

ZB38KCE-TFD

HCFC, R-22, 60 Hz, 3 -Phase, 460 V

High Temp



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

Performance

Evaporator Temp. (°F)	45	20
Condensing Temp. (°F)	130	120
Return Gas Temp. (°F)	65	65
Liquid Temp. (°F)	130	120
Capacity (Btu/hr)	57500	37000
Power (W):	5400	4700
Current (Amps):	8.30	7.50
EER (Btu/Wh):	10.60	7.90
Mass Flow (lbs/hr):	905	540
<u>Sound Data @</u>		
Sound Power (dBA):	74 Avg	79 Max
Vibration mils(peak-peak):	2.0 Avg	3.0 Max
Record Date:	2009-10-14	

Electrical

LRA-High*(Amp):	63.0
LRA Low* (Amp):	
LRA-Half Winding (Amp):	
MCC (Amps):	12.5
Max Operating Current(Amp):	12.8
RLA, MCC/1.4;use for contactor selection (Amp):	8.9
RLA, MCC/1.56;use for breaker & wire size selection (Amp):	8.0
RPM:	3500
UL File No:	
UL File Date:	
*Low and High refer to the low and high nominal voltage ranges for which the motor is approved.	

Mechanical

Displacment(in^3/Rev):	5.04
Displacment(ft^3/hr):	612.50
Overall Length (in):	10.12
Overall Width (in):	9.67
Overall Height (in):	17.23
Mounting Length (in):	7.50
Mounting Width (in):	7.50
Mounting Height (in):	17.98 *
Suction Size (in),Type:	7/8 Stub
Discharge Size (in),Type:	1/2 Stub
Initial Oil Charge (oz):	64
Oil Recharge (oz):	60
Net Weight (lbs):	82.5
Internal Free Volume (in^3):	256.0
Horse Power:	5.00
*Overall compressor height on Copeland Brand Product's specified mounting grommets.	

Capacitors

Alternate Applications

Refrigerant	Voltage	Phase	Freq (Hz)	Application
R-134a HFC	460	3	60	High Temp
R-134a HFC	380/420	3	50	High Temp
R-404A HFC	460	3	60	Medium Temperature
R-404A HFC	380/420	3	50	Medium Temperature
R-507 HFC	460	3	60	Medium Temperature
R-507 HFC	380/420	3	50	Medium Temperature
R-22 HCFC	380/420	3	50	High Temp
R-407C HFC	460	3	60	High Temp
R-407C HFC	380/420	3	50	High Temp
R-407A HFC	460	3	60	Medium Temperature

Alternate Applications

<u>Refrigerant</u>	<u>Voltage</u>	<u>Phase</u>	<u>Freq (Hz)</u>	<u>Application</u>
R-407A HFC	380/420	3	50	Medium Temperature
R-407F HFC	460	3	60	Medium Temperature
R-407F HFC	380/420	3	50	Medium Temperature
R-448A HFO	460	3	60	Medium Temperature
R-448A HFO	380/420	3	50	Medium Temperature
R-449A HFO	460	3	60	Medium Temperature
R-449A HFO	380/420	3	50	Medium Temperature

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Accessories

<u>Category</u>	<u>PartNumber</u>	<u>Description</u>
Crankcase Heaters	018-0095-00	Crankcase Heater, 240V, 70W, 21" Lead Length
	018-0095-01	Crankcase Heater, 480V, 70W, 21" Lead Length
	018-0095-02	Crankcase Heater, 575V, 70W, 21" Lead Length
	018-0095-03	Crankcase Heater, 240V, 70W, 32" Lead Length
	018-0095-04	Crankcase Heater, 240V, 70W, 48" Lead Length
	018-0095-05	Crankcase Heater, 480V, 70W, 48" Lead Length
	018-0095-06	Crankcase Heater, 575V, 70W, 48" Lead Length
	018-0095-07	Crankcase Heater, 120V, 70W, 48" Lead Length
	018-0095-08	Crankcase Heater, 400V, 70W, 48" Lead Length
	018-0095-09	Crankcase Heater, 277V, 70W, 21" Lead Length
	918-0043-00	Crankcase Heater Kit, 240V, 70W, Wrap Around, 48" Lead Length
	918-0043-01	Crankcase Heater Kit, 480V, 70W, Wrap Around, 48" Lead Length
	918-0043-02	Crankcase Heater Kit, 575V, 70W, Wrap Around, 48" Lead Length
	918-0043-07	Crankcase Heater Kit, 120V, 70W, Wrap Around, 48" Lead Length
	998-7024-00	Crankcase Heater Enclosure Box
Discharge Line	998-0166-00	Topcap Thermistor Kit
	998-0540-00	Discharge Line Thermostat Kit, 1/2" DLT-Stat 12" Leads, 2-Wire
	998-0540-02	Discharge Line Thermostat Kit, 1/2" DLT-Stat 36" Leads, 2-Wire
	998-0548-00	Discharge Line Thermostat Kit, 1/2" DLT-Stat 36" Leads With Alarm
	998-0548-01	Discharge Line Thermostat Kit, 3/4" DLT-Stat 36" Leads With Alarm
	998-7022-02	Discharge Line Thermostat Kit, 1/2", 36" Leads (Conduit Ready)
	998-7022-04	Discharge Line Thermostat Kit, 5/8", 36" Leads (Conduit Ready)

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04/17/2017

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<u>Category</u>	<u>PartNumber</u>	<u>Description</u>
	998-7022-07	Discharge Line Thermostat Kit, 3/4", 36" Leads (Conduit Ready)
Electrical	085-0160-00	3 Phase Voltage Monitor. For use with all Copeland 3 Phase Compressors. Consult model family nomenclature for electrical definition in the model number.
Miscellaneous	085-CP2M-7K	Dual High and Low Pressure Cut-Out Control
	998-E022-01	Polyol Ester Oil. Approved for use with specific Copeland Hermetic & Semi Hermetic models. Consult specific model family nomenclatures for oil identifier in the model number.
Mounting	527-0116-00	Spacer Mounting Kit, 30-35 Durometer, 1.45" OD, 0.44" ID, 0.75" Height
	527-0157-00	High Durometer Mount Kit, 60-70 Durometer, 1.62" OD, 0.44" ID, 1.16" Height
	527-0158-00	Hard Mount Kit, 1.42" OD, 0.34" ID, 0.92" Height
Oil Management	65365	Oil Management Control w/ Junction Box 24V, 50/60Hz
	65366	Oil Management Control w/ Series Relief Connector 24V, 50/60Hz
	65668	Oil Management, OMB Adapter (3/4" NPT)
	66650	Oil Management, OMB Adapter (1 1/4"-12 Rotalock)
Service Valves and	998-0034-02	Stub Tube to Rotalock, 7/8" Sweat to 1 1/4"-12 Thread
	998-0034-07	Rotalock to Stub Tube Adapter, 1 1/4"-12 Thread to 3/4" Sweat
	998-0034-08	Rotalock to Stub Tube Adapter, 1 1/4"-12 Thread to 7/8" Sweat
	998-0034-09	Rotalock to Stub Tube Adapter, 1 1/4"-12 Thread to 1 1/8" Sweat
	998-0034-15	Stub Tube to Rotalock, 1/2" Sweat (OD Applied) to 1"-14 Thread
	998-0034-17	Rotalock to Stub Tube Adapter, 1"-14 Thread to 5/8" Sweat
	998-0034-18	Rotalock to Stub Tube Adapter, 1"-14 Thread to 1/2" Sweat
	998-0069-00	Stub Tube to Rotalock, 7/8" Sweat to 1 1/4"-12 Thread and 1/2" Sweat to 1"-14 Thread
	998-0510-39	Service Valve Kit, 1 1/4"-12 Thread to 7/8" Sweat
	998-0510-41	Service Valve Kit, 1"-14 Thread to 5/8" Sweat
	998-0510-69	Service Valve Kit, 1 1/4"-12 Thread to 5/8" Sweat
	998-0510-89	Service Valve Kit, 1"-14 Thread to 7/8" Sweat
	998-0510-90	Service Valve Kit, 1 1/4"-12 Thread to 7/8" Sweat
	998-0510-98	Service Valve Kit, 1"-14 Thread to 1/2" Sweat
	998-5100-48	Service Valve Kit, 1 1/4"-12 Thread to 7/8" Sweat and 1"-14 Thread to 1/2" Sweat

<u>Category</u>	<u>PartNumber</u>	<u>Description</u>
	998-5100-61	Service Valve Kit, 1 1/4"-12 Thread to 7/8" Sweat and 1 1/4"-12 Thread to 5/8" Sweat
	998-5100-62	Service Valve Kit, 1 1/4"-12 Thread to 7/8" Sweat and 1 1/4"-12 Thread to 3/4" Sweat

Common U.S. OEM Bill Of Materials

	Suction Connection	Suction Size	Discharge Connection	Discharge Size	Electrical Connection	Mounting Assembly	Sight Glass	Crankcase Heater	Schraeder Valve	Tandem Ready	Module Voltage
210	Stub	7/8"	Stub	1/2"	SCREW 1/2 Conduit	-	-	-	-	-	-
250	Stub	7/8"	Stub	1/2"	SCREW 1/2 Conduit	-	Yes	-	-	-	-
25A						-	-	-	-	-	-
265	Rotalock	1 1/4"	Rotalock	1"	SCREW 1/2 Conduit	-	Yes	-	-	-	-

Common U.S. Service Bill Of Materials

	Suction Connection	Suction Size	Discharge Connection	Discharge Size	Electrical Connection	Mounting Assembly	Sight Glass	Crankcase Heater	Schraeder Valve	Tandem Ready	Module Voltage
950	Stub	7/8"	Stub	1/2"	SCREW 1/2 Conduit	Yes	Yes	-	-	-	-
965	Rotalock	1 1/4"	Rotalock	1"	SCREW 1/2 Conduit	Yes	Yes	-	-	-	-

* Note: For all other Bill Of Material descriptions (Including International and Customer Specific Bills of Materials) contact your sales representative or the Application Engineering Department.

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Electrical Components

Internal Protector					
Part No:	071-0519-10	Usage Description			
<u>Vendor Part Number</u>		<u>Vendor Name</u>			
35HM231		SENSATA			

Internal Protector					
Part No:	071-0519-39	Usage Description	ALTERNATE MOTOR		
<u>Vendor Part Number</u>		<u>Vendor Name</u>			
35HM269		SENSATA			

Stator		546-2093-10	Usage Description		
Resistance:	+/-7%	Line to Line:	2.72	Line to Wye:	0.00

Stator		546-2011-06	Usage Description	ALTERNATE MOTOR	
Resistance:	+/-7%	Line to Line:	2.74	Line to Wye:	0.00

Rating Conditions

65 °F Return Gas
0 F Subcooling
95 °F Ambient Air Over

60 Hz Operation

**HIGH
TEMPERATURE**

ZB38KCE-TFD

HCFC-22

COPELAND SCROLL®

TFD 460-3-60

Condensing Temperature °F
(Sat. Dew Pt. Pressure, psig)

Evaporating Temperature °F (Sat. Dew Pt. Pressure, psig)

		10.0 (33)	15.0 (38)	20.0 (43)	25.0 (49)	30.0 (55)	40.0 (69)	45.0 (76)	50.0 (84)	55.0 (93)
150.0 (382)	C P A M E %						44,800 6,750 9.9 796 6.6 63.3	49,400 6,800 9.9 884 7.3 65.0	54,500 6,800 9.9 980 8.0 66.4	59,500 6,800 10.0 1,086 8.8 67.7
140.0 (337)	C P A M E %						48,500 6,050 9.0 810 8.0 66.3	53,500 6,050 9.1 898 8.8 67.6	59,000 6,100 9.1 995 9.7 68.6	64,500 6,100 9.1 1,100 10.6 69.4
130.0 (297)	C P A M E %				38,500 5,300 8.2 597 7.3 64.1	42,700 5,350 8.2 666 8.0 65.9	52,000 5,400 8.3 823 9.7 68.6	57,500 5,400 8.3 911 10.6 69.4	63,000 5,450 8.4 1,008 11.6 69.9	69,000 5,450 8.4 1,112 12.6 69.9
120.0 (260)	C P A M E %			37,000 4,700 7.5 543 7.9 64.9	41,200 4,730 7.6 607 8.7 66.7	45,700 4,770 7.6 677 9.6 68.2	55,500 4,830 7.7 834 11.5 69.9	61,000 4,860 7.7 923 12.6 70.1	67,000 4,890 7.7 1,019 13.7 69.7	73,500 4,920 7.8 1,122 14.9 68.9
110.0 (226)	C P A M E %	31,400 4,130 6.9 437 7.6 63.2	35,200 4,160 7.0 491 8.5 65.4	39,300 4,200 7.0 551 9.4 67.2	43,800 4,230 7.0 616 10.4 68.6	48,500 4,260 7.1 686 11.4 69.6	59,000 4,330 7.1 843 13.7 69.8	65,000 4,360 7.2 932 14.9 69.1	71,000 4,400 7.2 1,027 16.1 67.7	77,500 4,450 7.3 1,130 17.5 65.7
100.0 (196)	C P A M E %	33,300 3,690 6.5 443 9.0 65.5	37,300 3,710 6.5 499 10.0 67.3	41,600 3,740 6.6 559 11.1 68.7	46,300 3,770 6.6 623 12.3 69.5	51,500 3,810 6.6 693 13.5 69.6	62,500 3,890 6.7 850 16.0 68.0	68,500 3,940 6.7 938 17.3 66.1	74,500 3,990 6.8 1,033 18.7 63.4	81,500 4,050 6.9 1,134 20.1 60.0
90.0 (168)	C P A M E %	35,100 3,280 6.1 449 10.7 67.0	39,300 3,310 6.2 505 11.9 68.3	43,900 3,340 6.2 565 13.1 68.9	48,700 3,370 6.2 629 14.4 68.8	54,000 3,410 6.2 699 15.8 67.9	65,500 3,520 6.3 855 18.6 63.8	71,500 3,580 6.4 942 20.0 60.5	78,000 3,650 6.5 1,035 21.4 56.4	85,000 3,720 6.6 1,136 22.9 51.5
80.0 (144)	C P A M E %	36,900 2,920 5.8 454 12.7 67.5	41,300 2,940 5.8 510 14.0 68.0	45,900 2,980 5.9 569 15.4 67.5	51,000 3,020 5.9 633 16.9 66.2	56,500 3,070 5.9 702 18.3 64.0	68,000 3,200 6.1 857 21.3 56.9	74,500 3,280 6.1 943 22.7 52.0	81,000 3,370 6.2 1,035 24.1 46.3	88,500 3,470 6.4 1,134 25.5 39.9
70.0 (121)	C P A M E %	38,600 2,590 5.5 458 14.9 66.6	43,100 2,620 5.6 513 16.5 65.8	47,900 2,660 5.6 572 18.0 64.0	53,000 2,710 5.6 635 19.5 61.2	58,500 2,780 5.7 704 21.1 57.4	70,500 2,940 5.8 856 24.0 46.9	77,000 3,040 5.9 940 25.3 40.4		

C: Capacity (Btu/hr), P: Power (W), A: Current (Amps), M: Mass Flow (lb/hr), E: EER (Btu/Wh), %: Isentropic Efficiency (%)

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

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Service Parts

<u>Reference</u>	<u>Component</u>	<u>Quantity</u>	<u>Description</u>	<u>Comment</u>
2	527-0116-00	1	SPACER-MOUNTING ASSM	
	910-0715-00	1	OIL ADJUSTMENT VALVE KIT	
1	918-0043-00	1	HEATER-CRANKCASE	240V 70W WRAP AROUND
1	918-0043-01	1	HEATER-CRANKCASE	480V 70W WRAP AROUND
99	921-0235-00	1	CONNECTOR BLOCK KIT	
11	998-0010-02	1	ALL REF SCROLL SG KIT	
13	998-0034-02	1	ADAPTR 7/8 ID TO 11/4-12	SWEAT TO ROTALOCK ADAPTER KIT
13	998-0034-08	1	ADPTR 11/4-12 TO 7/8 ID	ROOTALOCK TO SWEAT ADAPTER KIT
13	998-0034-15	1	ADAPTER 1/2 ID TO 1-14	SWEAT TO ROTALOCK ADAPTER KIT
13	998-0034-18	1	ADAPTER 1-14 TO 1/2 ID	ROOTALOCK TO SWEAT ADAPTER KIT
8	998-0510-90	1	SERV VALVE KIT 7/8 SWT	SUCTION ROTALOCK
7	998-0510-98	1	SERV VALVE KIT 1/2 SWT	DISCHARGE ROTALOCK
9	998-7024-00	1	HEATER JUNCTION BOX KIT	