

LENNOX SPLIT SYSTEM COMBINATION

AHRI REF#:	7514727
OUTDOOR MODEL:	XC14-036-230
OUTDOOR MODEL CAT#:	12C09
INDOOR MODEL:	EL296UH110XE60C
INDOOR MODEL CAT#:	96W29
COIL MODEL:	CX34-43C
COIL MODEL CAT#:	85M22
SEER:	16
EER:	13
HSPF:	0
AFUE:	96
HEATING STAGES:	2
BLOWER TYPE:	CT
COIL ORIENTATION:	UF
LIQ LINE:	3/8
SUC:	7/8
MCA:	18.7
MOP:	30
CAPACITY:	34600
TXV:	TXV
ICOMFORT:	N

LENNOX PUREAIR™

PCO16-28

AIR RESISTANCE			
Air Volume cfm	PCO14-23 in. w.g.	PCO16-28 in. w.g.	PCO20-28 in. w.g.
800	0.12	0.11	0.09
1000	0.17	0.15	0.12
1200	0.22	0.20	0.16
1400	0.28	0.25	0.19
1600	Not Recommended	0.30	0.23
1800	Not Recommended	Not Recommended	0.28
2000	Not Recommended	Not Recommended	0.32

LENNOX XC-036-230 CHARGING DATA

- 1 Typical pressures; indoor evaporator match up, indoor air quantity, and evaporator load will cause the pressures to vary. 3 Approach = Liquid Line Temp. minus Outdoor Ambient Temperature
2 Temperature of air entering outside coil. 4 Subcooling = Saturation Temp. minus Liquid Line Temp Temperature

Model	-18	-24	-30	-36
Table 1- Normal Operating Pressures¹				
°F(°C)²	TXV System - Liquid Line (±10 psig) / Vapor Line (±5 psig)			
65 (18)	230 / 138	220 / 125	226/129	238 / 132
75 (24)	265 / 140	250 / 130	259 / 134	273 / 138
85 (29)	307 / 142	300 / 142	301/140	316 / 142
95 (35)	351 / 144	350 / 145	348 / 142	366 / 144
105 (41)	407 / 145	410 / 149	399 / 144	420 / 147
115 (45)	466 / 147	470 / 155	456 / 146	480 / 149
°F(°C)²	RFC System - Liquid Line (±10 psig) / Vapor Line (±5 psig)			
65 (18)	232 / 124	210 / 122	229 / 128	241 / 131
75 (24)	267 / 131	240 / 127	261 / 132	277 / 136
85 (29)	307 / 138	300 / 142	305 / 138	321 / 141
95 (35)	351 / 143	350 / 142	349 / 142	366 / 145
105 (41)	400 / 148	400 / 147	396 / 146	416 / 149
115 (46)	457 / 153	450 / 150	449 / 150	480 / 152
Table 2- Approach (APP) Values³ -TXV System - °F (°C) ±1°F (0.5°C)				
65 (18)	4 (2.2)	4 (2.2)	2 (1.1)	2 (1.1)
75 (24)	5 (2.8)	4 (2.2)	4 (2.2)	5 (2.8)
85 (29)	6 (3.3)	5 (2.8)	6 (3.3)	8 (4.4)
95 (35)	5 (2.8)	5 (2.8)	5 (2.8)	7 (3.9)
105 (41)	3 (1.7)	5 (2.8)	5 (2.8)	6 (3.3)
115 (45)	3 (1.7)	4 (2.2)	4 (2.2)	6 (3.3)
Table 3- Subcooling (SC) Values⁴ -TXV System - °F (°C) ±1°F (0.5°C)				
65 (18)	10 (5.6)	3 (1.7)	11 (6.1)	13 (7.2)
75 (24)	6 (3.3)	3 (1.7)	8 (4.4)	9 (5.0)
85 (29)	6 (3.3)	3 (1.7)	6 (3.3)	7 (3.9)
95 (35)	6 (3.3)	3 (1.7)	6 (3.3)	8 (4.4)
105 (41)	10 (5.6)	3 (1.7)	7 (3.9)	9 (5.0)
115 (46)	10 (5.6)	3 (1.7)	8 (4.4)	10 (5.6)

Table 4. Evaporator Coil Delta-T

Dry bulb temperature of air entering indoor coil (°F)	80	24	24	24	23	23	22	22	22	20	19	18	17	16	15
	78	23	23	23	22	22	21	21	20	19	18	17	16	15	14
	76	22	22	22	21	21	20	19	19	18	17	16	15	14	13
	74	21	21	21	20	19	19	18	17	16	16	15	14	13	12
	72	20	20	19	18	17	17	16	15	15	14	13	12	11	10
	70	19	19	18	18	17	17	16	15	15	14	13	12	11	10
	°F	57	58	59	60	61	62	63	64	65	66	67	68	69	70
	[Wet bulb temperature of air entering indoor coil]														

Table 5. Superheat (SH) Value (RFC)

Suction line saturation temperature minus suction line temperature.									
Outdoor Temp (°F)	65	70	75	80	85	90	95	100	105
Super-heat (°F)	35	30	25	22	18	12	8	5	5
All measurements are at the service valves and are based on 80db / 67wb indoor temperature.									

Table 6. RFC Sizes

Unit Size	-18	-24	-30	-36	-41	-42	-47	-48	-60
RFC Size	0.053	0.057	0.065	0.072	TXV	0.076	TXV	0.083	0.093

LENNOX GAS FURNACE DATA

SPECIFICATIONS				
Gas Heating Performance	Model No.		EL296UH110XE60C	
	1 AFUE		96%	
	High Fire	Input - Btuh	110,000	
		Output - Btuh	106,000	
		Temperature rise range - °F	40-70	
		Gas Manifold Pressure (in. w.g.)	3.5 / 10.0	
	Nat. Gas / LPG/Propane			
	Low Fire	Input - Btuh	72,000	
		Output - Btuh	70,000	
		Temperature rise range - °F	35-65	
		Gas Manifold Pressure (in. w.g.)	1.7 / 4.9	
	Nat. Gas / LPG/Propane			
	High static - in. w.g.		0.5	
	Connections in.	Intake / Exhaust Pipe (PVC)	2 / 2	
		Gas pipe size IPS	1/2	
		Condensate Drain Trap (PVC pipe) - i.d.	3/4	
		with furnished 90° street elbow	3/4 slip x 3/4 Mipt	
		with field supplied (PVC coupling) - o.d.	3/4 slip x 3/4 MPT	
Indoor Blower	Wheel nominal diameter x width - in.		11-1/2 x 10	
	Motor Type		DC Brushless	
	Motor output - hp		1	
	Tons of add-on cooling		3 - 5	
	Air Volume Range - cfm		1055 - 2220	
Electrical Data		Voltage	120 volts - 60 hertz	
		Blower motor full load amps	10.9	
		Maximum overcurrent protection	15	
Shipping Data		lbs. - 1 package	174	

NOTE: Filters and provisions for mounting are not furnished and must be field provided.

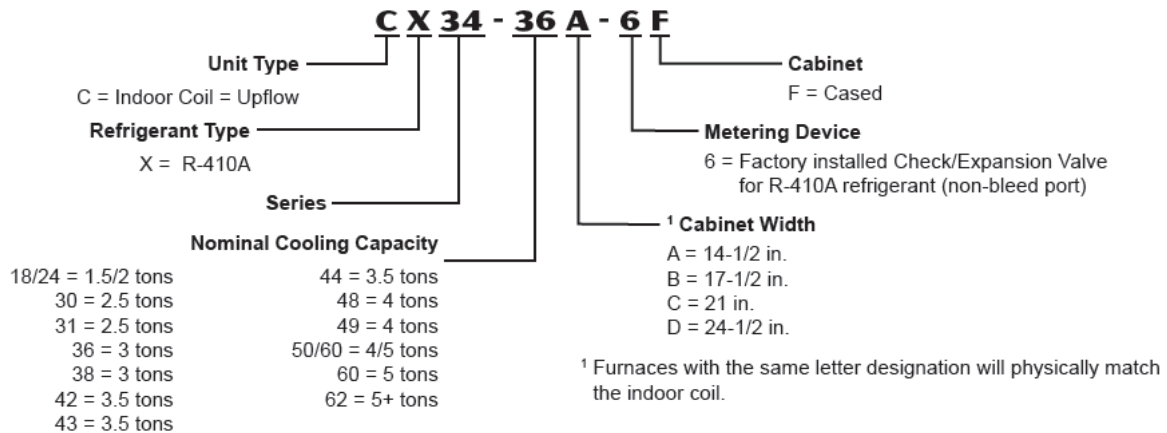
BLOWER DATA

EL296UH110XE60C PERFORMANCE (Less Filter)

External Static Pressure in. w.g.	Air Volume / Watts at Different Blower Speeds																			
	Bottom Return Air, Side Return Air with Optional Return Air Base, Return Air from Both Sides or Return Air from Bottom and One Side.										Single Side Return Air – Air volumes in bold require field fabricated transition to accommodate 20 x 25 x 1 in. air filter in order to maintain proper air velocity.									
	High		Med-High		Medium		Med-Low		Low		High		Med-High		Medium		Med-Low		Low	
	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts	cfm	Watts
0.00	2220	645	1940	435	1765	335	1635	280	1435	200	2185	655	1915	440	1745	340	1620	275	1430	195
0.10	2170	660	1920	460	1715	350	1595	290	1380	205	2160	660	1880	460	1705	345	1570	285	1380	205
0.20	2130	680	1865	475	1670	370	1560	305	1345	220	2115	680	1835	470	1670	365	1535	305	1325	220
0.30	2095	700	1835	490	1640	390	1525	325	1285	230	2060	705	1795	495	1630	380	1505	320	1285	230
0.40	2065	720	1785	510	1600	405	1465	335	1250	245	2050	720	1760	510	1570	400	1455	330	1235	245
0.50	2030	740	1755	525	1560	415	1425	355	1215	260	2000	740	1720	530	1535	415	1410	345	1195	260
0.60	1995	760	1705	550	1525	435	1380	370	1150	270	1955	760	1685	550	1505	435	1380	365	1145	275
0.70	1955	770	1660	560	1475	450	1350	375	1100	290	1935	775	1650	555	1455	450	1325	375	1100	285
0.80	1930	790	1635	575	1445	460	1300	395	1050	305	1890	790	1610	575	1425	460	1285	390	1055	295

LENNOX EVAPORATOR COIL DATA

CX34-43C



AIR RESISTANCE

Model No.	Air Volume cfm	Total Resistance	
		Dry Coil	Wet Coil
		in. w.g.	in. w.g.
CX34-18/24A-6F	400	0.06	0.08
CX34-18/24B-6F	600	0.11	0.17
CX34-18/24C-6F	800	0.18	0.25
	1000	0.27	0.39
	1200	0.37	0.52
CX34-19A-6F	200	0.01	0.04
	400	0.03	0.05
	600	0.08	0.09
	800	0.13	0.16
	1000	0.20	0.24
CX34-25A-6F	400	0.05	0.05
	600	0.09	0.10
	800	0.16	0.18
	1000	0.23	0.26
	1200	0.32	0.36
CX34-25B-6F	400	0.03	0.04
	600	0.07	0.09
	800	0.11	0.15
	1000	0.17	0.22
	1200	0.23	0.31
CX34-38A-6F	800	0.13	0.14
	1000	0.19	0.21
	1200	0.27	0.30
	1400	0.34	0.39
	1600	0.45	0.51
CX34-42B-6F	1000	0.13	0.16
	1200	0.17	0.21
	1400	0.22	0.28
	1600	0.29	0.34
	1800	0.34	0.42
CX34-43B-6F	1000	0.13	0.13
	1200	0.18	0.18
	1400	0.23	0.24
	1600	0.30	0.31
	1800	0.37	0.40
CX34-43C-6F	1000	0.07	0.09
	1200	0.10	0.12
	1400	0.13	0.16
	1600	0.16	0.20
	1800	0.20	0.24

TRANE EXAMPLE SYSTEM RATINGS

OD MODEL
4TWR4036D1

ID MODEL
GAM2A0B42S31+TDR

NOM CFM
1200

ARI REF #
7419644

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COOLING PERFORMANCE AT INDOOR DRY BULB TEMPERATURES

OD AMB	ID WB	TOT CAP	72	75	78	80	KW
85	59	33.8	28.2	31.7	33.8	33.8	2.69
	63	35.4	22.9	26.4	30.0	32.3	2.71
	67	37.8	17.8	21.4	24.9	27.3	2.74
	71	41.1	13.0	16.6	20.1	22.5	2.76
95	59	30.4	26.7	29.7	30.4	30.4	2.90
	63	31.8	21.4	25.0	28.5	30.8	2.93
	67	34.0	16.4	20.0	23.5	25.9	2.96
	71	36.9	11.6	15.1	18.7	21.0	2.98

USE THE FOLLOWING FACTORS TO COMPENSATE FOR DIFFERENT AIR FLOW

AIR FLOW RATE, CFM.	CAPACITY MULTIPLIER	TOTAL POWER MULTIPLIER
1050	0.98	0.99
1350	1.02	1.01

ARI RATING FOR COOLING

CFM	CAPACITY (A) TEST	SEER	EER
1200	34000	14.00	11.50

HEATING PERFORMANCE AT INDOOR DRY BULB TEMPERATURE

OD AMB	TOTAL CAPACITY MBH.				TOTAL POWER IN KILOWATTS			
	60	70	75	80	60	70	75	80
2	17.20	16.90	16.70	16.60	2.51	2.63	2.69	2.75
7	19.10	18.80	18.60	18.40	2.51	2.63	2.70	2.76
12	21.10	20.70	20.50	20.30	2.52	2.64	2.70	2.76
17	23.00	22.60	22.40	22.20	2.53	2.65	2.71	2.77
22	24.10	23.70	23.40	23.20	2.52	2.64	2.70	2.76
27	25.20	24.70	24.50	24.30	2.51	2.63	2.70	2.76
32	26.30	25.80	25.60	25.30	2.51	2.63	2.69	2.75
37	28.30	27.70	27.50	27.20	2.51	2.63	2.70	2.76
42	31.40	30.80	30.60	30.30	2.54	2.66	2.73	2.79
47	34.60	34.00	33.60	33.30	2.57	2.69	2.76	2.82

USE THE FOLLOWING FACTORS TO COMPENSATE FOR DIFFERENT AIR FLOW

AIR FLOW RATE, CFM.	CAPACITY MULTIPLIER	TOTAL POWER MULTIPLIER
1050	0.99	0.98
1350	1.01	1.03

ARI RATING FOR HEATING

CFM	CAPACITY 47	COP 47	CAPACITY 17	COP 17	HSPF
1200	34000	3.70	22600	2.50	8.20

A.R.I. Standard Capacity Rating Conditions

A.R.I. STANDARD 210/240 RATING CONDITIONS — (A) Cooling 80°F. D.B., 67°F. W.B. air entering indoor coil, 95°F. D.B. air entering outdoor coil. (B) High Temperature Heating 47°F. D.B., 43°F. W.B. air entering outdoor coil, 70°F. D.B. air entering indoor coil. (C) Low Temperature Heating 17°F. D.B., 15°F. W.B. air entering outdoor coil, 70°F. D.B. air entering indoor coil. (D) Rated indoor airflow for heating is the same as for cooling.

TRANE EXAMPLE SYSTEM AIR HANDLER DATA

SERVICE FACTS

AIRFLOW PERFORMANCE						
GAM2A0B42S31SE						
EXTERNAL STATIC (in w.g)	AIRFLOW (CFM)					
	Speed Taps - 230 VOLTS			Speed Taps - 208 VOLTS		
	3	2 †	1	3	2 †	1
0	1646	1495	1358	1522	1298	1138
0.1	1599	1464	1335	1489	1285	1137
0.2	1546	1421	1313	1449	1260	1120
0.3	1488	1380	1280	1401	1233	1099
0.4	1425	1329	1233	1348	1193	1065
0.5	1353	1264	1178	1281	1140	1023
0.6	1259	1182	1108	1202	1075	958
0.7	1145	1081	995	1102	965	868
0.8	982	909	839	926	817	753
0.9	788	759	731	761	713	N/A
1.0	563	N/A	N/A	538	N/A	N/A
NOTES: 1. Values are with wet coil and without filters. 2. Contact your particular filter manufacturer for pressure drop data. 3. Electric heater pressure drop is negligible and is included within the airflow data. 4. † Factory Setting						

WIRING DATA											
GAM2A0B42S31SE											
Heater Model No.	No. of Circuits	240 VOLT					208 VOLT				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		kW	BTUH				kW	BTUH			
No Heater	-	-	-	2.7**	3	15	-	-	2.7**	3	15
BAYEAAC04++1	1	3.84	13100	16	23	25	2.88	9800	13.80	21	25
BAYEAAC05++1	1	4.80	16400	20	28	30	3.60	12300	17.3	25	25
BAYEAAC08++1	1	7.68	26200	32	43	45	5.76	19700	27.7	38	40
BAYEAAC10++1	1	9.60	32800	40	53	60	7.20	24600	34.6	47	50

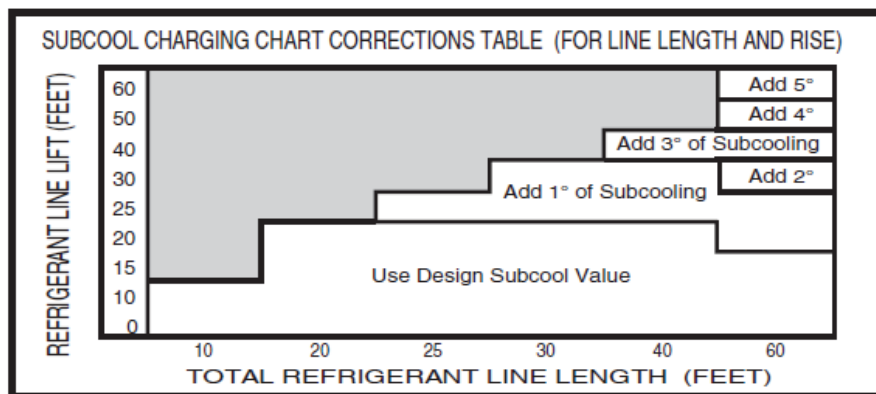
TRANE EXAMPLE SYSTEM – OUTDOOR UNIT DATA

SERVICE FACTS

PRODUCT SPECIFICATIONS

OUTDOOR UNIT ①②	4TWR4036D1000B
POWER CONNS. — V/PH/HZ ③	208/230/1/60
MIN. BRCH. CIR. AMPACITY	22
BR. CIR. PROT. RTG. — MAX. (AMPS)	35
COMPRESSOR	CLIMATUFF® - SCROLL
NO. USED - NO. SPEEDS	1 - 1
VOLTS/PH/HZ	208/230/1/60
R.L. AMPS ⑦ - L.R. AMPS	16.7 - 79
FACTORY INSTALLED	
START COMPONENTS ⑧	NO (Uses BAYSKT263)
INSULATION/SOUND BLANKET	NO
COMPRESSOR HEAT	NO
OUTDOOR FAN	PROPELLER
DIA. (IN.) - NO. USED	27.5 - 1
TYPE DRIVE - NO. SPEEDS	DIRECT - 1
CFM @ 0.0 IN. W.G. ④	4385
NO. MOTORS - HP	1 - 1/5
MOTOR SPEED R.P.M.	850
VOLTS/PH/HZ	200/230/1/60
F.L. AMPS	0.95
OUTDOOR COIL — TYPE	SPINE FIN™
ROWS - F.P.I.	1 - 24
FACE AREA (SQ. FT.)	22
TUBE SIZE (IN.)	3/8
REFRIGERANT CONTROL	EXPANSION VALVE
REFRIGERANT	
LBS. — R-410 (O.D. UNIT) ⑤	6 LBS. - 2 OZ.
FACTORY SUPPLIED	YES
LINE SIZE - IN. O.D. GAS ⑥	3/4
LINE SIZE - IN. O.D. LIQ. ⑥	3/8
CHARGING SPECIFICATION	
SUBCOOLING	8°F
DIMENSIONS	H X W X D
CRATED (IN.)	38.4 x 35.1 x 38.7
WEIGHT	
SHIPPING (LBS.)	229
NET (LBS.)	198

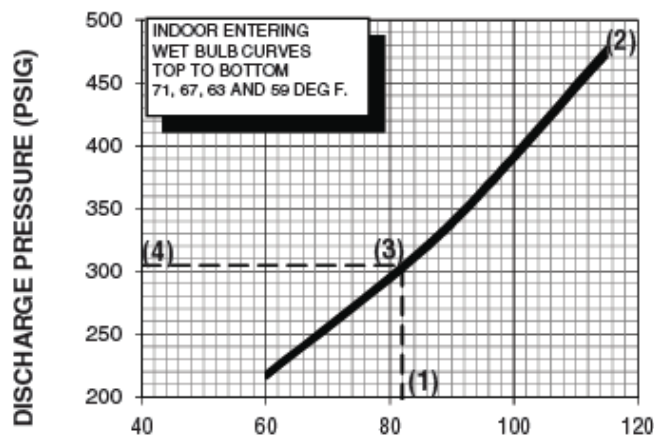
3 Ton



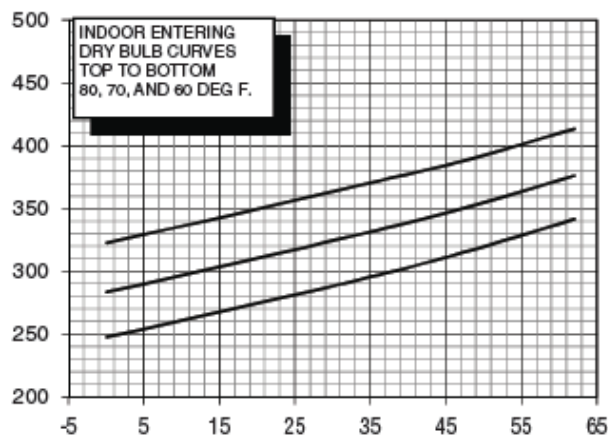
TRANE EXAMPLE SYSTEM – OUTDOOR UNIT DATA

SERVICE FACTS

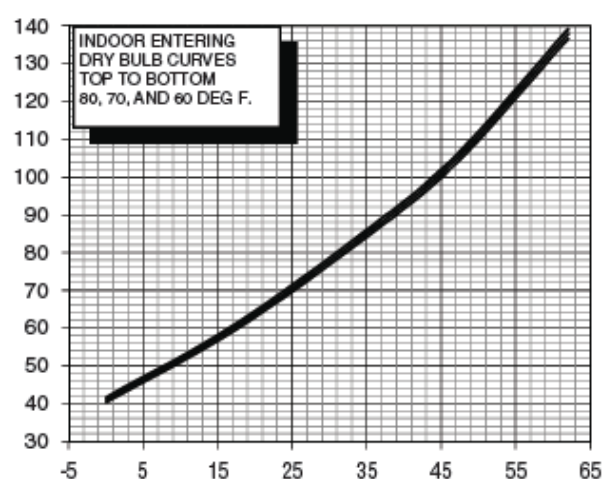
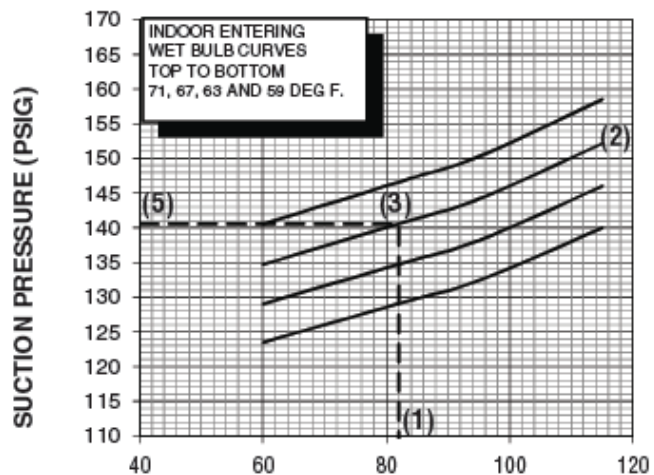
Cooling @ 1200 SCFM



Heating @ 1200 SCFM



OUTDOOR TEMPERATURE (Degree F)



OUTDOOR TEMPERATURE (Degree F)

COOLING PERFORMANCE CAN BE CHECKED WHEN THE OUTDOOR TEMP IS ABOVE 65 DEG F.

TO CHECK COOLING PERFORMANCE, SELECT THE PROPER INDOOR CFM, ALLOW PRESSURES TO STABILIZE. MEASURE INDOOR WET BULB TEMPERATURE, OUTDOOR TEMPERATURE, DISCHARGE AND SUCTION PRESSURES. ON THE PLOTS LOCATE OUTDOOR TEMPERATURE (1); LOCATE INDOOR WET BULB (2); FIND INTERSECTION OF OD TEMP. & ID W.B. (3); READ DISCHARGE OR SUCTION PRESSURE IN LEFT COLUMN (4).

EXAMPLE: (1) OUTDOOR TEMP. 82 F.
 (2) INDOOR WET BULB 67 F.
 (3) AT INTERSECTION
 (4) DISCHARGE PRESSURE @ 1200 CFM IS 305 PSIG
 (5) SUCTION PRESSURE @ 1200 CFM IS 141 PSIG

ACTUAL:
 DISCHARGE PRESSURE SHOULD BE +/- 10 PSI OF CHART
 SUCTION PRESSURE SHOULD BE +/- 3 PSIG OF CHART

TRANE EXAMPLE SYSTEM – OUTDOOR UNIT DATA

SERVICE FACTS

SUBCOOLING CHARGING BELOW 55°F OD

AMBIENT – IN HEATING ONLY

1. The Subcool Charging Method in cooling is not recommended below 55°F outdoor ambient.
2. The only recommended method of charging at outdoor ambients below 55°F, is to weigh in the charge in the heating mode.
3. Use Nameplate charge plus standard charge adders for line length.
4. Check liquid line temperature and pressure (at the OD valves) to obtain a minimum of 10°F subcooling.
5. Add charge if a minimum of 10°F subcooling is not obtained with the nameplate charge plus line length correction.
6. It is important to return in the spring or summer to accurately charge the system in the cooling mode at outdoor ambients above 55°F.

R-410A REFRIGERANT CHARGING CHART							
LIQUID TEMP (°F)	DESIGN SUBCOOLING (°F)						
	8	9	10	11	12	13	14
	LIQUID GAGE PRESSURE (PSI)						
55	179	182	185	188	191	195	198
60	195	198	201	204	208	211	215
65	211	215	218	222	225	229	232
70	229	232	236	240	243	247	251
75	247	251	255	259	263	267	271
80	267	271	275	279	283	287	291
85	287	291	296	300	304	309	313
90	309	313	318	322	327	331	336
95	331	336	341	346	351	355	360
100	355	360	365	370	376	381	386
105	381	386	391	396	402	407	413
110	407	413	418	424	429	435	441
115	435	441	446	452	458	464	470
120	464	470	476	482	488	495	501
125	495	501	507	514	520	527	533
Refer to Service Facts or Installer's Guide for charging method.							

EXAMPLE SYSTEM - ELECTRONIC AIR CLEANER DATA

SERVICE FACTS

PRESSURE DROP AT SPECIFIC AIRFLOW PER MODEL									
	400 CFM	600 CFM	800 CFM	1000 CFM	1200 CFM	1400 CFM	1600 CFM	1800 CFM	2000 CFM
*FD145CLFR000E	0.06	0.10	0.16	0.23	0.30				
*FD175CLFR000E	0.05	0.08	0.12	0.17	0.22	0.28	0.34		
*FD210CLFR000E	0.04	0.06	0.09	0.12	0.15	0.20	0.24	0.29	0.34
*FD245CLFR000E	0.03	0.04	0.06	0.09	0.12	0.15	0.19	0.22	0.26
*FD14DCLFR000E	0.09	0.16	0.24	0.34	0.46				
*FD17DCLFR000E	0.07	0.11	0.18	0.25	0.33	0.42			
*FD21DCLFR000E	0.05	0.09	0.13	0.18	0.23	0.29	0.37		
*FD24DCLFR000E	0.04	0.07	0.11	0.14	0.19	0.24	0.30	0.36	0.43
*FD175CLAH000E	0.07	0.11	0.18	0.25	0.33				
*FD215CLAH000E TFD215CLAH005E	0.04	0.08	0.12	0.17	0.24				
*FD235CLAH000E TFD235CLAH005E	0.06	0.09	0.13	0.18	0.23	0.29	0.35		
*FD260CLAH000E TFD260CLAH005E	0.04	0.07	0.10	0.14	0.18	0.23	0.28	0.34	0.39
* May be "A" or "T"									

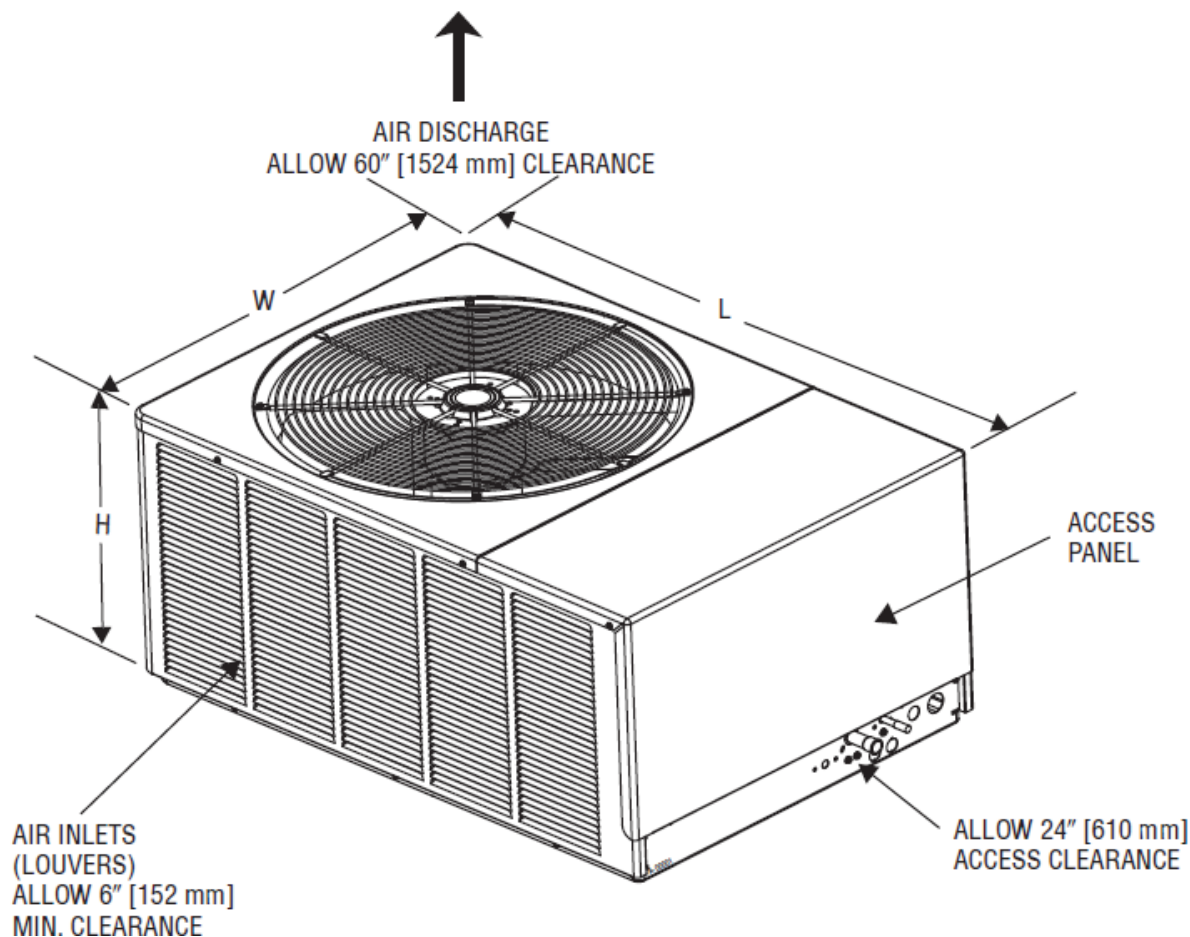
RHEEM SAMPLE RATINGS AND PERFORMANCE DATA

[illegible]

Electrical and Physical Data: RPQL- JEZ

Model Number RPQL-	ELECTRICAL							PHYSICAL						
	Phase Frequency (Hz) Voltage (Volts)	Compressor		Fan Motor Full Load Amperes (FLA)	Minimum Circuit Ampacity Amperes	Fuse or HACR Circuit Breaker		Outdoor Coil			Refrig. Per Circuit Oz. [g]	Weight		
		Rated Load Amperes (RLA)	Locked Rotor Amperes (LRA)			Minimum Amperes	Maximum Amperes	Face Area Sq. Ft. [m²]	No. Rows	CFM [L/s]		Net Lbs. [kg]	Shipping Lbs. [kg]	
Rev. 2/25/2010														
018JEZ	1-60-208/230	9/9	48	1.4	13/13	15/15	20/20	11.0 [1.02]	1	1925 [908]	85 [2410]	156 [70.8]	157.5 [71.4]	
024JEZ	1-60-208/230	13.5/13.5	58.3	1.4	19/19	25/25	30/30	13.0 [1.21]	1	1925 [908]	98 [2778]	156 [70.8]	176 [79.8]	
030JEZ	1-60-208/230	14.1/14.1	73	1.4	20/20	25/25	30/30	17.1 [1.59]	1	1925 [908]	120 [3402]	175 [79.4]	195.5 [88.7]	
036JEZ	1-60-208/230	17.5/17.5	79	1.4	24/24	30/30	40/40	17.1 [1.59]	2	3575 [1687]	194 [5500]	227 [103]	237.5 [107.7]	
042JEZ	1-60-208/230	17.9/17.9	112	1.4	24/24	30/30	40/40	23.0 [2.14]	2	3575 [1687]	208 [5897]	256 [116.1]	261 [118.4]	
048JEZ	1-60-208/230	19.9/19.9	109	1.7	27/27	35/35	45/45	23.0 [2.14]	2	3575 [1687]	231 [6549]	258 [117]	296 [134.3]	
056JEZ	1-60-208/230	21.4/21.4	135	2.8	30/30	35/35	50/50	23.0 [2.14]	2	3100 [1463]	274 [7768]	300 [136.1]	304 [137.9]	
060JEZ	1-60-208/230	26.4/26.4	134	2.8	36/36	45/45	60/60	23.0 [2.14]	2	3100 [1463]	277 [7853]	300 [136.1]	304 [137.9]	

RHEEM SAMPLE CLEARANCE SPECIFICATIONS AND WARRANTY



GENERAL TERMS OF LIMITED WARRANTY

Rheem will furnish a replacement for any part of this product which fails in normal use and service within the applicable period stated, in accordance with the terms of the limited warranty.

For Complete Details of the Limited Warranty, Including Applicable Terms and Conditions, See Your Local Installer or Contact the Manufacturer for a Copy.

CompressorTen (10) Years
Any Other PartTen (10) Years

RPQL- JEZ Conditional Replacement Warranty:

Rheem will provide a replacement model (if an exact replacement is not available, an equivalent product will be provided) to the original purchaser if the compressor fails within 5 years (providing the unit is installed with a new Rheem Air Handler OR Rheem Indoor Coil with a Rheem Gas Furnace, and is properly matched as specified by Rheem as listed in the Air Conditioning Institute (AHRI) published rating, and if additional conditions are satisfied. See product warranty card for additional information.

Before proceeding with installation, refer to installation instructions packaged with each model, as well as complying with all Federal, State, Provincial, and Local codes, regulations, and practices.

**Rheem Heating,
Cooling and
Water Heating**

P.O. Box 17010, Fort Smith, AR 72917



"In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice."

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4-10 DC

FORM NO. P11-780 REV. 2
Supersedes Form No. P11-780 Rev. 1

RHEEM SAMPLE REFRIGERANT LINE SPECIFICATIONS

System Capacity	Line Size Connection Size (Inch I.D.) [mm]	Line Size (Inch O.D.) [mm]	Liquid Line Sizing (R-410A) Outdoor Unit Above or Below Indoor Coil (Heat Pumps Only)					
			Total Equivalent Length—Feet [m]					
			25 [7.62]	50 [15.24]	75 [22.86]	100 [30.48]	125 [38.10]	150 [45.72]
			Maximum Vertical Separation—Feet [m]					
1½ Ton	3/8" [9.53]	1/4 [6.35]	25 [7.62]	40 [12.19]	25 [7.62]	9 [2.74]	N/A	N/A
		5/16 [7.94]	25 [7.62]	50 [15.24]	62 [18.90]	58 [17.68]	53 [16.15]	49 [14.94]
		3/8* [9.53]	25 [7.62]	50 [15.24]	75 [22.86]	72 [21.95]	70 [21.34]	68 [20.73]
2 Ton	3/8" [9.53]	1/4 [6.35]	23 [7.01]	N/A	N/A	N/A	N/A	N/A
		5/16 [7.94]	25 [7.62]	36 [10.97]	29 [8.84]	23 [7.01]	16 [4.88]	9 [2.74]
		3/8* [9.53]	25 [7.62]	50 [15.24]	72 [21.95]	70 [21.34]	68 [20.73]	65 [19.81]
2½ Ton	3/8" [9.53]	1/4 [6.35]	25 [7.62]	N/A	N/A	N/A	N/A	N/A
		5/16 [7.94]	25 [7.62]	49 [14.94]	38 [11.58]	27 [8.23]	17 [5.18]	6 [1.83]
		3/8* [9.53]	25 [7.62]	50 [15.24]	68 [20.73]	65 [19.81]	62 [18.90]	58 [17.68]
3 Ton	3/8" [9.53]	5/16 [7.94]	25 [7.62]	50 [15.24]	37 [11.28]	22 [6.71]	7 [2.13]	N/A
		3/8* [9.53]	25 [7.62]	50 [15.24]	68 [20.73]	63 [19.20]	58 [17.68]	53 [16.15]
3½ Ton	3/8" [9.53]	5/16 [7.94]	25 [7.62]	23 [7.01]	4 [1.22]	N/A	N/A	N/A
		3/8* [9.53]	25 [7.62]	50 [15.24]	43 [13.11]	36 [10.97]	30 [9.14]	24 [7.32]
4 Ton	3/8" [9.53]	3/8* [9.53]	25 [7.62]	46 [14.02]	38 [11.58]	30 [9.14]	22 [6.71]	15 [4.57]
		1/2 [12.7]	25 [7.62]	50 [15.24]	56 [17.07]	55 [16.76]	53 [16.15]	52 [15.85]
5 Ton	3/8" [9.53]	3/8* [9.53]	25 [7.62]	50 [15.24]	56 [17.07]	44 [13.41]	32 [9.75]	20 [6.10]
		1/2 [12.7]	25 [7.62]	50 [15.24]	75 [22.86]	81 [24.69]	79 [24.08]	76 [23.16]

NOTES:

*Standard line size

N/A = Application not recommended.

Suction Line Length/Size versus Capacity Multiplier (R-410A)								
Unit Size		1½ Ton	2 Ton	2½ Ton	3 Ton	3½ Ton	4 Ton	5 Ton
Suction Line Connection Size		3/4" [19.05] I.D.			7/8" [22.23] I.D.			
Suction Line Run—Feet [m]		5/8" [15.88 mm] O.D. Opt. 3/4" [19.05 mm] O.D. Std.*	5/8" [15.88 mm] O.D. Opt. 3/4" [19.05 mm] O.D. Std.* 7/8" [22.23 mm] O.D. Opt.	3/4" [19.05 mm] O.D. Opt. 7/8" [22.23 mm] O.D. Std.*	7/8" [22.23 mm] O.D. Opt. 1½" [28.58 mm] O.D. Std.*			
25' [7.62]	Optional Standard Optional	1.00 1.00 —	1.00 1.00 —	1.00 1.00 1.00	1.00 1.00 —	1.00 1.00 —	1.00 1.00 —	1.00 1.00 —
50' [15.24]	Optional Standard Optional	0.98 0.99 —	0.98 0.99 —	0.96 0.98 0.99	0.98 0.99 —	0.99 0.99 —	0.99 0.99 —	0.99 0.99 —
100' [30.48]	Optional Standard Optional	0.95 0.96 —	0.95 0.96 —	0.94 0.96 0.97	0.96 0.97 —	0.96 0.98 —	0.96 0.98 —	0.97 0.98 —
150' [45.72]	Optional Standard Optional	0.92 0.93 —	0.92 0.94 —	0.91 0.93 0.95	0.94 0.95 —	0.94 0.96 —	0.95 0.96 —	0.94 0.97 —

NOTES:

*Standard line size

Note: Using suction line larger than shown in chart will result in poor oil return and is not recommended.

RHEEM SAMPLE AIRFLOW DATA

Model Number	Motor Speed From Factory	Manufacturer Recommended Air Flow Range (Min / Max) CFM	Blower Size/ Motor H.P. # of Speeds	Motor Speed	PSC CFM[L/s] Air Delivery/RPM/Watts-240 Volts							
					External Static Pressure-Inches W.C.							
						0.10 [.02]	0.20 [.05]	0.30 [.07]	0.40 [.10]	0.50 [.12]	0.60 [.15]	0.70 [.17]
1817 No heater	High 240 V	517/711CFM [244/336 L/s]	10x6 1/5 [149] 2 Speed	Low	CFM	668 [315]	637 [301]	595 [281]	560 [264]	517 [244]	—	—
					RPM	541	596	657	706	761	—	—
					Watts	180	171	166	161	155	—	—
				High	CFM	—	—	—	—	711 [336]	662 [312]	614 [290]
					RPM	—	—	—	—	812	853	890
					Watts	—	—	—	—	243	227	210
1817 with 13kw heater	High 240 V	487/661 CFM [230/312 L/s]	10x6 1/5 [149] 2 Speed	Low	CFM	638 [301]	607 [286]	565 [267]	530 [250]	487 [230]	—	—
					RPM	571	626	687	736	791	—	—
					Watts	171	162	157	152	146	—	—
				High	CFM	—	—	—	—	661 [312]	612 [289]	564 [266]
					RPM	—	—	—	—	837	878	915
					Watts	—	—	—	—	232	216	199
2417 No heater	High 240 V	647/888 [305.419 L/s]	10x6 1/5 [149] 2 Speed	Low	CFM	817 [386]	779 [368]	757 [357]	693 [327]	647 [305]	—	—
					RPM	616	667	715	770	808	—	—
					Watts	239	230	221	206	196	—	—
				High	CFM	—	—	—	—	888 [419]	828 [391]	774 [365]
					RPM	—	—	—	—	875	908	958
					Watts	—	—	—	—	331	313	301
2417 with 13kw heater	High 240 V	617/638 [291/395 L/s]	10x6 1/5 [149] 2 Speed	Low	CFM	787 [371]	749 [353]	727 [343]	663 [313]	617 [291]	—	—
					RPM	646	697	745	800	838	—	—
					Watts	230	221	212	197	187	—	—
				High	CFM	—	—	—	—	838 [395]	778 [367]	724 [342]
					RPM	—	—	—	—	900	933	983
					Watts	—	—	—	—	320	302	290
3017 No heater	High 240 V	864/1004 [408/474 L/s]	10x8 1/4 [186] 2 Speed	Low	CFM	1022 [482]	987 [466]	940 [444]	903 [426]	864 [408]	—	—
					RPM	700	754	794	833	870	—	—
					Watts	344	313	302	294	288	—	—
				High	CFM	—	—	—	—	1004 [474]	951 [449]	883 [417]
					RPM	—	—	—	—	924	953	975
					Watts	—	—	—	—	364	352	344
3017 with 18kw heater	High 240 V	814/904 CFM [384/427 L/s]	10x8 1/4 [186] 2 Speed	Low	CFM	972 [459]	937 [442]	890 [420]	853 [403]	814 [384]	—	—
					RPM	750	804	844	883	920	—	—
					Watts	324	293	282	274	268	—	—
				High	CFM	—	—	—	—	904 [427]	851 [402]	783 [370]
					RPM	—	—	—	—	949	978	1000
					Watts	—	—	—	—	334	322	314
3617/3621 No heater	High 240 V	1104/1248 CFM [521/589 L/s]	10x8 1/3 [249] 2 Speed	Low	CFM	1229 [580]	1201 [567]	1170 [552]	1141 [538]	1104 [521]	—	—
					RPM	788	833	872	909	951	—	—
					Watts	466	462	427	406	395	—	—
				High	CFM	—	—	—	—	1248 [589]	1194 [563]	1133 [535]
					RPM	—	—	—	—	1008	1028	1042
					Watts	—	—	—	—	488	475	454
3617/3621 with 18kw heater	High 240 V	1054/1148 CFM [497/542 L/s]	10x8 1/3 [249] 2 Speed	Low	CFM	1179 [556]	1151 [543]	1120 [529]	1091 [515]	1054 [497]	—	—
					RPM	838	883	922	959	1001	—	—
					Watts	446	442	407	386	375	—	—
				High	CFM	—	—	—	—	1148 [542]	1094 [516]	1033 [487]
					RPM	—	—	—	—	1033	1053	1067
					Watts	—	—	—	—	458	445	424

NOTE:

- All 208/240V PSC motors have voltage taps for 208 and 240 volts.
- All 208/240V PSC motors are shipped on high speed and 240 volts.
- If the application external static is less than 0.5" W.C., adjust the motor speed to the low static speed as described below.
 - Unplug the black motor wire off the relay on the control board and plug in the red motor wire.
 - Replace the cap on the black motor wire.
- Voltage change (208/240V motors):
 - Move the orange lead to transformer 208V tap from 240V tap. Replace the wire cap on 240V tap.
 - Unplug the purple motor wire off the transformer and plug in the yellow motor wire.
 - Replace the cap on the purple motor wire.
- The above airflow table lists the airflow information for air handlers without heater and air handler with maximum heater allowed for each model.
- The following formula can be used to calculate the approximate airflow, if a smaller (N kw) than the maximum heater kit is installed.

$$\text{Approximate Airflow} = \text{Airflow without heater} - (\text{Airflow without heater} - \text{Airflow with maximum heater}) \times (\text{N kw}/\text{maximum heater kw})$$

RHEEM SAMPLE CHARGING DATA

Outdoor Dry Bulb/ Temp. de bulbo seco exterior	PQL-018 CFL/H*L UF/LH ⁺	PQL-018 CFL/H*L DF/RH ⁺	PQL-024 CFL/H*L UF/LH ⁺	PQL-024 CFL/H*L DF/RH ⁺	PQL-030 CFL/H*L UF/LH ⁺	PQL-030 CFL/H*L DF/RH ⁺	PQL-036 CFL/H*L UF/LH ⁺	PQL-036 CFL/H*L DF/RH ⁺
--	--	--	--	--	--	--	--	--

Cooling Mode - Pressure Requirements - Gross Charge Check ONLY (Liquid Pressure / Vapor Pressure) / Modo

115	475/154	482/154	465/149	472/149	466/143	473/143	464/142	465/143
105	419/152	426/152	409/146	416/146	410/141	417/141	410/140	411/141
95	372/150	379/150	358/145	365/145	359/138	366/138	361/138	362/139
82	312/146	319/146	299/141	306/141	298/135	305/135	302/135	303/136
75	304/146	311/146	274/138	281/138	273/133	280/133	276/131	277/132
55	282/144	289/144	202/130	209/130	201/128	208/128	204/122	205/123

Cooling Mode - Sub-Cooling Requirements - Final Charge Verification / Modo de enfriamiento - Requisitos de sub

115	8	13	10	15	12	17	9	8.5
105	7	12	10	15	12	17	9	8.5
95	8	13	10	15	11	16	10	9.5
82	8	13	9	14	11	16	10	9.5
75	8	13	10	15	12	17	11	10.5
55	7	12	11	16	13	18	13	12.5

Heating Mode - Pressure Requirements - Gross Charge Check ONLY (Liquid Pressure / Vapor Pressure) / Mod

60	331/127	366/127	369/125	404/125	364/116	399/116	368/125	372/126
47	310/107	345/107	347/105	382/105	347/98	382/98	349/105	353/106
35	291/88	326/88	312/79	347/79	326/80	361/80	330/86	334/87
17	267/60	302/60	296/57	331/57	306/55	341/55	305/60	309/61

Heating Mode - Sub-Cooling Requirements - Final Charge Verification / Modo de calefacción - Requisitos de sub

60	12	25	26	44	22	22	25	31
47	11	11	27	27	25	25	21	21
35	11	11	26	26	27	27	23	23
17	14	14	32	32	9	9	27	27

NOTICE:

- For the complete list of the notes & charging instructions refer to the Start-Up Section of the Installation and Operating manual.
- Confirm the indoor supply air flow is correct, and the air filter and coils (indoor & outdoor) are clean and free of frost prior to starting the system.
- Supply airflow must be between 375 and 450cfm per rated cooling ton prior to adjusting system charge (reference rated cfm listed in the outdoor unit specification sheets).
- If a humidification system is installed disengage it from operating prior to charge adjustment.
- The system must run for a minimum of 15 minutes to stabilize the system pressure and temperatures prior to charge adjustment.
- Indoor conditions as measured at the indoor coil must be within 2°F of the following during gross charge (pressure) evaluation:
 - oCooling: 80°F Dry Bulb
 - oHeating: 70°F Dry Bulb
- It is required to fine tune unit charge using the subcooling method. Indoor ambient temperature must be between 70°F and 80°F dry bulb at the indoor coil for fine tune charging.
- Unit charging is recommended under the following outdoor conditions:
 - oCooling Mode ONLY: 55°F outdoor dry bulb and above
 - oHeating Mode ONLY: 40°F and 60°F outdoor dry bulb

- Excessive use of elbows in the refrigerant line set can produce excessive pressure drop. Follow industry best practices for installation.
- Installation and commissioning of this equipment is to be performed by trained and qualified HVAC professionals. For technical assistance contact your Distributor Service Coordinator.

IMPORTANT: If the outdoor units' I&O manual is not available at the location of unit installation contact the local distributor for a copy of the latest charging chart with notes.