

Rating Conditions

18.3 °C Return Gas
 0 K Subcooling
 32.2 °C Ambient Air Over

50 Hz Operation

HIGH TEMPERATURE

ZF24K4E-TWD

HFC-134A
 COPELAND SCROLL®
 TWD 380/420-3-50

Condensing Temperature °C
 (Sat. Dew Pt. Pressure, bar) Evaporating Temperature °C (Sat. Dew Pt. Pressure, bar)

		-23.0 (1.2)	-20.0 (1.3)	-15.0 (1.6)	-10.0 (2)	-5.0 (2.4)	0.0 (2.9)	5.0 (3.5)	7.0 (3.7)
60.0 (16.8)	C			5,300	6,450	7,850	9,500	11,500	12,350
	P			4,360	4,520	4,690	4,870	5,050	5,150
	A			10.2	10.4	10.6	10.8	11.0	11.1
	M			41	50	61	75	91	98
	E			1.2	1.4	1.7	2.0	2.3	2.4
	%			53.3	56.4	59.2	61.4	63.0	63.4
55.0 (14.9)	C		4,550	5,600	6,850	8,350	10,150	12,250	13,150
	P		3,900	4,040	4,190	4,340	4,510	4,700	4,780
	A		9.7	9.9	10.1	10.3	10.5	10.6	10.7
	M		33	41	50	61	75	91	99
	E		1.2	1.4	1.6	1.9	2.2	2.6	2.8
	%		50.8	54.3	57.3	59.9	61.8	62.8	62.9
50.0 (13.2)	C	4,250	4,800	5,950	7,300	8,900	10,750	13,000	14,000
	P	3,560	3,630	3,760	3,890	4,040	4,200	4,380	4,460
	A	9.3	9.4	9.6	9.8	10.0	10.2	10.3	10.4
	M	29	33	41	50	62	75	92	99
	E	1.2	1.3	1.6	1.9	2.2	2.6	3.0	3.1
	%	49.5	51.7	55.1	58.1	60.3	61.7	61.9	61.6
45.0 (11.6)	C	4,500	5,100	6,300	7,700	9,400	11,450	13,800	14,850
	P	3,320	3,390	3,500	3,630	3,770	3,930	4,110	4,190
	A	9.2	9.3	9.4	9.6	9.8	9.9	10.1	10.1
	M	29	33	41	50	62	76	92	99
	E	1.4	1.5	1.8	2.1	2.5	2.9	3.4	3.5
	%	50.3	52.5	55.7	58.3	60.1	60.7	60.0	59.3
40.0 (10.2)	C	4,750	5,400	6,650	8,150	9,950	12,100	14,550	15,700
	P	3,110	3,170	3,280	3,400	3,530	3,690	3,860	3,940
	A	9.0	9.1	9.3	9.4	9.6	9.7	9.8	9.9
	M	29	33	41	51	62	76	93	100
	E	1.5	1.7	2.0	2.4	2.8	3.3	3.8	4.0
	%	50.9	53.0	55.9	58.0	59.0	58.8	57.1	55.9
35.0 (8.9)	C	5,000	5,650	7,000	8,600	10,500	12,700	15,300	16,500
	P	2,910	2,960	3,070	3,180	3,310	3,470	3,640	3,720
	A	8.9	9.0	9.1	9.3	9.4	9.5	9.6	9.7
	M	29	34	42	51	63	77	93	100
	E	1.7	1.9	2.3	2.7	3.2	3.7	4.2	4.4
	%	51.2	53.0	55.4	56.9	57.1	55.9	52.9	51.2
30.0 (7.7)	C	5,200	5,950	7,350	9,000	11,000	13,300	16,000	17,200
	P	2,710	2,770	2,860	2,980	3,110	3,260	3,440	3,530
	A	8.8	8.8	9.0	9.1	9.2	9.3	9.4	9.4
	M	29	34	42	51	63	77	93	101
	E	1.9	2.2	2.6	3.0	3.5	4.1	4.7	4.9
	%	51.0	52.5	54.4	55.1	54.3	51.8	47.5	45.3
25.0 (6.7)	C	5,400	6,150	7,600	9,350	11,450	13,900		
	P	2,520	2,570	2,660	2,780	2,910	3,070		
	A	8.7	8.7	8.8	8.9	9.0	9.1		
	M	29	34	42	51	63	77		
	E	2.2	2.4	2.9	3.4	3.9	4.5		
	%	50.3	51.5	52.6	52.4	50.4	46.6		

C: Capacity (W), P: Power (W), A: Current (Amps), M: Mass Flow (gm/s), E: COP, %: Isentropic Efficiency (%)

Nominal Performance Values (±5%) based on 72 hours run-in. Subject to change without notice. Current @ 400 V

Rating Conditions

18.3 °C Return Gas
 0 K Subcooling
 32.2 °C Ambient Air Over
 50 Hz Operation

LOW TEMPERATURE

HFCs Require Use of Polyol Ester
 Lubricant Approved on Form 93-11

ZF24K4E-TWD

HFC-404A
 COPELAND SCROLL®
 TWD 380/420-3-50

Condensing Temperature °C
 (Sat. Dew Pt. Pressure, bar)

Evaporating Temperature °C (Sat. Dew Pt. Pressure, bar)

		-40.0 (1.3)	-40.0 (1.3)	-35.0 (1.6)	-35.0 (1.6)	-30.0 (2)	-30.0 (2)	-25.0 (2.5)	-25.0 (2.5)	-20.0 (3)	-20.0 (3)	-18.0 (3.2)
15.0 (9.4)	C	5,150	5,150	6,550	6,550	8,250	8,250	10,200	10,200	12,550	12,550	13,600
	P	2,870	2,870	2,990	2,990	3,130	3,130	3,290	3,290	3,480	3,480	3,570
	A	8.9	8.9	9.0	9.0	9.1	9.1	9.2	9.2	9.4	9.4	9.5
	M	30	30	38	38	48	48	60	60	74	74	81
	E	1.8	1.8	2.2	2.2	2.6	2.6	3.1	3.1	3.6	3.6	3.8
	%	54.1	54.1	57.9	57.9	60.1	60.1	60.7	60.7	59.4	59.4	58.3
-18.0 (3.2)												
		13,600										
		3,570										
		9.5										
		81										
		3.8										
		58.3										
10.0 (8.2)	C	5,350	6,850	8,600	10,650	13,100	14,200					
	P	2,640	2,750	2,890	3,060	3,260	3,360					
	A	8.8	8.8	8.9	9.0	9.2	9.3					
	M	30	38	48	60	75	81					
	E	2.0	2.5	3.0	3.5	4.0	4.2					
	%	54.2	57.3	58.6	58.0	55.3	53.6					
5.0 (7)	C	5,600	5,600	7,100	7,100	8,950	8,950	11,100	11,100	13,700	13,700	14,850
	P	2,430	2,430	2,540	2,540	2,690	2,690	2,860	2,860	3,080	3,080	3,190
	A	8.6	8.6	8.7	8.7	8.8	8.8	8.9	8.9	9.1	9.1	9.2
	M	30	30	38	38	48	48	60	60	75	75	81
	E	2.3	2.3	2.8	2.8	3.3	3.3	3.9	3.9	4.4	4.4	4.7
	%	53.8	53.8	55.9	55.9	56.1	56.1	54.0	54.0	49.6	49.6	47.2
		14,850										
		3,190										
		9.2										
		81										
		4.7										
		47.2										
0.0 (6)	C	5,850	7,400	9,300	11,550	14,300						
	P	2,250	2,370	2,520	2,710	2,950						
	A	8.5	8.6	8.7	8.8	9.0						
	M	30	38	49	61	75						
	E	2.6	3.1	3.7	4.3	4.8						
	%	52.8	53.6	52.2	48.5	42.3						
(5.0) (5.1)	C	6,100	6,100	7,750	7,750	9,700	9,700	12,050	12,050			
	P	2,100	2,100	2,220	2,220	2,390	2,390	2,600	2,600			
	A	8.4	8.4	8.5	8.5	8.6	8.6	8.7	8.7			
	M	31	31	39	39	49	49	61	61			
	E	2.9	2.9	3.5	3.5	4.1	4.1	4.6	4.6			
	%	50.9	50.9	50.0	50.0	46.9	46.9	41.3	41.3			

(9.0)
(4.5)

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50 Hz Operation

**LOW
 TEMPERATURE**

**HFCs Require Use of Polyol Ester
 Lubricant Approved on Form 93-11**

ZF24K4E-TWD

HFC-404A
 COPELAND SCROLL®
 TWD 380/420-3-50

**Condensing Temperature °C
 (Sat. Dew Pt. Pressure, bar)**

Evaporating Temperature °C (Sat. Dew Pt. Pressure, bar)

C	6,400	8,000	10,050			
P	2,000	2,130	2,310			
A	8.4	8.4	8.6			
M	31	39	49			
E	3.2	3.8	4.4			
%	48.5	46.2	41.5			

C: Capacity (W), P: Power (W), A: Current (Amps), M: Mass Flow (gm/s), E: COP, %: Isentropic Efficiency (%)

Nominal Performance Values (±5%) based on 72 hours run-in. Subject to change without notice. Current @ 400 V

ZF24K4E-TWD

HFC, R-404A, 50 Hz, 3 - Phase, 380/420 V . [Also Available with Variable Frequency Drives](#)

Low Temp, Low Condensing (Scroll)

Production Status: This compressor and/or application of this compressor is not available to U.S. OEM customers. A field replacement is currently available through a U.S. Emerson Climate Technologies Wholesaler. Please check with your local Emerson Climate Technologies Representative for international availability.

Performance			Mechanical	
Evaporator Temp. (°C)	-32	-40	Displacement (cm ³ /Rev):	119.95
Condensing Temp. (°C)	10	10	Displacement (m ³ /Hr):	
Return Gas Temp. (°C)	18	18	Overall Length (mm):	315.98
Liquid Temp. (°C)	10	10	Overall Width (mm):	368.30
Capacity (Watts)	7972	5363	Overall Height (mm):	542.04
Power (W):	2840	2640	Mounting Length (mm):	219.71
Current (Amps):	8.9	8.8	Mounting Width (mm):	219.71
EER(BTU/Wh):	16.31	11.72	Mounting Height (mm):	561.09
Mass Flow (lbs/hr):	45.11	30.24	Suction Size (mm),Type:	330.20 / 101.60 Rotalock
Sound Data @			Discharge Size (mm),Type:	279.40 / 101.60 Rotalock
Sound Power (dBA):	83 Avg	88 Max	Initial Oil Charge (ml):	4140.36
Vibration mils(peak-peak):	2.0 Avg	3.0 Max	Oil Recharge (ml):	4051.64
Record Date:	2004-06-16		Net Weight (kg):	100.24
			Internal Free Volume (cm ³):	16993.32
			Horse Power:	7.5
			*Overall compressor height on Copeland Brand Product's specified mounting grommets.	

Electrical		Capacitors					
		Type	Part No	Low MFD	High MFD	Volts	User Description
LRA High* (Amps):	99.0	No data available in table					
LRA Low*(Amps):	89.0						
LRA Half Winding (Amps):							
MCC (Amps):	18.5						
Max Operating Current (Amps):	16.1						
RLA, MCC/1.4(use for contactor selection)(Amps):	13.2						
RLA, MCC/1.56(use for breaker & wire size selection)(Amps):	11.9						
RPM:	2900						
Box IP :	54						
UL File No:	SA-9747						
UL File Date:	1994-07-12						

*Low and High refer to the low and high nominal voltage ranges for which the motor is approved.

Alternate Applications

Refrigerant	Voltage	Phase	Frequency	Application
R-134a HFC	460	3	60	High Temp
R-134a HFC	380/420	3	50	High Temp
R-134a HFC	460	3	60	Low Temp, Liquid Injected
R-134a HFC	380/420	3	50	Low Temp, Liquid Injected
R-134a HFC	380/420	3	50	Medium Temp, Liquid Injected
R-134a HFC	460	3	60	Medium Temp, Liquid Injected
R-22 HCFC	460	3	60	Low Temp, Liquid Injected
R-22 HCFC	380/420	3	50	Low Temp, Liquid Injected
R-22 HCFC	380/420	3	50	Medium Temp, Liquid Injected
R-22 HCFC	460	3	60	Medium Temp, Liquid Injected
R-404A HFC	460	3	60	Low Temp, Low Condensing (Scroll)
R-404A HFC	380/420	3	50	Low Temp, Liquid Injected
R-404A HFC	460	3	60	Low Temp, Liquid Injected
R-404A HFC	380/420	3	50	Medium Temp, Liquid Injected
R-404A HFC	460	3	60	Medium Temp, Liquid Injected
R-507 HFC	460	3	60	Low Temp, Low Condensing (Scroll)
R-507 HFC	380/420	3	50	Low Temp, Low Condensing (Scroll)
R-507 HFC	380/420	3	50	Low Temp, Liquid Injected
R-507 HFC	460	3	60	Low Temp, Liquid Injected
R-507 HFC	380/420	3	50	Medium Temp, Liquid Injected
R-507 HFC	460	3	60	Medium Temp, Liquid Injected