

Copeland™ F-Line

Air-cooled and water-cooled condensing units



Product Information

Horsepower: 1-10

Refrigerants: R-22, R-134a, R-404A, R-407A, R-407C

Nomenclature • Welded Condensing Units

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

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

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	General - 3 Lead Single Voltage	T

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

Model Variation	
Scroll	Z
Digital Scroll	D

Condensing Unit Family Series	
Standard	-
Evac and Charge	C

Type of Design	
Air Cooled Steel Base	A
Air Cooled Copevap Base 14.25" x 16"	E
Air Cooled Copevap Base 11" x 20"	P
Narrow Air Cooled Copevap 8.25" x 19"	T
Water Cooled Steel Base	W
Custom Base	C
Narrow Metal Base	H

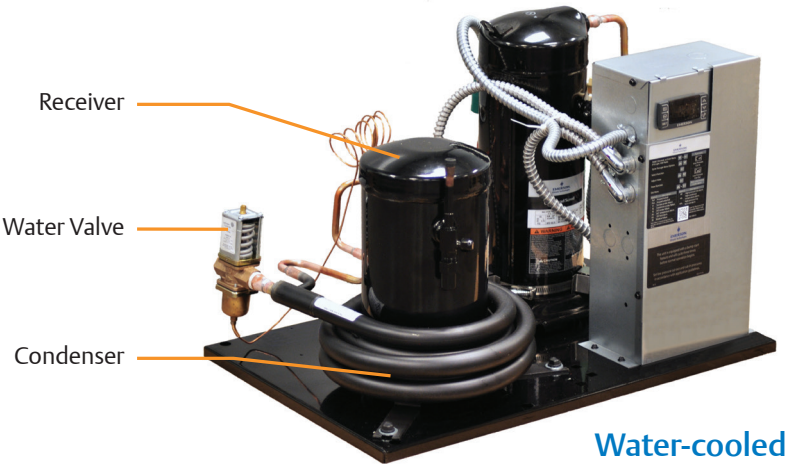
Nominal HP	Code
1/6	0017
1/5	0020
1/4	0025
1/3	0033
1/2	0050
3/4	0075
1	0100
1-1/2	0150
2	0200
3	0300
4	0400
5	0500
6	0600
7-1/2	0750
9	0900
10	1000
15	1500

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

Note: When applicable, specific 50 Hz ratings (not necessarily identical to typical shown above) will be shown as alternate on 60 Hz rated models.

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



Bill of Materials Matrix

BOM		Options																	UL	
Flare (Obsolete)	Sweat	Receiver W/ Valve	Suction Valve	Liquid Base Valve	Fan Guard	End Covers	Conduit	Power Cord	Accumulator†	Fan Cycling	Pressure Controls	Filter Drier	Moisture Indicator	Solenoid Valve	Crankcase Heater	Head Pressure Control Valve	Water Valve	CoreSense	Listed	Recognized
Air Cooled																				
106			X					X												X
	007	X			X	X	X				X								X	
010	015	X	X		X	X	X		X	X	X				X				X	
	017		X	X	X	X	X				X								X	
	018				X	X	X				X								X	
001**	020	X	X		X	X	X				X								X	
	070	X			X	X	X		X		X	X	X						X	
	071	X			X	X	X		X	X	X	X	X		X				X	
	072	X			X	X	X				X	X	X						X	
	073	X			X	X	X			X	X	X	X	X	X				X	
	074	X			X	X	X				X	X	X	X					X	
	075	X			X	X	X				X	X	X		X	X			X	
	081	X			X	X	X		X	X	X	X	X		X			X	X	
	102							X												X
109	103	X	X					X												X
	108/908				X	X		X												X
105	111		X	X				X												X
	118/918	X‡			X	X		X												X
	119	X						X												X
203/204	208		X	X	X	X	X													X*
201	212	X	X		X	X	X													X*
	214				X	X	X													X*
	216	X			X	X	X													X*
	272	X			X	X	X				X	X	X							X*
Water Cooled																				
001**	020	X	X				X				X						X		X	

* These recognized models are identical to the UL Listed models except without pressure control.

Need for the control is to be evaluated in the end use application.

**C-Line, W-Line, and FNAR products with a -001 BOM have sweat connections.

† Some units with Scroll compressors may have accumulators regardless of BOM.

‡ Receiver without valve.

BOMs with 4 or 6 as the middle digit are OEM special units.

Copeland Scroll™ air-cooled and water-cooled condensing units

Features

Benefits

Copeland Scroll Compressor

Reliability

High Energy Efficiency

Low Sound & Vibration

Advance Diagnostics and Protection Features

Faster Trouble Shooting
Warranty Reduction

Factory Installed EK Filter Drier & HMI Moisture Indicator

Less Leaks, Reduce Callbacks, Lower Installation Cost,
Increase Equipment Reliability, Lower Warranty

Aluminum/Copper Condenser Design

Durability

Multi Refrigerant Approval for High/Med Models

Application Flexibility
Inventory Consolidation

Register for
more product
information

The screenshot shows the Emerson Climate Technologies website. At the top, there's a navigation bar with links like 'PRODUCTS', 'BRANDS', 'MARKET SOLUTIONS', 'SERVICES', 'RESOURCES', and 'ABOUT US'. Below this is a large banner image of a mountain with a rainbow, with the text 'EMERSON CLIMATE TECHNOLOGIES' and 'RIGHT NOW Unleashing new ideas to grow your business.'.

On the left side, there's a 'Registered Users Log On' section with fields for 'User Name' and 'Password', and a 'SUBMIT' button. Below this is a 'Why Register Here?' section with links to 'Click To Register' and 'Forgot Password'.

In the center, there's a 'Quick Links for Tools' section with links to 'AC & Heating Connect', 'Climate Conversations Blog', 'Contractor Connection', 'Critical Compressor Locator', 'Distributor Locator', 'Emerson Valves, Controls & System Protectors', 'Literature', 'Mobile Apps', 'Online Product Information (OPI) & Technical Data', 'Technical Support Phone Numbers', 'Terms & Conditions of Sales', 'Utility Solutions', 'Warranty Information', and 'White-Rodgers Model Number Search/Cross Reference'.

Below this is a 'Quick Links for Products' section with links to 'Copeland Scroll™ Compressors', 'Emerson Valves, Controls & Systems Protectors', and 'White-Rodgers™ Products'. There's also a 'Our Brands' section listing 'Browning™', 'Copeland™', 'Dixell™', 'Emerson Climate Technologies', 'Fusite™', 'Therm-O-Disc™', 'Vilter™', and 'White-Rodgers™'. A 'Regional Websites' section lists 'Asia', 'Europe', 'Latin America', 'Middle East', 'Canada', and 'US Mobile'.

On the right side, there's a 'New Products & Solutions' section with a link to '#StateofHVAC' and a video player. Below this is a 'Latest News' section with links to 'Emerson Climate Technologies Creates Strategic Business Initiative Focused on CO2', 'Future Direction and Current Regulations for Air Conditioning Refrigerants Reviewed in White Paper from Emerson Climate Technologies', and 'Emerson Climate Technologies to Host "Making Sense of Natural Refrigerants" Webinar'.

At the bottom, there's a 'ProAct™ Transport' section with a link to 'Emerson Transportation Solutions announces enhanced enterprise offer for global shipping lines'. There's also a 'The Emerson™ TXV Connect Kit' section with a link to 'The connection you need for residential AC systems'.

The footer contains links to 'EMERSON Climate Technologies Brands', 'RSS FEEDS', 'Website Feedback', and 'Please Select'. It also includes a copyright notice: '© 2014 Emerson Electric Co. All rights reserved. CONSIDER IT SOLVED'.

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

R-404A Low Temp

Copeland Scroll air-cooled condensing units

Model	Compressor	Chassis	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25
90° Ambient														
FPAK-010Z	ZS09KAE	A	3410	3830	4290	4770	5290	5840	6410					
FFAP-015Z	ZS09KAE	B	3520	3980	4470	5010	5600	6230	6900	7660	8460	9320	10200	11200
FPAK-012Z	ZS11KAE	A	3950	4430	4940	5490	6060	6670	7290					
FFAP-017Z	ZS11KAE	B	4100	4630	5200	5820	6490	7210	7970	8830	9730	10700	11700	12800
FFAP-018Z	ZS13KAE	B	4720	5310	5960	6650	7400	8200	9040	9980	11000	12000	13100	14300
FFAP-020Z	ZS13KAE	C	4780	5390	6060	6780	7560	8410	9300	10300	11400	12500	13700	15000
FPAK-013Z	ZS15KAE	B	5680	6390	7150	7970	8850	9780	10800					
FFAP-022Z	ZS15KAE	C	5810	6560	7370	8250	9210	10200	11300	12600	13900	15200	16700	18300
FPAK-015Z	ZS19KAE	B	6310	7090	7930	8810	9760	10800	11800					
FFAP-030Z	ZS19KAE	C	6550	7400	8330	9340	10400	11600	12900	14300	15900	17500	19300	21100
FPAK-020Z	ZS21KAE	C	8520	9580	10700	12000	13300	14700	16100					
FFAP-032Z	ZS21KAE	C	8610	9720	10900	12200	13600	15100	16700	18500	20400	22400	24600	26900
FFAP-040Z	ZS26KAE	D	9810	11100	12500	14100	15700	17600	19600	21800	24200	26700	29500	32500
FPAK-039Z	ZS29KAE	C	10800	12100	13600	15200	16900	18700	20500					
FFAP-042Z	ZS33KAE	D	12200	13800	15500	17400	19500	21700	24200	26800	29700	32800	36100	39600
FFAP-050Z	ZS38K4E	D	14600	16400	18400	20500	22700	25100	27700	30500	33400	36500	39800	43200
100° Ambient														
FPAK-010Z	ZS09KAE	A		3560	3960	4390	4850	5340	5830					
FFAP-015Z	ZS09KAE	B		3710	4160	4650	5180	5750	6350	7040	7760	8530	9370	10300
FPAK-012Z	ZS11KAE	A		4100	4560	5030	5540	6070	6600					
FFAP-017Z	ZS11KAE	B		4310	4830	5390	5990	6640	7320	8090	8900	9770	10700	11700
FFAP-018Z	ZS13KAE	B		4950	5530	6150	6820	7540	8270	9120	10000	10900	11900	13000
FFAP-020Z	ZS13KAE	C		5020	5630	6280	6990	7750	8550	9450	10400	11400	12500	13700
FPAK-013Z	ZS15KAE	B		5940	6630	7360	8140	8970	9820					
FFAP-022Z	ZS15KAE	C		6110	6860	7650	8510	9450	10400	11500	12700	14000	15300	16700
FPAK-015Z	ZS19KAE	B		6580	7330	8120	8960	9850	10800					
FFAP-030Z	ZS19KAE	C	6120	6900	7750	8670	9660	10700	11900	13200	14600	16000	17600	19400
FPAK-020Z	ZS21KAE	C		8910	9940	11000	12200	13400	14700					
FFAP-032Z	ZS21KAE	C		9050	10100	11300	12600	13900	15300	17000	18700	20500	22400	24500
FFAP-040Z	ZS26KAE	D	9190	10400	11700	13100	14600	16300	18100	20100	22300	24600	27100	29900
FPAK-039Z	ZS29KAE	C		11300	12600	14000	15500	17200	18800					
FFAP-042Z	ZS33KAE	D	11400	12900	14500	16200	18100	20100	22300	24700	27300	30100	33100	36400
FFAP-050Z	ZS38K4E	D		15200	16900	18800	20900	23000	25300	27900	30500	33300	36300	39400
110° Ambient														
FPAK-010Z	ZS09KAE	A				3960	4350	4760	5180					
FFAP-015Z	ZS09KAE	B		3410	3820	4250	4720	5220	5750	6360	7000	7680	8430	9220
FPAK-012Z	ZS11KAE	A					4930	5380	5820					
FFAP-017Z	ZS11KAE	B			4420	4910	5440	6010	6600	7290	8000	8770	9590	10500
FFAP-018Z	ZS13KAE	B			5040	5580	6170	6790	7420	8170	8930	9740	10600	11600
FFAP-020Z	ZS13KAE	C			5150	5730	6350	7020	7720	8520	9360	10300	11200	12300
FPAK-013Z	ZS15KAE	B			6020	6650	7330	8040	8770					
FFAP-022Z	ZS15KAE	C		5630	6290	6990	7750	8580	9430	10400	11500	12600	13800	15000
FPAK-015Z	ZS19KAE	B				7310	8030	8790	9560					
FFAP-030Z	ZS19KAE	C			7110	7930	8810	9770	10800	11900	13200	14500	15900	17400
FPAK-020Z	ZS21KAE	C			9040	10000	11000	12100	13200					
FFAP-032Z	ZS21KAE	C			9270	10300	11400	12600	13800	15300	16800	18400	20100	22000
FFAP-040Z	ZS26KAE	D		9600	10800	12000	13400	14900	16500	18300	20200	22300	24600	27100
FPAK-039Z	ZS29KAE	C			11500	12700	14000	15400	16900					
FFAP-042Z	ZS33KAE	D		11900	13300	14900	16500	18400	20300	22500	24800	27300	30000	32900
FFAP-050Z	ZS38K4E	D		13800	15400	17100	18900	20800	22800	25100	27500	30000	32700	35500

* See pages 12 and 13 for chassis size comparison

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

R-404A Medium/High Temp

Copeland Scroll air-cooled condensing units

Model	Compressor	0	5	10	15	20	25	30	35	40	45
90° Ambient											
FFAP-015Z	ZS09KAE	6900	7660	8460	9320	10200	11500	12400	13400	14500	15600
FFAP-017Z	ZS11KAE	7970	8830	9730	10700	11700	13100	14300	15500	16900	18500
FFAP-018Z	ZS13KAE	9040	9980	11000	12000	13100	14600	15800	17000	18200	19500
FFAP-020Z	ZS13KAE	9300	10300	11400	12500	13700	15300	16600	17900	19200	20600
FFAP-022Z	ZS15KAE	11300	12600	13900	15200	16700	18900	20600	22500	24400	26800
FFAP-030Z	ZS19KAE	12900	14300	15900	17500	19300	21600	23500	25400	27500	29600
FFAP-032Z	ZS21KAE	16700	18500	20400	22400	24600	27900	30500	33300	36400	39700
FFAP-040Z	ZS26KAE	19600	21800	24200	26700	29500	34200	37500	41000	44800	49500
FFAP-042Z	ZS33KAE	24200	26800	29700	32800	36100	40800	44800	49100	54000	59000
FFAP-050Z	ZS38K4E	27700	30500	33400	36500	39800	45400	49300	53500	57500	62000
FJAM-A60Z	ZB45KCE	33100	36600	40300	44100	48200	52400				
FNAR-070Z	ZB50KCE	37700	42200	46800	51500	56500	61700	67200	72900	78800	85000
FPAN-070Z	ZB50KCE	38200	42700	47300	52100	57100	62400				
FNAR-080Z	ZB58KCE	40700	45600	50500	55600	60900	66400	72000	77800	83600	89600
FPAN-080Z	ZB58KCE	42200	47200	52300	57600	63000	68600				
FNAR-091Z	ZB66KCE	48600	53800	59000	64400	70100	76000	82100	88400	95000	101700
FPAN-091Z	ZB66KCE	48800	54000	59200	64700	70300	76300				
FNAR-101Z	ZB76KCE	56500	62200	67800	73800	80000	86400	93000	99900	107000	114300
FPAN-101Z	ZB76KCE	56800	62500	68200	74100	80300	86800				
100° Ambient											
FFAP-015Z	ZS09KAE	6350	7040	7760	8530	9370	10600	11500	12400	13300	14300
FFAP-017Z	ZS11KAE	7320	8090	8900	9770	10700	12000	13100	14200	15500	17000
FFAP-018Z	ZS13KAE	8270	9120	10000	10900	11900	13700	14700	15800	16900	18100
FFAP-020Z	ZS13KAE	8550	9450	10400	11400	12500	14200	15300	16500	17700	19000
FFAP-022Z	ZS15KAE	10400	11500	12700	14000	15300	17400	19000	20700	22500	24700
FFAP-030Z	ZS19KAE	11900	13200	14600	16000	17600	20000	21700	23400	25300	27200
FFAP-032Z	ZS21KAE	15300	17000	18700	20500	22400	25700	28100	30700	33500	36600
FFAP-040Z	ZS26KAE	18100	20100	22300	24600	27100	31600	34600	37900	41400	45800
FFAP-042Z	ZS33KAE	22300	24700	27300	30100	33100	37800	41400	45400	49900	54500
FFAP-050Z	ZS38K4E	25300	27900	30500	33300	36300	41800	45300	49000	53000	57000
FJAM-A60Z	ZB45KCE	30200	33400	36700	40300	44000	47900				
FNAR-070Z	ZB50KCE	33800	38000	42300	46700	51300	56200	61200	66500	72000	77800
FPAN-070Z	ZB50KCE	34200	38500	42800	47200	51900	56800				
FNAR-080Z	ZB58KCE	36100	40600	45100	49700	54500	59500	64500	69700	75000	80300
FPAN-080Z	ZB58KCE	37500	42100	46800	51600	56500	61600				
FNAR-091Z	ZB66KCE	44500	49300	54000	59000	64200	69500	75100	80900	86900	93000
FPAN-091Z	ZB66KCE	44700	49500	54200	59200	64400	69800				
FNAR-101Z	ZB76KCE	51400	56600	61600	66900	72500	78200	84100	90300	96700	103200
FPAN-101Z	ZB76KCE	51700	56800	61900	67300	72800	78600				
110° Ambient											
FFAP-015Z	ZS09KAE	5750	6360	7000	7680	8430	9910	10700	11500	12300	13200
FFAP-017Z	ZS11KAE	6600	7290	8000	8770	9590	10800	11800	12900		
FFAP-018Z	ZS13KAE	7420	8170	8930	9740	10600	13000	14000			
FFAP-020Z	ZS13KAE	7720	8520	9360	10300	11200	13300	14400	15400	16500	17600
FFAP-022Z	ZS15KAE	9430	10400	11500	12600	13800	15800	17300	18800	20600	22600
FFAP-030Z	ZS19KAE	10800	11900	13200	14500	15900	18600	20100	21700	23300	25000
FFAP-032Z	ZS21KAE	13800	15300	16800	18400	20100	23300	25500	27900	30500	
FFAP-040Z	ZS26KAE	16500	18300	20200	22300	24600	28800	31600	34700	38000	42100
FFAP-042Z	ZS33KAE	20300	22500	24800	27300	30000	34500	37900	41600	45700	50000
FFAP-050Z	ZS38K4E	22800	25100	27500	30000	32700	37900	41100	44500	48100	52000
FJAM-A60Z	ZB45KCE	27100	30000	33100	36300	39700	43300				
FNAR-070Z	ZB50KCE	29600	33600	37500	41700	45900	50400	55000	59900	65000	70400
FPAN-070Z	ZB50KCE	30000	34000	38000	42100	46400	50900				
FNAR-080Z	ZB58KCE	31300	35500	39500	43700	48000	52400	56900	61500	66200	71000
FPAN-080Z	ZB58KCE	32500	36800	41000	45300	49700	54200				
FNAR-091Z	ZB66KCE	40100	44500	48900	53400	58100	62900	68000	73200		
FPAN-091Z	ZB66KCE	40300	44700	49100	53600	58300	63200				
FNAR-101Z	ZB76KCE	46100	50700	55100	59800	64700	69800	75000			
FPAN-101Z	ZB76KCE		50900	55400	60100	65000	70100				

* See pages 12 and 13 for chassis size comparison

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

R-134a Med/High Temp

Copeland Scroll air-cooled condensing units

Model	Compressor	Chassis*	0	5	10	15	20	25	30	35	40	45
90° Ambient												
FPAK-010Z	ZS09KAE	A	4020	4520	5060	5620	6230	7100	7810	8570	9370	10200
FFAP-015Z	ZS09KAE	B	4220	4770	5360	6000	6680	7540	8340	9200	10100	11100
FPAK-012Z	ZS11KAE	A	4730	5300	5920	6560	7250	8250	9060	9910	10800	11700
FFAP-017Z	ZS11KAE	B	5000	5640	6340	7080	7880	8900	9840	10800	11900	13100
FFAP-018Z	ZS13KAE	B	5640	6350	7120	7940	8810	9930	10900	12000	13200	14400
FFAP-020Z	ZS13KAE	C	5710	6450	7240	8090	9010	10200	11200	12400	13600	14900
FPAK-013Z	ZS15KAE	B	6640	7470	8360	9300	10300	11800	13000	14200	15600	17000
FFAP-022Z	ZS15KAE	C	6810	7690	8640	9660	10800	12300	13600	15000	16500	18100
FPAK-015Z	ZS19KAE	B	7410	8330	9310	10300	11500	13100	14300	15700	17200	18700
FFAP-030Z	ZS19KAE	C	7870	8890	10000	11200	12500	14100	15600	17200	19000	20800
FPAK-020Z	ZS21KAE	C	10000	11300	12600	14000	15500	17700	19500	21400	23400	25600
FFAP-032Z	ZS21KAE	C	10400	11800	13200	14700	16400	18500	20400	22500	24700	27100
FPAK-039Z	ZS29KAE	C	11300	12800	14300	16000	17800	21300	23700	26200	28900	31800
FFAP-040Z	ZS26KAE	D	11800	13400	15100	16900	18900	22500	24800	27200	29800	32600
FFAP-042Z	ZS33KAE	D	14600	16500	18500	20700	23100	26100	29000	32000	35200	38700
FFAP-050Z	ZS38K4E	D	16600	18700	20900	23400	26000	29400	32500	35800	39300	43000
FNAR-070Z	ZB50KCE			24800	28000	31400	35100	39000	43200	47700	52500	57500
FPAN-070Z	ZB50KCE			25700	29000	32500	36300	40300	44500	48900	53600	58600
FNAR-080Z	ZB58KCE			27900	31400	35200	39300	43600	48200	53000	58100	63400
FPAN-080Z	ZB58KCE			28600	32200	36000	40200	44600	49300	54200	59400	64900
FPAN-091Z	ZB66KCE			32100	36000	40200	44800	49800	55000	60500	66200	72100
FNAR-091Z	ZB66KCE			32200	36100	40400	45000	49900	55200	60700	66400	72400
FNAR-101Z	ZB76KCE			35800	40100	44800	49800	55200	60800	66800	73000	79500
FPAN-101Z	ZB76KCE			37000	41500	46400	51600	57200	63100	69400	75900	82600
100° Ambient												
FPAK-010Z	ZS09KAE	A		4260	4750	5280	5840	6670	7340	8040	8790	9580
FFAP-015Z	ZS09KAE	B	4000	4510	5060	5660	6300	7130	7890	8690	9560	10500
FPAK-012Z	ZS11KAE	A		4980	5550	6140	6780	7740	8480	9270	10100	11000
FFAP-017Z	ZS11KAE	B	4730	5330	5980	6670	7420	8400	9280	10200	11200	12300
FFAP-018Z	ZS13KAE	B	5330	6000	6710	7470	8290	9370	10300	11300	12400	13600
FFAP-020Z	ZS13KAE	C	5410	6100	6830	7630	8480	9600	10600	11700	12800	14100
FPAK-013Z	ZS15KAE	B		7040	7870	8750	9690	11100	12200	13400	14600	16000
FFAP-022Z	ZS15KAE	C	6450	7270	8160	9110	10100	11600	12900	14200	15600	17100
FPAK-015Z	ZS19KAE	B		7840	8750	9710	10700	12300	13500	14800	16100	17600
FFAP-030Z	ZS19KAE	C	7460	8420	9450	10600	11800	13300	14700	16300	17900	19700
FPAK-020Z	ZS21KAE	C		10600	11900	13200	14600	16700	18400	20200	22100	24100
FFAP-032Z	ZS21KAE	C	9860	11100	12400	13900	15400	17400	19300	21200	23300	25500
FPAK-039Z	ZS29KAE	C	10700	12100	13500	15000	16700	20200	22400	24800	27400	30100
FFAP-040Z	ZS26KAE	D	11200	12700	14300	16000	17800	21100	23300	25600	28000	30700
FFAP-042Z	ZS33KAE	D	13800	15600	17500	19600	21800	24700	27400	30300	33300	36600
FFAP-050Z	ZS38K4E	D	15600	17600	19700	22000	24500	27800	30800	33900	37200	40700
FNAR-070Z	ZB50KCE			23100	26200	29400	32900	36600	40600	44800	49300	54100
FPAN-070Z	ZB50KCE			24100	27200	30500	34000	37800	41800	46000	50400	55100
FNAR-080Z	ZB58KCE			26200	29500	33000	36800	40900	45200	49700	54500	59500
FPAN-080Z	ZB58KCE			26800	30200	33800	37700	41800	46200	50900	55800	60900
FPAN-091Z	ZB66KCE			30000	33600	37700	42000	46600	51500	56700	62100	67700
FNAR-091Z	ZB66KCE			30100	33800	37800	42100	46800	51700	56900	62300	67900
FNAR-101Z	ZB76KCE			33400	37400	41900	46600	51700	57000	62600	68400	74500
FPAN-101Z	ZB76KCE			34600	38800	43400	48400	53700	59200	65100	71200	77600

* See pages 12 and 13 for chassis size comparison

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

R-134a Med/High Temp

Copeland Scroll air-cooled condensing units

Model	Compressor	Chassis*	0	5	10	15	20	25	30	35	40	45
110° Ambient												
FPAK-010Z	ZS09KAE	A			4410	4900	5410	6210	6820	7470	8160	8900
FFAP-015Z	ZS09KAE	B	3750	4230	4740	5290	5880	6690	7390	8150	8970	9840
FPAK-012Z	ZS11KAE	A				5680	6260	7160	7850	8570	9350	10200
FFAP-017Z	ZS11KAE	B	4430	4990	5590	6230	6920	7860	8680	9560	10500	11500
FFAP-018Z	ZS13KAE	B			6250	6950	7700	8740	9630	10600	11600	12700
FFAP-020Z	ZS13KAE	C	5060	5700	6390	7120	7920	8990	9930	10900	12000	13200
FPAK-013Z	ZS15KAE	B			7320	8130	9000	10300	11400	12500	13600	14900
FFAP-022Z	ZS15KAE	C	6040	6810	7630	8520	9480	10900	12100	13300	14600	16100
FPAK-015Z	ZS19KAE	B			8120	9010	9950	11400	12500	13700	15000	16300
FFAP-030Z	ZS19KAE	C	7010	7900	8860	9890	11000	12500	13800	15300	16800	18400
FPAK-020Z	ZS21KAE	C			11100	12300	13600	15600	17200	18800	20600	22500
FFAP-032Z	ZS21KAE	C	9230	10400	11600	13000	14400	16300	18000	19800	21800	23800
FPAK-039Z	ZS29KAE	C			12600	14000	15600	19700	21700	23900	26200	28600
FFAP-040Z	ZS26KAE	D	10500	11900	13400	15000	16700	19000	21100	23300	25700	28300
FFAP-042Z	ZS33KAE	D	12900	14600	16400	18400	20400	23300	25800	28500	31300	34400
FFAP-050Z	ZS38K4E	D	14700	16500	18500	20700	23000	26200	29000	31900	35100	38400
FNAR-070Z	ZB50KCE				24400	27500	30800	34300	38000	42000	46200	50700
FPAN-070Z	ZB50KCE				25300	28400	31700	35300	39000	43000	47100	51500
FNAR-080Z	ZB58KCE				27500	30800	34300	38100	42100	46400	50900	55600
FPAN-080Z	ZB58KCE				28100	31500	35100	39000	43100	47500	52100	56900
FPAN-091Z	ZB66KCE				31300	35000	39100	43400	48000	52900	57900	63200
FNAR-091Z	ZB66KCE				31400	35200	39200	43600	48200	53000	58100	63400
FNAR-101Z	ZB76KCE				34800	38900	43300	48100	53100	58300	63800	69500
FPAN-101Z	ZB76KCE				36100	40400	45000	50000	55200	60700	66400	72400

* See pages 12 and 13 for chassis size comparison

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

R-407A Low Temp

Copeland Scroll air-cooled condensing units

Model	Compressor	-25	-20	-15	-10	-5	0
90° Ambient							
FFAP-015Z	ZS09KAE	3360	3960	4550	5160	5780	6430
FFAP-017Z	ZS11KAE	3970	4670	5370	6080	6800	7550
FFAP-018Z	ZS13KAE	4690	5490	6290	7100	7930	8780
FFAP-020Z	ZS13KAE	4540	5350	6150	6970	7800	8660
FFAP-022Z	ZS15KAE	5480	6460	7430	8410	9430	10500
FFAP-030Z	ZS19KAE	6250	7370	8480	9620	10800	12000
FFAP-032Z	ZS21KAE	7130	8530	9990	11500	13100	14800
FFAP-040Z	ZS26KAE	8350	9950	11600	13400	15300	17300
FFAP-042Z	ZS33KAE	10700	12800	15000	17300	19700	22300
100° Ambient							
FFAP-015Z	ZS09KAE			4220	4790	5370	5970
FFAP-017Z	ZS11KAE				5640	6320	7010
FFAP-018Z	ZS13KAE			5830	6580	7350	8140
FFAP-020Z	ZS13KAE				6470	7250	8050
FFAP-022Z	ZS15KAE				7820	8760	9730
FFAP-030Z	ZS19KAE			7870	8940	10000	11200
FFAP-032Z	ZS21KAE				10500	12100	13700
FFAP-040Z	ZS26KAE			10500	12200	14100	16000
FFAP-042Z	ZS33KAE			13600	15800	18200	20700
110° Ambient							
FFAP-015Z	ZS09KAE						5520
FFAP-017Z	ZS11KAE						6480
FFAP-018Z	ZS13KAE						7510
FFAP-020Z	ZS13KAE						7440
FFAP-022Z	ZS15KAE						9000
FFAP-030Z	ZS19KAE					9290	10300
FFAP-032Z	ZS21KAE						
FFAP-040Z	ZS26KAE					13100	14900
FFAP-042Z	ZS33KAE						19500

R-407A Med/High Temp

Copeland Scroll air-cooled condensing units

Model	Compressor	0	5	10	15	20	25	30	35	40	45
90° Ambient											
FFAP-015Z	ZS09KAE	6430	7130	7870	8660	9510	10700	11800	12900	14100	15400
FFAP-017Z	ZS11KAE	7550	8360	9210	10100	11100	12500	13700	15000	16300	17800
FFAP-018Z	ZS13KAE	8780	9690	10600	11700	12700	13900	15100	16500	18000	19500
FFAP-020Z	ZS13KAE	8660	9600	10600	11600	12800	14400	15700	17200	18800	20500
FFAP-022Z	ZS15KAE	10500	11600	12800	14100	15400	17400	19100	20900	22800	24900
FFAP-030Z	ZS19KAE	12000	13300	14700	16200	17800	20200	22100	24200	26500	29000
FFAP-032Z	ZS21KAE	14800	16700	18600	20600	22700	25700	28200	30700	33400	36300
FFAP-040Z	ZS26KAE	17300	19400	21800	24200	26900	30600	33700	37000	40600	44300
FFAP-042Z	ZS33KAE	22300	25100	28000	31100	34500	39200	43100	47200	51500	57000
100° Ambient											
FFAP-015Z	ZS09KAE	5970	6620	7300	8040	8820	10000	11000	12000	13100	14400
FFAP-017Z	ZS11KAE	7010	7760	8550	9380	10300	11600	12700	13900	15200	16600
FFAP-018Z	ZS13KAE	8140	8970	9850	10800	11800	12900	14100	15300	16700	18200
FFAP-020Z	ZS13KAE	8050	8910	9820	10800	11800	13400	14700	16000	17500	19100
FFAP-022Z	ZS15KAE	9730	10800	11900	13100	14300	16200	17800	19400	21200	23200
FFAP-030Z	ZS19KAE	11200	12400	13700	15100	16500	18800	20600	22600	24700	27100
FFAP-032Z	ZS21KAE	13700	15500	17300	19200	21200	24100	26400	28800	31300	33900
FFAP-040Z	ZS26KAE	16000	18100	20300	22600	25100	28600	31500	34600	37800	41300
FFAP-042Z	ZS33KAE	20700	23400	26200	29200	32300	36900	40500	44400	48500	53500
110° Ambient											
FFAP-015Z	ZS09KAE	5520	6120	6740	7410	8140	9270	10200	11100	12200	13300
FFAP-017Z	ZS11KAE	6480	7170	7890	8650	9480	10800	11800	12900	14100	15400
FFAP-018Z	ZS13KAE	7510	8270	9070	9910	10800	11900	13000	14200	15500	16800
FFAP-020Z	ZS13KAE	7440	8240	9060	9950	10900	12400	13600	14800	16200	17700
FFAP-022Z	ZS15KAE	9000	9970	11000	12100	13200	15000	16500	18000	19700	21500
FFAP-030Z	ZS19KAE	10300	11400	12600	13900	15300	17400	19100	20900	22900	25100
FFAP-032Z	ZS21KAE		14700	16400	18100	20000	22900	25000	27200	29500	32000
FFAP-040Z	ZS26KAE	14900	16900	18900	21100	23400	26800	29400	32300	35300	38500
FFAP-042Z	ZS33KAE	19500	22100	24700	27500	30400	34900	38300	41900	45700	50000

Capacities rated at 40°F return gas (65°F return gas for capacities in **bold**), 5°F subcooling
Superheat restrictions apply. See AE bulletin 4-1387 for full compressor operating envelope.

R-407C Med/High Temp

Copeland Scroll air-cooled condensing units

Model	Compressor	0	5	10	15	20	25	30	35	40	45
90° Ambient											
FFAP-015Z	ZS09KAE	5770	6630	7520	8440	9390	10400	11400	12500	13600	14800
FFAP-017Z	ZS11KAE		7560	8590	9640	10700	12500	13700	14900	16200	17500
FFAP-018Z	ZS13KAE	7460	8610	9770	11000	12200	13600	14900	16200	17600	18900
FFAP-020Z	ZS13KAE	7800	8980	10200	11400	12700	14000	15300	16800	18200	19700
FFAP-022Z	ZS15KAE		10900	12300	13800	15400	17300	19000	20700	22500	24400
FFAP-030Z	ZS19KAE	10800	12400	14000	15800	17600	19700	21700	23700	26100	28700
FFAP-032Z	ZS21KAE	14200	16300	18400	20600	22900	25400	27900	30400	33000	35800
FFAP-040Z	ZS26KAE	16300	18800	21300	24000	26800	30700	33800	37100	41000	45200
FFAP-042Z	ZS33KAE	19400	22300	25400	28600	31900	36300	39900	43800	47700	51900
FFAP-050Z	ZS38KAE	22200	25600	29400	33500	37800	41600	46100	50800	55500	60100
100° Ambient											
FFAP-015Z	ZS09KAE		6230	7080	7950	8850	9830	10800	11800	12800	13900
FFAP-017Z	ZS11KAE			8050	9060	10100	11800	12900	14100	15300	16500
FFAP-018Z	ZS13KAE	6890	8010	9130	10300	11400	12800	14000	15300	16500	17800
FFAP-020Z	ZS13KAE		8430	9600	10800	12000	13200	14500	15800	17200	18600
FFAP-022Z	ZS15KAE			11600	13000	14500	16400	18000	19600	21300	23100
FFAP-030Z	ZS19KAE		11600	13200	14900	16600	18700	20600	22500	24800	27300
FFAP-032Z	ZS21KAE			17300	19400	21600	24000	26300	28700	31200	33700
FFAP-040Z	ZS26KAE				22700	25300	29300	32200	35300	38900	42900
FFAP-042Z	ZS33KAE		21000	23900	27000	30100	34400	37900	41400	45200	49000
FFAP-050Z	ZS38KAE		23600	27100	30900	35000	38600	43000	47400	51900	56300
110° Ambient											
FFAP-015Z	ZS09KAE				7430	8290	9160		11100	12100	13100
FFAP-017Z	ZS11KAE					9420	10400		13200	14300	15500
FFAP-018Z	ZS13KAE		7340	8430	9520	10600	12000	13100	14300	15500	16700
FFAP-020Z	ZS13KAE				10100	11300			14900	16200	17500
FFAP-022Z	ZS15KAE				12200	13600	15400	17000	18500	20100	21700
FFAP-030Z	ZS19KAE				13900	15500	17700	19500	21300	23500	25800
FFAP-032Z	ZS21KAE				18100	20100	22500	24700	27000	29300	31700
FFAP-040Z	ZS26KAE			18900	21300	23800	27800	30600	33500	36900	40700
FFAP-042Z	ZS33KAE				25200	28200	32400	35700	39100	42600	46200
FFAP-050Z	ZS38KAE			24800	28300	32100	35600	39700	43900	48100	52400

Capacities rated at 40°F return gas (65°F return gas for capacities in **bold**), 5°F subcooling
 Superheat restrictions apply. See AE bulletin 4-1387 for full compressor operating envelope.

R-22 Med/High Temp

Copeland Scroll air-cooled condensing units

Model	Compressor	0	5	10	15	20	25	30	35	40	45
90° Ambient											
FFAP-015Z	ZS09KAE	6730	7630	8530	9450	10400	11400	12400	13600	14800	16100
FFAP-017Z	ZS11KAE		8830	9860	10900	12000	13100	14300	15600	17000	18400
FFAP-018Z	ZS13KAE		9860	11000	12200	13500	14700	16000	17400	18900	20700
FFAP-020Z	ZS13KAE	9020	10200	11500	12700	14000	15200	16600	18100	19600	21300
FFAP-022Z	ZS15KAE		12100	13500	15000	16500	18300	20000	21700	23600	25600
FFAP-030Z	ZS19KAE	12300	13900	15500	17200	19000	20800	22700	24800	27000	29400
FFAP-032Z	ZS21KAE	15900	18100	20200	22400	24700	27000	29500	32200	34900	38400
FFAP-040Z	ZS26KAE	18600	21100	23700	26300	29000	31700	34800	38100	41600	45400
FJAM-A40Z	ZB30KCE			26800	29800	33000	36500	40100	43900	48000	52200
FFAP-042Z	ZS33KAE	22800	25900	28900	32100	35400	38700	42400	46400	50500	55000
FFAP-050Z	ZS38K4E			32400	35700	39300	43100	47100	51500	55500	60500
FNAR-070Z	ZB50KCE						58300	64100	70100	76500	83200
FNAR-080Z	ZB58KCE							71300	77900	84700	91900
FNAR-091Z	ZB66KCE						74300	81200	88400	95900	103600
FNAR-101Z	ZB76KCE						85700	93500	101500	110000	118600
100° Ambient											
FFAP-015Z	ZS09KAE		7140	8010	8900	9800	10800	11800	12900	14000	15200
FFAP-017Z	ZS11KAE			9250	10300	11300	12400	13600	14800	16100	17500
FFAP-018Z	ZS13KAE				11500	12600	13900	15100	16500	17900	19600
FFAP-020Z	ZS13KAE		9610	10800	12000	13200	14400	15700	17100	18600	20200
FFAP-022Z	ZS15KAE			12700	14100	15600	17300	18900	20600	22300	24200
FFAP-030Z	ZS19KAE		13000	14600	16200	17900	19700	21500	23500	25600	27900
FFAP-032Z	ZS21KAE			18900	21100	23300	25500	27900	30400	33000	36300
FFAP-040Z	ZS26KAE		19900	22300	24800	27400	30100	33100	36200	39600	43200
FJAM-A40Z	ZB30KCE				28200	31200	34500	37900	41600	45400	49500
FFAP-042Z	ZS33KAE		24300	27300	30300	33400	36800	40300	44000	48000	52500
FFAP-050Z	ZS38K4E			30800	33900	37200	40900	44700	48700	53000	57500
FNAR-070Z	ZB50KCE						54500	60200	66100	72300	78800
FNAR-080Z	ZB58KCE					55400	61100	67100	73300	79900	86700
FNAR-091Z	ZB66KCE						70000	76600	83500	90700	98100
FNAR-101Z	ZB76KCE						80800	88100	95800	103900	
110° Ambient											
FFAP-015Z	ZS09KAE				8330	9190	10100	11100	12200	13200	
FFAP-017Z	ZS11KAE					10600	11600	12800			
FFAP-018Z	ZS13KAE						13000	14300	15500	16900	18500
FFAP-020Z	ZS13KAE				11200	12400	13600	14800	16200		
FFAP-022Z	ZS15KAE				13200	14600	16300	17800	19400	21100	22800
FFAP-030Z	ZS19KAE				15200	16800	18400	20300	22200	24200	26400
FFAP-032Z	ZS21KAE					21800	24000	26300	28700	31200	34300
FFAP-040Z	ZS26KAE			20900	23300	25800	28500	31300	34300	37500	40900
FJAM-A40Z	ZB30KCE						32400	35700	39100	42800	46600
FFAP-042Z	ZS33KAE			25500	28400	31400	34700	38100	41700	45500	49600
FFAP-050Z	ZS38K4E					35100	38600	42200	45900	49900	54000
FNAR-070Z	ZB50KCE							55800	61600	67700	
FNAR-080Z	ZB58KCE							62500	68500		

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

R-404A Ext Med/Low Temp

Copeland welded air-cooled condensing units

Model	Compressor	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25
90° Ambient													
FJEF-0100	RST64C1E		2670	3060	3480	3940	4430	4940	5500	6070	6670	7280	7900
FJAF-0100	RST64C1E		2560	3010	3500	4010	4550	5090	5680	6270	6860	7470	8080
FJAF-0106	RST64C1E		2750	3150	3600	4090	4610	5160	5780	6420	7080	7780	8500
FJAF-0125	RST70C1E		2710	3200	3740	4310	4930	5570	6280	7000	7750	8530	9330
FJEF-0108	RST80C1E		3090	3580	4100	4650	5220	5800	6440	7070	7720	8390	9060
FJCL-B100	RST97C1E		3280	3730	4230	4760	5320	5850					
FJAF-0108	RST80C1E		3110	3610	4130	4690	5280	5870	6520	7180	7850	8540	9230
FJAF-E108	RST80C1E		3110	3610	4130	4690	5280	5870	6520	7180	7850	8540	9230
FJAL-0105	RFT42C1E	2840	3330	3850	4390	4960	5560	6150					
FJAF-0126	RST80C1E		3260	3810	4400	5030	5690	6380	7150	7920	8740	9580	10500
FJAF-B100	RST97C1E		3540	4050	4620	5230	5890	6550	7270	7980	8680	9370	10100
FJAF-E110	RST97C1E		3540	4050	4620	5230	5890	6550	7270	7980	8680	9370	10100
FJAF-0130	RST97C1E		3790	4360	5010	5720	6490	7280	8160	9040	9940	10800	11800
100° Ambient													
FJEF-0100	RST64C1E		2380	2730	3110	3530	3980	4440	4960	5480	6020	6570	7140
FJAF-0100	RST64C1E		2230	2660	3110	3580	4070	4560	5100	5640	6180	6730	7280
FJAF-0106	RST64C1E		2440	2810	3220	3660	4150	4650	5220	5800	6410	7040	7700
FJAF-0125	RST70C1E		2330	2800	3300	3840	4410	5000	5660	6320	7010	7710	8440
FJEF-0108	RST80C1E		2710	3140	3610	4100	4620	5140	5720	6290	6880	7490	8110
FJCL-B100	RST97C1E		2850	3260	3710	4190	4690	5170					
FJAF-0108	RST80C1E		2720	3160	3630	4140	4670	5200	5800	6390	7000	7630	8270
FJAF-E108	RST80C1E		2720	3160	3630	4140	4670	5200	5800	6390	7000	7630	8270
FJAL-0105	RFT42C1E	2540	2980	3450	3940	4450	4980	5500					
FJAF-0126	RST80C1E		2850	3340	3870	4440	5060	5680	6390	7100	7850	8630	9440
FJAF-B100	RST97C1E		3080	3540	4060	4620	5220	5810	6480	7120	7760	8380	9000
FJAF-E110	RST97C1E		3080	3540	4060	4620	5220	5810	6480	7120	7760	8380	9000
FJAF-0130	RST97C1E		3300	3830	4420	5080	5780	6510	7320	8120	8950	9780	10600
110° Ambient													
FJEF-0100	RST64C1E			2420	2760	3130	3530	3940	4410	4870	5350	5850	6360
FJAF-0100	RST64C1E			2340	2740	3170	3610	4050	4530	5010	5490	5980	6460
FJAF-0106	RST64C1E		2160	2490	2850	3250	3680	4120	4640	5150	5700	6270	6860
FJAF-0125	RST70C1E		1940	2380	2840	3340	3870	4400	5000	5600	6220	6860	7510
FJEF-0108	RST80C1E			2740	3140	3570	4030	4480	5000	5510	6040	6590	7150
FJCL-B100	RST97C1E				3200	3630	4080	4510					
FJAF-0108	RST80C1E			2750	3160	3600	4070	4540	5070	5600	6150	6710	7290
FJAF-E108	RST80C1E			2750	3160	3600	4070	4540	5070	5600	6150	6710	7290
FJAL-0105	RFT42C1E		2640	3050	3480	3930	4390	4840					
FJAF-0126	RST80C1E		2480	2900	3370	3870	4410	4970	5610	6250	6930	7630	8370
FJAF-B100	RST97C1E			3050	3510	4010	4550	5080	5670	6250	6820	7390	
FJAF-E110	RST97C1E			3050	3510	4010	4550	5080	5670	6250	6820	7390	
FJAF-0130	RST97C1E		2830	3300	3830	4420	5060	5710	6440	7170	7910	8660	9400

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

R-134a Med/High Temp

Copeland welded air-cooled condensing units

Model	Compressor	Chassis	0	5	10	15	20	25	30	35	40	45
90° Ambient												
FTAH-C100	RRT10K1E		4300	4890	5530	6190	6890	7620	8370	9150	9950	10800
100° Ambient												
FTAH-C100	RRT10K1E			4490	5080	5710	6360	7050	7760	8490	9240	10000
110° Ambient												
FTAH-C100	RRT10K1E							6470	7130			

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

R-407C Med/High Temp

Copeland welded air-cooled condensing units

Model	Compressor	Chassis	0	5	10	15	20	25	30	35	40	45
90° Ambient												
FJAF-0100	RST64C1E		4840	5480	6160	6880	7650	8450	9290	10200	11100	10800
100° Ambient												
FJAF-0100	RST64C1E			5010	5640	6300	6990	7720	8480	9280		10000
110° Ambient												
FJAF-0100	RST64C1E				5100	5700	6330					

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

R-22 Med/High Temp

Copeland welded air-cooled condensing units

Model	Compressor	0	5	10	15	20	25	30	35	40	45
90° Ambient											
F3AH-B100	RST64C1	4470	5020	5640	6330	7070	7870	8710	9580	10500	11400
F3AH-B105	RST70C1	5250	5920	6630	7380	8190	9060	9990	11000	12100	13200
100° Ambient											
F3AH-B100	RST64C1		4620	5200	5840	6530	7270	8060	8880	9730	10600
F3AH-B105	RST70C1		5520	6190	6910	7670	8470	9340	10300	11200	12300
110° Ambient											
F3AH-B100	RST64C1				5350	6000	6690	7430			
F3AH-B105	RST70C1			5740	6420	7130	7880	8680	9540	10500	11400

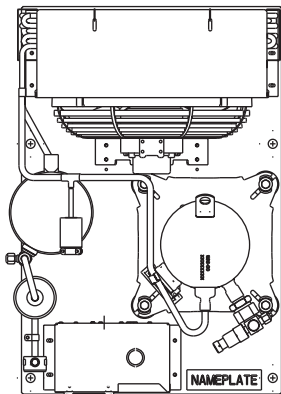
Capacities rated at 65°F return gas and 5°F subcooling

Physical and Electrical Data

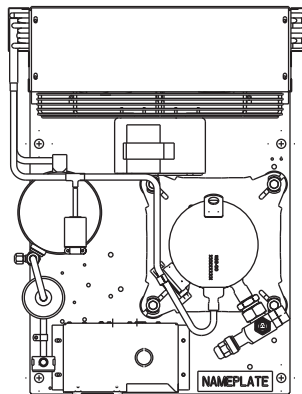
Copeland Scroll air-cooled condensing units

Model	Electricals	BOM	Compressor Electrical	Chassis	Length	Width	Height	Refrigerant Connections	
								Liquid	Suction
FFAP-015Z	CFV	072, 075	ZS09KAE-PFV	B	24	18.3	16.6	3/8 S	7/8 S
FFAP-015Z	TFC	072, 075	ZS09KAE-TF5	B	24	18.3	16.6	3/8 S	7/8 S
FFAP-015Z	TFD	072, 075	ZS09KAE-TFD	B	24	18.3	16.6	3/8 S	7/8 S
FFAP-017Z	CFV	072, 075	ZS11KAE-PFV	B	24.1	18.3	16.6	3/8 S	7/8 S
FFAP-017Z	TFC	072, 075	ZS11KAE-TF5	B	24.1	18.3	16.6	3/8 S	7/8 S
FFAP-017Z	TFD	072	ZS11KAE-TFD	B	24.1	18.3	16.6	3/8 S	7/8 S
FFAP-018Z	CFV	072	ZS13KAE-PFV	B	24.1	18.3	16.6	3/8 S	7/8 S
FFAP-020Z	CFV	071, 072	ZS13KAE-PFV	C	25.2	34	19	3/8 S	7/8 S
FFAP-020Z	TFC	071, 072	ZS13KAE-TF5	C	25.2	34	19	3/8 S	7/8 S
FFAP-020Z	TFD	071, 072	ZS13KAE-TFD	C	25.2	34	19	3/8 S	7/8 S
FFAP-022Z	CFV	071, 072	ZS15KAE-PFV	C	25.2	34	19	3/8 S	7/8 S
FFAP-022Z	TFC	071, 072	ZS15KAE-TF5	C	25.2	34	19	3/8 S	7/8 S
FFAP-022Z	TFD	071	ZS15KAE-TFD	C	25.2	34	19	3/8 S	7/8 S
FFAP-030Z	CFV	071, 072	ZS19KAE-PFV	C	25.2	34.1	19	3/8 S	7/8 S
FFAP-030Z	TFC	071, 072	ZS19KAE-TF5	C	25.2	34.1	19	3/8 S	7/8 S
FFAP-030Z	TFD	071	ZS19KAE-TFD	C	25.2	34.1	19	3/8 S	7/8 S
FFAP-032Z	CFV	071, 072	ZS21KAE-PFV	C	25.2	34.1	19	3/8 S	1 1/8 S
FFAP-032Z	TFC	071, 072	ZS21KAE-TF5	C	25.2	34.1	19	3/8 S	1 1/8 S
FFAP-032Z	TFD	071	ZS21KAE-TFD	C	25.2	34.1	19	3/8 S	1 1/8 S
FFAP-040Z	CFV	071, 072	ZS26KAE-PFV	D	28.2	44.1	26.8	1/2 S	1 1/8 S
FFAP-040Z	TFC	071, 072	ZS26KAE-TF5	D	28.2	44.1	26.8	1/2 S	1 1/8 S
FFAP-040Z	TFD	071	ZS26KAE-TFD	D	28.2	44.1	26.8	1/2 S	1 1/8 S
FFAP-042Z	CFV	071, 072	ZS33KAE-PFV	D	28.2	44.1	26.8	1/2 S	1 1/8 S
FFAP-042Z	TFC	071, 072	ZS33KAE-TF5	D	28.2	44.1	26.8	1/2 S	1 1/8 S
FFAP-042Z	TFD	071	ZS33KAE-TFD	D	28.2	44.1	26.8	1/2 S	1 1/8 S
FFAP-050Z	CFV	071, 072	ZS38K4E-PFV	D	28.2	44.1	26.8	1/2 S	1 1/8 S
FFAP-050Z	TFC	071, 072	ZS38K4E-TF5	D	28.2	44.1	26.8	1/2 S	1 1/8 S
FFAP-050Z	TFD	071	ZS38K4E-TFD	D	28.2	44.1	26.8	1/2 S	1 1/8 S
FFAP-050Z	TFE	070	ZS38K4E-TFE	D	28.2	44.1	26.8	1/2 S	1 1/8 S
FNAR-070Z	TFC	001	ZB50KCE-TF5		28.2	44.1	36.7	5/8 S	1-3/8 S
FNAR-070Z	TFD	001	ZB50KCE-TFD		28.2	44.1	36.7	5/8 S	1-3/8 S
FNAR-070Z	TFE	001	ZB50KCE-TFE		28.2	44.1	36.7	5/8 S	1-3/8 S
FNAR-080Z	TFC	001	ZB58KCE-TF5		28.2	44.1	36.7	5/8 S	1-3/8 S
FNAR-080Z	TFD	001, 106	ZB58KCE-TFD		28.2	44.1	36.7	5/8 S	1-3/8 S
FNAR-080Z	TFE	001	ZB58KCE-TFE		28.2	44.1	36.7	5/8 S	1-3/8 S
FNAR-091Z	TFC	001	ZB66KCE-TF5		28.2	44.5	36.7	5/8 S	1-3/8 S
FNAR-091Z	TFD	001	ZB66KCE-TFD		28.2	44.5	36.7	5/8 S	1-3/8 S
FNAR-101Z	TFC	001	ZB76KCE-TF5		28.2	44.5	36.7	5/8 S	1-3/8 S
FNAR-101Z	TFD	001, 105, 106	ZB76KCE-TFD		28.2	44.5	36.7	5/8 S	1-3/8 S
FNAR-101Z	TFE	001	ZB76KCE-TFE		28.2	44.5	36.7	5/8 S	1-3/8 S

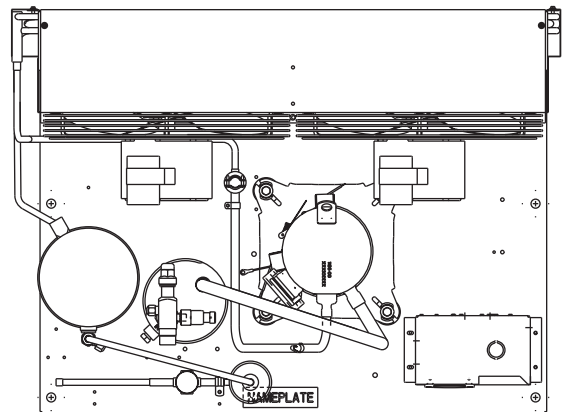
Chassis A



Chassis B



Chassis C

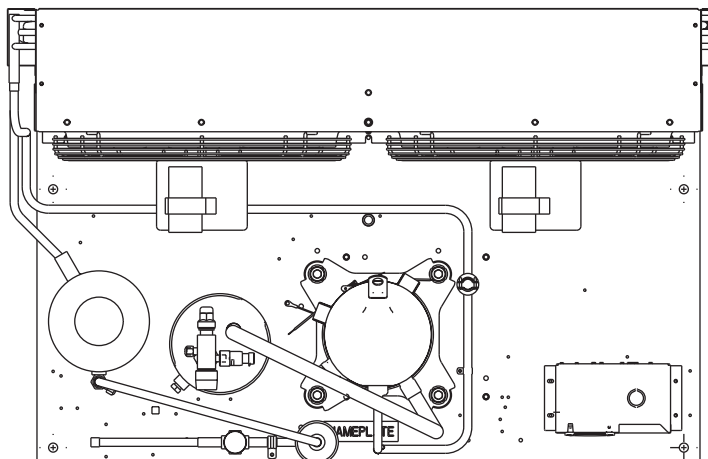


Physical and Electrical Data

Copeland Scroll air-cooled condensing units

Model	Receiver Capacity (Lbs @ 90% Volume)					MCA	Max Fuse	Ship Weight
	R-134a	R-22	R-404A	R-407A	R-407C			
FFAP-015Z	7.3	7.4	6.4	7.1	7.1	13.9	20	110
FFAP-015Z	7.3	7.4	6.4	7.1	7.1	11.4	15	110
FFAP-015Z	7.3	7.4	6.4	7.1	7.1	6.4	15	110
FFAP-017Z	7.3	7.4	6.4	7.1	7.1	17.2	25	114
FFAP-017Z	7.3	7.4	6.4	7.1	7.1	14.4	20	114
FFAP-017Z	7.3	7.4	6.4	7.1	7.1	7.0	15	114
FFAP-018Z	7.3	7.4	6.4	7.1	7.1	16.4	25	114
FFAP-020Z	12.9	13.1	11.2	12.4	12.3	16.8	25	186
FFAP-020Z	12.9	13.1	11.2	12.4	12.3	13.9	20	186
FFAP-020Z	12.9	13.1	11.2	12.4	12.3	7.1	15	186
FFAP-022Z	12.9	13.1	11.2	12.4	12.3	22.4	35	186
FFAP-022Z	12.9	13.1	11.2	12.4	12.3	16.1	20	186
FFAP-022Z	12.9	13.1	11.2	12.4	12.3	10	15	186
FFAP-030Z	12.9	13.1	11.2	12.4	12.3	25.3	40	192
FFAP-030Z	12.9	13.1	11.2	12.4	12.3	19.9	30	192
FFAP-030Z	12.9	13.1	11.2	12.4	12.3	11.3	15	192
FFAP-032Z	12.9	13.1	11.2	12.4	12.3	31.8	50	219
FFAP-032Z	12.9	13.1	11.2	12.4	12.3	21.8	30	219
FFAP-032Z	12.9	13.1	11.2	12.4	12.3	11.8	15	219
FFAP-040Z	21.1	21.5	18.4	20.2	20.1	33.1	50	296
FFAP-040Z	21.1	21.5	18.4	20.2	20.1	23	35	296
FFAP-040Z	21.1	21.5	18.4	20.2	20.1	11	15	296
FFAP-042Z	21.1	21.5	18.4	20.2	20.1	38.9	60	320
FFAP-042Z	21.1	21.5	18.4	20.2	20.1	31.5	50	320
FFAP-042Z	21.1	21.5	18.4	20.2	20.1	14.9	20	320
FFAP-050Z	21.1	21.5	18.4	20.2	20.1	43.4	70	320
FFAP-050Z	21.1	21.5	18.4	20.2	20.1	30.4	45	320
FFAP-050Z	21.1	21.5	18.4	20.2	20.1	14.4	20	320
FFAP-050Z	21.1	21.5	18.4	20.2	20.1	11.9	15	320
FNAR-070Z	53	53.8	46			44.8	60	486
FNAR-070Z	53	53.8	46			23.2	30	505
FNAR-070Z	53	53.8	46			17.9	20	499
FNAR-080Z	53	53.8	46			49.1	70	490
FNAR-080Z	53	53.8	46			24.9	35	493
FNAR-080Z	53	53.8	46			20.1	25	497
FNAR-091Z	53	53.8	46			51.0	70	260
FNAR-091Z	53	53.8	46			26.3	35	506
FNAR-101Z	53	53.8	46			60.8	90	521
FNAR-101Z	53	53.8	46			29.4	45	420
FNAR-101Z	53	53.8	46			21.3	30	516

Chassis D



Physical and Electrical Data

Copeland Scroll air-cooled condensing units

Model	Electricals	BOM	Compressor Electrical	Chassis	Length	Width	Height	Refrigerant Connections	
								Liquid	Suction
FPAK-010Z	CFV	072	ZS09KAE-PFV	A	24	17.1	16.6	3/8 S	5/8 S
FPAK-010Z	TFC	072	ZS09KAE-TF5	A	24	17.1	16.6	3/8 S	5/8 S
FPAK-010Z	TFD	072	ZS09KAE-TFD	A	24	17.1	16.6	3/8 S	5/8 S
FPAK-012Z	CFV	072	ZS11KAE-PFV	A	24	17.1	16.6	3/8 S	5/8 S
FPAK-012Z	TFC	072	ZS11KAE-TF5	A	24	17.1	16.6	3/8 S	5/8 S
FPAK-012Z	TFD	072	ZS11KAE-TFD	A	24	17.1	16.6	3/8 S	5/8 S
FPAK-013Z	CFV	072, 075	ZS15KAE-PFV	B	24.1	18.3	16.6	3/8 S	7/8 S
FPAK-013Z	TFC	072	ZS15KAE-TF5	B	24.1	18.3	16.6	3/8 S	7/8 S
FPAK-013Z	TFD	072, 075	ZS15KAE-TFD	B	24.1	18.3	16.6	3/8 S	7/8 S
FPAK-015Z	CFV	072	ZS19KAE-PFV	B	24.1	18.3	16.6	3/8 S	7/8 S
FPAK-015Z	TFC	072	ZS19KAE-TF5	B	24.1	18.3	16.6	3/8 S	7/8 S
FPAK-015Z	TFD	072	ZS19KAE-TFD	B	24.1	18.3	16.6	3/8 S	7/8 S
FPAK-020Z	CFV	072	ZS21KAE-PFV	C	25	34.1	19	3/8 S	1 1/8 S
FPAK-020Z	TFC	071, 072	ZS21KAE-TF5	C	25	34.1	19	3/8 S	1 1/8 S
FPAK-020Z	TFD	071, 072	ZS21KAE-TFD	C	25	34.1	19	3/8 S	1 1/8 S
FPAK-039Z	CFV	071	ZS29KAE-PFV	C	25.2	34.1	19	3/8 S	1 1/8 S
FPAK-039Z	TFC	071	ZS29KAE-TF5	C	25.2	34.1	19	3/8 S	1 1/8 S
FPAK-039Z	TFD	071	ZS29KAE-TFD	C	25.2	34.1	19	3/8 S	1 1/8 S
FPAN-070Z	TFC	071	ZB50KCE-TF5		27.96	44	36.82	5/8 S	1-3/8 S
FPAN-070Z	TFD	071, 073	ZB50KCE-TFD		28.54	44	36.82	5/8 S	1-3/8 S
FPAN-080Z	TFC	071	ZB58KCE-TF5		27.96	44	36.82	5/8 S	1-3/8 S
FPAN-080Z	TFD	071, 073	ZB58KCE-TFD		28.54	44	36.82	5/8 S	1-3/8 S
FPAN-091Z	TFC	071	ZB66KCE-TF5		28.52	44	36.83	5/8 S	1-3/8 S
FPAN-101Z	TFC	071	ZB76KCE-TF5		28.52	44	36.83	5/8 S	1-3/8 S
FPAN-101Z	TFD	071, 073	ZB76KCE-TFD		28.52	44	36.83	5/8 S	1-3/8 S

Physical and Electrical Data

Copeland welded air-cooled condensing units

Model	Electricals	BOM	Compressor Electrical	Length	Width	Height	Refrigerant Connections	
							Liquid	Suction
F3AH-B100	CAV	072	RST64C1-CAV	24	17.19	13.38	3/8 S	5/8 S
F3AH-B100	CFA	020	RST64C1-CFA	24	17.19	13.38	3/8 S	5/8 S
F3AH-B105	CFV	020	RST70C1-PFV	24	18.3	16.2	3/8 S	5/8 S
F3AH-B105	TAC	020	RST70C1-TA5	24	18.3	16.2	3/8 S	5/8 S
FJAF-0100	CAV	020	RST64C1E-CAV	24	17.04	13.38	3/8 S	5/8 S
FJAF-0100	IAV	212	RST64C1E-IAV	24	17.04	13.38	3/8 S	5/8 S
FJAF-0106	CAV	017, 020, 208	RST64C1E-CAV	24	18.3	16.2	3/8 S	7/8 S
FJAF-0108	CFV	020, 072, 075, 212	RST80C1E-PFV	24	17.3	13	3/8 S	5/8 S
FJAF-0108	TAC	020	RST80C1E-TA5	24	17.3	13	3/8 S	5/8 S
FJAF-0125	CFV	020, 072, 075	RST70C1E-PFV	24	18.3	16.2	3/8 S	5/8 S
FJAF-0125	TAC	020, 072, 075	RST70C1E-TA5	24	18.3	16.2	3/8 S	5/8 S
FJAF-0126	CFV	020	RST80C1E-PFV	24	18.3	16.2	3/8 S	5/8 S
FJAF-0126	TAC	020	RST80C1E-TA5	24	18.3	16.2	3/8 S	5/8 S
FJAF-0130	CFV	072, 075, 212, 272	RST97C1E-PFV	24	18.3	16.2	3/8 S	5/8 S
FJAF-B100	CFV	212	RST97C1E-PFV	24	17.3	13	3/8 S	5/8 S
FJAF-E110	CFV	212	RST97C1E-PFV	24	17.3	13	3/8 S	5/8 S
FJAL-0105	CFV	020, 072, 075	RFT42C1E-PFV	24	17.3	13	3/8 S	5/8 S
FJCL-B100	CFV	212	RST97C1E-PFV	23.56	13.33	11.73	1/4 S	5/8 S
FJEF-0108	CFV	212	RST80C1E-PFV	24	17.11	13.59	3/8 S	5/8 S
FTAH-C100	CFV	020, 212	RRT10K1E-PFV	24	17.45	13	3/8 S	5/8 S

Physical and Electrical Data

Copeland Scroll air-cooled condensing units

Model	Receiver Capacity (Lbs @ 90% Volume)					MCA	Max Fuse	Ship Weight
	R-134a	R-22	R-404A	R-407A	R-407C			
FPAK-010Z	7.4		6.4			13.7	20	101
FPAK-010Z	7.4		6.4			11.2	15	101
FPAK-010Z	7.4		6.4			5.5	15	101
FPAK-012Z	7.4		6.4			16.9	25	103
FPAK-012Z	7.4		6.4			14.2	20	103
FPAK-012Z	7.4		6.4			6.2	15	103
FPAK-013Z	7.4		6.4			21	35	114
FPAK-013Z	7.4		6.4			14.7	20	114
FPAK-013Z	7.4		6.4			8.4	15	114
FPAK-015Z	7.4		6.4			23.9	40	117
FPAK-015Z	7.4		6.4			18.5	30	117
FPAK-015Z	7.4		6.4			9.7	15	117
FPAK-020Z	13.1		11.2			31.8	50	204
FPAK-020Z	13.1		11.2			21.8	30	204
FPAK-020Z	13.1		11.2			11.8	15	204
FPAK-039Z	13.1		11.2			35.4	50	218
FPAK-039Z	13.1		11.2			28.4	45	218
FPAK-039Z	13.1		11.2			15	20	218
FPAN-070Z	53.8	52.9	46			44.8	60	325
FPAN-070Z	53.8	52.9	46			23.2	30	375
FPAN-080Z	53.8	52.9	46			49.1	70	350
FPAN-080Z	53.8	52.9	46			24.9	35	501
FPAN-091Z	53.8	52.9	46			51.0	70	478
FPAN-101Z	53.8	52.9	46			60.8	90	350
FPAN-101Z	53.8	52.9	46			28.4	40	340

Physical and Electrical Data

Copeland welded air-cooled condensing units

Model	Receiver Capacity (Lbs @ 90% Volume)					MCA	Max Fuse	Ship Weight
	R-134a	R-22	R-404A	R-407A	R-407C			
F3AH-B100	6.2					12.4	20	88
F3AH-B100	6.2					20.3	30	87
F3AH-B105	11.9					11.0	15	104
F3AH-B105	11.9					7.5	15	107
FJAF-0100			5.4			12.4	20	93
FJAF-0100			5.4			12.4	20	92
FJAF-0106			5.4			12.7	20	89
FJAF-0108			5.4			12.8	20	91
FJAF-0108			5.4			8.3	15	92
FJAF-0125			10.3			11.0	15	104
FJAF-0125			10.3			8.3	15	106
FJAF-0126			10.3			13.0	20	107
FJAF-0126			10.3			8.5	15	106
FJAF-0130			10.3			13.9	20	109
FJAF-B100			5.4			13.7	20	89
FJAF-E110			5.4			13.6	20	90
FJAL-0105			5.4			11.2	15	90
FJCL-B100			5.4			13.5	20	79
FJEF-0108			5.4			12.8	20	87
FTAH-C100	6.3					11.2	15	90

Copeland Scroll™ water-cooled condensing units

BTU/H at 105° condensing, 75° water inlet - evaporator temp (°F)

Water flow (GPM) at evaporator temp (°F)

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

R-404A Low Temp

Model	Compressor	-30	-25	-20	-15	-10	-5	0	-30	-15	0
FFWP-015Z	ZS09KAE	3230	3670	4140	4670	5240	5890	6590	0.48	0.67	0.96
FFWP-017Z	ZS11KAE	4010	4540	5130	5790	6500	7300	8180	0.61	0.83	1.11
FFWP-020Z	ZS13KAE	4400	4990	5640	6350	7140	8010	8980	0.69	0.94	1.26
FFWP-022Z	ZS15KAE	5350	6070	6860	7720	8680	9740	10900	0.83	1.12	1.51
FFWP-030Z	ZS19KAE	6340	7190	8120	9150	10300	11500	12900	1.02	1.33	1.74
FFWP-032Z	ZS21KAE	8030	9100	10300	11600	13000	14600	16400	1.23	1.67	2.25
FFWP-040Z	ZS26KAE	9390	10600	12000	13600	15200	17100	19200	1.45	1.97	2.6
FFWP-042Z	ZS33KAE	11200	12700	14400	16200	18200	20400	22900	1.72	2.32	3.13
FFWP-050Z	ZS38KAE	14000	15800	17700	19900	22200	24800	27600	2.12	2.83	3.75
FJWM-C50Z	ZS45KAE						31900	35400			4.66

R-404A Med/HighTemp

Model	Compressor	5	10	15	20	25	30	35	40	45	0	25	45
FFWP-015Z	ZS09KAE	7370	8230	9180	10200	12300	13600	14900	16400	18000	0.96	1.57	2.15
FFWP-017Z	ZS11KAE	9150	10200	11400	12700	14400	15900	17500	19300	21100	1.11	1.8	2.5
FFWP-020Z	ZS13KAE	10000	11200	12500	13900	16800	18500	20400	22400	24600	1.26	2.12	2.92
FFWP-022Z	ZS15KAE	12200	13600	15200	16900	20400	22500	24700	27200	29900	1.51	2.56	3.52
FFWP-030Z	ZS19KAE	14500	16200	18000	20100	22900	25200	27700	30500	33400	1.74	2.84	3.96
FFWP-032Z	ZS21KAE	18300	20500	22800	25400	30700	34100	37900	42100	46700	2.25	3.85	5.47
FFWP-040Z	ZS26KAE	21400	23900	26700	29700	32900	36500	40400	44700	49300	2.6	4.11	5.85
FFWP-042Z	ZS33KAE	25600	28600	31900	35500	43000	47700	53000	58800	65300	3.13	5.34	7.62
FFWP-050Z	ZS38KAE	30600	33900	37500	41400	51600	56800	62300	68300	75700	3.75	6.53	9.26
FJWM-C50Z	ZS45KAE	39300	43500	48100	53100	58500					4.66	7.45	

R-134a Med/High Temp

Model	Compressor	0	5	10	15	20	25	30	35	40	45	0	25	45
FFWP-015Z	ZS09KAE	4070	4620	5220	5870	6590	7620	8500	9460	10500	11600	0.57	0.96	1.4
FFWP-017Z	ZS11KAE	4850	5510	6230	7010	7870	9090	10100	11300	12500	13900	0.67	1.15	1.67
FFWP-020Z	ZS13KAE	5540	6290	7110	8010	8990	10400	11600	12900	14300	15900	0.77	1.32	1.91
FFWP-022Z	ZS15KAE	6680	7590	8570	9650	10800	12500	14000	15600	17300	19100	0.92	1.57	2.28
FFWP-030Z	ZS19KAE	7540	8560	9680	10900	12200	14100	15800	17500	19500	21600	1.05	1.75	2.53
FFWP-032Z	ZS21KAE	10100	11500	13000	14600	16400	19000	21200	23600	26200	29000	1.35	2.33	3.4
FFWP-040Z	ZS26KAE	11600	13200	14900	16800	18900	21000	23500	26100	29000	32200	1.54	2.56	3.79
FFWP-042Z	ZS33KAE	14000	15800	17900	20200	22600	26100	29200	32500	36100	40000	1.86	3.21	4.67
FFWP-050Z	ZS38KAE	16000	18100	20400	23000	25800	30800	34300	38100	42300	47200	2.1	3.79	5.69

R-407A Low Temp

Model	Compressor	-25	-20	-15	-10	-5	0	5	-25	-10	5
FFWP-015Z	ZS09KAE	3330	3960	4590	5240	5910	6630	7410	0.5	0.8	1
FFWP-017Z	ZS11KAE	3980	4720	5480	6250	7060	7920	8850	0.6	0.9	1.2
FFWP-020Z	ZS13KAE	4540	5390	6250	7140	8060	9050	10100	0.7	1	1.4
FFWP-022Z	ZS15KAE	5470	6500	7540	8610	9720	10900	12200	0.8	1.2	1.6
FFWP-030Z	ZS19KAE	6180	7340	8510	9710	11000	12300	13700	1	1.4	1.8
FFWP-032Z	ZS21KAE	7160	8680	10300	11900	13700	15600	17700	1.2	1.7	2.4
FFWP-040Z	ZS26KAE	7940	9640	11400	13300	15200	17400	19600	1.3	1.9	2.6
FFWP-042Z	ZS33KAE	10400	12700	15000	17400	20000	22800	25800	1.7	2.4	3.4

R-407A Med/High Temp

Model	Compressor	10	15	20	25	30	35	40	45	10	25	45
FFWP-015Z	ZS09KAE	8250	9170	10200	12000	13300	14700	16300	18300	1.1	1.4	2.1
FFWP-017Z	ZS11KAE	9850	11000	12200	14300	15900	17600	19500	21800	1.3	1.7	2.5
FFWP-020Z	ZS13KAE	11300	12500	13900	16300	18100	20100	22200	24900	1.5	2	2.8
FFWP-022Z	ZS15KAE	13600	15100	16700	19700	21800	24200	26800	30000	1.8	2.3	3.4
FFWP-030Z	ZS19KAE	15300	17000	18900	22200	24600	27300	30200	33800	2	2.6	3.8
FFWP-032Z	ZS21KAE	19900	22300	25000	28600	31800	35300	39100	43200	2.6	3.5	5
FFWP-040Z	ZS26KAE	22100	24800	27700	32700	36400	40400	44700	49900	2.9	3.9	5.6
FFWP-042Z	ZS33KAE	29000	32600	36400	41700	46400	51500	57000	63500	3.7	5	7.1

R-407C Med/High Temp

Model	Compressor	0	5	10	15	20	25	30	35	40	45	0	25	45
FFWP-015Z	ZS09KAE	5750	6670	7620	8630	9700	11100	12300	13600	15000	16500	0.81	1.42	1.98
FFWP-017Z	ZS11KAE	6870	7960	9100	10300	11600	13300	14700	16300	18000	19700	0.98	1.68	2.34
FFWP-020Z	ZS13KAE	7840	9090	10400	11800	13200	15100	16800	18600	20500	22500	1.13	1.92	2.68
FFWP-022Z	ZS15KAE	9450	11000	12500	14200	15900	18300	20300	22400	24700	27200	1.34	2.31	3.22
FFWP-030Z	ZS19KAE			14500	16400	18500	20600	22800	25300	27800	30600		2.6	3.62
FFWP-032Z	ZS21KAE	14300	16600	19000	21500	24200	27700	30700	34000	37500	41200	1.97	3.42	4.8
FFWP-040Z	ZS26KAE	16300	18900	21600	24500	27500	30600	34000	37600	41500	45600	2.24	3.77	5.3
FFWP-042Z	ZS33KAE	19700	22900	26200	29600	33300	38100	42300	46800	51600	56800	2.71	4.71	6.61
FFWP-050Z	ZS38K4E	22500	26200	30400	35000	39900	45000	50400	55900	61500	67200	2.93	5.31	7.76

R-22 Med/High Temp

Model	Compressor	0	5	10	15	20	25	30	35	40	45	0	25	45
FFWP-015Z	ZS09KAE	6770	7740	8720	9750	10800	12100	13300	14700	16100	17700	0.92	1.51	2.14
FFWP-017Z	ZS11KAE	7890	9040	10200	11400	12700	14000	15500	17100	18800	21000	1.07	1.75	2.49
FFWP-020Z	ZS13KAE	9160	10500	11800	13200	14600	16400	18000	19900	21800	24000	1.24	2.03	2.94
FFWP-022Z	ZS15KAE	10800	12300	13900	15500	17200	19200	21200	23400	25700	28200	1.49	2.4	3.41
FFWP-032Z	ZS21KAE	6770	7740	8720	9750	10800	19200	21200	23400	25700	28200	1.65	2.69	3.82
FFWP-030Z	ZS19KAE	12200	14000	15800	17600	19600	21900	24100	26500	29200	32000	1.65	2.69	3.82
FFWP-040Z	ZS26KAE	18200	20800	23500	26200	29100	32600	35900	39500	43400	47700	2.43	3.96	5.69
FFWP-042Z	ZS33KAE	6770	7740	8720	9750	10800	44800	49400	54300	59500	65100	3.46	5.62	8.03
FFWP-050Z	ZS38K4E	26200	29300	32600	36300	40200	44800	49400	54300	59500	65100	3.46	5.62	8.03

Copeland™ welded water-cooled condensing units

BTU/H at 105° condensing, 75° water inlet - evaporator temp (°F)	Water flow (GPM) at evaporator temp (°F)
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Capacities rated at 40°F return gas, 5°F subcooling

R-404A Ext Med Temp

Model	Compressor	-25	-20	-15	-10	-5	0	25	-25	0	25
FJWF-C106	RST64C1E	2490	2980	3530	4120	4750	5420	9470	0.4	0.81	1.31
FJWF-C125	RST70C1E	2490	2990	3550	4160	4830	5540	9870	0.4	0.79	1.29
FJWF-C126	RST80C1E	3080	3650	4280	4960	5710	6520	11400	0.51	0.91	1.52

R-22 Med/High Temp

Model	Compressor	0	5	10	15	20	25	30	0	15	30
F3WH-B105	RST70C1	5120	5820	6580	7410	8330	9340	10400	0.72	1.03	1.34

Physical and Electrical Data

Copeland Scroll™ water-cooled condensing units

Model	Electricals	BOM	Compressor Electrical	Length	Width	Height	Refrigerant Connections	
							Liquid	Suction
FFWP-015Z	CFV	020	ZS09KAE-PFV	24.0	16.1	16.6	7/8 S	3/8 S
FFWP-015Z	TFC	020	ZS09KAE-TF5	24.0	16.1	16.6	7/8 S	3/8 S
FFWP-015Z	TFD	020	ZS09KAE-TFD	24.0	16.1	16.6	7/8 S	3/8 S
FFWP-017Z	CFV	020	ZS11KAE-PFV	24.0	16.1	16.6	7/8 S	3/8 S
FFWP-017Z	TFC	020	ZS11KAE-TF5	24.0	16.1	16.6	7/8 S	3/8 S
FFWP-017Z	TFD	020	ZS11KAE-TFD	24.0	16.1	16.6	7/8 S	3/8 S
FFWP-020Z	CFV	020	ZS13KAE-PFV	24.0	16.1	16.6	7/8 S	3/8 S
FFWP-020Z	TFC	020	ZS13KAE-TF5	24.0	16.1	16.6	7/8 S	3/8 S
FFWP-020Z	TFD	020	ZS13KAE-TFD	24.0	16.1	16.6	7/8 S	3/8 S
FFWP-022Z	CFV	020	ZS15KAE-PFV	24.0	16.1	16.6	7/8 S	3/8 S
FFWP-022Z	TFC	020	ZS15KAE-TF5	24.0	16.1	16.6	7/8 S	3/8 S
FFWP-022Z	TFD	020	ZS15KAE-TFD	24.0	16.1	16.6	7/8 S	3/8 S
FFWP-030Z	CFV	020	ZS19KAE-PFV	24.1	16.1	16.6	7/8 S	3/8 S
FFWP-030Z	TFC	020	ZS19KAE-TF5	24.1	16.1	16.6	7/8 S	3/8 S
FFWP-030Z	TFD	020	ZS19KAE-TFD	24.1	16.1	16.6	7/8 S	3/8 S
FFWP-032Z	CFV	020	ZS21KAE-PFV	27.2	21.5	18.2	1 1/8 S	3/8 S
FFWP-032Z	TFC	020	ZS21KAE-TF5	27.2	21.5	18.2	1 1/8 S	3/8 S
FFWP-032Z	TFD	020	ZS21KAE-TFD	27.2	21.5	18.2	1 1/8 S	3/8 S
FFWP-040Z	CFV	020	ZS26KAE-PFV	27.5	21.0	21.1	1 1/8 S	1/2 S
FFWP-040Z	TFC	020	ZS26KAE-TF5	27.5	21.0	21.1	1 1/8 S	1/2 S
FFWP-040Z	TFD	020	ZS26KAE-TFD	27.5	21.0	21.1	1 1/8 S	1/2 S
FFWP-042Z	CFV	020	ZS33KAE-PFV	27.2	21.6	21.1	1 1/8 S	1/2 S
FFWP-042Z	TFC	020	ZS33KAE-TF5	27.2	21.6	21.1	1 1/8 S	1/2 S
FFWP-042Z	TFD	020	ZS33KAE-TFD	27.2	21.6	21.1	1 1/8 S	1/2 S
FFWP-050Z	CFV	020	ZS38K4E-PFV	27.5	21.7	21.1	1 1/8 S	1/2 S
FFWP-050Z	TFC	020	ZS38K4E-TF5	27.5	21.7	21.1	1 1/8 S	1/2 S
FFWP-050Z	TFD	020	ZS38K4E-TFD	27.5	21.7	21.1	1 1/8 S	1/2 S
FFWP-050Z	TFE	020	ZS38K4E-TFE	27.5	21.7	21.1	1 1/8 S	1/2 S
FJWM-C50Z	TFC	020	ZS45K4E-TF5	25.0	21.42	21.59	1/2 S	7/8 S
FJWM-C50Z	TFD	020	ZS45K4E-TFD	25.0	21.42	21.59	1/2 S	7/8 S

Physical and Electrical Data

Copeland welded water-cooled condensing units

Model	Electricals	BOM	Compressor Electrical	Length	Width	Height	Refrigerant Connections	
							Liquid	Suction
FJWF-C106	CAV	020	RST64C1E-CAV	24.23	17.32	11.87	3/8 S	7/8 S
F3WH-B105	CFV	020	RST70C1-PFV	24.33	19.07	12.76	3/8 S	5/8 S
F3WH-B105	TAC	020	RST70C1-TA5	24.33	19.07	12.76	3/8 S	5/8 S
FJWF-C125	CFV	020	RST70C1E-PFV	24.33	17.81	12.75	3/8 S	5/8 S
FJWF-C125	TAC	020	RST70C1E-TA5	24.33	17.81	12.75	3/8 S	5/8 S
FJWF-C126	CFV	020	RST80C1E-PFV	24.33	17.81	12.75	3/8 S	5/8 S
FJWF-C126	TAC	020	RST80C1E-TA5	24.33	17.81	12.75	3/8 S	5/8 S
FJWL-C105	CFV	020	RST80C1E-PFV	24.00	16.43	12.05	3/8 S	5/8 S
FJWL-C105	TAC	020	RST80C1E-TA5	24.00	16.55	12.00	3/8 S	5/8 S

Physical and Electrical Data

Copeland Scroll water-cooled condensing units

Model	Water Connections		Receiver Capacity (Lbs @ 90% Volume)					MCA	Max Fuse	Ship Weight (Lbs)
	In (FPT)	Out (OD)	R-134a	R-22	R-404A	R-407A	R-407C			
FFWP-015Z	3/8	5/8	13.1	12.9	11.2	12.2	11.4	12.5	20	107
FFWP-015Z	3/8	5/8	13.1	12.9	11.2	12.2	11.4	10.0	15	107
FFWP-015Z	3/8	5/8	13.1	12.9	11.2	12.2	11.4	4.8	15	107
FFWP-017Z	3/8	5/8	13.1	12.9	11.2	12.2	11.4	15.8	25	105
FFWP-017Z	3/8	5/8	13.1	12.9	11.2	12.2	11.4	13.0	20	105
FFWP-017Z	3/8	5/8	13.1	12.9	11.2	12.4	12.3	5.4	15	105
FFWP-020Z	3/8	5/8	13.1	12.9	11.2	12.4	12.3	15.0	25	107
FFWP-020Z	3/8	5/8	13.1	12.9	11.2	12.4	12.3	12.1	20	107
FFWP-020Z	3/8	5/8	13.1	12.9	11.2	12.4	12.3	6.0	15	107
FFWP-022Z	3/8	5/8	13.1	12.9	11.2	12.4	12.3	19.6	35	106
FFWP-022Z	3/8	5/8	13.1	12.9	11.2	12.4	12.3	13.3	20	106
FFWP-022Z	3/8	5/8	13.1	12.9	11.2	12.4	12.3	6.8	15	106
FFWP-030Z	3/8	5/8	13.1	12.9	11.2	12.4	12.3	22.5	40	105
FFWP-030Z	3/8	5/8	13.1	12.9	11.2	12.4	12.3	17.1	30	105
FFWP-030Z	3/8	5/8	13.1	12.9	11.2	12.4	12.3	8.1	15	105
FFWP-032Z	1/2	7/8	13.1	12.9	11.2	12.4	12.3	29.0	50	171
FFWP-032Z	1/2	7/8	13.1	12.9	11.2	12.4	12.3	19.0	30	171
FFWP-032Z	1/2	7/8	13.1	12.9	11.2	12.4	12.3	8.6	15	171
FFWP-040Z	3/4	7/8	21.5	21.1	18.4	20.2	20.1	29.5	50	191
FFWP-040Z	3/4	7/8	21.5	21.1	18.4	20.2	20.1	19.4	30	191
FFWP-040Z	3/4	7/8	21.5	21.1	18.4	20.2	20.1	8.6	15	191
FFWP-042Z	3/4	7/8	21.5	21.1	18.4	20.2	20.1	35.3	60	197
FFWP-042Z	3/4	7/8	21.5	21.1	18.4	20.2	20.1	27.9	50	197
FFWP-042Z	3/4	7/8	21.5	21.1	18.4	20.2	20.1	12.5	20	197
FFWP-050Z	3/4	7/8	21.5	21.1	18.4	20.2	20.1	39.8	70	220
FFWP-050Z	3/4	7/8	21.5	21.1	18.4	20.2	20.1	26.8	45	220
FFWP-050Z	3/4	7/8	21.5	21.1	18.4	20.2	20.1	12.0	20	220
FFWP-050Z	3/4	7/8	21.5	21.1	18.4	20.2	20.1	9.9	15	220
FJWM-C50Z	3/4	7/8			18.4			29.9	50	198
FJWM-C50Z	3/4	7/8			18.4			11.6	20	201

Physical and Electrical Data

Copeland welded water-cooled condensing units

Model	Water Connections		Receiver Capacity (Lbs @ 90% Volume)					MCA	Max Fuse	Ship Weight (Lbs)
	In (FPT)	Out (OD)	R-134a	R-22	R-404A	R-407A	R-407C			
FJWF-C106	3/8	1/2			6.4			11.3	20	83
F3WH-B105	3/8	1/2		12.9				9.6	15	91
F3WH-B105	3/8	1/2		12.9				6.1	15	75
FJWF-C125	3/8	1/2			11.2			9.6	15	85
FJWF-C125	3/8	1/2			11.2			6.9	15	90
FJWF-C126	3/8	1/2			11.2			11.6	20	85
FJWF-C126	3/8	1/2			11.2			7.1	15	89
FJWL-C105	3/8	1/2			6.4			12.2	20	115
FJWL-C105	3/8	1/2			6.4			7.7	15	88

Emerson™ Electronic Unit Controller (EUC)

Part #	Description
943-0152-00	115V Electronic Unit Controller
943-0153-00	230V Electronic Unit Controller
943-0154-00	115V Electronic Unit Controller with Fan Cycling
943-0155-00	230V Electronic Unit Controller with Fan Cycling
929-0114-00	Electronic Unit Controller Suction Pressure Transducer (150 PSIA)
929-0113-00	DLT Sensor Kit



Hold 3 Seconds to Enter Menu (PSI Light Will Flash)

Cycle Through Menu Options

Select Function

Adjust Value

Store Function

Exit Menu

Functions

- Low Pressure Cut-In
- Low Pressure Cut-Out
- More information inside panel

Alarm	Description	Alarm	Description
PoF	Keypad locked	HP	High pressure trip alarm
Pon	Keypad unlocked	HA	High condenser temperature alarm
P1	Suction probe failure	HPL	High pressure trip lock-out alarm
P2	Condenser probe failure		
P3	DLT probe failure		
dLt	DLT temperature alarm		
dLL	DLT lock alarm		
EE	Module Failure		

Note: After 15 seconds of inactivity the controller will revert to the default display

Scan for Electronic Unit Controller Alarm Code and Service Information

052-7269-00

BUTTON	DESCRIPTION
SET	Displays set point In programming mode it confirms an operation.
RESTART	Allows a manual restart and a dead band reset
SERVICE	To enter the service menu.
Alarm menu	To enter the Alarm menu.

Note: Fan Cycling (If Present) is controlled by the Saturated Condenser Temperature for equal runtime

Default Factory Settings For Replacement Controller

Cin = 25	AC = 6	P1E = 135	dly = 0	bEn = 4
CoU = 15	ono = 0	P1d = 15	bMP = no	Di1 = YES
LS = 5	Con = 5	Unit = PSI	On = 2	i1P = CL
US = 135	CoF = 5	CF = F	oFF = 5	Di1 = no
odS = 2	P1i = -15	rES = in	Nub = 3	i2P = CL

Call 1-888-367-9950 or see www.EmersonClimate.com/EUC for more details

Hood Selection

Copeland™ Model	Flex-Line Hood
FFAP-015Z	505-7066-01
FFAP-017Z	505-7066-01
FFAP-020Z	505-7066-02
FFAP-022Z	505-7066-02
FFAP-030Z	505-7066-02
FFAP-032Z	505-7066-02
FFAP-040Z	505-7066-03
FFAP-042Z	505-7066-03
FFAP-050Z	505-7066-03
FPAK-010Z	505-7066-01
FPAK-012Z	505-7066-01
FPAK-013Z	505-7066-01
FPAK-015Z	505-7066-01
FPAK-020Z	505-7066-02
FPAK-039Z	505-7066-02



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HVAC Check & Charge



Emerson e-Saver™



Sensi



WRMobile



Emerson X-Check™



Copeland™ Mobile



Copeland X-Ref™



Emerson PTPro™



More Soon
We're
listening
to you!

Application Engineering Bulletins

- | | |
|---------|--|
| 4-1273 | Factors to Consider in Converting Compressor Rated Capacity to Actual Capacity |
| 4-1292 | Medium Temperature R-22 Copelaweld Compressors |
| 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 |
| 4-1302 | Application Guidelines for Copeland Scroll Compressors 7.5 - 15 Horsepower |
| 4-1305 | "SystemPro" AF, AR, & AS Refrigeration Hermetic 1/8-1 Horsepower Compressors |
| 4-1306 | Application Guidelines for RF Low Temperature Refrigeration Compressors |
| 4-1307 | Application Guidelines for CF Refrigeration Compressors and Condensing Units |
| 4-1317 | Application Guidelines for ZBKC / ZBKCE Refrigeration Scroll Compressors 1.3 to 6 HP |
| 4-1318 | Application Guidelines for ZBKC / ZBKCE Refrigeration Scroll Compressors 7 to 15 HP |
| 4-1344 | Application Guidelines for RFT, RRT, RST Compressors |
| 4-1387 | Application Guidelines for ZS**KAE Copeland Scroll™ Refrigeration Compressors 1.3-4.5 HP |
| 8-1376 | Electronic Unit Controller |
| 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 |

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