

# ZP50K3E-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

<u>Evap(°C)/Cond(°C)</u>	<u>7.2 / 54.4</u>	<u>7.2 / 37.8</u>
<u>RG(°C)/Liq(°C)</u>	<u>18.3 / 46.1</u>	<u>18.3 / 29.4</u>
Capacity (Watts)	15100	18600
Power (Watts):	4890	3240
Current (Amps):	7.20	5.50
EER (COP):	3.08	5.74
Mass Flow (g/s):	95	99
Sound Power (dBA):	72 Avg	77 Max
Vibration (mm(peak- Vibration (mm(peak- Record Date:	0.051 Avg	0.076 Max
	2004-07-13	

## Mechanical

Number of Cylinders:	0	Displ(cm <sup>3</sup> /Rev):	48.24
Bore Size(mm):	0.00	Displ(meters <sup>3</sup> /hr):	10.13
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):		39.46	
Internal Free Volume (cm <sup>3</sup> ):		5802.06	
Horse Power:			
*Overall compressor height on Copeland Brand Product's specified mounting grommets.			

## Electrical

LRA-High*:	62.0	MCC (Amps):	15.0	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):			10.7		
RLA(=MCC/1.56;use for breaker & wire size			9.6		
*Low and High refer to the low and high nominal voltage ranges for which the motor is approved.					

## Alternate Applications

<u>Refrigerant</u>	<u>Freq (Hz)</u>	<u>Phase</u>	<u>Voltage</u>	<u>Application</u>
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

**ZP50K3E-TFD**

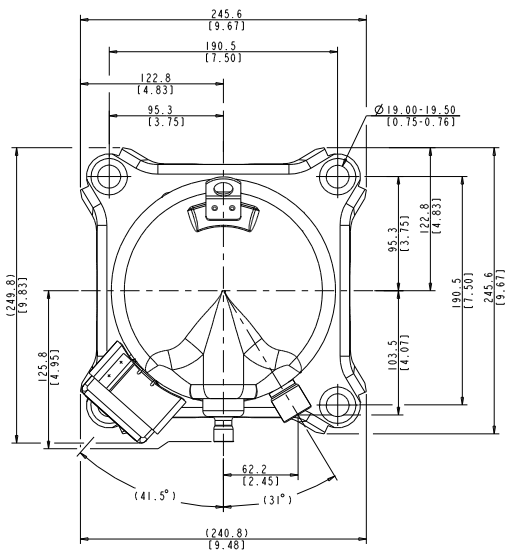
HFC-410A  
 COPELAND SCROLL®  
 TFD 460-3-60

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

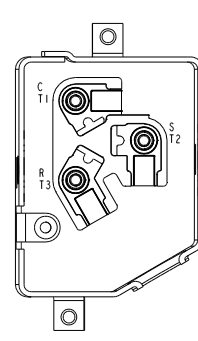
		-20(4)	-15(4.8)	-10(5.7)	-5(6.8)	0(8)	5(9.3)	7(9.9)	10(10.8)	12(11.5)
Condensing Temperature C (Sat Dew Pt Pressure, bar)	65 (43) C						11450	12400	13950	15000
	P						6400	6350	6300	6250
	A						8.8	8.8	8.7	8.7
	M						85	91.5	102	109
	E						1.8	2	2.2	2.4
	%						59.7	62	64.9	66.7
	60 (38) C					10300	12600	13650	15200	16400
	P					5750	5650	5600	5550	5550
	A					8.1	8	8	7.9	7.9
	M					71.5	86.5	93	103.5	110.5
E					1.8	2.2	2.4	2.7	3	
%					58.3	64	65.9	68.4	69.8	
55 (34) C				9100	11300	13750	14800	16500	17700	
P				5150	5050	4990	4960	4930	4920	
A				7.5	7.4	7.3	7.3	7.2	7.2	
M				59.9	73.5	88	94.5	104.5	112	
E				1.8	2.2	2.8	3	3.4	3.6	
%				56.7	62.8	67.7	69.3	71.2	72.1	
50 (31) C			7950	10000	12250	14800	15900	17700	19000	
P			4590	4520	4460	4410	4390	4370	4360	
A			6.9	6.8	6.7	6.7	6.7	6.6	6.6	
M			49.8	61.7	75	89.5	96	106	113	
E			1.7	2.2	2.7	3.4	3.6	4	4.3	
%			54.9	61.4	66.8	70.7	71.8	73	73.3	
45 (27) C		6850	8700	10800	13150	15800	17000	18900	20200	
P		4080	4030	3980	3940	3900	3890	3870	3860	
A		6.4	6.3	6.3	6.2	6.2	6.2	6.1	6.1	
M		41	51.5	63	76	90.5	97	107	114	
E		1.7	2.2	2.7	3.3	4.1	4.4	4.9	5.2	
%		52.9	59.8	65.6	70	72.8	73.4	73.6	73.4	
40 (24) C	5750	7450	9350	11550	14000	16800	18000	20000	21400	
P	3610	3580	3550	3510	3470	3440	3430	3420	3410	
A	5.9	5.9	5.8	5.8	5.8	5.7	5.7	5.7	5.7	
M	33.3	42.6	52.8	64	77	91.5	98	108	115	
E	1.6	2.1	2.6	3.3	4	4.9	5.3	5.8	6.3	
%	50.5	57.9	64.1	68.9	72.3	73.7	73.7	72.9	71.8	
35 (21) C	6300	8000	10000	12250	14800	17700	19000	21100	22500	
P	3160	3150	3120	3090	3060	3030	3020	3010	3000	
A	5.5	5.4	5.4	5.4	5.4	5.3	5.3	5.3	5.3	
M	34.7	43.8	53.8	65	78	92.5	98.5	108.5	116	
E	2	2.5	3.2	4	4.8	5.9	6.3	7	7.5	
%	55.5	62.2	67.5	71.3	73.4	73.3	72.5	70.4	68.4	
30 (19) C	6750	8550	10600	12900	15600	18600	20000	22100	23700	
P	2770	2760	2740	2710	2670	2640	2630	2620	2610	
A	5.1	5.1	5.1	5.1	5	5	5	4.9	4.9	
M	35.7	44.6	54.5	66	78.5	93	99.5	109.5	117	
E	2.4	3.1	3.9	4.8	5.8	7.1	7.6	8.5	9.1	
%	59.8	65.7	70.1	72.8	73.4	71.4	69.7	66	62.8	

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

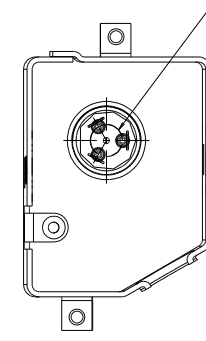
**C:Capacity(Watts), P:Power(W), A:Current(Amps), M:Mass Flow(g/s), E:COP(W/W), %:Isentropic Efficiency(%)**



MODEL NUMBER	
①	ZP50K3E-PFV, PFJ, PFZ, TFD, TFE, TFS
②	ZP54K3E-PFV, TFD, TFE, TFS, TF7
③	ZP57K3E-PFV, PFJ, TFD, TFS, 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



T-BOX LAYOUT  
OPTIONAL  
SCALE 3:2



T-BOX LAYOUT  
STANDARD  
SCALE 3:2

Ø13.46 PIN CIRCLE  
(0.530)  
MODELS: PFV, PFJ, TFV, TFS, PFZ, PFX ①②③④⑤⑥⑦⑧⑨⑩⑪

Ø17.45 PIN CIRCLE  
(0.687)  
MODELS: TFD, TFE, TFM, TF7

NOTES:

△ ALL TOLERANCES ±1.50 (0.060) UNLESS OTHERWISE SPECIFIED.

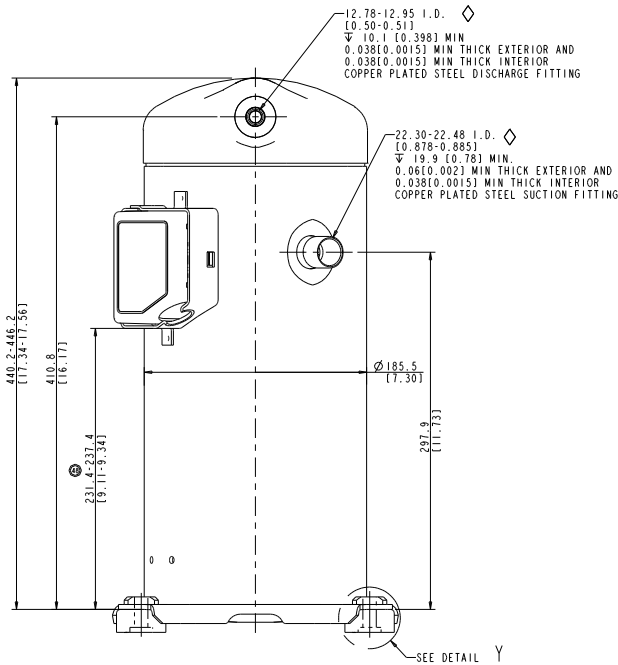
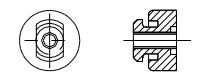
◇ DUE TO ACCUMULATED ASSEMBLY TOLERANCES THE LISTED COMPONENTS MAY VARY FROM THE MOUNTING HOLES AS SHOWN BELOW:

◇ ALL FITTINGS : ±3.0 (0.12)

△ MOUNTING KIT.

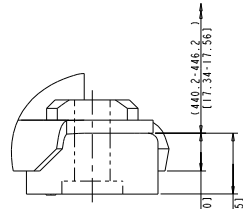
3. TUBE ENDS MUST BE PLUGGED.

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



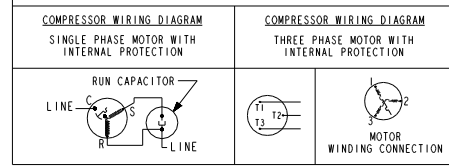
12.78-12.95 I.D. ◇  
(0.50-0.51)  
▽ 10.1 (0.398) MIN  
0.038(0.0015) MIN THICK EXTERIOR AND  
0.038(0.0015) MIN THICK INTERIOR  
COPPER PLATED STEEL DISCHARGE FITTING

22.30-22.48 I.D. ◇  
(0.878-0.885)  
▽ 19.9 (0.78) MIN.  
0.06(0.002) MIN THICK EXTERIOR AND  
0.038(0.0015) MIN THICK INTERIOR  
COPPER PLATED STEEL SUCTION FITTING



DETAIL Y  
SCALE 2:1

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	CHKD
1	ISSUED FOR PRODUCTION	05-22-98	MPK	CC
2	REWORK, ADDED ZP76KCE-TFD, TFS, TFE	06-02-99	WHI	LLB
3	REWORK, ADDED ZP57KCE-TFD, TFE, TFS, TFE	05-27-00	MPK	CC
4	REWORK, ADDED ZP57KCE-TFD, TFE, TFS, TFE	05-27-00	MPK	CC
5	RELEASED	05-22-98	MPK	CC

EMERSON Climate Technologies

Capelton

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DATE: 05-22-98

SCALE: 3:2

SUPERSEDES: 497-2618-00 / 43

TITLE: REF DWG-WELD COMP ASSM

DRAWING NUMBER: 497-2618-00

SHEET 1 OF 1