

SUBMITTAL DATA

GEO SMART ENERGY



R-454B / 60Hz

SDW3-0019S

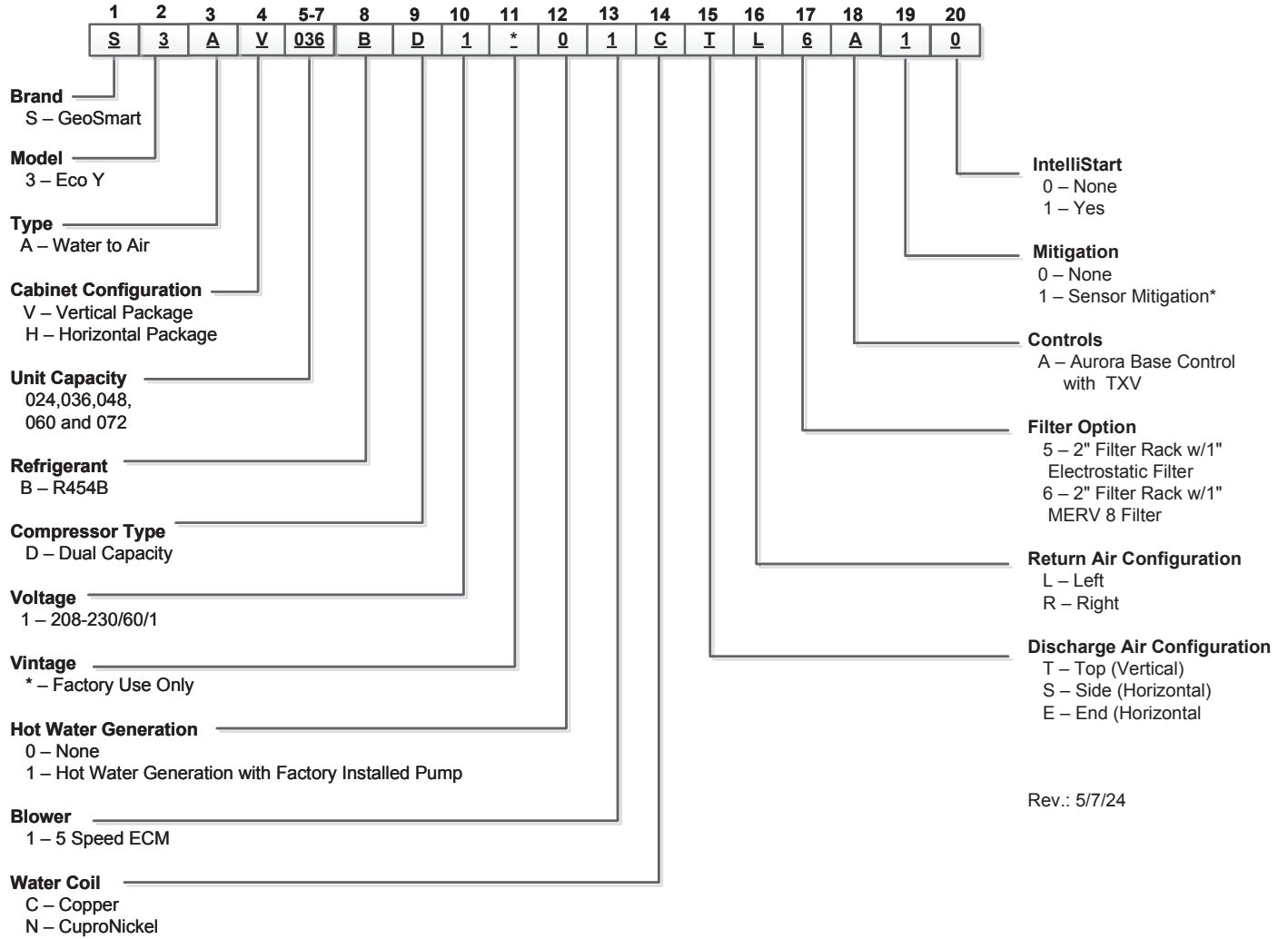


Contractor: _____ P.O.: _____
 Engineer: _____
 Project Name: _____ Unit Tag: _____

Eco-Y Series
 2 - 6 Tons 60Hz



Nomenclature



Rev.: 5/7/24

* Sensor mitigation required on 072 models. Not available on 024-060 models.

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Eco-Y Series
2 - 6 Tons 60Hz

GEOSMART
ENERGY

AHRI Performance Ratings

Model	Flow Rate		Ground Water Heat Pump				Ground Loop Heat Pump			
			Cooling		Heating		Cooling Brine		Heating Brine	
	gpm	cfm	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
024	8	800	25,700	21.30	23,000	4.60	23,200	15.70	19,000	4.00
	7	600	18,600	25.30	16,700	4.70	17,900	21.30	15,400	4.30
036	9	1200	37,500	20.50	35,400	4.30	35,600	15.80	26,800	3.70
	8	1000	28,700	26.40	25,300	4.60	28,000	22.40	22,000	4.20
048	12	1600	51,200	19.60	46,000	4.20	49,000	16.00	37,300	3.70
	11	1400	38,000	24.50	33,500	4.50	36,700	21.00	29,900	4.10
060	16	1800	63,000	18.80	55,800	4.00	59,500	15.20	45,800	3.40
	14	1500	46,100	23.50	38,200	4.20	45,200	20.40	34,900	3.90
072	18	1900	69,500	20.80	68,900	4.20	65,800	16.40	53,000	3.60
	16	1550	53,300	23.90	52,100	4.30	51,600	20.40	43,400	3.90

Cooling capacities based upon 80.6°F DB, 66.2°F WB entering air temperature

5/6/24

Heating capacities based upon 68°F DB, 59°F WB entering air temperature

All ratings based upon 208V operation

Energy Star Compliance Table

Model	Tier 3	
	Ground Water	Ground Loop
024	Yes	Yes
036	Yes	Yes
048	Yes	Yes
060	Yes	Yes
072	Yes	Yes

4/2/24

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 represents the current minimum efficiency water source heat pumps must have in order to be Energy Star rated.

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

Water-to-Air	EER	COP
Ground Loop	17.1	3.6
Ground Water	21.1	4.1
Water-to-Water		
Ground Loop	16.1	3.1
Ground Water	20.1	3.5

Contractor: _____ P.O.: _____

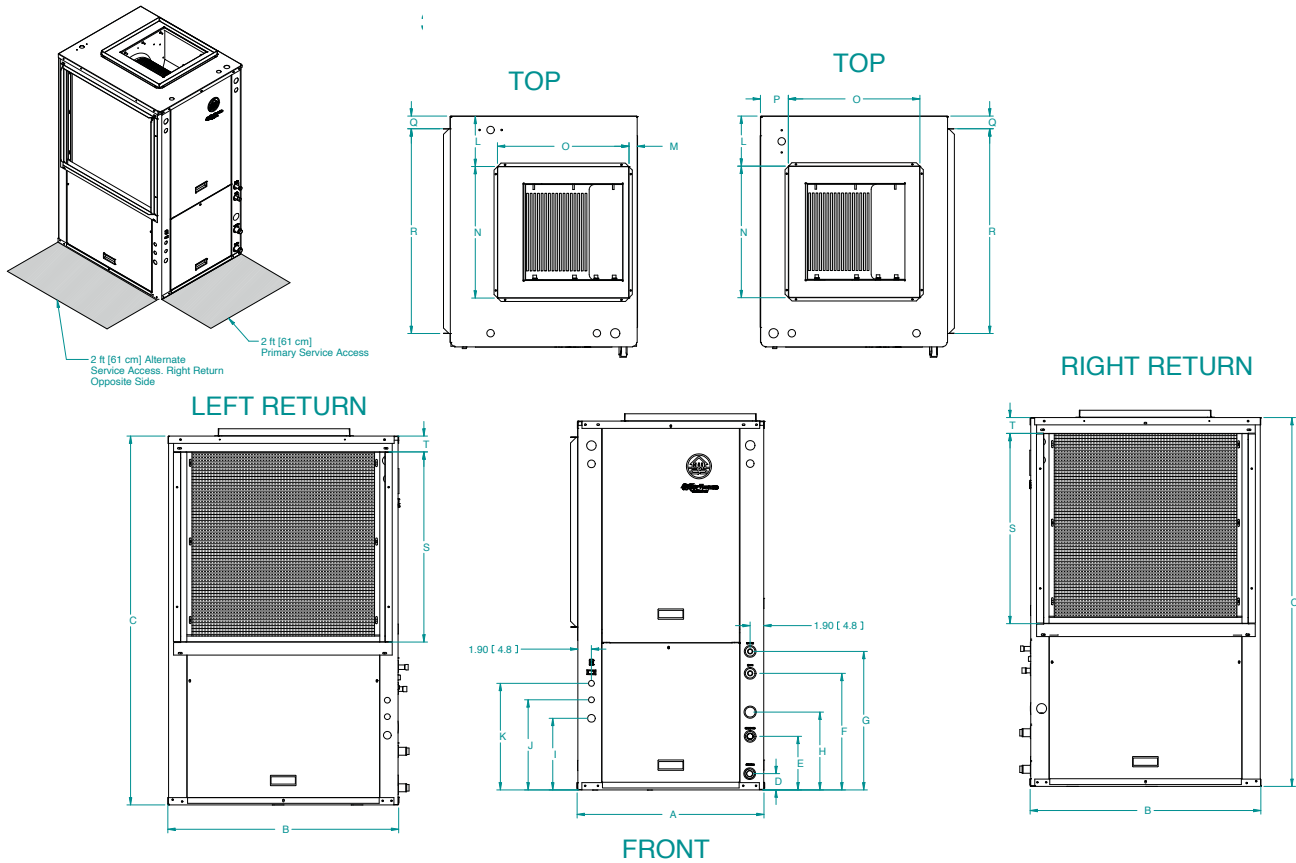
Engineer: _____

Project Name: _____ Unit Tag: _____

Eco-Y Series
2 - 6 Tons 60Hz

GEOSMART
ENERGY

Dimensional Data - Vertical



Vertical Top Flow Model	Overall Cabinet			Water Connections						Electrical Connections			Discharge Connection duct flange installed (±0.10 in)				Return Connection Return Duct Flanges						
	A	B	C	D	E	F	G	H	Loop Water FPT	HWG (O.D.)	I	J	K	L	M	N	O	P	Q	R	S	T	
	Width	Depth	Height	Loop In	Loop Out	HWG In	HWG Out	Condensate			3/4" cond	1/2" cond	1/2" cond										Supply Width
024	in.	22.5	26.5	39.4	2.3	5.3	13.4	16.4	9.6	1" Swivel	1/2" Stub	8.9	11.4	13.7	6.3	0.7	14.0	14.0	2.7	2.3	22.0	18.0	1.8
	cm.	57.2	67.3	100.1	5.8	13.5	34.0	41.7	24.4			22.6	29.0	34.8	16.0	1.8	35.6	35.6	6.9	5.8	55.9	45.7	4.6
036	in.	22.5	26.5	44.5	2.0	7.0	13.5	16.5	10.2	1" Swivel	1/2" Stub	9.5	12.1	14.3	6.1	0.8	14.0	14.0	4.4	2.4	22.0	22.0	2.0
	cm.	57.2	67.3	113.0	5.1	17.8	34.3	41.9	25.9			24.1	30.7	36.3	15.5	2.0	35.6	35.6	11.2	6.1	55.9	55.9	5.1
048-060	in.	25.6	31.6	50.4	2.3	7.3	15.9	18.9	10.6	1" Swivel	1/2" Stub	9.8	12.3	14.6	6.9	1.1	18.0	18.0	3.8	1.7	28.0	26.0	1.7
	cm.	65.0	80.3	128.0	5.8	18.5	40.4	48.0	26.9			24.9	31.2	37.1	17.5	2.8	45.7	45.7	9.7	4.3	71.1	66.0	4.3
072	in.	25.6	31.6	54.4	2.3	7.3	15.9	18.9	10.6	1" Swivel	1/2" Stub	9.8	12.3	14.6	6.9	1.1	18.0	18.0	3.8	1.7	28.1	30.0	2.2
	cm.	65.0	80.3	138.2	5.8	18.5	40.4	48.0	26.9			24.9	31.2	37.1	17.5	2.8	45.7	45.7	9.7	4.3	71.4	76.2	5.6

Condensate is 3/4" PVC female glue socket and is switchable from side to front

7/17/14

Unit shipped with 1" [25.4mm] return duct flanges and are suitable for duct connection.

The optional 1" filter rack (not shown) has the same return opening connection size as the duct flanges shown in the drawing. The filter rack extends 2.25"(57.1 mm) from the unit.

The optional 1" filter rack is suitable for duct connection.

The optional filter rails (not shown) extend 1.25" (31.75 mm) from cabinet.

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Contractor: _____ P.O.: _____

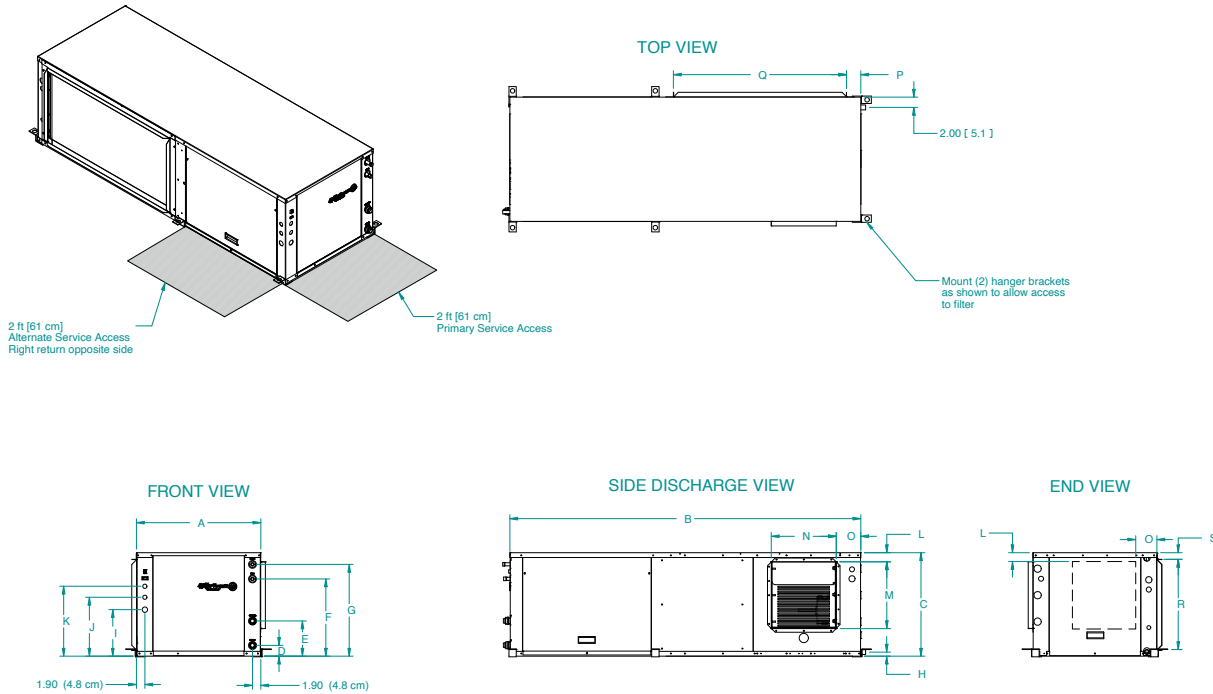
Engineer: _____

Project Name: _____ Unit Tag: _____

Eco-Y Series
2 - 6 Tons 60Hz

GEOSMART
ENERGY

Dimensional Data - Horizontal



Horizontal Model	Overall Cabinet			Water Connections						Electrical Connections			Discharge Connection				Return Connection					
	A	B	C	D	E	F	G	H	Loop Water FPT	HWG (O.D.)	I	J	K	Duct Flange Installed				Return Duct Flanges				
	Width	Depth	Height	In	Out	HWG In	HWG Out	Condensate			3/4" cond	1/2" cond	1/2" cond	L*	M	N	O*	P	Q	R	S	
024	in.	22.5	53.0	19.3	2.3	5.3	13.8	16.8	0.8	1" Swivel	1/2"	8.9	11.5	13.7	1.7	10.5	9.5	8.2	2.2	21.8	16.5	1.5
	cm.	57.2	134.6	49.0	5.8	13.5	35.1	42.7	2.0		Stub	22.6	29.2	34.8	4.3	26.7	24.1	20.8	5.6	55.4	41.9	3.8
036	in.	22.5	63.0	19.3	2.3	7.3	13.5	16.5	0.8	1" Swivel	1/2"	9.5	12.1	14.3	2.3	10.5	9.5	5.7	2.8	30.5	16.7	1.3
	cm.	57.2	160.0	49.0	5.8	18.5	34.3	41.9	2.0		Stub	24.1	30.7	36.3	5.8	26.7	24.1	14.5	7.1	77.5	42.4	3.3
048-060	in.	25.6	72.0	21.3	2.3	7.3	15.9	18.9	0.8	1" Swivel	1/2"	9.5	12.1	14.3	1.9	13.6	13.2	5.0	2.9	35.5	18.6	1.3
	cm.	65.0	182.9	54.1	5.8	18.5	40.4	48.0	2.0		Stub	24.1	30.7	36.3	4.8	34.5	33.5	12.7	7.4	90.2	47.2	3.3
072	in.	25.6	77.0	21.3	2.3	7.3	15.9	18.9	0.8	1" Swivel	1/2"	9.5	12.1	14.3	1.9	13.6	13.2	5.0	2.8	40.4	18.7	1.5
	cm.	65.0	195.6	54.1	5.8	18.5	40.4	48.0	2.0		Stub	24.1	30.7	36.3	4.8	34.5	33.5	12.7	7.1	102.6	47.5	3.8

* Dimensions shown are for left return side discharge other configurations shown in tables below

Condensate is 3/4" PVC female glue socket and is switchable from side to front

Water connections extend 1.2" [30.5mm] beyond front of cabinet.

The optional 1" filter rack (not shown) has the same return opening connection size as the duct flanges shown in the drawing. The filter rack extends 2.25" (57.1 mm) from the unit.

The optional 1" filter rack is suitable for duct connection.

The optional filter rails (not shown) extend 1.25" (31.75 mm) from cabinet.

The O24 model is not field convertible changing from end to side discharge. It requires an additional discharge panel (not supplied).

7/18/14

024 Model		L	O
Right Return End Discharge	in	2.2	5.7
	cm	5.6	14.5
Right Return Side Discharge	in	6.9	8.3
	cm	17.5	21.1
Left Return End Discharge	in	6.5	7.3
	cm	16.5	18.5

036 Model		L	O
Right Return End Discharge	in	6.5	6.6
	cm	16.5	16.8
Right Return Side Discharge	in	2.3	5.7
	cm	5.8	14.5
Left Return End Discharge	in	6.5	6.6
	cm	16.5	16.8

048-060 Models		L	O
Right Return End Discharge	in	1.9	5.0
	cm	4.8	12.7
Right Return Side Discharge	in	5.7	5.0
	cm	14.5	12.7
Left Return End Discharge	in	5.7	4.9
	cm	14.5	12.4

072 Model		L	O
Right Return End Discharge	in	1.9	5.0
	cm	4.8	12.7
Right Return Side Discharge	in	5.7	5.0
	cm	14.5	12.7
Left Return End Discharge	in	5.7	5.0
	cm	14.5	12.7

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Eco-Y Series
2 - 6 Tons 60Hz



Physical Data

Model		Dual Capacity				
		024	036	048	060	072
Compressor (1 each)		Copeland Ultra Tech, Dual Capacity Scroll				
Factory Charge R-454B, oz [kg]	Vertical	32 [0.91]	44 [1.25]	58 [1.64]	62 [1.76]	*76 [2.15]
Factory Charge R-454B, oz [kg]	Horizontal	32 [0.91]	42 [1.19]	58 [1.64]	60 [1.70]	*73 [2.07]
ECM Blower Motor & Blower						
Blower Motor Type/Speeds	ECM	5 Speed ECM				
Blower Motor- hp [W]	ECM	1/2 [373]	1/2 [373]	1 [746]	1 [746]	1 [746]
Blower Wheel Size (Dia x W), in. [mm]	ECM	9 x 7 [229 x 178]	9 x 7 [229 x 178]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]
Coax and Water Piping						
Water Connections Size - Swivel - in [mm]		1" [25.4]	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]	1/2" [12.7]
Coax & Piping Water Volume - gal [l]		.35 [1.3]	.7 [2.6]	.7 [2.6]	1.3 [4.9]	1.6 [6.1]
Vertical						
Air Coil Dimensions (H x W), in. [mm]		19 x 20 [483 x 508]	24 x 20 [610 x 508]	28 x 25 [711 x 635]	28 x 25 [711 x 635]	32 x 25 [813 x 635]
Air Coil Total Face Area, ft2 [m2]		2.6 [0.245]	3.3 [0.310]	4.9 [0.452]	4.9 [0.452]	5.6 [0.516]
Air Coil Tube Size, in [mm]		3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]
Air Coil Number of rows		3	3	3	3	3
Optional Filter - 1" [25mm] Pleated MERV8 Throwaway, in [mm]		20 x 24 [508 x 610]	20 x 24 [508 x 610]	28 x 30 [711 x 762]	28 x 30 [711 x 762]	30 x 32 [762 x 813]
Weight - Operating, lb [kg]		198 [90]	221 [100]	303 [137]	329 [149]	350 [159]
Weight - Packaged, lb [kg]		218 [99]	241 [109]	323 [147]	349 [158]	370 [168]
Horizontal						
Air Coil Dimensions (H x W), in. [mm]		18 x 21 [457 x 533]	18 x 27 [457 x 686]	20 x 35 [508 x 889]	20 x 35 [508 x 889]	20 x 40 [508 x 1016]
Air Coil Total Face Area, ft2 [m2]		2.6 [.244]	3.4 [0.314]	4.9 [0.452]	4.9 [0.452]	5.6 [0.516]
Air Coil Tube Size, in [mm]		3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]	3/8 [9.5]
Air Coil Number of rows		3	3	3	3	3
Optional Filter - 1" [25mm] Pleated MERV8 Throwaway, in [mm]		1 - 18 x 24 [457 x 610]	1 - 20 x 32 [508 x 813]	1 - 20 x 37 [508 x 940]	1 - 20 x 37 [508 x 940]	1 - 20 x 20 [508 x 508] 1 - 20 x 22 [508 x 559]
Weight - Operating, lb [kg]		228 [103]	250 [113]	325 [147]	358 [162]	369 [167]
Weight - Packaged, lb [kg]		248 [112]	270 [122]	345 [156]	378 [171]	389 [176]

4/1/24

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Eco-Y Series
2 - 6 Tons 60Hz



Auxiliary Heat Ratings

Model	KW		Stages	BTU/HR		Min CFM	Compatibility		
	208V	230V		208V	230V		024	036	048 - 072
EAM(H)5	3.6	4.8	1	12,300	16,300	450	•	•	
EAM(H)8	5.7	7.6	2	19,400	25,900	550	•	•	
EAM(H)10	7.2	9.6	2	24,600	32,700	650	•	•	
EAL(H)10	7.2	9.6	2	24,600	32,700	1100			•
EAL(H)15	10.8	14.4	2	36,900	49,100	1250			•
EAL(H)20	14.4	19.2	2	49,200	65,500	1500			•

4/2/24

Order the "H" part number when installed on horizontal and vertical rear discharge units

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 Circuit	Heater Amps		Min Circuit Amp		Fuse (USA)		Fuse (CAN)		CKT BRK	
		208 V	240 V	208 V	240 V	208 V	240 V	208 V	240 V	208 V	240 V
EAM(H)5	Single	17.3	20.0	26.7	30.0	30	30	30	30	30	30
EAM(H)8	Single	27.5	31.7	39.3	44.6	40	45	40	45	40	45
EAM(H)10	Single	34.7	40.0	48.3	55.0	50	60	50	60	50	60
EAL(H)10	Single	34.7	40.0	53.3	60.0	60	60	60	60	60	60
EAL(H)15	Single	52.0	60.0	75.0	85.0	80	90	80	90	70	100
	L1/L2	34.7	40.0	53.3	60.0	60	60	60	60	60	60
	L3/L4	17.3	20.0	21.7	25.0	25	25	25	25	20	30
EAL(H)20	Single	69.3	80.0	96.7	110.0	100	110	100	110	100	100
	L1/L2	34.7	40.0	53.3	60.0	60	60	60	60	60	60
	L3/L4	34.7	40.0	43.3	50.0	45	50	45	50	40	50

4/2/24

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

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

Supply wire size to be determined by local codes

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Eco-Y Series
2 - 6 Tons 60Hz



Electrical Data

Dual Capacity with ECM motor

Model	Rated Voltage	Voltage Min/Max	Compressor				HWG Pump FLA	Ext Loop FLA	Blower Motor FLA	Total Unit FLA	Min Circ Amp	Max Fuse/HACR
			MCC	RLA	LRA	LRA*						
024	208-230/60/1	187/253	16.0	10.2	62.0	21.7	0.4	5.4	4.1	20.1	22.7	35
036	208-230/60/1	187/253	22.7	14.5	90.0	32.4	0.4	5.4	4.1	24.4	28.1	40
048	208-230/60/1	187/253	28.6	18.3	138.0	49.7	0.4	5.4	7.6	31.7	36.3	50
060	208-230/60/1	187/253	39.3	25.2	147.3	51.5	0.4	5.4	7.6	38.6	44.8	70
072	208-230/60/1	187/253	43.7	28.0	160.0	56.0	0.4	5.4	7.6	41.4	48.4	70

*With optional IntelliStart

6/25/24

Rated Voltage of 208/230/60/1
HACR circuit breaker in USA only
All fuses Class RK-5

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Eco-Y Series
2 - 6 Tons 60Hz



Blower Performance Data

Dual Capacity with 5-Speed ECM

Model	Motor Speed	Motor Tap	T'stat Cnct.	Blower Size	Motor HP	Airflow (cfm) at External Static Pressure (in. wg)															
						0	0.05	0.1	0.15	0.2	0.25	0.3	0.35	0.4	0.45	0.5	0.6	0.7	0.8	0.9	1.00
024	High	5	W	9 x 7	1/2	1024	1013	1002	988	974	963	951	940	929	901	872	785	691	-	-	-
	Med High	4	Y2			932	917	902	892	882	867	851	842	832	817	802	756	661	-	-	-
	Med	3				835	826	816	801	785	772	759	749	738	719	700	677	636	-	-	-
	Med Low	2	Y1			765	747	729	720	710	696	681	662	643	627	611	581	515	-	-	-
	Low	1	G			665	656	647	626	605	593	580	561	541	519	496	443	392	-	-	-
036	High	5	W	9 x 7	1/2	1325	1319	1313	1293	1272	1242	1212	1158	1103	1058	1013	930	839	-	-	-
	Med High	4	Y2			1279	1267	1254	1238	1222	1203	1184	1137	1089	1049	1008	926	836	-	-	-
	Med	3				1229	1218	1206	1187	1167	1154	1140	1110	1079	1044	1008	929	829	-	-	-
	Med Low	2	Y1			1201	1184	1167	1156	1145	1129	1113	1086	1058	1028	997	914	808	-	-	-
	Low	1	G			1007	989	971	958	945	925	904	889	873	862	850	818	778	-	-	-
048	High	5	W	11 x 10	1	1890	1874	1857	1845	1833	1809	1784	1769	1754	1736	1718	1672	1629	1601	1562	1522
	Med High	4	Y2			1769	1754	1739	1721	1703	1685	1666	1645	1623	1604	1585	1539	1499	1463	1432	1376
	Med	3				1671	1652	1632	1614	1595	1576	1557	1536	1514	1494	1474	1430	1387	1351	1313	1173
	Med Low	2	Y1			1574	1555	1535	1514	1492	1472	1452	1431	1410	1387	1363	1330	1284	1236	1108	1014
	Low	1	G			1388	1370	1352	1322	1292	1264	1236	1216	1195	1178	1161	1095	984	916	842	787
060	High	5	W	11 x 10	1	2077	2066	2055	2044	2033	2017	2000	1966	1931	1904	1877	1841	1810	1791	1740	1653
	Med High	4	Y2			1948	1937	1925	1910	1895	1880	1865	1831	1797	1778	1759	1720	1707	1680	1660	1612
	Med	3				1810	1794	1778	1739	1700	1684	1667	1657	1646	1629	1612	1576	1583	1547	1510	1480
	Med Low	2	Y1			1680	1667	1653	1618	1583	1562	1540	1522	1503	1488	1473	1465	1449	1410	1369	1319
	Low	1	G			1594	1572	1550	1512	1474	1450	1426	1410	1393	1385	1376	1351	1325	1290	1168	1085
072	High	5	W	11 x 10	1	2402	2388	2373	2358	2343	2334	2325	2307	2289	2274	2258	2215	2177	2125	2052	1933
	Med High	4	Y2			2209	2193	2177	2164	2151	2135	2118	2105	2092	2072	2052	2017	1982	1954	1925	1844
	Med	3				2085	2072	2058	2045	2031	2010	1989	1972	1954	1936	1918	1881	1852	1821	1790	1751
	Med Low	2	Y1			1961	1951	1940	1926	1911	1885	1859	1844	1829	1814	1798	1759	1727	1703	1670	1636
	Low	1	G			1767	1751	1735	1715	1694	1678	1661	1640	1619	1602	1584	1548	1512	1475	1426	1397

Factory speed settings are in Bold

7/30/14

Air flow values are with dry coil and standard filter

For wet coil performance first calculate the face velocity of the air coil (Face Velocity [fpm] = Airflow [cfm] / Face Area [sq ft]).

Then for velocities of 200 fpm reduce the static capability by 0.03 in. wg, 300 fpm by 0.08 in. wg, 400 fpm by 0.12 in. wg., and 500 fpm by 0.16 in. wg.

Highest setting is for auxiliary heat (W) and lowest setting is for constant blower (G). The "Y1" and "Y2" settings must be between the "G" and "W" settings.

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Eco-Y Series
2 - 6 Tons 60Hz

GEOSMART
ENERGY

Operating Limits

Operating Limits	Cooling		Heating	
	(°F)	(°C)	(°F)	(°C)
Air Limits				
Min. 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
Min. Entering Air	50	10.0	40	4.4
Rated Entering Air db/wb	80.6/66.2	27/19	68	20.0
Max. Entering Air db/wb	110/83	43/28.3	80	26.7
Water Limits				
Min. Entering Water	30	-1.1	20	-6.7
Normal Entering Water	50-110	10-43.3	30-70	-1.1
Max. 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 dependent 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

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.: _____

Engineer: _____

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
400	100	1.000	1.000	1.000	1.000	1.000	1.000	1.000
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
400	100	1.000	1.000	1.000	1.000	1.000	1.000	1.000
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

5/30/06

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
67	1.000			0.616	0.806	1.000	1.023	1.193	1.330	1.480	*	1.000	1.000
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
70	1.000	1.000	1.000
75	0.987	1.048	0.970
80	0.975	1.099	0.930

11/10/09

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Eco-Y Series
2 - 6 Tons 60Hz



Antifreeze Corrections

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

Antifreeze Type EWT - °F [°C]	Antifreeze % by wt	Heating 30 [-1.1]	Cooling 90 [32.2]	Pressure Drop 30 [-1.1]
Water	0	1.000	1.000	1.000
	10	0.973	0.991	1.075
Ethylene Glycol	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
	10	0.958	0.981	1.130
Propylene Glycol	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
	10	0.927	0.991	1.242
Ethanol	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
	10	0.957	0.986	1.127
Methanol	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 a 036.

The corrected cooling capacity at 90°F would be: 34,800 Btu/h x 0.969 = 33,721 Btu/h

The corrected heating capacity at 30°F would be: 29,300 Btu/h x 0.913 = 26,750 Btu/h

The corrected pressure drop at 30°F and 9 gpm would be: 13.4 feet of head x 1.270 = 17.02 feet of head

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Eco-Y Series
2 - 6 Tons 60Hz



Pressure Drop

Model	GPM	Pressure Drop (psi)				
		30°F	50°F	70°F	90°F	110°F
O24 full load	4	1.9	1.8	1.7	1.6	1.5
	6	5.3	5.0	4.7	4.4	4.1
	8	8.7	8.2	7.7	7.2	6.7
	10	12.1	11.4	10.5	10	9.3
O24 part load	3	1.0	1.0	0.9	0.8	0.8
	5	3.9	3.6	3.4	3.2	2.9
	7	6.5	6.1	5.7	5.3	4.9
	9	9.1	8.6	7.9	7.4	6.9
O36 full load	5	2.3	2.1	2.0	1.9	1.7
	7	4.4	4.2	3.9	3.6	3.4
	9	6.6	6.2	5.8	5.4	5.0
	11	8.8	8.2	7.4	7.2	6.6
O36 part load	4	1.5	1.4	1.3	1.2	1.1
	6	3.3	3.1	2.9	2.7	2.5
	8	5.2	4.9	4.6	4.3	4.0
	10	7.1	6.7	6.2	5.9	5.5
O48 full load	6	6.8	6.4	6.0	5.6	5.2
	9	9.4	8.9	8.3	7.7	7.2
	12	12.0	11.3	10.6	9.9	9.2
	15	14.6	13.7	12.8	12.1	11.2
O48 part load	5	2.4	2.2	2.1	2	1.8
	8	6.2	5.9	5.5	5.1	4.8
	11	10.1	9.5	8.9	8.3	7.7
	14	14.0	13.1	12.2	11.5	10.6
O60 full load	8	7.3	6.8	6.4	6.0	5.5
	12	11.6	10.9	10.2	9.5	8.8
	16	15.9	15.0	14.0	13.0	12.1
	20	20.2	19.1	17.8	16.5	15.4
O60 part load	6	4.3	4.1	3.8	3.5	3.3
	10	8.4	7.9	7.4	6.9	6.4
	14	12.7	12.0	11.2	10.4	9.7
	18	17.0	16.1	15.1	13.9	13.0
O72 full load	12	3.8	3.6	3.4	3.1	2.9
	15	5.7	5.3	5.0	4.7	4.3
	18	7.8	7.4	6.9	6.4	6.0
	21	9.9	9.5	9.1	8.1	7.7
O72 part load	10	2.8	2.7	2.5	2.3	2.2
	13	4.8	4.5	4.2	3.9	3.8
	16	6.8	6.4	6.0	5.6	5.4
	19	8.8	8.3	7.6	7.3	7.0

6/10/24

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Performance Data

024 - Dual Capacity with 5-Speed ECM High Speed (800 cfm)

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT	Airflow cfm	HC kBtuh	Power kW	HE kBtuh	LAT °F	COP	HWC kBtuh	Airflow cfm	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	HR kBtuh	EER	HWC kBtuh
20	4.0	2.0	4.6	Operation not recommended							Operation not recommended							
	6.0	5.5	12.7	Operation not recommended							Operation not recommended							
	8.0	9.0	20.8	600 800	15.7 16.3	1.43 1.45	10.8 11.4	94.2 88.9	3.22 3.29	2.1 2.0	600 800	24.5 24.9	15.6 17.0	0.64 0.68	0.99 1.04	27.9 28.4	24.7 23.8	- -
30	4.0	1.9	4.5	Operation not recommended							Operation not recommended							
	6.0	5.3	12.3	600 800	18.3 18.9	1.51 1.56	13.2 13.5	98.3 91.8	3.56 3.55	2.3 2.1	600 800	24.5 24.9	15.6 17.0	0.64 0.68	0.99 1.04	27.9 28.4	24.7 23.8	- -
	8.0	8.7	20.2	600 800	18.6 19.2	1.52 1.57	13.4 13.9	98.8 92.3	3.58 3.59	2.3 2.2	600 800	24.6 25.2	15.6 17.0	0.63 0.67	0.96 1.01	27.9 28.6	25.6 25.0	- -
40	4.0	1.9	4.3	Operation not recommended							Operation not recommended							
	6.0	5.2	12.0	600 800	20.1 20.8	1.53 1.57	14.9 15.4	101.1 94.0	3.85 3.89	2.5 2.3	600 800	24.6 25.0	16.6 18.2	0.68 0.73	1.07 1.13	28.2 28.9	22.9 22.2	- -
	8.0	8.5	19.6	600 800	20.5 21.2	1.55 1.58	15.3 15.8	101.7 94.5	3.89 3.93	2.6 2.4	600 800	24.7 25.3	16.6 18.2	0.67 0.72	1.04 1.09	28.3 29.0	23.7 23.2	- -
50	4.0	1.8	4.2	600 800	21.1 21.8	1.53 1.55	15.9 16.5	102.6 95.2	4.05 4.11	2.7 2.5	600 800	23.9 25.1	16.1 17.9	0.67 0.71	1.21 1.28	28.0 29.5	19.7 19.7	1.1 1.2
	6.0	5.0	11.6	600 800	21.9 22.6	1.56 1.59	16.6 17.2	103.8 96.2	4.10 4.18	2.8 2.6	600 800	24.4 25.6	16.3 18.1	0.67 0.71	1.14 1.20	28.3 29.7	21.3 21.4	1.0 1.2
	8.0	8.2	19.0	600 800	22.4 23.1	1.58 1.60	17.0 17.6	104.6 96.7	4.16 4.23	2.9 2.6	600 800	24.6 25.9	17.4 19.3	0.71 0.75	1.11 1.17	28.4 29.9	22.1 22.1	1.0 1.1
60	4.0	1.8	4.1	600 800	24.0 24.7	1.61 1.63	18.5 19.2	107.0 98.6	4.35 4.46	3.0 2.8	600 800	23.8 25.0	16.1 17.9	0.67 0.72	1.33 1.39	28.4 29.7	18.0 18.0	1.3 1.4
	6.0	4.9	11.2	600 800	25.0 25.9	1.66 1.67	19.4 20.2	108.7 99.9	4.42 4.54	3.0 2.8	600 800	24.4 25.6	16.3 18.0	0.67 0.71	1.26 1.31	28.7 30.0	19.4 19.5	1.2 1.4
	8.0	8.0	18.4	600 800	25.7 26.5	1.68 1.69	19.9 20.8	109.6 100.7	4.48 4.61	3.2 2.9	600 800	24.6 25.9	17.1 19.0	0.70 0.74	1.23 1.29	28.8 30.2	20.0 20.1	1.1 1.3
70	4.0	1.7	3.9	600 800	26.8 29.7	1.70 1.73	21.0 23.8	111.4 104.4	4.62 5.03	3.2 3.0	600 800	23.8 25.5	16.0 18.5	0.67 0.73	1.37 1.43	28.5 30.4	18.5 17.8	1.6 1.7
	6.0	4.7	10.9	600 800	28.2 29.1	1.76 1.76	22.2 23.1	113.5 103.7	4.71 4.86	3.4 3.1	600 800	24.4 25.5	16.2 18.0	0.66 0.71	1.38 1.43	29.1 30.4	17.7 17.9	1.5 1.7
	8.0	7.7	17.8	600 800	28.9 29.9	1.78 1.77	22.9 23.9	114.6 104.6	4.77 4.95	3.5 3.2	600 800	24.7 25.8	16.9 18.7	0.68 0.72	1.35 1.40	29.3 30.6	18.4 18.4	1.4 1.6
80	4.0	1.6	3.8	600 800	28.8 29.8	1.74 1.73	22.8 23.9	114.4 104.5	4.84 5.05	3.6 3.3	600 800	22.8 23.8	15.8 17.6	0.69 0.74	1.60 1.65	28.3 29.4	14.3 14.4	2.0 2.1
	6.0	4.5	10.5	600 800	30.4 31.5	1.81 1.80	24.3 25.4	117.0 106.4	4.92 5.14	3.7 3.5	600 800	23.5 24.4	16.0 17.8	0.68 0.73	1.55 1.59	28.7 29.8	15.2 15.3	1.9 2.1
	8.0	7.4	17.2	600 800	31.3 32.4	1.84 1.81	25.1 26.2	118.3 107.5	5.00 5.25	3.9 3.6	600 800	23.7 24.7	16.4 18.2	0.69 0.74	1.51 1.56	28.9 30.0	15.7 15.8	1.8 2.0
90	4.0	1.6	3.7	600 800	30.8 31.9	1.79 1.76	24.7 25.9	117.5 106.9	5.04 5.30	3.9 3.7	600 800	21.9 22.6	15.6 17.4	0.72 0.77	1.76 1.81	27.9 28.8	12.4 12.5	2.5 2.7
	6.0	4.4	10.1	600 800	32.7 33.9	1.87 1.84	26.3 27.6	120.5 109.2	5.13 5.40	4.1 3.8	600 800	22.5 23.3	15.8 17.6	0.70 0.75	1.71 1.76	28.3 29.3	13.1 13.3	2.4 2.6
	8.0	7.2	16.6	600 800	33.7 34.9	1.90 1.85	27.3 28.6	122.1 110.4	5.21 5.53	4.3 4.0	600 800	22.0 23.6	15.3 17.7	0.70 0.75	1.62 1.72	27.5 29.5	13.6 13.7	2.2 2.5
100	4.0	1.5	3.5	Operation not recommended							Operation not recommended							
	6.0	4.2	9.8	Operation not recommended							Operation not recommended							
	8.0	6.9	16.0	600 800	20.9 21.6	15.0 16.6	0.72 0.77	1.94 1.97	27.6 28.4	10.8 11.0	2.9 3.2	600 800	21.2 21.9	15.0 16.6	0.71 0.76	1.91 1.94	27.7 28.5	11.1 11.3
110	4.0	1.5	3.4	Operation not recommended							Operation not recommended							
	6.0	4.1	9.4	Operation not recommended							Operation not recommended							
	8.0	6.7	15.4	600 800	19.4 19.9	14.1 15.7	0.73 0.79	2.18 2.19	26.8 27.4	8.9 9.1	3.7 4.0	600 800	19.6 20.1	14.0 15.4	0.71 0.77	2.14 2.16	26.9 27.5	9.2 9.3
120	4.0	1.4	3.3	Operation not recommended							Operation not recommended							
	6.0	3.9	9.0	Operation not recommended							Operation not recommended							
	8.0	6.4	14.8	600 800	18.3 18.7	14.7 16.0	0.80 0.86	2.41 2.48	26.6 27.1	7.6 7.5	4.3 4.7	600 800	18.5 18.9	14.7 16.0	0.80 0.85	2.34 2.41	26.5 27.1	7.9 7.8

Performance capacities shown in thousands of Btuh.

5/20/24

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Performance Data cont.

024 - Dual Capacity with 5-Speed ECM Low Speed (600 cfm)

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F															
		PSI	FT	Airflow cfm	HC kBtuh	Power kW	HE kBtuh	LAT °F	COP	HWC kBtuh	Airflow cfm	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	HR kBtuh	EER	HWC kBtuh								
20	3.0	1.1	2.4	Operation not recommended							Operation not recommended															
	5.0	4.0	9.2	Operation not recommended							Operation not recommended															
	7.0	6.7	15.4	500	11.3	1.11	7.5	91.0	2.99	1.8	600	11.5	1.10	7.7	87.7	3.06	1.7									
30	3.0	1.0	2.4	Operation not recommended							Operation not recommended															
	5.0	3.9	8.9	500	12.9	1.12	9.0	93.8	3.35	1.7	600	13.2	1.16	9.3	90.4	3.35	1.6	500	17.0	11.9	0.70	0.63	19.1	27.0	-	
	7.0	6.5	15.0	500	13.3	1.18	9.3	94.6	3.30	1.8	600	13.5	1.17	9.5	90.8	3.38	1.7	500	17.1	11.9	0.70	0.61	19.2	28.0	-	
	600			600	17.5	13.0	0.74	0.64	19.7	27.3	-															
40	3.0	1.0	2.3	Operation not recommended							Operation not recommended															
	5.0	3.7	8.7	500	14.6	1.13	10.7	97.0	3.78	1.7	600	15.0	1.15	11.1	93.2	3.82	1.6	500	17.7	12.3	0.69	0.70	20.1	25.2	-	
	7.0	6.3	14.5	500	14.9	1.14	11.0	97.5	3.82	1.8	600	15.4	1.17	11.4	93.7	3.86	1.7	500	17.8	12.3	0.69	0.68	20.1	26.2	-	
	600			600	18.2	13.4	0.74	0.71	20.6	25.6	-															
50	3.0	1.0	2.2	500	15.7	1.11	12.0	99.1	4.16	1.8	600	16.2	1.12	12.4	95.0	4.22	1.7	500	17.0	11.5	0.68	0.81	19.8	21.1	5.0	
	5.0	3.6	8.4	500	16.3	1.13	12.4	100.2	4.21	1.8	600	16.8	1.15	12.9	96.0	4.29	1.8	500	17.9	12.8	0.71	0.85	20.8	21.1	0.6	
	7.0	6.1	14.1	500	16.7	1.14	12.8	100.9	4.27	2.0	600	17.2	1.16	13.2	96.5	4.35	1.8	500	17.4	11.6	0.67	0.76	20.0	22.9	0.5	
	600			600	18.5	13.8	0.75	0.78	21.2	23.7	0.5															
60	3.0	0.9	2.2	500	17.7	1.14	13.8	102.8	4.56	2.0	600	18.3	1.15	14.4	98.2	4.67	1.8	500	16.4	11.4	0.70	0.89	19.4	18.3	0.7	
	5.0	3.5	8.1	500	18.5	1.17	14.5	104.3	4.63	2.0	600	19.1	1.18	15.1	99.5	4.75	1.9	500	17.2	12.7	0.74	0.93	20.3	18.4	0.8	
	7.0	5.9	13.6	500	19.0	1.19	14.9	105.1	4.69	2.1	600	19.6	1.19	15.5	100.2	4.83	1.9	500	16.8	11.5	0.69	0.85	19.6	19.7	0.7	
	600			600	17.5	12.8	0.73	0.88	20.6	19.9	0.8															
70	3.0	0.9	2.1	500	19.7	1.17	15.7	106.5	4.94	2.2	600	20.9	1.19	16.8	102.3	5.15	2.0	500	16.8	11.3	0.72	0.98	19.0	16.1	1.0	
	5.0	3.4	7.9	500	20.7	1.21	16.6	108.4	5.02	2.2	600	21.4	1.21	17.3	103.1	5.19	2.0	500	16.8	11.3	0.72	0.98	19.0	16.1	1.0	
	7.0	5.7	13.2	500	19.0	1.16	15.0	105.2	4.80	2.3	600	22.0	1.22	17.8	104.0	5.29	2.1	500	16.8	11.3	0.72	0.98	19.0	16.1	1.0	
	600			600	17.0	13.2	0.78	0.95	20.2	17.9	1.0															
80	3.0	0.9	2.0	500	20.9	1.20	16.8	108.8	5.13	2.4	600	21.7	1.19	17.6	103.4	5.35	2.2	500	15.0	11.3	0.75	1.09	18.7	13.8	1.4	
	5.0	3.3	7.6	500	22.1	1.24	17.9	111.0	5.22	2.4	600	22.9	1.23	18.7	105.3	5.45	2.3	500	15.6	11.2	0.80	1.12	19.5	13.9	1.5	
	7.0	5.5	12.7	500	22.8	1.26	18.5	112.2	5.30	2.6	600	23.6	1.24	19.3	106.3	5.57	2.4	500	15.4	11.4	0.74	1.05	19.0	14.7	1.3	
	600			600	16.1	12.6	0.79	1.08	19.8	14.9	1.4															
90	3.0	0.8	1.9	500	22.1	1.22	18.0	111.0	5.32	2.8	600	22.9	1.20	18.8	105.4	5.60	2.5	500	14.4	11.2	0.78	1.20	18.4	12.0	1.9	
	5.0	3.2	7.3	500	23.5	1.27	19.2	113.6	5.41	2.9	600	24.4	1.25	20.1	107.6	5.71	2.6	500	14.9	12.5	0.84	1.23	19.1	12.1	2.0	
	7.0	5.3	12.3	500	24.3	1.29	19.9	114.9	5.50	2.9	600	25.1	1.26	20.8	108.7	5.84	2.6	500	15.6	11.4	0.77	1.17	18.8	12.7	1.8	
	600			600	15.3	12.6	0.82	1.19	19.4	12.8	1.9															
100	3.0	0.8	1.9	Operation not recommended							Operation not recommended															
	5.0	3.1	7.1	Operation not recommended							Operation not recommended															
	7.0	5.1	11.8	500	14.2	11.1	0.78	1.38	18.9	10.3	2.3	600	14.6	12.3	0.84	1.40	19.4	10.4	2.5	500	14.3	11.0	0.77	1.36	19.0	10.6
	600			600	14.8	12.2	0.82	1.38	19.5	10.7	2.4															
110	3.0	0.8	1.8	Operation not recommended							Operation not recommended															
	5.0	2.9	6.8	Operation not recommended							Operation not recommended															
	7.0	4.9	11.4	500	13.6	10.7	0.79	1.60	19.1	8.5	3.1	600	14.0	11.9	0.86	1.61	19.5	8.7	3.3	500	13.7	10.6	0.77	1.57	19.1	8.7
	600			600	14.1	11.7	0.83	1.59	19.5	8.9	3.2															
120	3.0	0.7	1.7	Operation not recommended							Operation not recommended															
	5.0	2.8	6.5	Operation not recommended							Operation not recommended															
	7.0	4.7	10.9	500	11.9	10.4	0.87	1.74	17.9	6.8	3.7	600	12.2	11.3	0.93	1.79	18.3	6.8	4.0	500	12.0	10.4	0.86	1.69	17.8	7.1
	600			600	12.3	11.3	0.92	1.74	18.2	7.1	3.8															

Performance capacities shown in thousands of Btuh.

5/20/24

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Performance Data

036 - Dual Capacity with 5-Speed ECM High Speed (1200 cfm)

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT	Airflow cfm	HC kBtuh	Power kW	HE kBtuh	LAT °F	COP	HWC kBtuh	Airflow cfm	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	HR kBtuh	EER	HWC kBtuh
20	5.0	2.3	5.4	Operation not recommended							Operation not recommended							
	7.0	4.6	10.5	Operation not recommended							Operation not recommended							
	9.0	6.8	15.7	1000 1200	25.5 25.4	2.08 2.22	18.4 17.8	93.6 89.6	3.59 3.35	3.3 3.0	Operation not recommended							
30	5.0	2.3	5.3	Operation not recommended							Operation not recommended							
	7.0	4.4	10.2	1000 1200	27.3 28.1	2.28 2.35	19.6 20.1	95.3 91.7	3.52 3.51	3.5 3.2	1000 1200	32.5 33.1	22.4 24.5	0.69 0.74	1.38 1.46	37.3 38.0	23.5 22.7	- -
	9.0	6.6	15.2	1000 1200	28.8 28.7	2.22 2.37	21.2 20.6	96.7 92.1	3.80 3.55	3.6 3.3	1000 1200	32.7 33.5	22.4 24.5	0.69 0.73	1.34 1.41	37.3 38.3	24.4 23.8	- -
40	5.0	2.2	5.1	Operation not recommended							Operation not recommended							
	7.0	4.3	9.9	1000 1200	31.1 32.1	2.34 2.39	23.1 23.9	98.8 94.7	3.90 3.94	3.8 3.5	1000 1200	34.8 35.4	22.8 24.9	0.65 0.70	1.55 1.62	40.1 41.0	22.5 21.8	- -
	9.0	6.4	14.8	1000 1200	31.7 32.8	2.36 2.41	23.7 24.5	99.4 95.3	3.94 3.98	3.9 3.6	1000 1200	35.1 35.9	22.8 24.9	0.65 0.69	1.50 1.57	40.2 41.2	23.4 22.8	- -
50	5.0	2.1	4.9	1000 1200	33.7 34.7	2.34 2.37	25.7 26.6	101.2 96.8	4.21 4.28	4.1 3.8	1000 1200	35.2 37.0	21.0 23.4	0.60 0.63	1.79 1.89	41.3 43.5	19.6 19.6	1.8 1.9
	7.0	4.2	9.6	1000 1200	34.9 36.0	2.40 2.43	26.7 27.7	102.3 97.8	4.27 4.35	4.2 3.9	1000 1200	35.9 37.8	21.3 23.6	0.59 0.62	1.69 1.77	41.7 43.8	21.3 21.3	1.7 1.8
	9.0	6.2	14.3	1000 1200	35.7 36.8	2.42 2.45	27.4 28.4	103.0 98.4	4.33 4.40	4.4 4.0	1000 1200	36.3 38.2	22.7 25.2	0.63 0.66	1.65 1.73	41.9 44.1	22.0 22.1	1.6 1.7
60	5.0	2.1	4.8	1000 1200	36.8 38.0	2.45 2.46	28.5 29.6	104.1 99.3	4.41 4.52	4.6 4.2	1000 1200	35.0 36.7	22.1 24.6	0.63 0.67	2.03 2.12	42.0 44.0	17.2 17.3	2.1 2.3
	7.0	4.0	9.3	1000 1200	38.5 39.7	2.52 2.53	29.9 31.1	105.6 100.6	4.48 4.59	4.7 4.4	1000 1200	35.9 37.6	22.4 24.9	0.62 0.66	1.93 2.01	42.5 44.4	18.6 18.7	2.0 2.2
	9.0	6.0	13.9	1000 1200	39.4 40.7	2.54 2.56	30.7 32.0	106.5 101.4	4.54 4.67	4.9 4.5	1000 1200	36.2 38.0	23.6 26.2	0.65 0.69	1.89 1.97	42.6 44.7	19.2 19.3	1.9 2.1
70	5.0	2.0	4.6	1000 1200	40.0 42.1	2.55 2.61	31.3 33.2	107.0 102.5	4.59 4.73	5.1 4.7	1000 1200	34.9 37.1	23.3 27.1	0.67 2.12	2.28 2.07	42.7 44.2	18.5 17.9	2.6 2.8
	7.0	3.9	9.0	1000 1200	42.1 43.4	2.64 2.64	33.0 34.4	108.9 103.5	4.67 4.82	5.3 4.9	1000 1200	35.8 37.3	23.6 26.2	0.66 0.70	2.18 2.25	43.2 45.0	16.4 16.6	2.4 2.7
	9.0	5.8	13.4	1000 1200	43.1 44.6	2.67 2.66	34.0 35.5	109.9 104.4	4.73 4.91	5.4 5.0	1000 1200	36.2 37.8	24.6 27.2	0.68 0.72	2.12 2.21	43.4 45.3	17.0 17.1	2.3 2.5
80	5.0	1.9	4.5	1000 1200	42.8 44.3	2.62 2.60	33.9 35.5	109.7 104.2	4.79 4.99	5.8 5.4	1000 1200	33.8 35.1	23.2 25.8	0.69 0.73	2.43 2.51	42.1 43.7	13.9 14.0	3.2 3.4
	7.0	3.8	8.7	1000 1200	45.3 46.8	2.73 2.70	36.0 37.6	111.9 106.1	4.87 5.09	6.0 5.6	1000 1200	34.7 36.1	23.5 26.0	0.68 0.72	2.35 2.42	42.7 44.3	14.8 14.9	3.0 3.3
	9.0	5.6	12.9	1000 1200	46.6 48.2	2.76 2.72	37.2 38.9	113.2 107.2	4.95 5.19	6.2 5.7	1000 1200	35.1 36.5	24.1 26.7	0.69 0.73	2.30 2.37	42.9 44.6	15.2 15.4	2.8 3.1
90	5.0	1.9	4.3	1000 1200	45.7 47.3	2.69 2.65	36.5 38.3	112.3 106.5	4.98 5.23	6.6 6.1	1000 1200	32.6 33.8	23.1 25.6	0.71 0.76	2.59 2.66	41.5 42.8	12.6 12.7	4.1 4.3
	7.0	3.6	8.4	1000 1200	48.5 50.3	2.81 2.76	39.0 40.9	114.9 108.8	5.06 5.34	6.8 6.3	1000 1200	33.6 34.8	23.4 25.9	0.70 0.74	2.52 2.58	42.2 43.6	13.3 13.5	3.8 4.1
	9.0	5.4	12.5	1000 1200	50.1 51.8	2.85 2.78	40.3 42.3	116.4 110.0	5.15 5.46	7.0 6.5	1000 1200	35.8 35.2	26.4 26.1	0.74 0.74	2.38 2.53	43.9 43.8	15.0 13.9	3.5 3.9
100	5.0	1.8	4.2	Operation not recommended							Operation not recommended							
	7.0	3.5	8.1	1000 1200	32.6 33.7	24.2 26.9	0.74 0.80	2.77 2.81	42.1 43.3	11.8 12.0	4.6 5.0							
	9.0	5.2	12.0	1000 1200	33.0 34.1	24.1 26.7	0.73 0.78	2.72 2.76	42.3 43.5	12.1 12.3	4.3 4.7							
110	5.0	1.7	4.0	Operation not recommended							Operation not recommended							
	7.0	3.4	7.8	1000 1200	31.7 32.6	25.1 27.9	0.79 0.86	3.01 3.03	42.0 42.9	10.5 10.7	5.8 6.2							
	9.0	5.0	11.6	1000 1200	32.0 32.9	24.7 27.3	0.77 0.83	2.96 2.99	42.1 43.1	10.8 11.0	5.4 5.9							
120	5.0	1.7	3.8	Operation not recommended							Operation not recommended							
	7.0	3.2	7.5	1000 1200	28.9 29.4	22.7 24.6	0.78 0.84	3.49 3.58	40.8 41.7	8.3 8.2	6.9 7.4							
	9.0	4.8	11.1	1000 1200	29.2 29.8	22.7 24.6	0.78 0.83	3.37 3.48	40.7 41.7	8.6 8.6	6.4 7.1							

Performance capacities shown in thousands of Btuh.

5/20/24

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Performance Data cont.

036 - Dual Capacity with 5-Speed ECM Low Speed (1000 cfm)

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT	Airflow cfm	HC kBtuh	Power kW	HE kBtuh	LAT °F	COP	HWC kBtuh	Airflow cfm	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	HR kBtuh	EER	HWC kBtuh
20	4.0	1.5	3.5	Operation not recommended							Operation not recommended							
	6.0	3.4	7.8	Operation not recommended							Operation not recommended							
	8.0	5.4	12.4	850 1000	17.4 17.5	1.55 1.65	12.1 11.9	89.0 86.2	3.30 3.11	2.9 2.6								
30	4.0	1.5	3.4	Operation not recommended							Operation not recommended							
	6.0	3.3	7.6	850 1000	19.5 20.1	1.71 1.76	13.7 14.1	91.3 88.6	3.35 3.34	2.8 2.5	850 1000	25.4 25.9	18.1 19.8	0.71 0.77	0.93 0.98	28.6 29.2	27.3 26.3	- -
	8.0	5.2	12.1	850 1000	20.4 20.5	1.67 1.78	14.7 14.4	92.2 89.0	3.58 3.38	2.9 2.6	850 1000	25.6 26.2	18.1 19.8	0.71 0.76	0.90 0.95	28.7 29.4	28.3 27.6	- -
40	4.0	1.4	3.3	Operation not recommended							Operation not recommended							
	6.0	3.2	7.4	850 1000	22.5 23.2	1.74 1.78	16.5 17.1	94.5 91.4	3.78 3.82	2.8 2.6	850 1000	26.6 27.1	18.9 20.6	0.71 0.76	1.00 1.05	30.1 30.7	26.6 25.9	- -
	8.0	5.1	11.7	850 1000	22.9 23.7	1.76 1.80	16.9 17.5	95.0 91.9	3.82 3.86	2.9 2.7	850 1000	26.8 27.5	18.9 20.6	0.70 0.75	0.97 1.02	30.2 30.9	27.7 27.0	- -
50	4.0	1.4	3.2	850 1000	24.5 25.3	1.73 1.75	18.6 19.3	96.7 93.4	4.15 4.22	3.0 2.7	850 1000	26.4 27.8	17.8 19.8	0.67 0.71	1.12 1.18	30.2 31.8	23.6 23.6	0.9 1.0
	6.0	3.1	7.2	850 1000	25.4 26.2	1.77 1.79	19.4 20.1	97.7 94.3	4.21 4.28	3.0 2.8	850 1000	27.0 28.4	18.0 20.0	0.67 0.71	1.05 1.11	30.6 32.2	25.6 25.7	0.9 0.9
	8.0	4.9	11.4	850 1000	26.0 26.8	1.79 1.81	19.9 20.6	98.3 94.8	4.26 4.34	3.1 2.9	850 1000	27.2 28.7	19.3 21.4	0.71 0.75	1.03 1.08	30.8 32.4	26.5 26.6	0.8 0.9
60	4.0	1.3	3.1	850 1000	26.9 27.7	1.75 1.77	20.9 21.7	99.3 95.7	4.49 4.60	3.2 3.0	850 1000	26.0 27.3	18.2 20.3	0.70 0.74	1.27 1.33	30.4 31.9	20.4 20.5	1.3 1.4
	6.0	3.0	6.9	850 1000	28.1 29.0	1.80 1.81	21.9 22.8	100.6 96.8	4.56 4.68	3.3 3.1	850 1000	26.7 27.9	18.4 20.5	0.69 0.73	1.21 1.26	30.8 32.2	22.1 22.1	1.2 1.3
	8.0	4.8	11.0	850 1000	28.8 29.7	1.82 1.83	22.5 23.5	101.3 97.5	4.62 4.76	3.4 3.2	850 1000	26.9 28.3	19.4 21.6	0.72 0.76	1.18 1.24	31.0 32.5	22.8 22.9	1.1 1.2
70	4.0	1.3	3.0	850 1000	29.2 30.7	1.78 1.84	23.2 24.4	101.8 98.4	4.82 4.89	3.6 3.3	850 1000	25.7 27.5	18.6 21.9	0.72 0.80	1.43 1.53	30.6 32.3	17.9 18.0	1.7 1.8
	6.0	2.9	6.7	850 1000	30.7 31.7	1.84 1.84	24.5 25.5	103.5 99.4	4.91 5.07	3.7 3.4	850 1000	26.3 27.5	18.8 20.9	0.72 0.76	1.37 1.42	31.0 32.5	19.2 19.4	1.6 1.7
	8.0	4.6	10.6	850 1000	31.5 32.6	1.86 1.85	25.2 26.3	104.3 100.2	4.97 5.16	3.8 3.5	850 1000	26.6 27.8	19.6 21.7	0.74 0.78	1.34 1.39	31.2 32.7	19.9 20.0	1.5 1.7
80	4.0	1.3	2.9	850 1000	31.5 32.6	1.80 1.79	25.4 26.5	104.4 100.2	5.13 5.35	4.1 3.8	850 1000	24.6 25.5	18.2 20.2	0.74 0.79	1.65 1.70	30.2 31.3	14.8 15.0	2.3 2.5
	6.0	2.8	6.5	850 1000	33.4 34.5	1.87 1.86	27.0 28.2	106.3 101.9	5.22 5.45	4.3 3.9	850 1000	25.2 26.2	18.4 20.4	0.73 0.78	1.60 1.64	30.7 31.9	15.8 16.0	2.4 2.0
	8.0	4.4	10.3	850 1000	34.3 35.5	1.90 1.87	27.8 29.1	107.4 102.9	5.30 5.56	4.4 4.1	850 1000	25.5 26.6	18.9 20.9	0.74 0.79	1.56 1.61	30.8 32.0	16.3 16.5	2.2 3.2
90	4.0	1.2	2.8	850 1000	33.9 35.1	1.83 1.80	27.6 28.9	106.9 102.5	5.43 5.71	4.7 4.4	850 1000	23.4 24.3	17.8 19.7	0.76 0.81	1.88 1.92	29.8 30.8	12.5 12.6	3.4 3.0
	6.0	2.7	6.2	850 1000	36.0 37.3	1.91 1.88	29.5 30.9	109.2 104.5	5.52 5.82	4.9 4.5	850 1000	24.1 25.0	18.0 19.9	0.75 0.80	1.82 1.87	30.3 31.4	13.2 13.4	3.2 2.8
	8.0	4.3	9.9	850 1000	37.1 38.4	1.94 1.89	30.5 32.0	110.4 105.6	5.61 5.95	5.0 4.7	850 1000	26.1 25.3	20.9 25.3	0.80 0.79	1.71 1.83	31.9 31.5	15.3 13.8	3.1 3.1
100	4.0	1.2	2.7	Operation not recommended							Operation not recommended							
	6.0	2.6	6.0	Operation not recommended							Operation not recommended							
	8.0	4.1	9.5	850 1000	23.3 24.1	1.85 2.06	0.79 0.85	2.03 2.07	30.3 31.1	11.5 11.7	3.8 4.1	850 1000	23.6 24.4	18.5 20.5	0.78 0.84	2.00 2.03	30.4 31.3	11.8 12.0
110	4.0	1.1	2.6	Operation not recommended							Operation not recommended							
	6.0	2.5	5.8	Operation not recommended							Operation not recommended							
	8.0	4.0	9.2	850 1000	22.6 23.2	1.91 2.12	0.85 0.92	2.25 2.26	30.2 30.9	10.0 10.2	4.9 5.3	850 1000	22.8 23.4	18.8 20.8	0.83 0.89	2.21 2.23	30.3 31.0	10.3 10.5
120	4.0	1.1	2.5	Operation not recommended							Operation not recommended							
	6.0	2.4	5.6	Operation not recommended							Operation not recommended							
	8.0	3.8	8.8	850 1000	19.8 20.2	1.69 1.84	0.86 0.91	2.65 2.71	28.8 29.4	7.5 7.4	6.0 6.4	850 1000	20.0 20.4	16.9 18.4	0.85 0.90	2.56 2.64	28.7 29.4	7.8 7.7

Performance capacities shown in thousands of Btu/h.

6/10/24

©2024 The manufacturer works continually to improve its products. As a result, the design and specifications of each product at the time of order may be changed without notice. Purchaser's approval of this data set signifies that the equipment is acceptable under the provisions of the job specification. Statements and other information contained herein are not express warranties and do not form the basis of any bargain between the parties, but are merely the manufacturer's opinion or commendation of its products.

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Performance Data cont.

048 - Dual Capacity with 5-Speed ECM High Speed (1700 cfm)

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
		PSI	FT	Airflow cfm	HC kBtuh	Power kW	HE kBtuh	LAT °F	COP	HWC kBtuh	Airflow cfm	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	HR kBtuh	EER	HWC kBtuh																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
20	6.0	7.0	16.2	Operation not recommended							Operation not recommended																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	9.0	9.7	22.4	Operation not recommended							Operation not recommended																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	12.0	12.4	28.7	1400	35.2	2.95	25.2	93.3	3.50	4.7	1700	33.4	3.05	23.0	88.2	3.21	4.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
30	6.0	6.8	15.8	Operation not recommended							Operation not recommended																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	9.0	9.4	21.8	1400	34.6	2.99	24.4	92.9	3.39	4.9	1700	35.6	3.08	25.1	89.4	3.39	4.5	1400	45.5	26.1	0.57	1.86	51.8	24.5	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	12.0	12.0	27.8	1400	38.3	3.01	28.0	95.3	3.73	5.0	1700	36.3	3.11	25.7	89.8	3.42	4.6	1400	45.7	26.1	0.57	1.80	51.8	25.4	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1700	46.8	28.5	0.61	1.89	53.2	24.8	-	-	-	40	6.0	6.6	15.3	Operation not recommended							Operation not recommended							9.0	9.1	21.1	1400	40.8	3.25	29.7	97.0	3.68	5.6	1700	42.1	3.32	30.7	92.9	3.71	5.2	1400	49.4	30.6	0.62	2.18	56.8	22.6	-	12.0	11.7	27.0	1400	41.6	3.28	30.4	97.5	3.71	5.8	1700	43.0	3.36	31.5	93.4	3.75	5.3	1400	49.7	30.6	0.61	2.12	57.0	23.5	-	1700	50.9	33.4	0.66	2.22	58.4	23.0	-	-	-	50	6.0	6.4	14.8	1400	45.4	3.44	33.6	100.0	3.86	6.1	1700	46.7	3.49	34.8	95.5	3.93	5.6	1400	50.6	31.8	0.63	2.63	59.5	19.2	2.8	9.0	8.9	20.5	1400	47.0	3.52	35.0	101.1	3.92	6.3	1700	48.5	3.57	36.4	96.4	3.99	5.8	1400	51.6	32.2	0.62	2.48	60.1	20.8	2.6	12.0	11.3	26.2	1400	48.1	3.55	36.0	101.8	3.97	6.5	1700	49.6	3.60	37.3	97.0	4.04	5.9	1400	52.1	34.4	0.66	2.42	60.4	21.6	2.4	1700	54.9	38.2	0.70	2.54	63.6	21.6	2.7	-	-	60	6.0	6.2	14.3	1400	47.3	3.37	35.8	101.3	4.11	6.9	1700	48.9	3.40	37.3	96.6	4.22	6.4	1400	49.2	32.7	0.66	2.85	58.9	17.3	3.2	9.0	8.6	19.8	1400	49.5	3.47	37.6	102.7	4.18	7.1	1700	51.1	3.49	39.2	97.8	4.29	6.6	1400	50.4	33.1	0.66	2.71	59.6	18.6	3.1	12.0	11.0	25.3	1400	50.7	3.51	38.7	103.5	4.24	7.3	1700	52.4	3.52	40.3	98.5	4.36	6.7	1400	50.8	34.8	0.69	2.64	59.9	19.3	2.8	1700	53.4	38.7	0.72	2.76	62.8	19.3	3.2	-	-	70	6.0	6.0	13.9	1400	49.4	3.30	38.1	102.7	4.38	7.9	1700	51.9	3.37	40.4	98.3	4.51	7.3	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	8.3	19.2	1400	52.0	3.41	40.3	104.4	4.46	8.1	1700	53.6	3.41	42.0	99.2	4.61	7.5	1400	50.9	39.0	0.77	3.24	61.5	15.7	4.3	12.0	10.6	24.5	1400	53.3	3.45	41.5	105.2	4.52	8.4	1700	55.1	3.44	43.4	100.0	4.69	7.7	1400	49.1	33.9	0.69	2.94	59.1	16.7	3.8	1700	51.2	37.6	0.73	3.04	61.8	16.8	4.1	-	-	80	6.0	5.8	13.4	1400	51.6	3.37	40.1	104.1	4.48	8.7	1700	53.4	3.35	42.0	99.1	4.68	8.1	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	8.0	18.5	1400	54.6	3.51	42.6	106.1	4.56	9.0	1700	56.5	3.47	44.6	100.8	4.76	8.3	1400	50.9	39.0	0.77	3.24	61.5	15.7	4.3	12.0	10.2	23.7	1400	56.2	3.55	44.1	107.2	4.63	9.3	1700	58.1	3.50	46.2	101.6	4.87	8.6	1400	49.6	35.3	0.71	2.86	59.3	17.3	3.5	1700	51.8	39.1	0.75	2.98	62.0	17.4	3.9	-	-	90	6.0	5.6	12.9	1400	53.9	3.44	42.1	105.6	4.59	9.7	1700	55.8	3.39	44.2	100.4	4.82	9.0	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	7.7	17.9	1400	57.3	3.60	45.0	107.9	4.66	10.0	1700	59.3	3.53	47.2	102.3	4.92	9.3	1400	51.2	37.6	0.73	3.04	61.8	16.8	4.1	12.0	9.9	22.8	1400	59.1	3.65	46.6	109.1	4.74	10.3	1700	61.1	3.56	49.0	103.3	5.03	9.6	1400	49.6	35.3	0.71	2.86	59.3	17.3	3.5	1700	51.8	39.1	0.75	2.98	62.0	17.4	3.9	-	-	100	6.0	5.4	12.5	Operation not recommended							Operation not recommended							9.0	7.5	17.2	Operation not recommended							Operation not recommended							12.0	9.5	22.0	1400	41.2	32.1	0.78	3.78	54.1	10.9	7.6	1700	42.6	35.6	0.84	3.84	55.7	11.1	8.2	110	6.0	5.2	12.0	Operation not recommended							Operation not recommended							9.0	7.2	16.6	Operation not recommended							Operation not recommended							12.0	9.2	21.2	1400	38.5	30.9	0.80	3.97	52.0	9.7	9.4	1700	39.5	34.3	0.87	4.00	53.1	9.9	10.2	120	6.0	5.0	11.5	Operation not recommended							Operation not recommended							9.0	6.9	15.9	Operation not recommended							Operation not recommended							12.0	8.8	20.3	1400	38.8	30.4	0.78	3.90	52.1	10.0	8.8	1700	39.9	33.6	0.84	3.94	53.3	10.1	9.7	1700	43.0	35.4	0.82	3.78	55.9	11.4	7.8	-	-
40	6.0	6.6	15.3	Operation not recommended							Operation not recommended																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	9.0	9.1	21.1	1400	40.8	3.25	29.7	97.0	3.68		5.6	1700	42.1	3.32	30.7	92.9	3.71	5.2	1400	49.4	30.6	0.62	2.18	56.8	22.6	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	12.0	11.7	27.0	1400	41.6	3.28	30.4	97.5	3.71	5.8	1700	43.0	3.36	31.5	93.4	3.75	5.3	1400	49.7	30.6	0.61	2.12	57.0	23.5	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1700	50.9	33.4	0.66	2.22	58.4	23.0	-	-	-	50	6.0	6.4	14.8	1400	45.4	3.44	33.6	100.0	3.86	6.1	1700	46.7	3.49	34.8	95.5	3.93	5.6	1400	50.6	31.8	0.63	2.63	59.5	19.2	2.8	9.0	8.9	20.5	1400	47.0	3.52	35.0	101.1	3.92	6.3	1700	48.5	3.57	36.4	96.4	3.99	5.8	1400	51.6	32.2	0.62	2.48	60.1	20.8	2.6	12.0	11.3	26.2	1400	48.1	3.55	36.0	101.8	3.97	6.5	1700	49.6	3.60	37.3	97.0	4.04	5.9	1400	52.1	34.4	0.66	2.42	60.4	21.6	2.4	1700	54.9	38.2	0.70	2.54	63.6	21.6	2.7	-	-	60	6.0	6.2	14.3	1400	47.3	3.37	35.8	101.3	4.11	6.9	1700	48.9	3.40	37.3	96.6	4.22	6.4	1400	49.2	32.7	0.66	2.85	58.9	17.3	3.2	9.0	8.6	19.8	1400	49.5	3.47	37.6	102.7	4.18	7.1	1700	51.1	3.49	39.2	97.8	4.29	6.6	1400	50.4	33.1	0.66	2.71	59.6	18.6	3.1	12.0	11.0	25.3	1400	50.7	3.51	38.7	103.5	4.24	7.3	1700	52.4	3.52	40.3	98.5	4.36	6.7	1400	50.8	34.8	0.69	2.64	59.9	19.3	2.8	1700	53.4	38.7	0.72	2.76	62.8	19.3	3.2	-	-	70	6.0	6.0	13.9	1400	49.4	3.30	38.1	102.7	4.38	7.9	1700	51.9	3.37	40.4	98.3	4.51	7.3	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	8.3	19.2	1400	52.0	3.41	40.3	104.4	4.46	8.1	1700	53.6	3.41	42.0	99.2	4.61	7.5	1400	50.9	39.0	0.77	3.24	61.5	15.7	4.3	12.0	10.6	24.5	1400	53.3	3.45	41.5	105.2	4.52	8.4	1700	55.1	3.44	43.4	100.0	4.69	7.7	1400	49.1	33.9	0.69	2.94	59.1	16.7	3.8	1700	51.2	37.6	0.73	3.04	61.8	16.8	4.1	-	-	80	6.0	5.8	13.4	1400	51.6	3.37	40.1	104.1	4.48	8.7	1700	53.4	3.35	42.0	99.1	4.68	8.1	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	8.0	18.5	1400	54.6	3.51	42.6	106.1	4.56	9.0	1700	56.5	3.47	44.6	100.8	4.76	8.3	1400	50.9	39.0	0.77	3.24	61.5	15.7	4.3	12.0	10.2	23.7	1400	56.2	3.55	44.1	107.2	4.63	9.3	1700	58.1	3.50	46.2	101.6	4.87	8.6	1400	49.6	35.3	0.71	2.86	59.3	17.3	3.5	1700	51.8	39.1	0.75	2.98	62.0	17.4	3.9	-	-	90	6.0	5.6	12.9	1400	53.9	3.44	42.1	105.6	4.59	9.7	1700	55.8	3.39	44.2	100.4	4.82	9.0	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	7.7	17.9	1400	57.3	3.60	45.0	107.9	4.66	10.0	1700	59.3	3.53	47.2	102.3	4.92	9.3	1400	51.2	37.6	0.73	3.04	61.8	16.8	4.1	12.0	9.9	22.8	1400	59.1	3.65	46.6	109.1	4.74	10.3	1700	61.1	3.56	49.0	103.3	5.03	9.6	1400	49.6	35.3	0.71	2.86	59.3	17.3	3.5	1700	51.8	39.1	0.75	2.98	62.0	17.4	3.9	-	-	100	6.0	5.4	12.5	Operation not recommended							Operation not recommended							9.0	7.5	17.2	Operation not recommended							Operation not recommended							12.0	9.5	22.0	1400	41.2	32.1	0.78	3.78	54.1	10.9	7.6	1700	42.6	35.6	0.84	3.84	55.7	11.1	8.2	110	6.0	5.2	12.0	Operation not recommended							Operation not recommended							9.0	7.2	16.6	Operation not recommended							Operation not recommended							12.0	9.2	21.2	1400	38.5	30.9	0.80	3.97	52.0	9.7	9.4	1700	39.5	34.3	0.87	4.00	53.1	9.9	10.2	120	6.0	5.0	11.5	Operation not recommended							Operation not recommended							9.0	6.9	15.9	Operation not recommended							Operation not recommended							12.0	8.8	20.3	1400	38.8	30.4	0.78	3.90	52.1	10.0	8.8	1700	39.9	33.6	0.84	3.94	53.3	10.1	9.7	1700	43.0	35.4	0.82	3.78	55.9	11.4	7.8	-	-																																																																														
50	6.0	6.4	14.8	1400	45.4	3.44	33.6	100.0	3.86		6.1	1700	46.7	3.49	34.8	95.5	3.93	5.6	1400	50.6	31.8	0.63	2.63	59.5	19.2	2.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	9.0	8.9	20.5	1400	47.0	3.52	35.0	101.1	3.92		6.3	1700	48.5	3.57	36.4	96.4	3.99	5.8	1400	51.6	32.2	0.62	2.48	60.1	20.8	2.6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	12.0	11.3	26.2	1400	48.1	3.55	36.0	101.8	3.97	6.5	1700	49.6	3.60	37.3	97.0	4.04	5.9	1400	52.1	34.4	0.66	2.42	60.4	21.6	2.4																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1700	54.9	38.2	0.70	2.54	63.6	21.6	2.7	-	-	60	6.0	6.2	14.3	1400	47.3	3.37	35.8	101.3	4.11	6.9	1700	48.9	3.40	37.3	96.6	4.22	6.4	1400	49.2	32.7	0.66	2.85	58.9	17.3	3.2	9.0	8.6	19.8	1400	49.5	3.47	37.6	102.7	4.18	7.1	1700	51.1	3.49	39.2	97.8	4.29	6.6	1400	50.4	33.1	0.66	2.71	59.6	18.6	3.1	12.0	11.0	25.3	1400	50.7	3.51	38.7	103.5	4.24	7.3	1700	52.4	3.52	40.3	98.5	4.36	6.7	1400	50.8	34.8	0.69	2.64	59.9	19.3	2.8	1700	53.4	38.7	0.72	2.76	62.8	19.3	3.2	-	-	70	6.0	6.0	13.9	1400	49.4	3.30	38.1	102.7	4.38	7.9	1700	51.9	3.37	40.4	98.3	4.51	7.3	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	8.3	19.2	1400	52.0	3.41	40.3	104.4	4.46	8.1	1700	53.6	3.41	42.0	99.2	4.61	7.5	1400	50.9	39.0	0.77	3.24	61.5	15.7	4.3	12.0	10.6	24.5	1400	53.3	3.45	41.5	105.2	4.52	8.4	1700	55.1	3.44	43.4	100.0	4.69	7.7	1400	49.1	33.9	0.69	2.94	59.1	16.7	3.8	1700	51.2	37.6	0.73	3.04	61.8	16.8	4.1	-	-	80	6.0	5.8	13.4	1400	51.6	3.37	40.1	104.1	4.48	8.7	1700	53.4	3.35	42.0	99.1	4.68	8.1	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	8.0	18.5	1400	54.6	3.51	42.6	106.1	4.56	9.0	1700	56.5	3.47	44.6	100.8	4.76	8.3	1400	50.9	39.0	0.77	3.24	61.5	15.7	4.3	12.0	10.2	23.7	1400	56.2	3.55	44.1	107.2	4.63	9.3	1700	58.1	3.50	46.2	101.6	4.87	8.6	1400	49.6	35.3	0.71	2.86	59.3	17.3	3.5	1700	51.8	39.1	0.75	2.98	62.0	17.4	3.9	-	-	90	6.0	5.6	12.9	1400	53.9	3.44	42.1	105.6	4.59	9.7	1700	55.8	3.39	44.2	100.4	4.82	9.0	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	7.7	17.9	1400	57.3	3.60	45.0	107.9	4.66	10.0	1700	59.3	3.53	47.2	102.3	4.92	9.3	1400	51.2	37.6	0.73	3.04	61.8	16.8	4.1	12.0	9.9	22.8	1400	59.1	3.65	46.6	109.1	4.74	10.3	1700	61.1	3.56	49.0	103.3	5.03	9.6	1400	49.6	35.3	0.71	2.86	59.3	17.3	3.5	1700	51.8	39.1	0.75	2.98	62.0	17.4	3.9	-	-	100	6.0	5.4	12.5	Operation not recommended							Operation not recommended							9.0	7.5	17.2	Operation not recommended							Operation not recommended							12.0	9.5	22.0	1400	41.2	32.1	0.78	3.78	54.1	10.9	7.6	1700	42.6	35.6	0.84	3.84	55.7	11.1	8.2	110	6.0	5.2	12.0	Operation not recommended							Operation not recommended							9.0	7.2	16.6	Operation not recommended							Operation not recommended							12.0	9.2	21.2	1400	38.5	30.9	0.80	3.97	52.0	9.7	9.4	1700	39.5	34.3	0.87	4.00	53.1	9.9	10.2	120	6.0	5.0	11.5	Operation not recommended							Operation not recommended							9.0	6.9	15.9	Operation not recommended							Operation not recommended							12.0	8.8	20.3	1400	38.8	30.4	0.78	3.90	52.1	10.0	8.8	1700	39.9	33.6	0.84	3.94	53.3	10.1	9.7	1700	43.0	35.4	0.82	3.78	55.9	11.4	7.8	-	-																																																																																																																																																																				
60	6.0	6.2	14.3	1400	47.3	3.37	35.8	101.3	4.11		6.9	1700	48.9	3.40	37.3	96.6	4.22	6.4	1400	49.2	32.7	0.66	2.85	58.9	17.3	3.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	9.0	8.6	19.8	1400	49.5	3.47	37.6	102.7	4.18		7.1	1700	51.1	3.49	39.2	97.8	4.29	6.6	1400	50.4	33.1	0.66	2.71	59.6	18.6	3.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	12.0	11.0	25.3	1400	50.7	3.51	38.7	103.5	4.24	7.3	1700	52.4	3.52	40.3	98.5	4.36	6.7	1400	50.8	34.8	0.69	2.64	59.9	19.3	2.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1700	53.4	38.7	0.72	2.76	62.8	19.3	3.2	-	-	70	6.0	6.0	13.9	1400	49.4	3.30	38.1	102.7	4.38	7.9	1700	51.9	3.37	40.4	98.3	4.51	7.3	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	8.3	19.2	1400	52.0	3.41	40.3	104.4	4.46	8.1	1700	53.6	3.41	42.0	99.2	4.61	7.5	1400	50.9	39.0	0.77	3.24	61.5	15.7	4.3	12.0	10.6	24.5	1400	53.3	3.45	41.5	105.2	4.52	8.4	1700	55.1	3.44	43.4	100.0	4.69	7.7	1400	49.1	33.9	0.69	2.94	59.1	16.7	3.8	1700	51.2	37.6	0.73	3.04	61.8	16.8	4.1	-	-	80	6.0	5.8	13.4	1400	51.6	3.37	40.1	104.1	4.48	8.7	1700	53.4	3.35	42.0	99.1	4.68	8.1	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	8.0	18.5	1400	54.6	3.51	42.6	106.1	4.56	9.0	1700	56.5	3.47	44.6	100.8	4.76	8.3	1400	50.9	39.0	0.77	3.24	61.5	15.7	4.3	12.0	10.2	23.7	1400	56.2	3.55	44.1	107.2	4.63	9.3	1700	58.1	3.50	46.2	101.6	4.87	8.6	1400	49.6	35.3	0.71	2.86	59.3	17.3	3.5	1700	51.8	39.1	0.75	2.98	62.0	17.4	3.9	-	-	90	6.0	5.6	12.9	1400	53.9	3.44	42.1	105.6	4.59	9.7	1700	55.8	3.39	44.2	100.4	4.82	9.0	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	7.7	17.9	1400	57.3	3.60	45.0	107.9	4.66	10.0	1700	59.3	3.53	47.2	102.3	4.92	9.3	1400	51.2	37.6	0.73	3.04	61.8	16.8	4.1	12.0	9.9	22.8	1400	59.1	3.65	46.6	109.1	4.74	10.3	1700	61.1	3.56	49.0	103.3	5.03	9.6	1400	49.6	35.3	0.71	2.86	59.3	17.3	3.5	1700	51.8	39.1	0.75	2.98	62.0	17.4	3.9	-	-	100	6.0	5.4	12.5	Operation not recommended							Operation not recommended							9.0	7.5	17.2	Operation not recommended							Operation not recommended							12.0	9.5	22.0	1400	41.2	32.1	0.78	3.78	54.1	10.9	7.6	1700	42.6	35.6	0.84	3.84	55.7	11.1	8.2	110	6.0	5.2	12.0	Operation not recommended							Operation not recommended							9.0	7.2	16.6	Operation not recommended							Operation not recommended							12.0	9.2	21.2	1400	38.5	30.9	0.80	3.97	52.0	9.7	9.4	1700	39.5	34.3	0.87	4.00	53.1	9.9	10.2	120	6.0	5.0	11.5	Operation not recommended							Operation not recommended							9.0	6.9	15.9	Operation not recommended							Operation not recommended							12.0	8.8	20.3	1400	38.8	30.4	0.78	3.90	52.1	10.0	8.8	1700	39.9	33.6	0.84	3.94	53.3	10.1	9.7	1700	43.0	35.4	0.82	3.78	55.9	11.4	7.8	-	-																																																																																																																																																																																																																																																										
70	6.0	6.0	13.9	1400	49.4	3.30	38.1	102.7	4.38		7.9	1700	51.9	3.37	40.4	98.3	4.51	7.3	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	9.0	8.3	19.2	1400	52.0	3.41	40.3	104.4	4.46		8.1	1700	53.6	3.41	42.0	99.2	4.61	7.5	1400	50.9	39.0	0.77	3.24	61.5	15.7	4.3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	12.0	10.6	24.5	1400	53.3	3.45	41.5	105.2	4.52	8.4	1700	55.1	3.44	43.4	100.0	4.69	7.7	1400	49.1	33.9	0.69	2.94	59.1	16.7	3.8																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1700	51.2	37.6	0.73	3.04	61.8	16.8	4.1	-	-	80	6.0	5.8	13.4	1400	51.6	3.37	40.1	104.1	4.48	8.7	1700	53.4	3.35	42.0	99.1	4.68	8.1	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	8.0	18.5	1400	54.6	3.51	42.6	106.1	4.56	9.0	1700	56.5	3.47	44.6	100.8	4.76	8.3	1400	50.9	39.0	0.77	3.24	61.5	15.7	4.3	12.0	10.2	23.7	1400	56.2	3.55	44.1	107.2	4.63	9.3	1700	58.1	3.50	46.2	101.6	4.87	8.6	1400	49.6	35.3	0.71	2.86	59.3	17.3	3.5	1700	51.8	39.1	0.75	2.98	62.0	17.4	3.9	-	-	90	6.0	5.6	12.9	1400	53.9	3.44	42.1	105.6	4.59	9.7	1700	55.8	3.39	44.2	100.4	4.82	9.0	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	7.7	17.9	1400	57.3	3.60	45.0	107.9	4.66	10.0	1700	59.3	3.53	47.2	102.3	4.92	9.3	1400	51.2	37.6	0.73	3.04	61.8	16.8	4.1	12.0	9.9	22.8	1400	59.1	3.65	46.6	109.1	4.74	10.3	1700	61.1	3.56	49.0	103.3	5.03	9.6	1400	49.6	35.3	0.71	2.86	59.3	17.3	3.5	1700	51.8	39.1	0.75	2.98	62.0	17.4	3.9	-	-	100	6.0	5.4	12.5	Operation not recommended							Operation not recommended							9.0	7.5	17.2	Operation not recommended							Operation not recommended							12.0	9.5	22.0	1400	41.2	32.1	0.78	3.78	54.1	10.9	7.6	1700	42.6	35.6	0.84	3.84	55.7	11.1	8.2	110	6.0	5.2	12.0	Operation not recommended							Operation not recommended							9.0	7.2	16.6	Operation not recommended							Operation not recommended							12.0	9.2	21.2	1400	38.5	30.9	0.80	3.97	52.0	9.7	9.4	1700	39.5	34.3	0.87	4.00	53.1	9.9	10.2	120	6.0	5.0	11.5	Operation not recommended							Operation not recommended							9.0	6.9	15.9	Operation not recommended							Operation not recommended							12.0	8.8	20.3	1400	38.8	30.4	0.78	3.90	52.1	10.0	8.8	1700	39.9	33.6	0.84	3.94	53.3	10.1	9.7	1700	43.0	35.4	0.82	3.78	55.9	11.4	7.8	-	-																																																																																																																																																																																																																																																																																																																																																
80	6.0	5.8	13.4	1400	51.6	3.37	40.1	104.1	4.48		8.7	1700	53.4	3.35	42.0	99.1	4.68	8.1	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	9.0	8.0	18.5	1400	54.6	3.51	42.6	106.1	4.56		9.0	1700	56.5	3.47	44.6	100.8	4.76	8.3	1400	50.9	39.0	0.77	3.24	61.5	15.7	4.3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	12.0	10.2	23.7	1400	56.2	3.55	44.1	107.2	4.63	9.3	1700	58.1	3.50	46.2	101.6	4.87	8.6	1400	49.6	35.3	0.71	2.86	59.3	17.3	3.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1700	51.8	39.1	0.75	2.98	62.0	17.4	3.9	-	-	90	6.0	5.6	12.9	1400	53.9	3.44	42.1	105.6	4.59	9.7	1700	55.8	3.39	44.2	100.4	4.82	9.0	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0	9.0	7.7	17.9	1400	57.3	3.60	45.0	107.9	4.66	10.0	1700	59.3	3.53	47.2	102.3	4.92	9.3	1400	51.2	37.6	0.73	3.04	61.8	16.8	4.1	12.0	9.9	22.8	1400	59.1	3.65	46.6	109.1	4.74	10.3	1700	61.1	3.56	49.0	103.3	5.03	9.6	1400	49.6	35.3	0.71	2.86	59.3	17.3	3.5	1700	51.8	39.1	0.75	2.98	62.0	17.4	3.9	-	-	100	6.0	5.4	12.5	Operation not recommended							Operation not recommended							9.0	7.5	17.2	Operation not recommended							Operation not recommended							12.0	9.5	22.0	1400	41.2	32.1	0.78	3.78	54.1	10.9	7.6	1700	42.6	35.6	0.84	3.84	55.7	11.1	8.2	110	6.0	5.2	12.0	Operation not recommended							Operation not recommended							9.0	7.2	16.6	Operation not recommended							Operation not recommended							12.0	9.2	21.2	1400	38.5	30.9	0.80	3.97	52.0	9.7	9.4	1700	39.5	34.3	0.87	4.00	53.1	9.9	10.2	120	6.0	5.0	11.5	Operation not recommended							Operation not recommended							9.0	6.9	15.9	Operation not recommended							Operation not recommended							12.0	8.8	20.3	1400	38.8	30.4	0.78	3.90	52.1	10.0	8.8	1700	39.9	33.6	0.84	3.94	53.3	10.1	9.7	1700	43.0	35.4	0.82	3.78	55.9	11.4	7.8	-	-																																																																																																																																																																																																																																																																																																																																																																																																																																						
90	6.0	5.6	12.9	1400	53.9	3.44	42.1	105.6	4.59		9.7	1700	55.8	3.39	44.2	100.4	4.82	9.0	1400	47.8	33.5	0.70	3.07	58.3	17.5	4.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	9.0	7.7	17.9	1400	57.3	3.60	45.0	107.9	4.66		10.0	1700	59.3	3.53	47.2	102.3	4.92	9.3	1400	51.2	37.6	0.73	3.04	61.8	16.8	4.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	12.0	9.9	22.8	1400	59.1	3.65	46.6	109.1	4.74	10.3	1700	61.1	3.56	49.0	103.3	5.03	9.6	1400	49.6	35.3	0.71	2.86	59.3	17.3	3.5																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1700	51.8	39.1	0.75	2.98	62.0	17.4	3.9	-	-	100	6.0	5.4	12.5	Operation not recommended							Operation not recommended							9.0	7.5	17.2	Operation not recommended							Operation not recommended							12.0	9.5	22.0	1400	41.2	32.1	0.78	3.78	54.1	10.9	7.6	1700	42.6	35.6	0.84	3.84	55.7	11.1	8.2	110	6.0	5.2	12.0	Operation not recommended							Operation not recommended							9.0	7.2	16.6	Operation not recommended							Operation not recommended							12.0	9.2	21.2	1400	38.5	30.9	0.80	3.97	52.0	9.7	9.4	1700	39.5	34.3	0.87	4.00	53.1	9.9	10.2	120	6.0	5.0	11.5	Operation not recommended							Operation not recommended							9.0	6.9	15.9	Operation not recommended							Operation not recommended							12.0	8.8	20.3	1400	38.8	30.4	0.78	3.90	52.1	10.0	8.8	1700	39.9	33.6	0.84	3.94	53.3	10.1	9.7	1700	43.0	35.4	0.82	3.78	55.9	11.4	7.8	-	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
100	6.0	5.4	12.5	Operation not recommended							Operation not recommended																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	9.0	7.5	17.2	Operation not recommended							Operation not recommended																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	12.0	9.5	22.0	1400	41.2	32.1	0.78	3.78	54.1	10.9	7.6	1700	42.6	35.6	0.84	3.84	55.7	11.1	8.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
110	6.0	5.2	12.0	Operation not recommended							Operation not recommended																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	9.0	7.2	16.6	Operation not recommended							Operation not recommended																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	12.0	9.2	21.2	1400	38.5	30.9	0.80	3.97	52.0	9.7	9.4	1700	39.5	34.3	0.87	4.00	53.1	9.9	10.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
120	6.0	5.0	11.5	Operation not recommended							Operation not recommended																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	9.0	6.9	15.9	Operation not recommended							Operation not recommended																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	12.0	8.8	20.3	1400	38.8	30.4	0.78	3.90	52.1	10.0	8.8	1700	39.9	33.6	0.84	3.94	53.3	10.1	9.7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
1700	43.0	35.4	0.82	3.78	55.9	11.4	7.8	-	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

Performance capacities shown in thousands of Btuh.

6/10/24

©2024 The manufacturer works continually to improve its products. As a result, the design and specifications of each product at the time of order may be changed without notice. Purchaser's approval of this data set signifies that the equipment is acceptable under the provisions of the job specification. Statements and other information contained herein are not express warranties and do not form the basis of any bargain between the parties, but are merely the manufacturer's opinion or commendation of its products.

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Performance Data cont.

048 - Dual Capacity with 5-Speed ECM Low Speed (1250 cfm)

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT	Airflow cfm	HC kBtuh	Power kW	HE kBtuh	LAT °F	COP	HWC kBtuh	Airflow cfm	TC kBtuh	SC kBtuh	S/T Ratio	Power kW	HR kBtuh	EER	HWC kBtuh
20	5.0	2.5	5.7	Operation not recommended							Operation not recommended							
	8.0	6.4	14.9	Operation not recommended							Operation not recommended							
	11.0	10.4	24.1	1000 1250	23.9 22.1	2.36 2.22	15.8 14.5	92.1 86.4	2.97 2.92	4.4 4.0								
30	5.0	2.4	5.5	Operation not recommended							Operation not recommended							
	8.0	6.2	14.4	1000 1250	22.5 23.5	2.01 2.07	15.7 16.4	90.9 87.4	3.28 3.33	4.4 4.0	1000 1250	32.9 33.5	25.0 27.3	0.76 0.82	1.07 1.13	36.6 37.3	30.8 29.7	- -
	11.0	10.1	23.4	1000 1250	27.0 25.0	2.25 2.12	19.3 17.8	95.0 88.5	3.52 3.46	4.5 4.1	1000 1250	33.1 33.9	25.0 27.3	0.75 0.81	1.04 1.09	36.6 37.6	31.9 31.1	- -
40	5.0	2.3	5.3	Operation not recommended							Operation not recommended							
	8.0	6.1	14.0	1000 1250	27.4 28.4	2.12 2.16	20.2 21.0	95.4 91.0	3.79 3.84	4.6 4.2	1000 1250	35.4 36.0	25.2 27.6	0.71 0.76	1.18 1.24	39.4 40.3	29.9 29.1	- -
	11.0	9.8	22.7	1000 1250	28.9 29.9	2.17 2.22	21.5 22.3	96.8 92.1	3.90 3.96	4.7 4.3	1000 1250	35.7 36.5	25.2 27.6	0.71 0.76	1.15 1.20	39.6 40.5	31.1 30.4	- -
50	5.0	2.2	5.2	1000 1250	31.2 32.2	2.23 2.26	23.6 24.5	98.9 93.8	4.10 4.17	4.8 4.5	1000 1250	37.0 38.0	24.3 26.9	0.66 0.71	1.33 1.35	41.5 42.6	27.8 28.2	1.5 1.6
	8.0	5.9	13.6	1000 1250	32.3 33.3	2.23 2.26	24.7 25.6	99.9 94.6	4.24 4.32	5.0 4.6	1000 1250	37.3 38.4	24.5 27.1	0.66 0.71	1.30 1.32	41.8 42.9	28.8 29.0	1.4 1.6
	11.0	9.5	22.0	1000 1250	33.8 34.8	2.28 2.31	26.0 26.9	101.3 95.8	4.34 4.42	5.1 4.7	1000 1250	37.9 39.0	25.1 27.8	0.66 0.71	1.29 1.31	42.3 43.5	29.5 29.8	1.3 1.5
60	5.0	2.2	5.0	1000 1250	33.4 34.2	2.18 2.19	26.0 26.7	100.9 95.3	4.49 4.57	5.3 4.9	1000 1250	35.7 36.7	24.5 27.1	0.69 0.74	1.53 1.56	41.0 42.0	23.3 23.5	2.1 2.3
	8.0	5.7	13.1	1000 1250	34.7 35.5	2.18 2.19	27.3 28.1	102.2 96.3	4.68 4.76	5.4 5.0	1000 1250	36.0 37.0	24.6 27.3	0.68 0.74	1.49 1.52	41.1 42.2	24.1 24.3	2.0 2.2
	11.0	9.2	21.3	1000 1250	35.9 36.8	2.22 2.24	28.4 29.1	103.3 97.2	4.74 4.82	5.6 5.1	1000 1250	36.6 37.7	25.3 28.0	0.69 0.74	1.48 1.51	41.7 42.8	24.7 24.9	1.9 2.1
70	5.0	2.1	4.9	1000 1250	35.5 36.6	2.13 2.17	28.3 29.2	102.9 97.1	4.90 4.94	5.8 5.4	1000 1250	34.4 35.4	24.6 27.8	0.71 0.79	1.74 1.90	40.4 41.6	19.8 18.6	3.0 3.1
	8.0	5.5	12.7	1000 1250	37.1 37.8	2.12 2.12	29.8 30.5	104.3 98.0	5.13 5.23	6.0 5.6	1000 1250	34.7 35.7	24.8 27.4	0.71 0.77	1.69 1.73	40.5 41.9	20.5 20.7	2.8 3.0
	11.0	8.9	20.6	1000 1250	41.4 38.7	2.33 2.16	33.5 31.3	108.3 98.7	5.21 5.25	6.2 5.7	1000 1250	35.3 36.3	25.4 28.1	0.72 0.77	1.68 1.71	41.0 42.1	21.1 21.2	2.6 2.8
80	5.0	2.0	4.7	1000 1250	38.6 39.1	2.19 2.18	31.1 31.7	105.7 99.0	5.16 5.26	6.6 6.1	1000 1250	33.1 34.0	24.2 26.8	0.73 0.79	2.01 2.05	40.0 41.0	16.5 16.6	4.0 4.3
	8.0	5.3	12.3	1000 1250	40.5 40.9	2.18 2.16	33.0 33.6	107.5 100.3	5.44 5.55	6.8 6.3	1000 1250	33.4 34.3	24.3 26.9	0.73 0.78	1.96 2.00	40.1 41.2	17.0 17.2	3.7 4.1
	11.0	8.6	19.9	1000 1250	41.0 41.5	2.22 2.21	33.4 33.9	108.0 100.7	5.40 5.51	7.0 6.5	1000 1250	34.0 34.9	24.9 27.6	0.73 0.79	1.94 1.98	40.6 41.7	17.5 17.6	3.5 3.9
90	5.0	2.0	4.5	1000 1250	41.7 42.0	2.26 2.23	33.9 34.4	108.6 101.1	5.40 5.51	7.5 7.0	1000 1250	31.8 32.7	23.7 26.3	0.75 0.80	2.29 2.33	39.6 40.6	13.9 14.0	5.4 5.7
	8.0	5.1	11.8	1000 1250	43.8 44.1	2.24 2.21	36.2 36.5	110.6 102.7	5.73 5.85	7.8 7.2	1000 1250	32.1 33.0	23.9 26.4	0.74 0.80	2.23 2.27	39.7 40.7	14.4 14.5	5.0 5.5
	11.0	8.3	19.2	1000 1250	44.0 44.2	2.29 2.25	36.2 36.5	110.7 102.7	5.64 5.76	8.0 7.4	1000 1250	34.8 33.5	27.3 27.1	0.78 0.81	2.38 2.25	42.9 41.9	14.6 14.9	4.7 5.2
100	5.0	1.9	4.4	Operation not recommended							Operation not recommended							
	8.0	4.9	11.4	1000 1250	30.3 31.2	2.44 2.71	0.81 0.87	2.68 2.73	39.5 40.5	11.3 11.4	6.4 7.0							
	11.0	8.0	18.5	1000 1250	30.8 31.7	2.51 2.78	0.81 0.88	2.66 2.71	39.9 40.9	11.6 11.7	6.0 6.6							
110	5.0	1.8	4.2	Operation not recommended							Operation not recommended							
	8.0	4.8	11.0	1000 1250	28.6 29.4	2.50 2.77	0.87 0.94	3.14 3.20	39.3 40.3	9.1 9.2	8.5 9.2							
	11.0	7.7	17.8	1000 1250	29.1 29.9	2.57 28.4	0.88 0.95	3.11 3.17	39.7 40.7	9.4 9.4	7.9 8.7							
120	5.0	1.7	4.0	Operation not recommended							Operation not recommended							
	8.0	4.6	10.5	1000 1250	24.8 25.3	2.18 23.7	0.88 0.94	3.33 3.41	36.2 36.9	7.5 7.4	11.0 11.7							
	11.0	7.4	17.1	1000 1250	25.1 25.6	2.18 23.7	0.87 0.93	3.22 3.32	36.0 36.9	7.8 7.7	9.7 10.8							

Performance capacities shown in thousands of Btuh.

6/10/24

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Performance Data cont.

060 - Dual Capacity with 5-Speed ECM High Speed (1800 cfm)

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT	Airflow cfm	HC kBtu/h	Power kW	HE kBtu/h	LAT °F	COP	HWC kBtu/h	Airflow cfm	TC kBtu/h	SC kBtu/h	S/T Ratio	Power kW	HR kBtu/h	EER	HWC kBtu/h
20	8.0	7.5	17.3	Operation not recommended							Operation not recommended							
	12.0	11.9	27.6	Operation not recommended							Operation not recommended							
	16.0	16.4	37.9	1500 1800	36.2 37.5	3.32 3.47	24.8 25.7	92.3 89.3	3.19 3.17	5.2 4.7								
30	8.0	7.3	16.8	Operation not recommended							Operation not recommended							
	12.0	11.6	26.8	1500 1800	54.1 47.6	4.24 4.27	39.7 33.1	103.4 94.5	3.74 3.27	6.6 5.1	1500 1800	52.1 52.9	37.7 41.2	0.72 0.78	2.46 2.59	60.4 61.7	21.2 20.5	- -
	16.0	15.9	36.8	1500 1800	48.9 50.7	4.19 4.38	34.6 35.8	100.2 96.1	3.42 3.39	5.8 5.2	1500 1800	52.3 53.6	37.7 41.2	0.72 0.77	2.38 2.50	60.4 62.1	22.0 21.4	- -
40	8.0	7.1	16.3	Operation not recommended							Operation not recommended							
	12.0	11.2	26.0	1500 1800	54.1 53.2	4.24 4.22	39.7 38.7	103.4 97.3	3.74 3.69	6.6 5.7	1500 1800	56.1 57.2	38.8 42.4	0.69 0.74	2.78 2.91	65.6 67.1	20.2 19.6	- -
	16.0	15.4	35.7	1500 1800	54.1 56.0	4.24 4.33	39.7 41.2	103.4 98.8	3.74 3.79	6.6 6.0	1500 1800	56.6 57.9	38.8 42.4	0.69 0.73	2.70 2.82	65.8 67.5	21.0 20.5	- -
50	8.0	6.8	15.8	1500 1800	54.9 56.7	4.12 4.18	40.9 42.4	103.9 99.1	3.91 3.97	6.9 6.4	1500 1800	58.9 60.5	38.1 42.2	0.65 0.70	3.19 3.05	69.8 71.0	18.5 23.3	3.6 3.8
	12.0	10.9	25.2	1500 1800	56.9 58.6	4.12 4.18	42.8 44.3	105.1 100.1	4.04 4.11	7.2 6.6	1500 1800	59.4 61.1	38.3 42.4	0.64 0.69	3.11 3.17	70.0 71.9	19.1 19.3	3.3 3.6
	16.0	15.0	34.6	1500 1800	59.5 61.3	4.22 4.27	45.1 46.7	106.8 101.5	4.14 4.21	7.4 6.8	1500 1800	60.4 62.1	39.3 43.5	0.65 0.70	3.08 3.14	70.9 72.8	19.6 19.8	3.1 3.4
60	8.0	6.6	15.3	1500 1800	62.3 63.9	4.53 4.56	46.9 48.3	108.5 102.9	4.03 4.10	7.8 7.2	1500 1800	57.8 59.4	37.7 41.7	0.65 0.70	3.44 3.51	69.6 71.4	16.8 17.0	4.4 4.6
	12.0	10.5	24.4	1500 1800	64.8 66.4	4.52 4.55	49.4 50.8	110.0 104.1	4.20 4.28	8.1 7.4	1500 1800	58.3 60.0	37.9 42.0	0.65 0.70	3.35 3.42	69.8 71.6	17.4 17.6	4.1 4.4
	16.0	14.5	33.5	1500 1800	67.1 68.6	4.62 4.65	51.3 52.8	111.4 105.3	4.25 4.33	8.5 7.6	1500 1800	59.3 61.0	38.9 43.1	0.66 0.71	3.32 3.39	70.6 72.5	17.9 18.0	3.8 4.2
70	8.0	6.4	14.8	1500 1800	69.7 71.2	4.94 4.87	52.8 54.6	113.0 106.6	4.13 4.28	8.9 8.2	1500 1800	56.7 57.9	37.3 41.1	0.66 0.71	3.69 3.94	69.3 71.3	15.4 14.7	5.4 5.7
	12.0	10.2	23.6	1500 1800	72.7 74.1	4.92 4.92	55.9 57.3	114.9 108.1	4.33 4.41	9.2 8.4	1500 1800	57.2 58.8	37.5 41.5	0.66 0.71	3.59 3.66	69.5 71.5	15.9 16.1	5.0 5.4
	16.0	14.0	32.4	1500 1800	74.6 75.9	5.03 5.02	57.4 58.8	116.1 109.0	4.35 4.43	9.5 8.7	1500 1800	58.2 59.8	38.5 42.6	0.66 0.71	3.56 3.63	70.3 72.2	16.3 16.5	4.7 5.2
80	8.0	6.2	14.3	1500 1800	76.6 77.7	5.15 5.12	59.1 60.2	117.3 110.0	4.36 4.44	9.8 9.1	1500 1800	55.3 56.8	37.1 41.1	0.67 0.72	4.08 4.16	69.2 71.0	13.5 13.6	7.0 7.4
	12.0	9.9	22.8	1500 1800	80.3 81.3	5.12 5.08	62.9 63.9	119.6 111.8	4.60 4.69	10.2 9.4	1500 1800	55.8 57.3	37.3 41.3	0.67 0.72	3.98 4.06	69.3 71.1	14.0 14.1	6.5 7.0
	16.0	13.5	31.3	1500 1800	81.5 82.3	5.23 5.18	63.6 64.6	120.3 112.3	4.57 4.66	10.5 9.6	1500 1800	56.7 58.3	38.3 42.4	0.68 0.73	3.94 4.02	70.1 72.0	14.4 14.5	6.0 6.7
90	8.0	6.0	13.8	1500 1800	83.6 84.3	5.37 5.30	65.3 66.2	121.6 113.4	4.57 4.66	10.9 10.0	1500 1800	53.8 55.3	36.9 40.8	0.69 0.74	4.48 4.57	69.1 70.9	12.0 12.1	9.1 9.7
	12.0	9.5	22.0	1500 1800	87.9 88.5	5.32 5.24	69.8 70.6	124.3 115.5	4.84 4.94	11.2 10.4	1500 1800	54.3 55.8	37.1 41.1	0.68 0.74	4.36 4.45	69.2 71.0	12.4 12.5	8.5 9.2
	16.0	13.0	30.1	1500 1800	88.3 88.7	5.43 5.34	69.8 70.5	124.5 115.6	4.77 4.87	11.6 10.8	1500 1800	58.1 56.7	39.4 42.1	0.68 0.74	4.17 4.41	72.3 71.7	13.9 12.9	7.9 8.8
100	8.0	5.7	13.3	Operation not recommended							Operation not recommended							
	12.0	9.2	21.2	Operation not recommended							Operation not recommended							
	16.0	12.6	29.1	1500 1800	52.3 53.8	36.9 40.8	0.70 0.76	4.81 4.90	68.7 70.5	10.9 11.0	10.2 11.0	1500 1800	53.2 54.7	37.8 41.9	0.71 0.77	4.76 4.86	69.4 71.2	11.2 11.3
110	8.0	5.5	12.8	Operation not recommended							Operation not recommended							
	12.0	8.8	20.4	Operation not recommended							Operation not recommended							
	16.0	12.1	28.0	1500 1800	50.4 51.7	36.6 40.6	0.73 0.78	5.25 5.35	68.2 70.0	9.6 9.7	13.2 14.2	1500 1800	51.2 52.6	37.6 41.6	0.73 0.79	5.20 5.30	68.9 70.7	9.8 9.9
120	8.0	5.3	12.3	Operation not recommended							Operation not recommended							
	12.0	8.5	19.6	Operation not recommended							Operation not recommended							
	16.0	11.6	26.9	1500 1800	46.9 47.7	36.1 39.2	0.77 0.82	5.89 6.04	67.0 68.4	8.0 7.9	15.6 16.3	1500 1800	47.3 48.3	36.1 39.2	0.76 0.81	5.70 5.88	66.7 68.4	8.3 8.2

Performance capacities shown in thousands of Btu/h.

6/10/24

©2024 The manufacturer works continually to improve its products. As a result, the design and specifications of each product at the time of order may be changed without notice. Purchaser's approval of this data set signifies that the equipment is acceptable under the provisions of the job specification. Statements and other information contained herein are not express warranties and do not form the basis of any bargain between the parties, but are merely the manufacturer's opinion or commendation of its products.

Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Performance Data cont.

060 - Dual Capacity with 5-Speed ECM Low Speed (1500 cfm)

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT	Airflow cfm	HC kBtu/h	Power kW	HE kBtu/h	LAT °F	COP	HWC kBtu/h	Airflow cfm	TC kBtu/h	SC kBtu/h	S/T Ratio	Power kW	HR kBtu/h	EER	HWC kBtu/h
20	6.0	4.4	10.3	Operation not recommended							Operation not recommended							
	10.0	8.7	20.0	Operation not recommended							Operation not recommended							
	14.0	13.1	30.3	1250 1500	24.1 26.2	2.61 2.76	15.2 16.8	87.8 86.2	2.71 2.78	4.1 3.8								
30	6.0	4.3	10.0	Operation not recommended							Operation not recommended							
	10.0	8.4	19.4	1250 1500	38.1 32.2	2.97 2.99	28.0 22.0	98.3 89.9	3.12 3.16	4.7 3.7	1250 1500	39.6 40.3	32.4 35.4	0.82 0.88	1.65 1.74	45.3 46.2	24.0 23.2	- -
	14.0	12.7	29.4	1250 1500	31.5 34.3	2.89 3.06	21.6 23.9	93.3 91.2	3.19 3.29	4.2 3.8	1250 1500	39.8 40.8	32.4 35.4	0.81 0.87	1.60 1.68	45.3 46.5	24.9 24.3	- -
40	6.0	4.2	9.7	Operation not recommended							Operation not recommended							
	10.0	8.2	18.8	1250 1500	38.1 37.4	2.97 2.95	28.0 27.4	98.3 93.1	3.76 3.71	4.7 4.1	1250 1500	43.5 43.9	31.9 34.9	0.73 0.79	1.71 1.85	49.3 50.3	25.4 23.8	- -
	14.0	12.3	28.5	1250 1500	38.1 39.5	2.97 3.03	28.0 29.1	98.3 94.4	3.76 3.82	4.7 4.3	1250 1500	43.5 44.5	31.9 34.9	0.73 0.78	1.71 1.79	49.3 50.6	25.4 24.8	- -
50	6.0	4.1	9.4	1250 1500	40.0 41.2	2.89 2.93	30.1 31.2	99.6 95.4	4.06 4.13	4.8 4.4	1250 1500	45.6 46.9	30.0 33.3	0.66 0.71	1.98 1.74	52.4 52.8	23.0 32.5	1.9 2.0
	10.0	7.9	18.3	1250 1500	41.4 42.6	2.89 2.92	31.5 32.7	100.7 96.3	4.20 4.27	5.0 4.6	1250 1500	46.0 47.3	30.2 33.4	0.66 0.71	1.93 1.97	52.6 54.0	23.9 24.1	1.8 1.9
	14.0	12.0	27.6	1250 1500	43.3 44.6	2.95 2.99	33.2 34.4	102.1 97.5	4.30 4.37	5.2 4.8	1250 1500	46.8 48.1	31.0 34.3	0.66 0.71	1.91 1.95	53.3 54.8	24.5 24.7	1.6 1.8
60	6.0	3.9	9.1	1250 1500	44.1 45.2	3.04 3.06	33.7 34.7	102.6 97.9	4.25 4.32	5.6 5.0	1250 1500	44.4 45.6	30.3 33.5	0.68 0.73	2.17 2.21	51.8 53.2	20.5 20.6	2.6 2.8
	10.0	7.7	17.7	1250 1500	45.8 46.9	3.04 3.05	35.5 36.5	104.0 99.0	4.42 4.50	5.6 5.2	1250 1500	44.8 46.0	30.4 33.7	0.68 0.73	2.11 2.15	52.0 53.4	21.2 21.4	2.5 2.7
	14.0	11.6	26.8	1250 1500	47.4 48.5	3.11 3.12	36.8 37.9	105.1 99.9	4.48 4.56	5.8 5.3	1250 1500	45.5 46.8	31.2 34.6	0.69 0.74	2.09 2.14	52.7 54.1	21.7 21.9	2.3 2.5
70	6.0	3.8	8.8	1250 1500	48.1 48.8	3.20 3.21	37.2 37.8	105.6 100.1	4.41 4.46	6.2 5.7	1250 1500	43.2 44.5	30.5 33.9	0.71 0.76	2.36 2.67	51.2 52.7	18.3 16.7	3.7 3.9
	10.0	7.4	17.1	1250 1500	50.2 51.1	3.19 3.19	39.3 40.3	107.2 101.6	4.62 4.70	6.5 5.9	1250 1500	43.6 44.8	30.7 33.9	0.70 0.76	2.30 2.34	51.4 53.4	19.0 19.1	3.4 3.7
	14.0	11.2	25.9	1250 1500	51.5 52.4	3.26 3.25	40.4 41.3	108.2 102.3	4.64 4.73	6.7 6.1	1250 1500	44.3 45.5	31.4 34.8	0.71 0.76	2.28 2.32	52.0 5.6	19.5 19.6	3.2 3.5
80	6.0	3.7	8.5	1250 1500	53.6 54.4	3.25 3.23	42.5 43.3	109.7 103.6	4.83 4.93	6.9 6.4	1250 1500	41.3 42.4	29.7 32.9	0.72 0.78	2.71 2.76	50.5 51.8	15.2 15.4	5.1 5.4
	10.0	7.1	16.5	1250 1500	56.2 56.9	3.23 3.21	45.2 45.9	111.6 105.1	5.10 5.20	7.2 7.2	1250 1500	41.6 42.8	29.9 33.1	0.72 0.77	2.64 2.69	50.6 52.0	15.8 15.9	4.8 5.2
	14.0	10.8	25.0	1250 1500	57.0 57.6	3.30 3.27	45.8 46.4	112.2 105.6	5.06 5.16	7.4 6.8	1250 1500	42.3 43.5	30.7 34.0	0.72 0.78	2.61 2.67	51.2 52.6	16.2 16.3	4.4 4.9
90	6.0	3.5	8.2	1250 1500	59.2 59.7	3.31 3.27	47.9 48.5	113.8 106.8	5.25 5.35	7.8 7.2	1250 1500	39.4 40.5	29.0 32.1	0.74 0.79	3.06 3.12	49.8 51.1	12.9 13.0	6.8 7.2
	10.0	6.9	15.9	1250 1500	62.2 62.6	3.28 3.23	51.1 51.6	116.1 108.7	5.57 5.68	8.1 7.4	1250 1500	39.7 40.8	29.2 32.3	0.73 0.79	2.98 3.04	49.9 51.2	13.3 13.4	6.4 6.9
	14.0	10.4	24.1	1250 1500	62.5 62.8	3.34 3.29	51.1 51.6	116.3 108.8	5.48 5.59	8.3 7.8	1250 1500	40.6 41.5	30.6 33.1	0.75 0.80	2.88 3.01	50.4 51.8	14.1 13.8	5.9 6.6
100	6.0	3.4	7.9	Operation not recommended							Operation not recommended							
	10.0	6.6	15.4	Operation not recommended							Operation not recommended							
	14.0	10.1	23.2	1250 1500	36.9 37.9	28.5 31.5	0.77 0.83	3.38 3.45	48.4 49.6	10.9 11.0	8.3 8.9	1250 1500	37.5 38.5	29.2 32.3	0.78 0.84	3.35 3.42	48.9 50.2	11.2 11.3
110	6.0	3.3	7.6	Operation not recommended							Operation not recommended							
	10.0	6.4	14.8	Operation not recommended							Operation not recommended							
	14.0	9.7	22.4	1250 1500	34.0 34.9	27.8 30.7	0.82 0.88	3.78 3.85	46.9 48.1	9.0 9.1	10.4 11.3	1250 1500	34.5 35.5	28.5 31.5	0.82 0.89	3.75 3.82	47.3 48.5	9.2 9.3
120	6.0	3.2	7.3	Operation not recommended							Operation not recommended							
	10.0	6.1	14.2	Operation not recommended							Operation not recommended							
	14.0	9.3	21.5	1250 1500	31.3 31.9	27.3 29.6	0.87 0.93	4.32 4.43	46.1 47.0	7.3 7.2	12.6 13.6	1250 1500	31.6 32.3	27.3 29.6	0.86 0.92	4.18 4.31	45.9 47.0	7.6 7.5

Performance capacities shown in thousands of Btu/h.

6/10/24

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Performance Data cont.

072 - Dual Capacity with 5-Speed ECM High Speed (2300 cfm)

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F							
		PSI	FT	Airflow cfm	HC kBtu/h	Power kW	HE kBtu/h	LAT °F	COP	HWC kBtu/h	Airflow cfm	TC kBtu/h	SC kBtu/h	S/T Ratio	Power kW	HR kBtu/h	EER	HWC kBtu/h
20	12.0	4.0	9.1	Operation not recommended							Operation not recommended							
	15.0	5.9	13.5	Operation not recommended							Operation not recommended							
	18.0	8.1	18.7	1850 2300	43.8 45.6	4.24 4.42	29.3 30.5	91.9 88.4	3.03 3.02	7.9 7.1								
30	12.0	3.8	8.9	Operation not recommended							Operation not recommended							
	15.0	5.7	13.1	1850 2300	55.2 56.8	4.77 4.92	38.9 40.0	97.6 92.9	3.39 3.38	8.3 7.6	1850 2300	57.2 58.1	42.7 46.7	0.75 0.80	3.19 3.36	68.1 69.6	17.9 17.3	- -
	18.0	7.8	18.1	1850 2300	55.6 57.9	4.77 4.97	39.3 40.9	97.8 93.3	3.42 3.41	8.5 7.7	1850 2300	57.5 58.9	42.7 46.7	0.74 0.79	3.10 3.25	68.0 70.0	18.6 18.1	- -
40	12.0	3.7	8.6	Operation not recommended							Operation not recommended							
	15.0	5.5	12.7	1850 2300	62.4 64.3	4.84 4.94	45.9 47.4	101.2 95.9	3.78 3.81	9.2 8.4	1850 2300	62.1 63.2	43.2 47.1	0.70 0.74	3.44 3.61	73.8 75.6	18.0 17.5	- -
	18.0	7.6	17.6	1850 2300	63.6 65.7	4.89 4.99	47.0 48.6	101.8 96.4	3.82 3.86	9.5 8.6	1850 2300	62.6 64.0	43.2 47.1	0.69 0.74	3.34 3.50	74.0 75.9	18.7 18.3	- -
50	12.0	3.6	8.3	1850 2300	67.2 69.2	4.79 4.86	50.8 52.6	103.6 97.8	4.11 4.17	9.9 9.2	1850 2300	63.5 66.9	39.6 44.0	0.62 0.66	3.87 4.08	76.8 80.8	16.4 16.4	4.3 4.5
	15.0	5.3	12.3	1850 2300	69.6 71.8	4.90 4.97	52.9 54.9	104.8 98.9	4.16 4.24	10.2 9.4	1850 2300	64.9 68.2	40.1 44.5	0.62 0.65	3.65 3.83	77.4 81.3	17.8 17.8	4.0 4.3
	18.0	7.4	17.0	1850 2300	71.2 73.4	4.94 5.01	54.3 56.3	105.6 99.5	4.22 4.29	10.5 9.6	1850 2300	65.5 69.0	42.8 47.5	0.65 0.69	3.56 3.74	77.7 81.8	18.4 18.4	3.7 4.1
60	12.0	3.5	8.1	1850 2300	73.7 76.1	5.08 5.12	56.4 58.6	106.9 100.6	4.25 4.36	11.1 10.3	1850 2300	62.3 65.4	40.5 45.1	0.65 0.69	4.21 4.39	76.7 80.3	14.8 14.9	5.5 5.5
	15.0	5.2	11.9	1850 2300	77.0 79.5	5.23 5.26	59.2 61.6	108.6 102.0	4.32 4.43	11.5 10.6	1850 2300	63.8 66.8	41.0 45.5	0.64 0.68	4.00 4.16	77.4 81.0	16.0 16.1	4.9 5.3
	18.0	7.1	16.5	1850 2300	78.9 81.5	5.28 5.31	60.9 63.4	109.5 102.8	4.38 4.50	11.8 10.9	1850 2300	64.4 67.6	43.2 48.0	0.67 0.71	3.90 4.08	77.7 81.5	16.5 16.6	4.5 5.0
70	12.0	3.4	7.8	1850 2300	80.3 86.2	5.38 5.52	62.0 67.4	110.2 104.7	4.38 4.58	12.5 11.6	1850 2300	61.1 66.0	41.5 48.5	0.68 0.73	4.54 4.57	76.6 80.8	17.5 14.4	6.0 6.9
	15.0	5.0	11.6	1850 2300	84.5 87.2	5.56 5.56	65.5 68.3	112.3 105.1	4.46 4.60	12.9 11.9	1850 2300	62.7 65.4	42.0 46.6	0.67 0.71	4.35 4.50	77.5 81.2	14.4 14.5	6.1 6.6
	18.0	6.9	15.9	1850 2300	86.6 89.6	5.62 5.60	67.5 70.5	113.4 106.1	4.52 4.69	13.3 12.3	1850 2300	63.3 66.2	43.7 48.4	0.69 0.73	4.24 4.41	77.8 81.6	15.0 15.0	5.7 6.3
80	12.0	3.3	7.5	1850 2300	86.8 89.8	5.60 5.56	67.7 70.8	113.4 106.2	4.54 4.74	13.9 12.8	1850 2300	59.1 61.5	41.8 46.5	0.71 0.76	4.96 5.11	76.0 78.9	11.9 12.0	8.4 8.9
	15.0	4.8	11.2	1850 2300	91.8 94.9	5.82 5.77	71.9 75.2	115.9 108.2	4.62 4.82	14.3 13.2	1850 2300	60.8 63.2	42.4 47.0	0.70 0.74	4.78 4.92	77.1 80.0	12.7 12.8	7.8 8.4
	18.0	6.7	15.4	1850 2300	94.4 97.7	5.90 5.81	74.3 77.8	117.3 109.3	4.69 4.93	14.7 13.6	1850 2300	61.4 64.0	43.4 48.1	0.71 0.75	4.68 4.83	77.4 80.4	13.1 13.3	7.2 8.0
90	12.0	3.1	7.3	1850 2300	93.2 96.5	5.82 5.74	73.3 76.9	116.6 108.9	4.69 4.93	15.4 14.3	1850 2300	57.1 59.2	42.2 46.9	0.74 0.79	5.37 5.50	75.5 77.9	10.6 10.8	10.5 11.1
	15.0	4.7	10.8	1850 2300	99.1 102.6	6.09 5.98	78.3 82.2	119.6 111.3	4.77 5.03	15.9 14.7	1850 2300	58.8 61.0	42.8 47.4	0.73 0.78	5.22 5.35	76.6 79.3	11.3 11.4	9.8 10.6
	18.0	6.4	14.9	1850 2300	102.2 105.7	6.17 6.02	81.1 85.2	121.1 112.6	4.85 5.15	16.4 15.2	1850 2300	68.5 61.7	47.7 47.8	0.70 0.77	4.96 5.24	85.4 79.6	13.8 11.8	9.1 10.1
100	12.0	3.0	7.0	Operation not recommended							Operation not recommended							
	15.0	4.5	10.4	Operation not recommended							Operation not recommended							
	18.0	6.2	14.3	1850 2300	58.2 60.1	43.9 48.7	0.75 0.81	5.84 5.93	78.1 80.4	10.0 10.1	12.2 13.2	1850 2300	58.8 60.8	43.8 48.5	0.74 0.80	5.74 5.83	78.4 80.6	10.3 10.4
110	12.0	2.9	6.7	Operation not recommended							Operation not recommended							
	15.0	4.3	10.0	Operation not recommended							Operation not recommended							
	18.0	6.0	13.8	1850 2300	57.6 59.2	45.1 50.1	0.78 0.85	6.47 6.51	79.7 81.4	8.9 9.1	14.9 16.1	1850 2300	58.2 59.8	44.5 49.1	0.76 0.82	6.35 6.42	79.9 81.7	9.2 9.3
120	12.0	2.8	6.5	Operation not recommended							Operation not recommended							
	15.0	4.2	9.6	Operation not recommended							Operation not recommended							
	18.0	5.7	13.2	1850 2300	54.2 55.1	42.6 46.2	0.79 0.84	7.01 7.20	78.1 79.7	7.7 7.7	18.0 19.5	1850 2300	54.6 55.8	42.6 46.2	0.78 0.83	6.79 7.00	77.8 79.7	8.1 8.0

Performance capacities shown in thousands of Btu/h.

6/10/24

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Performance Data cont.

072 - Dual Capacity with 5-Speed ECM Low Speed (1850 cfm)

EWT °F	Flow gpm	WPD		HEATING - EAT 70°F							COOLING - EAT 80/67 °F															
		PSI	FT	Airflow cfm	HC kBtu/h	Power kW	HE kBtu/h	LAT °F	COP	HWC kBtu/h	Airflow cfm	TC kBtu/h	SC kBtu/h	S/T Ratio	Power kW	HR kBtu/h	EER	HWC kBtu/h								
20	10.0	2.9	6.8	Operation not recommended							Operation not recommended															
	13.0	4.9	11.4	Operation not recommended							Operation not recommended															
	16.0	7.0	16.2	1650	33.9	3.44	22.1	89.0	2.88	5.9	1850	34.8	3.48	22.9	87.4	2.93	5.3									
30	10.0	2.8	6.6	Operation not recommended							Operation not recommended															
	13.0	4.8	11.0	1650	37.4	3.48	25.6	91.0	3.15	5.5	1850	39.0	3.57	26.8	89.5	3.20	4.7	1650	48.8	34.1	0.70	1.95	55.4	24.9	-	
	16.0	6.8	15.8	1650	46.4	3.63	34.0	96.0	3.75	6.7	1850	49.5	37.3	0.75	2.06	56.6	24.1	-	1650	49.0	34.1	0.70	1.90	55.5	25.9	-
				1850	40.4	3.66	28.0	92.7	3.27	5.0	1850	50.2	37.3	0.74	1.99	57.0	25.2	-	1850	50.2	37.3	0.74	1.99	57.0	25.2	-
40	10.0	2.8	6.4	Operation not recommended							Operation not recommended															
	13.0	4.6	10.7	1650	44.0	3.54	31.9	94.7	3.64	6.5	1850	45.6	3.61	33.2	92.8	3.70	5.9	1650	51.3	35.5	0.69	2.10	58.5	24.5	-	
	16.0	6.6	15.3	1650	46.4	3.63	34.0	96.0	3.75	6.7	1850	48.0	3.70	35.4	94.0	3.80	6.1	1650	51.7	35.5	0.69	2.04	58.7	25.4	-	
				1850	48.0	3.70	35.4	94.0	3.80	6.1	1850	52.9	38.7	0.73	2.13	60.2	24.8	-	1850	52.9	38.7	0.73	2.13	60.2	24.8	-
50	10.0	2.7	6.2	1650	48.8	3.61	36.5	97.4	3.97	6.8	1850	50.4	3.66	37.9	95.2	4.03	6.3	1650	52.7	35.1	0.67	2.31	60.6	22.9	2.3	
	13.0	4.5	10.4	1650	50.6	3.61	38.2	98.4	4.10	7.0	1850	52.1	3.66	39.6	96.1	4.17	6.4	1650	54.2	38.9	0.72	1.00	57.6	28.1	2.4	
	16.0	6.4	14.8	1650	52.9	3.70	40.3	99.7	4.20	7.2	1850	54.5	3.74	41.7	97.3	4.27	6.6	1650	53.2	35.3	0.66	2.25	60.9	23.7	2.1	
				1850	54.5	3.74	41.7	97.3	4.27	6.6	1850	55.6	40.1	0.72	2.27	63.3	24.5	2.2	1850	54.2	38.9	0.72	1.00	57.6	28.1	2.4
60	10.0	2.6	6.0	1650	54.7	3.72	42.0	100.7	4.30	7.5	1850	56.1	3.75	43.3	98.1	4.38	6.9	1650	51.4	34.1	0.66	2.62	60.3	19.6	3.2	
	13.0	4.3	10.0	1650	56.9	3.72	44.2	101.9	4.49	7.7	1850	58.2	3.74	45.5	99.1	4.56	7.1	1650	52.8	37.7	0.71	2.67	61.9	19.8	3.4	
	16.0	6.2	14.3	1650	58.9	3.80	45.9	103.0	4.54	7.9	1850	60.2	3.82	47.2	100.1	4.62	7.3	1650	51.8	34.3	0.66	2.55	60.5	20.3	3.0	
				1850	60.2	3.82	47.2	100.1	4.62	7.3	1850	54.2	38.9	0.72	2.58	63.0	21.0	3.1	1650	53.3	37.9	0.71	2.60	62.2	20.5	3.2
70	10.0	2.5	5.8	1650	60.5	3.84	47.4	103.9	4.62	8.3	1850	63.1	3.82	50.1	105.4	4.84	8.5	1650	50.0	33.0	0.66	2.94	60.0	17.0	4.4	
	13.0	4.2	9.7	1650	63.1	3.82	50.1	105.4	4.84	8.5	1850	64.3	3.82	51.3	102.2	4.93	7.9	1650	52.4	37.8	0.72	3.05	61.8	17.2	4.6	
	16.0	6.0	13.9	1650	64.8	3.91	51.4	106.4	4.86	8.8	1850	65.9	3.90	52.6	103.0	4.95	8.1	1650	50.4	33.2	0.66	2.86	60.2	17.6	4.1	
				1850	65.9	3.90	52.6	103.0	4.95	8.1	1850	51.8	36.8	0.71	2.92	62.6	17.8	4.4	1650	51.3	34.1	0.66	2.84	61.0	18.1	3.8
80	10.0	2.4	5.6	1650	66.4	3.90	53.1	107.3	4.99	9.2	1850	67.3	3.88	54.1	103.7	5.09	8.5	1650	47.6	31.8	0.67	3.35	59.0	14.2	6.1	
	13.0	4.1	9.4	1650	69.6	3.87	56.4	109.1	5.26	9.5	1850	70.4	3.85	57.3	105.2	5.37	8.8	1650	48.9	35.2	0.72	3.42	60.6	14.3	5.9	
	16.0	5.8	13.4	1650	70.6	3.96	57.1	109.6	5.23	9.8	1850	71.3	3.92	57.9	105.7	5.33	9.1	1650	48.0	32.0	0.67	3.27	59.1	14.7	5.2	
				1850	71.3	3.92	57.9	105.7	5.33	9.1	1850	50.2	36.4	0.72	3.30	61.4	15.2	5.8	1850	49.3	35.4	0.72	3.33	60.7	14.8	5.6
90	10.0	2.3	5.4	1650	72.3	3.96	58.8	110.6	5.35	10.3	1850	72.9	3.91	59.5	106.5	5.46	9.5	1650	45.2	30.7	0.68	3.77	58.0	12.0	8.0	
	13.0	3.9	9.0	1650	76.0	3.93	62.6	112.7	5.68	10.6	1850	76.5	3.87	63.3	108.3	5.79	9.8	1650	46.4	33.9	0.73	3.84	59.5	12.1	8.5	
	16.0	5.6	12.9	1650	76.4	4.00	62.7	112.8	5.59	11.0	1850	76.7	3.94	63.3	108.4	5.71	10.2	1650	45.6	30.8	0.68	3.67	58.1	12.4	7.5	
				1850	76.7	3.94	63.3	108.4	5.71	10.2	1850	50.2	35.9	0.72	3.55	62.3	14.1	6.9	1850	47.6	35.0	0.74	3.71	60.3	12.8	7.7
100	10.0	2.2	5.2	Operation not recommended							Operation not recommended															
	13.0	3.8	8.7	Operation not recommended							Operation not recommended															
	16.0	5.4	12.5	1650	44.7	32.2	0.72	4.15	58.8	10.8	9.7	1850	45.4	33.0	0.73	4.11	59.4	11.0	9.0							
				1850	46.7	36.6	0.78	4.19	60.9	11.1	10.0	1850	44.7	32.2	0.72	4.15	58.8	10.8	9.7							
110	10.0	2.2	5.0	Operation not recommended							Operation not recommended															
	13.0	3.6	8.4	Operation not recommended							Operation not recommended															
	16.0	5.2	12.0	1650	43.7	33.6	0.77	4.62	59.5	9.5	12.7	1850	44.5	34.4	0.77	4.58	60.1	9.7	11.8							
				1850	45.7	38.1	0.83	4.67	61.6	9.8	13.1	1650	45.7	38.1	0.83	4.67	61.6	9.8	13.1							
120	10.0	2.1	4.8	Operation not recommended							Operation not recommended															
	13.0	3.5	8.1	Operation not recommended							Operation not recommended															
	16.0	5.0	11.5	1650	39.6	31.0	0.78	5.79	59.4	6.8	15.7	1850	40.3	33.7	0.84	5.94	60.6	6.8	16.7							
				1850	40.8	33.7	0.83	5.78	60.5	7.1	15.9	1650	39.9	31.0	0.78	5.60	59.1	7.1	14.4							

Performance capacities shown in thousands of Btu/h.

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Contractor: _____ P.O.: _____

Engineer: _____

Project Name: _____ Unit Tag: _____

Eco-Y Series
2 - 6 Tons 60Hz



Revision Guide

Pages:	Description:	Date:	By:
	Guide Creation	July 25, 2024	SW