

**Henny Penny
Blast Chiller/Freezer
Models BCC/BCR-140
Models BCC/BCR-175
Models BFR/BCR-350**

TECHNICAL MANUAL

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SECTION 1. TROUBLESHOOTING

1-1. INTRODUCTION

This section provides troubleshooting information in the form of an easy-to-read table.

If a problem occurs during the first operation of a cabinet, recheck the installation per the Installation Section of the Operator's Manual.

Before troubleshooting, always recheck the operation procedures in the Operator's manual.

1-2. SAFETY

Where information is of particular importance or is safety related, the words NOTICE, CAUTION, or WARNING are used. Their usage is described below.



SAFETY ALERT SYMBOL is used with DANGER, WARNING, or CAUTION which indicates a personal injury type hazard.

NOTICE is used to highlight especially important information.

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

CAUTION used with the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

1-3. TROUBLESHOOTING

To isolate a malfunction, proceed as follows:

1. Clearly define the problem or symptom and when it occurs.
2. Locate the problem in the troubleshooting table.
3. Review all possible causes. Then, one at a time work through the list of corrections until problem is solved.



If maintenance procedures are not followed correctly, injuries and/or property damage could result.

1-3. TROUBLESHOOTING **(Continued)**

Problem	Cause	Correction
The evaporator is iced-up after a De-icing Cycle	Faulty de-icing heater	Replace de-icing heater
	Evaporator temperature at end of De-icing Cycle too low	Increase the setting of step 8, in Programming Section of Operator's Manual
	Maximum time of De-icing Cycle too short	Increase the setting of step 7, in Programming Section of Operator's Manual
Too much water on evaporator fins	The unit has been shut down without a De-icing Cycle	Start a De-icing Cycle
Slow to decrease in temperature (decline in performance)	Compressor not working properly	Check compressor and replace if necessary
	Evaporator fan not working properly	Check the fan and replace if necessary
	Temperature of room too high	Ventilate the room
	Not enough clearance around unit	Relocate the unit; see Location Section of the Operator's Manual

1-3. TROUBLESHOOTING

(Continued)

Problem	Cause	Correction
Slow to decrease in temperature (decline in performance)	Condenser obstructed by dirt Evaporator iced up Refrigerating problem	Clean the condenser Perform a De-icing Cycle Check refrigeration circuit and components
Display temperature does not match the actual inlet air temperature (No alarm)	In Frigiprobe Mode, the display shows the product temperature In timer mode, or hold mode, the probe may be showing the wrong temperature	Normal Ohm out the probe and check the reading with the table located in this section; change the probe if it is out of tolerance
Green compressor indicator light on and the compressor not working, or working sometimes	Compressor and condenser fan do not work: - Faulty contactor - Faulty control board relay-no voltage across terminals 10-11 Compressor works, but condenser fan does not: - Faulty condenser fan Compressor and condenser fan work together: - Faulty protection component for the compressor (overload protector, potential relay, start and run capacitor) - Faulty overload protector of condenser fan	Check contactor and change if necessary Replace control board Replace fan Check items and replace if necessary Check fan and replace if necessary

1-3. TROUBLESHOOTING **(Continued)**

Problem	Cause	Correction
Green compressor indicator light off and compressor is working	Voltage across terminals 10-11 of control board: - Control board relay bad	Replace control board
	No voltage across terminals 10-11 of control board: - Faulty contactor	Replace contactor
Green fan indicator light on and fan(s) not working	Voltage across terminals 8-9 of control board. - Fan or capacitor bad - Fan thermo-switch tripped	Replace fan or its capacitor Allow the fan motor to cool to see if the fan comes back on; if the fan does not come back on, or it keeps tripping, replace the fan
	No voltage across terminals 8-9 of control board: - Faulty control board relay	Replace control board
All indicator lights off and ON/OFF switch will not operate	Check electrical supply	Plug unit into receptacle, or reset wall circuit breaker
	Fuse of control board blown	Change the fuse
	No voltage from the control board transformer	Change the control board
	Connector between the control board and display board not connected properly	Check the connection
	Bad wire in the connector between the control board and display board	Replace the connector

1-4. ALARM MESSAGES

In the event of a system failure, the digital display will show an alarm message. These messages are coded; “AL 1”, “AL-2”, “AL-3”, “AL-5”, and “AL-6.” When an alarm occurs, the red alarm LED will illuminate and a buzzer (optional) will sound. Press the Alarm button to stop the buzzer.

NOTICE

The unit can operate on auto back-up if an alarm sounds for a faulty probe. Must select the Timer Mode, and enter a time.

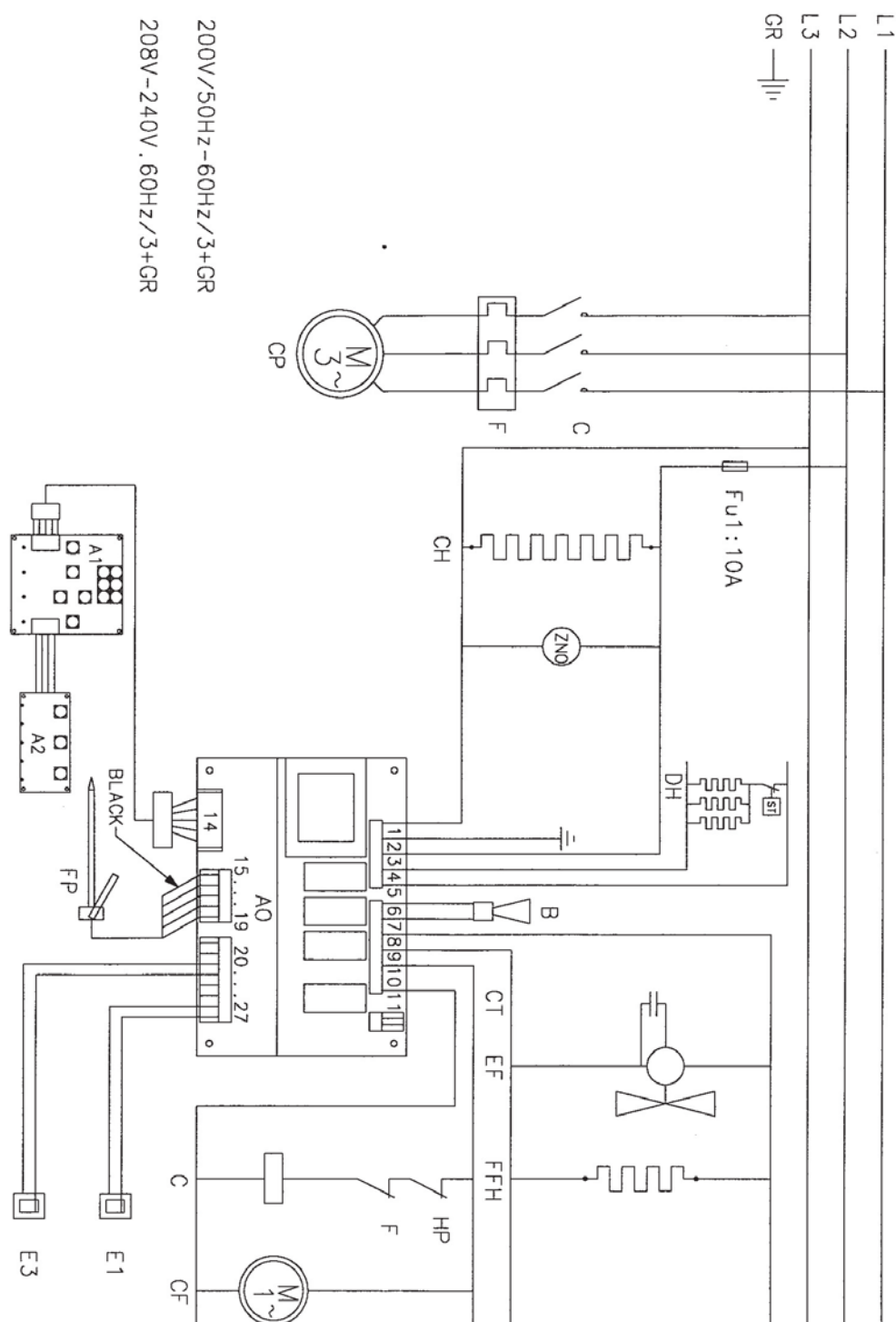
Display	Cause	Correction
“AL-1”	Faulty air temperature probe	Replace the probe; unit can operate on auto back-up until a new probe is installed
“AL-2”	Faulty evaporator probe	Replace the probe; the de-icing cycle can operate at 50% of the setting in step 7 of the Programming Section
“AL-3”	Faulty Frigiprobe	Replace the probe; the Frigiprobe Mode will not operate, but the unit will operate in the Timer Mode
“AL-5”	Temperature too low in the hold mode	Faulty control board - replace control board; faulty contactor - replace contactor
“AL-6”	Temperature too high in the hold mode	Faulty control board - replace control board; door opened too much - make sure door stays closed as much as possible

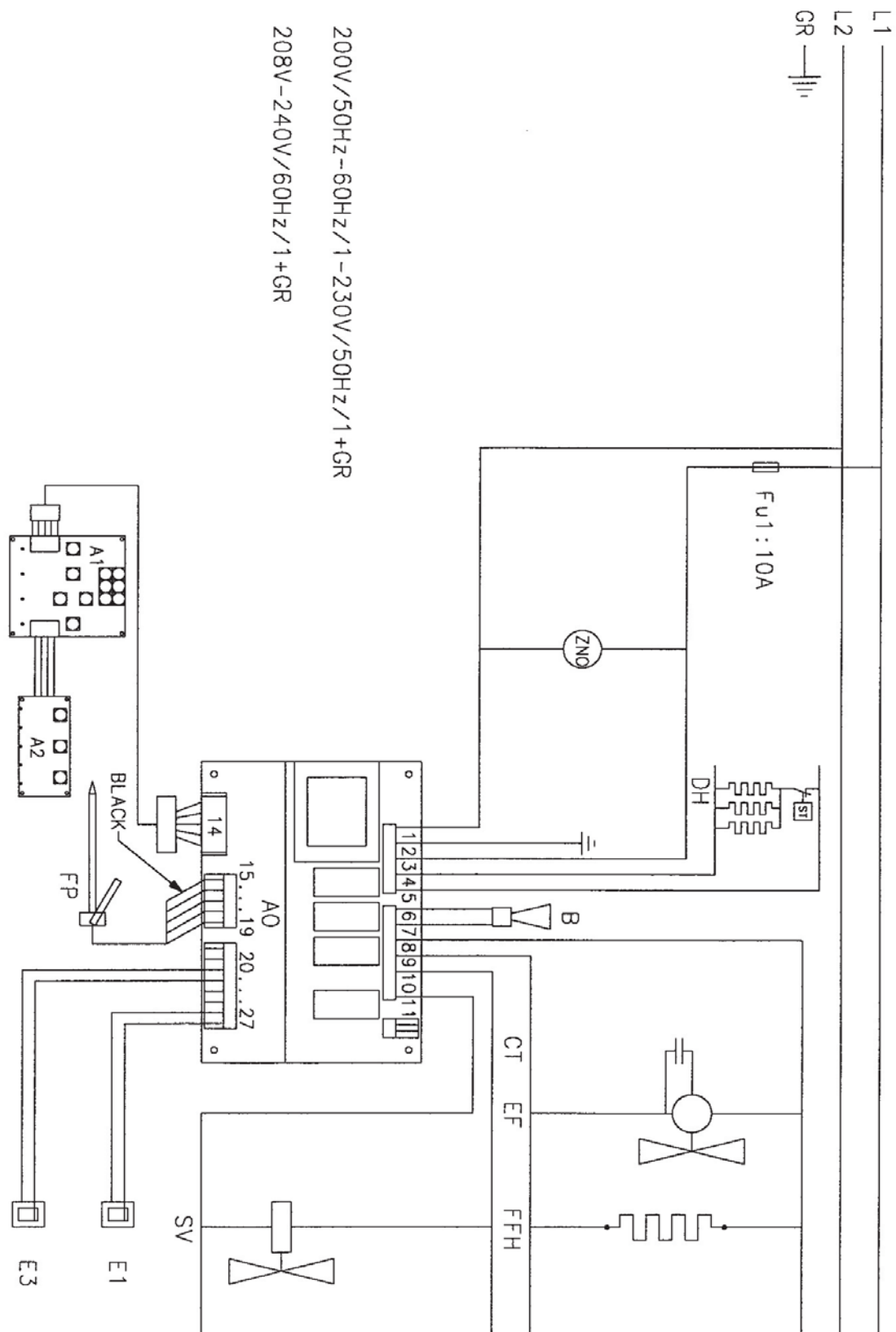
RESISTANCE-TEMPERATURE CONVERSION TABLE FOR PROBES

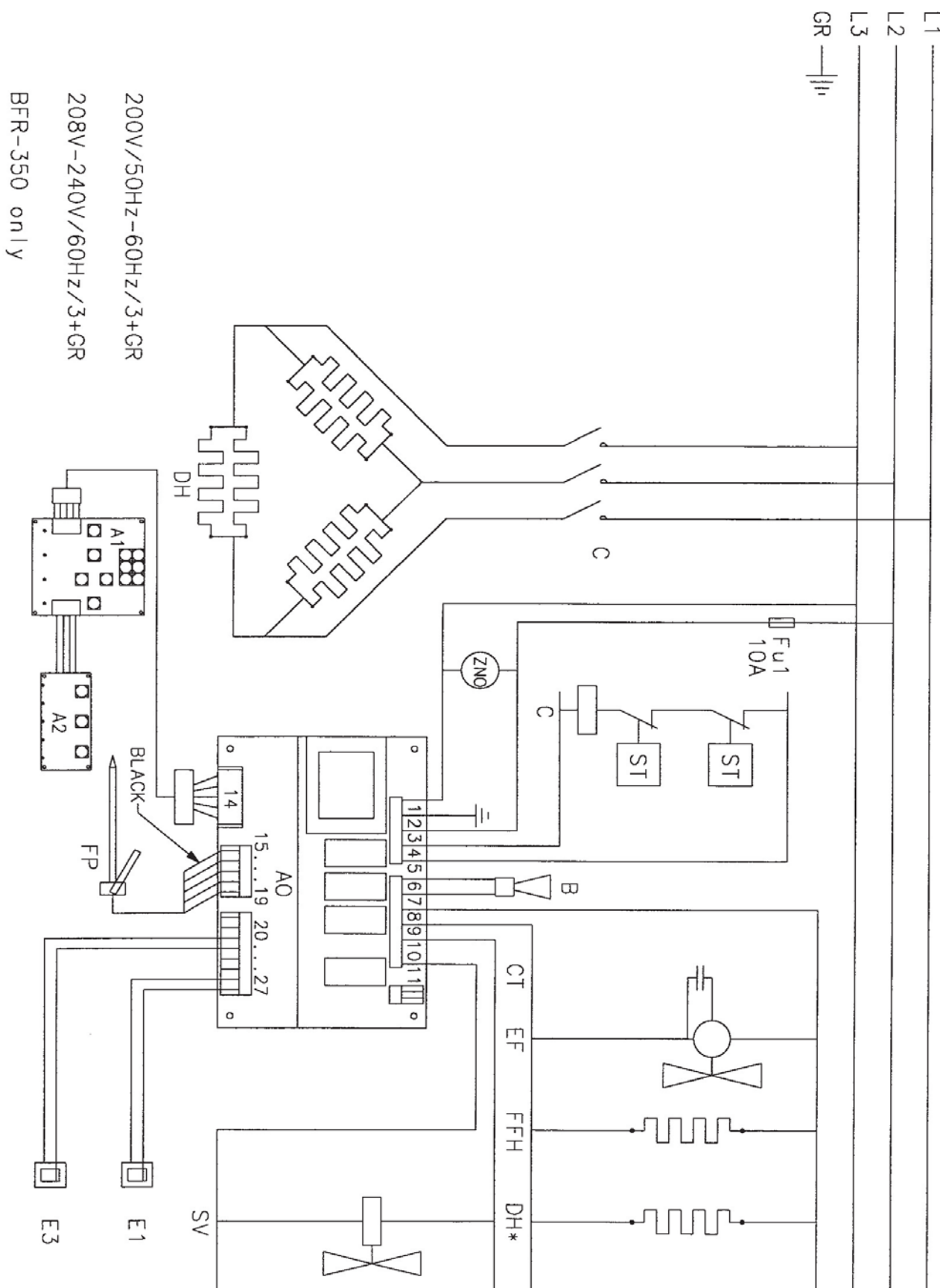
TEMP. °C	TEMP. °F	R KΩ	TEMP. °C	TEMP. °F	R KΩ	TEMP. °C	TEMP. °F	R KΩ	TEMP. °C	TEMP. °F	R KΩ
-40	-40	336.6	8	46,4	21.92	56	132,8	2.878	104	219,2	0.6050
-39	-38,2	315.0	9	48,2	20.88	57	134,6	2.774	105	221	0.5880
-38	-36,4	295.0	10	50	19.90	58	136,4	2.674	106	222,8	0.5714
-37	-34,6	276.4	11	51,8	18.97	59	138,2	2.580	107	224,6	0.555
-36	-32,8	259.0	12	53,6	18.09	60	140	2.488	108	226,4	0.5402
-35	-31	242.8	13	55,4	17.26	61	141,8	2.400	109	228,2	0.5252
-34	-29,2	227.8	14	57,2	16.46	62	143,6	2.316	110	230	0.5108
-33	-27,4	213.8	15	59	15.71	63	145,4	2.234	111	231,8	0.4968
-32	-25,6	200.6	16	60,8	15.00	64	147,2	2.158	112	233,6	0.4832
-31	-23,8	188.4	17	62,6	14.32	65	149	2.082	113	235,4	0.4702
-30	-22	177.0	18	64,4	13.68	66	150,8	2.012	114	237,2	0.4574
-29	-20,2	166.4	19	66,2	13.07	67	152,6	1.942	115	239	0.4452
-28	-18,4	156.5	20	68	12.49	68	154,4	1.876	116	240,8	0.4334
-27	-16,6	147.2	21	69,8	11.94	69	156,2	1.813	117	242,6	0.42.18
-26	-14,8	138.5	22	71,6	11.42	70	158	1.751	118	244,4	0.4106
-25	-13	130.4	23	73,4	10.92	71	159,8	1.693	119	246,2	0.3998
-24	-11,2	122.9	24	75,2	10.45	72	161,6	1.637	120	248	0.3894
-23	-9,4	115.8	25	77	10.00	73	163,4	1.582	121	249,8	0.3792
-22	-7,6	109.1	26	78,8	9.574	74	165,2	1.530	122	251,6	0.3694
-21	-5,8	102.9	27	80,6	9.166	75	167	1.480	123	253,4	0.3598
-20	-4	97.12	28	82,4	8.778	76	168,8	1.432	124	255,2	0.3506
-19	-2,2	91.66	29	84,2	8.408	77	170,6	1.385	125	257	0.3416
-18	-0,4	86.54	30	86	8.058	78	172,4	1.341	126	258,8	0.3328
-17	1,4	81.72	31	87,8	7.722	79	174,2	1.298	127	260,6	0.3244
-16	3,2	77.22	32	89,6	7.404	80	176	1.256	128	262,4	0.3162
-15	5	72.98	33	91,4	7.098	81	177,8	1.216	129	264,2	0.3082
-14	6,8	69.00	34	93,2	6.808	82	179,6	1.178	130	266	0.3006
-13	8,6	65.26	35	95	6.532	83	181,4	1.141	131	267,8	0.2930
-12	10,4	61.76	36	96,8	6.268	84	183,2	1.105	132	269,6	0.2858
-11	12,2	58.46	37	98,6	6.016	85	185	1.071	133	271,4	0.2788
-10	14	55.34	38	100,4	5.776	86	186,8	1.038	134	273,2	0.2720
-9	15,8	52.42	39	102,2	5.546	87	188,6	1.006	135	275	0.2652
-8	17,6	49.66	40	104	5.326	88	190,4	0.975	136	276,8	0.2588
-7	19,4	47.08	41	105,8	5.118	89	192,2	0.9452	137	278,6	0.2526
-6	21,2	44.64	42	107,6	4.918	90	194	0.9164	138	280,4	0.2464
-5	23	42.34	43	109,4	4.726	91	195,8	0.8888	139	282,2	0.2406
-4	24,8	40.16	44	111,2	4.544	92	197,6	0.8620	140	284	0.2348
-3	26,6	38.12	45	113	4.368	93	199,4	0.8364	141	285,8	0.2292
-2	28,4	36.20	46	114,8	4.202	94	201,2	0.8114	142	287,6	0.2238
-1	30,2	34.38	47	116,6	4.042	95	203	0.7874	143	289,4	0.2184
0	32	32.66	48	118,4	3.888	96	204,8	0.7642	144	291,2	0.2134
1	33,8	31.04	49	120,2	3.742	97	206,6	0.7418	145	293	0.2084
2	35,6	29.50	50	122	3.602	98	208,4	0.7202	146	294,8	0.2036
3	37,4	28.06	51	123,8	3.468	99	210,2	0.6994	147	296,6	0.1988
4	39,2	26.68	52	125,6	3.340	100	212	0.6792	148	298,4	0.1942
5	41	25.40	53	127,4	3.216	101	213,8	0.6596	149	300,2	0.1897
6	42,8	24.18	54	129,2	3.098	102	215,6	0.6408	150	302	0.1854
7	44,6	23.02	55	131	2.986	103	217,4	0.6226			

SECTION 2. WIRING DIAGRAMS

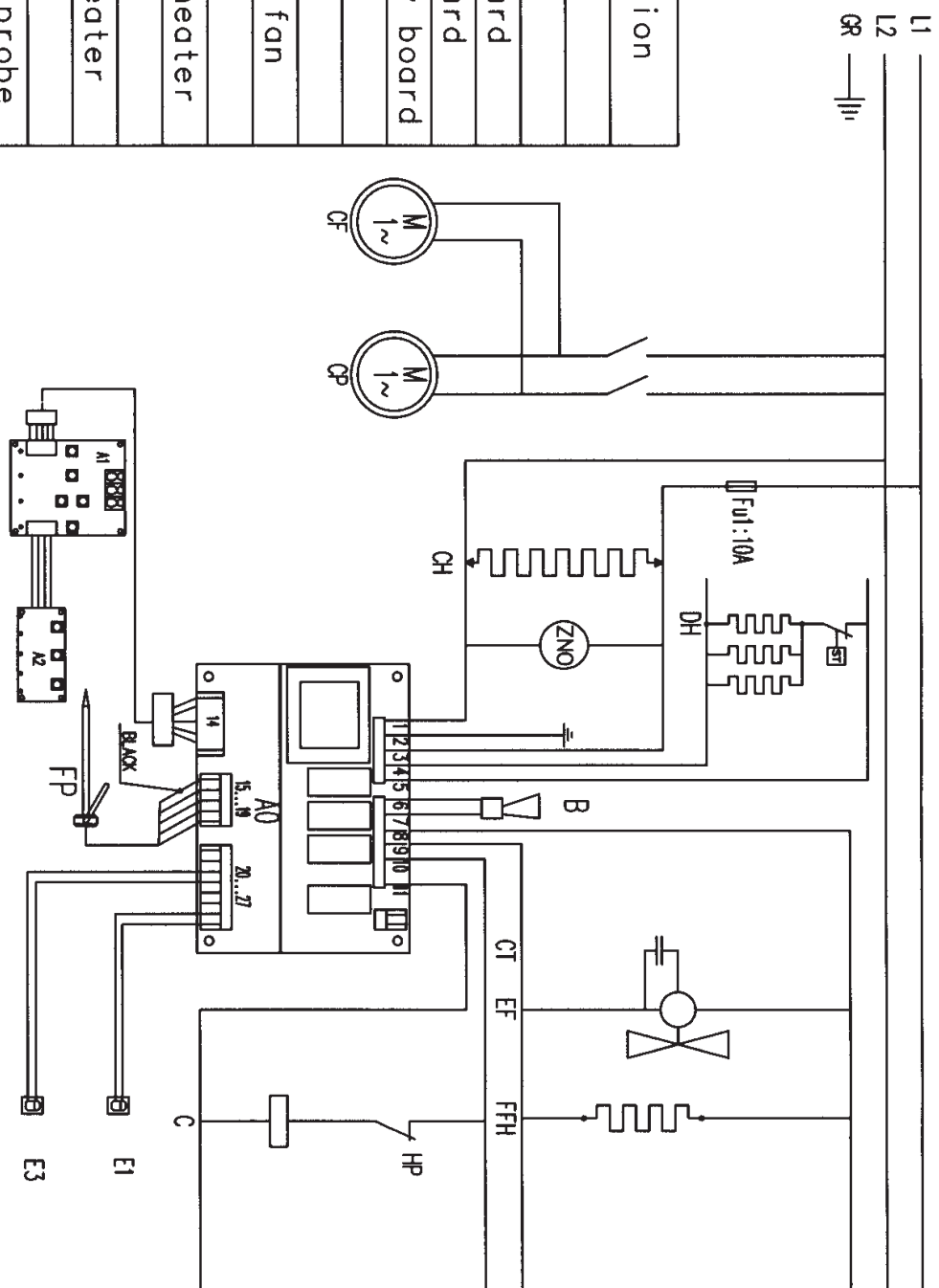
Wiring diagrams applicable to the blast chillers and blast freezers are provided on the following pages. Also, two pages are provided after the wiring diagrams which list the service replacement parts available for the various models of the Henny Penny blast chillers and blast freezers.







Mark	Designation
Fu1	Fuse
ZNO	Varisator
AO	Control board
A1	Display board
A2	Aux.display board
B	Buzzer
C	Contacttor
CF	Compressor fan
CP	Compressor
CH	Crankcase heater
CT	Capacitor
DH	De-icing heater
E1	Air probe
E3	Evaporator probe
EF	Evaporator fan
FFH	Front frame heater
FP	Frigiprobe
HP	High pressure controller
ST	Safety thermostat

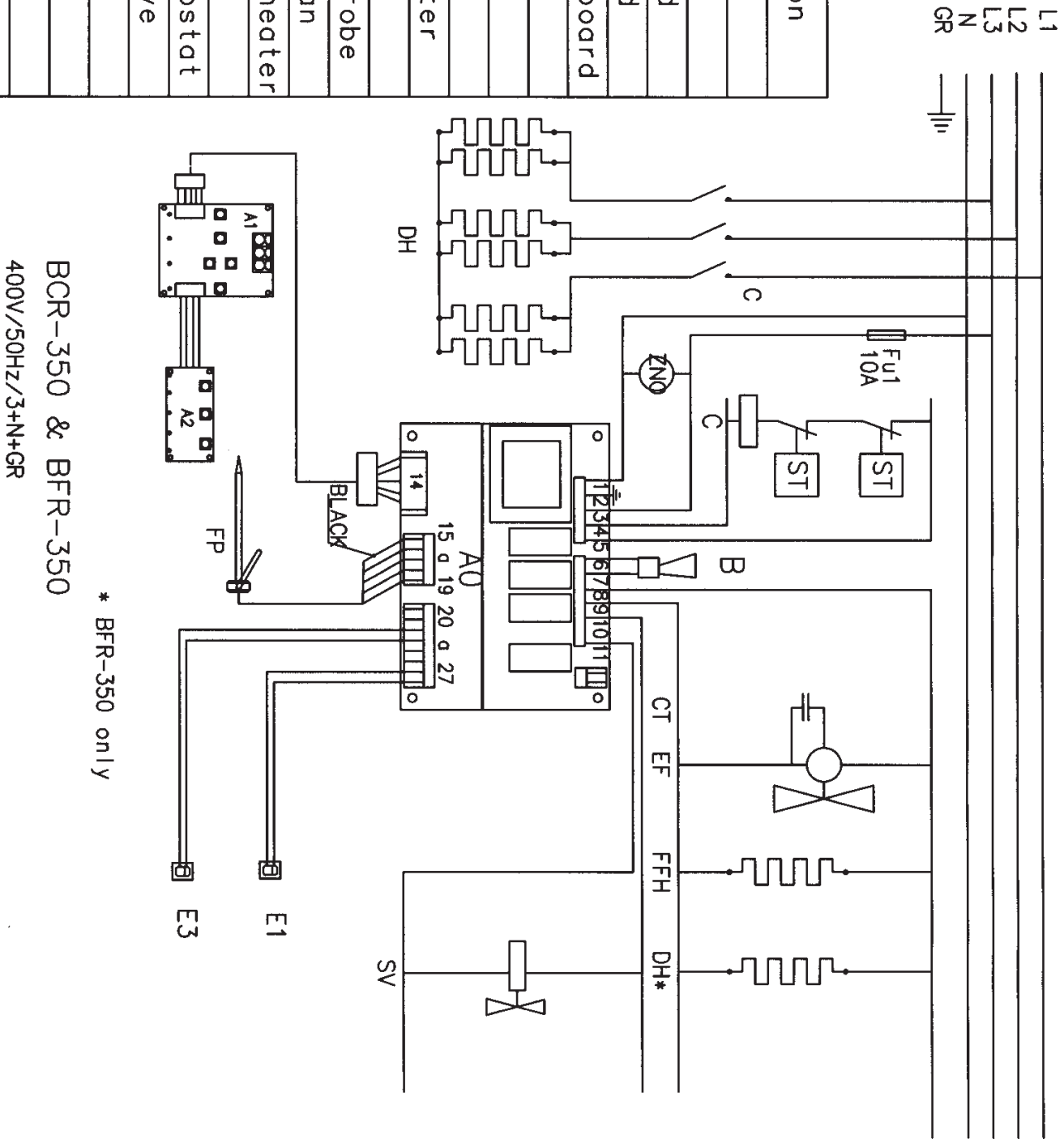


BCC-140
230V/50Hz/1+GR



Mark	Designation
Fu1	Fuse
ZNO	Varisator
AO	Control board
A1	Display board
A2	Aux.display board
B	Buzzer
C	Contactior
CP	Compressor
CT	Capacitor
DH	De-icing heater
E1	Air probe
E3	Evaporator probe
EF	Evaporator fan
F	Thermal overload relay
FFH	Front frame heater
FP	Frigiprobe
HP	High pressure controller
ST	Safety thermostat

Mark	Designation
Fu1	Fuse
ZNO	Varisator
AO	Control board
A1	Display board
A2	Aux. display board
B	Buzzer
C	Contactar
CT	Capacitor
DH	De-icing heater
E1	Air probe
E3	Evaporator probe
EF	Evaporator fan
FFH	Front frame heater
FP	Frigiprobe
ST	Safety thermostat
SV	Solenoid valve
DH*	Drain heater



LIMITED WARRANTY FOR HENNY PENNY EQUIPMENT

Subject to the following conditions, Henny Penny Corporation makes the following limited warranties to the original purchaser only for Henny Penny appliances and replacement parts:

NEW EQUIPMENT: Any part of a new appliance, except baskets, lamps, and fuses, which proves to be defective in material or workmanship within two (2) years from date of original installation, will be repaired or replaced without charge F.O.B. factory, Eaton, Ohio, or F.O.B. authorized distributor. Baskets will be repaired or replaced for ninety (90) days from date of original installation. Lamps and fuses are not covered under this Limited Warranty. To validate this warranty, the registration card for the appliance must be mailed to Henny Penny within ten (10) days after installation.

FILTER SYSTEM: Failure of any parts within a fryer filter system caused by the use of the non-OEM filters or other unapproved filters is not covered under this Limited Warranty.

REPLACEMENT PARTS: Any appliance replacement part, except lamps and fuses, which proves to be defective in material or workmanship within ninety (90) days from date of original installation will be repaired or replaced without charge F.O.B. factory, Eaton, Ohio, or F.O.B. authorized distributor.

The warranty for new equipment covers the repair or replacement of the defective part and includes labor charges and maximum mileage charges of 200 miles round trip for a period of one (1) year from the date of original installation.

The warranty for replacement parts covers only the repair or replacement of the defective part and does not include any labor charges for the removal and installation of any parts, travel, or other expenses incidental to the repair or replacement of a part.

EXTENDED FRYPOT WARRANTY: Henny Penny will replace any frypot that fails due to manufacturing or workmanship issues for a period of up to seven (7) years from date of manufacture. This warranty shall not cover any frypot that fails due to any misuse or abuse, such as heating of the frypot without shortening.

0 TO 3 YEARS: During this time, any frypot that fails due to manufacturing or workmanship issues will be replaced at no charge for parts, labor, or freight. Henny Penny will either install a new frypot at no cost or provide a new or reconditioned replacement fryer at no cost.

3 TO 7 YEARS: During this time, any frypot that fails due to manufacturing or workmanship issues will be replaced at no charge for the frypot only. Any freight charges and labor costs to install the new frypot as well as the cost of any other parts replaced, such as insulation, thermal sensors, high limits, fittings, and hardware, will be the responsibility of the owner.

Any claim must be presented to either Henny Penny or the distributor from whom the appliance was purchased. No allowance will be granted for repairs made by anyone else without Henny Penny's written consent. If damage occurs during shipping, notify the sender at once so that a claim may be filed.

THE ABOVE LIMITED WARRANTY SETS FORTH THE SOLE REMEDY AGAINST HENNY PENNY FOR ANY BREACH OF WARRANTY OR OTHER TERM. BUYER AGREES THAT NO OTHER REMEDY (INCLUDING CLAIMS FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES) SHALL BE AVAILABLE.

The above limited warranty does not apply (a) to damage resulting from accident, alteration, misuse, or abuse; (b) if the equipment's serial number is removed or defaced; or (c) for lamps and fuses. THE ABOVE LIMITED WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS, AND ALL OTHER WARRANTIES ARE EXCLUDED. HENNY PENNY NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT ANY OTHER OBLIGATION OR LIABILITY.

Revised 01/01/07

SECTION 3. PARTS INFORMATION

3-1. INTRODUCTION

This section identifies and lists the replaceable parts of the Henny Penny blast chiller/freezer.

3-2. GENUINE PARTS

Use only genuine Henny Penny parts in your cabinet. Using a part of lesser quality or substitute design may result in cabinet damage or personal injury.

3-3. HOW TO ORDER PARTS

Once the part you want to order has been found in the Parts List, write down the following information:

1. From the Parts List
(Sample)
Item Number 13
Part Number 9501.6267
Description Condenser
2. From the data plate
(Sample)
Product Number BCF.100
Serial Number 0001
Voltage 208V

3-4. PRICES

Your distributor has a price parts list and will be glad to inform you of the cost of your parts order.

3-5. DELIVERY

Commonly replaced items are stocked by your distributor and will be sent out when your order is received. Other parts will be ordered by your distributor from Henny Penny Corporation. Normally, these will be sent to your distributor within three working days.

3-6. WARRANTY

All replacement parts (except lamps and fuses) are covered under warranty for 90 days against manufacturing defects and workmanship. If damage occurs during shipping, notify the carrier at once so that a claim may be properly filed. Refer to warranty on the front of this section for other rights and limitations.

3-7. RECOMMENDED SPARE PARTS FOR DISTRIBUTORS

Recommended replacement parts, stocked by your distributor, are indicated with √ in the parts lists. Please use care when ordering recommended parts, because all voltages and variations are marked. Distributors should order parts based upon common voltages and equipment sold in their territory.

Item No.	Part No.	Description	Quantity					BFR/BCR
			BCC	BCR	BCC	BCR	BCR	
			140	140	175	175	350	
✓ 1	9504.0205	Control PC Board	1	1	1	1	1	
✓ 2	9503.3692	Display PC Board	1	1	1	1	1	
✓ 3	9503.3700	Auxiliary Display Board	1	1	1	1	1	
4	9503.3759	Connecting Cable	1	1	1	1	1	
✓ 5	9503.7719	Communication Board	1	1	1	1	1	
6	9503.8436	Printer	1	1	1	1	1	
7	9503.8428	Printer Connecting Cable	1	1	1	1	1	
✓ 8	9503.3726	Buzzer - 240V - UL	1	1	1	1	1	
9	9500.7936	Drier	1	-	1	-	-	
✓ 10	9503.6232	De-icing Heater - UL - 500W	3	3	3	3	6	
✓ 11	9500.7209	Air Probe	1	1	1	1	1	
✓ 12	9500.7209	Evaporator Probe	1	1	1	1	1	
✓ 13	9502.6563	Run Capacitor - 4 mF	3	3	3	3	-	
14	9560.0334	Evaporator Fan	3	3	3	3	4	
15	9505.3963	Evaporator Fan Grid - UL	3	3	3	3	4	
✓ 16	9502.0400	Frigiprobe	1	1	1	1	1	
✓ 17	9503.3643	Fuse Holder	1	1	1	1	1	
✓ 18	9503.3650	Fuse - 10A	1	1	1	1	1	
✓ 19	9503.0185	Varistor V320LA20A	1	1	1	1	1	
20	9503.3601	Control Panel Decal	1	1	1	1	-	
20	9503.6224	Control Panel Decal - BCR-350	-	-	-	-	1	
21	9501.5186	Contactor - UL/CSA - 3P 23A/AC3 (BCC-175 before Oct. 2004, order 9502.0848 also)	-	-	1	-	1	
21	9503.0912	Contactor - UL/CSA - 3P 12A/AC3	1	-	-	-	-	
22	9503.3304	Condenser Fan Motor-25W, 230V, 60 Hz	-	-	1	-	-	
22	9502.1846	Condenser Fan Motor-120W, 230V, 60 Hz	1	-	-	-	-	
23	9501.8644	Water Condenser - 115V	-	-	1	-	-	
24	9503.7784	Condenser - UL	1	-	-	-	-	
25	9503.3312	Fan Blade for Condenser - BCC-175	-	-	1	-	-	
26	9503.6190	Compressor - BCC-175	-	-	1	-	-	
26	9502.1762	Compressor - BCC-140	1	-	-	-	-	
27	9502.8668	Evaporator - BCC/BCR-175	-	-	1	1	-	
27	9501.6283	Evaporator - BCC/BCR-140	1	1	-	-	-	
27	9502.8676	Evaporator - BCR-350	-	-	-	-	1	
✓ 28	9503.6174	Thermal Overload Relay - BCC-175	-	-	1	-	-	
✓ 28	9503.6158	Thermal Overload Relay - BCC-140	1	-	-	-	-	
✓ 29	9503.6257	F. Frame Heater-BCC-175; BCR-175/350	-	-	2	2	2	
✓ 29	9503.7735	Front Frame Heater-75W-BCC/BCR-140	1	1	-	-	-	
✓ 30	9502.5995	Expansion Valve-BCC-175; BCR-175/350	-	-	1	1	2	
✓ 30	9502.6951	Expansion Valve - BCC/BCR-140	1	1	-	-	-	
✓ 30	9502.5383	Expansion Valve - BFR-350	-	-	-	-	2	
31	9500.8850	Nozzle-Exp.Valve-BCC-175; BCR-175/350	-	-	1	1	2	
31	9500.8843	Nozzle-Expansion Valve - BCC/BCR-140	1	1	-	-	-	

✓ recommended parts

Item No.	Part No.	Description	Quantity				BFR/
			BCC 140	BCR 140	BCC 175	BCR 175	
31	9500.8967	Nozzle-Expansion Valve BFR-350	-	-	-	-	2
32	9500.7993	Water Pressure Valve - BCC-175	-	-	1	-	-
√ 33	9503.6182	High Pressure Switch - BCC-140	1	-	-	-	-
34	9502.5045	Liquid Receiver - BCC-140	1	-	-	-	-
34	9550.4585	Door - BCC/BCR-175/350	-	-	1	1	1
34	9550.6630	Door - BCC/BCR-140	1	1	-	-	-
35	9543.0831	Front Panel for Printer - BCC/BCR-175	-	-	1	1	-
35	9542.5989	Front Panel for Printer - BCC/BCR-140	1	1	-	-	-
36	9541.6053	Vert. Evap. Deflector-BCC/BCR-175	-	-	1	1	-
36	9541.7671	Vert. Evap. Deflector-BCR-350	-	-	-	-	1
37	9505.3674	Door Seal - BCC/BCR-175/350	-	-	1	1	1
37	9505.4466	Door Seal - BCC/BCR-140	1	1	-	-	-
38	9501.9998	Floor Door Seal - BCC/BCR-175	-	-	1	1	-
39	9541.8919	Left and Right Side Panels - BCC/BCR-175	-	-	2	2	-
40	9542.5963	LH Panel-BCC-140; LH & RH-BCR-140	1	2	-	-	-
41	9542.7225	Right Side Panel - BCC-140	1	-	-	-	-
42	9543.0419	Top Cover with Condensing Unit-BCC-140	1	-	-	-	-
42	9543.0518	Top Cover w/o Condensing Unit-BCR-140	-	1	-	-	-
42	9543.0427	Top Cover with Condensing Unit-BCC-175	-	-	1	-	-
42	9543.0542	Top Cover w/o Cond. Unit-BCR-175/350	-	-	-	1	1
43	9502.8601	Door Latch - BCC/BCR-175; BCR-350	-	-	1	1	1
43	9501.4551	Door Latch with Strike - BCC/BCR-140	1	1	-	-	-
44	9502.8619	Door Strike - BCC/BCR-175; BCR-350	-	-	1	1	1
45	9502.8585	Door Hinge - BCC/BCR-175; BCR-350	-	-	2	2	1
45	9501.4601	Door Hinge - BCC/BCR-140	1	1	-	-	-
46	9502.8593	Hinge Shim - BCC/BCR-175; BCR-350	-	-	2	2	1
√ 47	9503.6240	High Limit Safety Thermostat	1	1	1	1	2
48	9503.4583	Valve Body - BCR-140/175/350	-	1	-	1	1
49	9503.4591	Coil - BCR-140/175/350	-	1	-	1	1
√ 50	9504.0128	Power Switch	1	1	1	1	1
51	03201	Printer Accessory Bracket	1	1	1	1	1
52	9504.0139	32MM Plastic Drain	1	1	1	1	1
53	9500.2804	32MM PVC Elbow	1	1	1	1	1
54	9503.9236	32MM PVC - T	1	1	1	1	1

√ recommended parts

