

Copeland Scroll®

Outdoor condensing units for refrigeration applications

For more free Copeland literature please visit www.HVACRinfo.com



Product Information

Horsepower:	1-1/2 – 6
Temperature Applications:	Low/Medium/High
Refrigerants:	R-404A
Installation Applications:	A variety of applications including walk-in boxes



Nomenclature • Welded Condensing Units

Temperature Application	Code
High Temperature	H
Medium Temperature	M
Low Temperature	L
Extended Medium Temp.	F
Extra Low Temperature	E
Multiple	S
Multiple	N

Compressor Motor Types		
Phase	Description	Code
1	Capacitor Run - Capacitor Start	C
1	Induction Run - Capacitor Start	I
1	Induction Run - Split Phase	S
1	Capacitor Run - Permanent Split	P
3	Three Phase - General	T
3	Star (Wye) Delta	E
3	6 Lead - Part Winding or Across the Line	F

Bill Of Material (BOM)	
001 thru 099	Intended for UL Listing and CUL Certified
100 thru 299	Intended for UL Recognition and CUL Certified
300 thru 399	Not eligible for either UL Listing, UL Recognition or CUL Certified

Type of Design	Code
Air Cooled Steel Base	A
Air Cooled Copevap Base	E/P
Narrow Air Cooled Copevap	T
Water Cooled Steel Base	W
Custom Base	C
Discus	D

Comp. Motor Rating	
Nominal HP	Code
1/2	0050
3/4	0075
1	0100
1-1/2	0150
2	0200
3	0300
4	0400
5	0500
6	0600
7-1/2	7500
9	0900
10	1000
15	1500

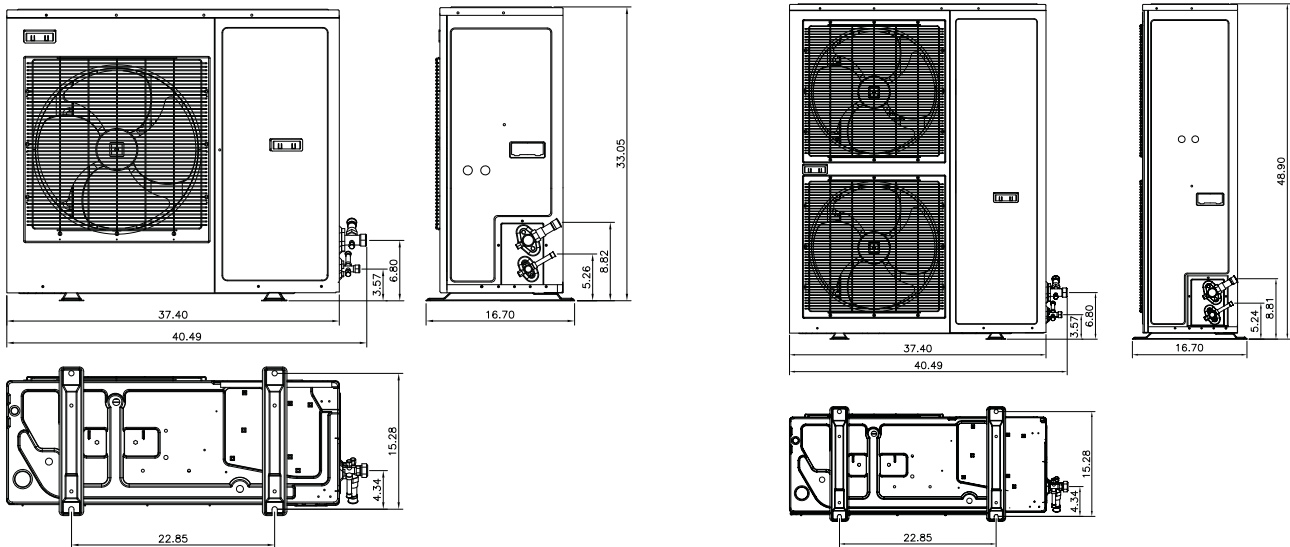
Compressor Motor Protection	
Type Protection	Code
External Inherent Protection - One Protector (Line Break)	A
Internal Inherent Protection - One Protector (Line Break)	F
Internal Thermal Protection - Electronic Sensors; and Control Module External	S

Electrical Codes		
60 Hz.	50 Hz.	Code
115-1	100-1	A
230-1	-	B
208/230-3	200/220-3	C
460-3	-	D
575-3	-	E
-	230-1	G
-	380/420-3	M
208/230-1	200-1	V
-	220-3	W
-	220/240-1	Z

Refrigerant	Code
R404A/507	J/4
R134a	T/2
R12	B
R22	C/3/M
Multiple	F
R22/407C	G
R22	9
R134a/404A/22	N
R134a/404A	P
R404A/22	8

X X X X - X X X X - X X X - X X X

Dimensional Drawings



Copeland Scroll® outdoor condensing units

Features	Benefits
Copeland Scroll® Compressor Variable Speed Fan Motor	Reliability
	High Energy Efficiency
	Low Sound & Vibration
Advanced Diagnostics and Protection Features	Faster Troubleshooting Warranty Reduction
Factory Installed EK Filter Drier and HMI Moisture Indicator	Fewer Leaks, Reduced Callbacks, Lower Installation Costs, Increased Equipment Reliability, Lower Warranty
Slim Profile Design and Light Weight	Application Flexibility

Resources and Support

EmersonClimate.com

- Online Product Information and Technical Data
 - Application Engineering Bulletins
 - Instruction Sheets
 - Marketing Brochures
- Product Selection Tools
 - Walk-In Box Load Calculator
- Where to Buy

Application Engineering Bulletins

- 4-1273 Factors to Consider in Converting Compressor Rated Capacity to Actual Capacity
- 4-1327 Economized Vapor Injection (EVI) Compressors
- 11-1147 Suction Accumulators
- 11-1297 Liquid Line Filter Driers
- 17-1260 Compressor Overheating
- 17-1268 Compression Ratio as it Affects Compressor Reliability
- 22-1182 Liquid Refrigerant Control in Refrigeration and Air Conditioning Systems

2009IP-43 **Copeland Scroll Outdoor Condensing Unit Installation and Reference Manual** is provided with each unit and is a source for additional product details.

2007IP-52 **Refrigeration Load Calculator** software is available to compute refrigeration loads and select matching components. Contact your Emerson sales manager for more details.

For more information, visit EmersonClimate.com and login to the Customer Portal to view Online Product Information

Copeland Scroll® outdoor condensing units

Capacity Data

MED TEMP Capacity (BTU/Hr) at 90° Ambient - Evaporator Temp (°F)								
Model	Compressor	Refrig.	H.P.	-5	0	+5	+10	+15
XJAM-015Z-CFV	ZB11KCE	404A	1-1/2	7800	8500	9700	10800	12000
XJAM-020Z-CFV, TFC	ZX15KCE	404A	2	10570	11780	13140	14610	16160
XJAM-030Z-CFV, TFC	ZX21KCE	404A	3	15540	17900	19320	21570	23790
XJAM-040Z-CFV, TFC	ZX30KCE	404A	4	21280	23920	26450	28030	32400
XJAM-050Z-CFV, TFC	ZX38KCE	404A	5	26690	29600	32740	35910	39400
XJAM-060Z-TFC	ZX45KCE	404A	6	30360	33830	37780	41780	45890

MED TEMP Capacity (BTU/Hr) at 95° Ambient - Evaporator Temp (°F)								
Model	Compressor	Refrig.	H.P.	-5	0	+5	+10	+15
XJAM-015Z-CFV	ZB11KCE	404A	1-1/2	7450	8100	9300	10400	11600
XJAM-020Z-CFV, TFC	ZX15KCE	404A	2		11900	12600	14000	15600
XJAM-030Z-CFV, TFC	ZX21KCE	404A	3		16800	18500	20600	22800
XJAM-040Z-CFV, TFC	ZX30KCE	404A	4	20400	22800	25300	27500	31000
XJAM-050Z-CFV, TFC	ZX38KCE	404A	5	25600	28500	31500	34600	38000
XJAM-060Z-TFC	ZX45KCE	404A	6	29000	32400	36100	39900	44000

MED TEMP Capacity (BTU/Hr) at 100° Ambient - Evaporator Temp (°F)								
Model	Compressor	Refrig.	H.P.	-5	0	+5	+10	+15
XJAM-015Z-CFV	ZB11KCE	404A	1-1/2	7100	7800	8900	10000	11200
XJAM-020Z-CFV, TFC	ZX15KCE	404A	2		10730	11970	13360	15070
XJAM-030Z-CFV, TFC	ZX21KCE	404A	3		15780	17700	19670	21700
XJAM-040Z-CFV, TFC	ZX30KCE	404A	4	19440	21770	24210	26920	29620
XJAM-050Z-CFV, TFC	ZX38KCE	404A	5	24580	27480	30340	33360	36630
XJAM-060Z-TFC	ZX45KCE	404A	6	27730	31000	34500	38110	42040

MED TEMP Capacity (BTU/Hr) at 110° Ambient - Evaporator Temp (°F)								
Model	Compressor	Refrig.	H.P.	-5	0	+5	+10	+15
XJAM-015Z-CFV	ZB11KCE	404A	1-1/2	6330	7220	7900	8100	9600
XJAM-020Z-CFV, TFC	ZX15KCE	404A	2			10940	12170	13600
XJAM-030Z-CFV, TFC	ZX21KCE	404A	3				17540	19850
XJAM-040Z-CFV, TFC	ZX30KCE	404A	4			21910	24400	26830
XJAM-050Z-CFV, TFC	ZX38KCE	404A	5		24980	27860	30650	33540
XJAM-060Z-TFC	ZX45KCE	404A	6	23370	27280	31410	34800	38390

Copeland Scroll® outdoor condensing units

Capacity Data

MED TEMP Capacity (BTU/Hr) at 90° Ambient - Evaporator Temp (°F)								
Model	Compressor	Refrig.	H.P.	+20	+25	+30	+35	+40
XJAM-015Z-CFV	ZB11KCE	404A	1-1/2	13100	14600	16100	17500	19000
XJAM-020Z-CFV, TFC	ZX15KCE	404A	2	17770	19560	20800	22300	23790
XJAM-030Z-CFV, TFC	ZX21KCE	404A	3	26070	28490	30340	32470	34600
XJAM-040Z-CFV, TFC	ZX30KCE	404A	4	35500	38640	41060	43960	46860
XJAM-050Z-CFV, TFC	ZX38KCE	404A	5	43180	47070	49930	53330	56720
XJAM-060Z-TFC	ZX45KCE	404A	6	50320	54610	58340	62410	66470

MED TEMP Capacity (BTU/Hr) at 95° Ambient - Evaporator Temp (°F)								
Model	Compressor	Refrig.	H.P.	+20	+25	+30	+35	+40
XJAM-015Z-CFV	ZB11KCE	404A	1-1/2	12700	14100	15500	16900	18200
XJAM-020Z-CFV, TFC	ZX15KCE	404A	2	17200	18800	20100	21600	23100
XJAM-030Z-CFV, TFC	ZX21KCE	404A	3	25000	27200	29100	31200	33300
XJAM-040Z-CFV, TFC	ZX30KCE	404A	4	34000	37000	39400	42200	45000
XJAM-050Z-CFV, TFC	ZX38KCE	404A	5	41600	45400	48200	51500	54800
XJAM-060Z-TFC	ZX45KCE	404A	6	48200	52400	55900	59800	63700

MED TEMP Capacity (BTU/Hr) at 100° Ambient - Evaporator Temp (°F)								
Model	Compressor	Refrig.	H.P.	+20	+25	+30	+35	+40
XJAM-015Z-CFV	ZB11KCE	404A	1-1/2	12300	13600	14900	16200	17500
XJAM-020Z-CFV, TFC	ZX15KCE	404A	2	16640	17930	19460	20930	22410
XJAM-030Z-CFV, TFC	ZX21KCE	404A	3	23990	25880	27920	29960	32000
XJAM-040Z-CFV, TFC	ZX30KCE	404A	4	32430	35330	37730	40380	43040
XJAM-050Z-CFV, TFC	ZX38KCE	404A	5	40040	43760	46450	49630	52800
XJAM-060Z-TFC	ZX45KCE	404A	6	45970	50180	53480	57230	60970

MED TEMP Capacity (BTU/Hr) at 110° Ambient - Evaporator Temp (°F)								
Model	Compressor	Refrig.	H.P.	+20	+25	+30	+35	+40
XJAM-015Z-CFV	ZB11KCE	404A	1-1/2	11000	12100	13300	14400	15600
XJAM-020Z-CFV, TFC	ZX15KCE	404A	2	14940	16380	17700	19060	20430
XJAM-030Z-CFV, TFC	ZX21KCE	404A	3	21800	23340	25470	27410	29340
XJAM-040Z-CFV, TFC	ZX30KCE	404A	4	29490	32180	34650	37120	39780
XJAM-050Z-CFV, TFC	ZX38KCE	404A	5	36370	39820	42470	45400	48330
XJAM-060Z-TFC	ZX45KCE	404A	6	42200	45860	49660	53380	57110

Copeland Scroll® outdoor condensing units

Capacity Data

LOW TEMP		Capacity (BTU/Hr) at 90° Ambient - Evaporator Temp (°F)						
Model	Compressor	Refrig.	H.P.	-40	-35	-30	-25	-20
XJAL-020Z-CFV, TFC	ZXI06KCE	404A	2	5700	6960	8210	9450	10690
XJAL-030Z-TFC	ZXI09KCE	404A	3	7840	9390	10950	12500	14060
XJAL-035Z-CFV	ZXI11KCE	404A	3-1/2	9700	11100	12600	14200	15900
XJAL-040Z-CFV, TFC	ZXI14KCE	404A	4	12690	14430	16280	18240	20300
XJAL-050Z-TFC	ZXI15KCE	404A	5	14030	16040	18140	20350	22660
XJAL-050Z-CFV	ZXI16KCE	404A	5	14030	16040	18140	20350	22660
XJAL-060Z-TFC	ZXI18KCE	404A	6	18000	20500	23000	25700	28600

LOW TEMP		Capacity (BTU/Hr) at 95° Ambient - Evaporator Temp (°F)						
Model	Compressor	Refrig.	H.P.	-40	-35	-30	-25	-20
XJAL-020Z-CFV, TFC	ZXI06KCE	404A	2	5670	6900	8120	9330	10500
XJAL-030Z-TFC	ZXI09KCE	404A	3	7390	8960	10500	12100	13700
XJAL-035Z-CFV	ZXI11KCE	404A	3-1/2	9400	10700	12200	13700	15300
XJAL-040Z-CFV, TFC	ZXI14KCE	404A	4	12500	14200	16000	17900	19900
XJAL-050Z-TFC	ZXI15KCE	404A	5	13600	15500	17500	19700	21900
XJAL-050Z-CFV	ZXI16KCE	404A	5	13600	15500	17500	19700	21900
XJAL-060Z-TFC	ZXI18KCE	404A	6	17500	20000	22300	25000	27600

LOW TEMP		Capacity (BTU/Hr) at 100° Ambient - Evaporator Temp (°F)						
Model	Compressor	Refrig.	H.P.	-40	-35	-30	-25	-20
XJAL-020Z-CFV, TFC	ZXI06KCE	404A	2	5640	6840	8020	9200	10370
XJAL-030Z-TFC	ZXI09KCE	404A	3	6940	8520	10100	11680	13260
XJAL-035Z-CFV	ZXI11KCE	404A	3-1/2	9090	10300	11700	13100	14700
XJAL-040Z-CFV, TFC	ZXI14KCE	404A	4	12370	13980	15710	17540	19480
XJAL-050Z-TFC	ZXI15KCE	404A	5	13110	14960	16900	18940	21080
XJAL-050Z-CFV	ZXI16KCE	404A	5	13110	14960	16900	18940	21080
XJAL-060Z-TFC	ZXI18KCE	404A	6	17240	19480	21930	24380	27030

LOW TEMP		Capacity (BTU/Hr) at 110° Ambient - Evaporator Temp (°F)						
Model	Compressor	Refrig.	H.P.	-40	-35	-30	-25	-20
XJAL-020Z-CFV, TFC	ZXI06KCE	404A	2	5500	6610	7710	8810	9890
XJAL-030Z-TFC	ZXI09KCE	404A	3	5830	7420	9010	10590	12180
XJAL-035Z-CFV	ZXI11KCE	404A	3-1/2	9020	10140	11340	12720	14200
XJAL-040Z-CFV, TFC	ZXI14KCE	404A	4	11850	13350	14950	16660	18480
XJAL-050Z-TFC	ZXI15KCE	404A	5	11920	13590	15370	17250	19220
XJAL-050Z-CFV	ZXI16KCE	404A	5	11920	13590	15370	17250	19220
XJAL-060Z-TFC	ZXI18KCE	404A	6	16170	18330	20500	22760	25130

Copeland Scroll® outdoor condensing units

Capacity Data

LOW TEMP		Capacity (BTU/Hr) at 90° Ambient - Evaporator Temp (°F)					
Model	Compressor	Refrig.	H.P.	-15	-10	-5	0
XJAL-020Z-CFV, TFC	ZXI06KCE	404A	2	11920	13140	14360	15570
XJAL-030Z-TFC	ZXI09KCE	404A	3	15620	17170	18730	20280
XJAL-035Z-CFV	ZXI11KCE	404A	3-1/2	17700	19700	21700	23900
XJAL-040Z-CFV, TFC	ZXI14KCE	404A	4	22470	24740	27120	29610
XJAL-050Z-TFC	ZXI15KCE	404A	5	25060	27570	30170	32880
XJAL-050Z-CFV	ZXI16KCE	404A	5	25060	27570	30170	32880
XJAL-060Z-TFC	ZXI18KCE	404A	6	31600	34700	38100	41500

LOW TEMP		Capacity (BTU/Hr) at 95° Ambient - Evaporator Temp (°F)					
Model	Compressor	Refrig.	H.P.	-15	-10	-5	0
XJAL-020Z-CFV, TFC	ZXI06KCE	404A	2	11700	12900	14100	15300
XJAL-030Z-TFC	ZXI09KCE	404A	3	15200	16800	18400	19900
XJAL-035Z-CFV	ZXI11KCE	404A	3-1/2	17000	18900	20900	22900
XJAL-040Z-CFV, TFC	ZXI14KCE	404A	4	22000	24200	26500	29000
XJAL-050Z-TFC	ZXI15KCE	404A	5	24200	26600	29100	31800
XJAL-050Z-CFV	ZXI16KCE	404A	5	24200	26600	29100	31800
XJAL-060Z-TFC	ZXI18KCE	404A	6	30700	33700	37000	39900

LOW TEMP		Capacity (BTU/Hr) at 100° Ambient - Evaporator Temp (°F)					
Model	Compressor	Refrig.	H.P.	-15	-10	-5	0
XJAL-020Z-CFV, TFC	ZXI06KCE	404A	2	11530	12680	13830	14970
XJAL-030Z-TFC	ZXI09KCE	404A	3	14840	16420	18000	19580
XJAL-035Z-CFV	ZXI11KCE	404A	3-1/2	16300	18100	20000	21900
XJAL-040Z-CFV, TFC	ZXI14KCE	404A	4	21530	23680	25940	28300
XJAL-050Z-TFC	ZXI15KCE	404A	5	23320	25660	28100	30640
XJAL-050Z-CFV	ZXI16KCE	404A	5	23320	25660	28100	30640
XJAL-060Z-TFC	ZXI18KCE	404A	6	29780	32740	35800	38200

LOW TEMP		Capacity (BTU/Hr) at 110° Ambient - Evaporator Temp (°F)					
Model	Compressor	Refrig.	H.P.	-15	-10	-5	0
XJAL-020Z-CFV, TFC	ZXI06KCE	404A	2	10970	12040	13100	14160
XJAL-030Z-TFC	ZXI09KCE	404A	3	13770	15350	16940	18530
XJAL-035Z-CFV	ZXI11KCE	404A	3-1/2	15690	17380	19190	21090
XJAL-040Z-CFV, TFC	ZXI14KCE	404A	4	20400	22420	24560	26800
XJAL-050Z-TFC	ZXI15KCE	404A	5	21300	23470	25740	28110
XJAL-050Z-CFV	ZXI16KCE	404A	5	21300	23470	25740	28110
XJAL-060Z-TFC	ZXI18KCE	404A	6	27600	30200	32960	34700

Copeland Scroll® outdoor condensing units

Physical/Electrical Data

MED TEMP Model (Coolers)	Refrig.	Comp	H.P.	Overall Dimensions (in)			Connecting Lines (in)		# of Fans	Minimum Circuit Ampacity - Max Fuse Size		Pump Down Capacity (lbs)	Ship Weight (lbs)
				L	W	H	Suction	Liquid		208/230-1-60	208/230-3-60		
XJAM-015Z	404A	ZB11KCE	1-1/2	16.7	40.5	33.1	3/4	1/2	1	12.3/20		7.5	180
XJAM-020Z	404A	ZX15KCE	2	16.7	40.5	33.1	3/4	1/2	1	18.7 / 30	11.1 / 15	7.5	182
XJAM-030Z	404A	ZX21KCE	3	16.7	40.5	33.1	3/4	1/2	1	24.3 / 40	14.7 / 25	7.5	194
XJAM-040Z	404A	ZX30KCE	4	16.7	40.5	48.9	7/8	1/2	2	32.1 / 50	19.7 / 30	11	250
XJAM-050Z	404A	ZX38KCE	5	16.7	40.5	48.9	7/8	1/2	2	36.6 / 60	29.0 / 50	11	258
XJAM-060Z	404A	ZX45KCE	6.0	16.7	40.5	48.9	7/8	1/2	2		28.1 / 45	11	270

LOW TEMP Model (Freezers)	Refrig.	Comp	H.P.	Overall Dimensions (in)			Connecting Lines (in)		# of Fans	Minimum Circuit Ampacity - Max Fuse Size		Pump Down Capacity (lbs)	Ship Weight (lbs)
				L	W	H	Suction	Liquid		208/230-1-60	208/230-3-60		
XJAL-020Z	404A	ZXI06KCE	2	16.7	40.5	33.1	3/4	1/2	1	19.4 / 30	14.7 / 25	7.5	188
XJAL-030Z	404A	ZXI09KCE	3	16.7	40.5	33.1	3/4	1/2	1		15.4 / 25	7.5	192
XJAL-035Z	404A	ZXI11KCE	3-1/2	16.7	40.5	33.1	7/8	1/2	1	30.7 / 50		7.5	213
XJAL-040Z	404A	ZXI14KCE	4	16.7	40.5	48.9	7/8	1/2	2	36.1 / 60	24.5 / 40	11	251
XJAL-050Z	404A	ZXI15KCE	5	16.7	40.5	48.9	7/8	1/2	2		26.1 / 45	11	267
XJAL-050Z	404A	ZXI16KCE	5	16.7	40.5	48.9	7/8	1/2	2	40.4 / 70		11	287
XJAL-060Z	404A	ZXI18KCE	6.0	16.7	40.5	48.9	7/8	1/2	2		30.7 / 50	11	291

Correction Factor	Refrigerant Liquid Temperature °F															
	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	
R-12	1.60	1.54	1.48	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94	.88	.82	.75	
R-134a	1.70	1.63	1.56	1.49	1.42	1.36	1.29	1.21	1.14	1.07	1.00	.93	.85	.78	.71	
R-22	1.56	1.51	1.45	1.40	1.34	1.29	1.23	1.17	1.12	1.06	1.00	.94	.88	.82	.76	
R-404A/R-507	2.00	1.90	1.80	1.70	1.60	1.50	1.40	1.30	1.20	1.10	1.00	.90	.80	.70	.50	

Product Features	XJAM	XJAL
Hood	✓	✓
Elevated Legs	✓	✓
Variable-Speed PSC Fan	✓	✓
Brass Service Valves	✓	✓
Receiver	✓	✓
Liquid Shut-off Valve	✓	✓
Moisture Indicator	✓	✓
Filter Drier	✓	✓
Fixed HP	✓	✓
Adjustable LP	✓	✓
CCH	✓	✓
Diagnostics	✓	✓
Accumulator		✓
Oil Separator		✓
Defrost Timer	•	✓
One Way Communication	•	•

- ✓ Standard on -002 and -012 models
- Standard on -012 models only

Sound Data

	Model	dBa*
MED TEMP	XJAM-015Z	55
	XJAM-020Z	55
	XJAM-030Z	55
	XJAM-040Z	58
	XJAM-050Z	58
	XJAM-060Z	58
LOW TEMP	XJAL-020Z	53
	XJAL-030Z	53
	XJAL-035Z	53
	XJAL-040Z	59
	XJAL-050Z	59
	XJAL-060Z	59

Sound pressure values are 10 feet from the unit at 25°F evap for MT and -10°F evap for LT at 90°F ambient. A sound reduction of up to 3 dBA will occur in ambient temperatures below 70°F. This data is typical of “free field” conditions for horizontal air cooled condensing units and may vary depending on the condensing unit installation. There are many factors that affect the sound reading of a condensing unit such as unit mounting, reflecting walls, background noise and operating condition.

EmersonClimate.com