NORTEK GLOBAL HVAC

Revision: P-COND (02-22) 268631-B

Supersedes: P-COND (04-21) 268631-A

REPLACEMENT PARTS FOR CONDENSING UNIT

MODEL MASA

TABLE OF CONTENTS

IMPORTANT

1. Always include complete model and serial number so that any specification change can be considered for parts replacement. It can save time and expense.
2. In keeping with our policy of continuous product improvement, we reserve the right to alter any information shown here. Specifications are subject to change without notice.
3. We reserve the right to substitute functional replacements.
4. Order by Part Number (PN) not by option designation.

REFERENCES

Table 1. Related Technical Manuals Available from Factory Distributor		
Type	**Form**	**PN***
Installation/operation/maintenance	I-COND	220746
If installed with air handler option:		
Installation	I-PDH,SDH,PEH,SHH,PXH	235998
	I-RDH,REH,RXH,RHH	215210
	I-CAUA-CC	166152
Operation	O-PREEVA	234661
Replacement Parts	P-PREEVA	263985
*Also available at **www.reznorhvac.com**.		

RATING PLATE

SAMPLE RATING PLATE AND KEY

MERCER, PA. USA 16137
MADE IN USA
FOR INDUSTRIAL/COMMERCIAL USE ONLY
FOR OUTDOOR USE
MODEL [A] [B] [C] BTU
SERIAL NO. [ ]
[D] VOLTS +/- 10% [D] PH [D] HZ
MINIMUM CIRCUIT AMPACITY (MCA) [F] AMPS
MAXIMUM FUSE SIZE/*CIRCUIT BREAKER (MOP) [G] AMPS
SHORT-CIRCUIT CURRENT: 5,000 RMS SYMMETRICAL, [D] V MAXIMUM

	QTY	FLA (EACH)	HP (EACH)
CONDENSER FAN MOTOR (S)	[T]	[U]	[Z]
	QTY	RLA (EA)	LRA (EA)
COMPRESSOR A (1st STAGE)	[H]	[I]	[J]
COMPRESSOR B (2nd STAGE)	[K]	[L]	[M]

MINIMUM R-410A DESIGN PRESSURE IS 45 PSI
MAXIMUM R-410A DESIGN PRESSURE IS 600 PSI
WIRE DIAGRAM [AA]
*HACR TYPE REQUIRED PER NEC

A = Unit size (060, 090, 120, 150, 180, or 240)
B = Manufacturing date
C = BTU
D = Volts (208/230, 480, or 575), 3-Phase, 60 Hz
F = Minimum circuit ampacity
G = Maximum fuse amps
H = One circuit A compressor
I = Circuit A compressor rated load amps
J = Circuit A compressor locked rotor amps
K = One circuit B compressor
L = Circuit B compressor rated load amps
M = Circuit B compressor locked rotor amps
T = Condenser fan quantity (one or two)
U = Condenser fan load (amps)
Z = Condenser fan motor HP (0.75)
AA = Wiring diagram No.

SERIAL NUMBERS

Serial number format changed in JUN 2015. Use the following information to decode system serial numbers:

DECODING A SYSTEM SERIAL NUMBER FOR ALL MODELS *BEFORE* JUN 2015

SERIAL NO. SAMPLE: BGJ 4007 05394
ELEMENTS KEY NO.: 1 I 2 I 3

KEY:

1 = DATE CODE (REFER TO **Table 2**)
2 = 40TH WEEK OF YEAR 2007
3 = CONSECUTIVE NUMBER

DECODING A SYSTEM SERIAL NUMBER FOR ALL MODELS *AFTER* JUN 2015

SERIAL NO. SAMPLE: BOF 3060 000000
ELEMENTS KEY NO.: 1 I 2 I 3

KEY:

1 = DATE CODE (REFER TO **Table 2**)
2 = 40TH WEEK OF YEAR 2007
3 = PLANT OF MANUFACTURE (3060 = MERCER, 3062 = MONTERREY)

Table 2. Serial Number Date Codes (Month and Year)

Year	Month											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2005	BEA	BEB	BEC	BED	BEE	BEF	BEG	BEH	BEI	BEJ	BEK	BEL
2006	BFA	BFB	BFC	BFD	BFE	BFF	BFG	BFH	BFI	BFJ	BFK	BFL
2007	BGA	BGB	BGC	BGD	BGE	BGF	BGG	BGH	BGI	BGJ	BGK	BGL
2008	BHA	BHB	BHC	BHD	BHE	BHF	BHG	BHH	BHI	BHJ	BHK	BHL
2009	BIA	BIB	BIC	BID	BIE	BIF	BIG	BIH	BII	BIJ	BIK	BIL
2010	BJA	BJB	BJC	BJD	BJE	BJF	BJG	BJH	BJI	BJJ	BJK	BJL
2011	BKA	BKB	BKC	BKD	BKE	BKF	BKG	BKH	BKI	BKJ	BKK	BKL
2012	BLA	BLB	BLC	BLD	BLE	BLF	BLG	BLH	BLI	BLJ	BLK	BLL
2013	BMA	BMB	BMC	BMD	BME	BMF	BMG	BMH	BMI	BMJ	BMK	BML
2014	BNA	BNB	BNC	BND	BNE	BNF	BNG	BNH	BNI	BNJ	BNK	BNL
2015	BOA	BOB	BOC	BOD	BOE	BOF	BOG	BOH	BOI	BOJ	BOK	BOL
2016	BPA	BPB	BPC	BPD	BPE	BPF	BPG	BPH	BPI	BPJ	BPK	BPL
2017	BQA	BQB	BQC	BQD	BQE	BQF	BQG	BQH	BQI	BQJ	BQK	BQL
2018	BRA	BRB	BRC	BRD	BRE	BRF	BRG	BRH	BRI	BRJ	BRK	BRL
2019	BSA	BSB	BSC	BSD	BSE	BSF	BSG	BSH	BSI	BSJ	BSK	BSL
2020	BTA	BTB	BTC	BTD	BTE	BTF	BTG	BTH	BTI	BTJ	BTK	BTL
2021	BUA	BUB	BUC	BUD	BUE	BUF	BUG	BUH	BUI	BUJ	BUK	BUL
2022	BVA	BVB	BVC	BVD	BVE	BVF	BVG	BVH	BVI	BVJ	BVK	BVL
2023	BWA	BWB	BWC	BWD	BWE	BWF	BWG	BWH	BWI	BWJ	BWK	BWL
2024	BXA	BXB	BXC	BXD	BXE	BXF	BXG	BXH	BXI	BXJ	BXK	BXL
2025	BYA	BYB	BYC	BYD	BYE	BYF	BYG	BYH	BYI	BYJ	BYK	BYL
2026	BZA	BZB	BZC	BZD	BZE	BZF	BZG	BZH	BZI	BZJ	BZK	BZL
2027	CAA	CAB	CAC	CAD	CAE	CAF	CAG	CAH	CAI	CAJ	CAK	CAL
2028	CBA	CBB	CBC	CBD	CBE	CBF	CBG	CBH	CBI	CBJ	CBK	CBL
2029	CCA	CCB	CCC	CCD	CCE	CCF	CCG	CCH	CCI	CCJ	CCK	CCL
2030	CDA	CDB	CDC	CDD	CDE	CDF	CDG	CDH	CDI	CDJ	CDK	CDL
2031	CEA	CEB	CEC	CED	CEE	CEF	CEG	CEH	CEI	CEJ	CEK	CEL
2032	CFA	CFB	CFC	CFD	CFE	CFF	CFG	CFH	CFI	CFJ	CFK	CFL
2033	CGA	CGB	CGC	CGD	CGE	CGF	CGG	CGH	CGI	CGJ	CGK	CGL
2034	CHA	CHB	CHC	CHD	CHE	CHF	CHG	CHH	CHI	CHJ	CHK	CHL
2035	CIA	CIB	CIC	CID	CIE	CIF	CIG	CIH	CII	CIJ	CIK	CIL

CONTROL COMPARTMENT ELECTRICAL COMPONENTS

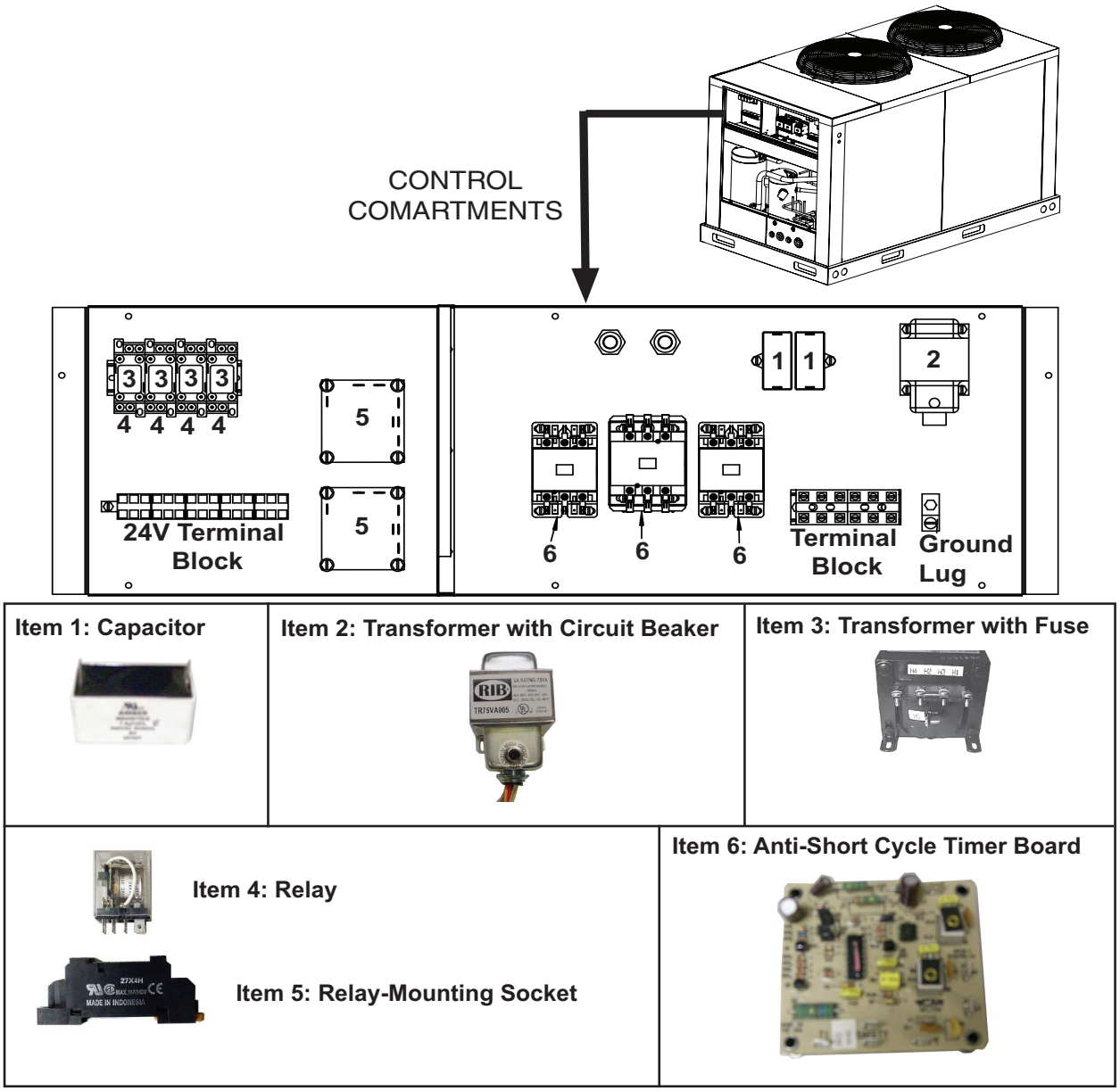
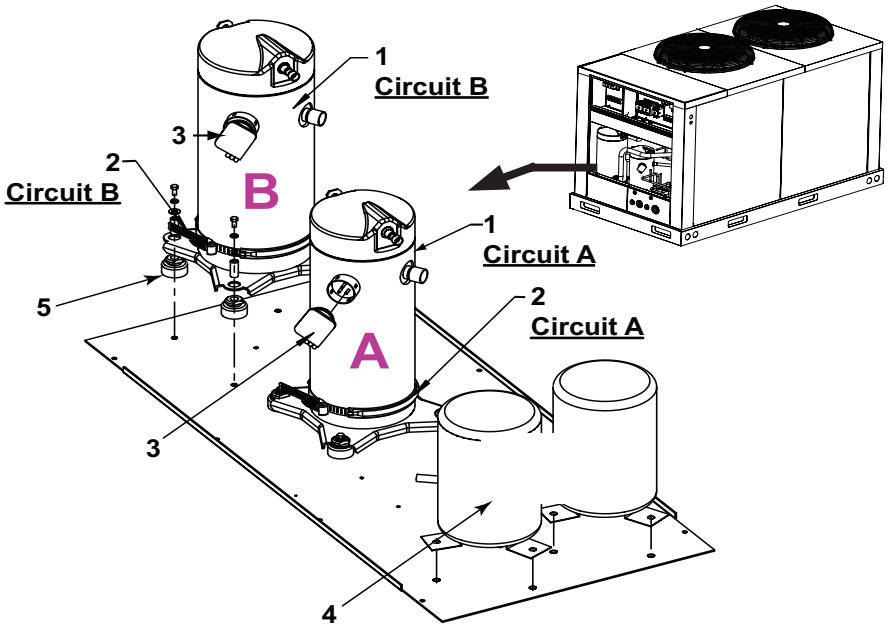


Figure 1. Electrical Components in Control Compartments (Refer to Table 3)

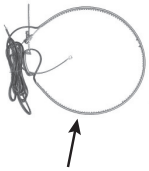
Table 3. Electrical Components in Control Compartments

Item No.	Component	Description	PN
1	Capacitor	7.5 µF, 460/3/60 and 575/3/60	207447
		10 µF, 208-230/3/60	207448
2	Transformer with circuit breaker	75 VA, 208–230/3/60 (with option AK20)	208989
		75 VA, 460/3/60 (with option AK7)	
3	Transformer	200VA, 575/3/60 (with option AK8)	39095
3A	Fuse		201773
4	Relay	LY2	211411
5	Relay-mounting socket		211415
6	Anti-short cycle timer board	Compressor protect	216385
7	Contactor	3-pole, 25-amp	216386
		3-pole, 40-amp	216387
		3-pole, 50-amp	216388
		3-pole, 75-amp	222674

COMPRESSOR SECTION COMPONENTS



Item 1: R410A Scroll Compressors



Item 2: Crankcase Heater (Belly-Band Type)

Item 5: Compressor-Mounting Kit

Item 3: Compressor Plug

Item 6: High-Pressure Switch

Item 7: Low-Pressure Switch

Item 8: Hot Gas Bypass Valve

Figure 2. Compressor Section Components (Refer to Table 4, Table 5, and Table 6)

Table 4. Compressors and Crankcase Heaters

Unit Size	Nominal Tonnage	Option (Voltage/PH/Hz)	Circuit	Nominal Tonnage by Circuit	Item No. 1: Compressor		Item No. 2: Crankcase Heater (Refer to Table 5)		
					Model*	PN	Watts	Diameter (Inches (mm))	PN
060	5	AK20 (200–230/3/60)	A	2	ZP20K5E	216671[a]	40	5.5 (140)	216434
			B	3	ZP39K5E	216678	40	6.6 (168)	216394
		AK7 (480/3/60)	A	2	ZP20K5E	216672[b]	40	5.5 (140)	216436
			B	3	ZP39K5E	216679	40	6.6 (168)	216396
		AK8 (575/3/60)	A	2	ZP20K5E	261238	40	5.5 (140)	216437
			B	3	ZP39K5E	261239	40	6.6 (168)	216397
090	8	AK20 (200–230/3/60)	A	2	ZP29K5E	216674	40	5.5 (140)	216434
			B	5	ZP57K3E	216686	70	7.4 (188)	216398
		AK7 (480/3/60)	A	2	ZP29K5E	216675	40	5.5 (140)	216436
			B	5	ZP57K3E	216687	70	7.4 (188)	216400
		AK8 (575/3/60)	A	3	ZP29K5E	234055[c]	40	5.5 (140)	216437
			B	5	ZP57K3E	216688	70	7.4 (188)	216401
120	10	AK20 (200–230/3/60)	A	3	ZP39K5E	216678	40	6.6 (168)	216394
			B	7	ZP83KCE	216689	70	7.4 (188)	216398
		AK7 (480/3/60)	A	3	ZP39K5E	216679	40	6.6 (168)	216396
			B	7	ZP83KCE	216690	70	7.4 (188)	216400
		AK8 (575/3/60)	A	3	ZP39K5E	261239[d]	40	6.6 (168)	216397
			B	7	ZP83KCE	216691	70	7.4 (188)	216401
150	13	AK20 (200–230/3/60)	A	4	ZP54K5E	235008[e]	40	6.6 (168)	216394
			B	8	ZP103KCE	216692	90	9.17 (233)	216402
		AK7 (480/3/60)	A	4	ZP54K5E	235012[f]	40	6.6 (168)	216396
			B	8	ZP103KCE	216693	90	9.17 (233)	216404
		AK8 (575/3/60)	A	4	ZP54K5E	235016[g]	40	6.6 (168)	216397
			B	8	ZP103KCE	216694	90	9.17 (233)	216405
180	15	AK20 (200–230/3/60)	A	5	ZP57K3E	216686	70	7.4 (188)	216398
			B	10	ZP120KCE	216695	90	9.17 (233)	216402
		AK7 (480/3/60)	A	5	ZP57K3E	216687	70	7.4 (188)	216400
			B	10	ZP120KCE	216696	90	9.17 (233)	216404
		AK8 (575/3/60)	A	5	ZP57K3E	216688	70	7.4 (188)	216401
			B	10	ZP120KCE	216697	90	9.17 (233)	216405
240	20	AK20 (200–230/3/60)	A	7	ZP83KCE	216689	70	7.4 (188)	216398
			B	13	ZP154KCE	220260	90	9.17 (233)	216402
		AK7 (480/3/60)	A	7	ZP83KCE	216690	70	7.4 (188)	216400
			B	13	ZP154KCE	220261	90	9.17 (233)	216404
		AK8 (575/3/60)	A	7	ZP83KCE	216691	70	7.4 (188)	216401
			B	13	ZP154KCE	220262	90	9.17 (233)	216405

*The model No. of the replacement R410A scroll compressor must be identical to the one removed or to the replacement listed—including the "E" (ZP39KxExxx), which indicates POE compressor oil.

[a]Replaces model ZP20K3E (same PN), which has a 6.6-inch (168-mm) diameter. Replacement requires a 200/230V crankcase heater (PN 216434) with a 5.5-inch (140mm) diameter.

[b]Replaces model ZP20K3E (same PN), which has a 6.6-inch (168-mm) diameter. Replacement requires a 480V crankcase heater (PN 216436) with a 5.5-inch (140-mm) diameter.

[c]Replaces model ZP29K3E (PN 216676, could also be labeled ZP32K3E, ZP32K5E, or ZP29K5E), which has a 6.6-inch (168-mm) diameter. Replacement requires a 575V crankcase heater (PN 216437) with a 5.5-inch (140-mm) diameter.

[d]Replaces model ZP41K3E (PN 216680), which has a 6.6-inch (168-mm) diameter and requires the same crankcase heater as the replacement compressor.

[e]Replaces model ZP54K3E (PN 216682), which has a 7.4-inch (188-mm) diameter. Replacement requires a 200/230V crankcase heater (PN 216394) with a 6.6-inch (168-mm) diameter.

[f]Replaces model ZP54K3E (PN 216683), which has a 7.4-inch (188-mm) diameter. Replacement requires a 480V crankcase heater (PN 216396) with a 6.6-inch (168-mm) diameter.

[g]Replaces model ZP54K3E (PN 216684), which has a 7.4-inch (188-mm) diameter. Replacement requires a 575V crankcase heater (PN 216397) with a 6.6-inch (168-mm) diameter.

Table 5. Crankcase Heater Specifications												
Option	AK20				AK7				AK8			
Voltage/PH/Hz	208/230/3/60				480/3/60				575/3/60			
PN	216394	216434	216398	216402	216396	216436	216400	216404	216437	216397	216401	216405
Watts	40		70	90	40		70	90	40		70	90
Diameter (inches)*	6.6	5.5	7.4	9.17	6.6	5.5	7.4	9.17	5.5	6.6	7.4	9.17
*The heater element straps around the bottom of the compressor so the diameter must match.												

Table 6. Compressor Plug and Mounting Kit, Receiver, Pressure Switches, and Hot Gas Bypass Valve					
Item No.	Part	Description	Unit Size		
			060–120	150, 180	240
			PN (Quantity)		
3	Compressor plug	5-foot leads, 10-gauge wires	205630 (2)		—
		5-foot leads, 6-gauge wires	—		223028 (2)
4	Receiver	Liquid refrigerant	220480 (2)		
5	Compressor-mounting kit	Grommets	205825 (2)		
6	High-pressure switch	Model IMPS-072-600R, located in discharge line	216379 (2)		
7	Low-pressure switch	Model ILPS-072-025E050E, located in suction line	216380 (2)		
8	Hot gas bypass valve	3/8-inch, circuit A (with option CUG2)	220518 (1)		
		3/8-inch, circuits A and B (with option CUG3)	220518 (2)	220518 (1)	
		1/2-inch, circuits A and B (with option CUG3)	—	220517 (1)	

CONDENSER FAN AND MOTOR

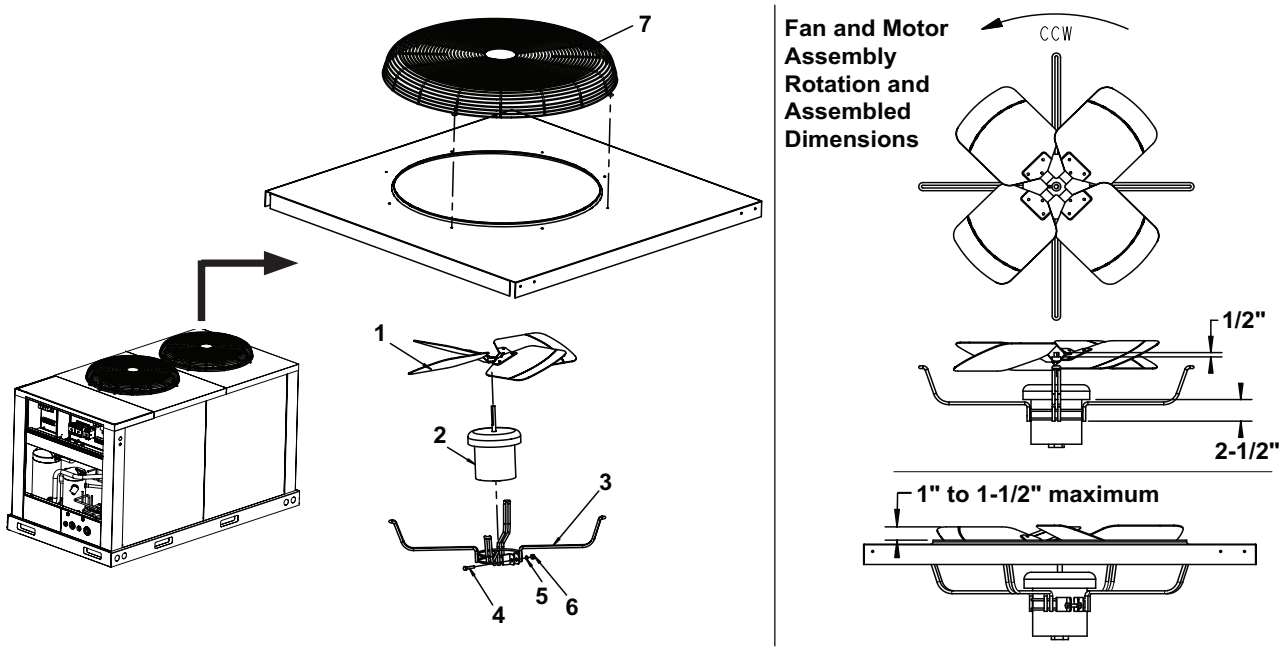


Figure 3. Condenser Fan and Motor Assembly (Refer to Table 7)

Table 7. Condenser Fan and Motor Assembly Parts List							
Item No.	Unit Size	060, 090			120, 150, 180, 240		
	Option	AK20	AK7	AK8	AK20	AK7	AK8
	Voltage/PH/Hz	208/230/3/60	480/3/60	575/3/60	208/230/3/60	480/3/60	575/3/60
	Part/Description	PN (Quantity)*					
1	Blade, fan, 26-inch, 21-degree	216381			216381 (2)		
2	Motor, fan, 3/4-HP	205628		1012212	205628 (2)		1012212 (2)
3	Support, motor	157107			157107 (2)		
4	Bolt, hex-head	16248			16248 (2)		
5	Lockwasher	1333			1333 (2)		
6	Nut	1035			1035 (2)		
7	Guard, fan	217135			217135 (2)		
*Quantity is one (1) unless otherwise indicated.							

CONDENSER COILS

NOTE: Coils are aluminum Micro-Channel and require aluminum to copper brazing.

Table 8. Condenser Coils

Location	Unit Size			
	060, 090	120, 150	180	240
	PN (Size)			
Units manufactured *before* OCT 2008				
Lower section	217166 (34 × 35)	217168 (34 × 60)	217170 (38 × 84)	220948 (30 × 84)
Upper section	217167 (21 × 35)	217169 (20 × 60)	217171 (19 × 84)	220949 (20 × 84)
Units manufactured *after* SEP 2008*				
Lower section	255510 (34 × 35)	255511 (34 × 60)	255513 (30 × 84)	
Upper section	255509 (21 × 35)	255508 (20 × 60)	255512 (20 × 84)	

*Refer to **Serial Numbers** to decode the serial number. The PNs listed are not a direct replacement for previously-used coils. Before ordering, check with your distributor or the factory on availability or on an alternate replacement.

LIQUID LINE FILTER DRIER

Table 9. Liquid Line Filter Drier Specifications

Unit Size	Nominal Tonnage	Refrigerant Circuit		Model	PN	Connection Size (Inches)
		Circuit	Tonnage			
060	5	A	2	C-084-S	177378	1/2
		B	3	C-164-S	177379	1/2
090	8	A	3	C-084-S	177378	1/2
		B	5	C-164-S	216408	1/2
120	10	A	3	C-164-S	177379	1/2
		B	7	C-304-S	216408	1/2
150	13	A	4	C-164-S	177379	1/2
		B	8	C-304-S	216408	1/2
180	15	A	5	C-164-S	216408	1/2
		B	10	C-414-S	216409	1/2
240	20	A	7	C-304-S	216408	1/2
		B	13	C-415-S	216410	5/8

*Shipped loose in the condenser section of the original MASA unit shipment.

CONDENSER COIL GUARD (OPTION AZ12)

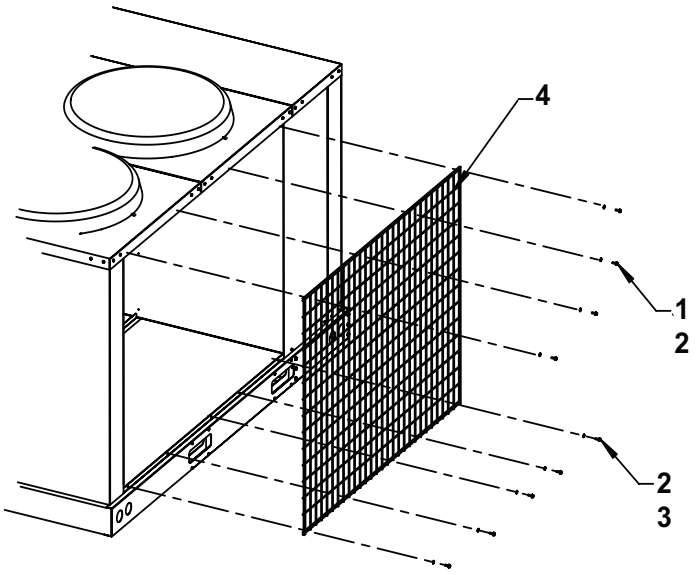


Figure 4. Condenser Coil Guard Assembly (Refer to Table 10)

Table 10. Condenser Coil Guard Assembly Parts List					
Item No.	Part	Description	Unit Size		
			060, 090	120, 150	180, 240
			PN (Quantity)		
—	Condenser coil guard assembly	Option AZ12	220607 (1)	220608 (1)	220609 (1)
1	Screw	Hex, #10-16 x 3/4, Tek (Zinc Pl)	51356 (3)	51356 (4)	
2	Flat Washer	#10-3/16	113807 (6)	113807 (9)	
3	Screw	Hex, 3/4, type Ab	99542 (3)	99542 (5)	
4	Coil guard		220285 (1)	220284 (1)	220283 (1)

CABINET COMPONENTS

NOTE: If cabinet parts not shown are required, contact your distributor or the factory service department.

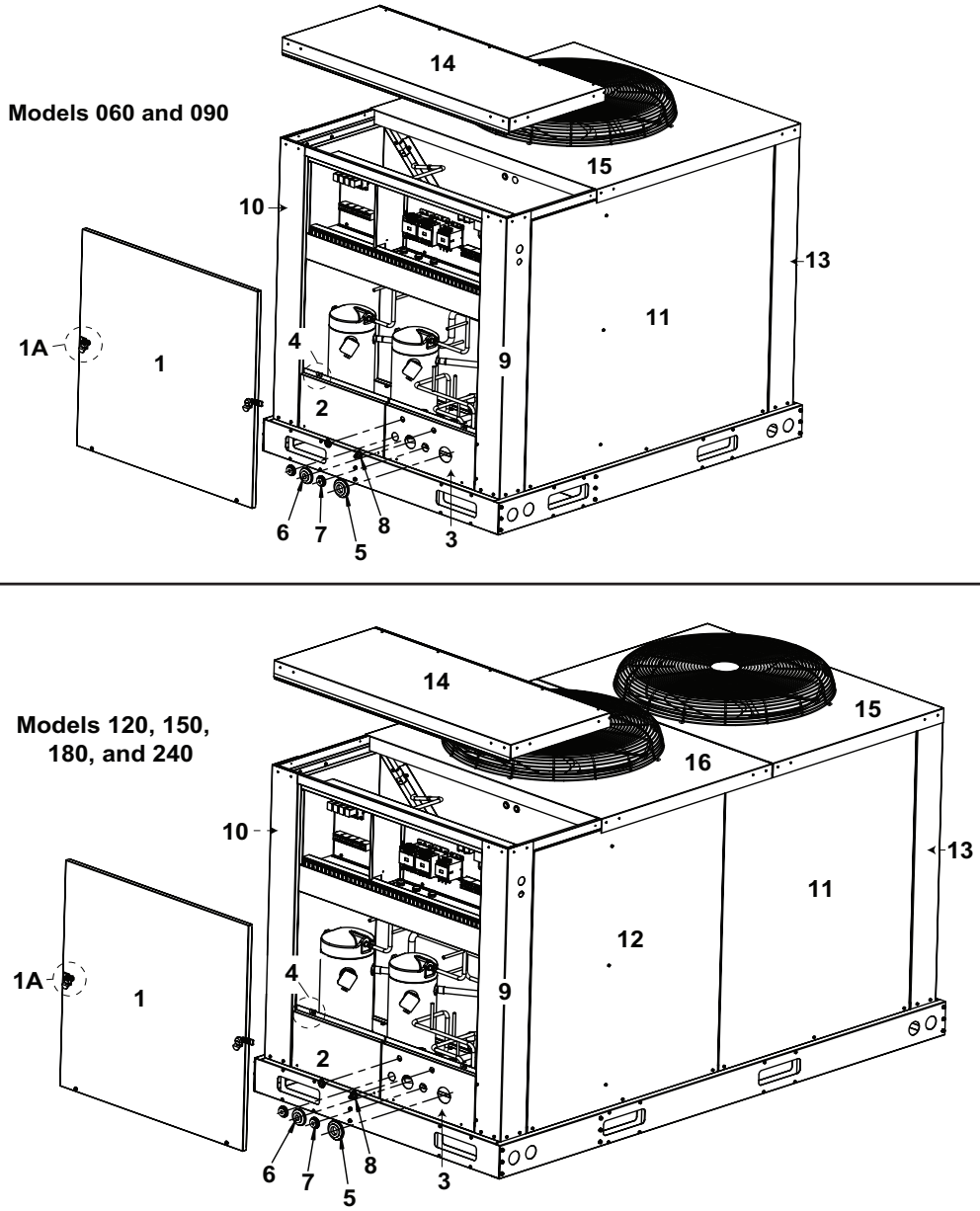


Figure 5. Cabinet Components (Refer to Table 11)

CABINET COMPONENTS—CONTINUED

Table 11. Cabinet Parts List

Item No.	Part/Description	Unit Size		
		060, 090	120, 150	180, 240
		PN (Quantity)*		
1	Access panel assembly	217182		
1A	Latch, access panel (Southco #E5-2-005-071)	223351 (2)		
	Tab, pull	204470 (2)		
2	Service panel, left compressor compartment	217161		
3	Service panel, right compressor compartment	217160		
4	Nut, clip-on, for service panels	221262 (2)		
5	Grommet, 1-3/8"	19816		
6	Grommet, 7/8"	107607		
7	Grommet, 1/2"	111067 (2)		
8	Grommet, SR, 3/4"	220545 (2)		
9	Corner post, compressor end, right	217172		
10	Corner post, compressor end, left	216718		
11	Side panel, solid	217175	217120	216723
12			217121	216731
13	End panel, solid (includes corners)	217147		
14	Control compartment, top	216422		
15	Condenser section, top (see Figure 3 and Figure 5)	217115	217114	217113
16			217174	217173
17	Paint, cabinet touchup, 11-ounce spray can (not shown)	201805		

*Quantity is one (1) unless otherwise indicated.

RAWAL VALVE OPTIONS

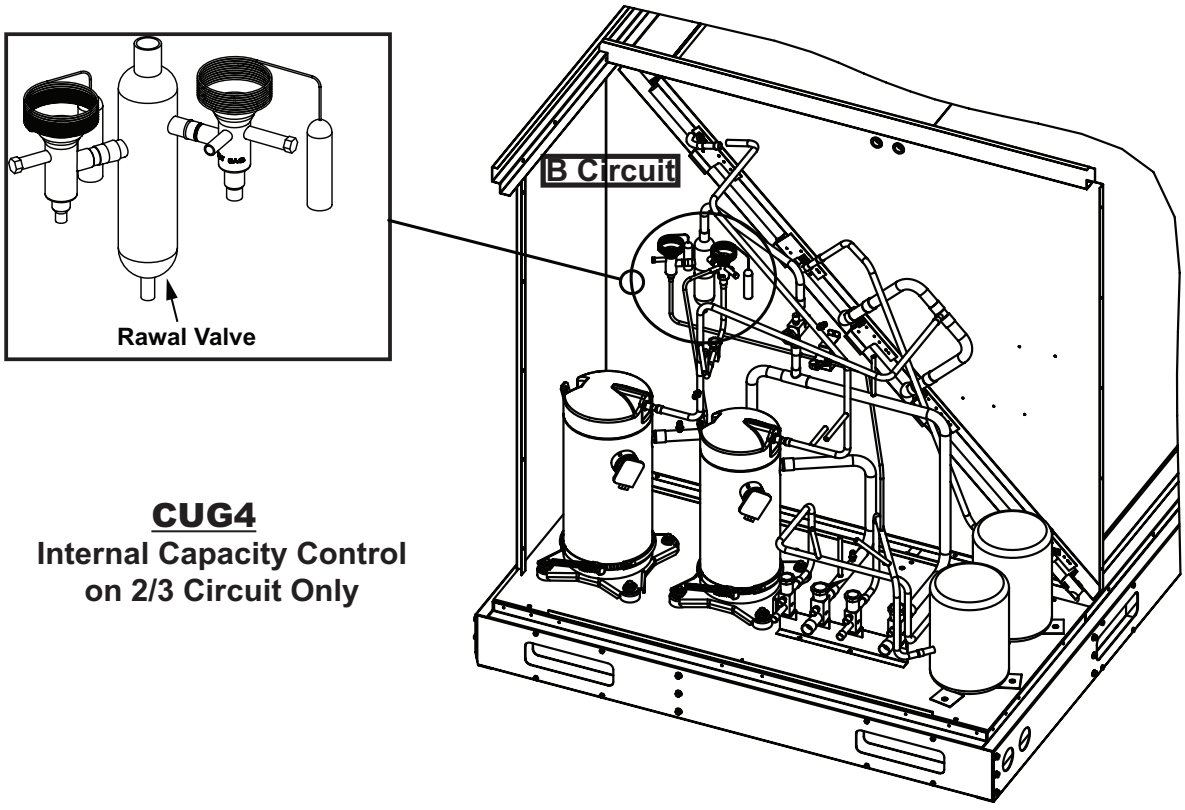


Figure 6. Rawal Valve Option CUG4 (Refer to Table 12)

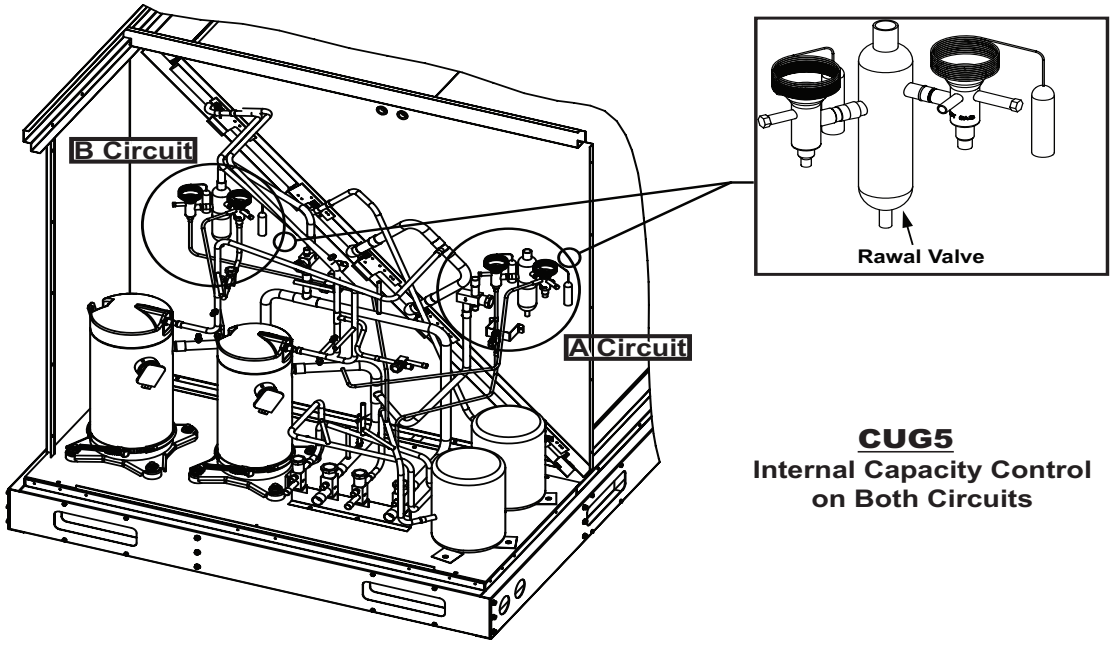


Figure 7. Rawal Valve Option CUG5 (Refer to Table 12)

Table 12. Rawal Valve Options

Rawal Valve Option	Unit Size										
	060	090		120		150		180		240	
	B Circuit	A Circuit	B Circuit	A Circuit	B Circuit	A Circuit	B Circuit	A Circuit	B Circuit	A Circuit	B Circuit
	PN										
CUG4	261613	—	259506	—	259507	—	259507	—	263944	—	263944
CUG5	—	259506	261613	259507	261613	259506	259507	259506	263944	259506	263944

SHUTOFF VALVES

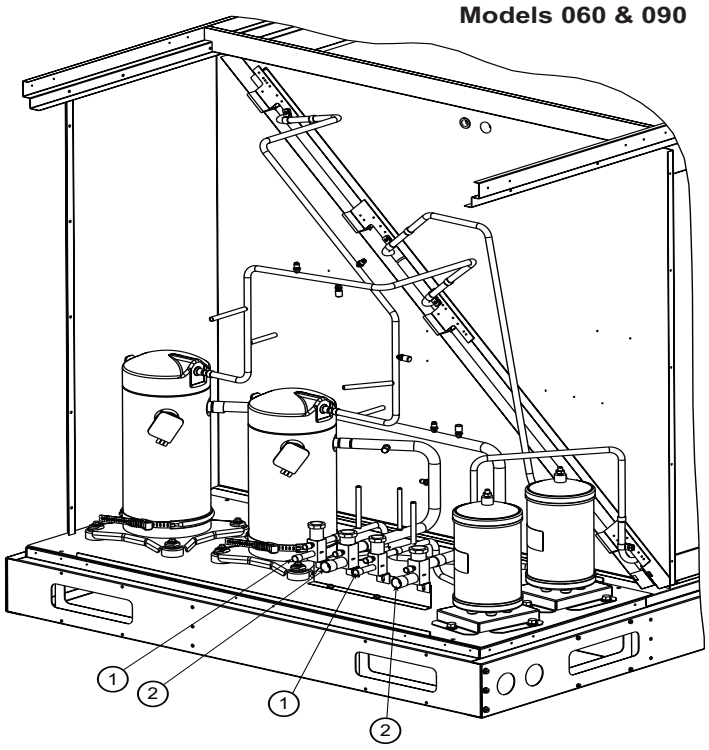


Figure 8. Shutoff Valves—Models 060 and 090 (Refer to Table 13)

SHUTOFF VALVES—CONTINUED

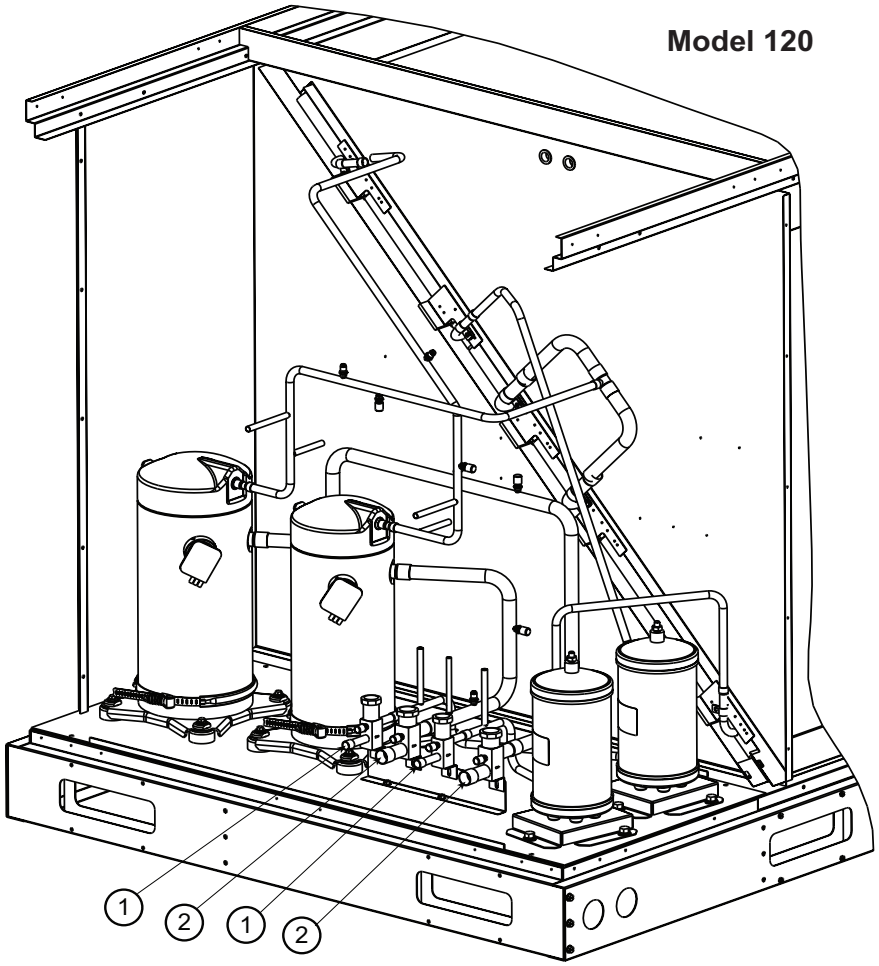


Figure 9. Shutoff Valves—Model 120 (Refer to Table 13)

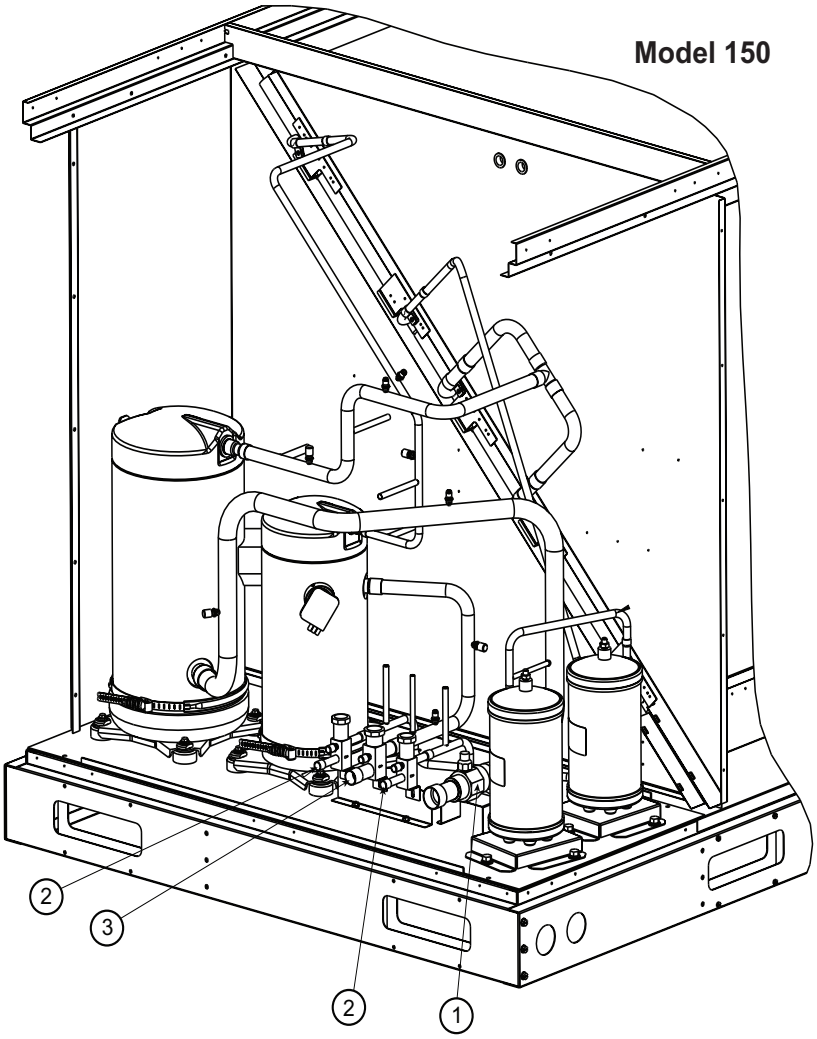


Figure 10. Shutoff Valves—Model 150 (Refer to Table 13)

SHUTOFF VALVES—CONTINUED

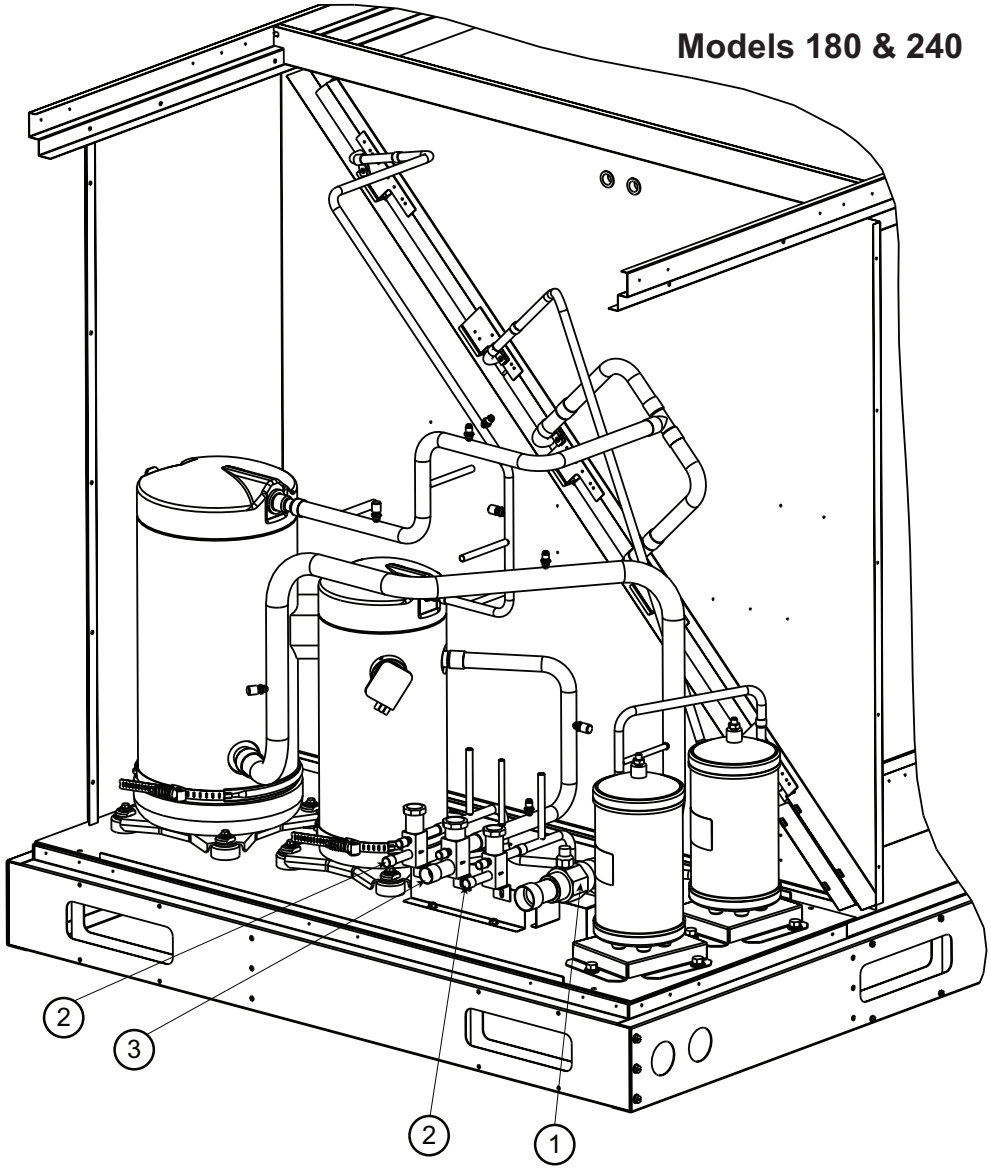


Figure 11. Shutoff Valves—Models 180 and 240 (Refer to Table 13)

Table 13. Shutoff Valves

Item No.	Unit Size	PN	Shutoff Valve Size (Inches)	Quantity
1	060, 090, 120	216749	1/2	2
	150, 180, 240	216703*	1-3/8	1
2	060, 090, 120	216751	7/8	2
	150, 180, 240	216749	1/2	2
3	150, 180, 240	216751	7/8	1

*This shutoff valve is a Parker ball valve.

CHASSIS COMPONENTS

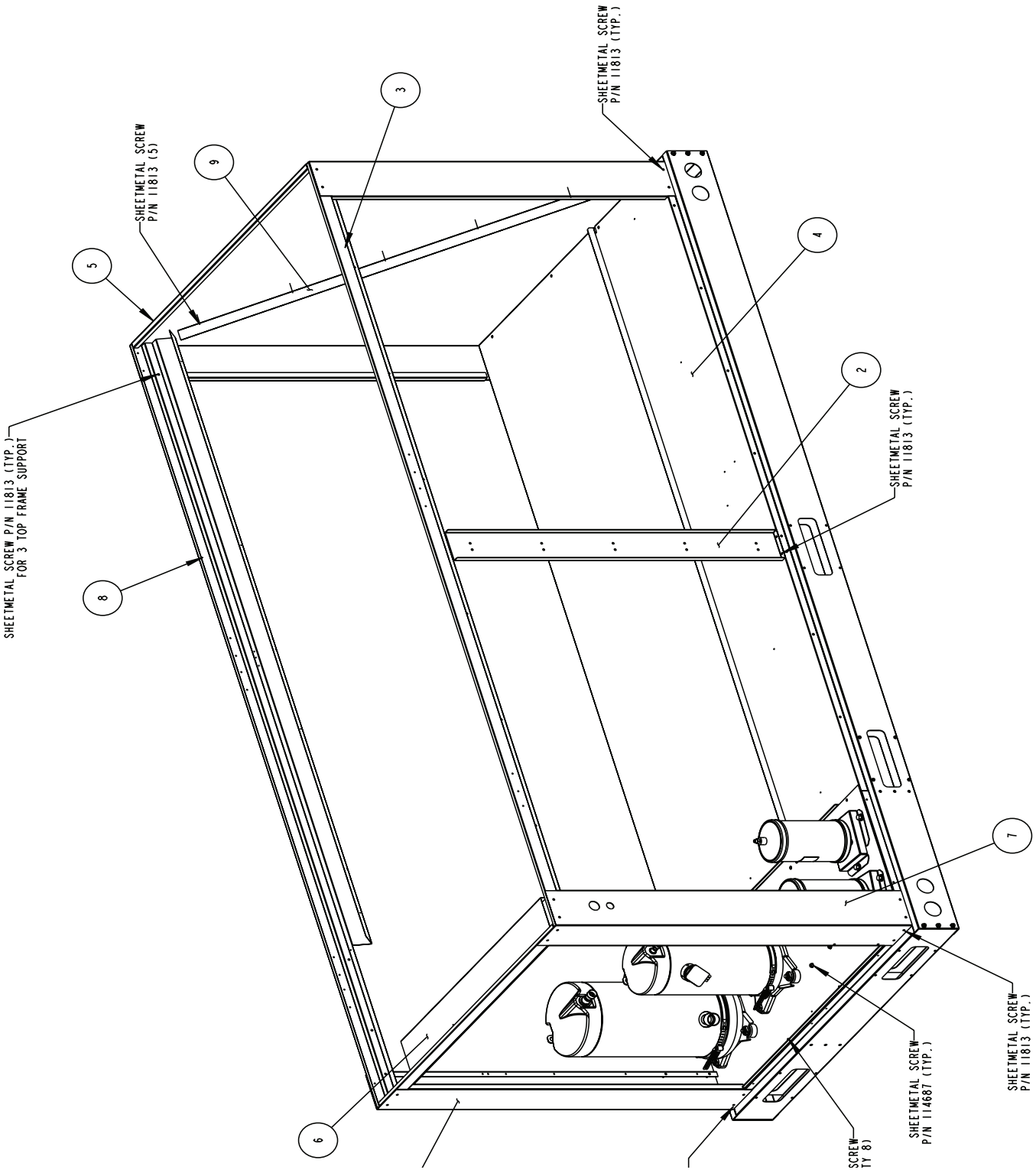


Figure 12. Chassis Components (Refer to Table 14)

CHASSIS COMPONENTS—CONTINUED

Table 14. Chassis Components		
Item No.	**Component**	**PN**
1	Corner post	216718
2	Wall support	216714
3	Top frame support	216718
4	Condenser base assembly	216742
5	Solid end panel	217147
6	Top frame support	217155
7	Corner post	217172
8	Top frame support	255518
9	Coil insulation bracket	257217

P-COND (02-22) 268631-B