

Copeland Scroll™ Outdoor Refrigeration Unit

Medium and low temperature applications



Convenience Store • Restaurant
R-22, 134a, 404A/507A, 407C/A, 448A/449A • ¾ - 6 HP

COPELAND SCROLL™


EMERSON™

Innovative design based on three factors demanded by industry users

1 – Energy Efficiency

The Copeland Scroll Outdoor Refrigeration Unit significantly reduces energy consumption by utilizing scroll compressor technology, variable speed fan motors, large capacity condenser coils and advanced control algorithms. Compared to hermetic reciprocating units, end-users will save more than \$350 in annual energy costs.

2 – Reliability

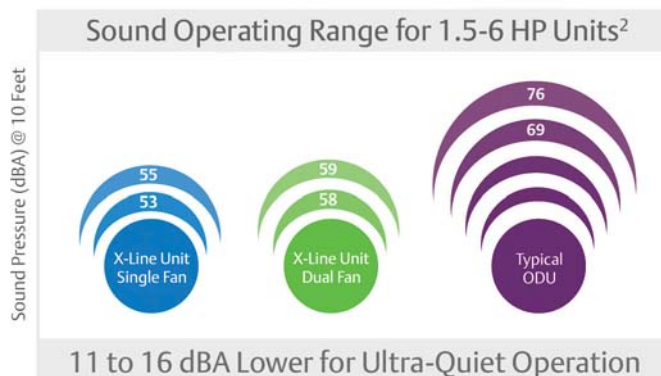
Combining the proven reliability of Copeland Scroll compressors with advanced CoreSense™ Diagnostics, equipment reliability is greatly enhanced. Fault code alerts and fault code retrieval capabilities provide information to help improve speed and accuracy of system diagnostics. Integrated electronics provide protection against over-current, over-heating, incorrect phase rotation, compressor cycling, high pressure resets, low pressure cut-outs and liquid flood-back conditions that cause unexpected performance losses or worse, unplanned equipment failure. As part of the Emerson family of products, the Copeland Scroll Outdoor Refrigeration Unit provides unsurpassed access to system status, diagnostics, and operational control.



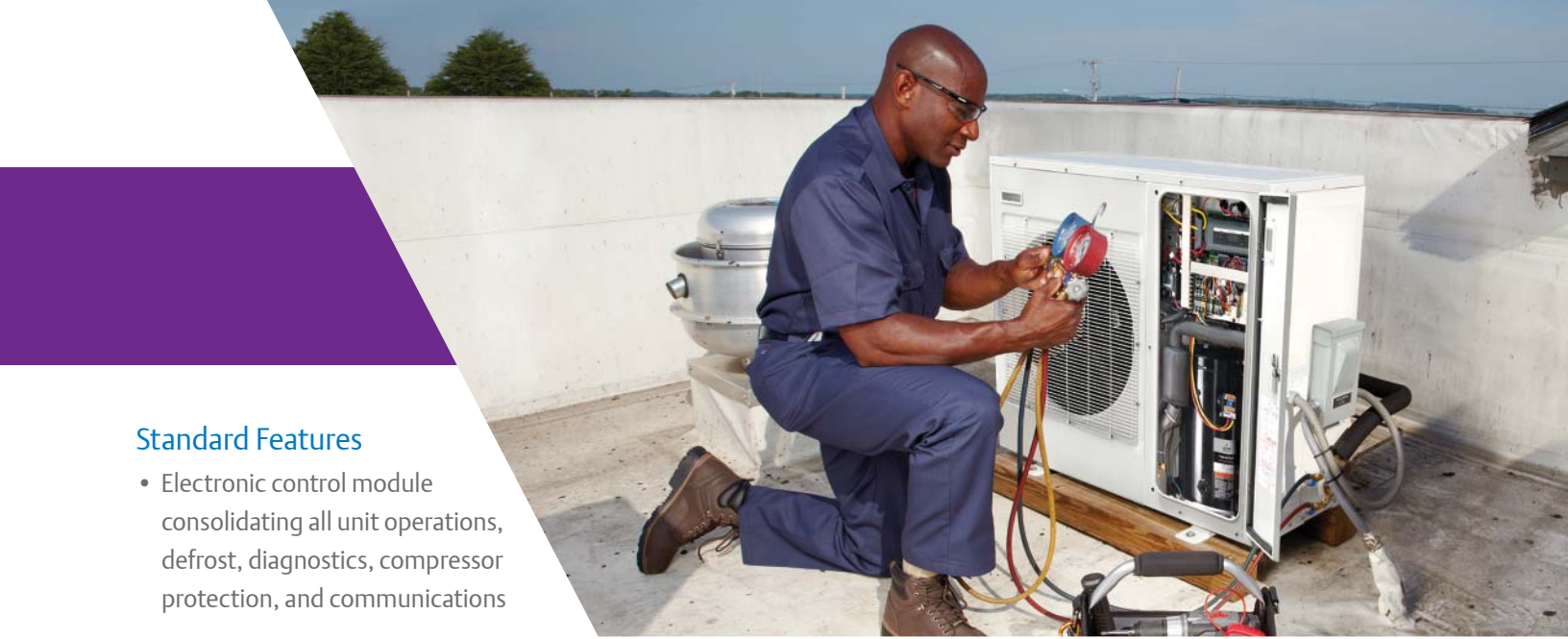
3 – Flexibility

The light weight and slim-line profile ease the installation process. The ultra quiet variable-speed fan motor significantly reduces exterior sound levels, allowing use in noise restricted residential zones. With high and low ambient operation capability, coated coils for coastal applications, multi-refrigerant capabilities, and optional wall mounting capability, the units deliver unmatched mounting and environmental location flexibility.

Perfectly suited for walk-in and display case cooler and freezer applications. All units integrate the many benefits of scroll compressor technology, fan speed control, and CoreSense Diagnostics, delivering higher energy efficiency and lower sound levels, while ensuring reliable performance and operation in foodservice applications.



Two sound values shown represent the X-Line unit's lowest and highest operating dBA measurements, or typical industry outdoor unit published data, for both MT and LT products. Sound pressure values are 10 feet from the unit at 25°F evap for MT and -10°F evap for LT at 90°F ambient. A sound reduction of up to 3 dBA will occur in ambient temperatures below 70°F. This data is typical of 'free field' conditions for horizontal air cooled condensing units and may vary depending on the condensing unit installation. There are many factors that affect the sound reading of a condensing unit such as unit mounting, reflecting walls, background noise and operating condition.



Standard Features

- Electronic control module consolidating all unit operations, defrost, diagnostics, compressor protection, and communications
- External service valves and hinged service panel for easy setup and service
- Standard moisture indicator and liquid filter drier
- Quiet variable speed condenser fan
- Heated and insulated receiver with pressure relief valve
- Powder-coated galv-annealed chassis and coated condenser fins for corrosion protection
- Standard accumulator and oil separator on low temp models. Optional accumulator on medium temp models.

Accessories

Part Number	Description	Purpose
074-7286-00	Wall bracket	Allows mounting unit to walls
074-7289-00	Adjustable stand	Raises unit 12 inches from ground level
943-0224-00	PC interface kit	Allows direct connection of unit to PC
943-0058-00	Remote display	Control/view unit status up to 30 feet from unit

Nomenclature

X	F	A	M	-	0	2	0	Z	-	T	F	C	-	0	8	1
Family = X-Line	F = Multi-refrigerant	A = Air-Cooled	L = Low Temp M = Medium Temp P = Multiple Applications			1.5 to 6.0 = H.P.		Z = Scroll		CFV = 208/230V-1ph-60Hz	TFC = 208/230V-3ph-60Hz			0 = UL Listed Product		81 = Standard

To place an order select **Base Model > Electrical > Bill of Material**

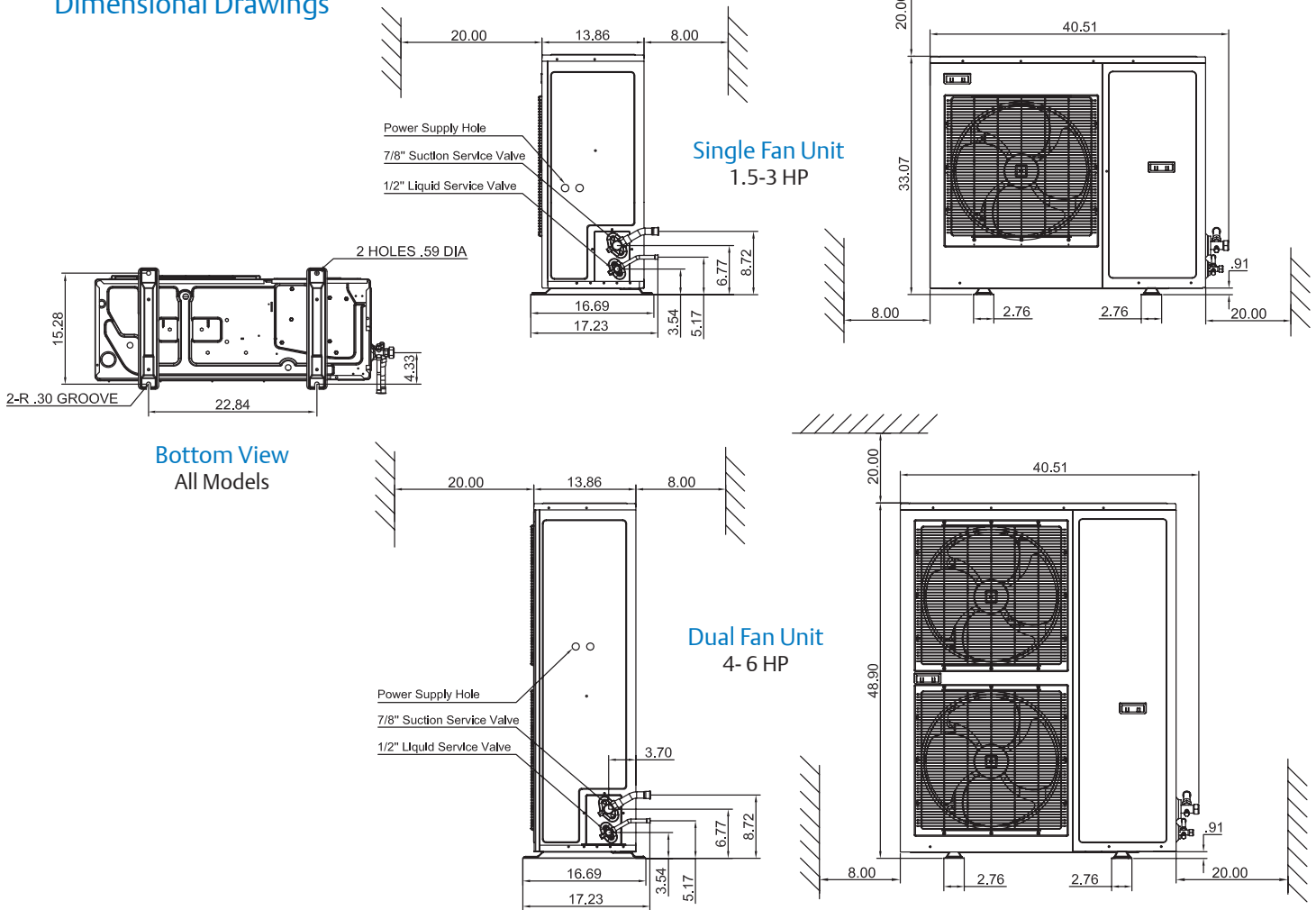
Feature

Owner/Enterprise Benefit

Energy improvement (More than \$350 per year)	• Lower operating costs
Sound improvement	• Creating a more comfortable environment for guests • Beneficial for regions with noise ordinances
Diagnostic protection capabilities	• Reduce nuisance calls • Extends life of your equipment • Faster, more accurate service, and reduced call-backs • Maintains your equipment to original standards, maintaining energy efficiency and temperature control • Have confidence in what your contractor is fixing
Slim profile, lighter weight, and optional wall mount capability	• Lower installation costs • Improved appearance of your enterprise site • Avoids more costly solutions for potential location issues
Multi-refrigerant*	• R-22, R-134a, R-404A, R-407C/A, R-448/449A
Emerson family of electronics	• Scalable electronics can operate as a stand-alone unit or connect as part of a full intelligent store

* Visit EmersonClimate.com/OPI for specific refrigerant approvals for each model.

Dimensional Drawings



Bottom View
All Models

Application Engineering Bulletins

available at Emerson.com/OPI

4-1273 *Factors to Consider in Converting Compressor Rated Capacity to Actual Capacity*

4-1327 *Economized Vapor Injection (EVI) Compressors*

11-1147 *Suction Accumulators*

11-1297 *Liquid Line Filter Driers*

17-1260 *Compressor Overheating*

17-1268 *Compressor Ratio as it Affects Compressor Reliability*

22-1182 *Liquid Refrigerant Control in Refrigeration and Air Conditioning Systems*

5-1412 *Copeland Scroll Outdoor Refrigeration Unit – X-Line User Manual*

This bulletin is provided with each unit and is a source for additional product details.

For more information visit:

Emerson.com/CopelandOutdoorUnit

Specifications

Unit Model	Compressor Electrical	Chassis Size	L	W	H	Refrigerant Connections		Receiver Capacity (Lbs @ 90% Volume)						MCA	Max Over-current Protection*	
						Liquid	Suction	R-134a	R-22	R-404A	R-407A	R-407C	R-448A			R-449A
XFAL-008Z-CFV	ZF03KAE-PFV	1 FAN	16.7	40.5	33.1									9.1	15	
XFAL-008Z-TFC	ZF03KAE-TF5		16.7	40.5	33.1									6.2	15	
XFAL-009Z-CFV	ZF04KAE-PFV		16.7	40.5	33.1									10.3	15	
XFAL-009Z-TFC	ZF04KAE-TF5		16.7	40.5	33.1									9.3	15	
XFAL-010Z-CFV	ZF05KAE-PFV		16.7	40.5	33.1									11.9	15	
XFAL-010Z-TFC	ZF05KAE-TF5		16.7	40.5	33.1									10.4	15	
XFAL-012Z-CFV	ZF07KAE-PFV		16.7	40.5	33.1				9.1	10	10	9.7	9.7	18.4	30	
XFAL-012Z-TFC	ZF07KAE-TF5		16.7	40.5	33.1									11.8	15	
XFAL-020Z-CFV	ZXI06KCE-PFV		16.7	40.5	33.1			N/A	N/A					21.55	35	
XFAL-020Z-TFC	ZXI06KCE-TF5		16.7	40.5	33.1									16.18	25	
XFAL-030Z-TFC	ZXI09KCE-TF5	16.7	40.5	33.1									17.18	25		
XFAL-035Z-CFV	ZXI11KCE-PFV	16.7	40.5	33.1									34.05	50		
XFAL-040Z-CFV	ZXI14KCE-PFV	2 FAN	16.7	40.5	48.9								40.1	60		
XFAL-040Z-TFC	ZXI14KCE-TF5		16.7	40.5	48.9									27.1	45	
XFAL-050Z-TFC	ZXI15KCE-TF5		16.7	40.5	48.9				13.4	14.8	14.7	14.2	14.3	28.85	45	
XFAL-051Z-CFV	ZXI16KCE-PFV		16.7	40.5	48.9									44.73	70	
XFAL-060Z-TFC	ZXI18KCE-TF5		16.7	40.5	48.9									33.98	50	
XFAM-008Z-CFV	ZB06KAE-PFV		16.7	40.5	33.1									9.3	15	
XFAM-008Z-TFC	ZB06KAE-TF5		16.7	40.5	33.1									8.05	15	
XFAM-010Z-CFV	ZB07KAE-PFV		16.7	40.5	33.1									9.3	15	
XFAM-010Z-TFC	ZB07KAE-TF5		16.7	40.5	33.1									8.1	15	
XFAM-012Z-CFV	ZB08KAE-PFV		16.7	40.5	33.1									11.1	15	
XFAM-012Z-TFC	ZB08KAE-TF5	16.7	40.5	33.1									8.1	15		
XFAM-015Z-CFV	ZS09KAE-PFV	16.7	40.5	33.1									13.55	20		
XFAM-015Z-TFC	ZS09KAE-TF5	16.7	40.5	33.1									11.05	15		
XFAM-017Z-CFV	ZS11KAE-PFV	16.7	40.5	33.1									16.8	25		
XFAM-017Z-TFC	ZS11KAE-TF5	16.7	40.5	33.1									14.05	20		
XFAM-020Z-CFV	ZS13KAE-PFV	1 FAN	16.7	40.5	33.1								16.1	25		
XFAM-020Z-TFC	ZS13KAE-TF5		16.7	40.5	33.1			10.7	10.5	9.1	10	10	9.7	9.7	13.2	20
XFAM-022Z-CFV	ZS15KAE-PFV		16.7	40.5	33.1									20.68	35	
XFAM-022Z-TFC	ZS15KAE-TF5		16.7	40.5	33.1									14.3	20	
XFAM-025Z-CFV	ZS19KAE-PFV		16.7	40.5	33.1									23.6	40	
XFAM-025Z-TFC	ZS19KAE-TF5		16.7	40.5	33.1	1/2 S	7/8 S							18.2	30	
XFAM-030Z-CFV	ZS21KAE-PFV		16.7	40.5	33.1									30.05	50	
XFAM-030Z-TFC	ZS21KAE-TF5		16.7	40.5	33.1									20.05	30	
XFAM-033Z-CFV	ZS26KAE-PFV		16.7	40.5	33.1									30.6	50	
XFAM-033Z-TFC	ZS26KAE-TF5		16.7	40.5	33.1									20.4	30	
XFAM-037Z-CFV	ZS29KAE-PFV	16.7	40.5	33.1									33.7	50		
XFAM-037Z-TFC	ZS29KAE-TF5	16.7	40.5	33.1									26.7	45		
XFAM-045Z-CFV	ZS33KAE-PFV	2 FAN	16.7	40.5	48.9								37.35	60		
XFAM-045Z-TFC	ZS33KAE-TF5		16.7	40.5	48.9									29.98	50	
XFAM-050Z-CFV	ZS38K4E-PFV		16.7	40.5	48.9			15.7	15.5	13.4	14.8	14.7	14.2	14.3	41.85	70
XFAM-050Z-TFC	ZS38K4E-TF5		16.7	40.5	48.9									28.85	45	
XFAM-060Z-TFC	ZS45K4E-TF5		16.7	40.5	48.9									31.98	50	
XFAP-015Z-CFV	ZS09KAE-PFV		1 FAN	16.7	40.5	33.1								13.55	20	
XFAP-015Z-TFC	ZS09KAE-TF5			16.7	40.5	33.1									11.05	15
XFAP-017Z-CFV	ZS11KAE-PFV			16.7	40.5	33.1									16.8	25
XFAP-017Z-TFC	ZS11KAE-TF5			16.7	40.5	33.1									14.05	20
XFAP-020Z-CFV	ZS13KAE-PFV			16.7	40.5	33.1									16.1	25
XFAP-020Z-TFC	ZS13KAE-TF5	16.7		40.5	33.1									13.2	20	
XFAP-022Z-CFV	ZS15KAE-PFV	16.7		40.5	33.1									20.68	35	
XFAP-022Z-TFC	ZS15KAE-TF5	16.7		40.5	33.1									14.3	20	
XFAP-025Z-CFV	ZS19KAE-PFV	16.7		40.5	33.1			10.7	10.5	9.1	10	10	9.7	9.7	23.6	40
XFAP-025Z-TFC	ZS19KAE-TF5	16.7		40.5	33.1									18.2	30	
XFAP-030Z-CFV	ZS21KAE-PFV	16.7	40.5	33.1									30.05	50		
XFAP-030Z-TFC	ZS21KAE-TF5	16.7	40.5	33.1									20.05	30		
XFAP-033Z-CFV	ZS26KAE-PFV	16.7	40.5	33.1									30.6	50		
XFAP-033Z-TFC	ZS26KAE-TF5	16.7	40.5	33.1									20.4	30		
XFAP-037Z-CFV	ZS29KAE-PFV	16.7	40.5	33.1									33.7	50		
XFAP-037Z-TFC	ZS29KAE-TF5	16.7	40.5	33.1									26.7	45		
XFAP-045Z-CFV	ZS33KAE-PFV	2 FAN	16.7	40.5	48.9								37.35	60		
XFAP-045Z-TFC	ZS33KAE-TF5		16.7	40.5	48.9									29.98	50	
XFAP-050Z-CFV	ZS38K4E-PFV		16.7	40.5	48.9			15.7	15.5	13.4	14.8	14.7	14.2	14.3	41.85	70
XFAP-050Z-TFC	ZS38K4E-TF5		16.7	40.5	48.9									28.85	45	
XFAP-060Z-TFC	ZS45K4E-TF5		16.7	40.5	48.9									31.98	50	

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

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

Capacity and Efficiency

Medium Temp Capacity @ 95°F Ambient / 25°F Evap													
Unit	Comp.	R-134a		R-22		R-404A / 507A		R-407A		R-407C		R-448A / 449A	
		Capacity	AWEF	Capacity	AWEF	Capacity	AWEF	Capacity	AWEF	Capacity	AWEF	Capacity	AWEF
XFAM-008Z	ZB06KAE	4,745	9	N/A	N/A	7,965	10.59	7,225	10.01	6,775	9.94	7,390	10
XFAM-010Z	ZB07KAE	5,750	10	N/A	N/A	9,620	10.84	8,785	10.39	8,085	10.34	8,785	10
XFAM-012Z	ZB08KAE	6,715	10	N/A	N/A	10,950	11.32	10,200	10.37	9,370	11	10,260	10
XFAM-015Z	ZS09KAE	7,810	8.87	12,100	9.79	12,400	9.78	11,400	9.82	10,900	9.66	10,700	9.07
XFAM-017Z	ZS11KAE	9,270	9.29	14,100	9.97	14,600	10.08	13,500	9.98	12,900	10.01	12,900	9.51
XFAM-020Z	ZS13KAE	10,500	9.36	16,050	10.07	16,950	10.42	15,300	9.89	14,600	9.94	14,450	9.38
XFAM-022Z	ZS15KAE	12,600	10.08	26,800	9.87	20,300	10.43	18,200	10.19	17,450	10.22	17,300	9.66
XFAM-025Z	ZS19KAE	14,100	9.99	21,000	10.07	21,800	10.61	20,400	10.27	19,550	10.22	19,150	9.69
XFAM-030Z	ZS21KAE	18,700	10.93	27,600	10.81	28,200	10.43	26,300	10.5	25,800	10.96	26,500	10.24
XFAM-033Z	ZS26KAE	20,550	11.06	30,300	10.87	31,850	10.49	29,300	10.55	28,350	10.95	28,000	10.05
XFAM-037Z	ZS29KAE	22,850	11.06	33,450	10.79	35,500	10.36	31,850	10.33	31,400	10.86	32,500	10.41
XFAM-045Z	ZS33KAE	25,600	10.46	37,900	10.51	39,100	10.26	36,800	9.93	35,400	10.57	36,800	10.21
XFAM-050Z	ZS38K4E	29,900	9.59	47,100	9.22	44,800	8.71	42,600	8.93	42,600	9.07	44,600	9.31
XFAM-060Z	ZS45K4E	35,000	9.9	51,500	9.45	53,000	9.36	51,500	9.43	51,000	9.42	52,500	9.48

This refrigeration system is designed and certified for use in walk-in cooler applications. See Emerson.com/OPI for complete specifications.

Low Temp Capacity @ 95°F Ambient / -10°F Evap					
Unit	Compressor	R-404A / 507A Capacity	R-407A Capacity	R-407C Capacity	R-448A / 449A Capacity
XFAL-008Z	ZF03KAE	4,005	3,500	3,390	3,650
XFAL-009Z	ZF04KAE	5,480	4,780	4,600	4,975
XFAP-015Z	ZS09KAE	5,700	N/A	N/A	N/A
XFAL-010Z	ZF05KAE	6,625	5,660	5,470	5,895
XFAP-017Z	ZS11KAE	6,845	N/A	N/A	N/A
XFAP-022Z	ZS15KAE	9,290	N/A	N/A	N/A
XFAL-012Z	ZF07KAE	10,170	8,830	8,320	8,870
XFAL-020Z	ZXI06KCE	12,910	9,234	9,111	11,448
XFAP-030Z	ZS21KAE	13,700	N/A	N/A	N/A
XFAL-030Z-TFC	ZXI09KCE	16,795	13,455	11,949	13,931
XFAL-035Z-CFV	ZXI11KCE	18,900	16,201	14,555	17,196
XFAP-045Z	ZS33KAE	19,000	N/A	N/A	N/A
XFAP-050Z	ZS38K4E	22,800	N/A	N/A	N/A
XFAL-040Z	ZXI14KCE	24,210	21,078	19,760	22,872
XFAL-050Z-TFC	ZXI15KCE	26,615	22,165	20,530	25,664
XFAL-051Z-CFV	ZXI16KCE	26,615	22,982	23,440	24,438
XFAP-060Z	ZS45K4E	27,200	N/A	N/A	N/A
XFAL-060Z	ZXI18KCE	33,720	29,271	25,377	27,677

Emerson.com/CopelandOutdoorUnit

2009IP-50 R6 (11/16) Emerson, Copeland Scroll and CoreSense are trademarks of Emerson Electric Co. or one of its affiliated companies. ©2016 Emerson Climate Technologies, Inc. All rights reserved.

EMERSON. CONSIDER IT SOLVED.™