

# ZP54K3E-TFD

HFC, R-410A, 60Hz, 3- Phase, 460 V

Air Conditioning



**Production Status:** Available for sale to all U.S. customers. Please check with your local Emerson Climate Technologies Representative for international availability.

## Performance

Evap(°C)/Cond(°C)	<u>7.2 / 54.4</u>	<u>7.2 / 37.8</u>
RG(°C)/Liq(°C)	<u>18.3 / 46.1</u>	<u>18.3 / 29.4</u>
Capacity (Watts)	16000	19800
Power (Watts):	5250	3500
Current (Amps):	7.70	5.70
EER (COP):	3.05	5.66
Mass Flow (g/s):	101	105
Sound Power (dBA):	72 Avg	77 Max
Vibration (mm(peak- Vibration (mm(peak- Record Date:	0.051 Avg	0.076 Max
	2009-10-23	

## Mechanical

Number of Cylinders:	0	Displ(cm <sup>3</sup> /Rev):	51.33
Bore Size(mm):	0.00	Displ(meters <sup>3</sup> /hr):	10.78
Stroke(mm):	0.00		
Overall Length (mm):	244.6	Mounting Length (mm):	190.50
Overall Width (mm):	249.4	Mounting Width (mm):	190.50
Overall Height (mm):	454.9	Mounting Height (mm):	461.2 *
Suction Size (mm):		22 7/32 Stub	
Discharge Size (mm):		12 11/16 Stub	
Oil Recharge (ml):		1834	
Initial Oil Charge (ml):		1952	
Net Weight (kg):		38.1	
Internal Free Volume (cm <sup>3</sup> ):		3982.77	
Horse Power:			
*Overall compressor height on Copeland Brand Product's specified mounting grommets.			

## Electrical

LRA-High*:	62.0	MCC (Amps):	14.0	UL File No:	SA-2337
LRA-Half Winding:		RPM:		UL File Date:	26-Jul-1993
LRA Low*:		Max Operating Current:	10.0		
RLA(=MCC/1.4;use for contactor selection):			10		
RLA(=MCC/1.56;use for breaker & wire size			9		
*Low and High refer to the low and high nominal voltage ranges for which the motor is approved.					

## Alternate Applications

Refrigerant	Freq (Hz)	Phase	Voltage	Application
R-410A HFC	50	3	380/420	Air Conditioning

**RATING CONDITIONS**

11.1 K Superheat  
 8.3 K Subcooling  
 35 C Ambient Air Over

60 Hz Operation

# AIR CONDITIONING

**ZP54K3E-TFD**

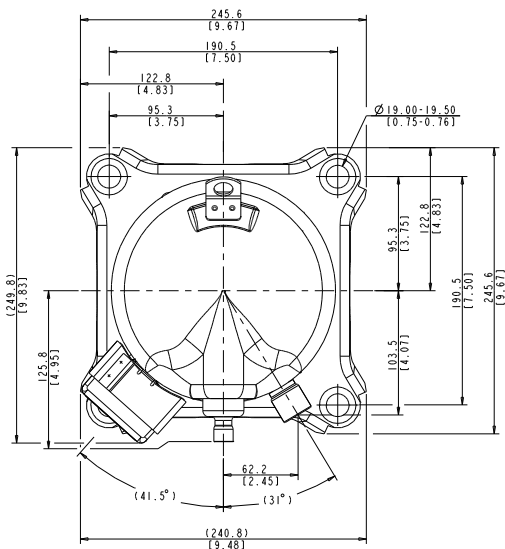
HFC-410A  
 COPELAND SCROLL®  
 TFD 460-3-60

**Evaporating Temperature C (Sat Dew Pt Pressure, bar)**

		-20(4)	-15(4.8)	-10(5.7)	-5(6.8)	0(8)	5(9.3)	7(9.9)	10(10.8)	12(11.5)
Condensing Temperature C (Sat Dew Pt Pressure, bar)	65 (43) C						12050	13050	14750	15900
	P						6800	6750	6700	6650
	A						9.6	9.6	9.5	9.5
	M						89.5	96.5	108	115.5
	E						1.8	1.9	2.2	2.4
	%						59.1	61.4	64.5	66.4
	60 (38) C					10800	13300	14400	16100	17400
	P					6100	6000	6000	5950	5900
	A					8.8	8.7	8.6	8.6	8.5
	M					75	91.5	98.5	109.5	117.5
E					1.8	2.2	2.4	2.7	2.9	
%					57.4	63.3	65.3	67.9	69.4	
55 (34) C				9550	11850	14500	15700	17500	18800	
P				5500	5400	5350	5300	5250	5250	
A				8	7.9	7.8	7.8	7.7	7.7	
M				62.6	77	93	100	111	119	
E				1.7	2.2	2.7	3	3.3	3.6	
%				55.5	61.7	66.9	68.6	70.6	71.6	
50 (31) C			8300	10450	12900	15700	16900	18800	20200	
P			4910	4840	4780	4730	4710	4680	4670	
A			7.3	7.2	7.2	7.1	7.1	7	7	
M			51.8	64.5	78.5	94.5	101.5	112.5	120	
E			1.7	2.2	2.7	3.3	3.6	4	4.3	
%			53.3	60	65.6	69.8	71	72.3	72.8	
45 (27) C		7050	9050	11300	13850	16800	18000	20000	21500	
P		4380	4330	4280	4230	4190	4180	4160	4150	
A		6.7	6.6	6.6	6.5	6.5	6.4	6.4	6.4	
M		42.4	53.7	66	80	96	102.5	113.5	121.5	
E		1.6	2.1	2.6	3.3	4	4.3	4.8	5.2	
%		50.9	58	64	68.7	71.7	72.5	72.9	72.7	
40 (24) C	5900	7750	9800	12150	14800	17800	19100	21300	22800	
P	3880	3860	3820	3780	3750	3710	3700	3690	3680	
A	6.1	6.1	6.1	6	6	5.9	5.9	5.9	5.9	
M	34.2	44.1	55.2	67.5	81.5	97	104	115	122.5	
E	1.5	2	2.6	3.2	4	4.8	5.2	5.8	6.2	
%	48.1	55.7	62.1	67.2	70.8	72.5	72.6	72	71.1	
35 (21) C	6450	8350	10450	12900	15700	18800	20200	22400	24000	
P	3420	3400	3380	3340	3310	3280	3270	3250	3250	
A	5.6	5.6	5.6	5.5	5.5	5.5	5.4	5.4	5.4	
M	35.7	45.5	56.3	68.5	82.5	98	105	116	123.5	
E	1.9	2.5	3.1	3.9	4.7	5.8	6.2	6.9	7.4	
%	52.8	59.7	65.3	69.4	71.7	71.9	71.2	69.3	67.4	
30 (19) C	7000	8900	11100	13600	16500	19800	21300	23600	25200	
P	3010	3000	2970	2940	2910	2870	2860	2850	2840	
A	5.2	5.2	5.2	5.1	5.1	5	5	5	5	
M	36.8	46.4	57.2	69.5	83	99	106	117	124.5	
E	2.3	3	3.7	4.6	5.7	6.9	7.4	8.3	8.9	
%	56.9	63	67.7	70.7	71.5	69.7	68.2	64.7	61.6	

Nominal Performance Values (±5%) based on 72 hours run-in. Subject to change without notice. Current @ 460 V

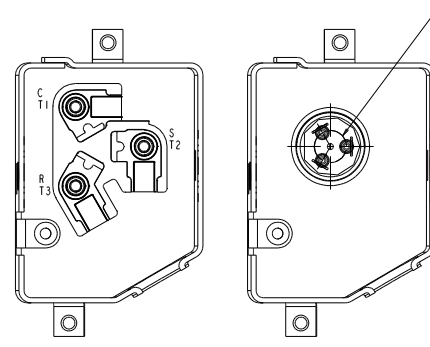
**C:Capacity(Watts), P:Power(W), A:Current(Amps), M:Mass Flow(g/s), E:COP(W/W), %:Isentropic Efficiency(%)**



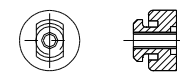
MODEL NUMBER	
①	ZP50K3E-PFV, PFJ, PFZ, TFD, TFE, TF5
②	ZP54K3E-PFV, TFD, TFE, TF5, TF7
③	ZP57K3E-PFV, PFJ, TFD, TF5, TFE, TF7
④	ZP57KCE-PFV
⑤	ZP61KCE-TFD, TFS, TFE, TF7, PFZ
⑥	ZP67KCE-TFD, TFE, TFS, TF7, PFZ
⑦	ZP70KWE-PFV, PFJ, PFK
⑧	ZP72KCE-TFD, TF7, TFS, TFE
⑨	ZP76KCE-TFD, TFS, TFE, TF7
⑩	ZP83KCE-TFD, TFS, TF7
⑪	ZP83KWE-PFV

SPECIFICATIONS	
ES NO.	DESCRIPTION
ES92-155	CONVERSION-METRIC

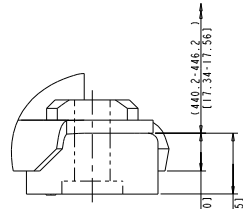
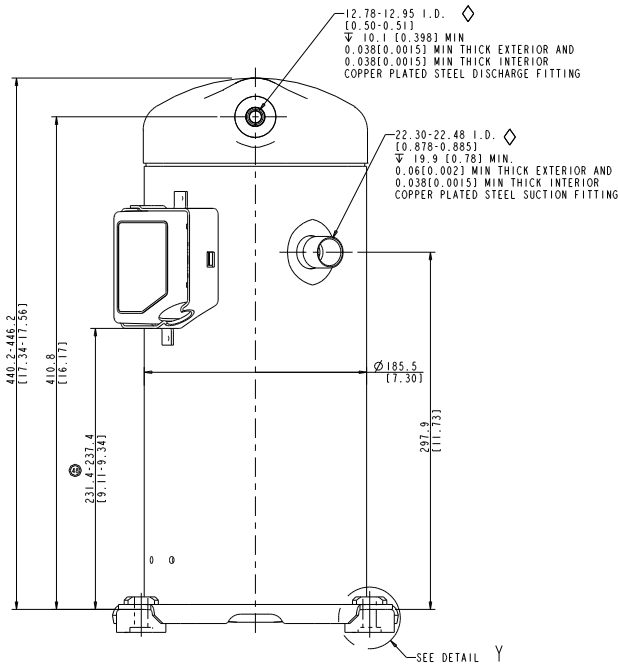
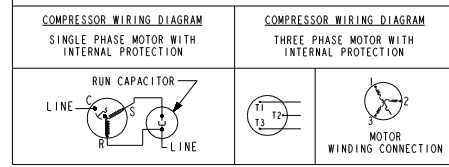
- NOTES:
- △ ALL TOLERANCES ±1.50 (0.060) UNLESS OTHERWISE SPECIFIED.
  - ◇ DUE TO ACCUMULATED ASSEMBLY TOLERANCES THE LISTED COMPONENTS MAY VARY FROM THE MOUNTING HOLES AS SHOWN BELOW:
  - ◇ ALL FITTINGS : ±3.0 (0.12)
  - △ MOUNTING KIT.
  - 3. TUBE ENDS MUST BE PLUGGED.



GROMMET DUROMETER		4 FOOT KIT	
35-45		527-0116-00	



USE COPPER CONDUCTORS ONLY. USE MINIMUM 75° C WIRE FOR AMPACITY DETERMINATION. INTERNAL MOTOR PROTECTION - ALLOW TIME FOR RESET. OVERCURRENT PROTECTION DEVICE RATING AND TYPE MUST BE IN ACCORDANCE WITH REGULATORY AGENCY END PRODUCT APPROVALS - SEE SYSTEM NAMEPLATE - CRANKCASE HEATER, WHEN APPLIED, MUST BE CONNECTED ONLY TO ITS RATED VOLTAGE. TO CORRECT IMPROPER ROTATION OF THREE PHASE SYSTEMS, SWITCH ANY TWO SUPPLY LINES. REFER TO THE APPLICABLE SYSTEM WIRING DIAGRAM.



REV	DESCRIPTION	DATE	BY	CHK	APP
ECN001170	48 ADDED ZP70KWE-PFV MODEL	12-04-11	DMM	BN	KAR
ECN002247	47 DERIVED ZP70KWE-PFV MODEL	09-24-11	INT	MA	KAR
ECN001029	46 ADDED ZP61KCE-PFZ MODEL	06-02-09	CB	BN	BL
ECN000997	45 REBRAN, ADDED ZP76KCE-TFD, TFS, TFE	01-05-09	SHI	LLB	KAR
ECN000868	44 REBRAN, ADDED ZP57KCE-TF7	05-27-08	MPK	CC	KAR
32-0804-924	8 RELEASED	12-08-04	JLJ	SOB	MPK

EMERSON Climate Technologies  
 Copeland

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 MATERIAL SPECIFICATION: N/A  
 DATE: 05-22-08  
 SUPERSEDES: 680-7 REV. NO. 497-2618-00 / 43  
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 DATE FORMAT: MM-DD-YY  
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 SHEET 1 OF 1