

Rating Conditions

18.3 °C Return Gas
 0 K Subcooling
 35 °C Ambient Air Over

50 Hz Operation

LOW TEMPERATURE

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

Liquid Injection

ZF33K4E-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)

	-40.0 (0.5)	-35.0 (0.7)	-30.0 (0.8)	-25.0 (1.1)	-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											
P						6,250					
A						5,050					
M						12.0					
E						45					
%						1.2					
						53.8					
55.0 (14.9)											
C											
P											
A											
M											
E											
%											
50.0 (13.2)											
C											
P	2,470	3,150	4,100	5,300	6,700						
A	3,860	4,050	4,250	4,460	4,690						
M	10.9	11.1	11.2	11.4	11.6						
E	17	21	28	36	46						
%	0.6	0.8	1.0	1.2	1.4						
	37.5	41.6	46.5	51.4	55.8						
45.0 (11.6)											
C											
P	2,605	3,400	4,400	5,650	7,150						
A	3,600	3,780	3,970	4,170	4,390						
M	10.7	10.9	11.0	11.2	11.4						
E	17	22	28	37	46						
%	0.7	0.9	1.1	1.4	1.6						
	38.6	43.2	48.2	53.0	57.0						
40.0 (10.2)											
C											
P	2,745	3,600	4,700	6,050	7,600						
A	3,370	3,550	3,730	3,920	4,120						
M	10.6	10.7	10.8	11.0	11.2						
E	17	22	29	37	47						
%	0.8	1.0	1.3	1.5	1.8						
	39.5	44.4	49.4	53.8	57.4						
35.0 (8.9)											
C											
P	2,880	3,800	4,950	6,350	8,000						
A	3,160	3,330	3,510	3,690	3,870						
M	10.4	10.5	10.7	10.8	11.0						
E	17	22	29	37	47						
%	0.9	1.1	1.4	1.7	2.1						
	40.3	45.3	50.1	54.1	57.2						
30.0 (7.7)											
C											
P	3,000	4,000	5,200	6,650	8,350						
A	2,940	3,110	3,270	3,440	3,620						
M	10.3	10.4	10.5	10.7	10.8						
E	17	22	29	38	47						
%	1.0	1.3	1.6	1.9	2.3						
	40.9	45.9	50.4	54.0	56.5						
25.0 (6.7)											
C											
P	3,100	4,150	5,400	6,900	8,600						
A	2,690	2,860	3,020	3,180	3,330						
M	10.2	10.3	10.4	10.5	10.6						
E	17	22	29	37	47						
%	1.2	1.5	1.8	2.2	2.6						
	41.7	46.5	50.7	53.8	55.6						

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

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ZF33K4E-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	C	7,250	7,250	9,200	9,200	11,500	11,500	14,250	14,250	17,400	17,400	18,900
	P	P	3,770	3,770	3,980	3,980	4,210	4,210	4,460	4,460	4,720	4,720	4,830
	A	A	10.5	10.5	10.7	10.7	10.9	10.9	11.2	11.2	11.4	11.4	11.5
	M	M	42	42	54	54	68	68	84	84	103	103	112
	E	E	1.9	1.9	2.3	2.3	2.7	2.7	3.2	3.2	3.7	3.7	3.9
	%	%	58.1	58.1	60.9	60.9	62.3	62.3	62.3	62.3	60.8	60.8	59.7
-18.0 (3.2)													
18,900													
4,830													
11.5													
112													
3.9													
59.7													
10.0 (8.2)	C	C	7,650	9,600	12,000	14,850	18,200	19,700					
	P	P	3,490	3,680	3,900	4,140	4,390	4,500					
	A	A	10.3	10.5	10.7	10.9	11.1	11.2					
	M	M	43	54	68	84	103	112					
	E	E	2.2	2.6	3.1	3.6	4.1	4.4					
	%	%	58.3	60.3	60.8	59.7	56.9	55.3					
5.0 (7)	C	C	8,000	8,000	10,050	10,050	12,500	12,500	15,400	15,400	18,900	18,900	20,500
	P	P	3,230	3,230	3,410	3,410	3,620	3,620	3,840	3,840	4,100	4,100	4,210
	A	A	10.1	10.1	10.3	10.3	10.4	10.4	10.6	10.6	10.9	10.9	11.0
	M	M	43	43	54	54	68	68	84	84	103	103	112
	E	E	2.5	2.5	2.9	2.9	3.5	3.5	4.0	4.0	4.6	4.6	4.9
	%	%	58.0	58.0	58.9	58.9	58.3	58.3	55.9	55.9	51.6	51.6	49.4
20,500													
4,210													
11.0													
112													
4.9													
49.4													
0.0 (6)	C	C	8,350	10,450	12,950	16,000	19,600						
	P	P	2,990	3,160	3,360	3,580	3,840						
	A	A	10.0	10.1	10.2	10.4	10.7						
	M	M	43	54	68	84	103						
	E	E	2.8	3.3	3.9	4.5	5.1						
	%	%	57.0	56.6	54.6	50.7	44.8						
(5.0) (5.1)	C	C	8,750	8,750	10,850	10,850	13,450	13,450	16,600	16,600			
	P	P	2,770	2,770	2,930	2,930	3,130	3,130	3,350	3,350			
	A	A	9.8	9.8	9.9	9.9	10.1	10.1	10.3	10.3			
	M	M	44	44	55	55	68	68	84	84			
	E	E	3.2	3.2	3.7	3.7	4.3	4.3	5.0	5.0			
	%	%	55.1	55.1	53.3	53.3	49.6	49.6	44.0	44.0			
(9.0)													
(4.5)													

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50 Hz Operation

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ZF33K4E-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	9,100	11,200	13,850			
P	2,610	2,770	2,960			
A	9.7	9.8	10.0			
M	44	55	68			
E	3.5	4.1	4.7			
%	53.0	49.7	44.6			

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

ZF33K4E-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):	165.51
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)	11166	7620	Overall Height (mm):	542.04
Power (W):	3830	3490	Mounting Length (mm):	219.71
Current (Amps):	10.6	10.3	Mounting Width (mm):	219.71
EER(BTU/Wh):	16.99	12.74	Mounting Height (mm):	561.09
Mass Flow (lbs/hr):	63.00	42.97	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:	2021-03-22		Net Weight (kg):	100.24
			Internal Free Volume (cm ³):	16993.32
			Horse Power:	10.0
			*Overall compressor height on Copeland Brand Product's specified mounting grommets.	

Electrical		Capacitors					
LRA High* (Amps):	127.0	Type	Part No	Low MFD	High MFD	Volts	User Description
LRA Low*(Amps):		No data available in table					
LRA Half Winding (Amps):							
MCC (Amps):	27						
Max Operating Current (Amps):	22.3						
RLA, MCC/1.4(use for contactor selection)(Amps):	19.3						
RLA, MCC/1.56(use for breaker & wire size selection)(Amps):	17.3						
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	380/420	3	50	Low Temp, Liquid Injected
R-22 HCFC	460	3	60	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	460	3	60	Low Temp, Liquid Injected
R-404A HFC	380/420	3	50	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	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