Copeland Scroll®

Copeland Scroll® Condensing Units for the Industrial Market

...with Best In Class Emerson® System Protection Components

- High and Medium Temperature Refrigeration Applications
- R-134a and R-404A
- 1 to 10 Hp

EMERSON™
Climate Technologies

Scroll

Reliable equipment and lower energy costs are at the top of the list of needs for the industrial operators. By combining the proven reliability and efficiency of Copeland Scroll® Compressors with the existing benefits of the Emerson® condensing units, these needs can be met.

Scroll Condensing Units are available for high and medium-temperature industrial refrigeration applications. The condensing units are optimized to work with HFC refrigerants, R-404A and/or R-134a, reliable alternatives to HCFC R22.

Additionally, these units feature other Emerson Climate Technologies products, such as the EK Filter Drier, Hermetic Moisture Indicator, and Refrigeration Solenoid Valves.

Best In Class Products...

Copeland Scroll® Refrigeration Compressors

Time Tested Performance.
Unequalled Reliqbility.

Copeland Scroll® refrigeration compressors are designed and built exclusively for refrigeration applications, ranging from 1 to 50 HP.

Reliability
Copeland Scroll compressors patented scroll design has superior liquid handling capability and require no tip seals that wear out.

Efficiency
Scroll compressors achieve high efficiencies due, in part, to near 100% volumetric efficiency during the compression process. The scroll operates under continuous flank contact, maintained by centrifugal force, which minimizes leakage and maximizes efficiency.

Size
The small footprint and vertical orientation reduce square footage required. It is light, compact, and on average it is 50% smaller than the Copeland® brand semi-hermetic compressor.

Sound
Copeland Scroll compressors function with fewer moving parts and no discharge or intake valves. The scroll design allows several pockets of gas to be compressed simultaneously, providing a smooth, nearly continuous compression cycle. This allows our scroll compressor to operate more smoothly and quietly, with less variation.

1 Gas enters an outer opening as one scroll orbits the other.

2 The open passage is sealed as gas is drawn into the compression chamber.

3 As one scroll continues orbiting, the gas is compressed into an increasingly smaller "pocket."

4 Gas is continually compressed to the center of the scrolls, where it is discharged through precisely machined ports and returned to the system.

5 During actual operation, all passages are in various stages of compression at all times, resulting in near-continuous intake and discharge.

Condensing Units

Hermetic Moisture Indicator

Earlier System Warnings. Better System Protection

The HMI's patented water dial uses a three-step gauge to detect moisture at 3% relative humidity (RH), which gives you plenty of time to make adjustments before any damage is done. Ordinary indicators use a two-step paper gauge that only detects moisture at 10% RH - a level that is more than enough for corrosive acids to build and destroy a system.

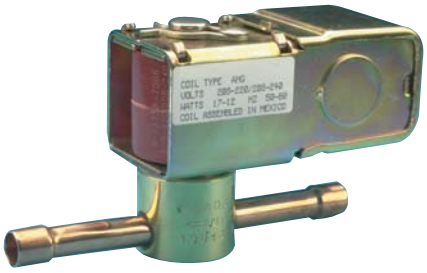
The HMI is available with both ODF (sweat) and SAE (flare) connections, and is the only moisture indicator UL - approved to 680 psig. Even as your customers' undergo mandated changes over the next few years, the HMI you install today will work with the refrigerants of tomorrow.

Compare HMI's Features to the Rest				
FEATURES	**EMERSON HMI**	**SPORLAN SA**	**PARKER PSG**	**DANFOSS SGI**
SEAL TYPE	BRAZED	KNIFE EDGE SEAL	O-RING	TEFLON SEAL
VIEWING LENS DIAMETER	0.95"	0.687" < 1/2" 0.953 > 1/2"	-.75"	0.50" < 1/2" 0.85" > 1/2"
RELATIVE HUMIDITY SENSING WAFER	3%	10%	10%	10%
ALL COPPER FITTINGS	YES	NO	YES	YES
SWIVEL-NUT CONNECTIONS	YES	YES	NO	NO
ALL BRASS BODY	YES	PAINTED STEEL BODY	YES	YES
MAXIMUM TEMPERATURE AT WHICH ELEMENT IS DAMAGED WHEN BRAZING	450°F	350°F	350°F	350°F
MAXIMUM WORKING PRESSURE	680 PSIG	650 PSIG	500 PSIG	500 PSIG
PLASTIC CAP COVER	YES	YES	NO	NO

Refrigerant Solenoid Valves

Performance Equals Peace of Mind

The Emerson Climate Technologies solenoid valve not only meets the industry standard, it also sets a new benchmark for minimizing or eliminating external refrigerant leak rates.



During normal operation, solenoid valves can experience wide temperature swings. Over time, these temperature changes decrease the effectiveness of the competition's gaskets. The longer the valve has been installed, the higher the leakage rate. Emerson's new gasket technology minimizes leakage over the life of the valve, keeping leaks well below the industry's allowable level.

Feature	Function	Benefit
100% factory tested for both external and internal leaks	Reduces refrigerant leaks and maintenance	Improved quality and fewer call backs
Brass and copper body construction	Provides superior corrosion resistance over painted cast iron	Prolongs valve life and ensures serviceability
Stainless steel enclosing tube	Provides superior corrosion and wear resistance over painted steel and brass	Increases reliability and extends valve life
New gasket technology	Provides a non-porous, high-integrity seal that can be replaced for “new-valve” performance	Zero leaks for trouble-free performance and maintenance
Manual override stem option	Valve can be manually opened during system start-up and service	Reduces service time and simplifies troubleshooting
Hot gas capability on all models	Each design platform is suitable for wide temperature ranges	Offers maximum application versatility with one valve size used on all applications
Available in ODF, SAE and extended ends	Offers a full range of connections	The right connections are available for each job without the need for adapter fittings
UL/CSA certification	Conforms to internationally recognized safety requirements	Assures the designs are safe
Single coil family for all models and applications	Minimizes stocking requirements	The right coil size is always available for quick service

The Extra Klean (EK) Filter Drier

Superior Production for Greater Refrigeration Protection

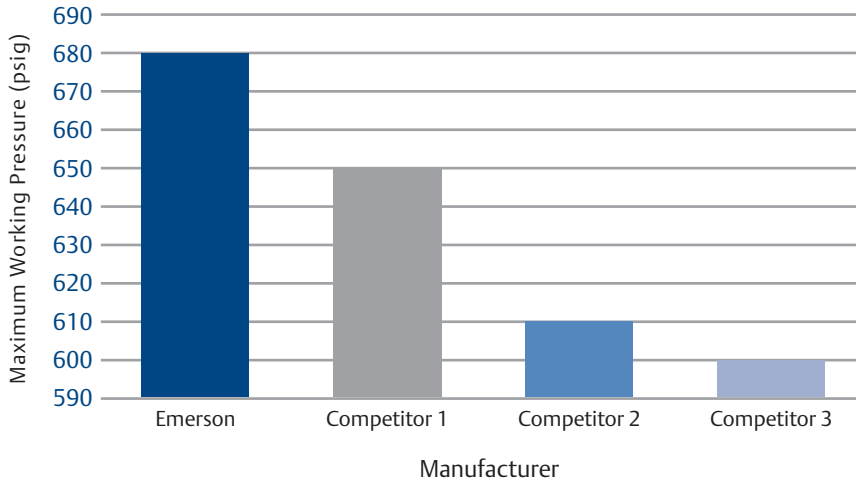
The EK Filter Drier provides measurably superior filtration of contaminants, drying of the refrigerant and removal of acids versus any other filter drier on the market.

The difference is that HFC systems with synthetic polyolester (POE) oils are protected from contaminants by the unique beaded desiccants. POE absorbs up to 20 times more moisture than ordinary mineral oils. HFC/POE systems protected by the EK in turn have less corrosion.

SPECIFICATIONS

Desiccant blend – 75% molecular sieve and 25% activated alumina
Absolute filtration – 20 microns
Maximum working pressure – 680 psig, UL file number – SA 3124

SUPERIOR MAXIMUM WORKING PRESSURE



Scroll Condensing Units
R-134a Capacity Data

90°F Ambient

R-134a Models	H.P.	COMP Model	+10	+15	+20	+25	+30	+35	+40	+45
FTAH-A13Z	1.0	ZB15KCE	8030	9030	10100	11200	12400	13600	14900	16300
FTAH-A15Z	1.5	ZB19KCE	9350	10500	11800	13100	14500	16000	17500	19000
FTAH-A20Z	2.0	ZB21KCE	12000	13600	15200	17000	18800	20800	22800	24900
FTAH-A25Z	2.5	ZB26KCE	13700	15400	17200	19200	21300	23400	25700	28000
FTAH-A30Z	3.0	ZB30KCE	16300	18400	20600	23100	25600	28300	31100	34000
FTAH-A35Z	3.5	ZB38KCE	19800	22200	24900	27800	30800	33900	37100	40500
FTAH-A45Z	4.5	ZB45KCE	24900	28000	31400	35000	38800	42800	47100	51500
FTAH-A50Z	5.0	ZB50KCE	27400	30700	34200	38000	42000	46200	50700	55500
FPAN-070Z	7.0	ZB50KCE	28000	31400	35000	39000	43100	47600	52300	57400
FPAN-080Z	8.0	ZB58KCE	31000	34800	38800	43100	47700	52600	57900	63400
FPAN-091Z	9.0	ZB66KCE	35600	39900	44500	49400	54600	60200	66000	72200
FPAN-101Z	10.0	ZB76KCE	40000	44700	49800	55300	61100	67300	73900	80800

100°F Ambient

R-134a Models	H.P.	COMP Model	+10	+15	+20	+25	+30	+35	+40	+45
FTAH-A13Z	1.0	ZB15KCE	7500	8420	9400	10400	11500	12700	13900	15200
FTAH-A15Z	1.5	ZB19KCE	8710	9810	11000	12200	13600	15000	16400	17900
FTAH-A20Z	2.0	ZB21KCE	11200	12700	14300	15900	17700	19500	21500	23400
FTAH-A25Z	2.5	ZB26KCE	12700	14400	16100	18000	19900	22000	24100	26300
FTAH-A30Z	3.0	ZB30KCE	15200	17200	19300	21600	24100	26600	29300	32000
FTAH-A35Z	3.5	ZB38KCE	18400	20800	23300	26000	28800	31800	34900	38000
FTAH-A45Z	4.5	ZB45KCE	23200	26100	29300	32700	36300	40200	44200	48300
FTAH-A50Z	5.0	ZB50KCE	25700	28800	32100	35700	39500	43500	47800	52300
FPAN-070Z	7.0	ZB50KCE	26200	29400	32900	36600	40500	44700	49200	54000
FPAN-080Z	8.0	ZB58KCE	29100	32600	36400	40500	44800	49500	54400	59600
FPAN-091Z	9.0	ZB66KCE	33400	37400	41800	46400	51300	56500	62100	67900
FPAN-101Z	10.0	ZB76KCE	37500	42000	46800	51900	57400	63200	69400	75900

110°F Ambient

R-134a Models	H.P.	COMP Model	+10	+15	+20	+25	+30	+35	+40	+45
FTAH-A13Z	1.0	ZB15KCE	---	7830	8710	9660	10700	11800	12900	14100
FTAH-A15Z	1.5	ZB19KCE	---	9070	10200	11400	12600	13900	15300	16600
FTAH-A20Z	2.0	ZB21KCE	---	11800	13300	14800	16500	18300	20100	21900
FTAH-A25Z	2.5	ZB26KCE	---	13300	15000	16700	18600	20500	22500	24600
FTAH-A30Z	3.0	ZB30KCE	---	15900	18000	20100	22400	24800	27400	30000
FTAH-A35Z	3.5	ZB38KCE	---	19300	21600	24200	26900	29700	32600	35500
FTAH-A45Z	4.5	ZB45KCE	21400	24200	27100	30400	33800	37400	41200	45100
FTAH-A50Z	5.0	ZB50KCE	24000	27000	30100	33500	37100	40900	44900	49200
FPAN-070Z	7.0	ZB50KCE	24400	27500	30700	34200	37900	41800	46100	50600
FPAN-080Z	8.0	ZB58KCE	27200	30500	34100	37900	42000	46300	51000	55900
FPAN-091Z	9.0	ZB66KCE	31200	35000	39100	43400	48000	53000	58200	63800
FPAN-101Z	10.0	ZB76KCE	35000	39200	43700	48500	53700	59200	65000	71200

Capacities are at 60 Hertz with 5°F Subcooling, 65°F Return Gas. Multiply by .83 for 50 Hertz.
Capacities are based on three phase units when available. Single phase could be different.

Scroll Condensing Units
R-404A Capacity Data

90°F Ambient

R-404A Models	H.P.	COMP Model	0	+5	+10	+15	+20	+25	+30	+35	+40	+45
FJAM-A15Z	1.5	ZB11KCE	7930	8880	9810	10800	11800	12900	14000	15200	16400	17600
FJAM-A20Z	2.0	ZB15KCE	11400	12600	13900	15200	16600	18100	19600	21200	22900	24600
FJAM-A25Z	2.5	ZB19KCE	14500	16100	17700	19400	21200	23200	25200	27300	29500	31800
FJAM-A30Z	3.0	ZB21KCE	17000	18800	20700	22600	24700	26900	29200	31500	34000	36600
FJAM-A35Z	3.5	ZB26KCE	19400	21500	23600	25700	38000	30500	33000	35600	38300	41100
FJAM-A40Z	4.0	ZB30KCE	23200	26000	28800	31800	34900	38200	41700	45400	49200	53100
FJAM-A50Z	5.0	ZB38KCE	28100	31400	34800	38400	42200	46100	50200	54500	58800	63300
FJAM-A60Z	6.0	ZB45KCE	33700	37200	40900	44700	48800	53100	57500	62200	67000	71900
FPAN-070Z	7.0	ZB50KCE	38200	42700	47300	52100	57100	62400	67900	73700	79700	85900
FPAN-080Z	8.0	ZB58KCE	42200	47200	52300	57600	63000	68600	74400	80300	86300	92400
FPAN-091Z	9.0	ZB66KCE	48800	54000	59200	64700	70300	76300	82400	88800	95300	102100
FPAN-101Z	10.0	ZB76KCE	56800	62500	68200	74100	80300	86800	93500	100400	107500	114800

100°F Ambient

R-404A Models	H.P.	COMP Model	0	+5	+10	+15	+20	+25	+30	+35	+40	+45
FJAM-A15Z	1.5	ZB11KCE	7080	7990	8850	9760	10700	11700	12700	13800	14900	16100
FJAM-A20Z	2.0	ZB15KCE	10400	11600	12700	13900	15200	16600	18000	19500	21000	22600
FJAM-A25Z	2.5	ZB19KCE	13300	14700	16200	17800	19500	21300	23100	25100	27100	29300
FJAM-A30Z	3.0	ZB21KCE	15500	17200	18900	20700	22600	24600	26700	28900	31200	33600
FJAM-A35Z	3.5	ZB26KCE	17700	19600	21500	23500	25600	27800	30200	32600	35100	37700
FJAM-A40Z	4.0	ZB30KCE	21200	23800	26400	29200	32100	35100	38300	41700	45200	48800
FJAM-A50Z	5.0	ZB38KCE	25500	28600	31700	35000	38500	42200	46000	49900	54000	58200
FJAM-A60Z	6.0	ZB45KCE	30800	34100	37400	41000	44800	48700	52800	57100	61500	66100
FPAN-070Z	7.0	ZB50KCE	34200	38500	42800	47200	51900	56800	61900	67200	72800	78600
FPAN-080Z	8.0	ZB58KCE	37500	42100	46800	51600	56500	61600	66800	72100	77500	83000
FPAN-091Z	9.0	ZB66KCE	44700	49500	54200	59200	64400	69800	75400	81200	87200	93400
FPAN-101Z	10.0	ZB76KCE	51700	56800	61900	67300	72800	78600	84500	90700	97200	103700

110°F Ambient

R-404A Models	H.P.	COMP Model	0	+5	+10	+15	+20	+25	+30	+35	+40	+45
FJAM-A15Z	1.5	ZB11KCE	6110	6980	7790	8630	9500	10400	11400	12400	---	---
FJAM-A20Z	2.0	ZB15KCE	9390	10400	11500	12600	13800	15000	16300	17700	19100	20600
FJAM-A25Z	2.5	ZB19KCE	12000	13300	14700	16100	17700	19300	21000	22800	24700	26700
FJAM-A30Z	3.0	ZB21KCE	14000	15500	17100	18700	20500	22300	24200	26300	28400	30600
FJAM-A35Z	3.5	ZB26KCE	15900	17600	19400	21200	23100	25100	27300	29500	---	---
FJAM-A40Z	4.0	ZB30KCE	19100	21500	23900	26400	29100	31900	34800	37900	41100	44500
FJAM-A50Z	5.0	ZB38KCE	23000	25700	28600	31600	34800	38100	41600	45200	49000	52900
FJAM-A60Z	6.0	ZB45KCE	27800	30800	33900	37100	40500	44100	47900	51800	56000	60200
FPAN-070Z	7.0	ZB50KCE	30000	34000	38000	42100	46400	50900	55600	60600	65700	71100
FPAN-080Z	8.0	ZB58KCE	32500	36800	41000	45300	49700	54200	58900	63600	68500	73400
FPAN-091Z	9.0	ZB66KCE	40300	44700	49100	53600	58300	63200	68300	73500	---	---
FPAN-101Z	10.0	ZB76KCE	---	50900	55400	60100	65000	70100	75400	---	---	---

All R404A condensing units are UL approved for Medium Temperature applications (0°F to 25°F evaporator).
For applications outside of this temperature range, consult your local UL representative for any additional agency requirements.

R-134a Physical / Electrical Data																	
Model	DIMENSIONS (in.)			CONNECTING LINES				# of FANS	MIN CIRCUIT AMPACITY /MAX FUSE SIZE						PUMP DOWN CAPACITY (lbs)	SHIP WEIGHT (lbs)
	L	W	H	Suction		Liquid			230-1-60		230-3-60		460-3-60			
FTAH-A13Z	24.0	18.3	16.3	7/8	S	3/8	S	1	21.0	35	12.5	20			10.4	135
FTAH-A15Z	24.0	18.3	16.3	7/8	S	3/8	S	1	23.8	40	13.9	20			10.4	135
FTAH-A20Z	25.2	34.0	19.0	7/8	S	3/8	S	2	28.2	45	17.4	25	9.1	15	17.8	235
FTAH-A25Z	25.2	34.0	19.0	7/8	S	3/8	S	2	31.8	50	19.7	30	10.4	15	17.8	235
FTAH-A30Z	25.2	34.0	19.0	1 1/8	S	3/8	S	2	36.3	60	22.4	35	11.1	15	20.1	254
FTAH-A35Z	25.2	34.0	19.0	1 1/8	S	3/8	S	2	41.7	60	30.4	45	13.7	20	20.1	255
FTAH-A45Z	28.2	44.1	26.8	1 1/8	S	1/2	S	2			31.7	50	16.8	25	34.4	329
FTAH-A50Z	28.2	44.1	26.8	1 1/8	S	1/2	S	2			39.4	60	21.2	30	34.4	375
FPAN-070Z	28.5	44.0	36.8	1 3/8	S	5/8	S	2			44.8	60	23.2	30	70.6	495
FPAN-080Z	28.5	44.0	36.8	1 3/8	S	5/8	S	2			49.1	70	24.9	35	70.6	497
FPAN-091Z	28.5	44.0	36.8	1 3/8	S	5/8	S	2			51.0	70	26.3	35	70.6	498
FPAN-101Z	28.5	44.0	36.8	1 3/8	S	5/8	S	2			60.8	90	28.4	40	79.2	528

S = Sweat Connections

R-134a Configuration Data					
Model	Refrigerant	H.P.	Compressor Model	Voltages	Bill Of Materials
FTAH-A13Z	R-134a	1.0	ZB15KCE	CFV, TFC	020, 072, 074
FTAH-A15Z	R-134a	1.5	ZB19KCE	CFV, TFC	020, 072, 074
FTAH-A20Z	R-134a	2.0	ZB21KCE	CFV, TFC, TFD	015, 020, 071, 072, 073, 074
FTAH-A25Z	R-134a	2.5	ZB26KCE	CFV, TFC, TFD	015, 020, 071, 072, 073, 074
FTAH-A30Z	R-134a	3.0	ZB30KCE	CFV, TFC, TFD	015, 020, 071, 072, 073, 074
FTAH-A35Z	R-134a	3.5	ZB38KCE	CFV, TFC, TFD	015, 020, 071, 072, 073, 074
FTAH-A45Z	R-134a	4.5	ZB45KCE	TFC, TFD	015, 020, 071, 072, 073, 074
FTAH-A50Z	R-134a	5.0	ZB50KCE	TFC, TFD	015, 020, 071, 072, 073, 074
FPAN-070Z	R-134a	7.0	ZB50KCE	TFC, TFD	015, 020, 071, 072, 073, 074
FPAN-080Z	R-134a	8.0	ZB58KCE	TFC, TFD	015, 020, 071, 072, 073, 074
FPAN-091Z	R-134a	9.0	ZB66KCE	TFC, TFD	015, 020, 071, 072, 073, 074
FPAN-101Z	R-134a	10.0	ZB76KCE	TFC, TFD	015, 020, 071, 072, 073, 074

R-404A Physical / Electrical Data																
Model	DIMENSIONS (in.)			CONNECTING LINES				# of FANS	MIN CIRCUIT AMPACITY /MAX FUSE SIZE						PUMP DOWN CAPACITY (lbs)	SHIP WEIGHT (lbs)
	L	W	H	Suction		Liquid			230-1-60		230-3-60		460-3-60			
FJAM-A15Z	24.0	18.3	16.3	7/8	S	3/8	S	1	13.9	20					8.9	116
FJAM-A20Z	25.2	34.0	19.0	7/8	S	3/8	S	2	21.9	35	13.4	20	7.7	15	15.2	220
FJAM-A25Z	25.2	34.0	19.0	1 1/8	S	3/8	S	2	25.2	40	15.3	20	8	15	17.2	220
FJAM-A30Z	25.2	34.0	19.0	1 1/8	S	3/8	S	2	28.7	45	17.9	25	9.3	15	17.2	235
FJAM-A35Z	25.2	34.0	19.0	1 1/8	S	3/8	S	2	32.3	50	20.2	30	10.6	15	17.2	235
FJAM-A40Z	28.2	44.1	26.8	1 1/8	S	1/2	S	2	37.1	60	23.2	35	11.8	15	29.4	337
FJAM-A50Z	28.2	44.1	26.8	1 1/8	S	1/2	S	2	42.5	60	31.2	45	14.4	20	29.4	339
FJAM-A60Z	28.2	44.1	26.8	1 1/8	S	1/2	S	2			31.7	50	16.8	25	29.4	342
FPAN-070Z	28.5	44.0	36.8	1 3/8	S	5/8	S	2			44.8	60	23.2	30	60.4	495
FPAN-080Z	28.5	44.0	36.8	1 3/8	S	5/8	S	2			49.1	70	24.9	35	60.4	497
FPAN-091Z	28.5	44.0	36.8	1 3/8	S	5/8	S	2			51.0	70	26.3	35	60.4	498
FPAN-101Z	28.5	44.0	36.8	1 3/8	S	5/8	S	2			60.8	90	28.4	40	67.8	528

S = Sweat Connections

R-404A Configuration Data					
Model	Refrigerant	H.P.	Compressor Model	Voltages	Bill Of Materials
FJAM-A15Z	R404A	1.5	ZB11KCE	CFV	120, 172, 174
FJAM-A20Z	R404A	2.0	ZB15KCE	CFV, TFC, TFD	015, 020, 071, 072, 073, 074
FJAM-A25Z	R404A	2.5	ZB19KCE	CFV, TFC, TFD	015, 020, 071, 072, 073, 074
FJAM-A30Z	R404A	3.0	ZB21KCE	CFV, TFC, TFD	015, 020, 071, 072, 073, 074
FJAM-A35Z	R404A	3.5	ZB26KCE	CFV, TFC, TFD	015, 020, 071, 072, 073, 074
FJAM-A40Z	R404A	4.0	ZB30KCE	CFV, TFC, TFD	015, 020, 071, 072, 073, 074
FJAM-A50Z	R404A	5.0	ZB38KCE	CFV, TFC, TFD	015, 020, 071, 072, 073, 074
FJAM-A60Z	R404A	6.0	ZB45KCE	TFC, TFD	015, 020, 071, 072, 073, 074
FPAN-070Z	R404A	7.0	ZB50KCE	TFC, TFD	015, 020, 071, 072, 073, 074
FPAN-080Z	R404A	8.0	ZB58KCE	TFC, TFD	015, 020, 071, 072, 073, 074
FPAN-091Z	R404A	9.0	ZB66KCE	TFC, TFD	015, 020, 071, 072, 073, 074
FPAN-101Z	R404A	10.0	ZB76KCE	TFC, TFD	015, 020, 071, 072, 073, 074

Electric Nomenclature

Single Phase (voltage-phase-hertz)	
208/230-1-60	**Description**
CFV	Capacitor Run - Capacitor Start (High Starting Torque)

Three Phase (voltage-phase-hertz)		
208/230-3-60	**460-3-60**	**Description**
TFC	TFD	Internal Inherent Protection - One Protector, Use with Contactor

Unit Features

Bill Of Material	Suction Line		Liquid Line				BX Conduit	Fan Guards	Fan Cycle Control	UL
	Valve	Accumulator	Receiver w/Valve	Filter Drier	Moisture Indicator	Solenoid Valve w/ Coil				
120	•		•					•		UR
172	•		•	•	•			•		UR
174	•		•	•	•	•		•		UR
015	•	•	•				•	•	•	UL
020	•	•	•				•	•		UL
071	•	•	•	•	•		•	•	•	UL
072	•	•	•	•	•		•	•		UL
073	•	•	•	•	•	•	•	•	•	UL
074	•	•	•	•	•	•	•	•		UL

Above BOM (Bill of Material) numbers apply only to the units listed in this brochure.

All Models Include Suction Line Accumulators Except FTAH-A13Z, FTAH-A15Z, and FJAM-A15Z

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To place an order determine:

- 1 Model
- 2 Voltage
- 3 Bill of Material (BOM)

Example: FJAM-A30Z TFC -073
Model **Voltage** **BOM**
1+2+3 = complete model number

Control Data							
HP	Voltage	Discharge Line T-Stat	Crankcase Heater	High And Low Pressure Control	Time Delay Relay	Contactor	115 Volt Control Circuit Transformer
1 - 1 1/2	208/230 (1 PH)	YES	NO	YES	YES	YES	NO
1 - 1 1/2	208/230 (3 PH)	YES	YES	YES	NO	YES	NO
1 - 1 1/2	460 (3 PH)	YES	YES	YES	NO	YES	YES
2 - 5	208/230 (1 PH)	YES	NO	YES	YES	YES	NO
2 - 5	208/230 (3 PH)	YES	YES	YES	NO	YES	NO
2 - 5	460 (3 PH)	YES	YES	YES	NO	YES	YES
7 - 10	208/230 (3 PH)	YES	YES	YES	NO	YES	NO
7 - 10	460 (3 PH)	YES	YES	YES	NO	YES	YES
Above Control Data table only applies to the units listed in this brochure.							

Application Engineering Bulletins

Available on EmersonClimateCustomer.com

Industrial – R-134a Refrigerant

4-1255 U.L. and C.S.A. File Data
4-1273 Factors to Consider in converting Compressor Rated Capacity to Actual Capacity
4-1295 HFC-134a Refrigerant Guidelines
4-1317 Application Guidelines for ZB*KC/ZB*KCE Refrigeration Scroll Compressors 1.3 to 6 HP
4-1318 Application Guidelines for ZB*KC/ZB*KCE Refrigeration Scroll Compressors 7 to 15 HP
11-1147 Suction Accumulators
11-1297 Liquid Line Filter Driers
17-1234 Low Ambient Compressor Operation
17-1260 Compressor Overheating
17-1268 Compression Ratio as it Affects Compressor Reliability
22-1182 Liquid Refrigerant Control in Refrigeration and Air Conditioning Systems

Industrial – R-404A Refrigerant

4-1255 U.L. and C.S.A. File Data
4-1273 Factors to Consider in Converting Compressor Rated Capacity to Actual Capacity
4-1317 Application Guidelines for ZB*KC/ZB*KCE Refrigeration Scroll Compressors 1.3 to 6 HP
4-1318 Application Guidelines for ZB*KC/ZB*KCE Refrigeration Scroll Compressors 7 to 15 HP
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