

ZRU178KCE-TFD

HCFC, R-22, 50 Hz, 3 - Phase, 380/420 V

Air Conditioning

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

Summary

Performance		
Evaporator Temp. (°F)	45.00	35
Condensing Temp. (°F)	130.00	120
Return Gas Temp. (°F)	65.00	55
Liquid Temp. (°F)	115.00	105
Capacity (BTU/hr)	149500	129500
Power (W):	12850	11350
Current (Amps):	24	21.8
EER(BTU/Wh):	11.6	11.4
Mass Flow (lbs/hr):	2190	1835
Sound Data @		
Sound Power (dBA):	80 Avg	85 Max
Vibration mils(peak-peak):	2.5 Avg	4.0 Max
Record Date:	2016-06-20	
Mechanical		
Displacement (in^3/Rev):	14.69	
Displacement (ft^3/Hr):		
Overall Length (in):	29.40	
Overall Width (in):	17.10	
Overall Height (in):	20.50	
Mounting Length (in):	19.80	
Mounting Width (in):	10.00	
Mounting Height (in):	20.90	

Suction Size (in),Type:	1 5 / 8 Stub
Discharge Size (in),Type:	1 3 / 8 Stub
Initial Oil Charge (oz):	170
Oil Recharge (oz):	162
Oil Type:	
Net Weight (lbs):	270.6
Internal Free Volume (in^3):	

*Overall compressor height on Copeland Brand Product's specified mounting grommets.

Electrical

LRA High* (Amps):	
LRA Low*(Amps):	
LRA Half Winding (Amps):	
MCC (Amps):	
Max Operating Current (Amps):	
RLA, MCC/1.4(use for contactor selection)(Amps):	1.0
RLA, MCC/1.56(use for breaker & wire size selection)(Amps):	
RPM:	2900
Box IP :	
UL File No:	SA-2337
UL File Date:	1996-09-27

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

Capacitors

Type	Part No	Low MFD	High MFD	Volts	User Description
No data available in table					

Alternate Applications

Refrigerant	Voltage	Phase	Frequency	Application
R-22 HCFC	460	3	60	Air Conditioning

Service Parts

Service Parts				
Reference	Component	Quantity	Description	Comment
99	527-0177-00	1	SPACER-MOUNTING KIT	
99	918-0047-00	2	HEATER-CRANKCASE	120V 90W WRAP AROUND
99	918-0047-01	2	HEATER-CRANKCASE	240V 90W WRAP AROUND
99	918-0047-02	2	HEATER-CRANKCASE	480V 90W WRAP AROUND
99	ZR84KCE-TFD-950	1	WELD COMP	
99	ZR94KCE-TFD-950	1	WELD COMP	

Accessories

Accessories		
Category	Part Number	Description
Miscellaneous	020-0028-02	1 1/4" - 12 discharge valve seal
Service Valves and Adapters	510-0330-01	1 1/8" suction valve (solder)
Miscellaneous	020-0028-03	1 3/4" - 12 valve seal
Service Valves and Adapters	510-0080-04	3/4" discharge valve (solder)
Service Valves and Adapters	510-0080-07	7/8" discharge valve (solder)
Service Valves and Adapters	510-0330-00	Discharge Valve-Rotalock Assm
Service Valves and Adapters	998-0510-46	Service Valve Kit, 1 3/4"-12 Thread to 1 3/8" Sweat
Service Valves and Adapters	998-5100-27	Service Valve Kit, 1 3/4"-12 Thread to 1 3/8" Sweat and 1 1/4"-12 Thread to 7/8" Sweat

Category	Part Number	Description
Service Valves and Adapters	998-0510-38	Service Valve Kit, Includes 3/4" Rotalock Service Valve and 1 1/4"-12 Valve Seal
Service Valves and Adapters	998-5100-24	Suction & Discharge Valve Kit, includes rotalock suction and discharge service valves and seals. 1 1/8" Suction Valve, 3/4" Discharge Valve, 1 3/4" - 12 Suction Valve Seal, 1 1/4" - 12 Discharge Valve Seal

Electrical Components

No associated data for this model.

Nomenclature

ZRU178KCE-TFD
Family Series Z: Scroll
Application Range R: A/C - R-22/407C/134a
Modulation U: Uneven Tandem U: Uneven Tandem
Capacity 178K: Capacity Multiplier-1000
Model Variation C: Model Variation
Oil Type E: Polyol Ester

Miscellaneous

Alternate Application				
Refrigerant	Freq	Phase	Voltage	Application
HCFC R-22	60	3 Ø	460 V	AC
Tandem Component Compressors				
ZR84KCE-TFD				
ZR94KCE-TFD				

Bill-of-Materials

ZRU178KCE-TFD - BILL OF MATERIALS

272 - Common U.S. OEM Bill Of Materials

Suction Connection	Stub
Suction Size	1 5/8"
Discharge Connection	Stub
Discharge Size	1 3/8"
Electrical Connection	Terminal Block
Mounting Assembly	Available
Sight Glass	
Crankcase Heater	
Schrader Valve	
Tandem Ready	
Module Voltage	
Reference Drawing	497-0537-00-01.v01.pdf

275 - Common U.S. OEM Bill Of Materials

Suction Connection	Stub
Suction Size	1 5/8"
Discharge Connection	Stub
Discharge Size	1 3/8"
Electrical Connection	Terminal Block
Mounting Assembly	Available
Sight Glass	
Crankcase Heater	
Schrader Valve	
Tandem Ready	
Module Voltage	

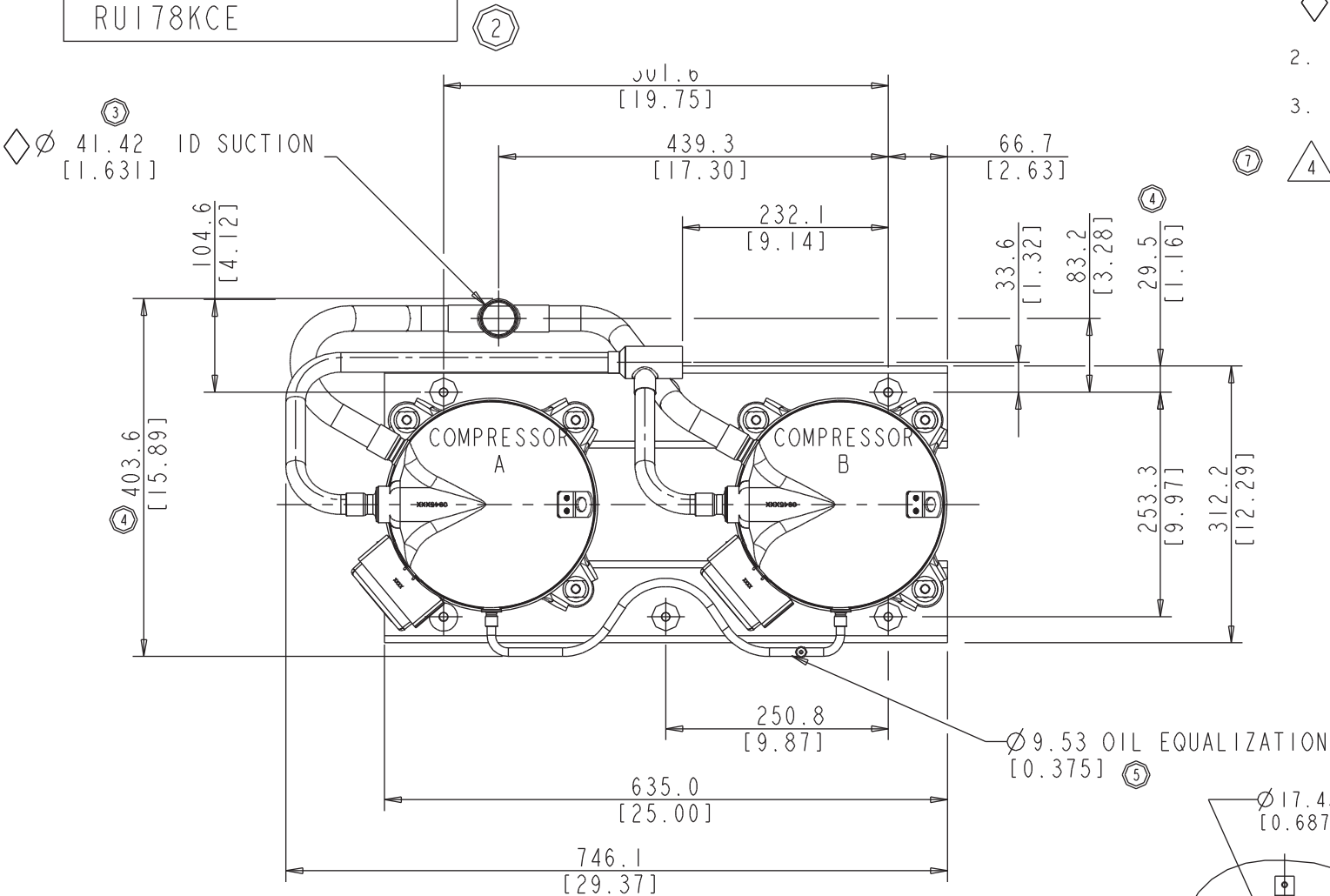
Reference Drawing

[497-0537-04-01.v01.pdf](#)

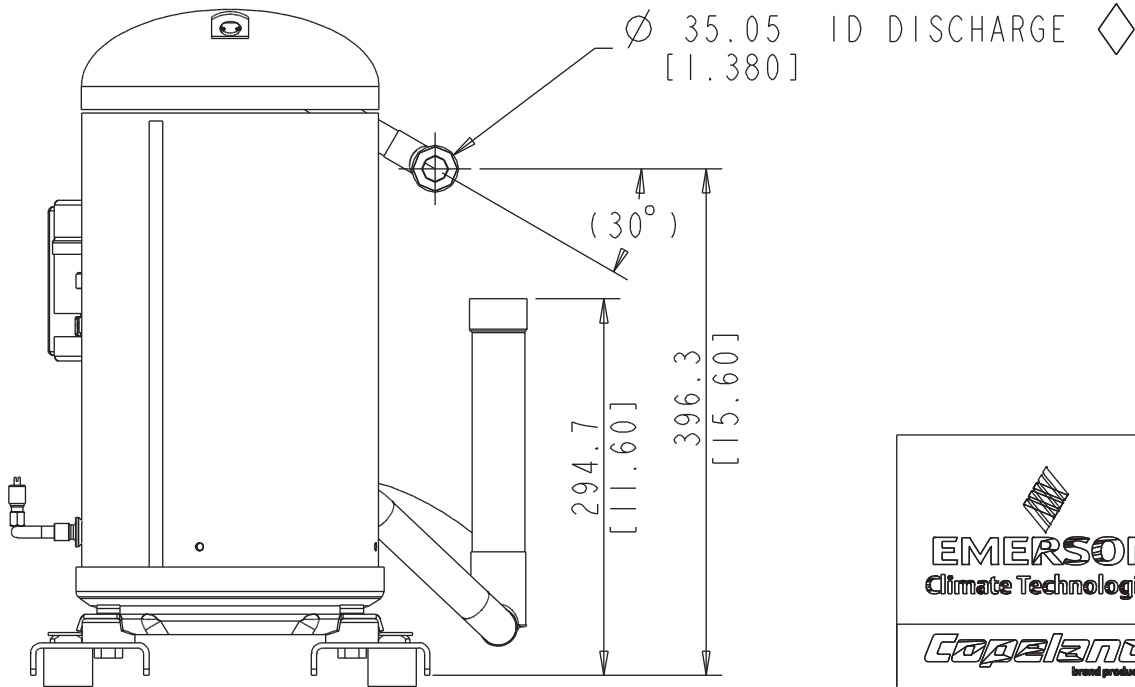
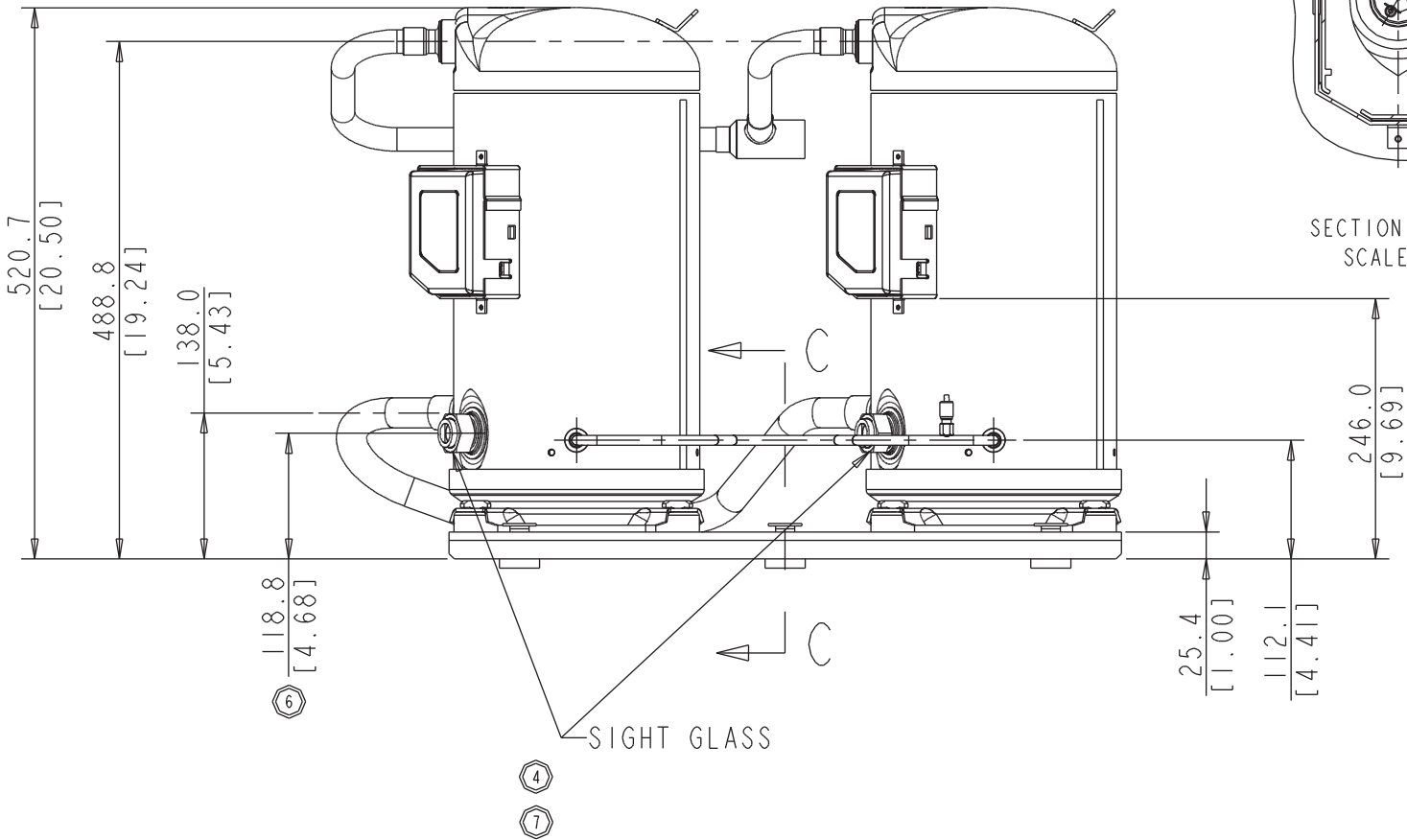
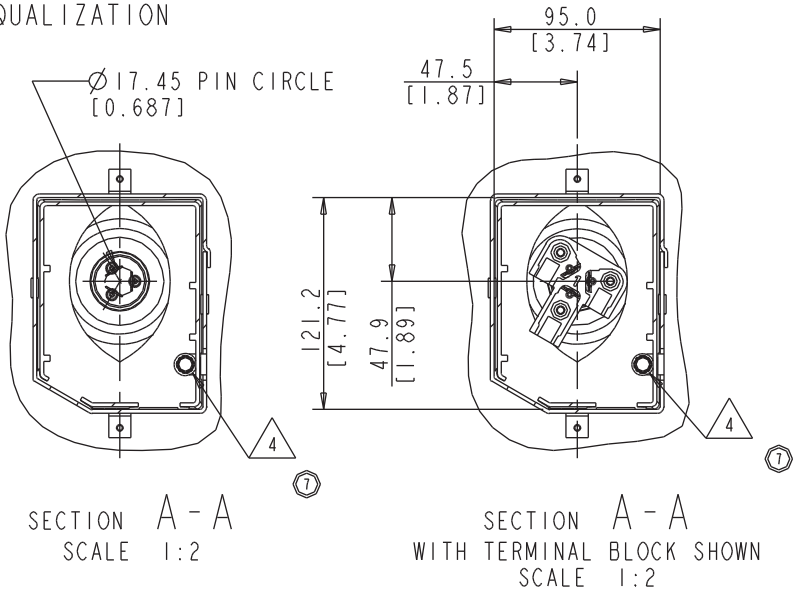
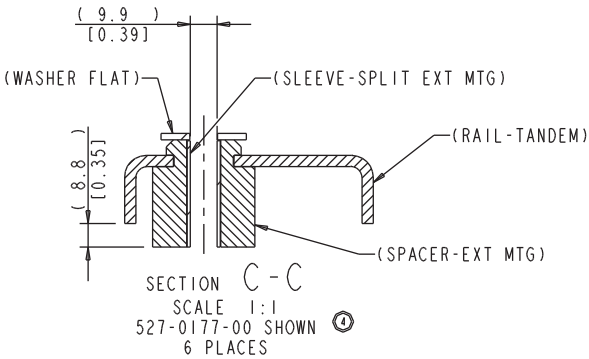
975 - Common U.S. Service Bill Of Materials

Suction Connection	Stub
Suction Size	1 5/8"
Discharge Connection	Stub
Discharge Size	1 3/8"
Electrical Connection	Terminal Block
Mounting Assembly	Available
Sight Glass	
Crankcase Heater	
Schrader Valve	
Tandem Ready	
Module Voltage	
Reference Drawing	497-0537-04-01.v01.pdf

MODEL NUMBER
RTI68KC/KCE
RTI88KC/KCE
PTI80KCE
RUI78KCE

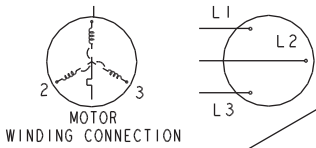


- NOTES:
- ④ 1 ALL TOLERANCES ± 1.5 [0.06] UNLESS OTHERWISE SPECIFIED. DUE TO ACCUMULATED ASSEMBLY TOLERANCES THE LISTED COMPONENTS MAY VARY FROM THE MOUNTING HOLES AS TABULATED.
 - ◇ SUCTION FITTING ± 3.0 [0.12]
 - ◇ DISCHARGE FITTING ± 3.0 [0.12]
 - 2. MOUNTING KIT: 527-0177-00
 - 3. TUBE ENDS MUST BE PLUGGED.
 - ⑦ 4 GROUNDING SCREW AND WASHER PER BOM



COMPRESSOR WIRING DIAGRAM THREE PHASE MOTOR WITH INTERNAL PROTECTION

USE COPPER CONDUCTORS ONLY. USE THIS EQUIPMENT ON A GROUNDING SYSTEM ONLY. USE MINIMUM 75° C WIRE FOR AMPACITY DETERMINATION. INTERNAL MOTOR PROTECTION- ALLOW TIME FOR RESET. PRIMARY SINGLE PHASE FAILURE PROTECTION IS PROVIDED. CRANKCASE HEATER, WHEN APPLIED, MUST BE CONNECTED ONLY TO ITS RATED VOLTAGE. OVERCURRENT PROTECTION DEVICE RATING AND TYPE MUST BE IN ACCORDANCE WITH REGULATORY AGENCY END PRODUCT APPROVALS - SEE SYSTEM NAMEPLATE. TO CORRECT IMPROPER MOTOR ROTATION, SWITCH ANY TWO SUPPLY LINES.



INTERPRET PER ASME Y14.5M-1994 AND EMERSON CLIMATE TECHNOLOGIES, INC. DESIGN STANDARDS DS2002 DO NOT SCALE DRAWING

CRITICAL PRODUCT CHARACTERISTIC

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE MILLIMETER OR (INCH) TOLERANCES:

1-PLACE $\pm$ N/A
2-PLACE $\pm$ N/A
ANGULAR $\pm$ N/A

ECN001988	7	ADDED NOTES AND CHANGED SIGHT GLASS	01-20-11	LG	MD	VC
ECN001607	6	UPDATE SIGHT GLASS VERTICAL DIMENSION	09-28-09	XHT	LLB	KJF
ECN001607	5	UPDATE DRAWING WITH ASSM-OIL EQUALIZATION	07-31-09	XHT	LLB	KJF
ECN001411	4	UPDATED NOTES & SCHEMATIC	11-12-08	PBM	LLB	KJF
ECN000052	3	PICTORIALLY UPDATED STEEL SPACERS	08-08-07	PTM	NJG	KJF
ECN000052	2	ADDED MODEL ZRUI78KCE	06-27-07	PTM	NJG	KJF
ECN000052	1	CHANGED TPTL TUBE ASSEMBLY	01-18-07	PNA	LLB	KJF
ECN000052	0	RELEASED	05-02-06	NJG	CWK	RS**
ENG NOTICE NO.	REV. NO.	REVISIONS		DATE	BY	CHKD APP
CONFIDENTIALITY NOTICE						
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MATERIAL SPECIFICATION		DRAWN BY	SUPERSEDES DWG. NO. / REV. NO.			
N/A		NJG	/			
		DATE				
		05-02-06	SCALE	DATE FORMAT:		
			1:4	MM-DD-YY		
TITLE			DRAWING NUMBER	SHEET 1 OF 1		
REF DWG-WELD COMP ASM			497-0537-04	DN		
				L		