

Copeland Scroll™ X-Line

Outdoor Refrigeration Units



Product Information

Horsepower:	1-1/2 – 6
Temperature Applications:	Low/Medium/High
Refrigerants:	R-134a, R-22, R-404A, R-407C/A, R-507
Installation Applications:	A variety of applications including walk-in boxes, display cases, island cases, soft serve

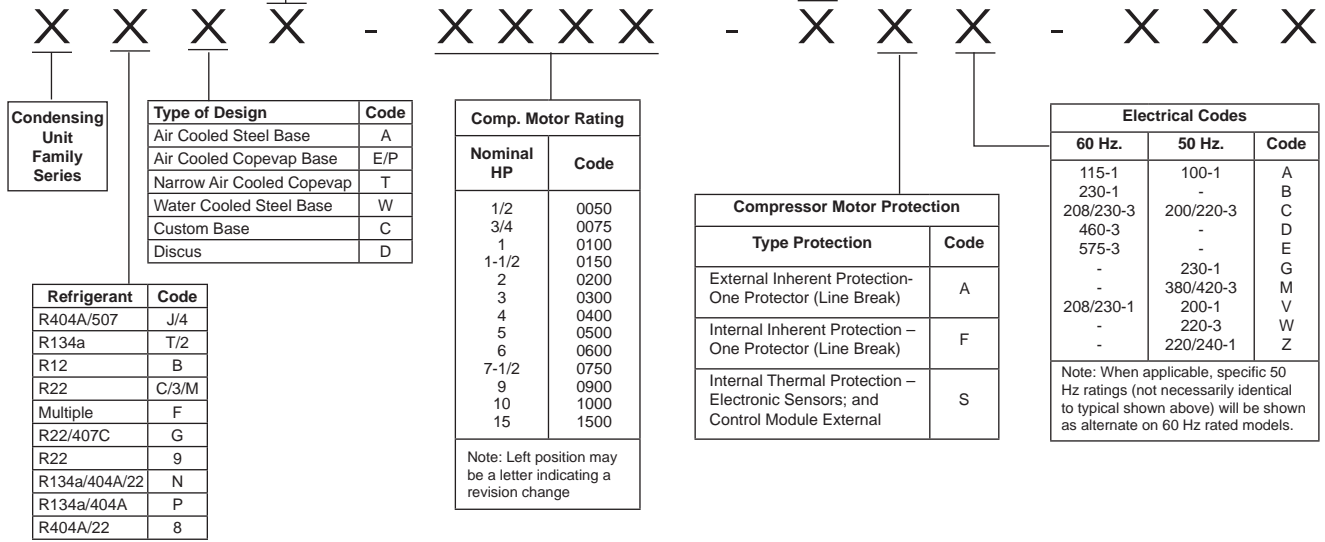


Nomenclature • Welded Condensing Units

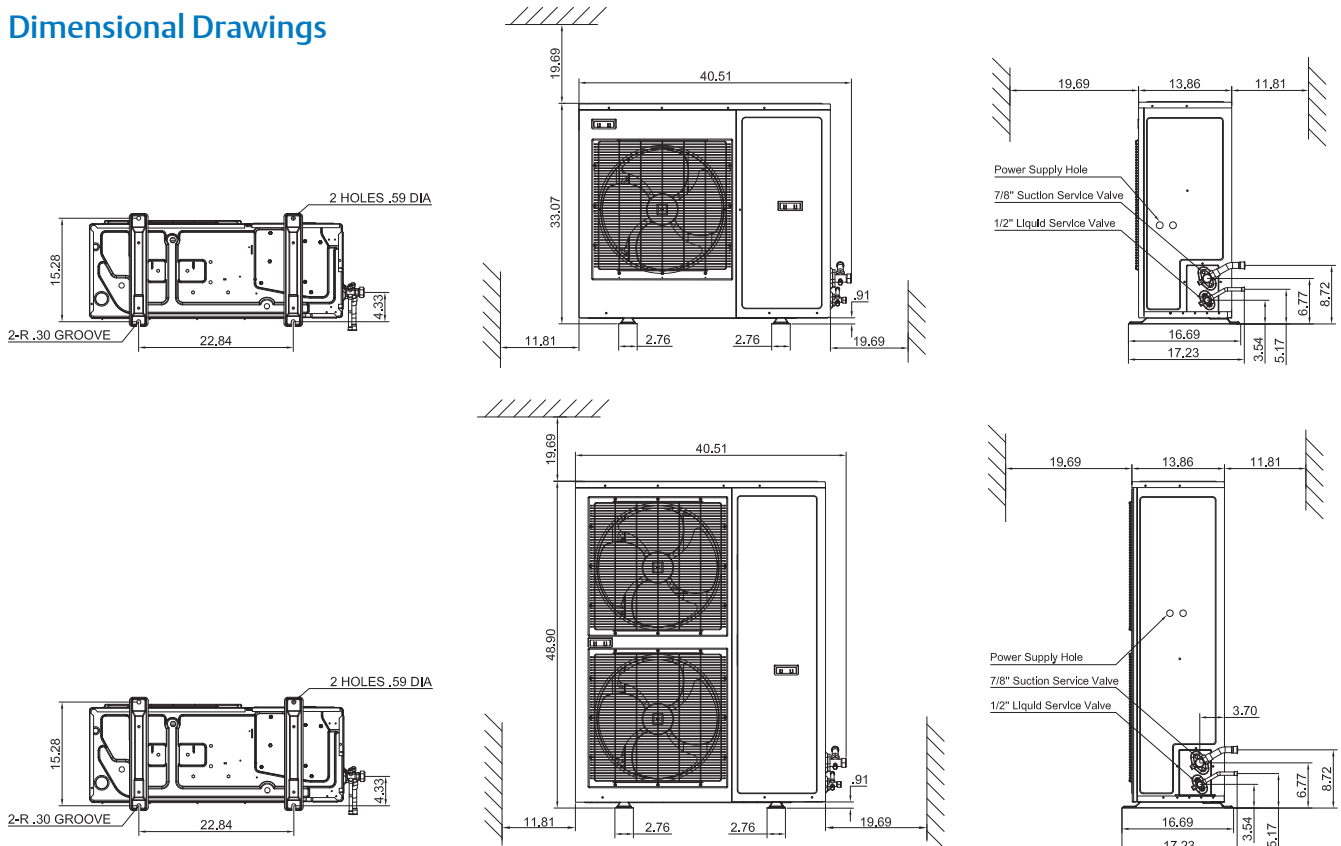
Temperature Application	Code
High Temperature	H
Medium Temperature	M
Low Temperature	L
Extended Medium Temp.	F
Extra Low Temperature	E
Multiple	S
Multiple	N
Multiple	P
R-404A LT and R-134a HT	K

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 3 Lead Single Voltage 6 Lead Part Winding 575V 9 Lead Dual Voltage	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



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/CopelandOutdoorUnit

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

Application Engineering Bulletins

- 4-1273 Factors to Consider in Converting Compressor Rated Capacity to Actual Capacity
- 4-1295 HFC-134A Refrigerant Guidelines
- 4-1298 Extended Medium Temperature R-404A/507 Hermetic Compressors and Condensing Units
- 4-1299 Application Guidelines for Copeland Scroll Compressors 2 - 6 Horsepower
- 4-1327 Economized Vapor Injection (EVI) Compressors
- 4-1387 Application Guidelines for ZS**KAE Copeland Scroll™ Refrigeration Compressors 1.3-4.5 HP
- 5-1377 Copeland Scroll Outdoor Condensing Unit
- 5-1412 Copeland Scroll Outdoor Refrigeration Unit Installation and Reference Manual
- 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

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

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

Bill of Materials Matrix

BOM		Features															UL			
First Generation *	New Generation	Receiver W/ Valve	Receiver Heater / Insulation	Suction Valve	Liquid Valve	Accumulator	Oil Separator (Low Temp Only)	Pressure Controls (Adjustable low, Fixed High)	Defrost Control	Filter Drier	Moisture Indicator / Sight Glass	Crankcase Heater	Variable Speed Condenser Fan	Demand Cooling Low Temp - Enhanced Vapor Injection (EVI)	Med/Ext Med Temp - Suction Line Liquid Injecton	One-Way Communication	Two-Way Communication	CoreSense™ Diagnostics / Protection	Listed	Recognized
002		X		X	X	Low Temp Only	X	X	X	X	X	X	X	X				X	X	
012		X		X	X	Low Temp Only	X	X	X	X	X	X	X	X		X		X	X	
022		X	X	X	X	Low Temp Only	X	X	X	X	X	X	X	X		X		X	X	
	081	X	X	X	X	XFAL, XFAP Only	X	X	X	X	X	X	X	X			X	X	X	

* First Generation (XJAM/XJAL) models continue to be available while supplies last. Orders will automatically roll to the new generation model (XFAM/XFAL) once the XJAM/XJAL model is no longer available. See page 7 for model cross reference.

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.

R-404A Low Temp

Copeland Scroll Outdoor Refrigeration Units – XJ Series

Model	Compressor	-40	-35	-30	-25	-20	-15	-10	-5	0
90° Ambient										
XJAL-020Z	ZXI06KCE	5700	6960	8210	9450	10690	11920	13140	14360	15570
XJAL-030Z	ZXI09KCE	7840	9390	10950	12500	14060	15620	17170	18730	20280
XJAL-035Z	ZXI11KCE	9700	11100	12600	14200	15900	17700	19700	21700	23900
XJAL-040Z	ZXI14KCE	12690	14430	16280	18240	20300	22470	24740	27120	29610
XJAL-050Z	ZXI15KCE	14030	16040	18140	20350	22660	25060	27570	30170	32880
XJAL-050Z	ZXI16KCE	14030	16040	18140	20350	22660	25060	27570	30170	32880
XJAL-060Z	ZXI18KCE	18000	20500	23000	25700	28600	31600	34700	38100	41500
100° Ambient										
XJAL-020Z	ZXI06KCE	5640	6840	8020	9200	10370	11530	12680	13830	14970
XJAL-030Z	ZXI09KCE	6940	8520	10100	11680	13260	14840	16420	18000	19580
XJAL-035Z	ZXI11KCE	9090	10300	11700	13100	14700	16300	18100	20000	21900
XJAL-040Z	ZXI14KCE	12370	13980	15710	17540	19480	21530	23680	25940	28300
XJAL-050Z	ZXI15KCE	13110	14960	16900	18940	21080	23320	25660	28100	30640
XJAL-050Z	ZXI16KCE	13110	14960	16900	18940	21080	23320	25660	28100	30640
XJAL-060Z	ZXI18KCE	17240	19480	21930	24380	27030	29780	32740	35800	38200
110° Ambient										
XJAL-020Z	ZXI06KCE	5500	6610	7710	8810	9890	10970	12040	13100	14160
XJAL-030Z	ZXI09KCE	5830	7420	9010	10590	12180	13770	15350	16940	18530
XJAL-035Z	ZXI11KCE	9020	10140	11340	12720	14200	15690	17380	19190	21090
XJAL-040Z	ZXI14KCE	11850	13350	14950	16660	18480	20400	22420	24560	26800
XJAL-050Z	ZXI15KCE	11920	13590	15370	17250	19220	21300	23470	25740	28110
XJAL-050Z	ZXI16KCE	11920	13590	15370	17250	19220	21300	23470	25740	28110
XJAL-060Z	ZXI18KCE	16170	18330	20500	22760	25130	27600	30200	32960	34700

Capacities rated at 65°F return gas, 5°F subcooling

R-404A Medium Temp

Copeland Scroll Outdoor Refrigeration Units – XJ Series

Model	Compressor	-5	0	5	10	15	20	25	30	35	40
90° Ambient											
XJAM-015Z	ZS11KAE	7800	8500	9700	10800	12000	13100	14600	16100	17500	19000
XJAM-020Z	ZX15KCE	10570	11780	13140	14610	16160	17770	19560	20800	22300	23790
XJAM-030Z	ZX21KCE	15540	17900	19320	21570	23790	26070	28490	30340	32470	34600
XJAM-040Z	ZX30KCE	21280	23920	26450	28030	32400	35500	38640	41060	43960	46860
XJAM-050Z	ZX38KCE	26690	29600	32740	35910	39400	43180	47070	49930	53330	56720
XJAM-060Z	ZX45KCE	30360	33830	37780	41780	45890	50320	54610	58340	62410	66470
100° Ambient											
XJAM-015Z	ZS11KAE	7100	7800	8900	10000	11200	12300	13600	14900	16200	17500
XJAM-020Z	ZX15KCE		10730	11970	13360	15070	16640	17930	19460	20930	22410
XJAM-030Z	ZX21KCE		15780	17700	19670	21700	23990	25880	27920	29960	32000
XJAM-040Z	ZX30KCE	19440	21770	24210	26920	29620	32430	35330	37730	40380	43040
XJAM-050Z	ZX38KCE	24580	27480	30340	33360	36630	40040	43760	46450	49630	52800
XJAM-060Z	ZX45KCE	27730	31000	34500	38110	42040	45970	50180	53480	57230	60970
110° Ambient											
XJAM-015Z	ZS11KAE	6330	7220	7900	8100	9600	11000	12100	13300	14400	15600
XJAM-020Z	ZX15KCE			10940	12170	13600	14940	16380	17700	19060	20430
XJAM-030Z	ZX21KCE				17540	19850	21800	23340	25470	27410	29340
XJAM-040Z	ZX30KCE			21910	24400	26830	29490	32180	34650	37210	39780
XJAM-050Z	ZX38KCE		24980	27860	30650	33540	36370	39820	42470	45400	48330
XJAM-060Z	ZX45KCE	23370	27280	31410	34800	38390	42200	45860	49660	53380	57110

Capacities rated at 65°F return gas, 5°F subcooling

R-407A Low Temp

Copeland Scroll Outdoor Refrigeration Units – XJ Series

Model	Compressor	-40	-35	-30	-25	-20	-15	-10	-5	0
90° Ambient										
XJAL-020Z	ZXI06KCE	3742	4361	5147	6076	7120	8254	9453	10689	11937
XJAL-030Z	ZXI09KCE	5735	6537	7698	8998	10422	11953	13575	15269	17022
XJAL-035Z	ZXI11KCE	7173	8417	9816	11356	13024	14805	16685	18652	20691
XJAL-040Z	ZXI14KCE	10387	11920	13592	15403	17352	19439	21664	24026	26526
XJAL-050Z-TFC	ZXI15KCE	10486	12164	13982	15941	18045	20296	22698	25251	27960
XJAL-050Z-CFV	ZXI16KCE	10791	12486	14353	16392	18604	20988	23545	26275	29176
XJAL-060Z	ZXI18KCE	13901	16078	18450	21019	23784	26745	29902	33255	36804
100° Ambient										
XJAL-020Z	ZXI06KCE	3517	4088	4831	5722	6733	7840	9016	10235	11471
XJAL-030Z	ZXI09KCE	5598	6551	7661	8911	10285	11765	13335	14979	16679
XJAL-035Z	ZXI11KCE	6722	7868	9174	10625	12209	13910	15716	17613	19587
XJAL-040Z	ZXI14KCE	9989	11407	12959	14644	16461	18411	20493	22707	25052
XJAL-050Z-TFC	ZXI15KCE	9876	11507	13265	15155	17177	19336	21633	24072	26654
XJAL-050Z-CFV	ZXI16KCE	10385	11933	13664	15578	17675	19956	22419	25066	27895
XJAL-060Z	ZXI18KCE	13301	15272	17477	19916	22590	25497	28640	32016	35627
110° Ambient										
XJAL-020Z	ZXI06KCE	3118	3651	4362	5225	6215	7305	8469	9682	10916
XJAL-030Z	ZXI09KCE	5354	6239	7281	8462	9767	11178	12679	14253	15884
XJAL-035Z	ZXI11KCE	6235	7272	8473	9825	11313	12925	14646	16462	18361
XJAL-040Z	ZXI14KCE	9594	10950	12433	14044	15781	17646	19637	21754	23997
XJAL-050Z-TFC	ZXI15KCE	9071	10643	12331	14140	16070	18125	20307	22619	25064
XJAL-050Z-CFV	ZXI16KCE	9586	11076	12737	14570	16576	18753	21102	23624	26317
XJAL-060Z	ZXI18KCE	12626	14472	16538	18826	21334	24063	27013	30184	33576

Capacities rated at 65°F return gas, 5°F subcooling

R-407A Medium Temp

Copeland Scroll Outdoor Refrigeration Units – XJ Series

Model	Compressor	0	5	10	15	20	25	30	35	40	45
90° Ambient											
XJAM-015Z	ZS11KAE	8250	9180	10200	11300	12500	14000	15400	17000	18700	20600
XJAM-020Z	ZX15KCE			13000	14600	16200	18200	20100	22200	24500	27100
XJAM-030Z	ZX21KCE			19000	21200	23600	26600	29400	32300	35300	38600
XJAM-040Z	ZX30KCE			26200	29400	32700	37100	41000	45000	49200	53500
XJAM-050Z	ZX38KCE			32700	36600	40800	45900	50500	55500	61000	66500
XJAM-060Z	ZX45KCE			37100	41500	46200	52000	57500	63000	69000	75000
100° Ambient											
XJAM-015Z	ZS11KAE	7690	8560	9500	10500	11600	13100	14400	15900	17500	19300
XJAM-020Z	ZX15KCE			13400	14900	16900	18700	20700	22900	25200	28200
XJAM-030Z	ZX21KCE				21800	24600	27200	30000	32800	35900	
XJAM-040Z	ZX30KCE				30200	34500	38100	41800	45800	50000	
XJAM-050Z	ZX38KCE				37600	42600	47000	51500	56500	61500	
XJAM-060Z	ZX45KCE				42600	48300	53000	58500	64000	69500	
110° Ambient											
XJAM-015Z	ZS11KAE	7120	7930	8790	9730	10800	12200	13400	14800	16300	18000
XJAM-020Z	ZX15KCE						15600	17300	19100	21100	23400
XJAM-030Z	ZX21KCE						22600	25000	27600	30200	33100
XJAM-040Z	ZX30KCE							34900	38500	42100	46000
XJAM-050Z	ZX38KCE						39200	43300	47600	52000	57000
XJAM-060Z	ZX45KCE							48900	54000	59000	64000

Capacities rated at 65°F return gas (40°F return gas for capacities in **bold**), 5°F subcooling

R-407C Low Temp

Copeland Scroll Outdoor Refrigeration Units – XJ Series

Model	Compressor	-40	-35	-30	-25	-20	-15	-10	-5	0
90° Ambient										
XJAL-020Z	ZXI06KCE	5046	5061	5769	6433	7408	8405	9407	10393	11342
XJAL-030Z	ZXI09KCE	4831	5801	6882	8072	9368	10766	12265	13861	15551
XJAL-035Z	ZXI11KCE	6663	7698	8887	10224	11705	13324	15076	16957	18961
XJAL-040Z	ZXI14KCE	9664	10971	12469	14151	16007	18029	20208	22534	24999
XJAL-050Z-TFC	ZXI15KCE	9603	11024	12689	14570	16640	18870	21233	23702	26247
XJAL-050Z-CFV	ZXI16KCE	7688	10396	13105	15813	18522	21230	23939	26647	29355
XJAL-060Z	ZXI18KCE	11842	13667	15707	17963	20434	23121	26023	29141	32475
100° Ambient										
XJAL-020Z	ZXI06KCE	4838	4946	5555	6266	7060	7916	8815	9736	10661
XJAL-030Z	ZXI09KCE	4430	5367	6413	7566	8822	10179	11633	13182	14823
XJAL-035Z	ZXI11KCE	6060	7022	8137	9401	10808	12355	14034	15842	17773
XJAL-040Z	ZXI14KCE	9362	10612	12037	13628	15377	17275	19313	21481	23771
XJAL-050Z-TFC	ZXI15KCE	9432	10647	12105	13780	15644	17669	19828	22091	24433
XJAL-050Z-CFV	ZXI16KCE	9336	11268	13335	15536	17871	20339	22942	25679	28549
XJAL-060Z	ZXI18KCE	11146	12936	14916	17085	19444	21993	24731	27658	30776
110° Ambient										
XJAL-020Z	ZXI06KCE	4468	4741	5174	5749	6445	7242	8121	9061	10043
XJAL-030Z	ZXI09KCE	4015	4911	5915	7023	8232	9540	10942	12437	14022
XJAL-035Z	ZXI11KCE	5503	6380	7411	8591	9914	11376	12972	14696	16544
XJAL-040Z	ZXI14KCE	8468	9718	11126	12684	14383	16213	18166	20233	22405
XJAL-050Z-TFC	ZXI15KCE	8709	9793	11121	12666	14400	16295	18325	20460	22673
XJAL-050Z-CFV	ZXI16KCE	9623	11858	13870	15660	17228	18574	19698	20600	21280
XJAL-060Z	ZXI18KCE	10391	12079	13922	15920	18073	20381	22844	25462	28235

Capacities rated at 65°F return gas, 5°F subcooling

Shaded area = 20°F max superheat

R-407C Medium Temp

Copeland Scroll Outdoor Refrigeration Units – XJ Series

Model	Compressor	0	5	10	15	20	25	30	35	40	45
90° Ambient											
XJAM-015Z	ZS11KAE	7010	8070	9180	10300	11500	12800	14100	15500	16900	18400
XJAM-020Z	ZX15KCE	8,640	9,900	11,300	12,800	14,300	16,000	17,800	19,700	21,800	23,900
XJAM-030Z	ZX21KCE			16,300	18,300	20,300	22,500	24,800	27,300	29,900	32,600
XJAM-040Z	ZX30KCE				22,800	25,200	27,800	30,600	33,600	36,700	39,900
XJAM-050Z	ZX38KCE										
XJAM-060Z	ZX45KCE										
100° Ambient											
XJAM-015Z	ZS11KAE	6600	7630	8720	9840	11000	12200	13400	14700	16100	17500
XJAM-020Z	ZX15KCE			10,500	11,900	13,400	15,000	16,800	18,600	20,500	22,600
XJAM-030Z	ZX21KCE						21,200	23,400	25,700	28,200	30,700
XJAM-040Z	ZX30KCE							28,600	31,400	34,400	37,400
XJAM-050Z	ZX38KCE										
XJAM-060Z	ZX45KCE										
110° Ambient											
XJAM-015Z	ZS11KAE	6110	7130	8190	9280	10400	11500	12700	13900	15200	16500
XJAM-020Z	ZX15KCE						14,000	15,600	17,400	19,200	21,200
XJAM-030Z	ZX21KCE									26,400	28,800
XJAM-040Z	ZX30KCE										
XJAM-050Z	ZX38KCE										
XJAM-060Z	ZX45KCE										

Capacities rated at 65°F return gas, 5°F subcooling

Shaded area = 20°F max superheat

Physical and Electrical Data

Copeland Scroll Outdoor Refrigeration Units – XJ Series

Model	Compressor	# of Fans	Overall Dimensions (in)			Refrigerant Connections		Receiver Capacity (Lbs @ 90% Volume)			MCA	Max Fuse*	Defrost Relay Rating** (Amps)	Ship Weight (lbs)
			L	W	H	Liquid	Suction	404A	407A	407C				
XJAL-020Z-CFV-022	ZXI06KCE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S	8.9	10	10	19.4	30	40	188
XJAL-020Z-TFC-022	ZXI06KCE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S	8.9	10	10	14.7	25	40	188
XJAL-030Z-TFC-022	ZXI09KCE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S	8.9	10	10	15.4	25	40	192
XJAL-035Z-CFV-022	ZXI11KCE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S	8.9	10	10	30.7	50	40	213
XJAL-040Z-CFV-022	ZXI14KCE-PFV	2	16.7	40.5	48.9	1/2 S	7/8 S	13.1	14.8	14.7	36.1	60	40	251
XJAL-040Z-TFC-022	ZXI14KCE-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S	13.1	14.8	14.7	24.5	40	40	251
XJAL-050Z-CFV-022	ZXI16KCE-PFV	2	16.7	40.5	48.9	1/2 S	7/8 S	13.1	14.8	14.7	40.4	70	40	287
XJAL-050Z-TFC-022	ZXI15KCE-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S	13.1	14.8	14.7	26.1	45	40	267
XJAL-060Z-TFC-022	ZXI18KCE-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S	13.1	14.8	14.7	30.7	50	40	291
XJAM-015Z-CFV-022	ZS11KAE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S	8.9	10	10	12.3	20	40	180
XJAM-020Z-CFV-022	ZX15KCE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S	8.9	10	10	18.7	30	40	182
XJAM-020Z-TFC-022	ZX15KCE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S	8.9	10	10	11.1	15	40	182
XJAM-030Z-CFV-022	ZX21KCE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S	8.9	10	10	24.3	40	40	194
XJAM-030Z-TFC-022	ZX21KCE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S	8.9	10	10	14.7	25	40	194
XJAM-040Z-CFV-022	ZX30KCE-PFV	2	16.7	40.5	48.9	1/2 S	7/8 S	13.1	14.8	14.7	32.1	50	40	250
XJAM-040Z-TFC-022	ZX30KCE-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S	13.1	14.8	14.7	19.7	30	40	250
XJAM-050Z-CFV-022	ZX38KCE-PFV	2	16.7	40.5	48.9	1/2 S	7/8 S	13.1	14.8	14.7	36.6	60	40	258
XJAM-050Z-TFC-022	ZX38KCE-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S	13.1	14.8	14.7	29.0	50	40	258
XJAM-060Z-TFC-022	ZX45KCE-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S	13.1	14.8	14.7	28.1	45	40	270

* Max Fuse rating applies to the condensing unit only. Additional evaporator fan or defrost heater loads must be considered. See evaporator manufacturer literature for additional load requirements.

** Defrost relay for single phase heaters only. For three-phase heaters, additional contactors are required.

Cross Reference

XJ Series		XF Series	
Model	Compressor	Model	Compressor
XJAL-020Z-CFV-022	ZXI06KCE-PFV	XFAL-020Z-CFV-081	ZXI06KCE-PFV
XJAL-020Z-TFC-022	ZXI06KCE-TF5	XFAL-020Z-TFC-081	ZXI06KCE-TF5
XJAL-030Z-TFC-022	ZXI09KCE-TF5	XFAL-030Z-TFC-081	ZXI09KCE-TF5
XJAL-035Z-CFV-022	ZXI11KCE-PFV	XFAL-035Z-CFV-081	ZXI11KCE-PFV
XJAL-040Z-CFV-022	ZXI14KCE-PFV	XFAL-040Z-CFV-081	ZXI14KCE-PFV
XJAL-040Z-TFC-022	ZXI14KCE-TF5	XFAL-040Z-TFC-081	ZXI14KCE-TF5
XJAL-050Z-CFV-022	ZXI16KCE-PFV	XFAL-051Z-CFV-081	ZXI16KCE-PFV
XJAL-050Z-TFC-022	ZXI15KCE-TF5	XFAL-050Z-TFC-081	ZXI15KCE-TF5
XJAL-060Z-TFC-022	ZXI18KCE-TF5	XFAL-060Z-TFC-081	ZXI18KCE-TF5
None		XFAM-015Z-CFV-081	ZS09KAE-PFV
None		XFAM-015Z-TFC-081	ZS09KAE-TF5
XJAM-015Z-CFV-022	ZS11KAE-PFV	XFAM-017Z-CFV-081	ZS11KAE-PFV
None		XFAM-017Z-TFC-081	ZS11KAE-TF5
XJAM-020Z-CFV-022	ZX15KCE-PFV	XFAM-022Z-CFV-081	ZS15KAE-PFV
XJAM-020Z-TFC-022	ZX15KCE-TF5	XFAM-022Z-TFC-081	ZS15KAE-TF5
XJAM-030Z-CFV-022	ZX21KCE-PFV	XFAM-030Z-CFV-081	ZS21KAE-PFV
XJAM-030Z-TFC-022	ZX21KCE-TF5	XFAM-030Z-TFC-081	ZS21KAE-TF5
XJAM-040Z-CFV-022	ZX30KCE-PFV	XFAM-045Z-CFV-081	ZS33KAE-PFV
XJAM-040Z-TFC-022	ZX30KCE-TF5	XFAM-045Z-TFC-081	ZS33KAE-TF5
XJAM-050Z-CFV-022	ZX38KCE-PFV	XFAM-050Z-CFV-081	ZS38K4E-PFV
XJAM-050Z-TFC-022	ZX38KCE-TF5	XFAM-050Z-TFC-081	ZS38K4E-TF5
XJAM-060Z-TFC-022	ZX45KCE-TF5	XFAM-060Z-TFC-081	ZS45K4E-TF5

XJAM models will automatically transition to XFAM models.

XFAP models may be selected instead of XFAM models for an additional charge.

Physical and Electrical Data

Copeland Scroll Outdoor Refrigeration Units – XF Series

Model	Compressor	# of Fans	Overall Dimensions (in)			Refrigerant Connections	
			L	W	H	Liquid	Suction
XFAL-020Z-CFV	ZXI06KCE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAL-020Z-TFC	ZXI06KCE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAL-030Z-TFC	ZXI09KCE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAL-035Z-CFV	ZXI11KCE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAL-040Z-CFV	ZXI14KCE-PFV	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAL-040Z-TFC	ZXI14KCE-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAL-050Z-TFC	ZXI15KCE-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAL-051Z-CFV	ZXI16KCE-PFV	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAL-060Z-TFC	ZXI18KCE-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAM-015Z-CFV	ZS09KAE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAM-015Z-TFC	ZS09KAE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAM-017Z-CFV	ZS11KAE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAM-017Z-TFC	ZS11KAE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAM-022Z-CFV	ZS15KAE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAM-022Z-TFC	ZS15KAE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAM-030Z-CFV	ZS21KAE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAM-030Z-TFC	ZS21KAE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAM-045Z-CFV	ZS33KAE-PFV	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAM-045Z-TFC	ZS33KAE-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAM-050Z-CFV	ZS38K4E-PFV	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAM-050Z-TFC	ZS38K4E-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAM-060Z-TFC	ZS45K4E-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAP-015Z-CFV	ZS09KAE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAP-015Z-TFC	ZS09KAE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAP-017Z-CFV	ZS11KAE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAP-017Z-TFC	ZS11KAE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAP-022Z-CFV	ZS15KAE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAP-022Z-TFC	ZS15KAE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAP-030Z-CFV	ZS21KAE-PFV	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAP-030Z-TFC	ZS21KAE-TF5	1	16.7	40.5	33.1	1/2 S	7/8 S
XFAP-045Z-CFV	ZS33KAE-PFV	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAP-045Z-TFC	ZS33KAE-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAP-050Z-CFV	ZS38K4E-PFV	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAP-050Z-TFC	ZS38K4E-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S
XFAP-060Z-TFC	ZS45K4E-TF5	2	16.7	40.5	48.9	1/2 S	7/8 S

* R-448A and R-449A volumes shown for reference only. Refrigerant approval is expected mid-2016. Visit EmersonClimate.com/opi or contact your Emerson sales representative for the latest updates on refrigerant approvals and availability.

** Max Fuse rating applies to the condensing unit only. Additional evaporator fan or defrost heater loads must be considered. See evaporator manufacturer literature for additional load requirements.

† Defrost relay for single phase heaters only. For three-phase heaters, additional contactors are required.

Physical and Electrical Data

Copeland Scroll Outdoor Refrigeration Units – XF Series

Model	Receiver Capacity (Lbs @ 90% Volume)								MCA	Max Fuse*	Defrost Relay Rating† (Amps)	Ship Weight (lbs)
	R-134a	R-22	R-404A	R-407A	R-407C	R-507A	R-448A*	R-449A*				
XFAL-020Z-CFV	N/A	N/A	9.1	10	10	9.1	9.7	9.7	21.55	35	40	246
XFAL-020Z-TFC	N/A	N/A	9.1	10	10	9.1	9.7	9.7	16.18	25	40	246
XFAL-030Z-TFC	N/A	N/A	9.1	10	10	9.1	9.7	9.7	17.18	25	40	246
XFAL-035Z-CFV	N/A	N/A	9.1	10	10	9.1	9.7	9.7	34.05	50	40	272
XFAL-040Z-CFV	N/A	N/A	13.4	14.8	14.7	13.4	14.2	14.3	40.1	60	40	274
XFAL-040Z-TFC	N/A	N/A	13.4	14.8	14.7	13.4	14.2	14.3	27.1	45	40	312
XFAL-050Z-TFC	N/A	N/A	13.4	14.8	14.7	13.4	14.2	14.3	28.85	45	40	323
XFAL-051Z-CFV	N/A	N/A	13.4	14.8	14.7	13.4	14.2	14.3	44.73	70	40	343
XFAL-060Z-TFC	N/A	N/A	13.4	14.8	14.7	13.4	14.2	14.3	33.98	50	40	341
XFAM-015Z-CFV	10.7	10.5	9.1	10	10	9.1	9.7	9.7	13.55	20	40	218
XFAM-015Z-TFC	10.7	10.5	9.1	10	10	9.1	9.7	9.7	11.05	15	40	219
XFAM-017Z-CFV	10.7	10.5	9.1	10	10	9.1	9.7	9.7	16.8	25	40	219
XFAM-017Z-TFC	10.7	10.5	9.1	10	10	9.1	9.7	9.7	14.05	20	40	219
XFAM-022Z-CFV	10.7	10.5	9.1	10	10	9.1	9.7	9.7	20.68	35	40	220
XFAM-022Z-TFC	10.7	10.5	9.1	10	10	9.1	9.7	9.7	14.3	20	40	219
XFAM-030Z-CFV	10.7	10.5	9.1	10	10	9.1	9.7	9.7	30.05	50	40	236
XFAM-030Z-TFC	10.7	10.5	9.1	10	10	9.1	9.7	9.7	20.05	30	40	236
XFAM-045Z-CFV	15.7	15.5	13.4	14.8	14.7	13.4	14.2	14.3	37.35	60	40	285
XFAM-045Z-TFC	15.7	15.5	13.4	14.8	14.7	13.4	14.2	14.3	29.98	50	40	280
XFAM-050Z-CFV	15.7	15.5	13.4	14.8	14.7	13.4	14.2	14.3	41.85	70	40	292
XFAM-050Z-TFC	15.7	15.5	13.4	14.8	14.7	13.4	14.2	14.3	28.85	45	40	292
XFAM-060Z-TFC	15.7	15.5	13.4	14.8	14.7	13.4	14.2	14.3	31.98	50	40	299
XFAP-015Z-CFV	10.7	10.5	9.1	10	10	9.1	9.7	9.7	13.55	20	40	233
XFAP-015Z-TFC	10.7	10.5	9.1	10	10	9.1	9.7	9.7	11.05	15	40	234
XFAP-017Z-CFV	10.7	10.5	9.1	10	10	9.1	9.7	9.7	16.8	25	40	234
XFAP-017Z-TFC	10.7	10.5	9.1	10	10	9.1	9.7	9.7	14.05	20	40	234
XFAP-022Z-CFV	10.7	10.5	9.1	10	10	9.1	9.7	9.7	20.68	35	40	235
XFAP-022Z-TFC	10.7	10.5	9.1	10	10	9.1	9.7	9.7	14.3	20	40	234
XFAP-030Z-CFV	10.7	10.5	9.1	10	10	9.1	9.7	9.7	30.05	50	40	251
XFAP-030Z-TFC	10.7	10.5	9.1	10	10	9.1	9.7	9.7	20.05	30	40	251
XFAP-045Z-CFV	15.7	15.5	13.4	14.8	14.7	13.4	14.2	14.3	37.35	60	40	300
XFAP-045Z-TFC	15.7	15.5	13.4	14.8	14.7	13.4	14.2	14.3	29.98	50	40	295
XFAP-050Z-CFV	15.7	15.5	13.4	14.8	14.7	13.4	14.2	14.3	41.85	70	40	307
XFAP-050Z-TFC	15.7	15.5	13.4	14.8	14.7	13.4	14.2	14.3	28.85	45	40	307
XFAP-060Z-TFC	15.7	15.5	13.4	14.8	14.7	13.4	14.2	14.3	31.98	50	40	314

* R-448A and R-449A volumes shown for reference only. Refrigerant approval is expected mid-2016. Visit EmersonClimate.com/opi or contact your Emerson sales representative for the latest updates on refrigerant approvals and availability.

** Max Fuse rating applies to the condensing unit only. Additional evaporator fan or defrost heater loads must be considered. See evaporator manufacturer literature for additional load requirements.

† Defrost relay for single phase heaters only. For three-phase heaters, additional contactors are required.

R-134a Medium Temp

Copeland Scroll Outdoor Refrigeration Units – XF Series

Model	Compressor	0	5	10	15	20	25	30	35	40	45
90° Ambient											
XFAM-015Z	ZS09KAE	4,380	4,970	5,600	6,300	7,050	7,870	8,860	9,820	10,900	12,000
XFAM-017Z	ZS11KAE	5,210	5,900	6,650	7,470	8,360	9,320	10,500	11,600	12,800	14,200
XFAM-022Z	ZS15KAE	7,100	8,030	9,040	10,100	11,300	12,600	14,200	15,700	17,300	19,000
XFAM-030Z	ZS21KAE	10,600	11,900	13,400	14,900	16,600	18,400	20,700	22,800	25,100	27,500
XFAM-045Z	ZS33KAE	14,200	16,000	17,900	20,000	22,100	24,500	27,500	30,100	33,000	36,000
XFAM-050Z	ZS38K4E	16,200	18,100	20,300	22,500	24,900	27,500	30,900	33,800	36,900	40,200
XFAM-060Z	ZS45K4E	19,500	21,900	24,400	27,000	29,900	32,900	36,100	39,500	43,100	46,800
100° Ambient											
XFAM-015Z	ZS09KAE	4,150	4,700	5,300	5,950	6,660	7,430	8,400	9,310	10,300	11,400
XFAM-017Z	ZS11KAE	4,940	5,590	6,300	7,060	7,900	8,800	9,950	11,000	12,200	13,400
XFAM-022Z	ZS15KAE	6,730	7,610	8,560	9,590	10,700	11,900	13,400	14,900	16,400	18,000
XFAM-030Z	ZS21KAE	10,000	11,300	12,700	14,100	15,700	17,400	19,700	21,700	23,800	26,100
XFAM-045Z	ZS33KAE	13,500	15,200	17,000	18,900	20,900	23,100	26,000	28,500	31,200	34,100
XFAM-050Z	ZS38K4E	15,300	17,100	19,100	21,300	23,500	26,000	29,300	32,100	35,000	38,100
XFAM-060Z	ZS45K4E	18,500	20,700	23,100	25,600	28,300	31,200	34,200	37,400	40,800	44,300
110° Ambient											
XFAM-015Z	ZS09KAE	3,920	4,440	5,000	5,610	6,270	6,990	7,930	8,800	9,730	10,700
XFAM-017Z	ZS11KAE	4,660	5,270	5,930	6,650	7,430	8,280	9,400	10,400	11,500	12,700
XFAM-022Z	ZS15KAE	6,340	7,160	8,050	9,020	10,100	11,200	12,700	14,000	15,500	17,000
XFAM-030Z	ZS21KAE		10,600	11,900	13,300	14,800	16,400	18,500	20,400	22,400	24,600
XFAM-045Z	ZS33KAE		14,200	15,900	17,700	19,600	21,600	24,400	26,800	29,300	32,000
XFAM-050Z	ZS38K4E	14,400	16,100	18,000	20,000	22,100	24,400	27,600	30,200	33,000	
XFAM-060Z	ZS45K4E	17,500	19,600	21,800	24,200	26,700	29,400	32,200			

Capacities rated at 40°F return gas (65°F return gas for capacities in **bold**), 5°F subcooling

All capacities shown for XFAM models also apply to XFAP models

Shaded area = 20°F max superheat

R-22 Medium Temp

Copeland Scroll Outdoor Refrigeration Units – XF Series

Model	Compressor	0	5	10	15	20	25	30	35	40	45
90° Ambient											
XFAM-015Z	ZS09KAE	7,160	8,130	9,120	10,200	11,200	12,400	13,500	14,800	16,200	18,000
XFAM-017Z	ZS11KAE	8,370	9,500	10,700	11,900	13,100	14,500	15,800	17,300	18,900	20,900
XFAM-022Z	ZS15KAE	11,100	12,600	14,100	15,700	17,400	19,100	20,800	22,800	24,900	27,500
XFAM-030Z	ZS21KAE	16,400	18,600	20,800	23,100	25,400	27,900	30,400	33,100	36,000	39,500
XFAM-045Z	ZS33KAE	21,800	24,700	27,500	30,500	33,500	36,600	39,800	43,200	46,700	50,500
XFAM-050Z	ZS38K4E			30,900	33,800	36,900	40,100	43,600	47,200	51,000	54,500
XFAM-060Z	ZS45K4E			36,500	40,000	43,700	47,500	51,500	56,000	60,000	
100° Ambient											
XFAM-015Z	ZS09KAE	6,710	7,650	8,620	9,610	10,700	11,800	12,900	14,100	15,400	17,100
XFAM-017Z	ZS11KAE	7,840	8,940	10,100	11,200	12,400	13,700	15,000	16,400	18,000	19,900
XFAM-022Z	ZS15KAE	10,400	11,900	13,300	14,900	16,500	18,100	19,800	21,700	23,700	26,100
XFAM-030Z	ZS21KAE		17,400	19,600	21,800	24,100	26,400	28,800	31,400	34,200	37,600
XFAM-045Z	ZS33KAE			25,900	28,700	31,600	34,600	37,700	40,900	44,300	47,800
XFAM-050Z	ZS38K4E					38,000	38,000	41,400	44,700		
XFAM-060Z	ZS45K4E										
110° Ambient											
XFAM-015Z	ZS09KAE		7,150	8,090	9,050	10,100	11,100	12,200	13,400	14,600	16,200
XFAM-017Z	ZS11KAE		8,340	9,440	10,600	11,700	12,900	14,200	15,600	17,000	18,900
XFAM-022Z	ZS15KAE			12,500	14,000	15,500	17,100	18,700	20,500	22,400	24,700
XFAM-030Z	ZS21KAE				20,500	22,600	24,900	27,300	29,700	32,400	35,600
XFAM-045Z	ZS33KAE					29,700	32,600	35,500	38,500	41,700	45,100
XFAM-050Z	ZS38K4E										
XFAM-060Z	ZS45K4E							48,900			

Capacities rated at 40°F return gas (65°F return gas for capacities in **bold**), 5°F subcooling

All capacities shown for XFAM models also apply to XFAP models

R-404A Low Temp

Copeland Scroll Outdoor Refrigeration Units – XF Series

Model	Compressor	-40	-35	-30	-25	-20	-15	-10	-5	0
90° Ambient										
XFAL-020Z	ZXI06KCE	5,700	6,960	8,210	9,450	10,690	11,920	13,140	14,360	15,570
XFAL-030Z	ZXI09KCE-TF5	7,840	9,390	10,950	12,500	14,060	15,620	17,170	18,730	20,280
XFAL-035Z	ZXI11KCE-PFV	9,700	11,100	12,600	14,200	15,900	17,700	19,700	21,700	23,900
XFAL-040Z	ZXI14KCE	12,690	14,430	16,280	18,240	20,300	22,470	24,740	27,120	29,610
XFAL-050Z	ZXI15KCE-TF5	14,030	16,040	18,140	20,350	22,660	25,060	27,570	30,170	32,880
XFAL-051Z	ZXI16KCE-PFV	14,030	16,040	18,140	20,350	22,660	25,060	27,570	30,170	32,880
XFAL-060Z	ZXI18KCE	18,000	20,500	23,000	25,700	28,600	31,600	34,700	38,100	41,500
100° Ambient										
XFAL-020Z	ZXI06KCE	5,640	6,840	8,020	9,200	10,370	11,530	12,680	13,830	14,970
XFAL-030Z	ZXI09KCE-TF5	6,940	8,520	10,100	11,680	13,260	14,840	16,420	18,000	19,580
XFAL-035Z	ZXI11KCE-PFV	9,090	10,300	11,700	13,100	14,700	16,300	18,100	20,000	21,900
XFAL-040Z	ZXI14KCE	12,370	13,980	15,710	17,540	19,480	21,530	23,680	25,940	28,300
XFAL-050Z	ZXI15KCE-TF5	13,110	14,960	16,900	18,940	21,080	23,320	25,660	28,100	30,640
XFAL-051Z	ZXI16KCE-PFV	13,110	14,960	16,900	18,940	21,080	23,320	25,660	28,100	30,640
XFAL-060Z	ZXI18KCE	17,240	19,480	21,930	24,380	27,030	29,780	32,740	35,800	38,200
110° Ambient										
XFAL-020Z	ZXI06KCE	5,500	6,610	7,710	8,810	9,890	10,970	12,040	13,100	14,160
XFAL-030Z	ZXI09KCE-TF5	5,830	7,420	9,010	10,590	12,180	13,770	15,350	16,940	18,530
XFAL-035Z	ZXI11KCE-PFV	9,020	10,140	11,340	12,720	14,200	15,690	17,380	19,190	21,090
XFAL-040Z	ZXI14KCE	11,850	13,350	14,950	16,660	18,480	20,400	22,420	24,560	26,800
XFAL-050Z	ZXI15KCE-TF5	11,920	13,590	15,370	17,250	19,220	21,300	23,470	25,740	28,110
XFAL-051Z	ZXI16KCE-PFV	11,920	13,590	15,370	17,250	19,220	21,300	23,470	25,740	28,110
XFAL-060Z	ZXI18KCE	16,170	18,330	20,500	22,760	25,130	27,600	30,200	32,960	34,700

Capacities rated at 65°F return gas, 5°F subcooling

R-404A Med/Ext Med Temp

Copeland Scroll Outdoor Refrigeration Units – XF Series

Model	Compressor	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45
90° Ambient																
XFAM-015Z	ZS09KAE						7400	8260	9200	10200	11300	12500	14100	15400	16900	18400
XFAP-015Z	ZS09KAE	4130	4670	5260	5910	6620	7400	8260	9200	10200	11300	12500	14100	15400	16900	18400
XFAM-017Z	ZS11KAE						8880	9900	11000	12200	13500	14900	16800	18400	20000	21800
XFAP-017Z	ZS11KAE	4970	5610	6320	7100	7950	8880	9900	11000	12200	13500	14900	16800	18400	20000	21800
XFAM-022Z	ZS15KAE						12000	13400	14800	16400	18100	20000	22300	24300	26400	28600
XFAP-022Z	ZS15KAE	6770	7640	8600	9640	10800	12000	13400	14800	16400	18100	20000	22300	24300	26400	28600
XFAM-030Z	ZS21KAE						17600	19600	21600	23900	26200	28800	31800	34500	37200	40100
XFAP-030Z	ZS21KAE	10100	11300	12700	14200	15900	17600	19600	21600	23900	26200	28800	31800	34500	37200	40100
XFAM-045Z	ZS33KAE						24400	27100	30000	33100	36400	40000	44500	48200	52000	56000
XFAP-045Z	ZS33KAE	13900	15700	17600	19700	22000	24400	27100	30000	33100	36400	40000	44500	48200	52000	56000
XFAM-050Z	ZS38K4E						29100	32000	35200	38500	42100	45800	51500	56000	60500	65000
XFAP-050Z	ZS38K4E	17100	19200	21400	23800	26300	29100	32000	35200	38500	42100	45800	51500	56000	60500	65000
XFAM-060Z	ZS45K4E						34500	37900	41500	45400	49500	54000	60500	65500	70500	76000
XFAP-060Z	ZS45K4E	20600	23000	25600	28300	31300	34500	37900	41500	45400	49500	54000	60500	65500	70500	76000
100° Ambient																
XFAM-015Z	ZS09KAE						6850	7630	8490	9420	10400	11500	12900	14100	15400	16800
XFAP-015Z	ZS09KAE	3860	4350	4890	5490	6140	6850	7630	8490	9420	10400	11500	12900	14100	15400	16800
XFAM-017Z	ZS11KAE						8220	9140	10200	11300	12500	13700	15400	16800	18300	19900
XFAP-017Z	ZS11KAE	4650	5240	5880	6590	7370	8220	9140	10200	11300	12500	13700	15400	16800	18300	19900
XFAM-022Z	ZS15KAE						11100	12300	13700	15100	16700	18400	20500	22300	24100	26100
XFAP-022Z	ZS15KAE	6330	7130	7990	8940	9980	11100	12300	13700	15100	16700	18400	20500	22300	24100	26100
XFAM-030Z	ZS21KAE						16300	18000	19900	21900	24000	26400	29300	31600	34100	36700
XFAP-030Z	ZS21KAE	9410	10600	11800	13200	14700	16300	18000	19900	21900	24000	26400	29300	31600	34100	36700
XFAM-045Z	ZS33KAE						22500	25000	27600	30400	33400	36700	41000	44300	47800	51500
XFAP-045Z	ZS33KAE	13000	14600	16400	18300	20300	22500	25000	27600	30400	33400	36700	41000	44300	47800	51500
XFAM-050Z	ZS38K4E						26600	29300	32200	35200	38400	41800	47400	51500	55500	60000
XFAP-050Z	ZS38K4E	15800	17700	19700	21800	24100	26600	29300	32200	35200	38400	41800	47400	51500	55500	60000
XFAM-060Z	ZS45K4E						31700	34700	38000	41500	45200	49100	55500	60500	65000	70000
XFAP-060Z	ZS45K4E	19100	21300	23600	26100	28800	31700	34700	38000	41500	45200	49100	55500	60500	65000	70000
110° Ambient																
XFAM-015Z	ZS09KAE						6260	6960	7730	8570	9480	10500	11800	12900	14000	15200
XFAP-015Z	ZS09KAE	3570	4010	4500	5030	5620	6260	6960	7730	8570	9480	10500	11800	12900	14000	15200
XFAM-017Z	ZS11KAE						7500	8330	9240	10200	11300	12500	14100	15400	16700	18100
XFAP-017Z	ZS11KAE	4290	4830	5410	6040	6740	7500	8330	9240	10200	11300	12500	14100	15400	16700	18100
XFAM-022Z	ZS15KAE						10100	11200	12400	13700	15100	16700	18800	20400	22100	23800
XFAP-022Z	ZS15KAE	5850	6560	7340	8190	9110	10100	11200	12400	13700	15100	16700	18800	20400	22100	23800
XFAM-030Z	ZS21KAE						14800	16300	18000	19800	21700	23800	27100	29200	31400	33700
XFAP-030Z	ZS21KAE	8670	9710	10800	12000	13400	14800	16300	18000	19800	21700	23800	27100	29200	31400	33700
XFAM-045Z	ZS33KAE						20500	22600	25000	27500	30200	33200	38000	41000	44100	47400
XFAP-045Z	ZS33KAE	12000	13400	15000	16700	18500	20500	22600	25000	27500	30200	33200	38000	41000	44100	47400
XFAM-050Z	ZS38K4E						24100	26500	29000	31700	34600	37700	43200	46900	50500	55000
XFAP-050Z	ZS38K4E	14400	16000	17800	19800	21800	24100	26500	29000	31700	34600	37700	43200	46900	50500	55000
XFAM-060Z	ZS45K4E						28700	31500	34400	37500	40800	44400	51000	55000	59500	64000
XFAP-060Z	ZS45K4E	17500	19500	21600	23800	26200	28700	31500	34400	37500	40800	44400	51000	55000	59500	64000

Capacities rated at 40°F return gas (65°F return gas for capacities in **bold**), 5°F subcooling

R-407A Low Temp

Copeland Scroll Outdoor Refrigeration Units – XF Series

Model	Compressor	-40	-35	-30	-25	-20	-15	-10	-5	0
90° Ambient										
XFAL-020Z	ZXI06KCE	3,742	4,361	5,147	6,076	7,120	8,254	9,453	10,689	11,937
XFAL-030Z	ZXI09KCE	5,735	6,537	7,698	8,998	10,422	11,953	13,575	15,269	17,022
XFAL-035Z	ZXI11KCE	7,173	8,417	9,816	11,356	13,024	14,805	16,685	18,652	20,691
XFAL-040Z	ZXI14KCE	10,387	11,920	13,592	15,403	17,352	19,439	21,664	24,026	26,526
XFAL-050Z-TFC	ZXI15KCE	10,486	12,164	13,982	15,941	18,045	20,296	22,698	25,251	27,960
XFAL-051Z-CFV	ZXI16KCE	10,791	12,486	14,353	16,392	18,604	20,988	23,545	26,275	29,176
XFAL-060Z	ZXI18KCE	13,901	16,078	18,450	21,019	23,784	26,745	29,902	33,255	36,804
100° Ambient										
XFAL-020Z	ZXI06KCE	3,517	4,088	4,831	5,722	6,733	7,840	9,016	10,235	11,471
XFAL-030Z	ZXI09KCE	5,598	6,551	7,661	8,911	10,285	11,765	13,335	14,979	16,679
XFAL-035Z	ZXI11KCE	6,722	7,868	9,174	10,625	12,209	13,910	15,716	17,613	19,587
XFAL-040Z	ZXI14KCE	9,989	11,407	12,959	14,644	16,461	18,411	20,493	22,707	25,052
XFAL-050Z-TFC	ZXI15KCE	9,876	11,507	13,265	15,155	17,177	19,336	21,633	24,072	26,654
XFAL-051Z-CFV	ZXI16KCE	10,385	11,933	13,664	15,578	17,675	19,956	22,419	25,066	27,895
XFAL-060Z	ZXI18KCE	13,301	15,272	17,477	19,916	22,590	25,497	28,640	32,016	35,627
110° Ambient										
XFAL-020Z	ZXI06KCE	3,118	3,651	4,362	5,225	6,215	7,305	8,469	9,682	10,916
XFAL-030Z	ZXI09KCE	5,354	6,239	7,281	8,462	9,767	11,178	12,679	14,253	15,884
XFAL-035Z	ZXI11KCE	6,235	7,272	8,473	9,825	11,313	12,925	14,646	16,462	18,361
XFAL-040Z	ZXI14KCE	9,594	10,950	12,433	14,044	15,781	17,646	19,637	21,754	23,997
XFAL-050Z-TFC	ZXI15KCE	9,071	10,643	12,331	14,140	16,070	18,125	20,307	22,619	25,064
XFAL-051Z-CFV	ZXI16KCE	9,586	11,076	12,737	14,570	16,576	18,753	21,102	23,624	26,317
XFAL-060Z	ZXI18KCE	12,626	14,472	16,538	18,826	21,334	24,063	27,013	30,184	33,576

Capacities rated at 65°F return gas, 5°F subcooling

R-407A Medium Temp

Copeland Scroll Outdoor Refrigeration Units – XF Series

Model	Compressor	0	5	10	15	20	25	30	35	40	45
90° Ambient											
XFAM-015Z	ZS09KAE	6,940	7,730	8,590	9,520	10,500	11,800	13,000	14,400	15,900	17,500
XFAM-017Z	ZS11KAE	8,240	9,180	10,200	11,300	12,500	14,000	15,400	17,000	18,700	20,600
XFAM-022Z	ZS15KAE	11,200	12,500	13,800	15,300	16,900	18,800	20,800	22,800	25,100	27,500
XFAM-030Z	ZS21KAE	16,400	18,100	20,100	22,100	24,400	27,200	29,900	32,800	35,900	39,200
XFAM-045Z	ZS33KAE	23,000	25,500	28,200	31,100	34,200	38,200	41,900	45,900	50,500	55,000
XFAM-050Z	ZS38K4E	26,100	29,400	32,800	36,500	40,300	45,000	49,200	53,500	58,000	62,500
XFAM-060Z	ZS45K4E	31,200	35,000	39,000	43,300	47,800	53,500	58,000	63,500	68,500	74,000
100° Ambient											
XFAM-015Z	ZS09KAE	6,480	7,210	8,010	8,880	9,820	11,100	12,200	13,500	14,900	16,400
XFAM-017Z	ZS11KAE	7,690	8,560	9,490	10,500	11,600	13,100	14,400	15,900	17,500	19,300
XFAM-022Z	ZS15KAE	10,400	11,600	12,900	14,200	15,700	17,600	19,400	21,300	23,500	25,800
XFAM-030Z	ZS21KAE	15,200	16,900	18,600	20,600	22,600	25,400	27,800	30,500	33,400	36,600
XFAM-045Z	ZS33KAE	21,400	23,700	26,200	28,800	31,700	35,600	39,000	42,800	46,900	51,500
XFAM-050Z	ZS38K4E	24,300	27,300	30,600	34,000	37,600	42,200	46,200	50,500	54,500	59,000
XFAM-060Z	ZS45K4E	29,100	32,600	36,400	40,400	44,600	50,000	54,500	59,500	64,500	69,500
110° Ambient											
XFAM-015Z	ZS09KAE	6,000	6,680	7,420	8,210	9,090	10,300	11,400	12,500	13,800	15,300
XFAM-017Z	ZS11KAE	7,120	7,920	8,790	9,720	10,700	12,100	13,400	14,800	16,300	18,000
XFAM-022Z	ZS15KAE	9,660	10,700	11,900	13,100	14,500	16,300	18,000	19,800	21,800	23,900
XFAM-030Z	ZS21KAE	14,100	15,600	17,200	19,000	20,800	23,500	25,800	28,300	31,000	33,900
XFAM-045Z	ZS33KAE	19,700	21,900	24,100	26,600	29,200	32,900	36,100	39,600	43,400	47,600
XFAM-050Z	ZS38K4E	22,400	25,300	28,300	31,500	34,900	39,400	43,100	47,000	51,000	55,000
XFAM-060Z	ZS45K4E	26,900	30,200	33,700	37,500	41,400	46,700	51,000	55,500	60,500	65,000

Capacities rated at 65°F return gas (40°F return gas for capacities in **bold**), 5°F subcooling

Superheat restrictions apply. See AE bulletin 4-1387 for full compressor operating envelope.

All capacities shown for XFAM models also apply to XFAP models

R-407C Low Temp

Copeland Scroll Outdoor Refrigeration Units – XF Series

Model	Compressor	-40	-35	-30	-25	-20	-15	-10	-5	0
90° Ambient										
XFAL-020Z	ZXI06KCE	5,046	5,061	5,769	6,433	7,408	8,405	9,407	10,393	11,342
XFAL-030Z	ZXI09KCE	4,831	5,801	6,882	8,072	9,368	10,766	12,265	13,861	15,551
XFAL-035Z	ZXI11KCE	6,663	7,698	8,887	10,224	11,705	13,324	15,076	16,957	18,961
XFAL-040Z	ZXI14KCE	9,664	10,971	12,469	14,151	16,007	18,029	20,208	22,534	24,999
XFAL-050Z-TFC	ZXI15KCE	9,603	11,024	12,689	14,570	16,640	18,870	21,233	23,702	26,247
XFAL-051Z-CFV	ZXI16KCE	7,688	10,396	13,105	15,813	18,522	21,230	23,939	26,647	29,355
XFAL-060Z	ZXI18KCE	11,842	13,667	15,707	17,963	20,434	23,121	26,023	29,141	32,475
100° Ambient										
XFAL-020Z	ZXI06KCE	4,838	4,946	5,555	6,266	7,060	7,916	8,815	9,736	10,661
XFAL-030Z	ZXI09KCE	4,430	5,367	6,413	7,566	8,822	10,179	11,633	13,182	14,823
XFAL-035Z	ZXI11KCE	6,060	7,022	8,137	9,401	10,808	12,355	14,034	15,842	17,773
XFAL-040Z	ZXI14KCE	9,362	10,612	12,037	13,628	15,377	17,275	19,313	21,481	23,771
XFAL-050Z-TFC	ZXI15KCE	9,432	10,647	12,105	13,780	15,644	17,669	19,828	22,091	24,433
XFAL-051Z-CFV	ZXI16KCE	9,336	11,268	13,335	15,536	17,871	20,339	22,942	25,679	28,549
XFAL-060Z	ZXI18KCE	11,146	12,936	14,916	17,085	19,444	21,993	24,731	27,658	30,776
110° Ambient										
XFAL-020Z	ZXI06KCE	4,468	4,741	5,174	5,749	6,445	7,242	8,121	9,061	10,043
XFAL-030Z	ZXI09KCE	4,015	4,911	5,915	7,023	8,232	9,540	10,942	12,437	14,022
XFAL-035Z	ZXI11KCE	5,503	6,380	7,411	8,591	9,914	11,376	12,972	14,696	16,544
XFAL-040Z	ZXI14KCE	8,468	9,718	11,126	12,684	14,383	16,213	18,166	20,233	22,405
XFAL-050Z-TFC	ZXI15KCE	8,709	9,793	11,121	12,666	14,400	16,295	18,325	20,460	22,673
XFAL-051Z-CFV	ZXI16KCE	9,623	11,858	13,870	15,660	17,228	18,574	19,698	20,600	21,280
XFAL-060Z	ZXI18KCE	10,391	12,079	13,922	15,920	18,073	20,381	22,844	25,462	28,235

Capacities rated at 65°F return gas, 5°F subcooling

Shaded area = 20°F max superheat

R-407C Medium Temp

Copeland Scroll Outdoor Refrigeration Units – XF Series

Model	Compressor	0	5	10	15	20	25	30	35	40	45
90° Ambient											
XFAM-015Z	ZS09KAE	5,960	6,890	7,860	8,870	9,940	11,200	12,400	13,600	15,000	16,400
XFAM-017Z	ZS11KAE	7,090	8,190	9,340	10,500	11,800	13,300	14,700	16,100	17,700	19,300
XFAM-022Z	ZS15KAE	9,660	11,100	12,700	14,300	16,000	17,900	19,800	21,800	23,800	26,000
XFAM-030Z	ZS21KAE	14,400	16,600	18,900	21,200	23,700	26,500	29,200	32,000	34,900	37,900
XFAM-045Z	ZS33KAE	19,700	22,700	25,900	29,100	32,500	36,400	40,100	44,000	47,900	52,000
XFAM-050Z	ZS38K4E	25,900	29,100	32,500	36,100	39,900	43,100	47,800	52,500	57,500	62,500
XFAM-060Z	ZS45K4E	30,900	34,700	38,700	42,900	47,300	52,500	57,500	62,500	67,500	73,000
100° Ambient											
XFAM-015Z	ZS09KAE	5,580	6,480	7,420	8,390	9,400	10,600	11,700	12,900	14,100	15,400
XFAM-017Z	ZS11KAE	6,630	7,700	8,810	9,960	11,200	12,600	13,900	15,300	16,700	18,300
XFAM-022Z	ZS15KAE	9,020	10,500	12,000	13,500	15,100	17,000	18,800	20,600	22,500	24,500
XFAM-030Z	ZS21KAE	13,400	15,600	17,800	20,000	22,400	25,100	27,600	30,200	32,900	35,700
XFAM-045Z	ZS33KAE	18,300	21,300	24,300	27,400	30,700	34,500	38,000	41,600	45,300	49,200
XFAM-050Z	ZS38K4E	24,100	27,100	30,300	33,700	37,300	40,100	44,600	49,300	54,000	58,500
XFAM-060Z	ZS45K4E	28,900	32,400	36,100	40,100	44,200	49,400	54,000	58,500	63,500	68,500
110° Ambient											
XFAM-015Z	ZS09KAE	5,160	6,050	6,960	7,900	8,860	10,000	11,100	12,200	13,400	14,600
XFAM-017Z	ZS11KAE	6,130	7,180	8,260	9,370	10,500	11,900	13,100	14,400	15,800	17,200
XFAM-022Z	ZS15KAE	8,310	9,740	11,200	12,700	14,200	16,100	17,700	19,400	21,200	23,100
XFAM-030Z	ZS21KAE	12,300	14,400	16,600	18,700	21,000	23,700	26,000	28,500	31,000	33,600
XFAM-045Z	ZS33KAE	16,800	19,700	22,700	25,700	28,800	32,600	35,800	39,200	42,700	46,300
XFAM-050Z	ZS38K4E	22,300	25,100	28,100	31,300	34,600	37,000	41,300	45,700	50,000	54,500
XFAM-060Z	ZS45K4E	26,800	30,000	33,500	37,200	41,100	46,100	50,500	55,000	59,500	64,000

Capacities rated at 65°F return gas (40°F return gas for capacities in **bold**), 5°F subcooling

Superheat restrictions apply. See AE bulletin 4-1387 for full compressor operating envelope.

All capacities shown for XFAM models also apply to XFAP models

R-507A Low Temp

Copeland Scroll Outdoor Refrigeration Units – XF Series

Model	Compressor	-40	-35	-30	-25	-20	-15	-10	-5	0
90° Ambient										
XFAL-020Z	ZXI06KCE	5,700	6,960	8,210	9,450	10,690	11,920	13,140	14,360	15,570
XFAL-030Z	ZXI09KCE-TF5	7,840	9,390	10,950	12,500	14,060	15,620	17,170	18,730	20,280
XFAL-035Z	ZXI11KCE-PFV	9,700	11,100	12,600	14,200	15,900	17,700	19,700	21,700	23,900
XFAL-040Z	ZXI14KCE	12,690	14,430	16,280	18,240	20,300	22,470	24,740	27,120	29,610
XFAL-050Z	ZXI15KCE-TF5	14,030	16,040	18,140	20,350	22,660	25,060	27,570	30,170	32,880
XFAL-051Z	ZXI16KCE-PFV	14,030	16,040	18,140	20,350	22,660	25,060	27,570	30,170	32,880
XFAL-060Z	ZXI18KCE	18,000	20,500	23,000	25,700	28,600	31,600	34,700	38,100	41,500
100° Ambient										
XFAL-020Z	ZXI06KCE	5,640	6,840	8,020	9,200	10,370	11,530	12,680	13,830	14,970
XFAL-030Z	ZXI09KCE-TF5	6,940	8,520	10,100	11,680	13,260	14,840	16,420	18,000	19,580
XFAL-035Z	ZXI11KCE-PFV	9,090	10,300	11,700	13,100	14,700	16,300	18,100	20,000	21,900
XFAL-040Z	ZXI14KCE	12,370	13,980	15,710	17,540	19,480	21,530	23,680	25,940	28,300
XFAL-050Z	ZXI15KCE-TF5	13,110	14,960	16,900	18,940	21,080	23,320	25,660	28,100	30,640
XFAL-051Z	ZXI16KCE-PFV	13,110	14,960	16,900	18,940	21,080	23,320	25,660	28,100	30,640
XFAL-060Z	ZXI18KCE	17,240	19,480	21,930	24,380	27,030	29,780	32,740	35,800	38,200
110° Ambient										
XFAL-020Z	ZXI06KCE	5,500	6,610	7,710	8,810	9,890	10,970	12,040	13,100	14,160
XFAL-030Z	ZXI09KCE-TF5	5,830	7,420	9,010	10,590	12,180	13,770	15,350	16,940	18,530
XFAL-035Z	ZXI11KCE-PFV	9,020	10,140	11,340	12,720	14,200	15,690	17,380	19,190	21,090
XFAL-040Z	ZXI14KCE	11,850	13,350	14,950	16,660	18,480	20,400	22,420	24,560	26,800
XFAL-050Z	ZXI15KCE-TF5	11,920	13,590	15,370	17,250	19,220	21,300	23,470	25,740	28,110
XFAL-051Z	ZXI16KCE-PFV	11,920	13,590	15,370	17,250	19,220	21,300	23,470	25,740	28,110
XFAL-060Z	ZXI18KCE	16,170	18,330	20,500	22,760	25,130	27,600	30,200	32,960	34,700

Capacities rated at 65°F return gas, 5°F subcooling

R-507A Med/Ext Med Temp

Copeland Scroll Outdoor Refrigeration Units – XF Series

Model	Compressor	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45
90° Ambient																
XFAM-015Z	ZS09KAE						7400	8260	9200	10200	11300	12500	14100	15400	16900	18400
XFAP-015Z	ZS09KAE	4130	4670	5260	5910	6620	7400	8260	9200	10200	11300	12500	14100	15400	16900	18400
XFAM-017Z	ZS11KAE						8880	9900	11000	12200	13500	14900	16800	18400	20000	21800
XFAP-017Z	ZS11KAE	4970	5610	6320	7100	7950	8880	9900	11000	12200	13500	14900	16800	18400	20000	21800
XFAM-022Z	ZS15KAE						12000	13400	14800	16400	18100	20000	22300	24300	26400	28600
XFAP-022Z	ZS15KAE	6770	7640	8600	9640	10800	12000	13400	14800	16400	18100	20000	22300	24300	26400	28600
XFAM-030Z	ZS21KAE						17600	19600	21600	23900	26200	28800	31800	34500	37200	40100
XFAP-030Z	ZS21KAE	10100	11300	12700	14200	15900	17600	19600	21600	23900	26200	28800	31800	34500	37200	40100
XFAM-045Z	ZS33KAE						24400	27100	30000	33100	36400	40000	44500	48200	52000	56000
XFAP-045Z	ZS33KAE	13900	15700	17600	19700	22000	24400	27100	30000	33100	36400	40000	44500	48200	52000	56000
XFAM-050Z	ZS38K4E						29100	32000	35200	38500	42100	45800	51500	56000	60500	65000
XFAP-050Z	ZS38K4E	17100	19200	21400	23800	26300	29100	32000	35200	38500	42100	45800	51500	56000	60500	65000
XFAM-060Z	ZS45K4E						34500	37900	41500	45400	49500	54000	60500	65500	70500	76000
XFAP-060Z	ZS45K4E	20600	23000	25600	28300	31300	34500	37900	41500	45400	49500	54000	60500	65500	70500	76000
100° Ambient																
XFAM-015Z	ZS09KAE						6850	7630	8490	9420	10400	11500	12900	14100	15400	16800
XFAP-015Z	ZS09KAE	3860	4350	4890	5490	6140	6850	7630	8490	9420	10400	11500	12900	14100	15400	16800
XFAM-017Z	ZS11KAE						8220	9140	10200	11300	12500	13700	15400	16800	18300	19900
XFAP-017Z	ZS11KAE	4650	5240	5880	6590	7370	8220	9140	10200	11300	12500	13700	15400	16800	18300	19900
XFAM-022Z	ZS15KAE						11100	12300	13700	15100	16700	18400	20500	22300	24100	26100
XFAP-022Z	ZS15KAE	6330	7130	7990	8940	9980	11100	12300	13700	15100	16700	18400	20500	22300	24100	26100
XFAM-030Z	ZS21KAE						16300	18000	19900	21900	24000	26400	29300	31600	34100	36700
XFAP-030Z	ZS21KAE	9410	10600	11800	13200	14700	16300	18000	19900	21900	24000	26400	29300	31600	34100	36700
XFAM-045Z	ZS33KAE						22500	25000	27600	30400	33400	36700	41000	44300	47800	51500
XFAP-045Z	ZS33KAE	13000	14600	16400	18300	20300	22500	25000	27600	30400	33400	36700	41000	44300	47800	51500
XFAM-050Z	ZS38K4E						26600	29300	32200	35200	38400	41800	47400	51500	55500	60000
XFAP-050Z	ZS38K4E	15800	17700	19700	21800	24100	26600	29300	32200	35200	38400	41800	47400	51500	55500	60000
XFAM-060Z	ZS45K4E						31700	34700	38000	41500	45200	49100	55500	60500	65000	70000
XFAP-060Z	ZS45K4E	19100	21300	23600	26100	28800	31700	34700	38000	41500	45200	49100	55500	60500	65000	70000
110° Ambient																
XFAM-015Z	ZS09KAE						6260	6960	7730	8570	9480	10500	11800	12900	14000	15200
XFAP-015Z	ZS09KAE	3570	4010	4500	5030	5620	6260	6960	7730	8570	9480	10500	11800	12900	14000	15200
XFAM-017Z	ZS11KAE						7500	8330	9240	10200	11300	12500	14100	15400	16700	18100
XFAP-017Z	ZS11KAE	4290	4830	5410	6040	6740	7500	8330	9240	10200	11300	12500	14100	15400	16700	18100
XFAM-022Z	ZS15KAE						10100	11200	12400	13700	15100	16700	18800	20400	22100	23800
XFAP-022Z	ZS15KAE	5850	6560	7340	8190	9110	10100	11200	12400	13700	15100	16700	18800	20400	22100	23800
XFAM-030Z	ZS21KAE						14800	16300	18000	19800	21700	23800	27100	29200	31400	33700
XFAP-030Z	ZS21KAE	8670	9710	10800	12000	13400	14800	16300	18000	19800	21700	23800	27100	29200	31400	33700
XFAM-045Z	ZS33KAE						20500	22600	25000	27500	30200	33200	38000	41000	44100	47400
XFAP-045Z	ZS33KAE	12000	13400	15000	16700	18500	20500	22600	25000	27500	30200	33200	38000	41000	44100	47400
XFAM-050Z	ZS38K4E						24100	26500	29000	31700	34600	37700	43200	46900	50500	55000
XFAP-050Z	ZS38K4E	14400	16000	17800	19800	21800	24100	26500	29000	31700	34600	37700	43200	46900	50500	55000
XFAM-060Z	ZS45K4E						28700	31500	34400	37500	40800	44400	51000	55000	59500	64000
XFAP-060Z	ZS45K4E	17500	19500	21600	23800	26200	28700	31500	34400	37500	40800	44400	51000	55000	59500	64000

Capacities rated at 40°F return gas (65°F return gas for capacities in **bold**), 5°F subcooling

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