	1050 1250	28.6 29.2	2.34 2.54	23.4 25.4	98.2 94.7	3.39 3.47	40.2 41.0	8.5 8.4	6.8 7.4						
	9.0	3.9	9.0	1050 1250	28.9 29.5	2.34 2.54	23.4 25.4	98.1 94.6	3.28 3.38	40.1 41.0	8.8 8.7	6.3 7.0						

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

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

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

**Performance Data cont.**

**036 Low Speed**

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT	Airflow cfm	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC MBtu/h	Airflow cfm	TC MBtu/h	SC MBtu/h	S/T Ratio	Power kW	HR MBtu/h	EER	HWC MBtu/h
20	4.0	2.0	4.7	Operation not recommended							Operation not recommended							
	6.0	3.2	7.3	Operation not recommended							Operation not recommended							
	8.0	4.6	10.6	900 1050	17.0 17.5	1.73 1.70	11.1 11.7	87.5 85.4	2.88 3.02	2.4 2.2	Operation not recommended							
30	4.0	2.0	4.6	Operation not recommended							Operation not recommended							
	6.0	3.1	7.1	900 1050	19.5 20.1	1.64 1.69	13.9 14.3	90.1 87.7	3.48 3.48	2.3 2.1	900 1050	26.1 26.5	16.6 18.1	0.63 0.68	0.83 0.88	29.0 29.5	31.3 30.2	- -
	8.0	4.5	10.3	900 1050	19.9 20.5	1.74 1.71	14.0 14.7	90.5 88.1	3.35 3.51	2.4 2.2	900 1050	26.3 26.9	16.6 18.1	0.63 0.67	0.81 0.85	29.0 29.8	32.4 31.6	- -
40	4.0	1.9	4.5	Operation not recommended							Operation not recommended							
	6.0	3.0	6.9	900 1050	22.2 22.9	1.65 1.69	16.6 17.2	92.9 90.2	3.94 3.98	2.5 2.3	900 1050	28.4 29.0	19.3 21.1	0.68 0.73	0.92 0.96	31.6 32.2	31.0 30.1	- -
	8.0	4.3	10.0	900 1050	22.7 23.4	1.67 1.71	17.0 17.6	93.3 90.6	3.98 4.02	2.6 2.4	900 1050	28.7 29.3	19.3 21.1	0.67 0.72	0.89 0.93	31.7 32.5	32.2 31.5	- -
50	4.0	1.9	4.3	900 1050	24.1 24.8	1.63 1.65	18.5 19.2	94.8 91.9	4.34 4.41	2.6 2.4	900 1050	29.2 30.7	20.0 22.2	0.69 0.72	1.05 1.10	32.8 34.5	27.9 27.9	0.9 1.0
	6.0	2.9	6.7	900 1050	24.9 25.7	1.66 1.69	19.3 20.0	95.7 92.7	4.40 4.48	2.7 2.5	900 1050	29.8 31.4	20.2 22.5	0.68 0.72	0.99 1.03	33.2 34.9	30.2 30.3	0.9 1.0
	8.0	4.2	9.7	900 1050	25.5 26.3	1.68 1.70	19.8 20.5	96.2 93.2	4.45 4.53	2.8 2.5	900 1050	30.1 31.7	21.6 24.0	0.72 0.76	0.96 1.01	33.4 35.1	31.3 31.4	0.8 0.9
60	4.0	1.8	4.2	900 1050	26.5 27.3	1.62 1.63	20.9 21.7	97.2 94.1	4.77 4.90	2.9 2.6	900 1050	28.1 29.4	19.8 22.0	0.70 0.75	1.20 1.26	32.2 33.7	23.3 23.4	1.3 1.3
	6.0	2.8	6.5	900 1050	27.6 28.5	1.67 1.68	21.9 22.8	98.4 95.2	4.85 4.98	3.0 2.7	900 1050	28.7 30.1	20.0 22.2	0.70 0.74	1.14 1.19	32.6 34.2	25.1 25.3	1.2 1.3
	8.0	4.1	9.4	900 1050	28.3 29.3	1.69 1.70	22.6 23.5	99.1 95.8	4.92 5.06	3.0 2.8	900 1050	29.0 30.5	21.1 23.4	0.73 0.77	1.11 1.17	32.8 34.4	26.0 26.1	1.1 1.2
70	4.0	1.8	4.0	900 1050	18.2 30.2	1.62 1.70	22.7 24.4	98.7 96.6	3.29 5.21	3.2 2.9	900 1050	27.0 28.6	19.6 22.6	0.73 0.79	1.39 1.46	30.2 33.4	28.7 19.6	1.7 1.8
	6.0	2.7	6.2	900 1050	30.4 31.4	1.68 1.68	24.6 25.6	101.2 97.6	5.31 5.48	3.3 3.0	900 1050	27.7 28.9	19.8 21.9	0.72 0.76	1.30 1.35	32.1 33.6	21.3 21.4	1.6 1.8
	8.0	3.9	9.1	900 1050	31.1 32.2	1.70 1.69	25.3 26.4	102.0 98.4	5.38 5.58	3.4 3.1	900 1050	27.9 29.2	20.6 22.8	0.74 0.78	1.27 1.32	32.3 33.7	22.0 22.1	1.5 1.7
80	4.0	1.7	3.9	900 1050	31.1 32.2	1.61 1.60	25.7 26.8	102.0 98.4	5.67 5.92	3.6 3.3	900 1050	25.5 26.5	19.4 21.5	0.76 0.81	1.57 1.62	30.9 32.1	16.2 16.4	2.4 2.6
	6.0	2.6	6.0	900 1050	32.9 34.1	1.67 1.66	27.2 28.4	103.9 100.0	5.77 6.02	3.7 3.4	900 1050	26.2 27.3	19.6 21.7	0.75 0.80	1.52 1.56	31.4 32.6	17.3 17.5	2.3 2.5
	8.0	3.8	8.8	900 1050	33.9 35.1	1.70 1.67	28.1 29.4	104.9 100.9	5.86 6.15	3.8 3.5	900 1050	26.5 27.6	20.1 22.3	0.76 0.81	1.49 1.53	31.6 32.8	17.8 18.0	2.1 2.3
90	4.0	1.6	3.8	900 1050	33.4 34.6	1.60 1.57	28.0 29.2	104.4 100.5	6.14 6.45	4.0 3.7	900 1050	24.1 24.9	19.2 21.3	0.80 0.85	1.78 1.83	30.2 31.2	13.5 13.6	3.2 3.4
	6.0	2.5	5.8	900 1050	35.5 36.8	1.67 1.64	29.8 31.2	106.5 102.4	6.24 6.58	4.2 3.8	900 1050	24.8 25.7	19.4 21.5	0.78 0.84	1.73 1.78	30.7 31.8	14.3 14.5	3.0 3.3
	8.0	3.7	8.5	900 1050	36.6 37.9	1.69 1.65	30.9 32.3	107.7 103.4	6.35 6.73	4.3 4.0	900 1050	25.8 26.0	19.7 21.7	0.76 0.83	1.71 1.74	31.6 31.9	15.1 14.9	2.8 3.1
100	4.0	1.6	3.6	Operation not recommended							Operation not recommended							
	6.0	2.4	5.6	Operation not recommended							Operation not recommended							
	8.0	3.5	8.2	Operation not recommended							Operation not recommended							
110	4.0	1.5	3.5	Operation not recommended							Operation not recommended							
	6.0	2.3	5.4	Operation not recommended							Operation not recommended							
	8.0	3.4	7.8	Operation not recommended							Operation not recommended							
120	4.0	1.5	3.4	Operation not recommended							Operation not recommended							
	6.0	2.2	5.2	Operation not recommended							Operation not recommended							
	8.0	3.3	7.5	Operation not recommended							Operation not recommended							

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

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

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

## Performance Data

### 036 Water Heating Data

ELT	EST	LGPM	SOURCE 5.0 GPM						SWPD		HWC kBtu/h	SOURCE 7.0 GPM						SWPD		HWC kBtu/h	SOURCE 9.0 GPM						SWPD		HWC kBtu/h
			LLT	HC	KW	HE	COP	LST	PSI	FT HD		LLT	HC	KW	HE	COP	LST	PSI	FT HD		LLT	HC	KW	HE	COP	LST	PSI	FT HD	
80	30	5.0	Operation Not Recommended																										
		7.0	87.9	25.0	1.88	10.8	4.0	22.3	2.8	6.5	2.5	88.0	25.7	1.91	15.8	4.1	23.9	4.5	10.3	2.7	88.2	26.3	1.95	20.8	4.2	25.4	6.1	14.1	2.8
		9.0	85.7	25.2	1.86	19.6	4.1	22.2	2.8	6.5	2.4	85.9	25.9	1.90	20.4	4.2	23.8	4.5	10.3	2.5	86.0	26.6	1.94	21.1	4.3	25.3	6.1	14.1	2.6
80	40	5.0	Operation Not Recommended																										
		7.0	88.9	28.3	1.89	16.1	4.5	30.9	2.7	6.1	2.5	89.1	29.1	1.92	20.1	4.6	32.8	4.2	9.7	2.7	89.3	29.8	1.96	24.1	4.7	34.6	5.7	13.3	2.8
		9.0	86.4	28.5	1.87	22.8	4.6	30.8	2.7	6.1	2.4	86.6	29.2	1.91	23.6	4.7	32.7	4.2	9.7	2.5	86.8	30.0	1.95	24.4	4.8	34.5	5.7	13.2	2.6
80	50	5.0	92.7	31.7	1.93	17.1	4.9	39.6	2.5	5.8	2.7	93.0	32.4	1.96	22.1	5.0	41.8	4.0	9.1	2.8	93.3	33.1	1.99	27.2	5.1	44.0	5.4	12.5	2.9
		7.0	89.9	31.7	1.91	21.5	5.0	39.5	2.5	5.8	2.6	90.2	32.5	1.94	24.5	5.1	41.7	3.9	9.1	2.7	90.4	33.3	1.97	27.5	5.2	43.8	5.4	12.4	2.8
		9.0	87.2	31.7	1.88	26.0	5.1	39.4	2.5	5.8	2.5	87.4	32.6	1.92	26.9	5.2	41.6	3.9	9.1	2.5	87.6	33.5	1.95	27.8	5.3	43.7	5.4	12.4	2.6
80	60	5.0	94.1	35.1	1.95	24.7	5.3	48.1	2.4	5.4	2.7	94.4	35.8	1.98	27.6	5.4	50.7	3.7	8.5	2.8	94.7	36.6	2.01	30.5	5.5	53.2	5.1	11.7	2.9
		7.0	91.0	35.0	1.92	26.9	5.5	48.1	2.4	5.4	2.6	91.2	35.9	1.95	28.9	5.6	50.6	3.7	8.5	2.7	91.5	36.7	1.98	30.8	5.7	53.0	5.0	11.6	2.7
		9.0	87.9	35.0	1.89	29.1	5.6	48.0	2.4	5.4	2.5	88.1	35.9	1.92	30.1	5.7	50.5	3.7	8.5	2.5	88.3	36.9	1.96	31.1	5.9	52.9	5.0	11.5	2.6
80	70	5.0	95.4	38.5	1.97	32.3	5.8	56.7	2.2	5.1	2.7	95.8	39.3	2.00	33.1	5.9	59.6	3.5	8.0	2.8	96.1	40.1	2.03	33.9	6.0	62.4	4.7	10.9	2.8
		7.0	92.0	38.4	1.94	32.3	6.0	56.7	2.2	5.1	2.6	92.3	39.3	1.97	33.2	6.1	59.5	3.4	7.9	2.7	92.6	40.2	2.00	34.2	6.2	62.3	4.7	10.7	2.7
		9.0	88.6	38.2	1.90	32.3	6.1	56.6	2.2	5.1	2.5	88.9	39.3	1.93	33.4	6.2	59.4	3.4	7.9	2.6	89.1	40.3	1.96	34.4	6.4	62.1	4.6	10.6	2.6
100	30	5.0	Operation Not Recommended																										
		7.0	107.3	24.3	2.39	12.2	3.1	23.6	2.8	6.5	2.6	107.4	24.8	2.42	14.8	3.2	24.9	4.5	10.3	2.7	107.5	25.3	2.45	17.5	3.2	26.3	6.1	14.1	2.8
		9.0	105.3	24.2	2.37	16.5	3.2	23.6	2.8	6.5	2.5	105.4	24.8	2.41	17.1	3.2	24.9	4.5	10.3	2.5	105.5	25.4	2.44	17.6	3.3	26.2	6.1	14.1	2.6
100	40	5.0	Operation Not Recommended																										
		7.0	108.2	27.1	2.39	16.0	3.5	32.5	2.7	6.1	2.7	108.3	27.6	2.42	18.2	3.5	34.1	4.2	9.7	2.8	108.4	28.2	2.45	20.4	3.6	35.6	5.7	13.2	2.9
		9.0	105.9	27.0	2.37	19.2	3.5	32.5	2.7	6.1	2.6	106.0	27.6	2.40	19.8	3.6	34.0	4.2	9.7	2.7	106.1	28.2	2.44	20.4	3.7	35.6	5.7	13.2	2.7
100	50	5.0	111.5	30.0	2.43	17.7	3.7	41.4	2.5	5.8	3.0	111.7	30.6	2.46	20.4	3.8	43.2	3.9	9.1	3.1	111.9	31.2	2.49	23.2	3.8	45.1	5.4	12.4	3.2
		7.0	109.0	29.9	2.40	19.8	3.8	41.4	2.5	5.8	2.9	109.1	30.5	2.43	21.5	3.9	43.2	3.9	9.1	2.9	109.3	31.1	2.46	23.2	3.9	45.0	5.4	12.4	3.0
		9.0	106.5	29.8	2.37	21.9	3.9	41.4	2.5	5.8	2.7	106.6	30.5	2.40	22.6	3.9	43.2	3.9	9.1	2.8	106.7	31.1	2.43	23.3	4.0	44.9	5.4	12.4	2.9
100	60	5.0	112.6	32.8	2.44	22.6	4.1	50.3	2.4	5.4	3.1	112.8	33.4	2.47	24.4	4.1	52.3	3.7	8.5	3.2	113.0	34.1	2.50	26.1	4.2	54.4	5.0	11.6	3.3
		7.0	109.8	32.7	2.41	23.6	4.2	50.3	2.4	5.4	3.0	110.0	33.4	2.43	24.8	4.2	52.3	3.7	8.5	3.0	110.1	34.0	2.46	26.1	4.3	54.3	5.0	11.5	3.1
		9.0	107.0	32.6	2.37	24.6	4.2	50.3	2.4	5.4	2.8	107.1	33.3	2.40	25.3	4.3	52.3	3.7	8.5	2.9	107.3	34.0	2.43	26.1	4.4	54.3	5.0	11.5	3.0
100	70	5.0	113.7	35.7	2.46	27.5	4.4	59.2	2.2	5.1	3.2	113.9	36.3	2.48	28.3	4.5	61.5	3.4	7.9	3.3	114.2	37.0	2.51	29.1	4.5	63.8	4.7	10.7	3.4
		7.0	110.6	35.5	2.42	27.4	4.5	59.2	2.2	5.1	3.1	110.8	36.2	2.44	28.2	4.6	61.5	3.4	7.9	3.2	111.0	37.0	2.47	29.0	4.6	63.7	4.6	10.7	3.2
		9.0	107.6	35.4	2.38	27.3	4.6	59.3	2.2	5.1	3.0	107.7	36.1	2.40	28.1	4.7	61.4	3.4	7.9	3.0	107.9	36.9	2.42	28.9	4.7	63.6	4.6	10.6	3.1
120	30	5.0	Operation Not Recommended																										
		7.0	126.8	23.5	2.90	13.6	2.2	24.9	2.8	6.5	2.8	126.8	23.9	2.93	13.9	2.2	26.0	4.5	10.3	2.8	126.9	24.4	2.96	14.3	2.3	27.1	6.1	14.1	2.9
		9.0	124.9	23.2	2.88	13.4	2.2	25.0	2.8	6.5	2.5	124.9	23.7	2.91	13.8	2.3	26.1	4.5	10.3	2.6	124.9	24.1	2.94	14.1	2.3	27.1	6.1	14.1	2.6
120	40	5.0	Operation Not Recommended																										
		7.0	127.4	25.8	2.90	15.8	2.4	34.1	2.7	6.1	3.0	127.5	26.2	2.92	16.2	2.4	35.4	4.2	9.7	3.0	127.5	26.7	2.95	16.6	2.5	36.6	5.7	13.2	3.1
		9.0	125.3	25.5	2.87	15.6	2.4	34.2	2.7	6.1	2.7	125.3	26.0	2.90	16.0	2.5	35.4	4.2	9.7	2.8	125.3	26.5	2.93	16.4	2.5	36.6	5.7	13.2	2.9
120	50	5.0	130.3	28.3	2.93	18.2	2.6	43.2	2.5	5.8	3.4	130.4	28.8	2.96	18.8	2.6	44.7	3.9	9.1	3.4	130.5	29.3	2.98	19.3	2.6	46.2	5.4	12.4	3.5
		7.0	128.0	28.1	2.90	18.0	2.6	43.3	2.5	5.8	3.2	128.1	28.6	2.92	18.5	2.6	44.7	3.9	9.1	3.2	128.1	29.0	2.95	19.0	2.7	46.1	5.4	12.4	3.3
		9.0	125.8	27.9	2.87	17.9	2.7	43.5	2.5	5.8	3.0	125.8	28.3	2.89	18.3	2.7	44.8	3.9	9.1	3.0	125.8	28.8	2.91	18.8	2.7	46.1	5.4	12.4	3.1
120	60	5.0	131.1	30.6	2.94	20.5	2.8	52.4	2.4	5.4	3.5	131.2	31.1	2.96	21.1	2.8	54.0	3.7	8.5	3.6	131.4	31.6	2.99	21.8	2.8	55.7	5.0	11.5	3.7
		7.0	128.6	30.4	2.90	20.3	2.8	52.5	2.4	5.4	3.4	128.7	30.9	2.92	20.8	2.8	54.1	3.7	8.5	3.4	128.8	31.4	2.94	21.4	2.9	55.6	5.0	11.5	3.5
		9.0	126.2	30.2	2.86	20.1	2.9	52.7	2.4	5.4	3.2	126.2	30.7	2.88	20.6	2.9	54.1	3.7	8.5	3.3	126.2	31.2	2.90	21.1	2.9	55.6	5.0	11.5	3.4
120	70	5.0	131.9	32.8	2.94	22.7	3.0	61.6	2.2	5.1	3.7	132.1	33.4	2.97	23.5	3.0	63.4	3.4	7.9	3.8	132.2	33.9	2.99	24.2	3.0	65.2	4.6	10.6	3.9
		7.0	129.3	32.7	2.90	22.5	3.1	61.8	2.2	5.1	3.6	129.3	33.2	2.92	23.2	3.1	63.5	3.4	7.9	3.7	129.4	33.7	2.94	23.8	3.1	65.2	4.6	10.6	3.8
		9.0	126.6	32.5	2.85	22.3	3.1	61.9	2.2	5.1	3.4	126.6	33.0	2.87	22.9	3.1	63.5	3.4	7.9	3.5	126.6	33.5	2.88	23.4	3.1	65.1	4.6	10.6	3.6

\*Water heating mode only allows high compressor capacity operation.

- 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 coax water pressure drop
- EST = entering source fluid temperature to heat pump
- LST = leaving source fluid temperature from heat pump
- HWC = desuperheater capacity
- SWPD = source coax water pressure drop
- PSI = pressure drop in pounds per square inch
- FT HD = pressure drop in feet of head
- KW = kilowatts
- HE = heat extracted in BTUH
- HC = total heating capacity in BTUH
- COP = coefficient of performance [HC/(KW x 3.413)]

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

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

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

**Performance Data cont.**

**048 High Speed**

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT	Airflow cfm	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC MBtu/h	Airflow cfm	TC MBtu/h	SC MBtu/h	S/T Ratio	Power kW	HR MBtu/h	EER	HWC MBtu/h
20	6.0	1.9	4.3	Operation not recommended							Operation not recommended							
	9.0	3.3	7.6	Operation not recommended							Operation not recommended							
	12.0	4.9	11.4	1350 1550	33.3 33.4	2.92 2.85	23.4 23.7	92.8 90.0	3.35 3.43	4.7 4.2	Operation not recommended							
30	6.0	1.8	4.2	Operation not recommended							Operation not recommended							
	9.0	3.2	7.4	1350 1550	36.6 37.6	2.82 2.91	26.9 27.7	95.1 92.5	3.80 3.79	4.9 4.5	1350 1550	43.5 44.2	26.1 28.5	0.60 0.64	1.86 1.95	49.8 50.9	23.4 22.6	- -
	12.0	4.8	11.0	1350 1550	38.3 38.4	3.01 2.94	28.0 28.4	96.3 92.9	3.73 3.83	5.0 4.6	1350 1550	43.7 44.8	26.1 28.5	0.60 0.64	1.80 1.89	49.9 51.2	24.3 23.7	- -
40	6.0	1.8	4.1	Operation not recommended							Operation not recommended							
	9.0	3.1	7.1	1350 1550	41.8 43.1	2.94 3.00	31.8 32.9	98.7 95.7	4.17 4.21	5.6 5.2	1350 1550	47.8 48.6	30.4 33.2	0.64 0.68	2.01 2.11	54.6 55.8	23.8 23.1	- -
	12.0	4.6	10.7	1350 1550	42.6 44.0	2.97 3.03	32.5 33.7	99.2 96.3	4.21 4.26	5.8 5.3	1350 1550	48.1 49.2	30.4 33.2	0.63 0.67	1.95 2.04	54.8 56.2	24.7 24.1	- -
50	6.0	1.7	3.9	1350 1550	45.4 46.7	2.98 3.02	35.2 36.4	101.1 97.9	4.46 4.53	6.1 5.6	1350 1550	49.4 52.0	31.5 35.0	0.64 0.67	2.27 2.39	57.1 60.1	21.8 21.8	2.7 2.9
	9.0	3.0	6.9	1350 1550	47.0 48.5	3.05 3.09	36.6 38.0	102.3 99.0	4.52 4.60	6.3 5.8	1350 1550	50.4 53.0	31.9 35.4	0.63 0.67	2.14 2.24	57.7 60.7	23.6 23.6	2.5 2.7
	12.0	4.5	10.4	1350 1550	48.1 49.6	3.08 3.12	37.6 39.0	103.0 99.6	4.58 4.66	6.5 5.9	1350 1550	50.9 53.6	34.0 37.8	0.67 0.71	2.09 2.19	58.0 61.1	24.4 24.5	2.3 2.6
60	6.0	1.7	3.8	1350 1550	49.9 51.5	3.11 3.13	39.3 40.8	104.2 100.8	4.71 4.83	6.9 6.4	1350 1550	48.2 50.5	31.7 35.2	0.66 0.70	2.49 2.60	56.7 59.4	19.3 19.4	3.2 3.4
	9.0	2.9	6.7	1350 1550	52.1 53.8	3.19 3.21	41.2 42.9	105.8 102.1	4.78 4.91	7.1 6.6	1350 1550	49.3 51.7	32.0 35.5	0.65 0.69	2.37 2.47	57.4 60.1	20.8 20.9	3.0 3.2
	12.0	4.3	10.0	1350 1550	53.4 55.2	3.23 3.24	42.4 44.1	106.6 102.9	4.85 4.99	7.3 6.7	1350 1550	49.8 52.3	33.8 37.5	0.68 0.72	2.31 2.42	57.7 60.5	21.5 21.6	2.7 3.1
70	6.0	1.6	3.7	1350 1550	18.2 56.2	3.23 3.27	44.1 45.0	104.5 103.6	1.65 5.04	7.9 7.3	1350 1550	47.0 49.8	31.8 36.8	0.68 0.74	2.75 2.87	50.2 59.4	17.5 17.4	3.9 4.2
	9.0	2.8	6.5	1350 1550	57.2 59.1	3.33 3.33	45.9 47.7	109.3 105.3	5.03 5.20	8.1 7.5	1350 1550	48.2 50.3	32.2 35.7	0.67 0.71	2.60 2.69	57.1 59.5	18.5 18.7	3.7 4.0
	12.0	4.2	9.7	1350 1550	58.7 60.7	3.37 3.36	47.2 49.2	110.3 106.3	5.10 5.29	8.4 7.7	1350 1550	48.7 50.9	33.5 37.1	0.69 0.73	2.54 2.64	57.4 59.9	19.2 19.3	3.4 3.8
80	6.0	1.5	3.6	1350 1550	57.4 59.4	3.32 3.29	46.1 48.2	109.4 105.5	5.07 5.29	8.7 8.1	1350 1550	44.9 46.7	32.0 35.6	0.71 0.76	3.01 3.11	55.2 57.3	14.9 15.0	5.1 5.4
	9.0	2.7	6.3	1350 1550	60.7 62.8	3.45 3.42	48.9 51.1	111.6 107.5	5.15 5.38	9.0 8.3	1350 1550	46.1 48.0	32.4 35.9	0.70 0.75	2.91 2.99	56.1 58.2	15.9 16.0	4.7 5.1
	12.0	4.1	9.4	1350 1550	62.5 64.6	3.50 3.45	50.5 52.8	112.8 108.6	5.23 5.50	9.3 8.6	1350 1550	46.6 48.6	33.2 36.8	0.71 0.76	2.85 2.94	56.4 58.6	16.4 16.5	4.4 4.9
90	6.0	1.5	3.4	1350 1550	60.4 62.5	3.41 3.36	48.7 51.1	111.4 107.4	5.18 5.45	9.7 9.0	1350 1550	42.8 44.3	32.2 35.8	0.75 0.81	3.31 3.39	54.1 55.9	12.9 13.1	6.3 6.7
	9.0	2.6	6.0	1350 1550	64.2 66.5	3.57 3.50	52.0 54.5	114.0 109.7	5.27 5.56	10.0 9.3	1350 1550	44.1 45.7	32.7 36.2	0.74 0.79	3.22 3.30	55.0 56.9	13.7 13.9	5.9 6.4
	12.0	3.9	9.0	1350 1550	66.2 68.5	3.62 3.53	53.9 56.5	115.4 110.9	5.36 5.69	10.3 9.6	1350 1550	45.2 46.2	33.3 36.5	0.74 0.79	3.20 3.23	56.1 57.2	14.1 14.3	5.5 6.1
100	6.0	1.4	3.3	Operation not recommended							Operation not recommended							
	9.0	2.5	5.8	Operation not recommended							Operation not recommended							
	12.0	3.8	8.7	Operation not recommended							1350 1550	41.2 42.6	31.8 35.3	0.77 0.83	3.59 3.65	53.5 55.0	11.5 11.7	7.5 8.1
110	6.0	1.4	3.2	Operation not recommended							Operation not recommended							
	9.0	2.4	5.6	Operation not recommended							Operation not recommended							
	12.0	3.6	8.4	Operation not recommended							1350 1550	38.5 39.5	30.9 34.3	0.80 0.87	3.97 4.00	52.0 53.1	9.7 9.9	9.3 10.1
120	6.0	1.3	3.1	Operation not recommended							Operation not recommended							
	9.0	2.3	5.4	Operation not recommended							Operation not recommended							
	12.0	3.5	8.1	Operation not recommended							1350 1550	37.1 37.7	29.3 31.8	0.79 0.84	4.40 4.51	52.1 53.1	8.4 8.4	11.3 12.2
											1350 1550	37.4 38.2	29.3 31.8	0.78 0.83	4.26 4.39	51.9 53.2	8.8 8.7	10.5 11.6

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

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

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

**Performance Data cont.**

**048 Low Speed**

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT	Airflow cfm	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC MBtu/h	Airflow cfm	TC MBtu/h	SC MBtu/h	S/T Ratio	Power kW	HR MBtu/h	EER	HWC MBtu/h
20	5.0	1.5	3.5	Operation not recommended							Operation not recommended							
	8.0	2.9	6.8	Operation not recommended							Operation not recommended							
	11.0	4.3	10.0	1150 1350	22.4 22.8	2.19 2.20	14.9 15.3	88.0 85.6	2.99 3.04	4.1 3.7								
30	5.0	1.5	3.4	Operation not recommended							Operation not recommended							
	8.0	2.8	6.6	1150 1350	24.0 25.0	2.09 2.15	16.9 17.7	89.3 87.1	3.36 3.41	4.2 3.8	1150 1350	32.9 33.5	18.8 20.5	0.57 0.61	1.13 1.19	36.8 37.5	29.2 28.1	- -
	11.0	4.2	9.7	1150 1350	26.1 26.6	2.19 2.20	18.6 19.1	91.0 88.2	3.49 3.54	4.3 3.9	1150 1350	33.1 33.9	18.8 20.5	0.57 0.60	1.10 1.15	36.8 37.8	30.2 29.5	- -
40	5.0	1.4	3.3	Operation not recommended							Operation not recommended							
	8.0	2.8	6.4	1150 1350	28.1 29.1	2.12 2.16	20.9 21.7	92.6 90.0	3.89 3.95	4.5 4.2	1150 1350	35.3 36.0	22.6 24.7	0.64 0.68	1.22 1.28	39.5 40.4	28.9 28.1	- -
	11.0	4.1	9.4	1150 1350	29.6 30.7	2.17 2.21	22.2 23.1	93.9 91.0	4.00 4.06	4.7 4.2	1150 1350	35.6 36.4	22.6 24.7	0.63 0.68	1.19 1.24	39.6 40.6	30.0 29.4	- -
50	5.0	1.4	3.2	1150 1350	31.1 32.1	2.14 2.17	23.8 24.7	95.0 92.0	4.25 4.33	4.8 4.4	1150 1350	36.9 37.9	25.2 27.9	0.68 0.74	1.35 1.00	41.5 41.3	27.3 37.9	1.6 1.7
	8.0	2.7	6.2	1150 1350	32.2 33.2	2.14 2.17	24.9 25.8	95.9 92.7	4.40 4.48	4.9 4.5	1150 1350	37.2 38.3	25.4 28.1	0.68 0.73	1.32 1.34	41.7 42.8	28.3 28.5	1.5 1.6
	11.0	3.9	9.1	1150 1350	33.7 34.7	2.19 2.22	26.2 27.1	97.1 93.8	4.50 4.58	5.1 4.6	1150 1350	37.8 38.9	26.0 28.8	0.69 0.74	1.30 1.33	42.3 43.4	29.0 29.2	1.4 1.5
60	5.0	1.3	3.1	1150 1350	34.8 35.7	2.16 2.18	27.4 28.2	98.0 94.5	4.72 4.81	5.2 4.8	1150 1350	35.6 36.6	25.2 27.9	0.71 0.76	1.53 1.56	40.8 41.9	23.3 23.5	2.3 2.4
	8.0	2.6	6.0	1150 1350	36.2 37.0	2.16 2.17	28.8 29.6	99.1 95.4	4.92 5.01	5.4 5.0	1150 1350	35.9 36.9	25.3 28.0	0.70 0.76	1.49 1.52	41.0 42.1	24.1 24.3	2.1 2.3
	11.0	3.8	8.8	1150 1350	37.5 38.3	2.20 2.22	29.9 30.7	100.2 96.3	4.98 5.07	5.5 5.1	1150 1350	36.5 37.6	26.0 28.8	0.71 0.77	1.48 1.51	41.6 42.7	24.7 25.0	1.9 2.2
70	5.0	1.3	3.0	1150 1350	38.5 39.1	2.18 2.20	31.0 31.6	101.0 96.8	5.18 5.21	5.8 5.4	1150 1350	34.3 35.6	25.1 28.5	0.73 0.80	1.71 1.88	40.2 41.4	20.1 18.9	3.0 3.1
	8.0	2.5	5.8	1150 1350	40.1 40.9	2.17 2.17	32.7 33.5	102.3 98.0	5.43 5.53	6.0 5.5	1150 1350	34.7 35.6	25.3 28.0	0.73 0.79	1.66 1.69	40.3 41.9	20.8 21.0	2.8 3.0
	11.0	3.7	8.5	1150 1350	41.2 41.9	2.21 2.21	33.6 34.4	103.2 98.7	5.45 5.56	6.1 5.7	1150 1350	35.2 36.2	25.9 28.7	0.74 0.79	1.65 1.68	40.8 42.0	21.4 21.5	2.6 2.8
80	5.0	1.3	2.9	1150 1350	41.9 42.4	2.17 2.16	34.5 35.1	103.7 99.1	5.66 5.77	6.5 6.0	1150 1350	32.6 33.5	24.8 27.4	0.76 0.82	1.98 2.01	39.3 40.4	16.5 16.6	4.2 4.4
	8.0	2.4	5.6	1150 1350	43.9 44.4	2.15 2.14	36.5 37.1	105.3 100.4	5.97 6.08	6.7 6.1	1150 1350	32.9 33.8	24.9 27.6	0.76 0.82	1.93 1.96	39.4 40.5	17.1 17.2	3.9 4.2
	11.0	3.6	8.2	1150 1350	44.5 45.0	2.20 2.18	37.0 37.5	105.8 100.8	5.93 6.04	6.9 6.3	1150 1350	33.4 34.4	25.6 28.3	0.77 0.82	1.91 1.95	39.9 41.0	17.5 17.7	3.6 4.0
90	5.0	1.2	2.8	1150 1350	45.2 45.6	2.16 2.13	37.9 38.3	106.4 101.3	6.14 6.26	7.2 6.7	1150 1350	30.8 31.7	24.4 27.0	0.79 0.85	2.25 2.29	38.5 39.5	13.7 13.8	5.4 5.7
	8.0	2.3	5.4	1150 1350	47.6 47.9	2.14 2.11	40.3 40.7	108.3 102.8	6.51 6.64	7.4 6.9	1150 1350	31.1 32.0	24.6 27.2	0.79 0.85	2.19 2.23	38.6 39.6	14.2 14.3	5.0 5.5
	11.0	3.4	7.9	1150 1350	47.8 48.0	2.18 2.15	40.3 40.7	108.5 102.9	6.41 6.54	7.7 7.1	1150 1350	32.2 32.5	25.6 27.9	0.80 0.86	2.16 2.21	39.6 40.0	14.9 14.7	4.7 5.2
100	5.0	1.2	2.7	Operation not recommended							Operation not recommended							
	8.0	2.2	5.2	1150 1350	29.1 29.9	23.9 26.5	0.82 0.89	2.50 2.55	37.6 38.6	11.6 11.7	3.6 3.9							
	11.0	3.3	7.6	1150 1350	29.5 30.4	24.5 27.2	0.83 0.89	2.48 2.53	38.0 39.0	11.9 12.0	3.3 3.7							
110	5.0	1.1	2.6	Operation not recommended							Operation not recommended							
	8.0	2.2	5.0	1150 1350	27.0 27.7	23.3 25.7	0.86 0.93	2.81 2.87	36.6 37.5	9.6 9.7	4.4 4.7							
	11.0	3.2	7.3	1150 1350	27.4 28.2	23.9 26.4	0.87 0.94	2.79 2.84	36.9 37.9	9.8 9.9	4.1 4.5							
120	5.0	1.1	2.5	Operation not recommended							Operation not recommended							
	8.0	2.1	4.8	1150 1350	24.4 24.8	22.9 24.9	0.94 1.00	3.24 3.32	35.4 36.1	7.5 7.5	5.3 5.7							
	11.0	3.1	7.1	1150 1350	24.6 25.1	22.9 24.9	0.93 0.99	3.13 3.23	35.3 36.1	7.8 7.8	4.9 5.4							

11/14/23

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

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

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

**Performance Data cont.**

**048 Water Heating Data**

ELT	EST	LGPM	SOURCE 6.0 GPM							SWPD		HWC kBtu/h	SOURCE 9.0 GPM							SWPD		HWC kBtu/h	SOURCE 12.0 GPM							SWPD		HWC kBtu/h
			LLT	HC	KW	HE	COP	LST	PSI	FT HD	LLT		HC	KW	HE	COP	LST	PSI	FT HD	LLT	HC		KW	HE	COP	LST	PSI	FT HD				
80	30	6.0	Operation Not Recommended																													
		9.0	88.7	34.6	2.50	27.3	23.4	21.1	1.7	3.9	4.8	88.9	36.0	2.54	29.1	14.0	23.0	3.2	7.3	4.9	89.2	37.5	2.57	30.9	4.5	25.0	4.6	10.6	5.1			
		12.0	85.6	34.7	2.47	27.6	42.8	21.0	1.7	3.9	4.6	85.9	36.2	2.51	29.5	23.7	23.1	3.2	7.3	4.8	86.2	37.7	2.54	31.4	4.6	25.1	4.6	10.6	4.9			
80	40	6.0	Operation Not Recommended																													
		9.0	90.0	39.8	2.53	32.4	19.1	29.2	1.7	3.9	5.6	90.4	41.5	2.57	34.4	12.1	31.6	3.1	7.1	5.7	90.7	43.2	2.61	36.3	5.1	34.0	4.5	10.3	5.9			
		12.0	86.6	40.0	2.49	32.8	33.8	29.1	1.7	3.9	5.4	86.9	41.8	2.53	34.9	19.5	31.6	3.1	7.1	5.6	87.2	43.6	2.57	37.0	5.3	34.1	4.5	10.3	5.7			
80	50	6.0	95.2	44.7	2.61	37.0	5.0	37.5	1.7	3.8	6.7	95.7	46.6	2.65	39.0	5.2	40.3	3.0	6.9	6.7	96.3	48.5	2.70	41.0	5.4	43.1	4.4	10.0	6.8			
		9.0	91.4	45.0	2.56	37.5	14.9	37.3	1.7	3.8	6.5	91.8	47.0	2.60	39.7	10.3	40.2	3.0	6.9	6.6	92.3	49.0	2.64	41.8	5.7	43.0	4.4	10.0	6.7			
		12.0	87.6	45.3	2.52	38.1	24.7	37.2	1.7	3.8	6.3	87.9	47.4	2.55	40.3	15.3	40.1	3.0	6.9	6.4	88.3	49.5	2.59	42.6	5.9	43.0	4.4	10.0	6.5			
80	60	6.0	96.9	49.8	2.65	42.1	5.5	45.7	1.6	3.8	7.5	97.6	51.9	2.70	44.2	5.7	48.9	2.9	6.8	7.6	98.3	54.1	2.74	46.4	5.9	52.1	4.2	9.8	7.6			
		9.0	92.7	50.2	2.59	42.7	10.6	45.5	1.6	3.8	7.3	93.3	52.4	2.64	45.0	8.4	48.8	2.9	6.8	7.4	93.8	54.7	2.68	47.3	6.2	52.0	4.2	9.8	7.5			
		12.0	88.6	50.6	2.54	43.3	15.7	45.2	1.6	3.8	7.1	88.9	53.0	2.58	45.7	11.1	48.6	2.9	6.8	7.2	89.3	55.3	2.62	48.2	6.6	52.0	4.2	9.8	7.3			
80	70	6.0	98.6	54.9	2.69	47.1	6.0	53.9	1.6	3.7	8.4	99.5	57.3	2.74	49.4	6.2	57.6	2.9	6.6	8.4	100.3	59.7	2.79	51.7	6.5	61.2	4.1	9.5	8.4			
		9.0	94.1	55.4	2.63	47.8	6.3	53.6	1.6	3.7	8.2	94.7	57.9	2.67	50.3	6.6	57.3	2.9	6.6	8.2	95.3	60.5	2.72	52.8	6.8	61.1	4.1	9.5	8.3			
		12.0	89.6	55.9	2.56	48.5	6.6	53.3	1.6	3.7	7.9	90.0	58.6	2.60	51.2	6.9	57.1	2.9	6.6	8.0	90.3	61.2	2.64	53.8	7.2	60.9	4.1	9.5	8.1			
100	30	6.0	Operation Not Recommended																													
		9.0	108.0	32.5	3.18	23.3	12.9	22.4	1.7	3.9	4.5	108.3	33.7	3.22	24.8	8.2	24.1	3.1	7.2	4.6	108.6	35.0	3.26	26.3	3.5	25.7	4.6	10.6	4.8			
		12.0	105.4	32.6	3.14	23.6	22.6	22.4	1.7	3.9	4.4	105.6	33.8	3.18	25.2	13.1	24.1	3.2	7.3	4.5	105.9	35.1	3.22	26.7	3.6	25.8	4.6	10.6	4.6			
100	40	6.0	Operation Not Recommended																													
		9.0	109.2	37.1	3.21	27.8	10.9	30.8	1.7	3.9	5.3	109.5	38.4	3.25	29.3	7.4	32.8	3.1	7.1	5.4	109.9	39.8	3.29	30.8	3.9	34.9	4.5	10.3	5.5			
		12.0	106.2	37.3	3.17	28.3	18.2	30.7	1.7	3.9	5.1	106.5	38.7	3.20	29.9	11.1	32.8	3.1	7.1	5.2	106.7	40.2	3.24	31.5	4.1	34.9	4.5	10.3	5.3			
100	50	6.0	113.8	41.3	3.29	31.8	3.9	39.4	1.7	3.8	6.2	114.2	42.6	3.33	33.1	4.0	41.8	3.0	6.9	6.3	114.6	43.9	3.37	34.5	4.2	44.2	4.3	10.0	6.4			
		9.0	110.5	41.7	3.24	32.4	8.9	39.2	1.7	3.8	6.0	110.8	43.1	3.28	33.9	6.6	41.6	3.0	6.9	6.1	111.1	44.6	3.31	35.4	4.3	44.1	4.3	10.0	6.2			
		12.0	107.1	42.1	3.19	33.0	13.9	39.0	1.7	3.8	5.8	107.3	43.6	3.23	34.7	9.2	41.5	3.0	6.9	5.9	107.6	45.2	3.26	36.4	4.5	44.0	4.4	10.0	6.1			
100	60	6.0	115.4	45.8	3.33	36.2	4.3	47.8	1.6	3.8	7.0	115.8	47.2	3.36	37.5	4.4	50.6	2.9	6.7	7.0	116.2	48.5	3.40	38.9	4.5	53.5	4.2	9.7	7.1			
		9.0	111.7	46.3	3.27	36.9	6.9	47.6	1.6	3.8	6.8	112.0	47.8	3.31	38.5	5.8	50.4	2.9	6.7	6.9	112.3	49.4	3.34	40.0	4.8	53.3	4.2	9.7	6.9			
		12.0	107.9	46.8	3.22	37.6	9.5	47.3	1.6	3.8	6.6	108.2	48.5	3.25	39.4	7.3	50.2	2.9	6.8	6.7	108.5	50.3	3.28	41.2	5.0	53.1	4.2	9.8	6.8			
100	70	6.0	117.0	50.3	3.37	40.6	4.7	56.3	1.6	3.7	7.8	117.4	51.7	3.40	41.9	4.8	59.5	2.9	6.6	7.8	117.8	53.1	3.43	43.2	4.9	62.7	4.1	9.5	7.8			
		9.0	112.9	50.9	3.30	41.5	4.9	56.0	1.6	3.7	7.5	113.2	52.6	3.34	43.0	5.1	59.2	2.9	6.6	7.6	113.6	54.2	3.37	44.6	5.2	62.5	4.1	9.5	7.7			
		12.0	108.8	51.6	3.24	42.3	5.1	55.6	1.6	3.7	7.3	109.1	53.5	3.27	44.2	4.3	58.9	2.9	6.6	7.4	109.4	55.4	3.31	46.1	5.5	62.2	4.1	9.5	7.5			
120	30	6.0	Operation Not Recommended																													
		9.0	127.4	30.4	3.86	19.3	2.3	23.8	1.7	3.9	4.3	127.7	31.4	3.90	20.5	2.4	25.1	3.1	7.2	4.4	128.1	32.5	3.95	21.7	2.5	26.5	4.6	10.5	4.5			
		12.0	125.1	30.4	3.81	19.6	2.4	23.7	1.7	3.9	4.1	125.3	31.5	3.86	20.8	2.5	25.1	3.2	7.3	4.2	125.5	32.5	3.90	22.0	2.5	26.4	4.6	10.6	4.3			
120	40	6.0	Operation Not Recommended																													
		9.0	128.5	34.4	3.89	23.3	2.6	32.4	1.7	3.9	4.9	128.7	35.4	3.93	24.3	2.7	34.1	3.1	7.1	5.0	129.0	36.3	3.97	25.4	2.8	35.8	4.4	10.3	5.1			
		12.0	125.8	34.6	3.84	23.7	2.7	32.3	1.7	3.9	4.8	126.0	35.7	3.88	24.9	2.8	34.0	3.1	7.1	4.9	126.2	36.8	3.92	26.1	2.8	35.7	4.5	10.3	5.0			
120	50	6.0	132.5	38.0	3.97	26.6	2.8	41.3	1.7	3.8	5.8	132.7	38.7	4.00	27.3	2.9	43.3	3.0	6.9	5.9	132.9	39.4	4.04	28.0	2.9	45.4	4.3	9.9	6.0			
		9.0	129.5	38.4	3.92	27.2	2.9	41.0	1.7	3.8	5.6	129.7	39.3	3.95	28.1	3.0	43.1	3.0	6.9	5.7	129.9	40.2	3.99	29.1	3.0	45.2	4.3	10.0	5.8			
		12.0	126.6	38.8	3.87	27.9	3.0	40.8	1.7	3.8	5.4	126.8	39.9	3.90	29.0	3.1	42.9	3.0	6.9	5.5	127.0	41.0	3.94	30.2	3.2	45.0	4.4	10.0	5.6			
120	60	6.0	133.9	41.9	4.01	30.3	3.1	50.0	1.6	3.8	6.4	134.0	42.4	4.03	30.8	3.1	52.4	2.9	6.7	6.5	134.1	42.9	4.05	31.4	3.2	54.8	4.2	9.7	6.6			
		9.0	130.6	42.4	3.95	31.2	3.2	49.7	1.6	3.8	6.2	130.7	43.3	3.98	32.0	3.3	52.1	2.9	6.7	6.3	130.9	44.1	4.00	32.8	3.3	54.5	4.2	9.7	6.4			
		12.0	127.3	43.0	3.89	32.0	3.3	49.4	1.6	3.8	6.1	127.5	44.1	3.92	33.1	3.4	51.8	2.9	6.8	6.2	127.7	45.3	3.95	34.2	3.5	54.2	4.2	9.8	6.3			
120	70	6.0	135.3	45.7	4.04	34.1	3.3	58.7	1.6	3.7	7.1	135.3	46.1	4.06	34.4	3.4	61.5	2.9	6.6	7.2	135.2	46.4	4.07	34.7	3.4	64.2	4.1	9.5	7.2			
		9.0	131.7	46.5	3.98	35.1	3.5	58.3	1.6	3.7	6.9	131.7	47.2	4.00	35.8	3.5	61.1	2.9	6.6	7.0	131.8	48.0	4.02	36.5	3.6	63.9	4.1	9.5	7.1			
		12.0	128.0	47.2	3.92	36.1	3.6	57.9	1.6	3.7	6.7	128.2	48.4	3.95	37.2	3.7	60.7	2.9	6.6	6.8	128.4	49.5	3.97	38.3	3.8	63.5	4.1	9.5	6.9			

\*Water heating mode only allows high compressor capacity operation.

- 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 coax water pressure drop
- EST = entering source fluid temperature to heat pump
- LST = leaving source fluid temperature from heat pump
- HWC = desuperheater capacity
- SWPD = source coax water pressure drop
- PSI = pressure drop in pounds per square inch
- FT HD = pressure drop in feet of head
- KW = kilowatts
- HE = heat extracted in BTUH
- HC = total heating capacity in BTUH
- COP = coefficient of performance [HC/(KW x 3.413)]

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

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

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

**Performance Data cont.**

**060 High Speed**

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F																							
		PSI	FT	Airflow cfm	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC MBtu/h	Airflow cfm	TC MBtu/h	SC MBtu/h	S/T Ratio	Power kW	HR MBtu/h	EER	HWC MBtu/h																
20	8.0	2.3	5.4	Operation not recommended							Operation not recommended																							
	12.0	4.9	11.4	Operation not recommended							Operation not recommended																							
	16.0	7.5	17.3	1500	42.0	3.74	29.3	95.9	3.29	5.7	1800	42.8	3.70	30.2	92.0	3.39	5.7																	
30	8.0	2.3	5.3	Operation not recommended							Operation not recommended																							
	12.0	4.8	11.0	1500	44.7	3.67	32.2	97.6	3.57	6.1	1500	55.1	39.2	0.71	2.09	62.2	26.3	-	1800	46.6	3.77	33.8	94.0	3.63	5.6	1800	56.0	42.8	0.76	2.20	63.5	25.4	-	
	16.0	7.3	16.8	1500	48.7	3.90	35.4	100.1	3.66	6.3	1500	55.3	39.2	0.71	2.03	62.3	27.3	-	1800	49.6	3.86	36.4	95.5	3.77	5.7	1800	56.7	42.8	0.75	2.13	64.0	26.6	-	
40	8.0	2.2	5.1	Operation not recommended							Operation not recommended																							
	12.0	4.6	10.7	1500	52.2	3.86	39.0	102.2	3.96	6.6	1500	62.5	41.6	0.67	2.48	71.0	25.2	-	1800	54.0	3.93	40.5	97.8	4.02	6.3	1800	63.7	45.4	0.71	2.60	72.5	24.5	-	
	16.0	7.1	16.3	1500	55.0	3.95	41.5	103.9	4.08	7.1	1500	63.0	41.6	0.66	2.40	71.2	26.2	-	1800	56.9	4.03	43.1	99.2	4.14	6.5	1800	64.4	45.4	0.70	2.52	73.0	25.6	-	
50	8.0	2.1	4.9	1500	57.4	4.04	43.6	105.5	4.16	7.4	1500	68.4	42.0	0.61	2.95	78.5	23.2	3.8	1800	59.2	4.10	45.3	100.5	4.24	6.9	1800	70.3	46.5	0.66	1.00	73.7	23.3	4.0	
	12.0	4.5	10.4	1500	59.5	4.05	45.7	106.7	4.31	7.7	1500	69.0	42.3	0.61	2.87	78.8	24.0	3.6	1800	61.3	4.10	47.3	101.5	4.38	7.1	1800	70.9	46.8	0.66	2.93	80.9	24.2	3.9	
	16.0	6.8	15.8	1500	62.3	4.14	48.1	108.4	4.41	7.9	1500	70.2	43.4	0.62	2.84	79.9	24.7	3.3	1800	64.1	4.19	49.8	103.0	4.48	7.2	1800	72.1	48.0	0.67	2.90	82.0	24.9	3.7	
60	8.0	2.1	4.8	1500	65.1	4.27	50.6	110.2	4.48	8.3	1500	66.8	41.5	0.62	3.24	77.8	20.6	4.6	1800	66.8	4.30	52.1	104.3	4.55	7.7	1800	68.6	45.9	0.67	3.30	79.9	20.8	4.9	
	12.0	4.3	10.0	1500	67.8	4.26	53.2	111.8	4.66	8.6	1500	67.4	41.7	0.62	3.15	78.1	21.4	4.3	1800	69.4	4.28	54.7	105.7	4.75	7.9	1800	69.3	46.2	0.67	3.21	80.2	21.6	4.7	
	16.0	6.6	15.3	1500	70.1	4.35	55.3	113.3	4.72	8.9	1500	68.5	42.8	0.62	3.12	79.2	21.9	4.0	1800	71.7	4.38	56.8	106.9	4.80	8.1	1800	70.4	47.4	0.67	3.19	81.3	22.1	4.4	
70	8.0	2.0	4.6	1500	72.8	4.49	57.5	114.9	4.75	9.4	1500	65.2	40.9	0.63	3.53	77.2	18.5	5.6	1800	73.7	4.41	58.7	107.9	4.90	8.7	1800	67.9	46.6	0.69	3.78	79.4	18.0	6.0	
	12.0	4.2	9.7	1500	76.0	4.47	60.7	116.9	4.98	9.7	1500	65.8	41.1	0.63	3.43	77.5	19.1	5.3	1800	77.4	4.47	62.1	109.8	5.07	8.9	1800	67.6	45.5	0.67	3.50	80.1	19.3	5.7	
	16.0	6.4	14.8	1500	78.0	4.57	62.4	118.1	5.00	10.0	1500	66.8	42.2	0.63	3.40	78.5	19.6	4.9	1800	79.3	4.56	63.7	110.8	5.10	9.2	1800	68.7	46.7	0.68	3.47	80.5	19.8	5.4	
80	8.0	1.9	4.5	1500	80.0	4.72	63.9	119.4	4.96	10.3	1500	62.5	39.9	0.64	3.91	75.8	16.0	7.3	1800	81.1	4.70	65.1	111.7	5.06	9.6	1800	64.3	44.1	0.69	3.98	77.8	16.1	7.7	
	12.0	4.1	9.4	1500	83.8	4.70	67.8	121.8	5.23	10.7	1500	63.1	40.1	0.64	3.81	76.1	16.6	6.8	1800	84.8	4.66	68.9	113.6	5.33	9.9	1800	64.8	44.4	0.68	3.88	78.1	16.7	7.4	
	16.0	6.2	14.3	1500	85.0	4.79	68.7	122.5	5.20	11.0	1500	64.1	41.1	0.64	3.77	77.0	17.0	6.3	1800	85.9	4.75	69.7	114.2	5.30	10.1	1800	65.9	45.5	0.69	3.85	79.0	17.1	7.0	
90	8.0	1.9	4.3	1500	87.2	4.96	70.2	123.8	5.15	11.4	1500	59.9	38.8	0.65	4.29	74.5	14.0	9.3	1800	87.9	4.90	71.2	115.2	5.25	10.5	1800	61.5	42.9	0.70	4.37	76.4	14.1	9.8	
	12.0	3.9	9.0	1500	91.7	4.92	74.9	126.6	5.46	11.7	1500	60.4	39.0	0.65	4.18	74.7	14.5	8.6	1800	92.3	4.85	75.7	117.5	5.57	10.9	1800	62.1	43.2	0.70	4.26	76.6	14.6	9.4	
	16.0	6.0	13.8	1500	92.1	5.02	75.0	126.8	5.38	12.1	1500	61.0	40.8	0.67	4.09	75.0	14.9	8.0	1800	92.5	4.94	75.6	117.6	5.49	11.2	1800	63.1	44.3	0.70	4.22	77.5	15.0	8.9	
100	8.0	1.8	4.2	Operation not recommended							Operation not recommended																							
	12.0	3.8	8.7	Operation not recommended							Operation not recommended																							
	16.0	5.7	13.3	1500	57.3	38.1	0.66	4.67	73.2	12.3	10.5	1800	58.9	42.1	0.72	4.76	75.1	12.4	11.4	1500	58.2	39.0	0.67	4.63	74.0	12.6	9.8	1800	59.9	43.2	0.72	4.72	75.9	12.7
110	8.0	1.7	4.0	Operation not recommended							Operation not recommended																							
	12.0	3.6	8.4	Operation not recommended							Operation not recommended																							
	16.0	5.5	12.8	1500	54.2	37.1	0.68	5.16	71.8	10.5	13.6	1800	55.7	41.1	0.74	5.26	73.6	10.6	14.8	1500	55.1	38.0	0.69	5.11	72.5	10.8	12.7	1800	56.6	42.1	0.74	5.21	74.4	10.9
120	8.0	1.7	3.8	Operation not recommended							Operation not recommended																							
	12.0	3.5	8.1	Operation not recommended							Operation not recommended																							
	16.0	5.3	12.3	1500	51.1	37.4	0.73	5.81	71.0	8.8	16.5	1800	52.1	40.6	0.78	5.96	72.4	8.7	17.9	1500	51.6	37.4	0.72	5.62	70.8	9.2	15.3	1800	52.7	40.6	0.77	5.80	72.5	9.1

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

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

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

## Performance Data cont.

### 060 Low Speed

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F														
		PSI	FT	Airflow cfm	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC MBtu/h	Airflow cfm	TC MBtu/h	SC MBtu/h	S/T Ratio	Power kW	HR MBtu/h	EER	HWC MBtu/h							
20	6.0	1.6	3.8	Operation not recommended							Operation not recommended														
	10.0	3.7	8.7	Operation not recommended							Operation not recommended														
	14.0	6.0	13.8	1250	25.6	2.78	16.1	89.0	2.70	4.6	1500	26.2	2.76	16.8	86.2	2.78	4.2								
30	6.0	1.6	3.7	Operation not recommended							Operation not recommended														
	10.0	3.6	8.4	1250	28.0	2.63	19.1	90.8	3.12	4.6	1500	29.2	2.70	20.0	88.0	3.17	4.2	1250	40.6	28.8	0.71	1.31	45.1	31.1	-
	14.0	5.8	13.4	1250	30.4	2.79	20.9	92.5	3.19	4.7	1500	31.1	2.77	21.6	89.2	3.29	4.3	1250	40.8	28.8	0.71	1.27	45.1	32.2	-
	1500	41.8	31.5	0.75	1.33	46.3	31.4	-																	
40	6.0	1.5	3.6	Operation not recommended							Operation not recommended														
	10.0	3.5	8.2	1250	34.0	2.69	24.8	95.2	3.71	5.1	1500	35.2	2.74	25.8	91.7	3.76	4.6	1250	46.4	31.8	0.69	1.46	51.4	31.7	-
	14.0	5.6	13.0	1250	35.8	2.75	26.4	96.5	3.81	5.2	1500	37.1	2.81	27.5	92.9	3.87	4.8	1250	46.8	31.8	0.68	1.42	51.6	32.9	-
	1500	47.8	34.8	0.73	1.49	52.9	32.2	-																	
50	6.0	1.5	3.5	1250	38.5	2.74	29.2	98.5	4.12	5.3	1500	39.7	2.78	30.3	94.5	4.19	4.9	1250	51.0	33.3	0.65	1.67	56.7	30.6	1.9
	10.0	3.4	7.9	1250	39.9	2.74	30.5	99.6	4.26	5.5	1500	41.1	2.78	31.6	95.4	4.34	5.1	1250	51.5	33.5	0.65	1.62	57.0	31.7	1.8
	14.0	5.4	12.6	1250	41.8	2.81	32.2	100.9	4.36	5.7	1500	43.0	2.84	33.3	96.5	4.44	5.2	1250	52.9	34.1	0.70	1.65	58.6	32.0	1.9
	1500	53.8	38.0	0.66	1.61	57.8	32.5	1.6																	
60	6.0	1.4	3.3	1250	44.4	2.81	34.8	102.9	4.63	6.0	1500	45.5	2.83	35.8	98.1	4.71	5.5	1250	48.7	32.5	0.67	1.95	55.4	25.0	2.6
	10.0	3.3	7.6	1250	46.2	2.81	36.6	104.2	4.82	6.1	1500	47.2	2.82	37.6	99.2	4.90	5.7	1250	49.2	32.7	0.66	1.90	55.6	25.9	2.5
	14.0	5.3	12.2	1250	47.8	2.87	38.0	105.4	4.88	6.3	1500	48.9	2.89	39.0	100.2	4.96	5.8	1250	50.0	33.5	0.67	1.88	56.4	26.6	2.3
	1500	51.4	37.1	0.72	1.92	57.9	26.8	2.5																	
70	6.0	1.4	3.2	1250	50.2	2.88	40.4	107.2	5.10	6.7	1500	50.5	2.91	40.6	101.2	5.09	6.2	1250	46.4	31.7	0.68	2.22	54.0	20.9	3.7
	10.0	3.2	7.4	1250	52.4	2.87	42.6	108.8	5.35	7.0	1500	53.4	2.87	43.6	102.9	5.45	6.4	1250	47.6	32.7	0.69	2.15	54.9	22.1	3.2
	14.0	5.1	11.8	1250	53.8	2.94	43.8	109.8	5.37	7.2	1500	54.7	2.93	44.7	103.8	5.47	6.6	1250	48.9	36.2	0.74	2.19	56.4	22.3	3.5
	1500	48.9	36.2	0.74	2.19	56.4	22.3	3.5																	
80	6.0	1.4	3.1	1250	56.3	2.96	46.2	111.7	5.58	7.4	1500	57.1	2.94	47.1	105.3	5.69	6.9	1250	44.0	30.8	0.70	2.58	52.8	17.0	5.1
	10.0	3.1	7.1	1250	59.1	2.94	49.0	113.7	5.89	7.7	1500	59.7	2.92	49.8	106.9	6.00	7.1	1250	45.2	34.1	0.76	2.63	54.2	17.2	5.4
	14.0	4.9	11.4	1250	59.9	3.00	49.6	114.4	5.85	7.9	1500	60.5	2.98	50.3	107.3	5.96	7.3	1250	44.4	31.0	0.70	2.51	52.9	17.6	4.8
	1500	46.4	35.2	0.76	2.54	55.0	18.2	4.9																	
90	6.0	1.3	3.0	1250	62.5	3.03	52.1	116.3	6.04	8.3	1500	63.0	3.00	52.8	108.9	6.16	7.7	1250	41.6	30.0	0.72	2.94	51.6	14.2	6.8
	10.0	3.0	6.9	1250	65.7	3.01	55.4	118.7	6.40	8.6	1500	66.1	2.97	56.0	110.8	6.53	7.9	1250	42.7	33.2	0.78	2.99	52.9	14.3	7.2
	14.0	4.8	11.0	1250	66.0	3.07	55.5	118.9	6.30	8.8	1500	66.3	3.02	56.0	110.9	6.43	8.2	1250	41.9	30.1	0.72	2.86	51.7	14.7	6.4
	1500	43.1	33.3	0.77	2.92	53.0	14.8	6.9																	
100	6.0	1.3	2.9	Operation not recommended							Operation not recommended														
	10.0	2.9	6.6	Operation not recommended							Operation not recommended														
	14.0	4.6	10.6	1250	38.1	28.9	0.76	3.28	49.3	11.6	8.3	1500	39.2	31.9	0.81	3.34	50.6	11.7	8.9						
	1500	38.8	29.6	0.76	3.25	49.9	11.9	7.7																	
110	6.0	1.2	2.8	Operation not recommended							Operation not recommended														
	10.0	2.8	6.4	Operation not recommended							Operation not recommended														
	14.0	4.4	10.2	1250	34.4	27.6	0.80	3.70	47.0	9.3	10.4	1500	35.3	30.5	0.86	3.77	48.2	9.4	11.3						
	1500	34.9	28.3	0.81	3.67	47.4	9.5	9.7																	
120	6.0	1.2	2.7	Operation not recommended							Operation not recommended														
	10.0	2.7	6.1	Operation not recommended							Operation not recommended														
	14.0	4.2	9.8	1250	30.9	27.0	0.87	4.22	45.3	7.3	12.6	1500	31.4	29.3	0.93	4.33	46.2	7.3	13.6						
	1500	31.1	27.0	0.87	4.08	45.1	7.6	11.7																	
	1500	31.8	29.3	0.92	4.21	46.2	7.6	12.9																	

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

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

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

# Performance Data cont.

## 060 Water Heating Data

ELT	EST	LGPM	SOURCE 8.0 GPM						SWPD		HWC kBtu/h	SOURCE 12.0 GPM						SWPD		HWC kBtu/h	SOURCE 16.0 GPM						SWPD		HWC kBtu/h
			LLT	HC	KW	HE	COP	LST	PSI	FT HD		LLT	HC	KW	HE	COP	LST	PSI	FT HD		LLT	HC	KW	HE	COP	LST	PSI	FT HD	
80	30	8.0	Operation Not Recommended																										
		12.0	88.8	45.8	3.26	35.5	23.0	21.0	2.3	5.2	5.7	88.5	45.9	3.34	37.1	13.7	23.0	4.7	10.8	5.8	88.2	46.0	3.42	38.6	4.5	25.1	7.1	16.4	5.9
		16.0	85.8	45.8	3.24	35.8	4.4	20.9	2.3	5.2	5.5	86.0	45.9	3.32	37.3	4.5	23.0	4.7	10.8	5.6	86.2	46.0	3.39	38.8	4.7	25.1	7.1	16.4	5.7
80	40	8.0	Operation Not Recommended																										
		12.0	90.1	52.3	3.30	42.4	26.5	29.2	2.2	5.1	6.6	90.1	53.5	3.38	44.4	15.8	31.6	4.6	10.6	6.7	90.0	54.6	3.46	46.4	5.2	34.1	7.0	16.1	6.8
		16.0	86.7	52.5	3.27	42.8	20.4	29.1	2.2	5.1	6.3	87.0	53.6	3.35	44.7	12.9	31.6	4.6	10.6	6.5	87.3	54.7	3.42	46.7	5.4	34.1	7.0	16.1	6.6
80	50	8.0	95.3	58.6	3.39	49.0	23.9	37.5	2.2	5.0	7.7	95.3	60.9	3.48	51.4	14.7	40.3	4.5	10.4	7.9	95.4	63.2	3.57	53.9	5.5	43.1	6.8	15.7	8.0
		12.0	91.5	58.9	3.35	49.4	30.1	37.4	2.2	5.0	7.4	91.6	61.1	3.43	51.8	17.9	40.2	4.5	10.4	7.6	91.8	63.3	3.51	54.2	5.8	43.1	6.8	15.7	7.7
		16.0	87.7	59.2	3.30	49.8	36.4	37.3	2.2	5.0	7.2	88.0	61.3	3.38	52.2	21.2	40.2	4.5	10.4	7.3	88.3	63.4	3.46	54.6	6.0	43.0	6.8	15.7	7.5
80	60	8.0	97.0	65.1	3.45	55.9	15.0	45.7	2.1	4.9	8.6	97.5	68.4	3.54	58.7	10.6	48.9	4.4	10.2	8.8	97.9	71.8	3.64	61.6	6.1	52.1	6.7	15.4	9.0
		12.0	92.8	65.5	3.39	56.3	33.7	45.6	2.1	4.9	8.3	93.2	68.7	3.48	59.2	20.0	48.8	4.4	10.2	8.5	93.6	71.9	3.56	62.0	6.4	52.0	6.7	15.4	8.6
		16.0	88.6	65.9	3.33	56.7	52.3	45.5	2.1	4.9	8.0	89.0	69.0	3.41	59.6	29.5	48.7	4.4	10.1	8.2	89.4	72.0	3.49	62.4	6.7	52.0	6.7	15.4	8.3
80	70	8.0	98.8	71.5	3.51	62.8	6.2	53.9	2.1	4.9	9.5	99.7	76.0	3.61	66.1	6.5	57.5	4.3	9.9	9.7	100.5	80.4	3.70	69.3	6.7	61.1	6.5	15.0	9.6
		12.0	94.2	72.1	3.44	63.3	37.3	53.8	2.1	4.9	9.2	94.8	76.3	3.52	66.5	22.1	57.4	4.3	9.9	9.4	95.5	80.6	3.61	69.8	7.0	61.0	6.5	15.0	9.9
		16.0	89.5	72.6	3.36	63.7	68.3	53.7	2.1	4.9	8.8	90.0	76.7	3.44	67.0	37.8	57.3	4.3	9.9	9.0	90.4	80.7	3.52	70.3	7.4	60.9	6.5	15.0	9.2
100	30	8.0	Operation Not Recommended																										
		12.0	108.5	44.4	4.38	31.2	12.7	22.1	2.3	5.3	5.6	108.4	45.0	4.38	32.8	8.1	23.9	4.7	10.8	5.6	108.4	45.6	4.38	33.8	3.6	25.7	7.1	16.4	5.7
		16.0	105.7	44.6	4.20	31.5	3.5	22.1	2.3	5.3	5.4	105.9	45.1	4.27	32.5	3.6	23.9	4.7	10.8	5.4	106.0	45.7	4.34	34.1	3.7	25.7	7.1	16.4	5.5
100	40	8.0	Operation Not Recommended																										
		12.0	109.8	50.5	4.38	37.8	14.7	30.4	2.2	5.2	6.4	109.9	51.9	4.41	39.4	9.4	32.6	4.6	10.6	6.4	110.0	53.3	4.43	41.1	4.1	34.8	7.0	16.1	6.5
		16.0	106.6	50.7	4.23	38.1	11.6	30.3	2.2	5.2	6.1	106.8	52.0	4.30	39.7	7.9	32.5	4.6	10.6	6.2	107.0	53.4	4.37	41.4	4.2	34.7	7.0	16.1	6.3
100	50	8.0	114.7	56.5	4.53	44.0	13.5	38.8	2.2	5.1	7.5	114.9	58.7	4.54	46.0	8.9	41.3	4.5	10.4	7.5	115.2	61.0	4.55	48.0	4.4	43.9	6.8	15.7	7.6
		12.0	111.1	56.6	4.39	44.3	16.6	38.7	2.2	5.1	7.2	111.3	58.8	4.43	46.3	10.6	41.2	4.5	10.4	7.2	111.6	61.0	4.48	48.3	4.5	43.8	6.8	15.7	7.3
		16.0	107.4	56.8	4.25	44.7	19.8	38.6	2.2	5.1	6.9	107.7	58.9	4.33	46.7	12.3	41.2	4.5	10.4	7.0	107.9	61.1	4.40	48.7	4.7	43.8	6.8	15.7	7.1
100	60	8.0	116.4	62.6	4.52	50.5	9.2	47.1	2.1	5.0	8.3	116.9	65.6	4.57	52.8	7.0	50.0	4.4	10.2	8.4	117.4	68.7	4.62	55.2	4.8	52.9	6.7	15.4	8.4
		12.0	112.4	62.7	4.40	50.9	18.6	47.0	2.1	5.0	8.0	112.7	65.7	4.46	53.2	11.8	49.9	4.4	10.2	8.0	113.1	68.7	4.52	55.6	5.0	52.9	6.7	15.4	8.1
		16.0	108.3	62.9	4.28	51.3	28.0	46.9	2.1	5.0	7.6	108.6	65.9	4.35	53.6	16.6	49.8	4.4	10.2	7.7	108.9	68.8	4.43	56.0	5.2	52.8	6.7	15.4	7.9
100	70	8.0	118.2	68.7	4.51	57.0	4.9	55.4	2.1	4.9	9.2	118.9	72.5	4.60	59.7	5.1	58.7	4.3	9.9	9.2	119.6	76.4	4.69	62.4	5.3	62.0	6.5	15.0	9.3
		12.0	113.7	68.9	4.41	57.5	20.5	55.3	2.1	4.9	8.8	114.2	72.7	4.49	60.1	13.0	58.6	4.3	9.9	8.9	114.7	76.5	4.57	62.8	5.5	61.9	6.5	15.0	9.0
		16.0	109.2	69.0	4.31	57.9	36.1	55.2	2.1	4.9	8.4	109.5	72.8	4.38	60.6	20.9	58.5	4.3	9.9	8.5	109.9	76.6	4.46	63.3	5.8	61.8	6.5	15.0	8.7
120	30	8.0	Operation Not Recommended																										
		12.0	128.2	43.1	5.50	27.0	2.5	23.3	2.3	5.3	5.4	128.4	44.1	5.42	28.0	2.5	24.8	4.7	10.9	5.5	128.6	45.2	5.35	29.1	2.6	26.4	7.1	16.4	5.5
		16.0	125.6	43.3	5.16	27.2	2.5	23.2	2.3	5.3	5.2	125.7	44.3	5.23	28.3	2.6	24.8	4.7	10.9	5.3	125.8	45.3	5.29	29.3	2.7	26.3	7.1	16.4	5.3
120	40	8.0	Operation Not Recommended																										
		12.0	129.4	48.7	5.47	33.1	2.8	31.6	2.3	5.2	6.1	129.7	50.3	5.43	34.4	2.9	33.5	4.6	10.6	6.2	129.9	52.0	5.39	35.8	3.0	35.5	7.0	16.1	6.2
		16.0	126.4	48.8	5.18	33.4	2.9	31.6	2.3	5.2	5.9	126.5	50.5	5.25	34.7	3.0	33.5	4.6	10.6	5.9	126.7	52.1	5.32	36.1	3.0	35.4	7.0	16.1	6.0
120	50	8.0	134.2	54.4	5.67	39.0	3.0	40.1	2.2	5.1	7.2	134.6	56.5	5.60	40.5	3.1	42.4	4.5	10.4	7.2	135.0	58.7	5.54	42.1	3.2	44.7	6.8	15.7	7.2
		12.0	130.7	54.4	5.44	39.3	3.1	40.0	2.2	5.1	6.9	131.0	56.6	5.44	40.9	3.2	42.3	4.5	10.4	6.9	131.3	58.8	5.44	42.5	3.3	44.6	6.8	15.7	6.9
		16.0	127.2	54.4	5.21	39.7	3.2	39.9	2.2	5.1	6.6	127.4	56.6	5.27	41.2	3.3	42.2	4.5	10.4	6.6	127.6	58.9	5.34	42.8	3.4	44.5	6.8	15.7	6.7
120	60	8.0	135.8	60.1	5.59	45.1	3.3	48.4	2.2	5.0	8.0	136.3	62.8	5.60	46.9	3.4	51.1	4.4	10.2	7.9	136.8	65.5	5.60	48.8	3.5	53.8	6.7	15.4	7.9
		12.0	131.9	60.0	5.41	45.5	3.5	48.3	2.2	5.0	7.6	132.3	62.8	5.45	47.3	3.6	51.0	4.4	10.2	7.6	132.6	65.6	5.48	49.2	3.7	53.7	6.7	15.4	7.6
		16.0	128.0	59.9	5.23	45.9	3.6	48.3	2.2	5.0	7.2	128.2	62.8	5.30	47.7	3.7	50.9	4.4	10.2	7.3	128.4	65.6	5.37	49.6	3.8	53.6	6.7	15.4	7.4
120	70	8.0	137.5	65.9	5.51	51.2	3.7	56.8	2.1	4.9	8.8	138.1	69.1	5.59	53.3	3.8	59.9	4.3	9.9	8.7	138.6	72.3	5.67	55.4	3.9	62.9	6.5	15.0	8.6
		12.0	133.2	65.7	5.38	51.7	3.8	56.7	2.1	4.9	8.4	133.6	69.0	5.46	53.8	3.9	59.8	4.3	9.9	8.4	134.0	72.4	5.53	55.9	4.0	62.8	6.5	15.0	8.4
		16.0	128.8	65.4	5.25	52.1	3.9	56.6	2.1	4.9	7.9	129.1	68.9	5.32	54.2	4.0	59.7	4.3	9.9	8.0	129.3	72.4	5.39	56.3	4.2	62.7	6.5	15.0	8.1

\*Water heating mode only allows high compressor capacity operation.

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 coax water pressure drop  
 EST = entering source fluid temperature to heat pump  
 LST = leaving source fluid temperature from heat pump  
 HWC = desuperheater capacity

SWPD = source coax water pressure drop  
 PSI = pressure drop in pounds per square inch  
 FT HD = pressure drop in feet of head  
 KW = kilowatts  
 HE = heat extracted in BTUH  
 HC = total heating capacity in BTUH  
 COP = coefficient of performance [HC/(KW x 3.413)]

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

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

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

**Performance Data cont.**

**072 High Speed**

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F														
		PSI	FT	Airflow cfm	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC MBtu/h	Airflow cfm	TC MBtu/h	SC MBtu/h	S/T Ratio	Power kW	HR MBtu/h	EER	HWC MBtu/h							
20	12.0	4.7	10.8	Operation not recommended							Operation not recommended														
	15.0	7.3	16.8	Operation not recommended							Operation not recommended														
	18.0	9.7	22.4	1850	50.5	4.45	35.3	95.3	3.32	7.9	2200	51.6	4.50	36.2	91.7	3.36	7.1								
30	12.0	4.5	10.5	Operation not recommended							Operation not recommended														
	15.0	7.0	16.3	1850	56.4	4.50	41.1	98.2	3.68	8.3	2200	58.0	4.63	42.2	94.4	3.67	7.6	1850	72.0	49.6	0.69	3.01	82.3	23.9	-
	18.0	9.4	21.8	1850	57.9	4.63	42.1	99.0	3.67	8.5	2200	59.2	4.68	43.2	94.9	3.71	7.7	1850	72.3	49.6	0.69	2.92	82.3	24.7	-
	2200	74.1	54.2	0.73	3.07	84.6	24.1	-																	
40	12.0	4.4	10.2	Operation not recommended							Operation not recommended														
	15.0	6.8	15.8	1850	64.5	4.72	48.4	102.3	4.00	9.2	2200	66.5	4.82	50.0	98.0	4.04	8.4	1850	75.7	51.4	0.68	3.31	87.0	22.9	-
	18.0	9.1	21.1	1850	65.8	4.76	49.5	102.9	4.05	9.5	2200	67.9	4.87	51.3	98.6	4.09	8.6	1850	76.2	51.4	0.67	3.21	87.2	23.7	-
	2200	78.0	56.1	0.72	3.36	89.4	23.2	-																	
50	12.0	4.3	9.9	1850	70.0	4.83	53.5	105.0	4.25	9.9	2200	72.1	4.89	55.4	100.3	4.32	9.2	1850	75.3	48.3	0.64	3.78	88.2	19.9	4.3
	15.0	6.6	15.3	1850	72.5	4.94	55.7	106.3	4.30	10.2	2200	74.9	5.01	57.8	101.5	4.38	9.4	1850	76.9	48.9	0.64	3.56	89.1	21.6	4.0
	18.0	8.9	20.5	1850	74.2	4.98	57.2	107.1	4.36	10.5	2200	76.5	5.05	59.3	102.2	4.44	9.6	1850	77.7	52.2	0.67	3.48	89.5	22.3	3.7
	2200	81.8	58.0	0.71	3.65	94.3	22.4	4.1																	
60	12.0	4.1	9.6	1850	78.0	5.06	60.7	109.0	4.51	11.1	2200	80.5	5.10	63.1	103.9	4.63	10.3	1850	74.1	48.8	0.66	4.10	88.1	18.1	5.5
	15.0	6.4	14.8	1850	81.5	5.21	63.7	110.8	4.58	11.5	2200	84.1	5.24	66.2	105.4	4.70	10.6	1850	75.8	49.4	0.65	3.90	89.1	19.5	4.9
	18.0	8.6	19.8	1850	83.5	5.26	65.5	111.8	4.65	11.8	2200	86.2	5.29	68.2	106.3	4.78	10.9	1850	76.6	52.1	0.68	3.80	89.5	20.2	4.5
	2200	80.4	57.8	0.72	3.97	93.9	20.2	5.0																	
70	12.0	4.0	9.2	1850	82.1	5.30	63.6	110.6	4.63	11.6	2200	84.2	5.34	66.1	111.4	4.71	11.0	1850	72.9	49.3	0.68	4.35	87.1	17.5	6.6
	15.0	6.2	14.3	1850	84.4	5.38	65.9	112.4	4.70	11.9	2200	86.5	5.41	68.2	113.4	4.78	11.2	1850	74.7	49.9	0.67	4.23	87.2	17.7	6.1
	18.0	8.3	19.2	1850	86.7	5.47	68.2	113.4	4.78	11.9	2200	88.8	5.51	70.3	114.4	4.86	11.4	1850	78.0	55.3	0.71	4.37	87.5	17.8	6.6
	2200	81.8	58.0	0.71	3.65	94.3	22.4	4.1																	
80	12.0	3.9	8.9	1850	93.4	5.59	74.4	116.8	4.90	13.9	2200	96.7	5.55	77.8	110.7	5.11	12.8	1850	70.3	48.6	0.69	4.86	86.9	14.5	8.4
	15.0	6.0	13.8	1850	98.8	5.81	79.0	119.5	4.98	14.3	2200	102.2	5.76	82.6	113.0	5.20	13.2	1850	72.2	49.2	0.68	4.69	88.2	15.4	7.8
	18.0	8.0	18.5	1850	101.7	5.89	81.6	120.9	5.06	14.7	2200	105.2	5.80	85.4	114.3	5.31	13.6	1850	73.0	50.4	0.69	4.59	88.7	15.9	7.2
	2200	76.0	55.9	0.73	4.73	92.1	16.1	8.0																	
90	12.0	3.7	8.6	1850	100.9	5.88	80.8	120.5	5.03	15.4	2200	104.5	5.79	84.7	114.0	5.29	14.3	1850	67.7	47.9	0.71	5.30	85.8	12.8	10.5
	15.0	5.8	13.3	1850	107.2	6.15	86.2	123.7	5.11	15.9	2200	111.0	6.04	90.4	116.7	5.39	14.7	1850	69.7	48.5	0.70	5.15	87.3	13.5	9.8
	18.0	7.7	17.9	1850	110.6	6.23	89.3	125.4	5.20	16.4	2200	114.4	6.08	93.7	118.1	5.51	15.2	1850	71.7	50.1	0.70	4.93	88.5	14.5	9.1
	2200	73.1	54.2	0.74	5.17	90.7	14.1	10.1																	
100	12.0	3.6	8.3	Operation not recommended							Operation not recommended														
	15.0	5.6	12.9	Operation not recommended							Operation not recommended														
	18.0	7.5	17.2	1850	66.2	4.78	47.8	91.7	3.32	7.9	2200	68.3	4.82	49.0	93.0	3.36	7.1	1850	66.9	47.7	0.71	5.69	86.3	11.8	11.3
	2200	69.1	47.8	0.72	5.79	85.9	11.4	12.2																	
110	12.0	3.5	8.0	Operation not recommended							Operation not recommended														
	15.0	5.4	12.4	Operation not recommended							Operation not recommended														
	18.0	7.2	16.6	1850	62.6	4.72	47.2	91.7	3.32	7.9	2200	64.4	4.76	48.4	93.0	3.36	7.1	1850	63.3	46.6	0.74	6.31	84.8	10.0	13.8
	2200	65.0	46.6	0.74	6.38	86.8	10.2	15.3																	
120	12.0	3.3	7.7	Operation not recommended							Operation not recommended														
	15.0	5.1	11.9	Operation not recommended							Operation not recommended														
	18.0	6.9	15.9	1850	59.1	4.59	45.9	91.7	3.32	7.9	2200	60.2	4.63	47.1	93.0	3.36	7.1	1850	59.6	45.9	0.77	6.87	83.1	8.7	16.7
	2200	60.9	45.9	0.82	7.09	85.1	8.6	18.5																	

11/29/23

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

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

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

**Performance Data cont.**

**072 Low Speed**

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F														
		PSI	FT	Airflow cfm	HC MBtu/h	Power kW	HE MBtu/h	LAT °F	COP	HWC MBtu/h	Airflow cfm	TC MBtu/h	SC MBtu/h	S/T Ratio	Power kW	HR MBtu/h	EER	HWC MBtu/h							
20	10.0	3.2	7.4	Operation not recommended							Operation not recommended														
	13.0	5.1	11.9	Operation not recommended							Operation not recommended														
	16.0	7.4	17.1	1400	35.9	3.53	23.9	93.8	2.98	5.9	1700	36.8	3.48	24.9	90.0	3.10	5.3								
30	10.0	3.1	7.1	Operation not recommended							Operation not recommended														
	13.0	5.0	11.6	1400	38.7	3.35	27.2	95.6	3.38	5.5	1700	40.3	3.44	28.6	92.0	3.43	0.7	1400	55.6	38.6	0.69	1.72	61.5	32.4	-
	16.0	7.2	16.6	1400	41.9	3.58	29.7	97.7	3.43	5.0	1700	42.9	3.53	30.9	93.4	3.56	5.7	1400	55.9	38.6	0.69	1.67	61.6	33.6	-
	1700	57.3	42.2	0.74	1.75	63.3	32.7	-																	
40	10.0	3.0	6.9	Operation not recommended							Operation not recommended														
	13.0	4.8	11.2	1400	45.3	3.45	33.5	100.0	3.85	6.5	1700	46.9	3.52	34.9	95.5	3.90	5.9	1400	59.6	40.3	0.68	1.92	66.2	31.0	-
	16.0	7.0	16.1	1400	47.8	3.54	35.7	101.6	3.96	6.7	1700	49.4	3.61	37.1	96.9	4.02	6.1	1400	60.1	40.3	0.67	1.86	66.4	32.2	-
	1700	61.4	44.0	0.72	1.95	68.1	31.5	-																	
50	10.0	2.9	6.7	1400	50.1	3.55	38.0	103.1	4.13	6.8	1700	51.7	3.60	39.4	98.1	4.21	6.3	1400	62.1	40.0	0.64	2.18	69.6	28.4	2.3
	13.0	4.7	10.9	1400	51.9	3.55	39.7	104.3	4.28	7.0	1700	53.4	3.60	41.1	99.1	4.35	6.4	1400	62.7	40.3	0.64	2.13	70.0	29.5	2.1
	16.0	6.8	15.6	1400	54.3	3.64	41.9	105.9	4.38	7.2	1700	55.9	3.68	43.3	100.4	4.45	6.6	1400	63.7	41.3	0.65	2.11	70.9	30.2	2.0
	1700	65.5	45.7	0.70	2.15	72.8	30.5	2.2																	
60	10.0	2.8	6.5	1400	57.7	3.68	45.1	108.2	4.59	7.5	1700	59.1	3.71	46.5	102.2	4.67	6.9	1400	59.3	39.2	0.66	2.52	68.0	23.5	3.2
	13.0	4.5	10.5	1400	60.0	3.67	47.5	109.7	4.79	7.7	1700	61.4	3.70	48.8	103.5	4.87	7.1	1400	59.9	39.4	0.66	2.46	68.3	24.3	3.0
	16.0	6.6	15.1	1400	62.1	3.76	49.3	111.1	4.84	7.9	1700	63.5	3.78	50.6	104.6	4.93	7.3	1400	60.9	40.4	0.66	2.44	69.2	25.0	2.8
	1700	62.6	44.8	0.72	2.49	71.0	25.2	3.1																	
70	10.0	2.7	6.3	1400	65.3	3.81	52.3	113.2	5.02	8.3	1700	68.1	3.85	55.0	107.1	5.18	7.7	1400	56.5	38.4	0.68	2.86	66.3	19.7	4.4
	13.0	4.4	10.2	1400	68.1	3.80	55.2	115.1	5.26	8.5	1700	69.4	3.79	56.4	107.8	5.36	7.9	1400	58.5	43.5	0.74	2.98	68.3	19.6	4.6
	16.0	6.3	14.7	1400	69.9	3.88	56.7	116.2	5.28	8.8	1700	71.1	3.87	57.9	108.7	5.38	8.1	1400	57.1	38.6	0.68	2.79	66.6	20.4	4.1
	1700	59.6	43.8	0.73	2.85	68.7	20.6	4.4																	
80	10.0	2.6	6.1	1400	72.5	3.95	59.1	118.0	5.38	9.2	1700	73.5	3.93	60.1	110.0	5.49	8.5	1400	54.3	37.3	0.69	3.30	65.5	16.4	6.2
	13.0	4.3	9.8	1400	76.0	3.92	62.6	120.3	5.68	9.5	1700	76.9	3.89	63.6	111.9	5.79	8.8	1400	55.8	41.2	0.74	3.37	67.3	16.6	6.6
	16.0	6.1	14.2	1400	77.1	4.01	63.4	121.0	5.64	9.8	1700	77.9	3.97	64.4	112.4	5.75	9.1	1400	54.8	37.5	0.68	3.22	65.7	17.0	5.8
	1700	55.7	38.4	0.69	3.19	66.5	17.5	5.4																	
90	10.0	2.5	5.9	1400	79.8	4.09	65.9	122.8	5.72	10.3	1700	80.5	4.04	66.7	113.8	5.84	9.5	1400	52.0	36.2	0.70	3.74	64.7	13.9	8.0
	13.0	4.1	9.5	1400	84.0	4.05	70.1	125.5	6.07	10.6	1700	84.5	4.00	70.8	116.0	6.19	9.8	1400	53.4	40.0	0.75	3.81	66.4	14.0	8.5
	16.0	5.9	13.6	1400	84.3	4.14	70.2	125.8	5.98	11.0	1700	84.7	4.07	70.8	116.1	6.10	10.2	1400	52.5	36.4	0.69	3.64	64.9	14.4	7.5
	1700	53.9	40.3	0.75	3.71	66.6	14.5	8.1																	
100	10.0	2.4	5.6	Operation not recommended							Operation not recommended														
	13.0	4.0	9.1	Operation not recommended							Operation not recommended														
	16.0	5.7	13.2	1400	48.9	35.4	0.72	4.18	63.1	11.7	10.0	1700	50.2	39.2	0.78	4.26	64.7	11.8	10.9						
	1700	49.7	36.3	0.73	4.14	63.8	12.0	9.3																	
110	10.0	2.3	5.4	Operation not recommended							Operation not recommended														
	13.0	3.8	8.8	Operation not recommended							Operation not recommended														
	16.0	5.5	12.7	1400	45.3	34.4	0.76	4.71	61.4	9.6	12.7	1700	46.5	38.1	0.82	4.80	62.9	9.7	13.8						
	1700	46.0	35.3	0.77	4.67	62.0	9.9	11.8																	
120	10.0	2.3	5.2	Operation not recommended							Operation not recommended														
	13.0	3.7	8.4	Operation not recommended							Operation not recommended														
	16.0	5.3	12.2	1400	42.4	34.8	0.82	5.38	60.8	7.9	15.8	1700	43.2	37.8	0.88	5.52	62.0	7.8	17.1						
	1700	42.8	34.8	0.81	5.21	60.6	8.2	14.6																	
	1700	43.7	37.8	0.86	5.37	62.0	8.1	16.3																	

11/29/23

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

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

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

**Performance Data cont.**

**072 Water Heating Data**

ELT	EST	LGPM	SOURCE 12.0 GPM							SWPD		HWC kBtu/h	SOURCE 15.0 GPM						SWPD		HWC kBtu/h	SOURCE 18.0 GPM						SWPD		HWC kBtu/h
			LLT	HC	KW	HE	COP	LST	PSI	FT HD	LLT		HC	KW	HE	COP	LST	PSI	FT HD	LLT		HC	KW	HE	COP	LST	PSI	FT HD		
80	30	12.0	Operation Not Recommended																											
		15.0	87.7	54.7	3.89	42.5	4.4	22.7	4.4	10.2	7.6	87.8	55.6	3.97	43.6	4.4	23.8	6.8	15.7	7.8	88.0	56.6	4.06	44.7	4.5	24.9	9.2	21.3	8.0	
		18.0	86.0	54.5	3.89	42.7	4.4	22.7	4.4	10.2	7.4	86.2	55.5	3.98	43.7	4.5	23.8	6.9	15.9	7.4	86.3	56.4	4.06	44.7	4.5	24.9	9.4	21.7	7.4	
80	40	12.0	Operation Not Recommended																											
		15.0	88.9	63.2	3.93	50.9	5.0	31.3	4.3	9.9	8.8	89.1	64.5	4.01	52.3	5.0	32.6	6.6	15.3	9.0	89.3	65.7	4.10	53.6	5.1	33.9	9.0	20.7	9.2	
		18.0	87.0	63.1	3.92	51.1	5.0	31.3	4.3	9.9	8.5	87.2	64.4	4.01	52.4	5.1	32.6	6.7	15.5	8.6	87.4	65.6	4.09	53.7	5.2	33.9	9.1	21.0	8.6	
80	50	12.0	92.2	71.9	3.98	59.2	5.5	39.8	4.2	9.6	10.3	92.5	73.4	4.06	60.8	5.5	41.4	6.4	14.8	10.6	92.8	75.0	4.15	62.4	5.6	42.9	8.6	19.9	10.9	
		15.0	90.1	71.8	3.97	59.4	5.6	39.8	4.2	9.6	9.9	90.3	73.3	4.05	60.9	5.7	41.3	6.4	14.9	10.2	90.6	74.9	4.14	62.5	5.7	42.9	8.7	20.2	10.4	
		18.0	88.0	71.7	3.96	59.6	5.7	39.8	4.2	9.6	9.6	88.2	73.3	4.04	61.1	5.8	41.3	6.5	15.0	9.7	88.4	74.9	4.13	62.7	5.9	42.9	8.8	20.4	9.9	
80	60	12.0	93.6	80.4	4.02	67.6	6.0	48.4	4.0	9.3	11.5	94.0	82.2	4.11	69.4	6.1	50.1	6.2	14.4	11.8	94.3	84.1	4.20	71.3	6.3	51.9	8.4	19.5	12.1	
		15.0	91.3	80.3	4.01	67.8	6.2	48.4	4.0	9.3	11.1	91.6	82.2	4.09	69.6	6.3	50.1	6.3	14.5	11.3	91.9	84.1	4.18	71.4	6.4	51.9	8.5	19.6	11.6	
		18.0	89.0	80.2	3.99	68.0	6.3	48.4	4.0	9.3	10.7	89.2	82.2	4.07	69.8	6.4	50.1	6.3	14.5	10.9	89.5	84.1	4.16	71.6	6.5	51.8	8.5	19.7	11.1	
80	70	12.0	95.0	88.9	4.07	76.0	6.6	56.9	3.9	9.0	12.7	95.5	91.1	4.16	78.1	6.7	58.9	6.1	14.0	13.0	95.9	93.2	4.25	80.1	6.9	60.9	8.3	19.1	13.2	
		15.0	92.5	88.9	4.05	76.2	6.8	56.9	3.9	9.0	12.3	92.9	91.1	4.13	78.3	6.9	58.9	6.1	14.0	12.5	93.2	93.3	4.22	80.4	7.0	60.9	8.2	19.0	12.8	
		18.0	90.0	88.8	4.02	76.4	6.9	56.9	3.9	9.0	11.8	90.3	91.1	4.11	78.5	7.1	58.9	6.1	14.0	12.1	90.5	93.3	4.19	80.6	7.2	60.8	8.2	19.0	12.3	
100	30	12.0	Operation Not Recommended																											
		15.0	107.4	53.2	5.06	37.9	3.4	23.5	4.3	10.0	7.3	107.5	54.0	5.02	38.8	3.5	24.5	6.7	15.4	7.5	107.6	54.9	4.98	39.7	3.5	25.5	9.0	20.8	7.6	
		18.0	105.9	53.1	5.04	38.1	3.5	23.6	4.3	10.0	7.1	106.0	53.9	5.13	38.9	3.5	24.5	6.7	15.5	7.1	106.0	54.8	5.23	39.8	3.6	25.5	9.1	21.0	7.1	
100	40	12.0	Operation Not Recommended																											
		15.0	108.6	61.0	5.11	45.8	3.9	32.4	4.5	10.4	8.3	108.5	62.0	5.08	46.1	4.0	33.4	6.5	15.0	8.5	108.5	63.0	5.06	47.8	4.0	34.4	8.5	19.7	8.6	
		18.0	106.8	60.9	5.10	46.2	4.0	32.6	4.7	11.0	8.1	106.9	61.9	5.17	47.1	4.0	33.6	6.8	15.7	8.1	107.0	62.9	5.25	48.0	4.1	34.6	8.8	20.4	8.2	
100	50	12.0	111.6	68.8	5.17	53.3	4.3	40.8	4.1	9.5	9.7	111.2	69.9	5.08	54.4	4.4	41.8	5.8	13.4	9.9	110.8	71.0	5.00	55.5	4.4	42.8	7.5	17.3	10.1	
		15.0	109.7	68.8	5.17	53.8	4.4	41.3	4.6	10.7	9.4	109.6	69.9	5.15	54.8	4.4	42.3	6.3	14.6	9.5	109.4	71.1	5.13	55.9	4.5	43.2	8.0	18.6	9.7	
		18.0	107.8	68.8	5.17	54.3	4.4	41.7	5.1	11.9	9.1	107.9	69.9	5.22	55.3	4.5	42.7	6.9	15.9	9.1	108.0	71.1	5.27	56.3	4.6	43.7	8.6	19.9	9.2	
100	60	12.0	113.0	76.5	5.21	61.1	4.7	49.5	4.0	9.3	10.8	112.3	77.7	5.17	62.2	4.8	50.5	5.4	12.5	10.9	111.7	79.0	5.13	63.4	4.9	51.4	6.8	15.7	11.1	
		15.0	110.8	76.5	5.22	61.7	4.8	50.2	4.8	11.0	10.4	110.6	77.8	5.21	62.8	4.9	51.1	6.2	14.3	10.6	110.4	79.1	5.21	64.0	5.0	52.1	7.6	17.5	10.7	
		18.0	108.7	76.6	5.23	62.4	4.9	50.8	5.6	12.8	10.1	108.9	78.0	5.26	63.5	5.0	51.8	7.0	16.1	10.2	109.0	79.3	5.29	64.6	5.1	52.8	8.4	19.3	10.3	
100	70	12.0	114.3	84.2	5.25	68.9	5.2	58.2	3.9	9.0	11.9	113.4	85.6	5.26	70.1	5.3	59.1	5.0	11.5	12.0	112.5	87.0	5.26	71.3	5.4	60.1	6.1	14.0	12.1	
		15.0	112.0	84.3	5.27	69.7	5.3	59.0	4.9	11.4	11.5	111.6	85.8	5.28	70.9	5.4	60.0	6.0	13.9	11.6	111.3	87.2	5.28	72.1	5.5	61.0	7.1	16.4	11.7	
		18.0	109.6	84.5	5.30	70.5	5.4	59.9	6.0	13.8	11.1	109.8	86.0	5.30	71.7	5.5	60.9	7.0	16.3	11.2	110.1	87.5	5.31	72.9	5.6	61.9	8.1	18.8	11.4	
120	30	12.0	Operation Not Recommended																											
		15.0	127.2	51.8	6.23	33.3	2.5	24.4	4.3	9.9	7.0	127.2	52.5	6.07	34.0	2.5	25.2	6.5	15.1	7.1	127.2	53.2	5.91	34.7	2.6	26.1	8.8	20.2	7.2	
		18.0	125.8	51.6	6.18	33.5	2.6	24.4	4.3	9.9	6.7	125.8	52.4	6.29	34.2	2.6	25.3	6.5	15.0	6.8	125.7	53.1	6.39	34.8	2.6	26.1	8.8	20.2	6.8	
120	40	12.0	Operation Not Recommended																											
		15.0	128.3	58.8	6.30	40.8	2.8	33.6	4.7	10.9	7.9	128.0	59.5	6.16	41.4	2.9	34.2	6.4	14.7	8.0	127.7	60.2	6.02	42.0	2.9	34.8	8.1	18.6	8.1	
		18.0	126.7	58.7	6.28	41.3	2.9	34.0	5.2	12.0	7.6	126.7	59.5	6.34	41.8	2.9	34.7	6.9	15.9	7.7	126.7	60.3	6.40	42.4	3.0	35.3	8.6	19.8	7.7	
120	50	12.0	131.1	65.7	6.36	47.5	3.1	41.9	4.1	9.4	9.2	130.0	66.4	6.10	48.0	3.2	42.3	5.2	12.1	9.2	128.9	67.0	5.85	48.5	3.2	42.7	6.3	14.7	9.3	
		15.0	129.3	65.8	6.37	48.2	3.2	42.8	5.1	11.8	8.9	128.8	66.5	6.25	48.7	3.2	43.2	6.2	14.4	8.9	128.3	67.2	6.13	49.2	3.3	43.6	7.4	17.0	8.9	
		18.0	127.5	65.9	6.38	49.0	3.2	43.7	6.1	14.2	8.5	127.6	66.6	6.39	49.5	3.3	44.1	7.3	16.8	8.6	127.7	67.4	6.41	50.0	3.3	44.5	8.4	19.4	8.6	
120	60	12.0	132.4	72.6	6.39	54.6	3.4	50.6	4.0	9.2	10.2	130.7	73.2	6.23	55.0	3.5	50.8	4.6	10.5	10.1	129.0	73.9	6.06	55.5	3.6	51.0	5.1	11.8	10.1	
		15.0	130.4	72.8	6.43	55.7	3.5	52.0	5.5	12.8	9.8	129.6	73.5	6.33	56.1	3.6	52.1	6.1	14.1	9.8	128.8	74.2	6.24	56.5	3.6	52.3	6.7	15.4	9.8	
		18.0	128.4	73.0	6.47	56.8	3.5	53.3	7.1	16.3	9.4	128.5	73.8	6.44	57.1	3.6	53.5	7.6	17.7	9.5	128.6	74.6	6.41	57.5	3.7	53.7	8.2	19.0	9.5	
120	70	12.0	133.6	79.5	6.43	61.8	3.7	59.4	3.9	9.0	11.1	131.4	80.1	6.35	62.1	3.8	59.4	3.9	9.0	11.0	129.1	80.7	6.27	62.4	3.9	59.3	3.9	9.0	10.9	
		15.0	131.4	79.8	6.50	63.2	3.8	61.2	6.0	13.8	10.7	130.4	80.5	6.42	63.5	3.9	61.1	6.0	13.8	10.7	129.4	81.2	6.35	63.8	4.0	61.1	6.0	13.8	10.7	
		18.0	129.2	80.1	6.57	64.5	3.9	62.9	8.0	18.5	10.3	129.4	80.9	6.50	64.8	4.0	62.9	8.0	18.5	10.4	129.6	81.7	6.42	65.1	4.1	62.9	8.0	18.5	10.4	

\*Water heating mode only allows high compressor capacity operation.

ELT = entering load fluid temperature to heat pump

SWPD = source coax water pressure drop

LLT = leaving load fluid temperature from heat pump

PSI = pressure drop in pounds per square inch

LGPM = load flow in gallons per minute

FT HD = pressure drop in feet of head

LWPD = load coax water pressure drop

KW = kilowatts

EST = entering source fluid temperature to heat pump

HE = heat extracted in BTUH

LST = leaving source fluid temperature from heat pump

HC = total heating capacity in BTUH

HWC = desuperheater capacity

COP = coefficient of performance [HC/(KW x 3.413)]

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

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

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

Premium Q Series  
3 - 6 Tons 60Hz



## Revision Guide

Pages:	Description:	Date:	By:
	Guide Creation	17 Sept, 2024	SW/MA