Copeland™ F-Line

Air-cooled and water-cooled condensing units



Product Information

Horsepower: 3/4 -10
Refrigerants: R-22, R-134a, R-404A, R-407A, R-407C, R-448A, R-449A

EMERSON™

Nomenclature • Welded Condensing Units

Refrigerant	Code
R-22	3/9
Multiple	F
R-134a/R-404A	P
R-290	U

Temperature Application	Code
High Temperature	H
Medium Temperature	M
Low Temperature	L
Medium/High Temp	R/K
Multiple	S/N/P

Compressor Motor Types		
Phase	Description	Code
1	Capacitor Run - Capacitor Start	C
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 Rercognition and CUL Certified
300 thru 399	Not eligible for either UL Listing, UL Recognition or CUL Certified

Model Variation	
Scroll	Z
Digital Scroll	D

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

Condensing Unit Family Series	
Scroll	F
Outdoor	X

Type of Design	Code
Air Cooled Steel Base	A
Custom Base	C
No Condenser	N
Water Cooled Steel Base	W
Air Cooled Copevap Base-24x16.1	B

Standard	-
Evac and Charge	C

Nominal HP

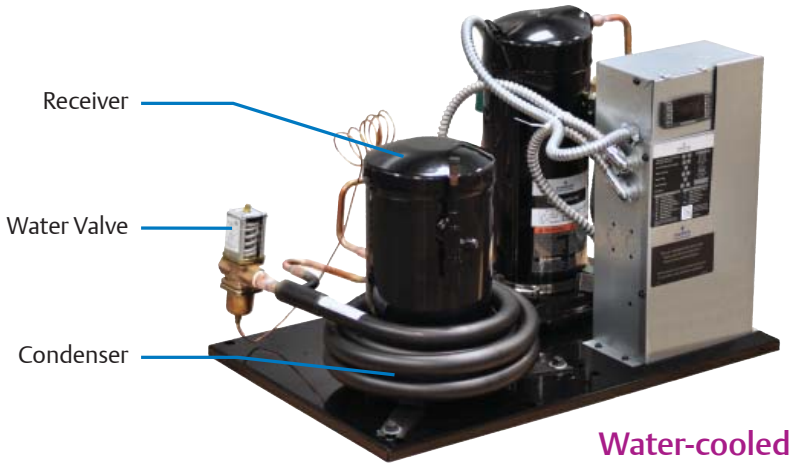
Compressor Motor Protection	
Type Protection	Code
Internal Inherent Protection – One Protector (Line Break)	F
Internal Thermal Protection – Electronic Sensors; and Control Module External	S

Electrical Codes		
60 Hz.	50 Hz.	Code
208/230-3	200/220-3	C
460-3	-	D
575-3	-	E
-	380/420-3	M
208/230-1	200-1	V*
-	220/240-1	Z

*Note: When both 60 Hz and 50 Hz are listed, the 60 Hz is primary. The 50 Hz values are typical and may or may not apply. There may also be slight variations in voltages for 50 Hz.



Air-cooled



Water-cooled

Bill of Materals Matrix

BOM	Options																	UL	
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																			
071*	X	X		X	X	X		X	X	X	X	X		X				X	
072	X	X		X	X	X				X	X	X						X	
075	X	X		X	X	X		X[1]		X	X	X		X	X			X	
Water Cooled																			
020	X	X				X				X				X		X		X	

* -071 BOM not available on all models. See **Climate.Emerson.com/OPI** for available models.

[1] Accumulator available on dual fan units only.

All information in this catalog is for reference only and subject to change without notice. Please visit **Climate.Emerson.com/OPI** for a complete listing of all available models and updated information.

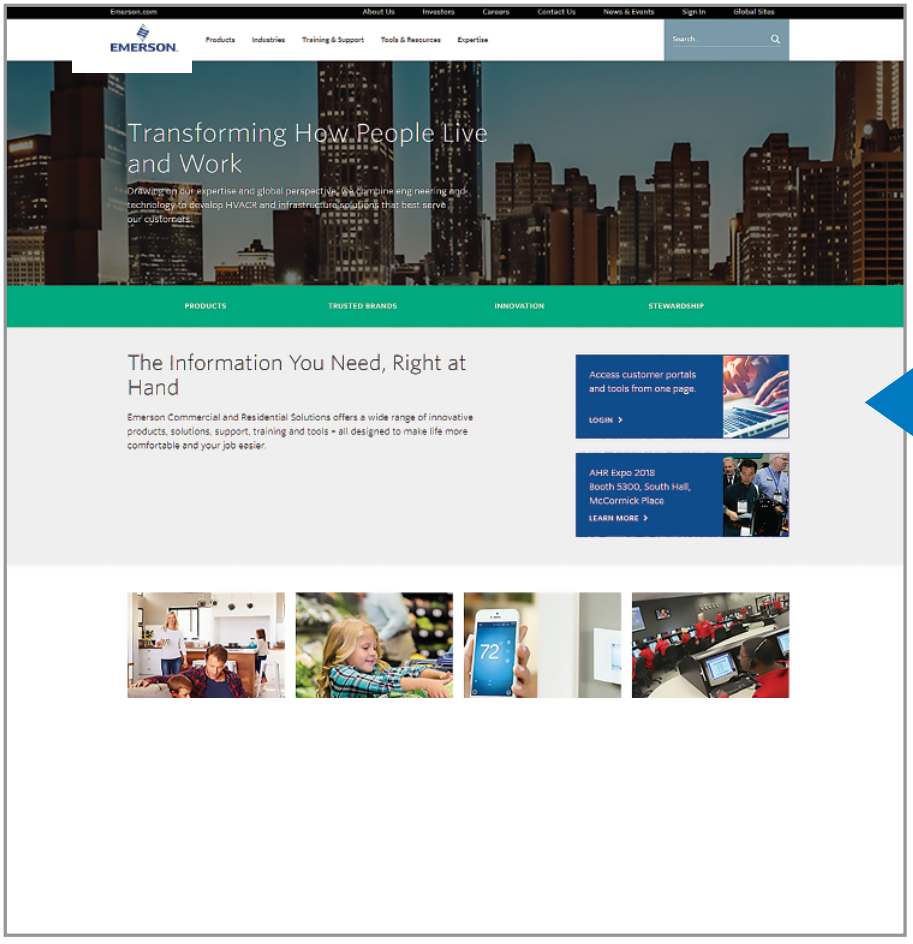
For AWEF compliant models, see p.32

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

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



Climate.Emerson.com

Register for more product information

For more information, visit **Emerson.com/OPI** and login to the Customer Portal to view Online Product Information

Medium Temp – Air Cooled

90° Ambient																
HP	Model	Compressor	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG (65°F RG in Bold), 5°F Subcooling											
					-5	0	5	10	15	20	25	25	30	35	40	45
3/4	FFAM-A08Z	ZB06KAE	CFV	R-134a			2800	3200	3640	4130	4680	4770	5340	5950	6620	7320
				R-404A	3920	4380	4890	5470	6090	6760	7460	7740	8500	9300	10100	11000
				R-407A	3560	3950	4420	4950	5550	6200	6920	7040	7820	8640	9520	10400
				R-407C	3090	3580	4090	4640	5230	5850	6520	6610	7320	8070	8870	9710
				R-448A	3600	4060	4570	5120	5720	6360	7030	7160	7880	8650	9450	10300
				R-449A	3620	4080	4590	5140	5730	6370	7050	7170	7900	8660	9450	10300
			TFC	R-134a			2800	3200	3640	4130	4680	4770	5340	5960	6620	7330
				R-404A	3920	4380	4900	5470	6090	6760	7470	7740	8510	9300	10100	10900
				R-407A	3560	3950	4420	4950	5550	6210	6920	7040	7820	8650	9520	10400
				R-407C	3090	3580	4090	4640	5230	5850	6520	6610	7320	8080	8880	9720
				R-448A	3610	4070	4570	5120	5720	6360	7040	7160	7890	8650	9440	10300
				R-449A	3630	4090	4590	5140	5740	6370	7050	7170	7900	8650	9450	10300
1	FFAM-A10Z	ZB07KAE	CFV	R-134a			3440	3920	4460	5030	5640	5740	6400	7120	7880	8690
				R-404A	4590	5200	5840	6520	7250	8020	8840	9170	10100	11000	12000	13100
				R-407A	4120	4720	5360	6050	6770	7530	8320	8460	9290	10100	11000	11900
				R-407C	3740	4280	4870	5500	6180	6910	7670	7780	8600	9450	10300	11200
				R-448A	4240	4780	5370	6010	6710	7460	8250	8410	9250	10100	11100	12000
				R-449A	4260	4790	5380	6030	6720	7470	8250	8410	9250	10100	11000	12000
			TFC	R-134a			3440	3920	4460	5030	5640	5740	6410	7120	7890	8690
				R-404A	4600	5210	5850	6530	7260	8030	8850	9190	10100	11000	12000	13100
				R-407A	4120	4720	5360	6050	6770	7530	8320	8460	9290	10100	11000	11900
				R-407C	3740	4280	4870	5510	6190	6910	7680	7790	8590	9440	10300	11200
				R-448A	4240	4780	5370	6010	6710	7460	8250	8410	9250	10100	11100	12000
				R-449A	4260	4790	5380	6030	6720	7470	8260	8410	9260	10100	11000	12000
	FPAK-010Z	ZS09KAE	CFV	R-134a		4020	4520	5060	5620	6230	6870	7100	7810	8570	9370	10200
				R-404A	5940	6540										
			TFC, TFD	R-134a		4020	4520	5060	5620	6230	6870	7100	7810	8570	9370	10200
				R-404A	5870	6470										
1 1/4	FFAM-A12Z	ZB08KAE	CFV	R-134a			4090	4640	5270	5960	6700	6810	7600	8440	9340	10300
				R-404A	5560	6240	6950	7700	8500	9370	10300	10700	11800	13000	14300	15700
				R-407A	4960	5730	6520	7330	8160	9010	9870	10000	10900	11900	12800	13700
				R-407C	4560	5190	5860	6580	7360	8190	9090	9210	10200	11200	12300	13500
				R-448A	5100	5720	6420	7190	8030	8930	9900	10100	11100	12200	13300	14400
				R-449A	5110	5720	6420	7190	8030	8930	9890	10100	11100	12200	13300	14400
			TFC	R-134a			4090	4640	5270	5960	6700	6820	7600	8450	9350	10300
				R-404A	5560	6240	6950	7700	8500	9370	10300	10700	11800	13000	14300	15700
				R-407A	4960	5730	6520	7330	8160	9010	9880	10000	10900	11900	12800	13700
				R-407C	4560	5190	5860	6580	7360	8190	9090	9210	10200	11200	12300	13500
				R-448A	5110	5720	6420	7190	8030	8930	9900	10100	11100	12200	13300	14400
				R-449A	5110	5730	6420	7190	8030	8930	9890	10100	11100	12200	13300	14400
	FPAK-012Z	ZS11KAE	CFV	R-134a		4730	5300	5920	6560	7250	7980	8250	9060	9910	10800	11700
				R-404A	6790	7450										
			TFC, TFD	R-134a		4730	5300	5920	6560	7250	7980	8250	9060	9910	10800	11700
				R-404A	6890	7570										
	FPAK-013Z	ZS15KAE	CFV	R-134a		6640	7470	8360	9300	10300	11400	11800	13000	14200	15600	17000
				R-404A	9940	11000										
			TFC, TFD	R-134a		6640	7470	8360	9300	10300	11400	11800	13000	14200	15600	17000
				R-404A	9860	10900										
1 1/2	FFAP-A15Z	ZS09KAE	CFV	R-134a	3680	4210	4790	5420	6100	6810	7580	7700	8540	9430	10400	11400
				R-404A	6430	7150	7940	8780	9690	10700	11700	12100	13300	14500	15800	
				R-407A	6010	6700	7430	8220	9070	9990	11000	11200	12200	13400	14700	16100
				R-407C	4910	5770	6660	7580	8530	9520	10500	10700	11700	12900	14000	15200
				R-448A	5490	6130	6810	7560	8390	9310	10300	10500	11700	13000	14400	15900
				R-449A	5490	6130	6810	7560	8390	9310	10300	10500	11700	13000	14300	15900
			TFC, TFD	R-134a	3680	4210	4790	5410	6100	6810	7570	7700	8530	9430	10400	11400
				R-404A	6350	7070	7840	8680	9570	10500	11600	12000	13100	14300	15600	
				R-407A	6010	6700	7430	8220	9070	9990	11000	11200	12200	13400	14700	16100
				R-407C	4910	5770	6660	7580	8530	9520	10500	10700	11700	12900	14000	15200
				R-448A	5440	6110	6820	7610	8470	9420	10500	10700	11800	13100	14400	15900
				R-449A	5450	6110	6830	7610	8470	9420	10500	10700	11800	13100	14400	15900
	FPAK-015Z	ZS19KAE	CFV, TFC, TFD	R-134a		7410	8330	9310	10300	11500	12600	13100	14300	15700	17200	18700
				R-404A	10900	12000										

Medium Temp – Air Cooled

90° Ambient															
HP	Model	Compressor	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG (65°F RG in Bold), 5°F Subcooling										
					-5	0	5	10	15	20	25	25	30	35	40	45
1 3/4	FFAP-A17Z	ZS11KAE	CFV	R-134a	4400	5030	5720	6440	7210	8030	8920	9080	10000	11100	12200	13400
				R-404A	7450	8270	9160	10100	11100	12200	13400	13900	15200	16500	17900	
				R-407A	7090	7890	8740	9650	10600	11700	12800	13000	14300	15600	17100	18600
				R-407C	5800	6820	7860	8940	10000	11200	12400	12500	13800	15100	16400	17700
				R-448A	6560	7310	8110	8990	9950	11000	12200	12400	13800	15200	16800	18500
				R-449A	6560	7310	8110	8980	9950	11000	12200	12400	13800	15200	16800	18500
			TFC, TFD	R-134a	4400	5030	5720	6440	7210	8030	8920	9080	10000	11100	12200	13400
				R-404A	7570	8410	9300	10300	11300	12400	13600	14100	15400	16800	18200	
				R-407A	7090	7890	8740	9650	10600	11700	12800	13000	14300	15600	17100	18600
				R-407C	5800	6820	7860	8940	10000	11200	12400	12500	13800	15100	16400	17700
				R-448A	6510	7290	8130	9050	10100	11200	12400	12600	13900	15400	16900	18600
				R-449A	6510	7290	8130	9050	10100	11200	12400	12600	13900	15300	16900	18500
2	FFAP-A20Z	ZS13KAE	CFV	R-134a	5020	5750	6530	7390	8280	9230	10200	10400	11500	12700	14000	15400
				R-404A	8710	9680	10700	11800	13100	14300	15700	16300	17800	19400	21100	
				R-407A	8150	9080	10100	11100	12300	13500	14800	15100	16500	18100	19800	21600
				R-407C	6670	7840	9040	10300	11600	12900	14300	14400	15900	17400	18900	20500
				R-448A	7510	8370	9300	10300	11400	12700	14000	14300	15900	17500	19400	21400
				R-449A	7510	8370	9300	10300	11400	12700	14000	14300	15900	17500	19400	21400
			TFC, TFD	R-134a	5020	5750	6530	7390	8280	9230	10200	10400	11500	12700	14000	15400
				R-404A	8710	9670	10700	11800	13000	14300	15700	16300	17800	19400	21100	
				R-407A	8150	9080	10100	11100	12300	13500	14800	15100	16500	18100	19800	21600
				R-407C	6670	7840	9040	10300	11600	12900	14300	14400	15900	17400	18900	20500
				R-448A	7620	8530	9460	10400	11500	12700	14000	14200	15700	17300	19200	21200
				R-449A	7620	8530	9460	10400	11500	12700	14000	14200	15700	17300	19200	21200
	FPAK-020Z	ZS21KAE	CFV	R-134a		10000	11300	12600	14000	15500	17200	17700	19500	21400	23400	25600
				R-404A	14700	16200										
			TFC, TFD	R-134a		10000	11300	12600	14000	15500	17200	17700	19500	21400	23400	25600
				R-404A	14600	16100										
2 1/4	FFAP-A22Z	ZS15KAE	CFV	R-134a	6060	6930	7870	8910	10000	11300	12600	12800	14200	15700	17400	19100
				R-404A	10800	12000	13300	14800	16300	18000	19800	20500	22500	24700	26900	
				R-407A	9330	10600	11900	13400	14900	16600	18500	18700	20700	22800	25100	27500
				R-407C	8130	9560	11000	12600	14200	15800	17600	17800	19600	21500	23500	25600
				R-448A	9120	10200	11300	12600	14000	15600	17300	17600	19600	21800	24200	26800
				R-449A	9110	10200	11300	12600	14000	15600	17300	17600	19600	21800	24200	26800
			TFC, TFD	R-134a	6060	6930	7870	8910	10000	11300	12600	12800	14200	15700	17400	19100
				R-404A	10700	11900	13200	14700	16200	17900	19700	20400	22300	24500	26700	
				R-407A	9960	11100	12400	13700	15100	16700	18400	18700	20500	22600	24800	27200
				R-407C	8130	9560	11000	12600	14200	15800	17600	17800	19600	21500	23500	25600
				R-448A	9040	10200	11400	12700	14100	15800	17500	17800	19800	21900	24200	26800
				R-449A	9030	10100	11400	12700	14100	15700	17500	17800	19800	21900	24200	26800
3	FFAP-A30Z	ZS19KAE	CFV	R-134a	6840	7820	8880	10000	11300	12700	14100	14400	15900	17600	19400	21300
				R-404A	12000	13300	14800	16400	18100	19900	21900	22700	24900	27200	29700	
				R-407A	11200	12500	13800	15300	16900	18600	20500	20800	22900	25100	27600	30200
				R-407C	9110	10700	12400	14100	15900	17700	19700	19900	21900	24000	26200	28500
				R-448A	10300	11600	12900	14300	15800	17400	19300	19600	21700	24100	26700	29600
				R-449A	10300	11600	12900	14200	15800	17400	19300	19600	21700	24100	26700	29600
			TFC, TFD	R-134a	7140	8120	9190	10300	11600	12900	14300	14600	16100	17700	19500	21300
				R-404A	11900	13200	14700	16300	18000	19800	21700	22500	24700	27000	29400	
				R-407A	11200	12500	13800	15300	16900	18600	20500	20800	22900	25100	27600	30200
				R-407C	9110	10700	12400	14100	15900	17700	19700	19900	21900	24000	26200	28500
				R-448A	10300	11600	12900	14200	15700	17400	19300	19600	21700	24100	26700	29700
				R-449A	10300	11600	12800	14200	15700	17400	19200	19600	21700	24100	26700	29700

Medium Temp – Air Cooled

90° Ambient															
HP	Model	Compressor	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG (65°F RG in Bold), 5°F Subcooling										
					-5	0	5	10	15	20	25	25	30	35	40	45
3 1/4	FFAP-A32Z	ZS21KAE	CFV	R-134a	9190	10500	11900	13400	15000	16700	18600	18900	20900	23100	25400	27800
				R-404A	15700	17400	19300	21200	23400	25600	28000	29100	31800	34600	37600	
				R-407A	14500	16100	17900	19700	21700	23900	26200	26600	29200	31900	34900	38100
				R-407C	12100	14200	16300	18600	20900	23300	25700	26100	28600	31300	34100	36900
				R-448A	14100	15900	17800	19800	21900	24100	26400	26900	29300	31800	34500	37200
				R-449A	14100	15900	17800	19800	21900	24100	26400	26800	29300	31800	34400	37100
			TFC, TFD	R-134a	9190	10500	11900	13400	15000	16700	18600	18900	20900	23100	25400	27800
				R-404A	15600	17300	19100	21100	23200	25500	27900	29000	31600	34400	37400	
				R-407A	14500	16100	17900	19700	21700	23900	26200	26600	29200	31900	34900	38100
				R-407C	12100	14200	16300	18600	20900	23300	25700	26100	28600	31300	34100	36900
				R-448A	14100	15900	17900	20000	22200	24500	26900	27400	30000	32700	35600	38600
				R-449A	14100	15900	17900	20000	22200	24500	26900	27400	30000	32800	35600	38600
4	FPAK-039Z	ZS29KAE	CFV	R-134a		11300	12800	14300	16000	17800	19700	22500	24800	27200	29800	32600
				R-404A	18700	20700										
			TFC, TFD	R-134a		11300	12800	14300	16000	17800	19700	22500	24800	27200	29800	32600
				R-404A	18800	20800										
	FFAP-A40Z	ZS26KAE	CFV	R-134a	10200	11700	13200	15000	16900	18900	21100	21500	23800	26300	29000	31900
				R-404A	17700	19700	21900	24300	26800	29600	32600	33800	37000	40600	44300	
				R-407A	15500	17600	19800	22200	24800	27700	30700	31100	34400	37900	41700	45700
				R-407C	13600	16000	18500	21000	23700	26500	29400	29700	32800	36000	39300	42800
				R-448A	15600	17400	19400	21700	24200	26800	29700	30200	33300	36700	40300	44100
				R-449A	15600	17400	19400	21700	24100	26800	29700	30200	33300	36700	40300	44100
			TFC, TFD	R-134a	10200	11700	13200	15000	16900	18900	21100	21500	23800	26300	29000	31900
				R-404A	17700	19800	22000	24400	26900	29700	32700	33900	37200	40700	44500	
				R-407A	15700	17700	19900	22200	24700	27500	30400	30900	34100	37500	41200	45100
				R-407C	13600	16000	18500	21000	23700	26500	29400	29700	32800	36000	39300	42800
				R-448A	15500	17400	19500	21900	24400	27200	30300	30800	34100	37700	41500	45600
				R-449A	15500	17400	19500	21900	24400	27200	30300	30800	34100	37700	41500	45600
4 1/4	FFAP-A42Z	ZS33KAE	CFV	R-134a	12700	14500	16400	18600	20800	23200	25800	26300	29100	32100	35300	38800
				R-404A	22100	24600	27200	30100	33200	36500	40100	41600	45500	49700	54000	
				R-407A	20600	23000	25500	28100	31000	34200	37500	38100	41900	45900	50000	55000
				R-407C	16600	19600	22600	25800	29000	32400	35900	36300	40000	43800	47800	52000
				R-448A	19800	22400	25100	28000	31000	34200	37500	38100	41700	45400	49300	53500
				R-449A	19800	22400	25100	27900	30900	34100	37400	38100	41700	45400	49300	53500
			TFC, TFD	R-134a	12700	14500	16400	18600	20800	23200	25800	26300	29100	32100	35300	38800
				R-404A	21900	24400	27000	29900	33000	36300	39800	41300	45200	49400	54000	
				R-407A	20600	23000	25500	28100	31000	34200	37500	38100	41900	45900	50000	55000
				R-407C	16600	19600	22600	25800	29000	32400	35900	36300	40000	43800	47800	52000
				R-448A	19700	22400	25200	28200	31400	34700	38300	38900	42700	46700	51000	55500
				R-449A	19800	22400	25200	28200	31300	34700	38200	38900	42700	46700	51000	55500
5	FFAP-050Z	ZS38K4E	CFV, TFC, TFD, TFE	R-134a	14800	16800	18800	21100	23600	26200	29000	29600	32600	35900	39400	43100
				R-404A	25600	28200	31000	33900	37000	40300	43800	45500	49200	53000	57500	61500
				R-407A	22600	25500	28700	32000	35500	39200	43000	43700	47700	52000	56000	60000
				R-407C	22300	25200	28300	31600	35000	38700	42400	43000	46900	51000	55000	59000
				R-448A	22300	25300	28600	32100	35800	39700	43700	44500	48700	53000	57500	61500
				R-449A	22300	25300	28600	32100	35800	39700	43700	44500	48700	53000	57500	61500
6	FFAP-060Z	ZS45K4E	TFC, TFD	R-134a	17500	19800	22300	24900	27800	30900	34200	34800	38400	42200	46300	50500
				R-404A	30100	33100	36200	39500	43000	46700	50500	52500	57000	61000	65500	70500
				R-407A	26900	30300	33900	37700	41700	45900	50000	51000	56000	60500	65500	70000
				R-407C		29900	33400	37200	41200	45300	49600	50500	55000	59500	64500	69000
				R-448A	26300	29800	33500	37500	41700	46100	50500	51500	56500	61500	66500	71500
				R-449A	26300	29800	33500	37500	41700	46100	50500	51500	56500	61500	66500	71500

Medium Temp – Air Cooled

100° Ambient																
HP	Model	Compressor	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG (65°F RG in Bold), 5°F Subcooling											
					-5	0	5	10	15	20	25	25	30	35	40	45
3/4	FFAM-A08Z	ZB06KAE	CFV	R-134a			3050	3450	3900	4380	4480	5020	5590	6220	6880	7320
				R-404A	3570	4010	5020	5580	6180	6810	7120	7800	8500	9220	9950	11000
				R-407A	3330	3690	4610	5160	5770	6430	6570	7300	8070	8880	9730	10400
				R-407C	2830	3300	4320	4870	5450	6070	6180	6840	7540	8280	9060	9710
				R-448A	3300	3730	4720	5270	5870	6510	6660	7350	8070	8830	9620	10300
				R-449A	3300	3730	4720	5280	5870	6510	6660	7350	8070	8830	9620	10300
			TFC	R-134a			3050	3450	3900	4380	4480	5020	5600	6220	6890	7330
				R-404A	3570	4010	5020	5590	6190	6820	7130	7810	8510	9220	9940	10900
				R-407A	3330	3690	4610	5170	5770	6430	6580	7300	8070	8880	9740	10400
				R-407C	2830	3300	4320	4870	5450	6070	6180	6840	7550	8290	9070	9720
				R-448A	3300	3730	4720	5280	5880	6510	6660	7350	8070	8830	9610	10300
				R-449A	3300	3730	4720	5280	5880	6510	6670	7350	8070	8830	9610	10300
1	FFAM-A10Z	ZB07KAE	CFV	R-134a			3710	4190	4710	5280	5400	6020	6690	7400	8150	8690
				R-404A	4250	4810	6010	6660	7340	8050	8420	9200	10000	10900	11700	13100
				R-407A	3680	4280	5590	6290	7010	7760	7940	8720	9510	10300	11100	11900
				R-407C	3440	3960	5120	5760	6430	7140	7270	8020	8810	9610	10400	11200
				R-448A	3930	4420	5570	6220	6920	7650	7840	8630	9450	10300	11200	12000
				R-449A	3930	4430	5570	6220	6920	7650	7840	8630	9450	10300	11200	12000
			TFC	R-134a			3710	4190	4710	5280	5400	6030	6690	7400	8160	8690
				R-404A	4260	4820	6030	6670	7350	8070	8440	9220	10100	10900	11800	13100
				R-407A	3690	4280	5590	6290	7010	7760	7930	8720	9520	10300	11100	11900
				R-407C	3440	3960	5130	5760	6430	7140	7280	8020	8800	9610	10400	11200
				R-448A	3930	4420	5570	6220	6920	7660	7840	8630	9450	10300	11200	12000
				R-449A	3930	4420	5570	6220	6920	7650	7840	8630	9450	10300	11200	12000
	FPAK-010Z	ZS09KAE	CFV	R-134a		4020	5060	5620	6230	6870	6670	7340	8040	8790	9580	10200
				R-404A	5940	6540										
			TFC, TFD	R-134a		4020	5060	5620	6230	6870	6670	7340	8040	8790	9580	10200
				R-404A	5870	6470										
1 1/4	FFAM-A12Z	ZB08KAE	CFV	R-134a			4420	4980	5600	6270	6400	7140	7930	8770	9660	10300
				R-404A	5120	5760	7090	7820	8600	9450	9890	10900	11900	13100	14400	15700
				R-407A	4600	5320	6820	7600	8400	9210	9410	10300	11100	12000	12900	13700
				R-407C	4270	4870	6160	6880	7640	8450	8610	9490	10400	11400	12500	13500
				R-448A	4770	5350	6700	7470	8300	9180	9380	10300	11300	12300	13400	14400
				R-449A	4730	5310	6660	7440	8270	9150	9360	10300	11300	12300	13400	14400
			TFC	R-134a			4420	4980	5600	6270	6400	7140	7930	8770	9670	10300
				R-404A	5130	5770	7090	7820	8600	9460	9890	10900	12000	13100	14400	15700
				R-407A	4600	5330	6820	7600	8400	9210	9410	10300	11100	12000	12900	13700
				R-407C	4270	4870	6160	6880	7640	8450	8600	9490	10400	11400	12500	13500
				R-448A	4770	5350	6710	7480	8300	9180	9390	10300	11300	12300	13400	14400
				R-449A	4740	5310	6670	7440	8270	9150	9370	10300	11300	12300	13400	14400
	FPAK-012Z	ZS11KAE	CFV	R-134a			5550	6140	6780	7450	7740	8480	9270	10100	11000	11700
				R-404A	6190	6760										
			TFC, TFD	R-134a			5550	6140	6780	7450	7740	8480	9270	10100	11000	11700
				R-404A	6280	6860										
	FPAK-013Z	ZS15KAE	CFV	R-134a			7870	8750	9690	10700	11100	12200	13400	14600	16000	17000
				R-404A	9130	10000										
			TFC, TFD	R-134a			7870	8750	9690	10700	11100	12200	13400	14600	16000	17000
				R-404A	9050	9950										
1 1/2	FFAP-A15Z	ZS09KAE	CFV	R-134a	3560	4050	5150	5760	6420	7140	7290	8070	8910	9820	10800	11400
				R-404A	5930	6590	8070	8900	9790	10700	11200	12300	13400	14600		
				R-407A	5580	6230	7630	8420	9260	10200	10400	11400	12500	13700	15000	16100
				R-407C	4520	5370	7130	8040	8970	9940	10100	11100	12200	13200	14400	15200
				R-448A	5270	5840	7120	7870	8710	9640	9870	10900	12100	13400	14800	15900
				R-449A	5240	5800	7080	7830	8670	9600	9840	10900	12100	13400	14800	15900
			TFC, TFD	R-134a	3560	4050	5150	5760	6420	7140	7290	8070	8910	9810	10800	11400
				R-404A	5860	6510	7980	8800	9690	10600	11100	12200	13300	14500		
				R-407A	5580	6230	7630	8420	9260	10200	10400	11400	12500	13700	15000	16100
				R-407C	4520	5370	7130	8040	8970	9940	10100	11100	12200	13200	14400	15200
				R-448A	5250	5840	7190	7970	8830	9780	10000	11100	12200	13500	14800	15900
				R-449A	5220	5800	7140	7920	8790	9750	9980	11100	12200	13500	14900	15900

Medium Temp – Air Cooled

100° Ambient																
HP	Model	Compressor	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG (65°F RG in Bold), 5°F Subcooling											
					-5	0	5	10	15	20	25	25	30	35	40	45
1 1/2	FPAK-015Z	ZS19KAE	CFV TFC, TFD	R-134a			8750	9710	10700	11800	12300	13500	14800	16100	17600	18700
				R-404A	10000	11000										
				R-134a			8750	9710	10700	11800	12300	13500	14800	16100	17600	
				R-404A	9950	10900										
1 3/4	FFAP-A17Z	ZS11KAE	CFV	R-134a	4220	4800	6080	6800	7570	8400	8580	9490	10500	11500	12600	
				R-404A	6870	7620	9300	10200	11200	12300	12800	14000	15200	16500		
				R-407A	6580	7330	8950	9850	10800	11900	12100	13300	14500	15900	17300	
				R-407C	5330	6330	8390	9450	10500	11700	11900	13000	14200	15500	16700	
				R-448A	6280	6940	8430	9290	10300	11300	11600	12800	14100	15500	17100	
				R-449A	6240	6900	8390	9260	10200	11300	11600	12800	14100	15600	17100	
			TFC, TFD	R-134a	4220	4800	6080	6800	7570	8400	8580	9490	10500	11500	12600	
				R-404A	6980	7740	9440	10400	11400	12500	13000	14200	15400	16700		
				R-407A	6580	7330	8950	9850	10800	11900	12100	13300	14500	15900	17300	
				R-407C	5330	6330	8390	9450	10500	11700	11900	13000	14200	15500	16700	
				R-448A	6260	6940	8510	9410	10400	11500	11800	13000	14300	15700	17200	
				R-449A	6230	6900	8460	9370	10400	11500	11700	13000	14300	15700	17200	
2	FFAP-A20Z	ZS13KAE	CFV	R-134a	4850	5510	6990	7810	8700	9660	9870	10900	12000	13200	14500	
				R-404A	8040	8920	10900	12000	13200	14500	15100	16500	18000	19500		
				R-407A	7570	8440	10300	11400	12500	13700	14000	15400	16800	18400	20100	
				R-407C	6150	7300	9670	10900	12200	13400	13700	15000	16400	17900	19300	
				R-448A	7210	7980	9710	10700	11800	13100	13400	14800	16300	18000	19900	
				R-449A	7210	7970	9700	10700	11800	13100	13400	14800	16300	18000	19900	
			TFC, TFD	R-134a	4850	5510	6990	7810	8700	9660	9870	10900	12000	13200	14500	
				R-404A	8030	8910	10900	12000	13200	14500	15100	16500	18000	19500		
				R-407A	7570	8440	10300	11400	12500	13700	14000	15400	16800	18400	20100	
				R-407C	6150	7300	9670	10900	12200	13400	13700	15000	16400	17900	19300	
				R-448A	7250	8030	9690	10600	11700	12900	13200	14500	16100	17800	19700	
				R-449A	7250	8020	9680	10600	11700	12800	13200	14500	16100	17800	19700	
	FPAK-020Z	ZS21KAE	CFV	R-134a			11900	13200	14600	16100	16700	18400	20200	22100	24100	
				R-404A	13500	14800										
			TFC, TFD	R-134a			11900	13200	14600	16100	16700	18400	20200	22100	24100	
				R-404A	13500	14700										
2 1/4	FFAP-A22Z	ZS15KAE	CFV	R-134a	5890	6700	8540	9570	10700	11900	12100	13500	14900	16400	18100	
				R-404A	9940	11100	13600	15000	16500	18200	18900	20800	22800	24900		
				R-407A	8650	9830	12400	13900	15500	17200	17500	19300	21300	23400	25600	
				R-407C	7520	8940	11900	13400	15000	16600	16800	18600	20400	22200	24200	
				R-448A	8770	9740	11900	13200	14600	16200	16600	18400	20400	22700	25100	
				R-449A	8770	9730	11900	13200	14600	16200	16600	18400	20400	22700	25100	
			TFC, TFD	R-134a	5890	6700	8540	9570	10700	11900	12100	13500	14900	16400	18100	
				R-404A	9850	11000	13500	14900	16400	18000	18800	20600	22600	24700		
				R-407A	9260	10300	12700	14000	15500	17100	17400	19100	21000	23100	25300	
				R-407C	7520	8940	11900	13400	15000	16600	16800	18600	20400	22200	24200	
				R-448A	8740	9730	12000	13400	14800	16500	16800	18600	20600	22800	25200	
				R-449A	8730	9720	12000	13400	14800	16500	16800	18600	20600	22800	25200	
3	FFAP-A30Z	ZS19KAE	CFV	R-134a	6620	7530	9580	10700	12000	13300	13600	15100	16600	18300	20200	
				R-404A	11100	12300	15000	16600	18200	20000	20900	22900	25100	27400		
				R-407A	10400	11600	14200	15700	17300	19000	19400	21300	23400	25700	28100	
				R-407C	8420	10000	13300	15000	16700	18500	18800	20700	22700	24800	26900	
				R-448A	9800	10900	13400	14800	16300	18000	18400	20300	22500	24900	27600	
				R-449A	9800	10900	13400	14700	16300	18000	18400	20300	22500	24900	27600	
			TFC, TFD	R-134a	6940	7860	9890	11000	12200	13600	13800	15300	16800	18400	20200	
				R-404A	11000	12200	14900	16500	18100	19900	20800	22800	24900	27200		
				R-407A	10400	11600	14200	15700	17300	19000	19400	21300	23400	25700	28100	
				R-407C	8420	10000	13300	15000	16700	18500	18800	20700	22700	24800	26900	
				R-448A	9810	11000	13400	14700	16300	18000	18400	20300	22500	24900	27700	
				R-449A	9810	10900	13400	14700	16200	17900	18400	20300	22500	24900	27700	

Medium Temp – Air Cooled

100° Ambient																
HP	Model	Compressor	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG (65°F RG in Bold), 5°F Subcooling											
					-5	0	5	10	15	20	25	25	30	35	40	45
3 1/4	FFAP-A32Z	ZS21KAE	CFV	R-134a		10000	12700	14200	15800	17500	17900	19800	21800	23900	26300	
				R-404A	14400	16000	19400	21300	23400	25500	26700	29200	31800	34500		
				R-407A	13400	15000	18300	20100	22100	24200	24700	27100	29600	32400	35300	
				R-407C	11100	13200	17500	19700	21900	24200	24600	27100	29500	32100	34700	
				R-448A	12800	14500	18200	20100	22200	24300	24800	27100	29400	31800	34300	
				R-449A	12800	14500	18100	20100	22100	24200	24800	27000	29400	31800	34200	
			TFC, TFD	R-134a		10000	12700	14200	15800	17500	17900	19800	21800	23900	26300	
				R-404A	14400	15900	19300	21200	23200	25400	26600	29000	31600	34400		
				R-407A	13400	15000	18300	20100	22100	24200	24700	27100	29600	32400	35300	
				R-407C	11100	13200	17500	19700	21900	24200	24600	27100	29500	32100	34700	
				R-448A	12700	14500	18400	20400	22600	24900	25400	27900	30400	33100	35900	
				R-449A	12700	14500	18300	20400	22600	24900	25400	27900	30400	33100	35900	
4	FPAK-039Z	ZS29KAE	CFV	R-134a		10700	13500	15000	16700	18500	21100	23300	25600	28000	30700	
				R-404A	17000	18700										
			TFC, TFD	R-134a		10700	13500	15000	16700	18500	21100	23300	25600	28000	30700	
				R-404A	17100	18800										
	FFAP-A40Z	ZS26KAE	CFV	R-134a	9900	11300	14300	16000	17900	19900	20300	22500	24900	27500	30200	
				R-404A	16300	18200	22300	24600	27200	29900	31200	34200	37500	41000		
				R-407A	14200	16200	20600	23100	25700	28600	29100	32300	35600	39100	42900	
				R-407C	12500	14800	19800	22300	25000	27700	28100	31000	34000	37100	40400	
				R-448A	14200	15800	19700	22000	24500	27200	27800	30700	33900	37300	41000	
				R-449A	14200	15800	19700	22000	24400	27100	27700	30700	33900	37300	40900	
			TFC, TFD	R-134a	9900	11300	14300	16000	17900	19900	20300	22500	24900	27500	30200	
				R-404A	16400	18200	22400	24700	27300	30000	31300	34400	37700	41200		
				R-407A	14600	16500	20700	23100	25600	28300	28900	31900	35000	38400	42000	
				R-407C	12500	14800	19800	22300	25000	27700	28100	31000	34000	37100	40400	
				R-448A	14100	15800	19900	22400	25000	27900	28400	31600	35000	38700	42600	
				R-449A	14100	15800	19900	22300	24900	27800	28400	31600	35000	38700	42600	
4 1/4	FFAP-A42Z	ZS33KAE	CFV	R-134a	12200	13900	17600	19700	21900	24300	24900	27500	30400	33400	36700	
				R-404A	20400	22600	27600	30500	33500	36700	38400	42000	45800	49900		
				R-407A	19100	21300	26100	28800	31600	34800	35500	39000	42700	46800	51000	
				R-407C	15200	18200	24200	27300	30500	33800	34300	37800	41400	45100	48900	
				R-448A	17900	20300	25600	28500	31500	34600	35400	38700	42200	45800	49500	
				R-449A	17800	20300	25600	28400	31400	34500	35300	38600	42100	45700	49400	
			TFC, TFD	R-134a	12200	13900	17600	19700	21900	24300	24900	27500	30400	33400	36700	
				R-404A	20200	22400	27400	30200	33200	36400	38100	41700	45500	49600		
				R-407A	19100	21300	26100	28800	31600	34800	35500	39000	42700	46800	51000	
				R-407C	15200	18200	24200	27300	30500	33800	34300	37800	41400	45100	48900	
				R-448A	17800	20300	25900	28900	32100	35500	36200	39800	43600	47600	52000	
				R-449A	17700	20300	25900	28900	32100	35400	36200	39800	43600	47600	51500	
5	FFAP-050Z	ZS38K4E	CFV, TFC, TFD, TFE	R-134a	14000	15800	19900	22200	24700	27400	28000	30900	34000	37300	40700	
				R-404A	23400	25700	30900	33700	36700	39800	41700	45100	48600	52500	56000	
				R-407A	21000	23700	29700	33000	36400	40000	40900	44600	48500	52500	56500	
				R-407C	20600	23300	29300	32500	36000	39500	40200	43900	47800	51500	55500	
				R-448A	20500	23200	29400	32800	36400	40200	41100	45100	49200	53500	57500	
				R-449A	20500	23200	29400	32800	36400	40200	41100	45100	49200	53500	57500	
6	FFAP-060Z	ZS45K4E	TFC, TFD	R-134a	16500	18700	23500	26200	29100	32200	32900	36300	39900	43800	47800	
				R-404A	27600	30300	36000	39200	42400	45900	48100	52000	56000	60000	64000	
				R-407A	25000	28100	35000	38800	42700	46800	47900	52000	56500	61000	66000	
				R-407C		27700	34600	38300	42200	46200	47100	51500	56000	60500	65000	
				R-448A	24500	27500	34500	38400	42500	46700	47900	52500	57000	62000	67000	
				R-449A	24500	27500	34500	38400	42500	46700	47900	52500	57000	62000	67000	

Medium Temp – Air Cooled

110° Ambient																
HP	Model	Compressor	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG (65°F RG in Bold), 5°F Subcooling											
					-5	0	5	10	15	20	25	25	30	35	40	45
3/4	FFAM-A08Z	ZB06KAE	CFV	R-134a			2850	3220	3630	4080	4190	4690	5230	5810	6440	7320
				R-404A	3220	3630	4540	5040	5550	6090	6420	7000	7580	8170	8750	11000
				R-407A	3100	3430	4270	4770	5330	5930	6100	6760	7470	8210	9000	10400
				R-407C	2610	3070	4030	4550	5090	5650	5780	6390	7030	7710	8410	9710
				R-448A		3400	4330	4850	5410	6000	6180	6820	7500	8210	8950	10300
				R-449A	3030	3430	4350	4870	5420	6010	6190	6830	7500	8210	8940	10300
			TFC	R-134a			2850	3220	3630	4080	4200	4700	5240	5820	6440	7330
				R-404A	3230	3630	4550	5040	5560	6100	6430	7010	7600	8190	8770	10900
				R-407A	3100	3440	4270	4780	5330	5930	6100	6760	7470	8220	9000	10400
				R-407C	2610	3070	4030	4540	5080	5650	5780	6390	7040	7710	8420	9720
				R-448A		3400	4330	4850	5410	6010	6180	6830	7500	8210	8950	10300
				R-449A	3030	3430	4350	4870	5420	6010	6190	6830	7510	8210	8940	10300
1	FFAM-A10Z	ZB07KAE	CFV	R-134a			3460	3910	4390	4920	5050	5630	6250	6910	7610	8690
				R-404A	3910	4420	5460	6000	6550	7120	7530	8160	8820	9490	10200	13100
				R-407A	3180	3790	5090	5770	6470	7180	7390	8130	8880	9630	10400	11900
				R-407C	3180	3680	4780	5360	5980	6620	6790	7470	8170	8900	9640	11200
				R-448A		4100	5160	5760	6400	7070	7280	8010	8760	9550	10400	12000
				R-449A		4120	5170	5770	6400	7070	7280	8000	8750	9530	10300	12000
			TFC	R-134a			3460	3910	4390	4920	5060	5640	6260	6920	7610	8690
				R-404A	3930	4440	5480	6020	6580	7150	7560	8190	8860	9530	10200	13100
				R-407A	3200	3800	5100	5770	6470	7180	7380	8120	8870	9620	10400	11900
				R-407C	3180	3690	4790	5380	5990	6630	6790	7470	8170	8890	9640	11200
				R-448A		4100	5160	5760	6400	7070	7280	8010	8760	9540	10300	12000
				R-449A		4110	5170	5760	6400	7070	7280	8000	8750	9520	10300	12000
	FPAK-010Z	ZS09KAE	CFV	R-134a			4410	4900	5410	5960	6210	6820	7470	8160	8900	10200
				R-404A	4810	5250										
			TFC, TFD	R-134a			4410	4900	5410	5960	6210	6820	7470	8160	8900	10200
				R-404A	4760	5200										
1 1/4	FFAM-A12Z	ZB08KAE	CFV	R-134a			4100	4630	5200	5830	5980	6670	7400	8180	9020	10300
				R-404A	4780	5350	6490	7080	7720	8400	8860	9650	10500	11500	12500	15700
				R-407A	4250	4920	6310	7030	7770	8520	8750	9550	10400	11200	12000	13700
				R-407C	4030	4590	5790	6440	7130	7860	8040	8840	9680	10600	11500	13500
				R-448A		4920	6170	6880	7630	8430	8680	9540	10400	11400	12300	14400
				R-449A	4430	4960	6210	6910	7660	8450	8700	9550	10400	11400	12300	14400
			TFC	R-134a			4110	4630	5210	5830	5980	6670	7400	8190	9020	10300
				R-404A	4790	5360	6490	7090	7730	8420	8880	9670	10500	11500	12500	15700
				R-407A	4250	4920	6310	7030	7770	8520	8750	9540	10400	11200	12000	13700
				R-407C	4030	4590	5790	6440	7130	7860	8040	8830	9680	10600	11500	13500
				R-448A		4920	6170	6880	7630	8440	8680	9540	10400	11400	12300	14400
				R-449A	4430	4960	6210	6910	7660	8460	8700	9560	10400	11400	12300	14400
	FPAK-012Z	ZS11KAE	CFV	R-134a				5680	6260	6880	7160	7850	8570	9350	10200	11700
				R-404A	5410	5870										
			TFC, TFD	R-134a				5680	6260	6880	7160	7850	8570	9350	10200	11700
				R-404A	5490	5950										
	FPAK-013Z	ZS15KAE	CFV	R-134a			7320	8130	9000	9920	10300	11400	12500	13600	14900	17000
				R-404A	7770	8380										
			TFC, TFD	R-134a			7320	8130	9000	9920	10300	11400	12500	13600	14900	17000
				R-404A	7710	8330										
1 1/2	FFAP-A15Z	ZS09KAE	CFV	R-134a			4830	5400	6020	6680	6850	7590	8370	9220	10100	11400
				R-404A	5470	6030	7250	7930	8650	9410	9920	10800	11700	12700		
				R-407A	5160	5750	7040	7750	8520	9360	9620	10600	11600	12700	13900	16100
				R-407C			6640	7510	8400	9310	9500	10500	11400	12400	13500	15200
				R-448A		5330	6440	7100	7840	8680	8950	9910	11000	12200	13500	15900
				R-449A	4910	5400	6510	7160	7890	8720	8990	9930	11000	12100	13400	15900
			TFC, TFD	R-134a			4830	5400	6010	6680	6850	7580	8370	9220	10100	11400
				R-404A	5410	5960	7180	7850	8560	9320	9830	10700	11600	12600		
				R-407A	5160	5750	7040	7750	8520	9360	9620	10600	11600	12700	13900	16100
				R-407C			6640	7510	8400	9310	9510	10500	11400	12400	13500	15200
				R-448A		5330	6480	7170	7940	8800	9070	10000	11100	12300	13500	15900
				R-449A	4910	5400	6560	7240	8000	8840	9110	10100	11100	12200	13400	15900

Medium Temp – Air Cooled

110° Ambient																
HP	Model	Compressor	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG (65°F RG in Bold), 5°F Subcooling											
					-5	0	5	10	15	20	25	25	30	35	40	45
1 1/2	FPAK-015Z	ZS19KAE	CFV	R-134a			8120	9010	9950	11000	11400	12500	13700	15000	16300	18700
				R-404A	8320	8900										
			TFC, TFD	R-134a			8120	9010	9950	11000	11400	12500	13700	15000	16300	
				R-404A	8280	8870										
1 3/4	FFAP-A17Z	ZS11KAE	CFV	R-134a			5700	6360	7080	7850	8060	8900	9810	10800	11800	
				R-404A	6260	6880	8220	8950	9720	10500	11100	12100	13100			
				R-407A		6760	8240	9060	9940	10900	11200	12300	13400	14600		
				R-407C			7800	8820	9850	10900	11100	12200	13300	14500	15700	
				R-448A		6310	7590	8340	9190	10100	10500	11500	12700	14000	15400	
				R-449A		6370	7640	8390	9210	10100	10500	11500	12700	13900	15300	
			TFC, TFD	R-134a			5700	6360	7080	7850	8060	8900	9810	10800	11800	
				R-404A	6360	6980	8340	9080	9860	10700	11300	12200	13200			
				R-407A		6760	8240	9060	9940	10900	11200	12300	13400	14600		
				R-407C			7800	8820	9850	10900	11100	12200	13300	14500	15700	
				R-448A		6310	7640	8420	9300	10300	10600	11700	12800	14100	15400	
				R-449A		6380	7700	8470	9330	10300	10600	11600	12800	14000	15300	
2	FFAP-A20Z	ZS13KAE	CFV	R-134a			6550	7320	8140	9040	9270	10300	11300	12400	13700	
				R-404A	7350	8110	9810	10700	11700	12800	13500	14600	15800	17100		
				R-407A	6990	7790	9520	10500	11500	12600	13000	14200	15600	17000	18600	
				R-407C			9000	10200	11400	12600	12900	14100	15400	16800	18200	
				R-448A	6730	7380	8860	9740	10700	11800	12200	13400	14800	16300	17900	
				R-449A	6730	7380	8860	9730	10700	11800	12200	13400	14800	16300	17900	
			TFC, TFD	R-134a			6550	7320	8140	9040	9270	10300	11300	12400	13700	
				R-404A	7340	8100	9800	10700	11700	12800	13500	14600	15800	17100		
				R-407A	6990	7790	9520	10500	11500	12600	13000	14200	15600	17000	18600	
				R-407C			9000	10200	11400	12600	12900	14100	15400	16800	18200	
				R-448A	6730	7360	8750	9570	10500	11500	11900	13100	14500	16100	17900	
				R-449A	6730	7360	8750	9560	10500	11500	11900	13100	14500	16100	17900	
	FPAK-020Z	ZS21KAE	CFV	R-134a			11100	12300	13600	15000	15600	17200	18800	20600	22500	
				R-404A	11500	12300										
			TFC, TFD	R-134a			11100	12300	13600	15000	15600	17200	18800	20600	22500	
				R-404A	11400	12300										
2 1/4	FFAP-A22Z	ZS15KAE	CFV	R-134a			8010	8970	10000	11100	11400	12600	14000	15400	17000	
				R-404A	8950	9950	12200	13600	15000	16500	17400	19200	21100	23100		
				R-407A	7930	9030	11500	12800	14200	15800	16200	17900	19700	21600	23700	
				R-407C			11100	12500	14000	15600	15900	17500	19200	20900	22700	
				R-448A	8230	9070	11000	12100	13400	14800	15200	16900	18700	20700	23000	
				R-449A	8230	9070	11000	12100	13400	14800	15200	16900	18700	20700	23000	
			TFC, TFD	R-134a			8010	8970	10000	11100	11400	12600	14000	15400	17000	
				R-404A	8870	9860	12100	13400	14800	16400	17300	19000	20900	22900		
				R-407A	8560	9550	11700	12900	14300	15700	16100	17700	19400	21400	23400	
				R-407C			11100	12500	14000	15600	15900	17500	19200	20900	22700	
				R-448A	8230	9080	11100	12300	13600	15000	15400	17100	18900	20900	23100	
				R-449A	8230	9070	11100	12200	13600	15000	15400	17100	18900	20900	23100	
3	FFAP-A30Z	ZS19KAE	CFV	R-134a			8980	10100	11200	12500	12800	14100	15600	17200	18900	
				R-404A	9970	11100	13600	15000	16600	18300	19300	21200	23200	25400		
				R-407A	9590	10700	13100	14400	15900	17500	17900	19700	21600	23700	26000	
				R-407C			12400	14000	15700	17400	17700	19500	21400	23300	25200	
				R-448A	9070	10100	12200	13400	14800	16300	16800	18500	20500	22700	25200	
				R-449A	9060	10100	12200	13400	14800	16300	16800	18500	20500	22700	25200	
			TFC, TFD	R-134a			9340	10400	11500	12700	13000	14400	15800	17300	18900	
				R-404A	9890	11000	13500	14900	16500	18100	19100	21000	23100	25200		
				R-407A	9590	10700	13100	14400	15900	17500	17900	19700	21600	23700	26000	
				R-407C			12400	14000	15700	17400	17700	19500	21400	23300	25200	
				R-448A	9080	10100	12200	13400	14800	16300	16800	18500	20500	22700	25200	
				R-449A	9070	10100	12200	13400	14800	16300	16800	18500	20500	22700	25200	

Medium Temp – Air Cooled

110° Ambient																
HP	Model	Compressor	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG (65°F RG in Bold), 5°F Subcooling											
					-5	0	5	10	15	20	25	25	30	35	40	45
3 1/4	FFAP-A32Z	ZS21KAE	CFV	R-134a			11900	13200	14700	16300	16800	18500	20400	22400	24600	
				R-404A	13100	14500	17700	19500	21400	23400	24700	26900	29300	31600		
				R-407A		13800	16800	18500	20300	22200	22800	25000	27300	29800		
				R-407C			16200	18300	20500	22600	23100	25400	27700	30100	32500	
				R-448A		12800	16300	18100	20000	22000	22600	24600	26800	29000		
				R-449A		12800	16300	18100	20000	21900	22600	24600	26700	28900		
			TFC, TFD	R-134a			11900	13200	14700	16300	16800	18500	20400	22400	24600	
				R-404A	13000	14400	17600	19400	21300	23300	24600	26800	29100	31500		
				R-407A		13800	16800	18500	20300	22200	22800	25000	27300	29800		
				R-407C			16200	18300	20500	22600	23100	25400	27700	30100	32500	
				R-448A		12800	16500	18500	20500	22700	23300	25600	27900			
				R-449A		12800	16500	18500	20500	22600	23300	25600	27900			
4	FPAK-039Z	ZS29KAE	CFV	R-134a			12600	14000	15600	17200	19700	21700	23900	26200	28600	
				R-404A	15400	16900										
			TFC, TFD	R-134a			12600	14000	15600	17200	19700	21700	23900	26200	28600	
				R-404A	15500	17000										
	FFAP-A40Z	ZS26KAE	CFV	R-134a			13500	15100	16800	18700	19100	21200	23400	25800	28400	
				R-404A	14900	16600	20300	22300	24600	27000	28400	31200	34100	37200		
				R-407A	12700	14600	18800	21200	23700	26300	27000	29900	33100	36400	40000	
				R-407C			18400	20900	23400	26000	26500	29200	32100	35000	38000	
				R-448A	12200	13600	17100	19200	21500	24000	24700	27500	30500	33700	37100	
				R-449A	12300	13700	17200	19300	21600	24100	24700	27500	30500	33600	37000	
			TFC, TFD	R-134a			13500	15100	16800	18700	19100	21200	23400	25800	28400	
				R-404A	15000	16600	20300	22400	24700	27100	28500	31300	34200	37400		
				R-407A	13500	15200	19100	21200	23600	26100	26700	29500	32400	35500	38800	
				R-407C			18400	20900	23400	26000	26500	29200	32100	35000	38000	
				R-448A	12100	13600	17400	19600	22100	24800	25500	28500	31700	35200	39000	
				R-449A	12200	13700	17500	19700	22100	24800	25500	28500	31700	35200	38900	
4 1/4	FFAP-A42Z	ZS33KAE	CFV	R-134a			16500	18400	20500	22800	23300	25800	28500	31400	34400	
				R-404A	18600	20500	25000	27400	30000	32800	34600	37800	41100	44600		
				R-407A		19700	24000	26400	29000	31900	32700	35900	39400	43200	47300	
				R-407C			22500	25500	28600	31700	32400	35600	39000	42500	46000	
				R-448A		18000	23100	25800	28600	31500	32400	35500	38700	42000	45500	
				R-449A		18000	23100	25700	28500	31400	32300	35400	38600	41900	45300	
			TFC, TFD	R-134a			16500	18400	20500	22800	23300	25800	28500	31400	34400	
				R-404A	18400	20400	24800	27200	29800	32600	34400	37500	40900	44400		
				R-407A		19700	24000	26400	29000	31900	32700	35900	39400	43200	47300	
				R-407C			22500	25500	28600	31700	32400	35600	39000	42500	46000	
				R-448A		18000	23400	26300	29300	32500	33300	36800	40400	44100	48000	
				R-449A		18000	23400	26200	29300	32400	33300	36700	40300	44000	47900	
5	FFAP-050Z	ZS38K4E	CFV, TFC, TFD, TFE	R-134a	13100	14800	18600	20800	23100	25600	26300	29000	31900	35000	38300	
				R-404A	21100	23100	27600	30100	32600	35200	37200	40100	43000	46000		
				R-407A		21800	27300	30400	33500	36800	37900	41400	45000	48800		
				R-407C		21500	27100	30100	33300	36600	37400	40900	44500	48200	52000	
				R-448A		21500	26900	30000	33300	36800	37900	41600	45500	49400	53500	
				R-449A		21500	26900	30000	33300	36800	37900	41600	45500	49400	53500	
6	FFAP-060Z	ZS45K4E	TFC, TFD	R-134a	15500	17500	22100	24600	27200	30100	30900	34100	37500	41100	44900	
				R-404A	25000	27200	32200	34800	37500	40200	42600	45500				
				R-407A		25900	32300	35700	39300	43100	44400	48400				
				R-407C			32000	35400	39100	42800	43800	47800	52000	56000	60500	
				R-448A			31900	35400	39200	43100	44400	48700	53000	57500	62000	
				R-449A			31900	35400	39200	43100	44400	48700	53000	57500	62000	

Extended Medium Temp/Low Temp – Air Cooled

90° Ambient																		
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling													
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
1	FFAL-010Z	ZF03KAE	CFV, TFC	R-404A	2060	2300	2570	2890	3250	3650	4110	4630	5210	5850	6570				
				R-407A	1780	1990	2230	2500	2810	3150	3550	3990	4490	5050	5670				
				R-448A	1840	2080	2330	2620	2930	3290	3690	4140	4650	5230	5870				
				R-449A	1840	2080	2330	2620	2930	3290	3690	4140	4650	5230	5870				
	FPAK-010Z	ZS09KAE	CFV	R-134a									4020	4520	5060	5620	6230	6870	
				R-404A			3450	3880	4340	4840	5370	5940	6540						
			TFC, TFD	R-134a									4020	4520	5060	5620	6230	6870	
				R-404A			3410	3830	4290	4780	5310	5870	6470						
1 1/4	FPAK-012Z	ZS11KAE	CFV	R-134a									4730	5300	5920	6560	7250	7980	
				R-404A			4000	4490	5010	5570	6170	6790	7450						
			TFC, TFD	R-134a									4730	5300	5920	6560	7250	7980	
				R-404A			4060	4560	5090	5660	6260	6890	7570						
	FFAL-013Z	ZF04KAE	CFV	R-404A	2650	2970	3360	3810	4330	4910	5560	6260	7010	7830	8690				
				R-407A	2210	2470	2810	3210	3680	4220	4820	5480	6200	6980	7820				
				R-448A	2280	2580	2940	3360	3850	4390	4990	5650	6360	7130	7940				
				R-449A	2280	2580	2940	3360	3850	4390	4990	5650	6360	7130	7940				
			TFC	R-404A	2650	2970	3360	3810	4330	4910	5560	6260	7020	7830	8690				
				R-407A	2210	2470	2810	3210	3680	4220	4820	5480	6200	6980	7820				
				R-448A	2280	2580	2940	3360	3850	4390	4990	5650	6360	7130	7940				
				R-449A	2280	2580	2940	3360	3850	4390	4990	5650	6360	7130	7940				
	FPAK-013Z	ZS15KAE	CFV	R-134a									6640	7470	8360	9300	10300	11400	
				R-404A			5750	6470	7250	8080	8980	9940	11000						
			TFC, TFD	R-134a									6640	7470	8360	9300	10300	11400	
				R-404A			5690	6410	7180	8010	8900	9860	10900						
1 1/2	FFAL-014Z	ZF05KAE	CFV	R-404A	3170	3600	4090	4650	5270	5930	6660	7430	8250	9110	10000				
				R-407A	2500	2850	3270	3770	4330	4970	5670	6430	7260	8150	9090				
				R-448A	2630	3020	3470	3980	4560	5200	5890	6640	7440	8300	9200				
				R-449A	2630	3020	3470	3980	4560	5200	5890	6640	7440	8300	9200				
			TFC	R-404A	3170	3600	4090	4650	5260	5930	6650	7430	8250	9120	10000				
				R-407A	2500	2850	3270	3770	4330	4970	5670	6430	7260	8150	9090				
				R-448A	2630	3020	3470	3980	4560	5200	5890	6640	7440	8300	9200				
				R-449A	2630	3020	3470	3980	4560	5200	5890	6640	7440	8300	9200				
	FFAL-015Z	ZF06K4E	CFV	R-134a	2380	2740	3140	3590	4100	4660	5280	5970	6730	7550	8450	9410	10400	11600	12700
				R-404A	4570	5240	5930	6660	7440	8250	9100	10000	11000	11900	13000	14100	15200	16400	17600
				R-407A	3180	3730	4340	5030	5790	6630	7570	8610	9750						
				R-407C	3030	3560	4150	4810	5550	6370	7290	8300	9410						
				R-448A	4130	4660	5270	5950	6720	7560	8470	9450	10500	9490	10400	11500	12500	13700	
				R-449A	4130	4660	5270	5950	6720	7560	8470	9450	10500	9490	10400	11500	12500	13700	
			TFC	R-134a	2380	2740	3140	3590	4100	4660	5280	5970	6730	7550	8450	9410	10400	11600	12700
				R-22	4340	4920	5570	6300	7100	7970	8910	9920	11000						
				R-404A	4570	5240	5930	6660	7440	8250	9100	10000	11000	11900	13000	14100	15200	16400	17600
				R-407A	3180	3730	4340	5030	5790	6630	7570	8610	9750						
				R-407C	3030	3560	4150	4810	5550	6370	7290	8300	9410						
				R-448A	4130	4660	5270	5950	6720	7560	8470	9450	10500	9490	10400	11500	12500	13700	
				R-449A	4130	4660	5270	5950	6720	7560	8470	9450	10500	9490	10400	11500	12500	13700	
			TFD	R-134a	2380	2740	3140	3590	4100	4660	5280	5970	6730	7550	8450	9410	10400	11600	12700
				R-22	4340	4920	5570	6300	7100	7970	8910	9920	11000	12100	13400	14600	15900	17300	18700
				R-404A	4570	5240	5930	6660	7440	8250	9100	10000	11000	11900	13000	14100	15200	16400	17600
				R-407A	3180	3730	4340	5030	5790	6630	7570	8610	9750						
				R-407C	3030	3560	4150	4810	5550	6370	7290	8300	9410						
				R-448A	4130	4660	5270	5950	6720	7560	8470	9450	10500	9490	10400	11500	12500	13700	
				R-449A	4130	4660	5270	5950	6720	7560	8470	9450	10500	9490	10400	11500	12500	13700	

Extended Medium Temp/Low Temp – Air Cooled

90° Ambient																		
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling													
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
1 1/2	FFAP-A15Z	ZS09KAE	CFV	R-134a								3680	4210	4790	5420	6100	6810	7580	
				R-404A				4080	4590	5150	5770	6430	7150	7940	8780	9690	10700	11700	
				R-407A				3470	4100	4720	5350	6010	6700	7430	8220	9070	9990	11000	
				R-407C								4910	5770	6660	7580	8530	9520	10500	
				R-448A				3130	3730	4310	4890	5490	6130	6810	7560	8390	9310	10300	
				R-449A				3130	3730	4310	4890	5490	6130	6810	7560	8390	9310	10300	
			TFC, TFD	R-134a								3680	4210	4790	5410	6100	6810	7570	
				R-404A				4020	4530	5090	5690	6350	7070	7840	8680	9570	10500	11600	
				R-407A				3470	4100	4720	5350	6010	6700	7430	8220	9070	9990	11000	
				R-407C								4910	5770	6660	7580	8530	9520	10500	
				R-448A				3180	3710	4260	4830	5440	6110	6820	7610	8470	9420	10500	
				R-449A				3180	3710	4260	4830	5450	6110	6830	7610	8470	9420	10500	
	FPAK-015Z	ZS19KAE	CFV	R-134a									7410	8330	9310	10300	11500	12600	
				R-404A			6390	7180	8030	8940	9910	10900	12000						
			TFC, TFD	R-134a									7410	8330	9310	10300	11500	12600	
				R-404A			6330	7120	7970	8870	9840	10900	12000						
1 3/4	FFAL-017Z	ZF07KAE	CFV, TFC	R-404A	4750	5530	6330	7160	8020	8930	9900	10900	12100	13300	14600				
				R-407A	3990	4670	5370	6110	6900	7750	8670	9680	10800	12000	13300				
				R-448A	4130	4800	5480	6190	6960	7790	8690	9700	10800	12100	13400				
				R-449A	4130	4800	5480	6190	6960	7790	8690	9700	10800	12100	13400				
	FFAP-A17Z	ZS11KAE	CFV	R-134a								4400	5030	5720	6440	7210	8030	8920	
				R-404A				4750	5340	5990	6690	7450	8270	9160	10100	11100	12200	13400	
				R-407A				4110	4850	5580	6320	7090	7890	8740	9650	10600	11700	12800	
				R-407C								5800	6820	7860	8940	10000	11200	12400	
				R-448A				3800	4500	5170	5860	6560	7310	8110	8990	9950	11000	12200	
				R-449A				3800	4490	5170	5860	6560	7310	8110	8980	9950	11000	12200	
			TFC, TFD	R-134a								4400	5030	5720	6440	7210	8030	8920	
				R-404A				4820	5430	6080	6800	7570	8410	9300	10300	11300	12400	13600	
				R-407A				4110	4850	5580	6320	7090	7890	8740	9650	10600	11700	12800	
				R-407C								5800	6820	7860	8940	10000	11200	12400	
				R-448A				3870	4490	5120	5800	6510	7290	8130	9050	10100	11200	12400	
				R-449A				3870	4480	5120	5790	6510	7290	8130	9050	10100	11200	12400	
2	FFAL-020Z	ZF08K4E	CFV	R-134a	3020	3470	3980	4560	5200	5920	6730	7610	8590	9660	10800	12100	13500	15000	16500
				R-404A	5990	6810	7690	8640	9670	10800	12000	13200	14600	16000	17600	19200	20900	22700	24600
				R-448A	4860	5820	6750	7670	8600	9560	10600	11600	12800	14100	15500	17000	18700	20500	
				R-449A	4860	5820	6750	7670	8600	9560	10600	11600	12800	14100	15500	17000	18700	20500	
			TFC	R-134a							6680	7560	8530	9600	10800	12000	13400	14900	16500
				R-22							11500	12800	14200	15800	17400	19100	20900	22800	24800
				R-404A	5890	6690	7560	8500	9510	10600	11800	13000	14400	15800	17300	18900	20600	22400	24300
				R-407A	4670	5390	6200	7100	8080	9140	10300	11500	12800						
				R-448A	4860	5820	6750	7670	8600	9560	10600	11600	12800	14100	15500	17000	18700	20500	
				R-449A	4860	5820	6750	7670	8600	9560	10600	11600	12800	14100	15500	17000	18700	20500	
			TFD	R-134a	3020	3470	3980	4560	5200	5920	6730	7610	8590	9660	10800	12100	13500	15000	16500
				R-22	5560	6300	7140	8080	9120	10300	11500	12800	14200						
				R-404A	5990	6810	7690	8640	9670	10800	12000	13200	14600	16000	17600	19200	20900	22700	24600
				R-407A	4670	5390	6200	7100	8080	9140	10300	11500	12800						
				R-448A	4860	5820	6750	7670	8600	9560	10600	11600	12800	14100	15500	17000	18700	20500	
				R-449A	4860	5820	6750	7670	8600	9560	10600	11600	12800	14100	15500	17000	18700	20500	
	FFAP-A20Z	ZS13KAE	CFV	R-134a								5020	5750	6530	7390	8280	9230	10200	
				R-404A				5540	6240	7000	7820	8710	9680	10700	11800	13100	14300	15700	
				R-407A				4720	5560	6410	7260	8150	9080	10100	11100	12300	13500	14800	
				R-407C								6670	7840	9040	10300	11600	12900	14300	
				R-448A				4310	5120	5910	6700	7510	8370	9300	10300	11400	12700	14000	
				R-449A				4310	5120	5910	6700	7510	8370	9300	10300	11400	12700	14000	
			TFC, TFD	R-134a								5020	5750	6530	7390	8280	9230	10200	
				R-404A				5540	6230	6990	7810	8710	9670	10700	11800	13000	14300	15700	
				R-407A				4720	5560	6410	7260	8150	9080	10100	11100	12300	13500	14800	
				R-407C								6670	7840	9040	10300	11600	12900	14300	
				R-448A				3590	4730	5760	6710	7620	8530	9460	10400	11500	12700	14000	
				R-449A				3590	4730	5750	6710	7620	8530	9460	10400	11500	12700	14000	
	FPAK-020Z	ZS21KAE	CFV	R-134a									10000	11300	12600	14000	15500	17200	
				R-404A			8560	9620	10800	12000	13300	14700	16200						
			TFC, TFD	R-134a									10000	11300	12600	14000	15500	17200	
				R-404A			8510	9570	10700	11900	13200	14600	16100						

Extended Medium Temp/Low Temp – Air Cooled

90° Ambient																		
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling													
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
2 1/4	FFAL-022Z	ZF09K4E	CFV	R-404A	6650	7570	8540	9590	10700	11900	13200	14500	16000	17600	19200	21000	22800	24700	26800
				R-407A	4650	5460	6340	7310	8380	9590	10900	12500	14200						
				R-407C	4320	5070	5890	6800	7820	8970	10300	11700	13400						
				R-448A	5420	6320	7240	8200	9220	10300	11500	12700	14100	15500	17100	18800	20700	22700	
				R-449A	5420	6320	7240	8200	9220	10300	11500	12700	14100	15500	17100	18800	20700	22700	
			TFC	R-22							12200	13500	14800	16200	17700	19300	20900	22600	24400
				R-404A	6350	7210	8100	9050	10000	11100	12200	13300	14600	15800	17100	18500	19800	21200	22600
				R-407A	4650	5460	6340	7310	8380	9590	10900	12500	14200						
				R-407C	4320	5070	5890	6800	7820	8970	10300	11700	13400						
				R-448A	5420	6320	7240	8200	9220	10300	11500	12700	14100	15500	17100	18800	20700	22700	
				R-449A	5420	6320	7240	8200	9220	10300	11500	12700	14100	15500	17100	18800	20700	22700	
			TFD	R-22	6140	6980	7890	8860	9900	11000	12200	13400	14800						
				R-404A	6650	7570	8540	9590	10700	11900	13200	14500	16000	17600	19200	21000	22800	24700	26800
				R-407A	4650	5460	6340	7310	8380	9590	10900	12500	14200						
				R-407C	4320	5070	5890	6800	7820	8970	10300	11700	13400						
				R-448A	5420	6320	7240	8200	9220	10300	11500	12700	14100	15500	17100	18800	20700	22700	
				R-449A	5420	6320	7240	8200	9220	10300	11500	12700	14100	15500	17100	18800	20700	22700	
	FFAP-A22Z	ZS15KAE	CFV	R-134a								6060	6930	7870	8910	10000	11300	12600	
				R-404A				6790	7660	8610	9640	10800	12000	13300	14800	16300	18000	19800	
				R-407A				5170	6110	7110	8180	9330	10600	11900	13400	14900	16600	18500	
				R-407C								8130	9560	11000	12600	14200	15800	17600	
				R-448A				5170	6170	7140	8110	9120	10200	11300	12600	14000	15600	17300	
				R-449A				5170	6160	7130	8110	9110	10200	11300	12600	14000	15600	17300	
			TFC, TFD	R-134a								6060	6930	7870	8910	10000	11300	12600	
				R-404A				6730	7590	8530	9550	10700	11900	13200	14700	16200	17900	19700	
				R-407A				5740	6770	7810	8860	9960	11100	12400	13700	15100	16700	18400	
				R-407C								8130	9560	11000	12600	14200	15800	17600	
				R-448A				5250	6130	7050	8010	9040	10200	11400	12700	14100	15800	17500	
				R-449A				5250	6130	7050	8010	9030	10100	11400	12700	14100	15700	17500	
2 1/2	FFAL-026Z	ZF11K4E	CFV	R-404A	8180	9290	10500	11700	13100	14500	16100	17700	19500	21300	23200	25200	27300	29500	31800
				R-407A	5760	6740	7800	8990	10300	11800	13400	15300	17400						
				R-407C	5350	6260	7260	8380	9640	11100	12600	14500	16500						
				R-448A	6850	7770	8800	9930	11200	12600	14100	15700	17400	19300	21300	23400	25600	27900	
				R-449A	6850	7770	8800	9930	11200	12600	14100	15700	17400	19300	21300	23400	25600	27900	
			TFC	R-134a	4090	4710	5400	6180	7050	8010	9080	10200	11500	12900	14400	16100	17800	19700	21700
				R-22							15400	17000	18800	20600	22600	24700	26900	29200	31700
				R-404A	7970	9050	10200	11400	12800	14200	15700	17300	19000	20800	22700	24600	26600	28700	30800
				R-407A	5760	6740	7800	8990	10300	11800	13400	15300	17400						
				R-407C	5350	6260	7260	8380	9640	11100	12600	14500	16500						
				R-448A	6850	7770	8800	9930	11200	12600	14100	15700	17400	19300	21300	23400	25600	27900	
				R-449A	6850	7770	8800	9930	11200	12600	14100	15700	17400	19300	21300	23400	25600	27900	
			TFD	R-134a	4090	4710	5400	6180	7050	8010	9080	10200	11500	12900	14400	16100	17800	19700	21700
				R-22	7680	8740	9880	11100	12400	13800	15400	17000	18700						
				R-404A	8180	9290	10500	11700	13100	14500	16100	17700	19500	21300	23200	25200	27300	29500	31800
				R-407A	5760	6740	7800	8990	10300	11800	13400	15300	17400						
				R-407C	5350	6260	7260	8380	9640	11100	12600	14500	16500						
				R-448A	6850	7770	8800	9930	11200	12600	14100	15700	17400	19300	21300	23400	25600	27900	
				R-449A	6850	7770	8800	9930	11200	12600	14100	15700	17400	19300	21300	23400	25600	27900	
3	FFAL-030Z	ZF13K4E	CFV	R-134a							10500	11900	13400	15000	16800	18700	20700	22800	25100
				R-404A							18200	20100	22000	24100	26200	28400	30600	32900	35100
				R-407A	7530	8420	9600	11000	12700	14400	16400	18300	20400						
				R-407C	6950	7640	8630	9850	11300	12900	14700	16600	18500						
				R-448A	8320	9120	10200	11400	12800	14500	16200	18200	20300	22500	24800	27200	29800	32400	
				R-449A	8320	9120	10200	11400	12800	14500	16200	18200	20300	22500	24800	27200	29800	32400	
			TFC	R-134a							10800	12100	13600	15200	16900	18700	20700	22800	25100
				R-22							17800	19700	21800	24000	26300	28700	31300	34000	36900
				R-404A	8860	10100	11500	12900	14400	16100	17800	19600	21500	23600	25700	27900	30100	32500	34900
				R-407A	7530	8420	9600	11000	12700	14400	16400	18300	20400						
				R-407C	6950	7640	8630	9850	11300	12900	14700	16600	18500						
				R-448A	8320	9120	10200	11400	12800	14500	16200	18200	20300	22500	24800	27200	29800	32400	
				R-449A	8320	9120	10200	11400	12800	14500	16200	18200	20300	22500	24800	27200	29800	32400	

Extended Medium Temp/Low Temp – Air Cooled

90° Ambient																		
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling													
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
3	FFAL-030Z	ZF13K4E	TFD	R-134a	4740	5450	6250	7160	8180	9300	10500	11900	13400	15000	16800	18700	20700	22800	25100
				R-22	8910	10100	11400	12800	14400	16000	17800	19700	21800						
				R-404A	8880	10200	11500	13000	14600	16300	18100	20000	22000	24100	26200	28400	30600	32900	35100
				R-407A	7530	8420	9600	11000	12700	14400	16400	18300	20400						
				R-407C	6950	7640	8630	9850	11300	12900	14700	16600	18500						
				R-448A	8320	9120	10200	11400	12800	14500	16200	18200	20300	22500	24800	27200	29800	32400	
				R-449A	8320	9120	10200	11400	12800	14500	16200	18200	20300	22500	24800	27200	29800	32400	
	FFAP-A30Z	ZS19KAE	CFV	R-134a								6840	7820	8880	10000	11300	12700	14100	
				R-404A				7580	8540	9590	10700	12000	13300	14800	16400	18100	19900	21900	
				R-407A				6440	7600	8760	9940	11200	12500	13800	15300	16900	18600	20500	
				R-407C								9110	10700	12400	14100	15900	17700	19700	
				R-448A				4850	6370	7750	9040	10300	11600	12900	14300	15800	17400	19300	
				R-449A				4850	6360	7740	9040	10300	11600	12900	14200	15800	17400	19300	
			TFC, TFD	R-134a								7140	8120	9190	10300	11600	12900	14300	
				R-404A				7510	8470	9510	10600	11900	13200	14700	16300	18000	19800	21700	
				R-407A				6440	7600	8760	9940	11200	12500	13800	15300	16900	18600	20500	
				R-407C								9110	10700	12400	14100	15900	17700	19700	
				R-448A				4830	6370	7760	9050	10300	11600	12900	14200	15700	17400	19300	
				R-449A				4830	6360	7750	9050	10300	11600	12800	14200	15700	17400	19200	
3 1/4	FFAP-A32Z	ZS21KAE	CFV	R-134a								9190	10500	11900	13400	15000	16700	18600	
				R-404A				10000	11300	12600	14100	15700	17400	19300	21200	23400	25600	28000	
				R-407A				8390	9900	11400	12900	14500	16100	17900	19700	21700	23900	26200	
				R-407C								12100	14200	16300	18600	20900	23300	25700	
				R-448A				7820	9290	10800	12400	14100	15900	17800	19800	21900	24100	26400	
				R-449A				7810	9280	10800	12400	14100	15900	17800	19800	21900	24100	26400	
			TFC, TFD	R-134a								9190	10500	11900	13400	15000	16700	18600	
				R-404A				9960	11200	12500	14000	15600	17300	19100	21100	23200	25500	27900	
				R-407A				8390	9900	11400	12900	14500	16100	17900	19700	21700	23900	26200	
				R-407C								12100	14200	16300	18600	20900	23300	25700	
				R-448A				7610	9110	10700	12300	14100	15900	17900	20000	22200	24500	26900	
				R-449A				7600	9100	10700	12300	14100	15900	17900	20000	22200	24500	26900	
4	FPAK-039Z	ZS29KAE	CFV	R-134a									11300	12800	14300	16000	17800	19700	
				R-404A			10800	12100	13600	15200	16900	18700	20700						
			TFC, TFD	R-134a									11300	12800	14300	16000	17800	19700	
				R-404A			10800	12200	13700	15300	17000	18800	20800						
	FFAL-040Z	ZF15K4E	CFV	R-134a	5750	6610	7590	8680	9910	11300	12800	14400	16200	18100	20100	22300	24700	27200	29800
				R-404A	11300	12800	14300	16000	17700	19600	21500	23600	25700	27900	30200	32600	35000	37400	39900
				R-407A	9660	10700	12000	13600	15400	17400	19600	21800	24100						
				R-407C	8990	9920	11200	12700	14500	16400	18500	20700	23000						
				R-448A	9470	10700	12100	13700	15500	17400	19500	21700	24000	26500	29100	31800	34600		
				R-449A	9470	10700	12100	13700	15500	17400	19500	21700	24000	26500	29100	31800	34600		
			TFC	R-134a	5950	6860	7860	8980	10200	11600	13100	14700	16400	18300	20300	22500	24800	27300	29900
				R-22							21400	23600	26000	28500	31200	34000	36900	40000	43200
				R-404A	11100	12600	14100	15700	17500	19300	21300	23300	25400	27900	30200	32600	35000	37400	39900
				R-407A	9660	10700	12000	13600	15400	17400	19600	21800	24100						
				R-407C	8990	9920	11200	12700	14500	16400	18500	20700	23000						
				R-448A	9470	10700	12100	13700	15500	17400	19500	21700	24000	26500	29100	31800	34600		
				R-449A	9470	10700	12100	13700	15500	17400	19500	21700	24000	26500	29100	31800	34600		
	FFAL-040Z	ZF15K4E	TFD	R-134a	5750	6610	7590	8680	9910	11300	12800	14400	16200	18100	20100	22300	24700	27200	29800
				R-22	10800	12300	13800	15500	17300	19300	21400	23600	26000						
				R-404A	11300	12800	14300	16000	17700	19600	21500	23600	25700	27900	30200	32600	35000	37400	39900
				R-407A	9660	10700	12000	13600	15400	17400	19600	21800	24100						
				R-407C	8990	9920	11200	12700	14500	16400	18500	20700	23000						
				R-448A	9470	10700	12100	13700	15500	17400	19500	21700	24000	26500	29100	31800	34600		
				R-449A	9470	10700	12100	13700	15500	17400	19500	21700	24000	26500	29100	31800	34600		

Extended Medium Temp/Low Temp – Air Cooled

90° Ambient																			
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling														
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
4	FFAP-A40Z	ZS26KAE	CFV	R-134a								10200	11700	13200	15000	16900	18900	21100	
				R-404A				11100	12600	14100	15800	17700	19700	21900	24300	26800	29600	32600	
				R-407A				8510	10100	11800	13600	15500	17600	19800	22200	24800	27700	30700	
				R-407C								13600	16000	18500	21000	23700	26500	29400	
				R-448A				10300	11300	12600	14000	15600	17400	19400	21700	24200	26800	29700	
				R-449A				10300	11300	12600	14000	15600	17400	19400	21700	24100	26800	29700	
			TFC, TFD	R-134a								10200	11700	13200	15000	16900	18900	21100	
				R-404A				11200	12600	14200	15900	17700	19800	22000	24400	26900	29700	32700	
				R-407A				9120	10600	12100	13800	15700	17700	19900	22200	24700	27500	30400	
				R-407C								13600	16000	18500	21000	23700	26500	29400	
				R-448A				10100	11200	12400	13900	15500	17400	19500	21900	24400	27200	30300	
				R-449A				10100	11200	12400	13900	15500	17400	19500	21900	24400	27200	30300	
4 1/4	FFAP-A42Z	ZS33KAE	CFV	R-134a								12700	14500	16400	18600	20800	23200	25800	
				R-404A				14000	15800	17700	19800	22100	24600	27200	30100	33200	36500	40100	
				R-407A				11900	14000	16200	18400	20600	23000	25500	28100	31000	34200	37500	
				R-407C								16600	19600	22600	25800	29000	32400	35900	
				R-448A				10900	12900	15100	17400	19800	22400	25100	28000	31000	34200	37500	
				R-449A				10900	13000	15100	17400	19800	22400	25100	27900	30900	34100	37400	
			TFC, TFD	R-134a								12700	14500	16400	18600	20800	23200	25800	
				R-404A				13900	15700	17600	19600	21900	24400	27000	29900	33000	36300	39800	
				R-407A				11900	14000	16200	18400	20600	23000	25500	28100	31000	34200	37500	
				R-407C								16600	19600	22600	25800	29000	32400	35900	
				R-448A				10500	12700	14900	17300	19700	22400	25200	28200	31400	34700	38300	
				R-449A				10600	12700	14900	17300	19800	22400	25200	28200	31300	34700	38200	
5	FFAL-050Z	ZF18K4E	TFC	R-134a							12700	14200	16000	17800	19800	22000	24300	26700	29300
				R-22	12500	14200	16000	17900	20100	22300	24800	27300	30100						
				R-404A	13200	15000	16800	18700	20700	22700	24900	27100	29400	31700	34200	36600	39100	41700	
				R-407A	11300	12500	14000	15700	17800	20000	22400	25000	27700						
				R-407C	10500	11500	12900	14600	16600	18700	21100	23600	26200						
				R-448A	11800	13300	15000	16800	18800	20900	23200	25600	28100	30700	33400				
				R-449A	11800	13300	15000	16800	18800	20900	23200	25600	28100	30700	33400				
			TFD	R-134a	6900	7990	9200	10500	12000	13600	15300	17200	19200	21400	23700	26200	28900	31700	34600
				R-22							24800	27300	30100	32900	36000	39200	42500	45900	49600
				R-404A	13200	15000	16800	18700	20700	22700	24900	27100	29400	31700	34200	36600	39100	41700	
				R-407A	11300	12500	14000	15700	17800	20000	22400	25000	27700						
				R-407C	10500	11500	12900	14600	16600	18700	21100	23600	26200						
				R-448A	11800	13300	15000	16800	18800	20900	23200	25600	28100	30700	33400				
				R-449A	11800	13300	15000	16800	18800	20900	23200	25600	28100	30700	33400				
5	FFAP-050Z	ZS38K4E	CFV, TFC, TFD, TFE	R-134a							13100	14800	16800	18800	21100	23600	26200	29000	
				R-22											32500	35800	39300	43000	
				R-404A				16700	18700	20800	23100	25600	28200	31000	33900	37000	40300	43800	
				R-407A				13500	15400	17500	20000	22600	25500	28700	32000	35500	39200	43000	
				R-407C					15200	17300	19700	22300	25200	28300	31600	35000	38700	42400	
				R-448A					15000	17100	19500	22300	25300	28600	32100	35800	39700	43700	
				R-449A					15000	17100	19500	22300	25300	28600	32100	35800	39700	43700	
6	FFAP-060Z	ZS45K4E	TFC, TFD	R-134a							15400	17500	19800	22300	24900	27800	30900	34200	
				R-22												42200	46300	50500	55500
				R-404A				20000	22300	24700	27400	30100	33100	36200	39500	43000	46700	50500	
				R-407A				16200	18400	21000	23800	26900	30300	33900	37700	41700	45900	50000	
				R-407C									29900	33400	37200	41200	45300	49600	54000
				R-448A					18100	20400	23200	26300	29800	33500	37500	41700	46100	50500	
				R-449A					18100	20400	23200	26300	29800	33500	37500	41700	46100	50500	

Extended Medium Temp/Low Temp – Air Cooled

100° Ambient																		
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling													
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
1	FFAL-010Z	ZF03KAE	CFV, TFC	R-404A	1920	2130	2370	2650	2970	3330	3750	4210	4740	5330	5980				
				R-407A	1660	1870	2090	2340	2630	2950	3310	3710	4160	4670	5230				
				R-448A	1720	1950	2200	2470	2760	3090	3460	3870	4340	4860	5450				
				R-449A	1720	1950	2200	2470	2760	3090	3460	3870	4340	4860	5450				
	FPAK-010Z	ZS09KAE	CFV	R-134a										4260	4750	5280	5840	6440	
				R-404A			3210	3600	4020	4460	4930	5430	5960						
			TFC, TFD	R-134a										4260	4750	5280	5840	6440	
				R-404A			3170	3560	3970	4410	4880	5370	5900						
1 1/4	FPAK-012Z	ZS11KAE	CFV	R-134a										4980	5550	6140	6780	7450	
				R-404A			3710	4150	4620	5120	5640	6190	6760						
			TFC, TFD	R-134a										4980	5550	6140	6780	7450	
				R-404A			3770	4220	4700	5200	5720	6280	6860						
	FFAL-013Z	ZF04KAE	CFV	R-404A	2440	2710	3060	3470	3940	4470	5060	5710	6420	7170	7980				
				R-407A	2080	2320	2620	2990	3420	3910	4470	5080	5750	6470	7250				
				R-448A	2160	2430	2760	3150	3600	4100	4660	5270	5930	6630	7390				
				R-449A	2160	2430	2760	3150	3600	4100	4660	5270	5930	6630	7390				
			TFC	R-404A	2440	2720	3060	3470	3940	4470	5060	5710	6420	7180	7980				
				R-407A	2080	2320	2620	2990	3420	3910	4470	5080	5750	6470	7250				
				R-448A	2160	2430	2760	3150	3600	4100	4660	5270	5930	6630	7390				
				R-449A	2160	2430	2760	3150	3600	4100	4660	5270	5930	6630	7390				
	FPAK-013Z	ZS15KAE	CFV	R-134a										7040	7870	8750	9690	10700	
				R-404A			5350	6010	6720	7470	8270	9130	10000						
			TFC, TFD	R-134a										7040	7870	8750	9690	10700	
				R-404A			5300	5950	6660	7400	8200	9050	9950						
1 1/2	FFAL-014Z	ZF05KAE	CFV,TFC	R-404A	2900	3290	3740	4250	4810	5430	6090	6810	7570	8370	9210				
				R-407A	2360	2670	3050	3500	4020	4610	5250	5970	6740	7560	8450				
				R-448A	2480	2830	3240	3720	4250	4840	5490	6180	6930	7720	8560				
				R-449A	2480	2830	3240	3720	4250	4840	5490	6180	6930	7720	8560				
	FFAL-015Z	ZF06K4E	CFV	R-134a	2210	2570	2970	3410	3890	4430	5020	5670	6380	7150	7980	8880	9840	10900	12000
				R-404A	4160	4800	5460	6140	6850	7600	8380	9200	10100	11000	11900	12800	13800	14800	15800
				R-407A	2990	3500	4070	4700	5420	6210	7100	8080	9160						
				R-407C	2860	3350	3900	4510	5210	5990	6860	7820	8890						
				R-448A	3860	4350	4910	5530	6240	7010	7850	8750	9720	8680	9540	10500	11400	12400	
				R-449A	3860	4350	4910	5530	6240	7010	7850	8750	9720	8680	9540	10500	11400	12400	
			TFC	R-134a	2210	2570	2970	3410	3890	4430	5020	5670	6380	7150	7980	8880	9840	10900	12000
				R-404A	4190	4740	5360	6050	6800	7630	8510	9460	10500						
				R-407A	4160	4800	5460	6140	6850	7600	8380	9200	10100	11000	11900	12800	13800	14800	15800
				R-407C	2990	3500	4070	4700	5420	6210	7100	8080	9160						
				R-448A	2860	3350	3900	4510	5210	5990	6860	7820	8890						
				R-449A	3860	4350	4910	5530	6240	7010	7850	8750	9720	8680	9540	10500	11400	12400	
				R-449A	3860	4350	4910	5530	6240	7010	7850	8750	9720	8680	9540	10500	11400	12400	
			TFD	R-134a	2210	2570	2970	3410	3890	4430	5020	5670	6380	7150	7980	8880	9840	10900	12000
				R-22							8510	9460	10500	11500	12700	13800	15100	16300	17600
				R-404A	4160	4800	5460	6140	6850	7600	8380	9200	10100	11000	11900	12800	13800	14800	15800
				R-407A	2990	3500	4070	4700	5420	6210	7100	8080	9160						
				R-407C	2860	3350	3900	4510	5210	5990	6860	7820	8890						
				R-448A	3860	4350	4910	5530	6240	7010	7850	8750	9720	8680	9540	10500	11400	12400	
				R-449A	3860	4350	4910	5530	6240	7010	7850	8750	9720	8680	9540	10500	11400	12400	
	FFAP-A15Z	ZS09KAE	CFV	R-134a								3560	4050	4580	5150	5760	6420	7140	
				R-404A				3790	4260	4770	5330	5930	6590	7300	8070	8900	9790	10700	
				R-407A						4370	4970	5580	6230	6910	7630	8420	9260	10200	
				R-407C								4520	5370	6240	7130	8040	8970	9940	
				R-448A						4210	4730	5270	5840	6450	7120	7870	8710	9640	
				R-449A						4190	4710	5240	5800	6410	7080	7830	8670	9600	
			TFC, TFD	R-134a								3560	4050	4580	5150	5760	6420	7140	
				R-404A				3740	4200	4710	5260	5860	6510	7220	7980	8800	9690	10600	
				R-407A						4370	4970	5580	6230	6910	7630	8420	9260	10200	
				R-407C								4520	5370	6240	7130	8040	8970	9940	
				R-448A						4220	4710	5250	5840	6480	7190	7970	8830	9780	
				R-449A						4210	4690	5220	5800	6440	7140	7920	8790	9750	
	FPAK-015Z	ZS19KAE	CFV	R-134a										7840	8750	9710	10700	11800	
				R-404A			5940	6660	7440	8250	9110	10000	11000						
			TFC, TFD	R-134a										7840	8750	9710	10700	11800	
				R-404A			5900	6610	7380	8190	9050	9950	10900						

Extended Medium Temp/Low Temp – Air Cooled

100° Ambient																	
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling												
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
1 3/4	FFAL-017Z	ZF07KAE	CFV, TFC	R-404A	4320	5060	5800	6560	7350	8170	9050	9990	11000	12100	13200				
				R-407A	3710	4350	5010	5690	6420	7200	8040	8950	9940	11000	12200				
				R-448A	3880	4520	5150	5810	6510	7260	8090	9010	10000	11200	12400				
				R-449A	3880	4520	5150	5810	6510	7260	8090	9010	10000	11200	12400				
	FFAP-A17Z	ZS11KAE	CFV	R-134a								4220	4800	5420	6080	6800	7570	8400	
				R-404A				4410	4960	5540	6180	6870	7620	8430	9300	10200	11200	12300	
				R-407A						5160	5860	6580	7330	8110	8950	9850	10800	11900	
				R-407C								5330	6330	7350	8390	9450	10500	11700	
				R-448A						5050	5660	6280	6940	7650	8430	9290	10300	11300	
				R-449A							5630	6240	6900	7610	8390	9260	10200	11300	
			TFC, TFD	R-134a								4220	4800	5420	6080	6800	7570	8400	
				R-404A				4490	5040	5630	6280	6980	7740	8560	9440	10400	11400	12500	
				R-407A						5160	5860	6580	7330	8110	8950	9850	10800	11900	
				R-407C								5330	6330	7350	8390	9450	10500	11700	
				R-448A						5070	5640	6260	6940	7690	8510	9410	10400	11500	
				R-449A						5050	5620	6230	6900	7640	8460	9370	10400	11500	
2	FFAL-020Z	ZF08K4E	CFV	R-134a	2810	3270	3770	4330	4950	5640	6400	7230	8150	9150	10200	11400	12700	14100	15500
				R-404A	5530	6290	7100	7960	8890	9890	10900	12100	13300	14600	15900	17400	18900	20500	22100
				R-448A	4540	5490	6390	7270	8150	9050	9980	11000	12000	13200	14400	15800	17300	19000	
				R-449A	4540	5490	6390	7270	8150	9050	9980	11000	12000	13200	14400	15800	17300	19000	
			TFC	R-134a							6350	7180	8090	9090	10200	11400	12600	14000	15500
				R-22							11000	12200	13600	15000	16500	18200	19800	21600	23500
				R-404A	5440	6180	6980	7830	8750	9730	10800	11900	13100	14400	15700	17100	18600	20200	21900
				R-407A	4350	5030	5790	6620	7530	8510	9570	10700	11900						
				R-448A	4540	5490	6390	7270	8150	9050	9980	11000	12000	13200	14400	15800	17300	19000	
				R-449A	4540	5490	6390	7270	8150	9050	9980	11000	12000	13200	14400	15800	17300	19000	
			TFD	R-134a	2810	3270	3770	4330	4950	5640	6400	7230	8150	9150	10200	11400	12700	14100	15500
				R-22	5370	6080	6880	7770	8750	9830	11000	12200	13600						
				R-404A	5530	6290	7100	7960	8890	9890	10900	12100	13300	14600	15900	17400	18900	20500	22100
				R-407A	4350	5030	5790	6620	7530	8510	9570	10700	11900						
				R-448A	4540	5490	6390	7270	8150	9050	9980	11000	12000	13200	14400	15800	17300	19000	
				R-449A	4540	5490	6390	7270	8150	9050	9980	11000	12000	13200	14400	15800	17300	19000	
	FFAP-A20Z	ZS13KAE	CFV	R-134a								4850	5510	6220	6990	7810	8700	9660	
				R-404A				5140	5780	6470	7220	8040	8920	9880	10900	12000	13200	14500	
				R-407A						5940	6740	7570	8440	9350	10300	11400	12500	13700	
				R-407C								6150	7300	8470	9670	10900	12200	13400	
				R-448A						5790	6490	7210	7980	8810	9710	10700	11800	13100	
				R-449A						5780	6480	7210	7970	8800	9700	10700	11800	13100	
			TFC, TFD	R-134a								4850	5510	6220	6990	7810	8700	9660	
				R-404A				5140	5770	6460	7210	8030	8910	9870	10900	12000	13200	14500	
				R-407A						5940	6740	7570	8440	9350	10300	11400	12500	13700	
				R-407C								6150	7300	8470	9670	10900	12200	13400	
				R-448A						5680	6480	7250	8030	8830	9690	10600	11700	12900	
				R-449A						5670	6470	7250	8020	8820	9680	10600	11700	12800	
	FPAK-020Z	ZS21KAE	CFV	R-134a										10600	11900	13200	14600	16100	
				R-404A			7970	8950	10000	11100	12300	13500	14800						
			TFC, TFD	R-134a										10600	11900	13200	14600	16100	
				R-404A			7930	8900	9940	11000	12200	13500	14700						
2 1/4	FFAL-022Z	ZF09K4E	CFV	R-404A	6150	7000	7890	8830	9840	10900	12100	13300	14600	15900	17400	18900	20600	22300	24100
				R-407A	4440	5160	5950	6830	7820	8950	10200	11700	13300						
				R-407C	4120	4790	5530	6370	7310	8390	9620	11000	12600						
				R-448A	5070	5960	6860	7790	8750	9770	10800	12000	13200	14600	16000	17600	19300	21100	
				R-449A	5070	5960	6860	7790	8750	9770	10800	12000	13200	14600	16000	17600	19300	21100	
			TFC	R-22							11500	12700	13900						
				R-404A	5840	6620	7430	8270	9170	10100	11100	12100	13100	14200	15400	16500	17800	19000	20200
				R-407A	4440	5160	5950	6830	7820	8950	10200	11700	13300						
				R-407C	4120	4790	5530	6370	7310	8390	9620	11000	12600						
				R-448A	5070	5960	6860	7790	8750	9770	10800	12000	13200	14600	16000	17600	19300	21100	
				R-449A	5070	5960	6860	7790	8750	9770	10800	12000	13200	14600	16000	17600	19300	21100	
			TFD	R-22	5830	6640	7500	8410	9390	10400	11500	12700	13900						
				R-404A	6150	7000	7890	8830	9840	10900	12100	13300	14600	15900	17400	18900	20600	22300	24100
				R-407A	4440	5160	5950	6830	7820	8950	10200	11700	13300						
				R-407C	4120	4790	5530	6370	7310	8390	9620	11000	12600						
				R-448A	5070	5960	6860	7790	8750	9770	10800	12000	13200	14600	16000	17600	19300	21100	
				R-449A	5070	5960	6860	7790	8750	9770	10800	12000	13200	14600	16000	17600	19300	21100	

Extended Medium Temp/Low Temp – Air Cooled

100° Ambient																		
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling													
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
2 1/4	FFAP-A22Z	ZS15KAE	CFV	R-134a								5890	6700	7590	8540	9570	10700	11900	
				R-404A				6330	7130	7990	8920	9940	11100	12300	13600	15000	16500	18200	
				R-407A						6540	7560	8650	9830	11100	12400	13900	15500	17200	
				R-407C								7520	8940	10400	11900	13400	15000	16600	
				R-448A						6980	7860	8770	9740	10800	11900	13200	14600	16200	
				R-449A						6980	7860	8770	9730	10800	11900	13200	14600	16200	
			TFC, TFD	R-134a								5890	6700	7590	8540	9570	10700	11900	
				R-404A				6280	7060	7910	8840	9850	11000	12200	13500	14900	16400	18000	
				R-407A						7240	8230	9260	10300	11500	12700	14000	15500	17100	
				R-407C								7520	8940	10400	11900	13400	15000	16600	
				R-448A						6980	7830	8740	9730	10800	12000	13400	14800	16500	
				R-449A						6980	7820	8730	9720	10800	12000	13400	14800	16500	
2 1/2	FFAL-026Z	ZF11K4E	CFV	R-404A	7570	8570	9640	10800	12000	13300	14600	16100	17600	19200	20900	22700	24500	26500	28500
				R-407A	5500	6360	7310	8370	9580	10900	12500	14200	16200						
				R-407C	5120	5920	6810	7820	8980	10300	11800	13500	15400						
				R-448A	6430	7290	8250	9300	10500	11700	13100	14600	16200	17900	19700	21600	23700	25800	
				R-449A	6430	7290	8250	9300	10500	11700	13100	14600	16200	17900	19700	21600	23700	25800	
			TFC	R-134a	3810	4430	5110	5860	6700	7610	8610	9710	10900	12200	13600	15100	16700	18500	20300
				R-22							14500	16000	17600	19400	21200	23200	25300	27500	29800
				R-404A	7400	8380	9410	10500	11700	12900	14200	15600	17000	18500	20100	21800	23600	25400	27300
				R-407A	5500	6360	7310	8370	9580	10900	12500	14200	16200						
				R-407C	5120	5920	6810	7820	8980	10300	11800	13500	15400						
				R-448A	6430	7290	8250	9300	10500	11700	13100	14600	16200	17900	19700	21600	23700	25800	
				R-449A	6430	7290	8250	9300	10500	11700	13100	14600	16200	17900	19700	21600	23700	25800	
			TFD	R-134a	3810	4430	5110	5860	6700	7610	8610	9710	10900	12200	13600	15100	16700	18500	20300
				R-22	7280	8270	9340	10500	11700	13100	14500	16000	17600						
				R-404A	7570	8570	9640	10800	12000	13300	14600	16100	17600	19200	20900	22700	24500	26500	28500
				R-407A	5500	6360	7310	8370	9580	10900	12500	14200	16200						
				R-407C	5120	5920	6810	7820	8980	10300	11800	13500	15400						
				R-448A	6430	7290	8250	9300	10500	11700	13100	14600	16200	17900	19700	21600	23700	25800	
				R-449A	6430	7290	8250	9300	10500	11700	13100	14600	16200	17900	19700	21600	23700	25800	
3	FFAL-030Z	ZF13K4E	CFV	R-134a							9800	11100	12500	14000	15600	17400	19300	21300	23400
				R-404A							16400	18100	19800	21600	23500	25400	27400	29400	31400
				R-407A	7020	7810	8880	10200	11700	13400	15200	17000	18900						
				R-407C	6550	7110	7950	9060	10400	11900	13600	15400	17300						
				R-448A	9400	9730	10300	11200	12300	13600	15100	16800	18600	20500	22600	24800	27200	29600	
				R-449A	9400	9730	10300	11200	12300	13600	15100	16800	18600	20500	22600	24800	27200	29600	
			TFC	R-134a							10100	11400	12800	14300	15900	17600	19400	21400	23500
				R-22							16800	18600	20500	22600	24800	27100	29500	32000	34700
				R-404A	8220	9300	10500	11700	13100	14500	16000	17600	19300	21100	23000	25000	27000	29100	31400
				R-407A	7020	7810	8880	10200	11700	13400	15200	17000	18900						
				R-407C	6550	7110	7950	9060	10400	11900	13600	15400	17300						
				R-448A	9400	9730	10300	11200	12300	13600	15100	16800	18600	20500	22600	24800	27200	29600	
				R-449A	9400	9730	10300	11200	12300	13600	15100	16800	18600	20500	22600	24800	27200	29600	
			TFD	R-134a	4280	4970	5740	6600	7570	8630	9800	11100	12500	14000	15600	17400	19300	21300	23400
				R-22	8460	9580	10800	12100	13600	15100	16800	18600	20500						
				R-404A	8080	9250	10500	11800	13300	14800	16400	18100	19800	21600	23500	25400	27400	29400	31400
				R-407A	7020	7810	8880	10200	11700	13400	15200	17000	18900						
				R-407C	6550	7110	7950	9060	10400	11900	13600	15400	17300						
				R-448A	9400	9730	10300	11200	12300	13600	15100	16800	18600	20500	22600	24800	27200	29600	
				R-449A	9400	9730	10300	11200	12300	13600	15100	16800	18600	20500	22600	24800	27200	29600	
	FFAP-A30Z	ZS19KAE	CFV	R-134a								6620	7530	8520	9580	10700	12000	13300	
				R-404A				7060	7940	8890	9930	11100	12300	13600	15000	16600	18200	20000	
				R-407A						8120	9230	10400	11600	12900	14200	15700	17300	19000	
				R-407C								8420	10000	11600	13300	15000	16700	18500	
				R-448A						7460	8660	9800	10900	12100	13400	14800	16300	18000	
				R-449A						7460	8650	9800	10900	12100	13400	14700	16300	18000	
			TFC, TFD	R-134a								6940	7860	8840	9890	11000	12200	13600	
				R-404A				7010	7880	8820	9850	11000	12200	13500	14900	16500	18100	19900	
				R-407A						8120	9230	10400	11600	12900	14200	15700	17300	19000	
				R-407C								8420	10000	11600	13300	15000	16700	18500	
				R-448A						7460	8660	9810	11000	12100	13400	14700	16300	18000	
				R-449A						7450	8660	9810	10900	12100	13400	14700	16200	17900	

Extended Medium Temp/Low Temp – Air Cooled

100° Ambient																		
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling													
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
3 1/4	FFAP-A32Z	ZS21KAE	CFV	R-134a									10000	11300	12700	14200	15800	17500	
				R-404A				9330	10500	11700	13000	14400	16000	17600	19400	21300	23400	25500	
				R-407A						10500	12000	13400	15000	16600	18300	20100	22100	24200	
				R-407C								11100	13200	15300	17500	19700	21900	24200	
				R-448A						9550	11100	12800	14500	16300	18200	20100	22200	24300	
				R-449A						9550	11100	12800	14500	16300	18100	20100	22100	24200	
			TFC, TFD	R-134a									10000	11300	12700	14200	15800	17500	
				R-404A				9270	10400	11600	12900	14400	15900	17500	19300	21200	23200	25400	
				R-407A						10500	12000	13400	15000	16600	18300	20100	22100	24200	
				R-407C								11100	13200	15300	17500	19700	21900	24200	
				R-448A						9390	11000	12700	14500	16400	18400	20400	22600	24900	
				R-449A						9380	11000	12700	14500	16400	18300	20400	22600	24900	
4	FPAK-039Z	ZS29KAE	CFV	R-134a									10700	12100	13500	15000	16700	18500	
				R-404A			10000	11200	12600	14000	15400	17000	18700						
			TFC, TFD	R-134a									10700	12100	13500	15000	16700	18500	
				R-404A			10100	11300	12600	14000	15500	17100	18800						
	FFAL-040Z	ZF15K4E	CFV	R-134a	5200	6030	6960	8000	9160	10400	11800	13400	15000	16800	18700	20800	23000	25400	27900
				R-404A	10300	11600	13000	14500	16000	17600	19300	21100	23000	24900	26900	28900	31100	33300	35500
				R-407A	9040	9910	11100	12500	14200	16100	18000	20100	22300						
				R-407C	8450	9260	10400	11800	13400	15300	17200	19300	21500						
				R-448A	9110	10200	11500	12900	14500	16200	18100	20100	22200						
				R-449A	9110	10200	11500	12900	14500	16200	18100	20100	22200						
			TFC	R-134a	5590	6460	7420	8470	9630	10900	12300	13800	15400	17200	19100	21100	23200	25500	27900
				R-22							20200	22200	24500						
				R-404A	10200	11500	12800	14300	15800	17400	19100	20900	22700	24900	26900	28900	31100	33300	35500
				R-407A	9040	9910	11100	12500	14200	16100	18000	20100	22300						
				R-407C	8450	9260	10400	11800	13400	15300	17200	19300	21500						
				R-448A	9110	10200	11500	12900	14500	16200	18100	20100	22200						
				R-449A	9110	10200	11500	12900	14500	16200	18100	20100	22200						
			TFD	R-134a	5200	6030	6960	8000	9160	10400	11800	13400	15000	16800	18700	20800	23000	25400	27900
				R-22	10300	11600	13100	14600	16400	18200	20200	22200	24500						
				R-404A	10300	11600	13000	14500	16000	17600	19300	21100	23000	24900	26900	28900	31100	33300	35500
				R-407A	9040	9910	11100	12500	14200	16100	18000	20100	22300						
				R-407C	8450	9260	10400	11800	13400	15300	17200	19300	21500						
				R-448A	9110	10200	11500	12900	14500	16200	18100	20100	22200						
				R-449A	9110	10200	11500	12900	14500	16200	18100	20100	22200						
	FFAP-A40Z	ZS26KAE	CFV	R-134a								9900	11300	12700	14300	16000	17900	19900	
				R-404A				10400	11700	13100	14600	16300	18200	20100	22300	24600	27200	29900	
				R-407A						10600	12300	14200	16200	18300	20600	23100	25700	28600	
				R-407C								12500	14800	17300	19800	22300	25000	27700	
				R-448A						11500	12800	14200	15800	17700	19700	22000	24500	27200	
				R-449A						11500	12700	14200	15800	17600	19700	22000	24400	27100	
			TFC, TFD	R-134a								9900	11300	12700	14300	16000	17900	19900	
				R-404A				10400	11700	13200	14700	16400	18200	20200	22400	24700	27300	30000	
				R-407A						11300	12900	14600	16500	18500	20700	23100	25600	28300	
				R-407C								12500	14800	17300	19800	22300	25000	27700	
				R-448A						11400	12600	14100	15800	17800	19900	22400	25000	27900	
				R-449A						11300	12600	14100	15800	17700	19900	22300	24900	27800	
4 1/4	FFAP-A42Z	ZS33KAE	CFV	R-134a								12200	13900	15700	17600	19700	21900	24300	
				R-404A				13100	14700	16400	18300	20400	22600	25000	27600	30500	33500	36700	
				R-407A						15000	17000	19100	21300	23600	26100	28800	31600	34800	
				R-407C								15200	18200	21100	24200	27300	30500	33800	
				R-448A							15500	17900	20300	22900	25600	28500	31500	34600	
				R-449A							15500	17800	20300	22900	25600	28400	31400	34500	
			TFC, TFD	R-134a								12200	13900	15700	17600	19700	21900	24300	
				R-404A				13000	14600	16300	18200	20200	22400	24800	27400	30200	33200	36400	
				R-407A						15000	17000	19100	21300	23600	26100	28800	31600	34800	
				R-407C								15200	18200	21100	24200	27300	30500	33800	
				R-448A							15300	17800	20300	23100	25900	28900	32100	35500	
				R-449A							15300	17700	20300	23000	25900	28900	32100	35400	

Extended Medium Temp/Low Temp – Air Cooled

100° Ambient																		
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling													
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
5	FFAL-050Z	ZF18K4E	TFC	R-134a							11900	13400	15000	16700	18600	20600	22700	25000	27400
				R-22	11800	13400	15100	16900	18900	21000	23300								
				R-404A	12200	13800	15400	17100	18800	20600	22400	24300	26300	28400	30500	32700	35000	37300	
				R-407A	10500	11500	12900	14500	16300	18400	20700	23000	25500						
				R-407C	9780	10700	11900	13500	15300	17400	19600	22000	24400						
				R-448A	11500	12800	14200	15800	17500	19300	21200	23300	25500						
				R-449A	11500	12800	14200	15800	17500	19300	21200	23300	25500						
			TFD	R-134a	6530	7570	8710	9950	11300	12800	14400	16100	18000	20000	22200	24500	26900	29500	32300
				R-22							23300								
				R-404A	12200	13800	15400	17100	18800	20600	22400	24300	26300	28400	30500	32700	35000	37300	
				R-407A	10500	11500	12900	14500	16300	18400	20700	23000	25500						
				R-407C	9780	10700	11900	13500	15300	17400	19600	22000	24400						
				R-448A	11500	12800	14200	15800	17500	19300	21200	23300	25500						
				R-449A	11500	12800	14200	15800	17500	19300	21200	23300	25500						
	FFAP-050Z	ZS38K4E	CFV, TFC, TFD, TFE	R-134a							12300	14000	15800	17800	19900	22200	24700	27400	
				R-22													37200	40700	
				R-404A				15400	17200	19100	21200	23400	25700	28200	30900	33700	36700	39800	
				R-407A						16300	18500	21000	23700	26600	29700	33000	36400	40000	
				R-407C							18200	20600	23300	26200	29300	32500	36000	39500	
				R-448A							18100	20500	23200	26100	29400	32800	36400	40200	
				R-449A							18100	20500	23200	26100	29400	32800	36400	40200	
6	FFAP-060Z	ZS45K4E	TFC, TFD	R-134a							14500	16500	18700	21000	23500	26200	29100	32200	
				R-22														47900	52500
				R-404A				18500	20600	22800	25100	27600	30300	33100	36000	39200	42400	45900	
				R-407A							22100	25000	28100	31500	35000	38800	42700	46800	
				R-407C									27700	31100	34600	38300	42200	46200	50500
				R-448A								24500	27500	30800	34500	38400	42500	46700	
				R-449A								24500	27500	30800	34500	38400	42500	46700	

Extended Medium Temp/Low Temp – Air Cooled

110° Ambient																	
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling												
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
1	FFAL-010Z	ZF03KAE	CFV, TFC	R-404A	1850	2050	2280	2530	2820	3140	3510	3930	4390	4910	5480				
				R-407A	1550	1750	1970	2210	2470	2760	3080	3450	3850	4310	4810				
				R-448A	1560	1800	2040	2290	2560	2850	3190	3560	3980	4450	4980				
				R-449A	1560	1800	2040	2290	2560	2850	3190	3560	3980	4450	4980				
	FPAK-010Z	ZS09KAE	CFV	R-134a											4410	4900	5410	5960	
				R-404A						4000	4390	4810	5250						
			TFC, TFD	R-134a											4410	4900	5410	5960	
				R-404A						3950	4350	4760	5200						
1 1/4	FPAK-012Z	ZS11KAE	CFV	R-134a												5680	6260	6880	
				R-404A						4540	4970	5410	5870						
			TFC, TFD	R-134a												5680	6260	6880	
				R-404A						4610	5040	5490	5950						
	FFAL-013Z	ZF04KAE	CFV, TFC	R-404A	2330	2580	2880	3250	3670	4140	4660	5230	5840	6500	7190				
				R-407A	1950	2160	2430	2760	3150	3600	4110	4670	5290	5950	6670				
				R-448A	2010	2250	2540	2890	3290	3750	4260	4820	5420	6080	6780				
				R-449A	2010	2250	2540	2890	3290	3750	4260	4820	5420	6080	6780				
	FPAK-013Z	ZS15KAE	CFV	R-134a											7320	8130	9000	9920	
				R-404A						6560	7160	7770	8380						
			TFC, TFD	R-134a											7320	8130	9000	9920	
				R-404A						6510	7110	7710	8330						
1 1/2	FFAL-014Z	ZF05KAE	CFV, TFC	R-407A	2740	3090	3490	3940	4440	4980	5560	6170	6810	7490	8180				
				R-407C	2210	2480	2820	3230	3700	4230	4830	5490	6200	6970	7790				
				R-448A	2280	2590	2970	3400	3890	4430	5020	5670	6360	7100	7890				
				R-449A	2280	2590	2970	3400	3890	4430	5020	5670	6360	7100	7890				
	FFAL-015Z	ZF06K4E	CFV	R-134a	2050	2410	2800	3230	3690	4200	4750	5360	6020	6730	7500	8330	9220	10200	11200
				R-404A	3870	4460	5050	5650	6260	6890	7530	8190	8860	9560	10300	11000	11800	12500	
				R-407A	2840	3300	3810	4390	5040	5780	6610	7530	8540						
				R-407C	2730	3170	3670	4240	4890	5610	6430	7340	8360						
				R-448A	3430	3870	4380	4950	5600	6310	7080	7920	8820	7690	8470	9300	10200	11100	
				R-449A	3430	3870	4380	4950	5600	6310	7080	7920	8820	7690	8470	9300	10200	11100	
			TFC	R-134a	2050	2410	2800	3230	3690	4200	4750	5360	6020	6730	7500	8330	9220	10200	11200
				R-22	4020	4530	5110	5750	6450	7210	8030	8900	9830						
				R-404A	3870	4460	5050	5650	6260	6890	7530	8190	8860	9560	10300	11000	11800	12500	
				R-407A	2840	3300	3810	4390	5040	5780	6610	7530	8540						
				R-407C	2730	3170	3670	4240	4890	5610	6430	7340	8360						
				R-448A	3430	3870	4380	4950	5600	6310	7080	7920	8820	7690	8470	9300	10200	11100	
				R-449A	3430	3870	4380	4950	5600	6310	7080	7920	8820	7690	8470	9300	10200	11100	
			TFD	R-134a	2050	2410	2800	3230	3690	4200	4750	5360	6020	6730	7500	8330	9220	10200	11200
				R-22							8030	8910	9840						
				R-404A	3870	4460	5050	5650	6260	6890	7530	8190	8860	9560	10300	11000	11800	12500	
				R-407A	2840	3300	3810	4390	5040	5780	6610	7530	8540						
				R-407C	2730	3170	3670	4240	4890	5610	6430	7340	8360						
				R-448A	3430	3870	4380	4950	5600	6310	7080	7920	8820	7690	8470	9300	10200	11100	
				R-449A	3430	3870	4380	4950	5600	6310	7080	7920	8820	7690	8470	9300	10200	11100	
	FFAP-A15Z	ZS09KAE	CFV	R-134a										4300	4830	5400	6020	6680	
				R-404A				3600	4020	4470	4950	5470	6030	6620	7250	7930	8650	9410	
				R-407A								5160	5750	6370	7040	7750	8520	9360	
				R-407C										5770	6640	7510	8400	9310	
				R-448A									5330	5860	6440	7100	7840	8680	
				R-449A								4910	5400	5920	6510	7160	7890	8720	
			TFC, TFD	R-134a										4300	4830	5400	6010	6680	
				R-404A				3550	3970	4420	4900	5410	5960	6550	7180	7850	8560	9320	
				R-407A								5160	5750	6370	7040	7750	8520	9360	
				R-407C										5770	6640	7510	8400	9310	
				R-448A									5330	5870	6480	7170	7940	8800	
				R-449A								4910	5400	5950	6560	7240	8000	8840	
	FPAK-015Z	ZS19KAE	CFV	R-134a											8120	9010	9950	11000	
				R-404A							7730	8320	8900						
			TFC, TFD	R-134a											8120	9010	9950	11000	
				R-404A							7680	8280	8870						

Extended Medium Temp/Low Temp – Air Cooled

110° Ambient																	
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling												
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
1 3/4	FFAL-017Z	ZF07KAE	CFV, TFC	R-134a	3970	4630	5270	5910	6560	7220	7910	8630	9410	10200	11100				
				R-404A	3370	3980	4590	5220	5880	6580	7340	8160	9050	10000	11100				
				R-134a	3590	4190	4770	5380	6010	6700	7450	8290	9230	10300	11500				
				R-404A	3590	4190	4770	5380	6010	6700	7450	8290	9230	10300	11500				
	FFAP-A17Z	ZS11KAE	CFV	R-134a										5080	5700	6360	7080	7850	
				R-404A				4160	4640	5150	5690	6260	6880	7530	8220	8950	9720	10500	
				R-407A									6760	7480	8240	9060	9940	10900	
				R-407C										6790	7800	8820	9850	10900	
				R-448A									6310	6920	7590	8340	9190	10100	
				R-449A									6370	6980	7640	8390	9210	10100	
			TFC, TFD	R-134a										5080	5700	6360	7080	7850	
				R-404A				4230	4710	5230	5780	6360	6980	7640	8340	9080	9860	10700	
				R-407A									6760	7480	8240	9060	9940	10900	
				R-407C										6790	7800	8820	9850	10900	
				R-448A									6310	6940	7640	8420	9300	10300	
				R-449A									6380	7000	7700	8470	9330	10300	
2	FFAL-020Z	ZF08K4E	CFV	R-134a	2630	3090	3580	4120	4710	5360	6070	6850	7700	8620	9630	10700	11900	13200	14500
				R-404A	4960	5660	6400	7190	8030	8930	9890	10900	12000	13200	14400	15700	17100	18500	20000
				R-448A	4190	5130	6000	6840	7670	8500	9350	10200	11200						
				R-449A	4190	5130	6000	6840	7670	8500	9350	10200	11200						
			TFC	R-134a							6030	6810	7650	8570	9580	10700	11800	13100	14400
				R-22							10400	11600	12800	14100	15500	17000	18600	20200	21900
				R-404A	4870	5560	6290	7070	7900	8790	9740	10800	11800	13000	14200	15500	16800	18300	19800
				R-407A	4010	4640	5340	6100	6930	7810	8770	9780	10900						
				R-448A	4190	5130	6000	6840	7670	8500	9350	10200	11200						
				R-449A	4190	5130	6000	6840	7670	8500	9350	10200	11200						
			TFD	R-134a	2630	3090	3580	4120	4710	5360	6070	6850	7700	8620	9630	10700	11900	13200	14500
				R-22	5160	5830	6580	7410	8330	9330	10400	11600	12800						
				R-404A	4960	5660	6400	7190	8030	8930	9890	10900	12000	13200	14400	15700	17100	18500	20000
				R-407A	4010	4640	5340	6100	6930	7810	8770	9780	10900						
				R-448A	4190	5130	6000	6840	7670	8500	9350	10200	11200						
				R-449A	4190	5130	6000	6840	7670	8500	9350	10200	11200						
	FFAP-A20Z	ZS13KAE	CFV	R-134a										5830	6550	7320	8140	9040	
				R-404A				4800	5370	5980	6640	7350	8110	8930	9810	10700	11700	12800	
				R-407A								6990	7790	8630	9520	10500	11500	12600	
				R-407C										7830	9000	10200	11400	12600	
				R-448A								6730	7380	8080	8860	9740	10700	11800	
				R-449A								6730	7380	8080	8860	9730	10700	11800	
			TFC, TFD	R-134a										5830	6550	7320	8140	9040	
				R-404A				4790	5360	5970	6630	7340	8100	8930	9800	10700	11700	12800	
				R-407A								6990	7790	8630	9520	10500	11500	12600	
				R-407C										7830	9000	10200	11400	12600	
				R-448A								6730	7360	8030	8750	9570	10500	11500	
				R-449A								6730	7360	8030	8750	9560	10500	11500	
	FPAK-020Z	ZS21KAE	CFV	R-134a											11100	12300	13600	15000	
				R-404A						9710	10600	11500	12300						
			TFC, TFD	R-134a											11100	12300	13600	15000	
				R-404A						9660	10500	11400	12300						
2 1/4	FFAL-022Z	ZF09K4E	CFV	R-404A	5550	6330	7150	8000	8920	9880	10900	12000	13200	14400	15800	17200	18600	20200	21800
				R-407A	4180	4800	5480	6260	7150	8170	9340	10700	12200						
				R-407C	3880	4460	5110	5850	6720	7710	8860	10200	11700						
				R-448A	4590	5480	6360	7250	8170	9120	10100	11200	12300						
				R-449A	4590	5480	6360	7250	8170	9120	10100	11200	12300						
			TFC	R-404A	5280	5990	6710	7460	8240	9050	9880	10800	11600	12600	13500				
				R-407A	4180	4800	5480	6260	7150	8170	9340	10700	12200						
				R-407C	3880	4460	5110	5850	6720	7710	8860	10200	11700						
				R-448A	4590	5480	6360	7250	8170	9120	10100	11200	12300						
				R-449A	4590	5480	6360	7250	8170	9120	10100	11200	12300						
			TFD	R-22	5560	6330	7130	7980											
				R-404A	5550	6330	7150	8000	8920	9880	10900	12000	13200	14400	15800	17200	18600	20200	21800
				R-407A	4180	4800	5480	6260	7150	8170	9340	10700	12200						
				R-407C	3880	4460	5110	5850	6720	7710	8860	10200	11700						
				R-448A	4590	5480	6360	7250	8170	9120	10100	11200	12300						
				R-449A	4590	5480	6360	7250	8170	9120	10100	11200	12300						

Extended Medium Temp/Low Temp – Air Cooled

110° Ambient																		
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling													
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
2 1/4	FFAP-A22Z	ZS15KAE	CFV	R-134a										7130	8010	8970	10000	11100	
				R-404A				5730	6430	7200	8040	8950	9950	11100	12200	13600	15000	16500	
				R-407A								7930	9030	10200	11500	12800	14200	15800	
				R-407C										9630	11100	12500	14000	15600	
				R-448A								8230	9070	9980	11000	12100	13400	14800	
				R-449A								8230	9070	9980	11000	12100	13400	14800	
			TFC, TFD	R-134a										7130	8010	8970	10000	11100	
				R-404A				5680	6370	7130	7960	8870	9860	11000	12100	13400	14800	16400	
				R-407A								8560	9550	10600	11700	12900	14300	15700	
				R-407C										9630	11100	12500	14000	15600	
				R-448A								8230	9080	10000	11100	12300	13600	15000	
				R-449A								8230	9070	10000	11100	12200	13600	15000	
2 1/2	FFAL-026Z	ZF11K4E	CFV	R-404A	6850	7760	8730	9750	10800	12000	13200	14500	15900	17300	18900	20400	22000	23700	25300
				R-407A	5160	5870	6660	7580	8640	9860	11300	12900	14700						
				R-407C	4800	5470	6230	7120	8150	9350	10700	12300	14100						
				R-448A	5970	6770	7640	8600			12000	13400	14800	16400	18000	19800			
				R-449A	5970	6770	7640	8600			12000	13400	14800	16400	18000	19800			
			TFC	R-134a	3550	4170	4830	5560	6350	7210	8140	9160	10300	11500	12800	14100	15600	17200	18900
				R-22							13600								
				R-404A	6690	7580	8520	9520	10600	11700	12900	14200	15500	16900	18300	19700	21100	22400	
				R-407A	5160	5870	6660	7580	8640	9860	11300	12900	14700						
				R-407C	4800	5470	6230	7120	8150	9350	10700	12300	14100						
				R-448A	5970	6770	7640	8600			12000	13400	14800	16400	18000	19800			
				R-449A	5970	6770	7640	8600			12000	13400	14800	16400	18000	19800			
			TFD	R-134a	3550	4170	4830	5560	6350	7210	8140	9160	10300	11500	12800	14100	15600	17200	18900
				R-22	6900	7820	8810	9870	11000	12300	13600								
				R-404A	6850	7760	8730	9750	10800	12000	13200	14500	15900	17300	18900	20400	22000	23700	25300
				R-407A	5160	5870	6660	7580	8640	9860	11300	12900	14700						
				R-407C	4800	5470	6230	7120	8150	9350	10700	12300	14100						
				R-448A	5970	6770	7640	8600			12000	13400	14800	16400	18000	19800			
				R-449A	5970	6770	7640	8600			12000	13400	14800	16400	18000	19800			
3	FFAL-030Z	ZF13K4E	CFV	R-134a							9110	10300	11600	13000	14500	16200	17900	19800	21800
				R-404A							14900	16400	17900	19500	21100	22700	24300	25900	
				R-407A	6740	7390	8330	9510			14100	15800	17600						
				R-407C	6120	6520	7220	8190			12300	14000	15800						
				R-448A								15200	16700	18400	20200				
				R-449A								15200	16700	18400	20200				
			TFC	R-134a							9480	10600	11900	13300	14800	16300	18100	19900	21800
				R-404A	7600	8510	9500	10600	11800	13000	14400	15800	17400	19000	20600	22400	24100	25900	
				R-407A	6740	7390	8330	9510			14100	15800	17600						
				R-407C	6120	6520	7220	8190			12300	14000	15800						
				R-448A								15200	16700	18400	20200				
				R-449A								15200	16700	18400	20200				
			TFD	R-134a	3960	4610	5330	6140	7030	8020	9110	10300	11600	13000	14500	16200	17900	19800	21800
				R-22	7960	9010	10100	11400	12700	14200									
				R-404A	7380	8440	9570	10800	12100	13400	14900	16400	17900	19500	21100	22700	24300	25900	
				R-407A	6740	7390	8330	9510			14100	15800	17600						
				R-407C	6120	6520	7220	8190			12300	14000	15800						
				R-448A								15200	16700	18400	20200				
				R-449A								15200	16700	18400	20200				
	FFAP-A30Z	ZS19KAE	CFV	R-134a										8000	8980	10100	11200	12500	
				R-404A				6400	7180	8030	8960	9970	11100	12300	13600	15000	16600	18300	
				R-407A								9590	10700	11900	13100	14400	15900	17500	
				R-407C										10800	12400	14000	15700	17400	
				R-448A								9070	10100	11100	12200	13400	14800	16300	
				R-449A								9060	10100	11100	12200	13400	14800	16300	
			TFC, TFD	R-134a										8360	9340	10400	11500	12700	
				R-404A				6340	7120	7960	8880	9890	11000	12200	13500	14900	16500	18100	
				R-407A								9590	10700	11900	13100	14400	15900	17500	
				R-407C										10800	12400	14000	15700	17400	
				R-448A								9080	10100	11100	12200	13400	14800	16300	
				R-449A								9070	10100	11100	12200	13400	14800	16300	

Extended Medium Temp/Low Temp – Air Cooled

110° Ambient																	
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling												
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
3 1/4	FFAP-A32Z	ZS21KAE	CFV	R-134a										10600	11900	13200	14700	16300	
				R-404A					9500	10600	11800	13100	14500	16000	17700	19500	21400	23400	
				R-407A									13800	15300	16800	18500	20300	22200	
				R-407C										14100	16200	18300	20500	22600	
				R-448A									12800	14500	16300	18100	20000	22000	
				R-449A									12800	14500	16300	18100	20000	21900	
			TFC, TFD	R-134a										10600	11900	13200	14700	16300	
				R-404A					9440	10500	11700	13000	14400	15900	17600	19400	21300	23300	
				R-407A									13800	15300	16800	18500	20300	22200	
				R-407C										14100	16200	18300	20500	22600	
				R-448A									12800	14600	16500	18500	20500	22700	
				R-449A									12800	14600	16500	18500	20500	22600	
4	FPAK-039Z	ZS29KAE	CFV	R-134a											12600	14000	15600	17200	
				R-404A					11400	12700	14000	15400	16900						
			TFC, TFD	R-134a											12600	14000	15600	17200	
				R-404A					11500	12700	14100	15500	17000						
	FFAL-040Z	ZF15K4E	CFV	R-134a	4840	5620	6490	7460	8540	9720	11000	12400	14000	15600	17400	19400	21400	23600	26000
				R-404A	9340	10500	11800	13100	14500	15900	17300	18900	20400	22000	23600				
				R-407A	8460	9190							20500						
				R-407C	7960	8650							19900						
				R-448A	8850														
				R-449A	8850														
			TFC	R-134a	5240	6060	6960	7950	9030	10200	11500	12900	14400	16000	17700	19600	21600	23700	25900
				R-404A	9200	10400	11600	12900	14300	15700	17200	18700	20300						
				R-407A	8460	9190							20500						
				R-407C	7960	8650							19900						
				R-448A	8850														
				R-449A	8850														
			TFD	R-134a	4840	5620	6490	7460	8540	9720	11000	12400	14000	15600	17400	19400	21400	23600	26000
				R-22	9640	10900	12200	13700											
				R-404A	9340	10500	11800	13100	14500	15900	17300	18900	20400	22000	23600				
				R-407A	8460	9190							20500						
				R-407C	7960	8650							19900						
				R-448A	8850														
				R-449A	8850														
	FFAP-A40Z	ZS26KAE	CFV	R-134a										12000	13500	15100	16800	18700	
				R-404A				9620	10800	12100	13400	14900	16600	18300	20300	22300	24600	27000	
				R-407A								12700	14600	16700	18800	21200	23700	26300	
				R-407C										16000	18400	20900	23400	26000	
				R-448A								12200	13600	15300	17100	19200	21500	24000	
				R-449A								12300	13700	15300	17200	19300	21600	24100	
			TFC, TFD	R-134a										12000	13500	15100	16800	18700	
				R-404A				9660	10800	12100	13500	15000	16600	18400	20300	22400	24700	27100	
				R-407A								13500	15200	17100	19100	21200	23600	26100	
				R-407C										16000	18400	20900	23400	26000	
				R-448A								12100	13600	15400	17400	19600	22100	24800	
				R-449A								12200	13700	15500	17500	19700	22100	24800	
4 1/4	FFAP-A42Z	ZS33KAE	CFV	R-134a										14700	16500	18400	20500	22800	
				R-404A				12100	13500	15100	16800	18600	20500	22700	25000	27400	30000	32800	
				R-407A									19700	21800	24000	26400	29000	31900	
				R-407C										19500	22500	25500	28600	31700	
				R-448A									18000	20500	23100	25800	28600	31500	
				R-449A									18000	20500	23100	25700	28500	31400	
			TFC, TFD	R-134a										14700	16500	18400	20500	22800	
				R-404A				12000	13400	15000	16600	18400	20400	22500	24800	27200	29800	32600	
				R-407A									19700	21800	24000	26400	29000	31900	
				R-407C										19500	22500	25500	28600	31700	
				R-448A									18000	20600	23400	26300	29300	32500	
				R-449A									18000	20600	23400	26200	29300	32400	

Extended Medium Temp/Low Temp – Air Cooled

110° Ambient																		
HP	Model	Comp.	Electrical	Refrigerant	Capacity (BTU/Hr) @ SST, 40°F RG, 5°F Subcooling													
					-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30
5	FFAL-050Z	ZF18K4E	TFC	R-134a							11200	12500	14000	15600	17300	19200	21200	23300	25500
				R-22	11000	12500													
				R-404A	11200	12700	14100	15600				21800	23400						
				R-407A	9440														
			TFD	R-134a	6160	7140	8200	9350	10600	12000	13400	15000	16700	18600	20500	22700	24900		
				R-404A	11200	12700	14100	15600				21800	23400						
				R-407A	9440														
	FFAP-050Z	ZS38K4E	CFV, TFC, TFD, TFE	R-134a							11600	13100	14800	16700	18600	20800	23100	25600	
				R-404A				14000	15600	17300	19100	21100	23100	25300	27600	30100	32600	35200	
				R-407A									21800	24500	27300	30400	33500	36800	
				R-407C									21500	24200	27100	30100	33300	36600	
				R-448A									21500	24100	26900	30000	33300	36800	
				R-449A									21500	24100	26900	30000	33300	36800	
6	FFAP-060Z	ZS45K4E	TFC, TFD	R-134a							13600	15500	17500	19700	22100	24600	27200	30100	
				R-404A					18800	20700	22800	25000	27200	29600	32200	34800	37500	40200	
				R-407A									25900	29000	32300	35700	39300	43100	
				R-407C										28700	32000	35400	39100	42800	46700
				R-448A										28800	31900	35400	39200	43100	
				R-449A										28800	31900	35400	39200	43100	

Model	Comp.	Voltage	L	W	H	Ref. Conn.							MCA	Max Over-Current	Ship Wt.
						Liq.	Suc.	134a	22	404A	407A	407C	448/449			
FFAL-014Z-CFV-075	ZF05KAE	208/230-1	24.86	19.39	17.73	3/8	7/8	16.0	15.8	13.7	15.1	15.0	14.5/14.6	12.3	15	111
FFAL-014Z-TFC-072	ZF05KAE	200/220-3	24.86	18.75	17.73	3/8	7/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	10.8	15	135
FFAL-014Z-TFC-075	ZF05KAE	200/220-3	24.86	19.39	17.73	3/8	7/8	16.0	15.8	13.7	15.1	15.0	14.5/14.6	10.8	15	117
FFAL-014Z-TFD-075	ZF05KAE	460-3	NULL	NULL	NULL	NULL	NULL	16.0	15.8	13.7	15.1	15.0	14.5/14.6	5.6	15	135
FFAL-015Z-CFV-072	ZF06K4E	200-1	24.86	18.82	17.16	3/8	7/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	18.4	30	122
FFAL-015Z-CFV-075	ZF06K4E	200-1	24.86	19.46	17.16	3/8	7/8	16.6	16.4	14.2	15.7	15.6	15.1/15.2	18.4	30	119
FFAL-015Z-TFC-072	ZF06K4E	200/220-3	24.86	18.82	17.16	3/8	7/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	13	20	119
FFAL-015Z-TFC-075	ZF06K4E	200/230-3	24.86	19.46	17.16	3/8	7/8	16.6	16.4	14.2	15.7	15.6	15.1/15.2	13	20	119
FFAL-015Z-TFD-072	ZF06K4E	460-3	24.86	18.82	17.16	3/8	7/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	6.3	15	118
FFAL-015Z-TFD-075	ZF06K4E	460-3	24.86	19.46	17.16	3/8	7/8	16.6	16.4	14.2	15.7	15.6	15.1/15.2	6.3	15	88
FFAL-017Z-CFV-072	ZF07KAE	208/230-1	24.86	18.75	17.73	3/8	7/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	18.8	30	116
FFAL-017Z-CFV-075	ZF07KAE	208/230-1	24.86	19.39	17.73	3/8	7/8	16.0	15.8	13.7	15.1	15.0	14.5/14.6	18.8	30	126
FFAL-017Z-TFC-072	ZF07KAE	200/220-3	24.86	18.75	17.73	3/8	7/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	12.2	15	NULL
FFAL-017Z-TFC-075	ZF07KAE	200/220-3	24.86	19.39	17.73	3/8	N/A	16.0	15.8	13.7	15.1	15.0	14.5/14.6	12.2	15	127
FFAL-020Z-CFV-071	ZF08K4E	200-1	25	34.06	19.29	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	23.3	35	151
FFAL-020Z-TFC-071	ZF08K4E	200/230-3	25	34.06	19.29	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	14.9	20	119
FFAL-020Z-TFD-071	ZF08K4E	460-3	25	34.06	19.29	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	8	15	151
FFAL-022Z-CFV-071	ZF09K4E	200-1	25	34.06	19.29	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	24.2	35	100
FFAL-022Z-TFC-071	ZF09K4E	200/220-3	25	34.06	19.29	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	16.7	20	99
FFAL-022Z-TFD-071	ZF09K4E	460-3	25	34.06	19.29	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	8.9	15	117
FFAL-026Z-CFV-071	ZF11K4E	200-1	34.06	25	19.29	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	28.8	45	117
FFAL-026Z-TFC-071	ZF11K4E	200/220-3	25	34.06	19.29	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	20.6	30	116
FFAL-026Z-TFD-071	ZF11K4E	460-3	25	34.06	19.29	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	12.1	15	117
FFAL-030Z-CFV-071	ZF13K4E	200-1	25	34.06	20.01	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	36.3	60	219
FFAL-030Z-TFC-071	ZF13K4E	200/220-3	25	34.06	20.01	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	21.6	30	154
FFAL-030Z-TFD-071	ZF13K4E	460-3	25	34.06	20.01	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	13.5	15	150
FFAL-040Z-CFV-071	ZF15K4E	200-1	25	34.06	20.01	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	42.6	70	224
FFAL-040Z-TFC-071	ZF15K4E	200/220-3	25	34.06	20.01	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	29.6	45	213
FFAL-040Z-TFD-071	ZF15K4E	460-3	25	34.06	20.01	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	15.2	20	224
FFAL-050Z-TFC-071	ZF18K4E	200/220-3	25	34.06	20.01	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	32.7	50	208
FFAL-050Z-TFD-071	ZF18K4E	460-3	25	34.06	20.01	3/8	7/8	20.7	20.4	17.7	19.5	19.4	18.8/18.9	14.8	20	175
FFAM-A08Z-CFV-072	ZB06KAE	208/230-1	24.12	18.33	16.45	3/8	7/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	8.9	15	220
FFAM-A08Z-CFV-075	ZB06KAE	208/230-1	24.08	18.92	16.31	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	8.9	15	243
FFAM-A08Z-TFC-072	ZB06KAE	208/230-3	24.12	18.33	16.45	3/8	7/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	7	15	237
FFAM-A08Z-TFC-075	ZB06KAE	208/230-3	24.08	18.92	16.31	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	7	15	150
FFAM-A10Z-CFV-075	ZB07KAE	208/230-1	24.08	18.92	16.31	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	9.3	15	264
FFAM-A10Z-TFC-072	ZB07KAE	208/230-3	24.12	18.33	16.45	3/8	7/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	7.6	15	195
FFAM-A10Z-TFC-075	ZB07KAE	208/230-3	24.08	18.92	16.31	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	7.6	15	86
FFAM-A12Z-CFV-072	ZB08KAE	208/230-1	24.12	18.33	16.45	3/8	7/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	11.4	15	187
FFAM-A12Z-CFV-075	ZB08KAE	208/230-1	24.08	18.92	16.31	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	11.4	15	187
FFAM-A12Z-TFC-072	ZB08KAE	208/230-3	24.12	18.33	16.45	3/8	7/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	8	15	104
FFAM-A12Z-TFC-075	ZB08KAE	208/230-3	24.08	18.92	16.31	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	8.4	15	104
FFAP-050Z-CFV-071	ZS38K4E	200-1	28.2	44.1	26.8	1/2	1-1/8	34.1	33.6	29.2	32.1	32.0		43.4	70	93
FFAP-050Z-CFV-072	ZS38K4E	200-1	28.2	44.1	26.8	1/2	1-1/8	34.1	33.6	29.2	32.1	32.0		43.4	70	104
FFAP-050Z-TFC-071	ZS38K4E	200/220-3	28.29	44.06	26.62	1/2	1-1/8	34.1	33.6	29.2	32.1	32.0		30.4	45	104
FFAP-050Z-TFC-072	ZS38K4E	200/220-3	28.29	44.06	26.62	1/2	1-1/8	34.1	33.6	29.2	32.1	32.0		30.4	45	94
FFAP-050Z-TFD-071	ZS38K4E	460-3	28.29	44.06	26.62	1/2	1-1/8	34.1	33.6	29.2	32.1	32.0		14.4	20	104
FFAP-050Z-TFE-075	ZS38K4E	575-3	28.2	44.1	26.8	1/2	1-1/8	34.1	33.6	29.2	32.1	32.0		11.9	15	104
FFAP-060Z-TFC-071	ZS45K4E	200/220-3	28.29	44.06	26.62	1/2	1-1/8	34.1	33.6	29.2	32.1	32.0		33.5	50	104
FFAP-060Z-TFD-071	ZS45K4E	460-3	28.29	44.06	26.62	1/2	1-1/8	34.1	33.6	29.2	32.1	32.0		14	20	104
FFAP-A15Z-CFV-072	ZS09KAE	208/230-1	24.1	18.42	16.62	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	13.9	20	104
FFAP-A15Z-CFV-075	ZS09KAE	208/230-1	24.09	18.98	16.62	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	13.9	20	285
FFAP-A15Z-TFC-072	ZS09KAE	200/220-3	24.1	18.42	16.62	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	11.4	15	269
FFAP-A15Z-TFC-075	ZS09KAE	200/220-3	24.09	18.98	16.62	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	11.4	15	272
FFAP-A15Z-TFD-072	ZS09KAE	460-3	24.1	18.42	16.62	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	6.4	15	254
FFAP-A15Z-TFD-075	ZS09KAE	460-3	24.09	18.98	16.62	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	6.4	15	275
FFAP-A17Z-CFV-072	ZS11KAE	208/230-1	24.1	18.42	16.62	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	17.2	25	324
FFAP-A17Z-CFV-075	ZS11KAE	208/230-1	24.09	18.98	16.62	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	17.1	25	320
FFAP-A17Z-TFC-072	ZS11KAE	208/230-3	24.1	18.42	16.62	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	14.4	20	342
FFAP-A17Z-TFC-075	ZS11KAE	200/220-3	24.09	18.98	16.62	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	500	180	110
FFAP-A17Z-TFD-072	ZS11KAE	460-3	24.1	18.42	16.62	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	7	15	139
FFAP-A17Z-TFD-075	ZS11KAE	460-3	24.09	18.98	16.62	3/8	7/8	14.0	13.8	12.0	13.2	13.2	12.7/12.8	7	15	110
FFAP-A20Z-CFV-072	ZS13KAE	208/230-1	34.06	25.02	18.88	3/8	7/8	15.8	15.6	13.5	14.9	14.8	14.3/14.4	16.8	25	139
FFAP-A20Z-CFV-075	ZS13KAE	208/230-1	34.14	25.04	18.86	3/8	7/8	15.8	15.6	13.5	14.9	14.8	14.3/14.4	16.8	25	110
FFAP-A20Z-TFC-072	ZS13KAE	208/230-3	34.06	25.02	18.88	3/8	7/8	15.8	15.6	13.5	14.9	14.8	14.3/14.4	13.9	20	NULL
FFAP-A20Z-TFC-075	ZS13KAE	208/230-3	34.14	25.04	18.86	3/8	7/8	15.8	15.6	13.5	14.9	14.8	14.3/14.4	13.9	20	109
FFAP-A20Z-TFD-072	ZS13KAE	460-3	34.06	25.02	18.88	3/8	7/8	15.8	15.6	13.5	14.9	14.8	14.3/14.4	7.1	15	111
FFAP-A20Z-TFD-075	ZS13KAE	460-3	34.14	25.04	18.86	3/8	7/8	15.8	15.6	13.5	14.9	14.8	14.3/14.4	7.1	15	109

Physical and Electrical Data

Copeland F-Line air-cooled condensing units

Model	Comp.	Voltage	L	W	H	Ref. Conn.								MCA	Max Over-Current	Ship Wt.
						Liq.	Suc.	134a	22	404A	407A	407C	448/449			
FFAP-A22Z-CFV-072	ZS15KAE	208/230-1	34.06	25.06	19.03	3/8	7/8	18.1	17.9	15.5	17.1	17.0	16.4/16.5	22.4	35	111
FFAP-A22Z-CFV-075	ZS15KAE	208/230-1	34.06	25.06	23.09	3/8	7/8	28.4	27.9	24.2	26.7	26.6	25.7/25.8	22.4	35	109
FFAP-A22Z-TFC-072	ZS15KAE	208/230-3	34.06	25.06	19.03	3/8	7/8	18.1	17.9	15.5	17.1	17.0	16.4/16.5	16.1	20	NULL
FFAP-A22Z-TFC-075	ZS15KAE	200/220-3	34.06	25.06	23.09	3/8	7/8	28.4	27.9	24.2	26.7	26.6	25.7/25.8	16.1	20	174
FFAP-A22Z-TFD-072	ZS15KAE	460-3	34.06	25.06	19.03	3/8	7/8	18.1	17.9	15.5	17.1	17.0	16.4/16.5	10	15	170
FFAP-A22Z-TFD-075	ZS15KAE	460-3	34.06	25.06	23.09	3/8	7/8	28.4	27.9	24.2	26.7	26.6	25.7/25.8	10	15	174
FFAP-A30Z-CFV-072	ZS19KAE	208/230-1	34.06	25.06	19.03	3/8	7/8	18.1	17.9	15.5	17.1	17.0	16.4/16.5	25.3	10	174
FFAP-A30Z-CFV-075	ZS19KAE	208/230-1	34.06	25.06	23.09	3/8	7/8	28.4	27.9	24.2	26.7	26.6	25.7/25.8	25.3	40	210
FFAP-A30Z-TFC-072	ZS19KAE	200/220-3	34.06	25.06	19.03	3/8	7/8	18.1	17.9	15.5	17.1	17.0	16.4/16.5	19.9	30	NULL
FFAP-A30Z-TFC-075	ZS19KAE	200/220-3	34.06	25.06	23.09	3/8	7/8	28.4	27.9	24.2	26.7	26.6	25.7/25.8	19.9	30	174
FFAP-A30Z-TFD-072	ZS19KAE	460-3	34.06	25.06	19.03	3/8	7/8	18.1	17.9	15.5	17.1	17.0	16.4/16.5	11.3	15	110
FFAP-A30Z-TFD-075	ZS19KAE	460-3	34.06	25.06	23.09	3/8	7/8	28.4	27.9	24.2	26.7	26.6	25.7/25.8	11.3	15	174
FFAP-A32Z-CFV-072	ZS21KAE	208/230-1	34.06	25.06	18.88	3/8	1-1/8	18.1	17.9	15.5	17.1	17.0	16.4/16.5	31.8	50	104
FFAP-A32Z-CFV-075	ZS21KAE	208/230-1	34.06	25.1	23.1	3/8	1-1/8	28.4	27.9	24.2	26.7	26.6	25.7/25.8	31.8	50	NULL
FFAP-A32Z-TFC-072	ZS21KAE	200/220-3	34.06	25.06	18.88	3/8	1-1/8	18.1	17.9	15.5	17.1	17.0	16.4/16.5	21.8	30	NULL
FFAP-A32Z-TFC-075	ZS21KAE	200/220-3	34.06	25.1	23.1	3/8	1-1/8	28.4	27.9	24.2	26.7	26.6	25.7/25.8	21.8	30	186
FFAP-A32Z-TFD-072	ZS21KAE	460-3	34.06	25.06	18.88	3/8	1-1/8	18.1	17.9	15.5	17.1	17.0	16.4/16.5	10.4	15	110
FFAP-A32Z-TFD-075	ZS21KAE	460-3	34.06	25.1	23.1	3/8	1-1/8	28.4	27.9	24.2	26.7	26.6	25.7/25.8	11.8	15	186
FFAP-A40Z-CFV-072	ZS26KAE	208/230-1	44.06	28.26	26.65	1/2	1-1/8	33.9	33.4	32.0	32.0	31.8	30.7/30.9	33.1	50	110
FFAP-A40Z-CFV-075	ZS26KAE	208/230-1	44.06	28.19	27.44	1/2	1-1/8	40.2	39.6	34.4	37.9	37.7	36.4/36.6	33.1	50	NULL
FFAP-A40Z-TFC-072	ZS26KAE	200/220-3	44.06	28.26	26.65	1/2	1-1/8	33.9	33.4	32.0	32.0	31.8	30.7/30.9	23	30	NULL
FFAP-A40Z-TFC-075	ZS26KAE	460-3	44.06	28.19	27.44	1/2	1-1/8	40.2	39.6	34.4	37.9	37.7	36.4/36.6	23	30	188
FFAP-A40Z-TFD-072	ZS26KAE	460-3	44.06	28.26	26.65	1/2	1-1/8	33.9	33.4	32.0	32.0	31.8	30.7/30.9	11	15	170
FFAP-A40Z-TFD-075	ZS26KAE	460-3	44.06	28.19	27.44	1/2	1-1/8	40.2	39.6	34.4	37.9	37.7	36.4/36.6	11	15	188
FFAP-A42Z-CFV-072	ZS33KAE	208/230-1	44.06	28.26	26.65	1/2	1-1/8	33.9	33.4	32.0	32.0	31.8	30.7/30.9	38.9	60	188
FFAP-A42Z-CFV-075	ZS33KAE	208/230-1	44.06	28.19	27.44	1/2	1-1/8	40.2	39.6	34.4	37.9	37.7	36.4/36.6	38.9	60	NULL
FFAP-A42Z-TFC-072	ZS33KAE	200/220-3	44.06	28.26	26.65	1/2	1-1/8	33.9	33.4	32.0	32.0	31.8	30.7/30.9			168
FFAP-A42Z-TFC-075	ZS33KAE	208/230-3	44.06	28.19	27.44	1/2	1-1/8	40.2	39.6	34.4	37.9	37.7	36.4/36.6	31.5	50	247
FFAP-A42Z-TFD-072	ZS33KAE	460-3	44.06	28.26	26.65	1/2	1-1/8	33.9	33.4	32.0	32.0	31.8	30.7/30.9	14.9	20	0
FFAP-A42Z-TFD-075	ZS33KAE	460-3	44.06	28.19	27.44	1/2	1-1/8	40.2	39.6	34.4	37.9	37.7	36.4/36.6	14.9	20	247
FPAK-010Z-CFV-072	ZS09KAE	208/230-1	24	17.06	16.62	3/8	5/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	13.7	20	245
FPAK-010Z-TFC-072	ZS09KAE	200/220-3	24	17.06	16.62	3/8	5/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	11.2	15	NULL
FPAK-010Z-TFD-072	ZS09KAE	460-3	24	17.06	16.62	3/8	5/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	5.5	15	NULL
FPAK-012Z-CFV-072	ZS11KAE	208/230-1	24	17.06	16.62	3/8	5/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	16.9	25	255
FPAK-012Z-TFC-072	ZS11KAE	200/220-3	24	17.06	16.62	3/8	5/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	14.2	20	NULL
FPAK-012Z-TFD-072	ZS11KAE	460-3	24	17.06	16.62	3/8	5/8	8.6	8.5	7.3	8.1	8.0	7.8/7.8	6.2	15	245
FPAK-013Z-CFV-072	ZS15KAE	208/230-1	24.14	18.33	16.62	3/8	7/8	10.3	10.2	8.8	9.7	9.7	9.3/9.4	21	35	NULL
FPAK-013Z-CFV-075	ZS15KAE	208/230-1	24.09	18.33	16.62	3/8	7/8	15.9	15.6	13.6	14.9	14.9	14.4/14.4	21	35	255
FPAK-013Z-TFC-072	ZS15KAE	200/220-3	24.14	18.33	16.62	3/8	7/8	10.3	10.2	8.8	9.7	9.7	9.3/9.4	14.7	20	NULL
FPAK-013Z-TFC-075	ZS15KAE	200/220-3	24.09	18.33	16.62	3/8	7/8	15.9	15.6	13.6	14.9	14.9	14.4/14.4	14.7	20	94
FPAK-013Z-TFD-072	ZS15KAE	460-3	24.14	18.33	16.62	3/8	7/8	10.3	10.2	8.8	9.7	9.7	9.3/9.4	8.4	15	97
FPAK-013Z-TFD-075	ZS15KAE	460-3	24.09	18.33	16.62	3/8	7/8	15.9	15.6	13.6	14.9	14.9	14.4/14.4	8.4	15	104
FPAK-015Z-CFV-072	ZS19KAE	208/230-1	24.14	18.33	16.62	3/8	7/8	10.3	10.2	8.8	9.7	9.7	9.3/9.4	23.9	40	95
FPAK-015Z-CFV-075	ZS19KAE	208/230-1	24.09	18.33	16.62	3/8	7/8	15.9	15.6	13.6	14.9	14.9	14.4/14.4	23.9	40	94
FPAK-015Z-TFC-072	ZS19KAE	208/230-3	24.14	18.33	16.62	3/8	7/8	10.3	10.2	8.8	9.7	9.7	9.3/9.4	18.5	30	97
FPAK-015Z-TFC-075	ZS19KAE	208/230-3	24.09	18.33	16.62	3/8	7/8	15.9	15.6	13.6	14.9	14.9	14.4/14.4	18.5	30	100
FPAK-015Z-TFD-072	ZS19KAE	460-3	24.14	18.33	16.62	3/8	7/8	10.3	10.2	8.8	9.7	9.7	9.3/9.4	9.7	15	75
FPAK-015Z-TFD-075	ZS19KAE	460-3	24.09	18.33	16.62	3/8	7/8	15.9	15.6	13.6	14.9	14.9	14.4/14.4	9.7	15	105
FPAK-020Z-CFV-071	ZS21KAE	208/230-1	25	34.1	19	3/8	7/8	17.6	17.4	15.1	16.6	16.5		31.8	50	113
FPAK-020Z-CFV-072	ZS21KAE	208/230-1	25	34.1	19	3/8	7/8	17.6	17.4	15.1	16.6	16.5		31.8	50	100
FPAK-020Z-TFC-071	ZS21KAE	200/220-3	25.06	34.03	18.88	3/8	1-1/8	17.6	17.4	15.1	16.6	16.5		21.8	30	122
FPAK-020Z-TFC-072	ZS21KAE	200/220-3	25	34.1	19	3/8	7/8	17.6	17.4	15.1	16.6	16.5		21.8	30	107
FPAK-020Z-TFD-071	ZS21KAE	460-3	25.06	34.03	18.88	3/8	1-1/8	17.6	17.4	15.1	16.6	16.5		11.8	15	116
FPAK-020Z-TFD-072	ZS21KAE	460-3	25	34.1	19	3/8	7/8	17.6	17.4	15.1	16.6	16.5		11.8	15	105
FPAK-039Z-CFV-071	ZS29KAE	208/230-1	25.2	34.1	19	3/8	7/8	19.9	19.7	17.1	18.8	18.7		35.4	50	114
FPAK-039Z-TFC-071	ZS29KAE	200/220-3	25.1	34.06	18.87	3/8	1-1/8	19.9	19.7	17.1	18.8	18.7		28.4	45	109
FPAK-039Z-TFD-071	ZS29KAE	460-3	25.1	34.06	18.87	3/8	1-1/8	19.9	19.7	17.1	18.8	18.7		15	20	109
FPAK-020Z-CFV-071	ZS21KAE	208/230-1	25	34.1	19	3/8	7/8	13	12.9	11.2	12.3	12.2	11.8	31.8	50	215
FPAK-020Z-CFV-072	ZS21KAE	208/230-1	25	34.1	19	3/8	7/8	13	12.9	11.2	12.3	12.2	11.8	31.8	50	163
FPAK-020Z-TFC-071	ZS21KAE	208/230-3	25.06	34.03	18.88	3/8	1 1/8	13	12.9	11.2	12.3	12.2	11.8	21.8	30	207
FPAK-020Z-TFC-072	ZS21KAE	208/230-3	25	34.1	19	3/8	7/8	13	12.9	11.2	12.3	12.2	11.8	21.8	30	156
FPAK-020Z-TFD-071	ZS21KAE	460-3	25.06	34.03	18.88	3/8	1 1/8	13	12.9	11.2	12.3	12.2	11.8	11.8	15	210
FPAK-020Z-TFD-072	ZS21KAE	460-3	25	34.1	19	3/8	7/8	13	12.9	11.2	12.3	12.2	11.8	11.8	15	161
FPAK-039Z-CFV-071	ZS29KAE	208/230-1	25.2	34.1	19	3/8	7/8	13	12.9	11.2	12.3	12.2	11.8	35.4	50	178
FPAK-039Z-TFC-071	ZS29KAE	208/230-3	25.1	34.06	18.87	3/8	1 1/8	13	12.9	11.2	12.3	12.2	11.8	28.4	45	166
FPAK-039Z-TFD-071	ZS29KAE	460-3	25.1	34.06	18.87	3/8	1 1/8	13	12.9	11.2	12.3	12.2	11.8	15	20	179

*Not all available models are listed. Please visit Climate.Emerson.com/OPI to see all available models.

Refrigeration systems in this table are designed and certified for use in walk-in cooler applications

Model Number	R-404A		R-407A		R-448A / R449A	
	Indoor	Outdoor	Indoor	Outdoor	Indoor	Outdoor
FFAM-A08Z-CFV-072	5.61		5.61		5.61	
FFAM-A08Z-CFV-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAM-A08Z-TFC-072	5.61		5.61		5.61	
FFAM-A08Z-TFC-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAM-A10Z-CFV-072	5.61		5.61		5.61	
FFAM-A10Z-CFV-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAM-A10Z-TFC-072	5.61		5.61		5.61	
FFAM-A10Z-TFC-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAM-A12Z-CFV-072	5.61		5.61		5.61	
FFAM-A12Z-CFV-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAM-A12Z-TFC-072	5.61		5.61		5.61	
FFAM-A12Z-TFC-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A15Z-CFV-072	5.61		5.61		5.61	
FFAP-A15Z-CFV-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A15Z-TFC-072	5.61		5.61		5.61	
FFAP-A15Z-TFC-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A15Z-TFD-072	5.61		5.61		5.61	
FFAP-A15Z-TFD-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A17Z-CFV-072	5.61		5.61		5.61	
FFAP-A17Z-CFV-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A17Z-TFC-072	5.61		5.61		5.61	
FFAP-A17Z-TFC-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A17Z-TFD-072	5.61		5.61		5.61	
FFAP-A17Z-TFD-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A20Z-CFV-072	5.61		5.61		5.61	
FFAP-A20Z-CFV-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A20Z-TFC-072	5.61		5.61		5.61	
FFAP-A20Z-TFC-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A20Z-TFD-072	5.61		5.61		5.61	
FFAP-A20Z-TFD-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A22Z-CFV-072	5.61		5.61		5.61	
FFAP-A22Z-CFV-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A22Z-TFC-072	5.61		5.61		5.61	
FFAP-A22Z-TFC-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A22Z-TFD-072	5.61		5.61		5.61	
FFAP-A22Z-TFD-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A30Z-CFV-072	5.61		5.61		5.61	
FFAP-A30Z-CFV-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A30Z-TFC-072	5.61		5.61		5.61	
FFAP-A30Z-TFC-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A30Z-TFD-072	5.61		5.61		5.61	
FFAP-A30Z-TFD-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A32Z-CFV-072			5.61		5.61	
FFAP-A32Z-CFV-075		7.6	5.61	7.6	5.61	7.6
FFAP-A32Z-TFC-072			5.61		5.61	
FFAP-A32Z-TFC-075		7.6	5.61	7.6	5.61	7.6
FFAP-A32Z-TFD-072			5.61		5.61	
FFAP-A32Z-TFD-075		7.6	5.61	7.6	5.61	7.6
FFAP-A40Z-CFV-072	5.61		5.61		5.61	
FFAP-A40Z-CFV-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A40Z-TFC-072	5.61		5.61		5.61	
FFAP-A40Z-TFC-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A40Z-TFD-072	5.61		5.61		5.61	
FFAP-A40Z-TFD-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A42Z-CFV-072	5.61		5.61		5.61	
FFAP-A42Z-CFV-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A42Z-TFC-072	5.61		5.61		5.61	
FFAP-A42Z-TFC-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A42Z-TFD-072	5.61		5.61		5.61	
FFAP-A42Z-TFD-075	5.61	7.6	5.61	7.6	5.61	7.6
FFAP-A50Z-CFV-072	In Development					
FFAP-A50Z-CFV-075						
FFAP-A50Z-TFC-072						
FFAP-A50Z-TFC-075						
FFAP-A50Z-TFD-072						
FFAP-A50Z-TFD-075						

Medium Temp/High Temp – Water Cooled

HP	Model	Comp.	Electrical	Refrigerant	BTU/H at 105°Condensing, 75° Water Inlet - Evaporator Temp (°F), Capacities rated at 40°F return gas (65° return gas for capacities in bold), 5°F subcooling										Water Flow (GPM) at @evap temp (°F)		
					0	5	10	15	20	25	30	35	40	45	0	25	45
1 1/2	FFWP-015Z	ZS09KAE	CFV, TFC, TFD	R-134a	4070	4620	5220	5870	6590	7620	8500	9460	10500	11600	0.6	1.0	1.4
				R-22	6770	7740	8720	9750	10800	12100	13300	14700	16100	17700	0.9	1.5	2.1
				R-404A	6590	7370	8230	9180	10200	12300	13600	14900	16400	18000	1.0	1.6	2.2
				R-407A	6630	7410	8250	9170	10200	12000	13300	14700	16300	18300	0.9	1.4	2.1
				R-407C	5750	6670	7620	8630	9700	11100	12300	13600	15000	16500	0.8	1.4	2.0
				R-448A/449A	6150	6870	7670	8570	9580	10900	12200	13700	15300	17200	0.9	1.4	2.1
1 3/4	FFWP-017Z	ZS11KAE	CFV, CFZ, TFC, TFD	R-134a	4850	5510	6230	7010	7870	9090	10100	11300	12500	13900	0.7	1.2	1.7
				R-22	7890	9040	10200	11400	12700	14000	15500	17100	18800	21000	1.1	1.8	2.5
				R-404A	8180	9150	10200	11400	12700	14400	15900	17500	19300	21100	1.1	1.8	2.5
				R-407A	7920	8850	9850	11000	12200	14300	15900	17600	19500	21800	1.1	1.7	2.5
				R-407C	6870	7960	9100	10300	11600	13300	14700	16300	18000	19700	1.0	1.7	2.3
				R-448A/449A	7390	8250	9220	10300	11500	13100	14700	16400	18400	20600	1.0	1.7	2.5
2	FFWP-020Z	ZS13KAE	CFV, TFC, TFD	R-134a	5540	6290	7110	8010	8990	10400	11600	12900	14300	15900	0.8	1.3	1.9
				R-22	9160	10500	11800	13200	14600	16400	18000	19900	21800	24000	1.2	2.0	2.9
				R-404A	8980	10000	11200	12500	13900	16800	18500	20400	22400	24600	1.3	2.1	2.9
				R-407A	9050	10100	11300	12500	13900	16300	18100	20100	22200	24900	1.2	2.0	2.8
				R-407C	7840	9090	10400	11800	13200	15100	16800	18600	20500	22500	1.1	1.9	2.7
				R-448A/449A	8420	9410	10500	11700	13100	15000	16700	18800	21000	23500	1.2	1.9	2.9
2 1/4	FFWP-022Z	ZS15KAE	CFV, TFC, TFD	R-134a	6680	7590	8570	9650	10800	12500	14000	15600	17300	19100	0.9	1.6	2.3
				R-22	10800	12300	13900	15500	17200	19200	21200	23400	25700	28200	1.5	2.4	3.4
				R-404A	10900	12200	13600	15200	16900	20400	22500	24700	27200	29900	1.5	2.6	3.5
				R-407A	10900	12200	13600	15100	16700	19700	21800	24200	26800	30000	1.5	2.3	3.4
				R-407C	9450	11000	12500	14200	15900	18300	20300	22400	24700	27200	1.3	2.3	3.2
				R-448A/449A	10200	11400	12700	14200	15900	18000	20200	22600	25300	28400	1.4	2.3	3.4
3	FFWP-030Z	ZS19KAE	CFV, TFC, TFD, TFE	R-134a	7540	8560	9680	10900	12200	14100	15800	17500	19500	21600	1.1	1.8	2.5
				R-22	12200	14000	15800	17600	19600	21900	24100	26500	29200	32000	1.7	2.7	3.8
				R-404A	12900	14500	16200	18000	20100	22900	25200	27700	30500	33400	1.7	2.8	4.0
				R-407A	12300	13700	15300	17000	18900	22200	24600	27300	30200	33800	1.7	2.6	3.8
				R-407C			14500	16400	18500	20600	22800	25300	27800	30600		2.6	3.6
				R-448A/449A	11600	13000	14500	16100	17900	20300	22700	25400	28400	31900	1.6	2.6	3.8
3 1/4	FFWP-032Z	ZS21KAE	CFV, TFC, TFD	R-134a	10100	11500	13000	14600	16400	19000	21200	23600	26200	29000	1.4	2.3	3.4
				R-22	16300	18700	21100	23600	26200	29100	32100	35400	39000	42900	2.2	3.6	5.1
				R-404A	16400	18300	20500	22800	25400	30700	34100	37900	42100	46700	2.3	3.9	5.5
				R-407A	15600	17700	19900	22300	25000	28600	31800	35300	39100	43200	2.1	3.5	5.0
				R-407C	14300	16600	19000	21500	24200	27700	30700	34000	37500	41200	2.0	3.4	4.8
				R-448A/449A	16500	18700	20900	23400	26000	29200	32300	35600	39100	42900	2.2	3.7	5.2
4	FFWP-040Z	ZS26KAE	CFV, TFC, TFD	R-134a	11600	13200	14900	16800	18900	21000	23500	26100	29000	32200	1.5	2.6	3.8
				R-22	18200	20800	23500	26200	29100	32600	35900	39500	43400	47700	2.4	4.0	5.7
				R-404A	19200	21400	23900	26700	29700	32900	36500	40400	44700	49300	2.6	4.1	5.9
				R-407A	17400	19600	22100	24800	27700	32700	36400	40400	44700	49900	2.4	3.9	5.6
				R-407C	16300	18900	21600	24500	27500	30600	34000	37600	41500	45600	2.2	3.8	5.3
				R-448A/449A	17600	19800	22200	24900	27900	31500	35100	38900	43000	47400	2.4	4.0	5.7
4 1/4	FFWP-042Z	ZS33KAE	CFV, TFC, TFD	R-134a	14000	15800	17900	20200	22600	26100	29200	32500	36100	40000	1.9	3.2	4.7
				R-22	6770	7740	8720	9750	10800	44800	49400	54300	59500	65100	0.9	5.6	8.0
				R-404A	22900	25600	28600	31900	35500	43000	47700	53000	58800	65300	3.1	5.3	7.6
				R-407A	22800	25800	29000	32600	36400	41700	46400	51500	57000	63500	3.0	5.0	7.1
				R-407C	19700	22900	26200	29600	33300	38100	42300	46800	51600	56800	2.7	4.7	6.6
				R-448A/449A	23100	26100	29300	32700	36400	40900	45200	49800	54500	60000	3.1	5.1	7.2
5	FFWP-050Z	ZS38K4E	CFV, TFC, TFD, TFE	R-134a	16000	18100	20400	23000	25800	30800	34300	38100	42300	47200	2.1	3.8	5.7
				R-22	26200	29300	32600	36300	40200	44800	49400	54300	59500	65100	3.5	5.6	8.0
				R-404A	27600	30600	33900	37500	41400	51600	56800	62300	68300	75700	3.8	6.5	9.3
				R-407A	25500	28900	32500	36400	40600						3.5		
				R-407C	26100	29600	33300	37300	41600	44900	50500	56000	61500	67000	3.5	5.3	7.8
				R-448A/449A	26800	30600	34800	39200	43900						3.6		

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

Low Temp – Water Cooled

HP	Model	Comp.	Electrical	Refrigerant	BTU/H at 105°Condensing, 75° Water Inlet - Evaporator Temp (°F), Capacities rated at 40°F return gas, 5°F subcooling								Water Flow (GPM) at @evap temp (°F)		
					-30	-25	-20	-15	-10	-5	0	5	-25	-10	5
1 1/2	FFWP-015Z	ZS09KAE	CFV, TFC, TFD	R-404A	3230	3670	4140	4670	5240	5890	6590	7370	0.6	0.8	1.0
				R-407A		3330	3960	4590	5240	5910	6630	7410	0.5	0.8	1.0
				R-448A/449A		3140	3720	4290	4880	5490	6150	6870	0.5	0.7	1.0
1 3/4	FFWP-017Z	ZS11KAE	CFV, CFZ, TFC, TFD	R-404A	4010	4540	5130	5790	6500	7300	8180	9150	0.7	0.9	1.2
				R-407A		3980	4720	5480	6250	7060	7920	8850	0.6	0.9	1.2
				R-448A/449A		3810	4490	5170	5870	6600	7390	8250	0.6	0.9	1.1
2	FFWP-020Z	ZS13KAE	CFV, TFC, TFD	R-404A	4400	4990	5640	6350	7140	8010	8980	10000	0.8	1.0	1.4
				R-407A		4540	5390	6250	7140	8060	9050	10100	0.7	1.0	1.4
				R-448A/449A		4330	5110	5890	6690	7520	8420	9410	0.7	1.0	1.3
2 1/4	FFWP-022Z	ZS15KAE	CFV, TFC, TFD	R-404A	5350	6070	6860	7720	8680	9740	10900	12200	0.9	1.2	1.7
				R-407A		5470	6500	7540	8610	9720	10900	12200	0.8	1.2	1.6
				R-448A/449A		5180	6150	7100	8070	9090	10200	11400	0.8	1.2	1.6
3	FFWP-030Z	ZS19KAE	CFV, TFC, TFD, TFE	R-404A	6340	7190	8120	9150	10300	11500	12900	14500	1.1	1.4	1.9
				R-407A		6180	7340	8510	9710	11000	12300	13700	1.0	1.4	1.8
				R-448A/449A		4820	6320	7700	9010	10300	11600	13000	0.8	1.3	1.8
3 1/4	FFWP-032Z	ZS21KAE	CFV, TFC, TFD	R-404A	8030	9100	10300	11600	13000	14600	16400	18300	1.4	1.8	2.5
				R-407A		7160	8680	10300	11900	13700	15600	17700	1.2	1.7	2.4
				R-448A/449A		7700	9270	10900	12700	14500	16500	18700	1.2	1.8	2.5
4	FFWP-040Z	ZS26KAE	CFV, TFC, TFD	R-404A	9390	10600	12000	13600	15200	17100	19200	21400	1.6	2.2	2.9
				R-407A		7940	9640	11400	13300	15200	17400	19600	1.3	1.9	2.6
				R-448A/449A		10300	11300	12500	14000	15700	17600	19800	1.5	1.9	2.6
4 1/4	FFWP-042Z	ZS33KAE	CFV, TFC, TFD	R-404A	11200	12700	14400	16200	18200	20400	22900	25600	1.9	2.6	3.4
				R-407A		10400	12700	15000	17400	20000	22800	25800	1.7	2.4	3.4
				R-448A/449A		10800	13000	15300	17700	20400	23100	26100	1.7	2.5	3.4
5	FFWP-050Z	ZS38K4E	CFV, TFC, TFD, TFE	R-404A	14000	15800	17700	19900	22200	24800	27600	30600	2.3	3.1	4.1
				R-407A		13000	14900	17100	19600	22400	25500	28900	2.0	2.8	3.9
				R-448A/449A		13400	15200	17500	20200	23300	26800	30600	2.1	2.9	4.0

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

Physical and Electrical Data — Copeland F-Line water-cooled condensing units

Model*	Comp.	Voltage	L	W	H	Ref. Conn.								MCA	Max Over-Current	Ship Wt.
						Liq.	Suc.	134a	22	404A	407A	407C	448/449			
FFWP-015Z-CFV-020	ZS09KAE	208/230-1	24.04	16.1	16.63	3/8	7/8	13.9	13.7	11.9	13.1	13.0		12.5	20	107
FFWP-015Z-TFC-020	ZS09KAE	200/220-3	24	16.1	16.63	3/8	7/8	13.9	13.7	11.9	13.1	13.0		10	15	107
FFWP-015Z-TFD-020	ZS09KAE	460-3	24	16.1	16.63	3/8	7/8	13.9	13.7	11.9	13.1	13.0		4.8	15	107
FFWP-017Z-CFV-020	ZS11KAE	208/230-1	24	16.1	16.63	3/8	7/8	13.9	13.7	11.9	13.1	13.0		15.8	25	105
FFWP-017Z-TFC-020	ZS11KAE	200/220-3	24	16.1	16.63	3/8	7/8	13.9	13.7	11.9	13.1	13.0		13	20	105
FFWP-017Z-TFD-020	ZS11KAE	460-3	24	16.1	16.63	3/8	7/8	13.9	13.7	11.9	13.1	13.0		5.4	15	105
FFWP-020Z-CFV-020	ZS13KAE	208/230-1	24	16.1	16.63	3/8	7/8	13.9	13.7	11.9	13.1	13.0		15	25	101
FFWP-020Z-TFC-020	ZS13KAE	200/220-3	24	16.1	16.63	3/8	7/8	13.9	13.7	11.9	13.1	13.0		12.1	20	107
FFWP-020Z-TFD-020	ZS13KAE	460-3	24	16.1	16.63	3/8	7/8	13.9	13.7	11.9	13.1	13.0		6	15	107
FFWP-022Z-CFV-020	ZS15KAE	208/230-1	24	16.1	16.63	3/8	7/8	13.9	13.7	11.9	13.1	13.0		19.6	35	105
FFWP-022Z-TFC-020	ZS15KAE	200/220-3	24	16.1	16.63	3/8	7/8	13.9	13.7	11.9	13.1	13.0		13.3	20	106
FFWP-022Z-TFD-020	ZS15KAE	460-3	24	16.1	16.6	3/8	7/8	13.9	13.7	11.9	13.1	13.0		6.8	15	106
FFWP-030Z-CFV-020	ZS19KAE	208/230-1	24.1	16.1	16.6	3/8	7/8	13.9	13.7	11.9	13.1	13.0		22.5	40	105
FFWP-030Z-TFC-020	ZS19KAE	200/220-3	24.06	16.1	16.66	3/8	7/8	13.9	13.7	11.9	13.1	13.0		17.1	30	75
FFWP-030Z-TFD-020	ZS19KAE	460-3	24.06	16.1	16.66	3/8	7/8	13.9	13.7	11.9	13.1	13.0		8.1	15	106
FFWP-032Z-CFV-020	ZS21KAE	208/230-1	27.2	21.5	18.2	3/8	1-1/8							29	50	171
FFWP-032Z-TFC-020	ZS21KAE	200/220-3	27.34	21	18.2	3/8	1-1/8							19	30	168
FFWP-032Z-TFD-020	ZS21KAE	460-3	27.34	21	18.2	3/8	1-1/8							8.6	15	168
FFWP-040Z-CFV-020	ZS26KAE	208/230-1	27.5	21	21.1	1/2	1-1/8	23.9	23.6	20.4	22.5	22.4		29.5	50	191
FFWP-040Z-TFC-020	ZS26KAE	200/220-3	27.6	21	21.12	1/2	1-1/8	23.9	23.6	20.4	22.5	22.4		19.4	30	191
FFWP-040Z-TFD-020	ZS26KAE	460-3	27.6	21	21.12	1/2	1-1/8	23.9	23.6	20.4	22.5	22.4		8.6	15	195
FFWP-042Z-CFV-020	ZS33KAE	208/230-1	27.2	21.6	21.1	1/2	1-1/8	15.3	15.1	13.1	14.4	14.3		35.3	60	197
FFWP-042Z-TFC-020	ZS33KAE	200/220-3	27.47	21	21.13	1/2	1-1/8	15.3	15.1	13.1	14.4	14.3		27.9	50	198
FFWP-042Z-TFD-020	ZS33KAE	460-3	27.6	21	21.12	1/2	1-1/8	23.9	23.6	20.4	22.5	22.4		12.5	20	220
FFWP-050Z-CFV-020	ZS38K4E	200-1	27.5	21.7	21.1	1/2	1-1/8							39.8	70	220
FFWP-050Z-TFC-020	ZS38K4E	208/230-3	27.77	21	21.12	1/2	1-1/8							26.8	45	209
FFWP-050Z-TFD-020	ZS38K4E	460-3	27.77	21	21.12	1/2	1-1/8							12	20	209
FFWP-050Z-TFE-020	ZS38K4E	575-3	27.5	21.7	21.1	1/2	1-1/8	23.9	23.6	20.4	22.5	22.4		9.9	15	0

*Not all available models are listed. Please visit Climate.Emerson.com/OPI to see all available models.

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