

Heated Display Merchandisers

MODELS WDCG, SSWG, CSWG
Installation & Operation Manual



Warranty Information

LIMITED ONE YEAR WARRANTY

BKI (The "Company") warrants to the original purchaser/user, that at time of shipment from the Company factory, this equipment will be free from defect in materials and workmanship. Written notice of a claim under this Warranty must be given within **ONE YEAR AND THREE MONTHS** from date of shipment from the factory. Defective conditions caused by abnormal use or misuse, lack of maintenance, damage by third parties, alterations by unauthorized personnel, acts of God, failure to follow installation instructions or any other events beyond the control of the company will **NOT** be covered under Warranty. The obligation of the Company under this Warranty shall be limited to repairing or replacing (at the option of the company) any part which is defective in reasonable opinion of the Company. The user will have the responsibility and expense of removing and returning the defective part to the Company as well as the cost of reinstalling the replacement or repaired part.

IN NO EVENT SHALL THE COMPANY BE LIABLE FOR LOSS OF USE, LOSS OF REVENUE OR LOSS OF PRODUCT OR PROFIT OR FOR INDIRECT OR CONSEQUENTIAL DAMAGES INCLUDING BUT NOT LIMITED TO, FOOD SPOILAGE OR PRODUCT LOSS. WARRANTY DOES NOT COVER GLASS BREAKAGE. THE ABOVE WARRANTY IS EXCLUSIVE AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ARE EXCLUDED INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY SHALL APPLY ONLY WITHIN THE CONTINENTAL UNITED STATES, ITS TERRITORIES, AND POSSESSIONS AND IN CANADA.

LIMITED NINETY DAY LABOR WARRANTY

All labor necessary to repair or replace factory defective parts will be performed, without charge, to the end user, by service personnel of a **BKI** Authorized Distributor during the first ninety days after the date of installation of the new equipment.

Replacement parts: Any appliance replacement part, except lamps and fuses, which proves to be defective in material or workmanship within 90 days from date of original installation will be repaired or replaced without charge F.O.B. Factory, Simpsonville, S.C. or F.O.B. authorized distributor.

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Introduction

Congratulations! You have chosen a **Hot Food Deli Case** that will give you many years of fine service from the original manufacturer, **BKI**.

The BKI name and trademark on this unit assures you of the finest in design and engineering -- that it has been built with care and dedication -- using the best materials available. Attention to the operating instructions regarding proper installation, operation, and maintenance will result in long lasting dependability to insure the highest profitable return on your investment.

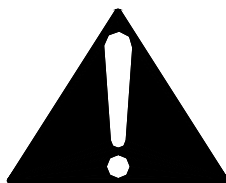
NOTICE

PLEASE READ THIS ENTIRE MANUAL BEFORE OPERATING THE UNIT. If you have any questions, please contact your BKI Distributor. If they are unable to answer your questions, contact the BKI Technical Service Department, toll free: 1-800-927-6887. Outside the U.S., call 1-864-963-3471.

This unit is to be sealed to the floor after installation to conform to NSF requirements. (Dow Corning RTV #732 Multi purpose Sealant.)

Safety Precautions

Always follow recommended safety precautions listed in this manual. Below is the safety alert symbol. When you see this symbol on your equipment, be alert to the potential for personal injury or property damage.



Safety Signs and Messages

The following Safety signs and messages are placed in this manual to provide instructions and identify specific areas where potential hazards exist and special precautions should be taken. Know and understand the meaning of these instructions, signs, and messages. Damage to the equipment, death or serious injury to you or other persons may result if these messages are not followed.

⚠ DANGER

This message indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

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

⚠ CAUTION

This message indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTICE

This message is used when special information, instructions or identification are required relating to procedures, equipment, tools, capacities and other special data.

Specific Precautions

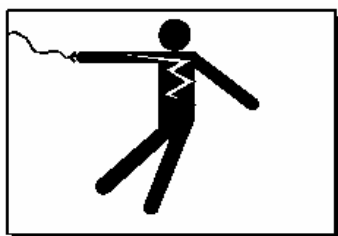
CAUTION Equipotential Ground Plane

When a high current flows through a conductor, differences in potential appear between the conductor and nearby metallic surfaces near the appliance. As a result, sparks may be produced between the appliance and surrounding metal surfaces. These sparks could cause serious injury, damage, or fire.

BKI provides an Equipotential ground terminal for the connection of a bonding conductor after the installation of the appliance per IEC60417-1. This terminal is located on the inside of the Power Entry Supply box near the Earth connection and is marked with this symbol.

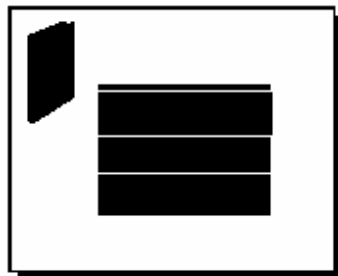


Safe Work Practices



Beware of High Voltage

This equipment uses high voltage. Serious injury can occur if you or any untrained or unauthorized person installs, services, or repairs this equipment. Always Use an Authorized Service agent to Service Your Equipment



Keep this manual with the Equipment

This manual is an important part of your equipment. Always keep it near for easy access.

If you need to replace this manual, contact:

BKI

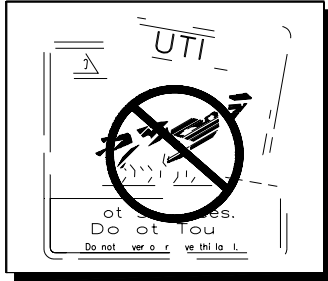
Technical Services Department
P.O. Box 80400
Simpsonville, S.C. 29680-0400
Or call toll free: 1-800-927-6887
Outside the U.S., call 864-963-3471



Protect Children

Keep children away from this equipment. Children may not understand that this equipment is dangerous for them and others.

NEVER allow children to play near or operate your equipment.



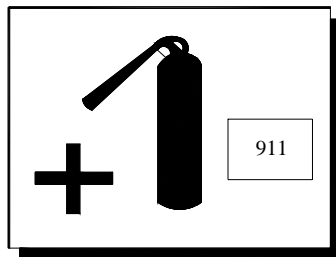
Keep Safety Labels Clean and in Good Condition

Do not remove or cover any safety labels on your equipment. Keep all safety labels clean and in good condition. Replace any damaged or missing safety labels.

If you need new safety labels, contact:

BKI

Technical Services Department
 P.O. Box 80400
 Simpsonville, S.C. 29680-0400
 Or call toll free: 1-800-927-6887
 Outside the U.S., call 864-963-3471

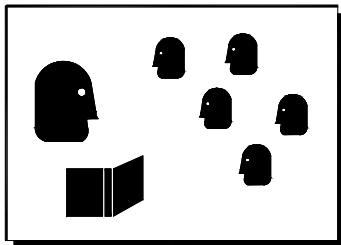


Be Prepared for Emergencies

Be prepared for fires, injuries, or other emergencies.

Keep a first aid kit and a fire extinguisher near the equipment. You must use a 40-pound Type BC fire extinguisher and keep it within 25 feet of your equipment.

Keep emergency numbers for doctors, ambulance services, hospitals, and the fire department near your telephone.



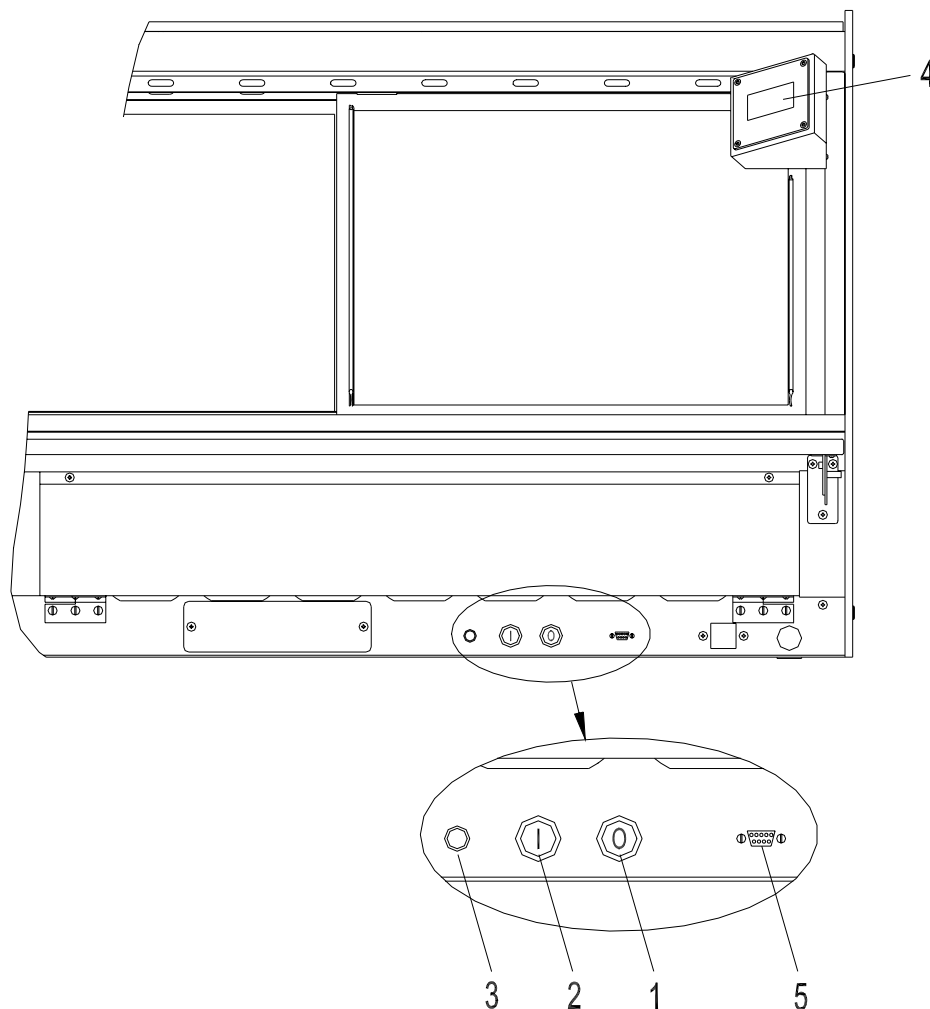
Know your responsibilities as an Employer

- Make certain your employees know how to operate the equipment.
- Make certain your employees are aware of the safety precautions on the equipment and in this manual.
- Make certain that you have thoroughly trained your employees about operating the equipment safely.
- Make certain the equipment is in proper working condition. If you make unauthorized modifications to the equipment, you will reduce the function and safety of the equipment.

Operation

Controls and Indicators

The deli case controls are shown in the figure below. The pushbutton switches turn the power supply to the case on and off. The touchscreen interface is used to operate the case and display temperatures.



Hardware Controls

Item #	Description	Function
1	Power OFF Switch	Depressing the switch turns power OFF to the entire unit.
2	Power ON Switch	Depressing the switch turns power ON to the entire unit. When the unit is ON the touchscreen controller is powered & the lights illuminate.
3	Main Power Isolator Light	This light illuminates to indicate that power is being applied to the unit from the main power isolator (circuit breaker).
4	Analog Touchscreen Interface	Used for the operation of the unit and to measure & record product temperatures.
5	Controller RS-232 Interface	Allows user to download saved product temperatures to a laptop PC using the supplied software.

Software Controls - Default Screen

The Default Screen appears on the touchscreen during normal operation. The screen shows the menu button and a representative temperature.

The representative temperature does not correspond to the internal temperature of the food products in the case. This temperature is only an indication that the case is operating properly and heating.

When the unit is first powered up the representative temperature will be approximately room temperature. As the unit preheats the representative temperature will rise. The representative temperature will stabilize when the unit reaches operating temperature.

The representative temperature should be approximately the same from day to day when the unit is in operation. A significant change in this temperature without changing any of the temperature settings of the unit may indicate a problem with the unit. A qualified BKI service representative should be contacted.

Software Controls - Viewing Settings

The current heater settings can be viewed by touching the Menu Button **[M]** on the Default Screen. The Menu Screen will then be displayed.

To view the current settings for either Well Temp or Upper Heater touch the appropriate button on the Menu Screen. The View Setting Screen for the selected heaters will be displayed.

To return to the Default Screen, touch the Exit Button **[X]**.

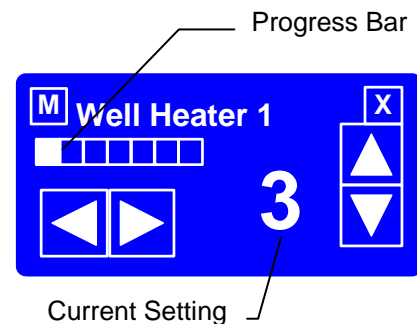
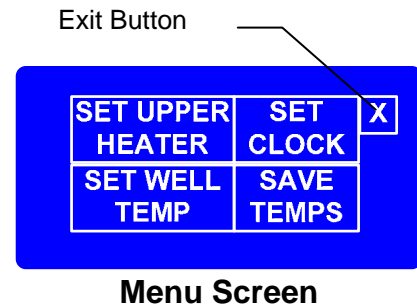
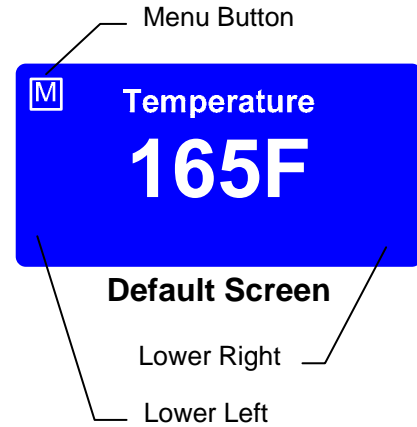
If the controller is configured to control each well position independently the View Setting Screen as shown at right will be displayed. Use the left and right arrows to display the heater setting for the various well positions of the unit. The progress bar gives a visual representation of the well location for which the setting is being displayed.

The current heater setting is displayed on the right side of the screen. The setting is a numeric value between 1 and 10 where 10 is the hottest setting.

If the controller is configured to control all of the well positions at the same setting, the progress bar will be solid and the left and right arrows will not be displayed. The setting shown will be for the heaters at all of the well positions.

To return to the Menu Screen, touch the Menu Button **[M]**. To return to the Default Screen, touch the Exit Button **[X]**.

Touching **[Set Clock]** on the Menu Screen will display the time and date. To return to the Menu Screen, touch the Menu Button **[M]**. To return to the Default Screen, touch the Exit Button **[X]**.



View Setting Screen

Software Controls - Programming the Controller

There is a unique set of touches to enter the programming mode. This prevents the case settings from being inadvertently changed.

Enter the programming mode from the Default Screen by touching the lower left of the touchscreen, then the lower right and then the Menu Button **[M]** in that order. The Menu Screen will then be displayed.

To edit the current settings for either Well Temp or Upper Heater touch the appropriate button on the Menu Screen. The Edit Setting Screen for the selected heaters will be displayed.

To return to the Default Screen, touch the Exit Button **[X]**.

If the controller is configured to control each well position independently the Edit Setting Screen as shown at right will be displayed. Use the left and right arrows to display the heater setting for the various well positions of the unit. The progress bar gives a visual representation of the well location for which the setting is being displayed.

The current heater setting is displayed on the right side of the screen. Use the up and down arrows to edit the heater setting. The setting is a numeric value between 1 and 10 where 10 is the hottest setting.

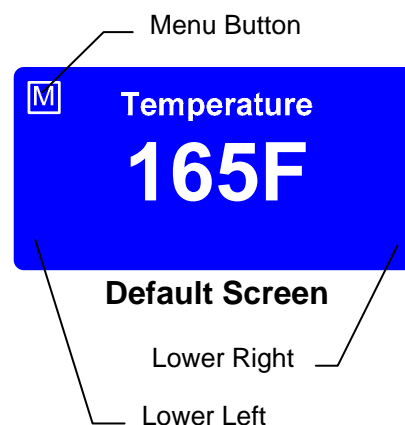
If the controller is configured to control all of the well positions at the same setting, the progress bar will be solid and the left and right arrows will not be displayed. Use the up and down arrows to edit the heater setting for all of the well positions.

To return to the Menu Screen, touch the Menu Button **[M]**. To return to the Default Screen, touch the Exit Button **[X]**.

To edit the controller time and date settings touch **[Set Clock]** on the Menu Screen while in the program mode. The time and date will need to be reset if the power supply to the case has been disconnected.

Use the left and right arrows to move the cursor under the value to be edited. Use the up and down arrows to edit the value. Continue until the current date and time is displayed.

To return to the Menu Screen, touch the Menu Button **[M]**. To return to the Default Screen, touch the Exit Button **[X]**.



Edit Settings Screen

Preheating

You should allow the equipment to preheat at the programmed temperature settings for a minimum of 30 minutes before loading it with product. For initial start up, program the controller for each well and upper heater to a setting of 5.

Check Federal and State Health and Sanitation Regulations for internal temperature required for holding cooked foods for sale. Maintaining these temperatures often tend to allow continued cooking of certain products. Therefore, smaller amounts of bulk foods should be displayed at non-peak periods and the warmer refilled as needed.

All meats and vegetables should be preheated to 160° F (70°C). before being placed in the case.

A screen liner can be used in the bottom of the display pans that are used for holding meats. This will keep meats from sticking to the bottom of the pans.

Temperature Adjustment

After placing the product into the equipment, it may be necessary to adjust the programmed settings in order to maintain the proper internal temperature for the product on display. The optional built-in product temperature probe or a portable meat thermometer should be used to read the internal temperature of each product. The programmed settings should be set to the lowest possible number that will maintain the proper product temperature.

Operational Guidelines

Keep the optional built-in product temperature probe or a portable meat thermometer on hand. Check the food temperatures hourly.

Rotate the food products. Foods loaded in first should be served first as much as is practical.

Foods held for long periods of time are more difficult to maintain at proper temperature. Also, freshness and product quality diminish if foods are held too long. Most areas of the country have sanitation regulations governing how long foods can be held. Make certain to check with your local authorities.

Unit Shutdown

Remove all food pans holding the food product from the equipment. Depress the **OFF** pushbutton switch to turn the power to the heaters and lights off. After the temperature has cooled below **120°F (50°C)**, remove any residue from the wells and clean the equipment thoroughly.

Installation

Unpacking and Handling

YOU are responsible for filling all freight claims with the delivering truck line. Inspect all cartons and crates for damage as soon as they arrive. If damage to cartons or crates is found, or if a shortage is found, note this on the bill of lading (all copies) prior to signing.

If damage is found when the equipment is opened, immediately call the delivering truck line and follow up the call with a written report indicating concealed damage to your shipment. Ask for an immediate inspection of your concealed damage item. Packaging material **MUST** be retained to show the inspector from the truck line.

WARNING

Do not walk on top of deli cases or damage to the cases and serious personal injury could occur. The cases are not structurally designed to support excessive external loading such as the weight of a person. Do not place heavy objects on the deli cases.

Move the deli case as close as possible to its permanent location before moving the case off of the shipping pallet. Make certain there are no separately packed accessories before discarding packaging.

During shipment, the lubricant in the gas springs may have settled. This can cause the glass not to remain open in the raised position. To avoid this, fully raise and lower the glass manually 4 or 5 times.

NOTICE

This unit is designed to be sealed to the floor after it is installed – to conform to NSF Standard 4. Use Dow Corning RTV # 732 Multi-purpose Sealant.

Floor Model

Leveling

Deli cases must be installed level to insure proper operation and alignment to adjoining equipment. Use a carpenter's level as shown in Figure 1. Begin lineup leveling from the highest point of the store floor.

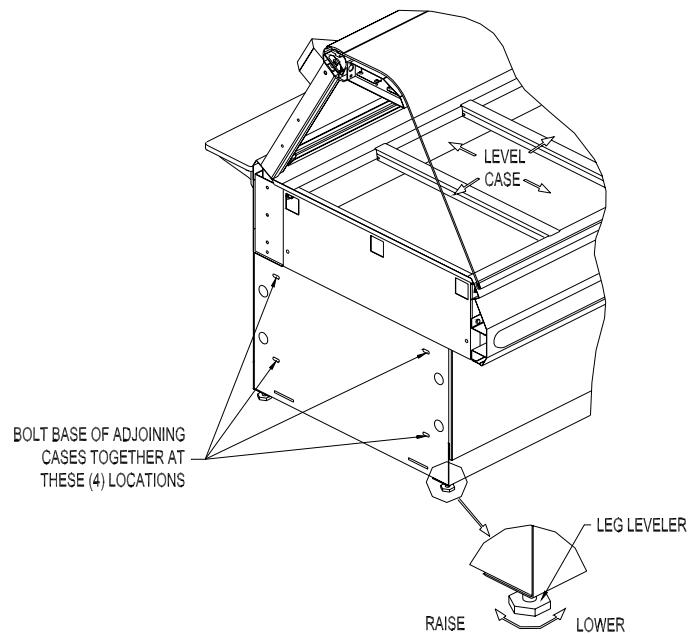


Figure 1. Floor Model - Leveling & Kick Plate Mounting

1. Level the case using the leg levelers at the corners of the case (Figure 1).
2. Raise the low end of the case to level it, do not lower the high end.
3. Check for level side-to-side and front-to-back.
4. If you are installing adjoining cases, position the next case in line beside the level case and proceed to the next step.
5. Level this case in the same manner.
6. When level, bolt the two cases together at the locations shown in Figure 1.

NOTE: None of the end components shown in Figure 2 should be attached to adjoining case ends

If the cases have been properly leveled, the front panels and counter tops should align with a small, uniform gap between the front panels of the two cases.

7. Proceed in the same manner until all the cases in the line are level and bolted together.
8. Complete the line up by slipping the Counter Top Joint Cover over the end flanges of the adjoining counter tops.

Kick Plate Mounting

A black vinyl-covered kick plate is provided for the front and back of each case.

1. Slide the front kick plate (the wider of the two) behind the lower finished front panel of the case (see Figure 2).
2. Make certain that the ends of the kick plate are flush with the ends of the lower finished front panel and that the kick plate is flush to the floor.
3. Drill 5/32" diameter holes in the case base to match the pre-drilled holes in the kick plate.
4. Attach the kick plate to the case base with the black sheet metal screws provided.
5. Mount the back kick plate to the case in the same manner.
6. Place the End Kick Plates in position (see Figure 2).

NOTE: There are left and right hand parts. The longer end flange faces toward the front of the case with the black side out. The End Kick Plates fit over the ends of the front and back kick plates and flush to the floor.

End Panel Mounting

1. Now, attach the End Trim Panels to the base ends. The studs on the Trim Panels pass through the mounting holes in the base ends (see Figure 2). Both End Trim Panels are the same.
2. The panels are secured from inside with the #10 Pal Nuts provided.
3. Attach the End Panels to the ends of the case(s) as shown in Figure 2 using the shoulder screws provided. For Glass End Panels only, slide the plastic bushings provided over the shoulder screws before inserting the screw into the glass panel. Be careful that the screws do not bind in the holes in the glass panel.

NOTE: If the ends are already attached to the case, the End Kick Plates can be lowered to the floor. To do this loosen the End Trim Panel nuts from inside the case then slide the Kick Plates flush with the floor and tighten the Trim Panel nuts.

4. These cases are to be sealed to the floor if required by local health codes. Seal the kick plates to the floor using a silicone-type sealant (Dow Corning RTV #732 or equivalent).

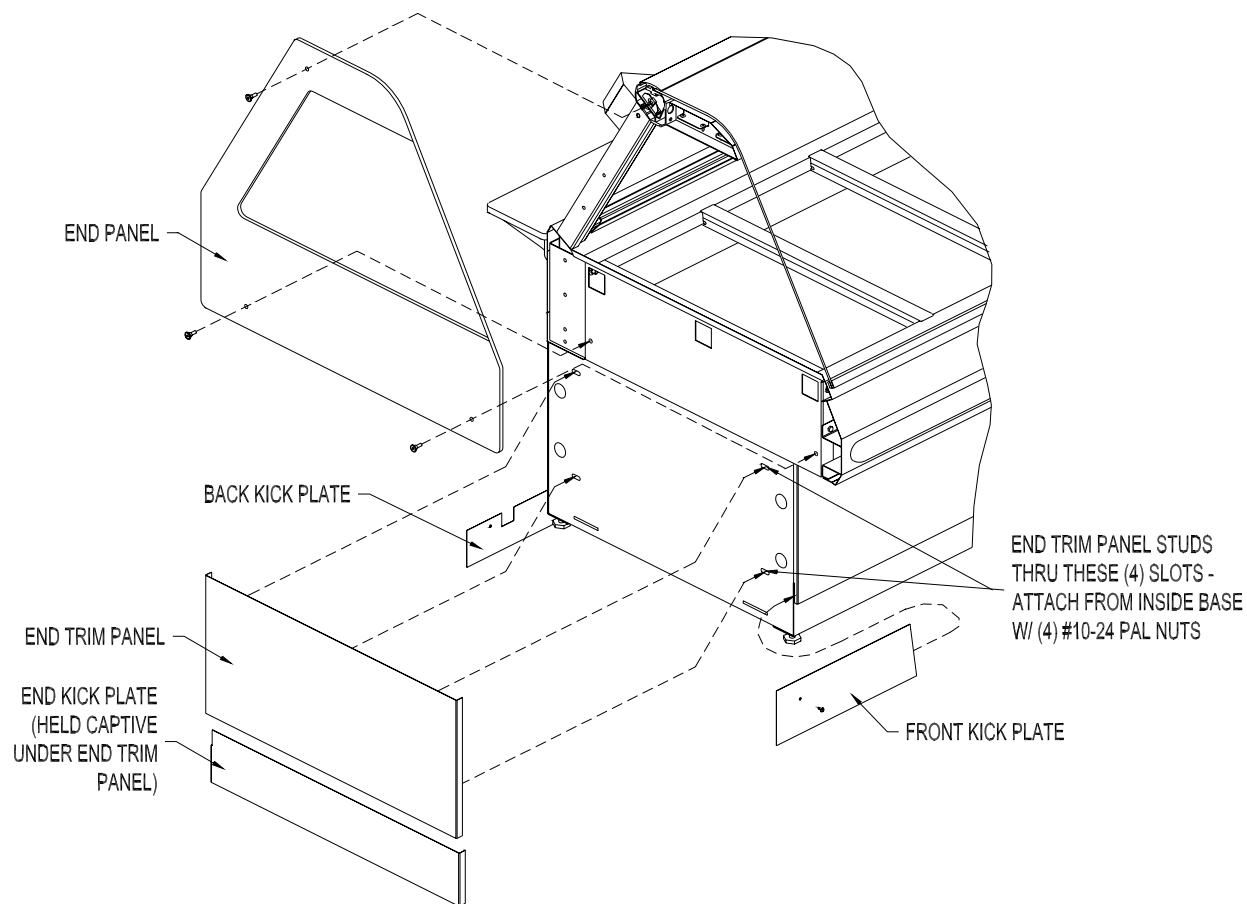


Figure 2. Floor Model - End Kick Plate & End Panel Mounting

Pedestal Model

Pedestal mounted cases are provided with a mounting frame that runs the full length of the case. This allows the pedestals to be located at any point along the length of the case. Each case should be supported by at least two pedestals. One pedestal can support the ends of two adjoining cases. If in doubt, consult the factory for assistance in determining the proper pedestal locations for your particular installation.

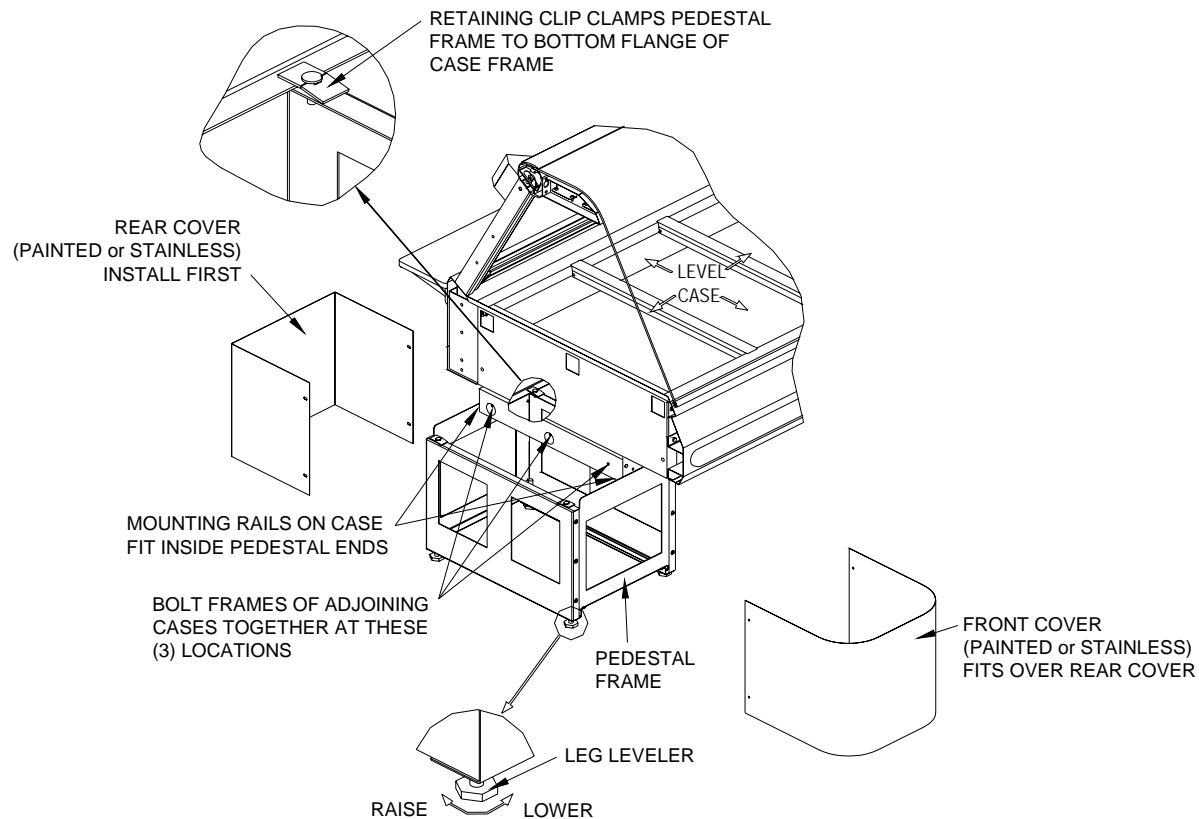


Figure 3. Pedestal Model - Leveling and Cover Attachment

Leveling

Deli cases must be installed level to insure proper operation and alignment to adjoining equipment. Use a carpenter's level as shown in Figure 3. Begin lineup leveling from the highest point of the store floor.

1. Level the case using the leg levelers at the corners of the pedestals (see Figure 3).
2. Raise the low end of the case to level it, do not lower the high end.
3. Check for level side-to-side and front-to-back.
4. If you are installing adjoining cases, position the next case in line beside the level case and proceed to the next step.
5. Level this case in the same manner.
6. When level, bolt the two cases together at the locations shown in Figure 3. If the cases have been properly leveled, the front panels and counter tops should align with a small, uniform gap between the front panels of the two cases.

7. Proceed in the same manner until all the cases in the line are level and bolted together.
8. Complete the line up by slipping the Counter Top Joint Cover over the ends flanges of the adjoining counter tops.

Front and Rear Cover Attachment

1. Slide the Rear Cover over the Pedestal Frame first (see Figure 3). Then slide the Front Cover over the Frame with the sides of the Front Cover lapping over the side of the Rear Cover. The Front Cover will extend approximately 4-1/2" from the front of the frame.
2. Drill two 5/32" diameter holes in each side of the Pedestal Frame to match the predrilled holes in the covers.
3. Secure the covers to the frame using the #8 sheet metal screws provided.
4. These cases are to be sealed to the floor if required by local health codes. Seal the pedestal covers to the floor using a silicone-type sealant (Dow Corning RTV #732 or equivalent).

End Panel Mounting

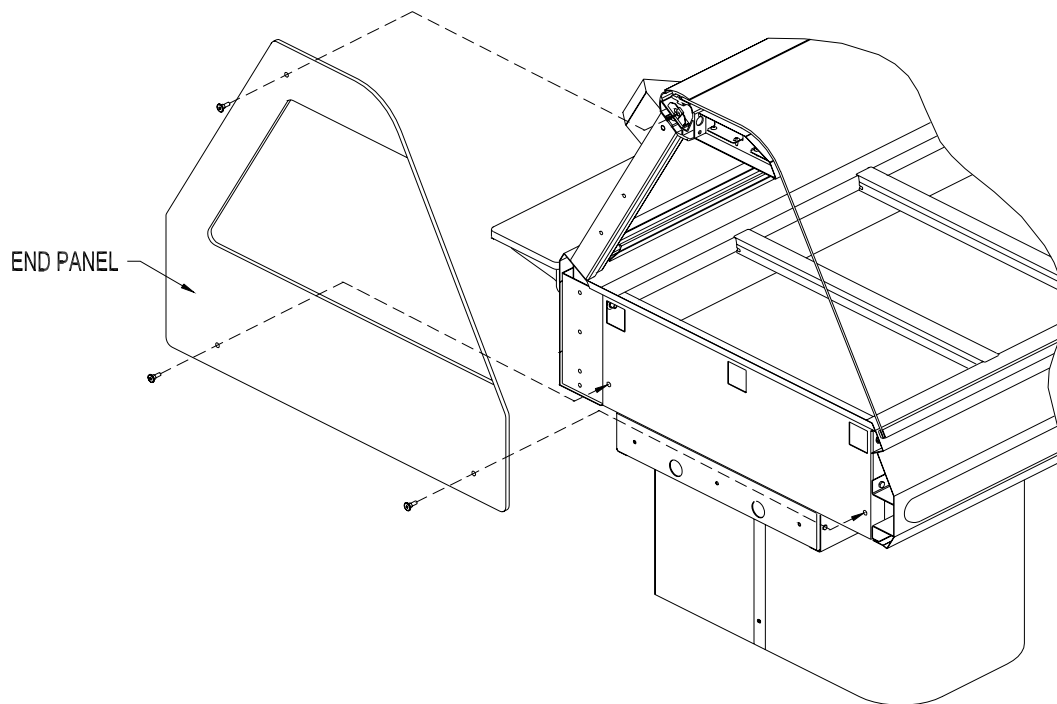


Figure 4. Pedestal Model - End Panel Mounting

1. Attach the End Panels to the ends of the case(s) as shown in Figure 4 using the shoulder screws provided.

For Glass End Panels only, slide the plastic bushings provided over the shoulder screws before inserting the screw into the glass panel. Be careful that the screws do not bind in the holes in the glass panel.

Counter Model

Counter Mounted cases must be mounted on a level surface that can support the weight of the case and its contents. Use a carpenter's level as shown in Figure 3 to level the case.

These cases are to be sealed to the counter if required by local health codes. Seal the perimeter of the case to the counter using a silicone-type sealant (Dow Corning RTV #732 or equivalent).

Attach the End Panels to the ends of the case as shown in Figure 4 using the shoulder screws provided. The (2) lower shoulder screws shown in Figure 4 are not required on counter mounted cases.

For Glass End Panels only, slide the plastic bushings provided over the shoulder screws before inserting the screw into the glass panel. Be careful that the screws do not bind in the holes in the glass panel.

Wiring

A wiring diagram for the specific model is shipped with the deli case. The wiring diagram provides electrical specifications, an electrical schematic and a parts list. Refer to this wiring diagram and the deli case serial number plate for electrical information.

Field wiring must be sized for the components amperes printed on the serial number plate. Actual ampere draw may be less than specified.

All electrical connections should be in compliance with the NEC and all applicable local codes by a licensed electrician. Refer to the wiring diagram furnished with your case for the electrical specifications.

The power supply connection is located on the bottom or back of the well compartment of the case (see Figure 5). A $\frac{3}{4}$ " knockout is provided at each location for the required conduit connection. A second power supply connection for the oven is provided on oven combo cases.

A wiring cutout is provided in the base bottom pan on floor model cases (see Figure 5). Refer to the case specification sheet for the location of this cutout. Remove the cover over the wiring cutout and route the wiring through the cutout. Cut a hole of the proper size and location in the cover for the conduit to pass through and reinstall the cover.

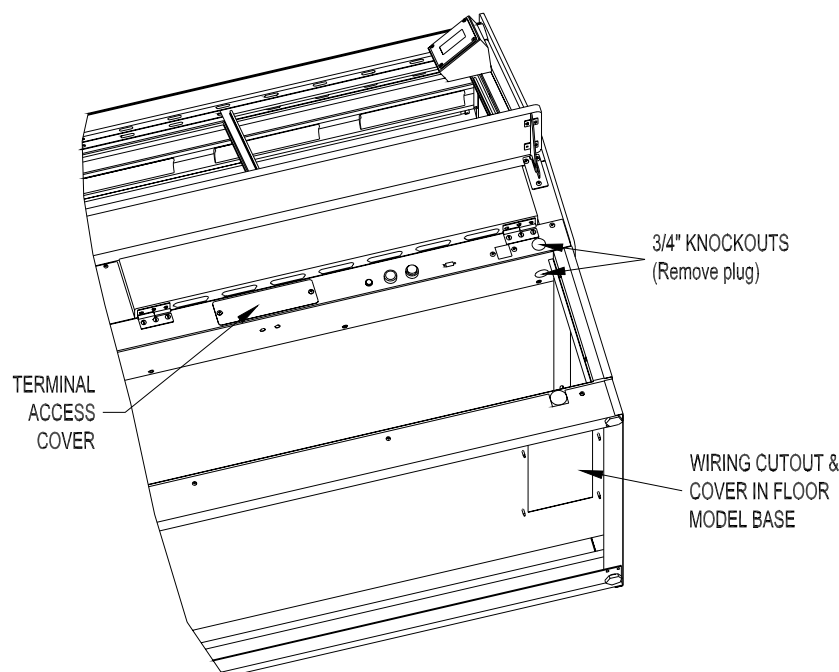


Figure 5. Wiring Access

Case Joining Trim

1. After leveling the cases and bolting the bases together, bolt the canopies together as shown in Fig. 6 with a $\frac{1}{4}$ "-20 x $\frac{3}{4}$ " Hex Head Screw and Keps Nut.
2. Mount the Upper Front & Base Front Joint Trims by holding them in place and marking the hole locations on the case.
3. Make certain the joint covers are centered on the joint and that they align vertically with each other.
4. Drill the case holes $\frac{5}{32}$ " and attach joint covers with screws provided. Before tightening the top screws of the Upper Front Trim, slide the Counter Front Trim in place between the screw head and the Upper Front Trim.
5. Attach Bumper Ends and Bumper Mounting Base to the front of the cases, centered on the vertical surface of the upper front of the case. Cut the Bumper Top to length to fit between the Bumper Ends and snap into place.

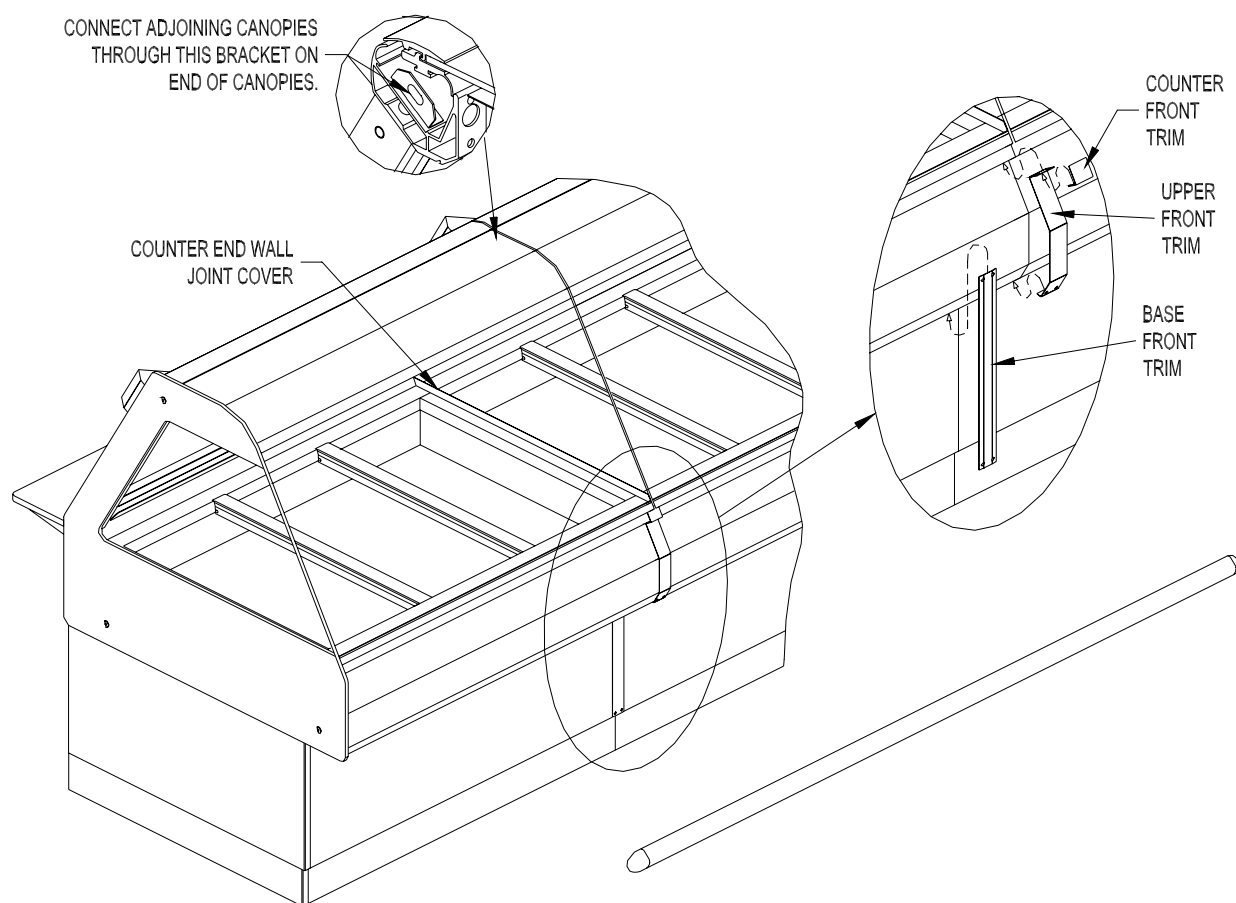


Figure 6. Joining WDCTY Cases

Maintenance

⚠ CAUTION

Failure to comply with the maintenance below could result in a serious accident.

⚠ WARNING

Electrocution, equipment failure or property damage could result if an unlicensed electrician performs electrical repair. Ensure that a licensed electrician perform electrical repair.

Scheduled Maintenance

Use the following table to help manage scheduled maintenance activities.

Frequency	Performed By	Part	Activity
Daily	User	Case	Clean the entire Case. Refer to the cleaning procedure below.

Cleaning

This unit should be cleaned at the end of each day. Use the following procedure:

⚠ DANGER

Failure to remove power from this unit may cause severe electrical shock. This unit may have more than one disconnect switch.

1. Turn the machine 'off' and allow it to cool down.
2. Remove any food pans.

⚠ CAUTION

Using abrasive cleaners may damage the cabinet finish. Use only a mild soap and water solution.

Never steam clean or get excess water in the interior of the cabinet as this can damage unit.

This appliance is not intended to be cleaned with a water jet.

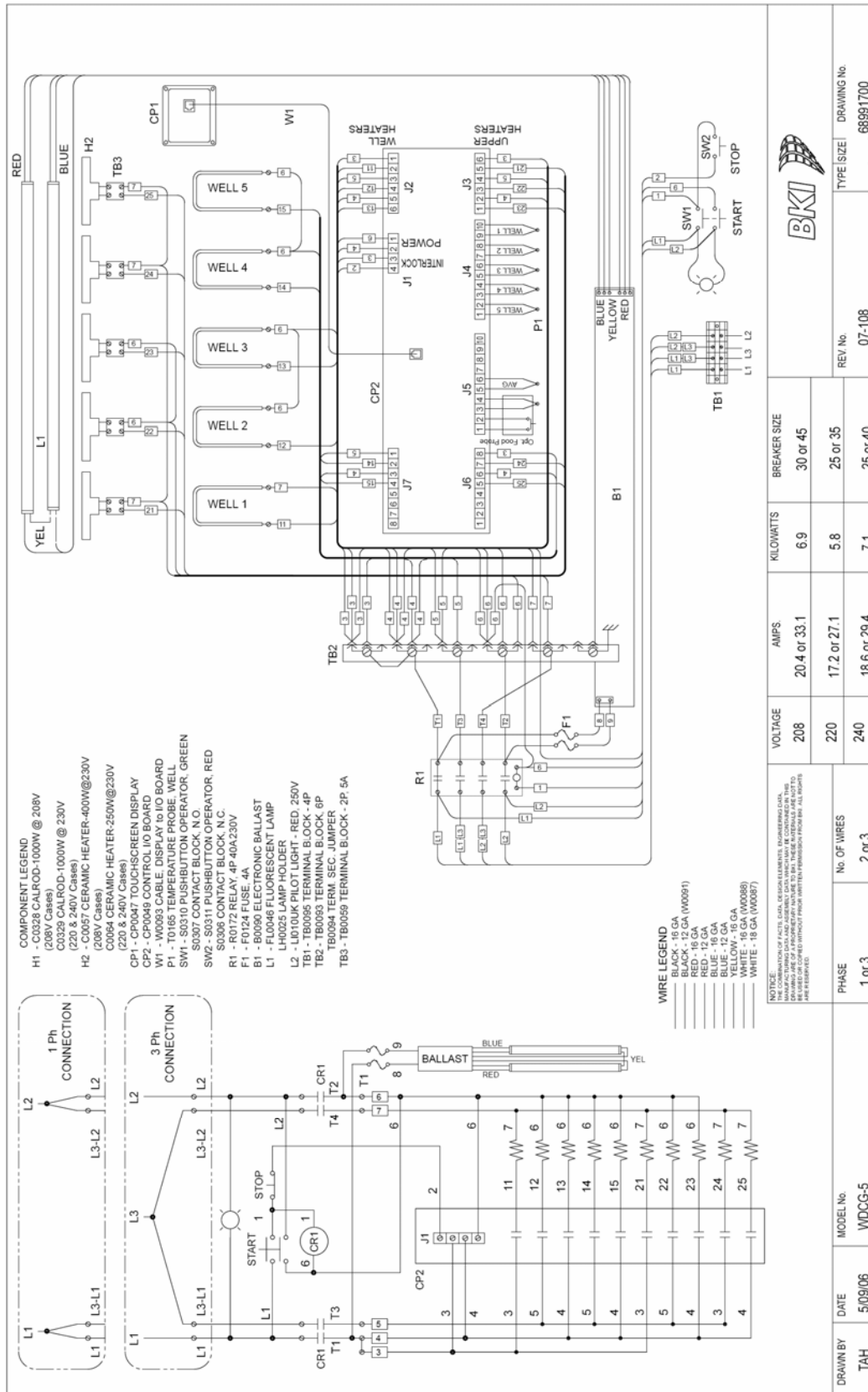
3. Use a mild soap and water solution to clean parts.
4. Sponge the inside and outside with a mild soap and water solution.
5. Wipe the parts and cabinet dry with a soft, clean cloth.

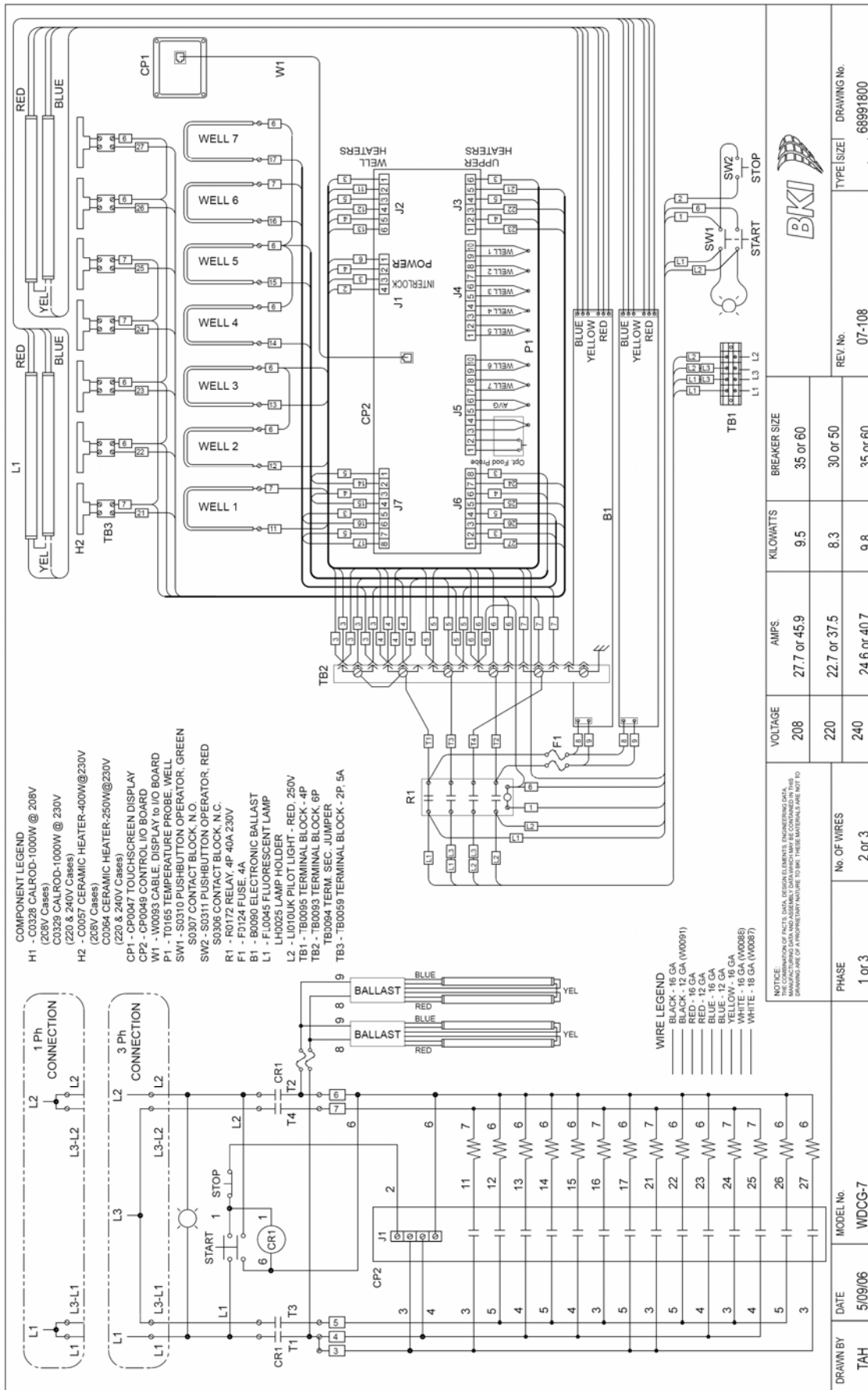
Troubleshooting

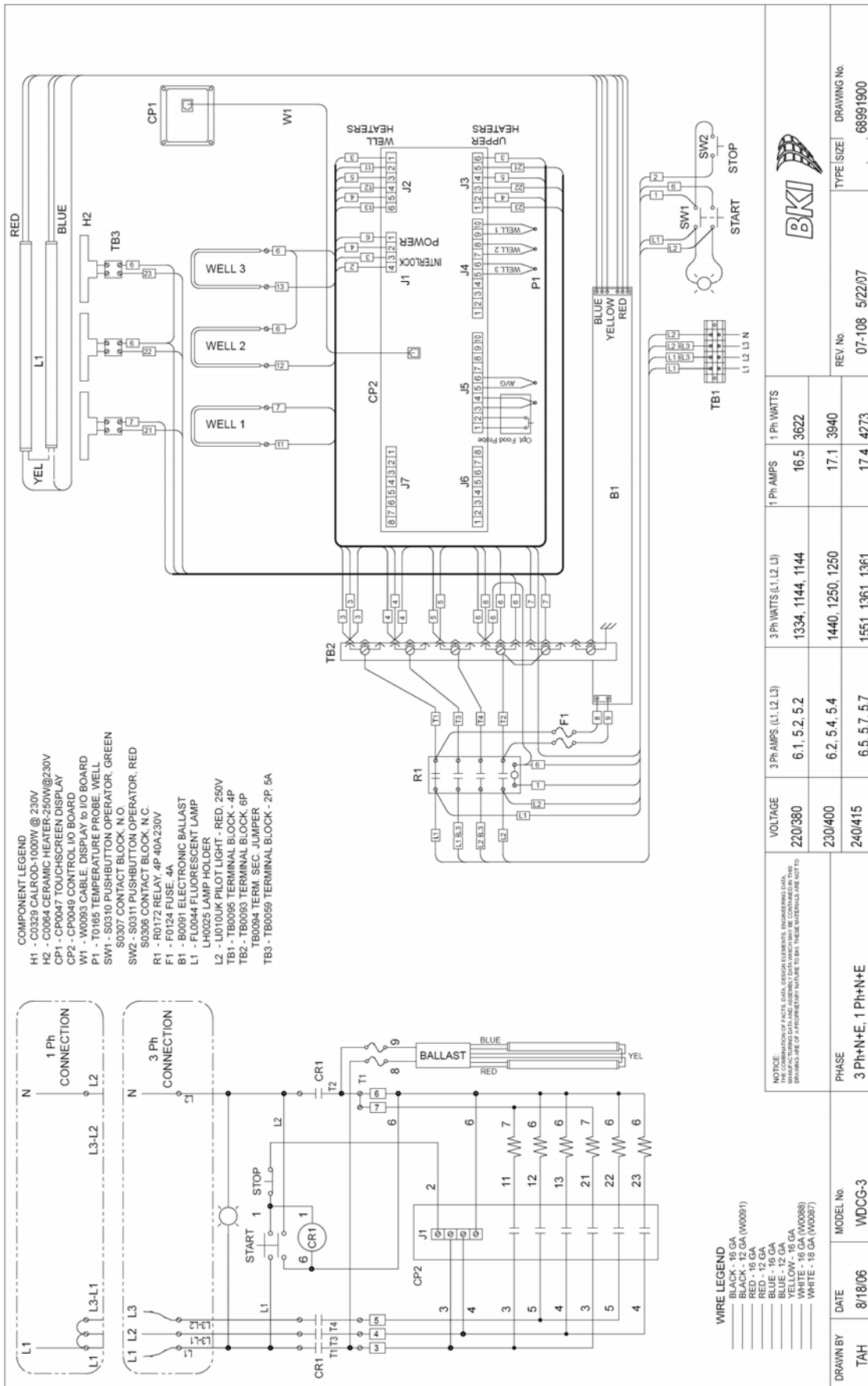
Refer to the table below for troubleshooting information.

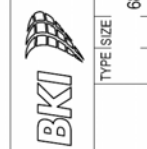
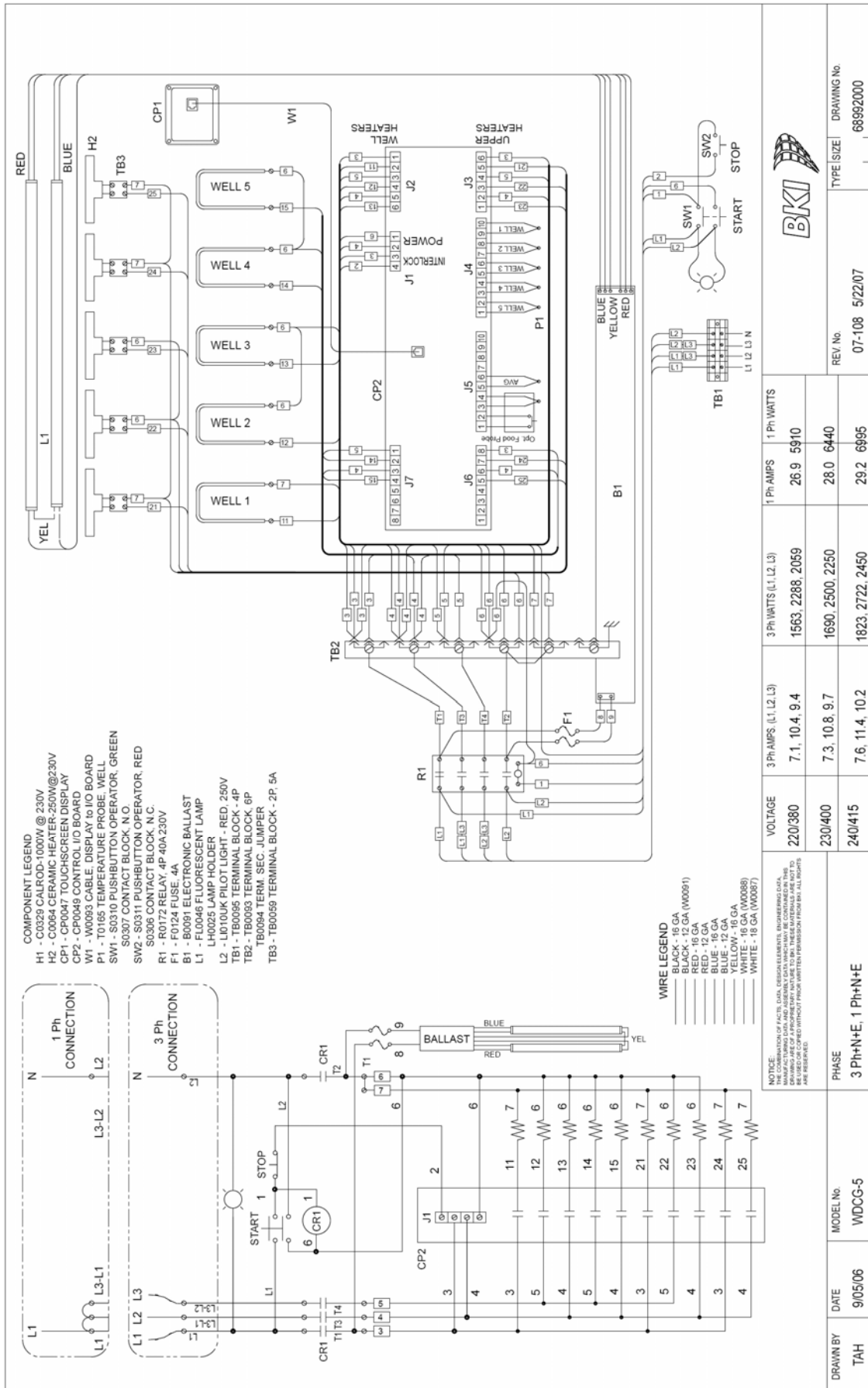
Problem	Cause	Possible Solution
Electrical	No Power to the case.	Check circuit breaker or fuses at building power panel. If problem persists, contact an authorized BKI service agent for corrective action.
	Power switch is off.	Reset the power switch.
No Heat	Power switch if off.	Reset the power switch.
	Defective Heating Element.	Contact an authorized BKI service agent for corrective action.
	Defective Thermostat.	Contact an authorized BKI service agent for corrective action.
	Loose Wire or bad Connection.	Contact an authorized BKI service agent for corrective action.
Holding Temperature Not Adequate	Case and food pans have not been preheated.	Refer to the preheating section on page Error! Bookmark not defined. .. If problem persists, contact an authorized BKI service agent for corrective action.
	One or more heating elements or thermostats not operating properly.	Contact an authorized BKI service agent for corrective action.
	Product is below 160° F when loaded.	Check product temperature before loading the case.
	Loose Wire or bad Connection.	Contact an authorized BKI service agent for corrective action.

Wiring Diagrams





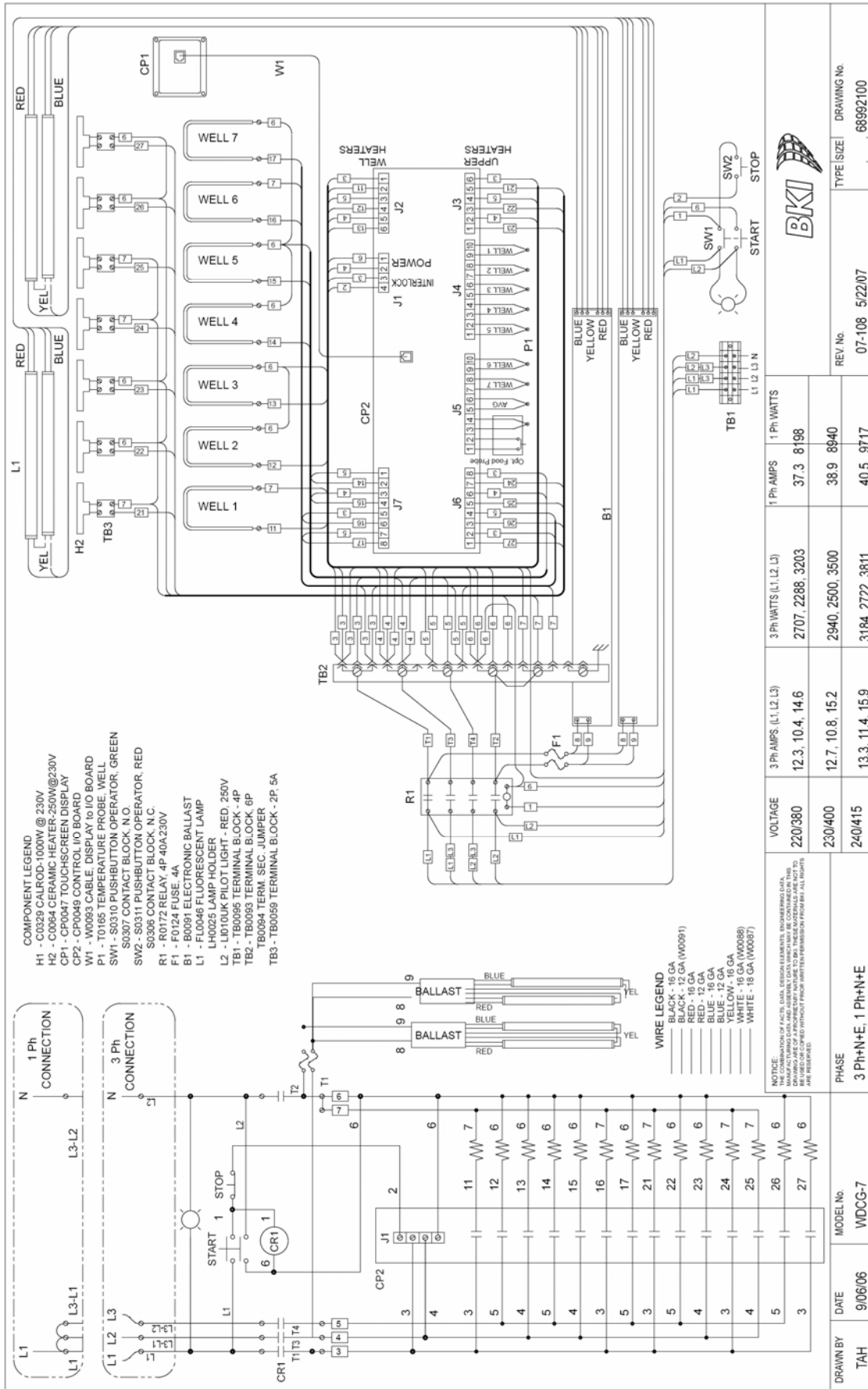


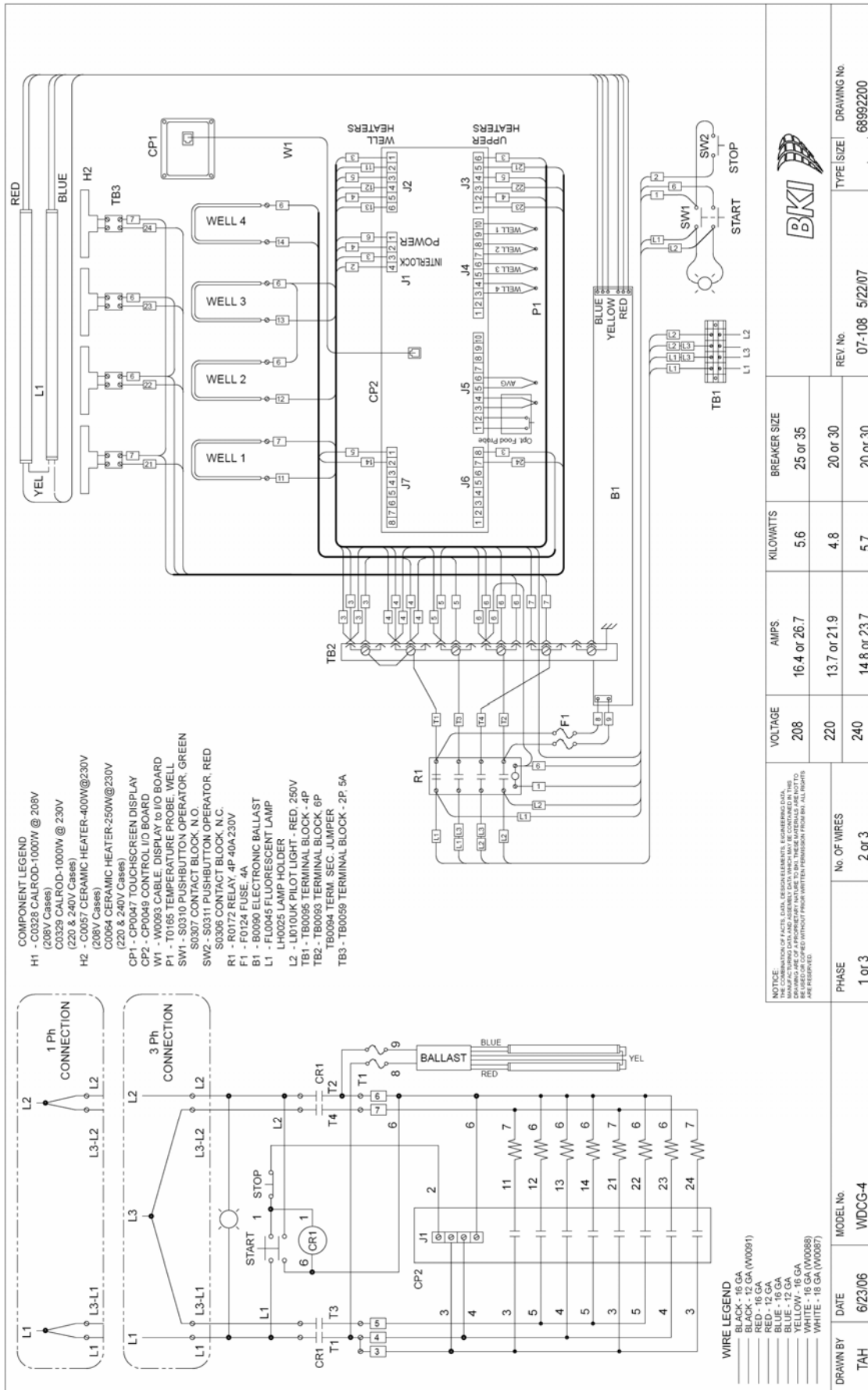


REV. No. 07-108 5/22/07
TYPE/SIZE | DRAWING No. 68992000

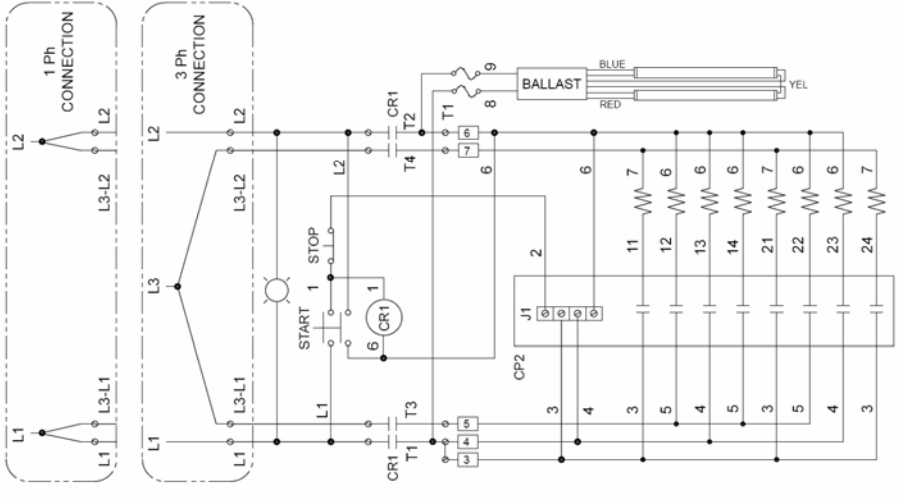
VOLTAGE	3 Ph AMPS (L1, L2, L3)	3 Ph WATTS (L1, L2, L3)	1 Ph AMPS	1 Ph WATTS
220/380	7.1, 10.4, 9.4	1563, 2288, 2059	26.9	5910
230/400	7.3, 10.8, 9.7	1690, 2500, 2250	28.0	6440
240/415	7.6, 11.4, 10.2	1823, 2722, 2450	29.2	6995

DRAWN BY	DATE	MODEL No.	PHASE
TAH	9/05/06	WDCG-5	3 Ph+N+E, 1 Ph+N+E





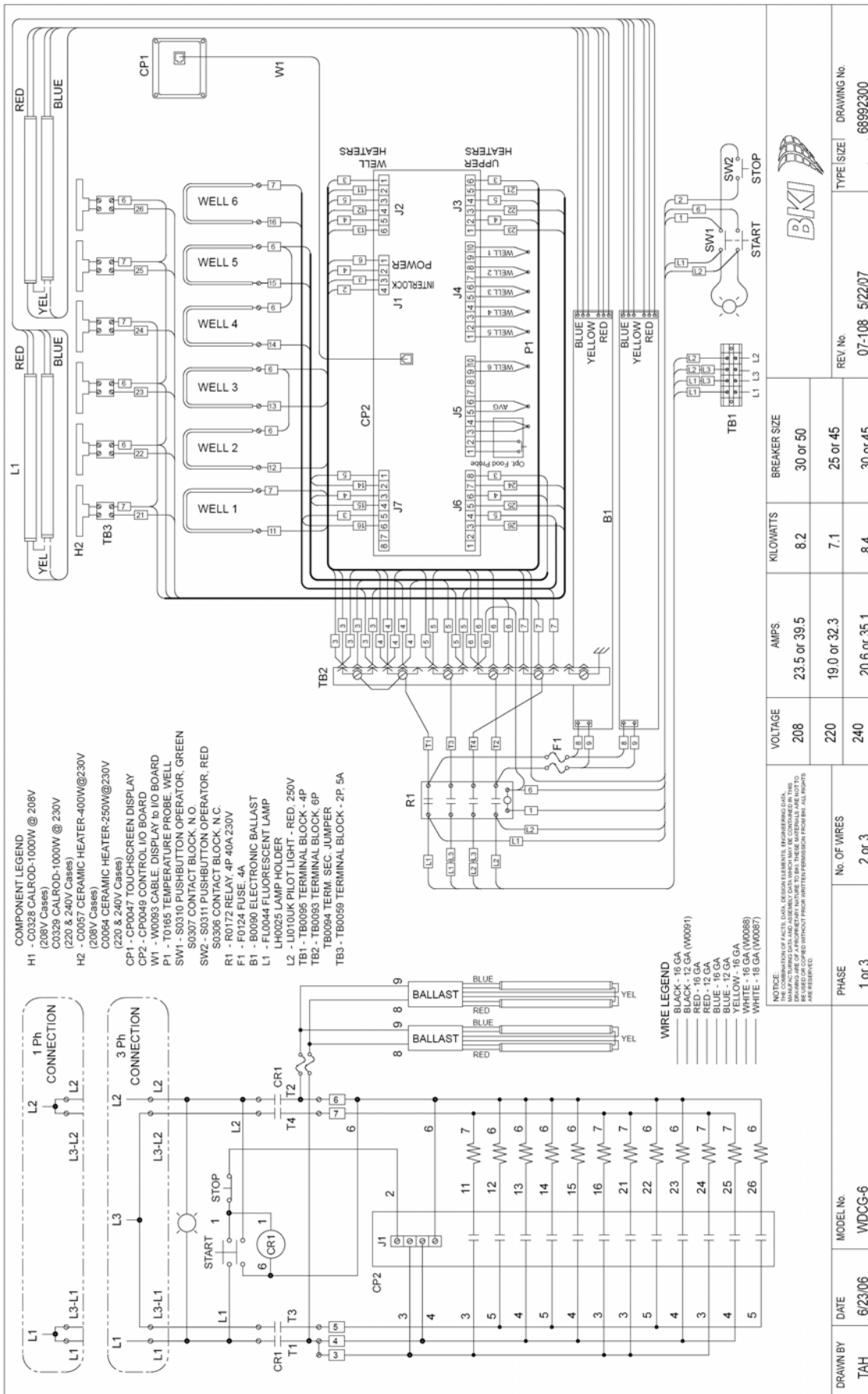
- COMPONENT LEGEND**
- H1 - C0328 CALROD-1000W @ 208V (208V Cases)
 - C0329 CALROD-1000W @ 230V (220 & 240V Cases)
 - H2 - C0057 CERAMIC HEATER-400W@230V (208V Cases)
 - C0064 CERAMIC HEATER-250W@230V (220 & 240V Cases)
 - CP1 - CP0047 TOUCHSCREEN DISPLAY (220 & 240V Cases)
 - CP2 - CP0049 CONTROL I/O BOARD
 - W1 - W0093 CABLE, DISPLAY to I/O BOARD
 - P1 - T0165 TEMPERATURE PROBE, WELL
 - SW1 - S0310 PUSHBUTTON OPERATOR, GREEN
 - S0307 CONTACT BLOCK, N.O.
 - SW2 - S0311 PUSHBUTTON OPERATOR, RED
 - S0306 CONTACT BLOCK, N.C.
 - R1 - R0172 RELAY, 4P 40A 230V
 - F1 - F0124 FUSE, 4A
 - B1 - B0090 ELECTRONIC BALLAST
 - L1 - FL0045 FLUORESCENT LAMP
 - L2 - LH0025 LAMP HOLDER
 - L3 - LH0025 LAMP HOLDER
 - TB1 - TB0095 TERMINAL BLOCK - 4P
 - TB2 - TB0093 TERMINAL BLOCK - 6P
 - TB0094 TERM. SEC. JUMPER
 - TB3 - TB0059 TERMINAL BLOCK - 2P, 5A



NOTICE:
 THE COMBINATION OF FACTS, DATA, DESIGN ELEMENTS, DIMENSIONS, ETC., DRAWING ARE OF A PROBABLY NATURE TO THAT THESE MATERIALS ARE NOT TO BE USED WITHOUT FIRST CONSULTING WITH THE MANUFACTURER.

DRAWN BY	DATE	MODEL No.	PHASE	No. OF WIRES	VOLTAGE			KILOWATTS	BREAKER SIZE	REV No.	TYPE SIZE	DRAWING No.
					208	220	240					
TAH	6/23/06	WDCG-4	1 or 3	2 or 3	16.4 or 26.7	13.7 or 21.9	14.8 or 23.7	5.6	25 or 35	07-108 5/22/07		6899/2200
								4.8	20 or 30			
								5.7	20 or 30			



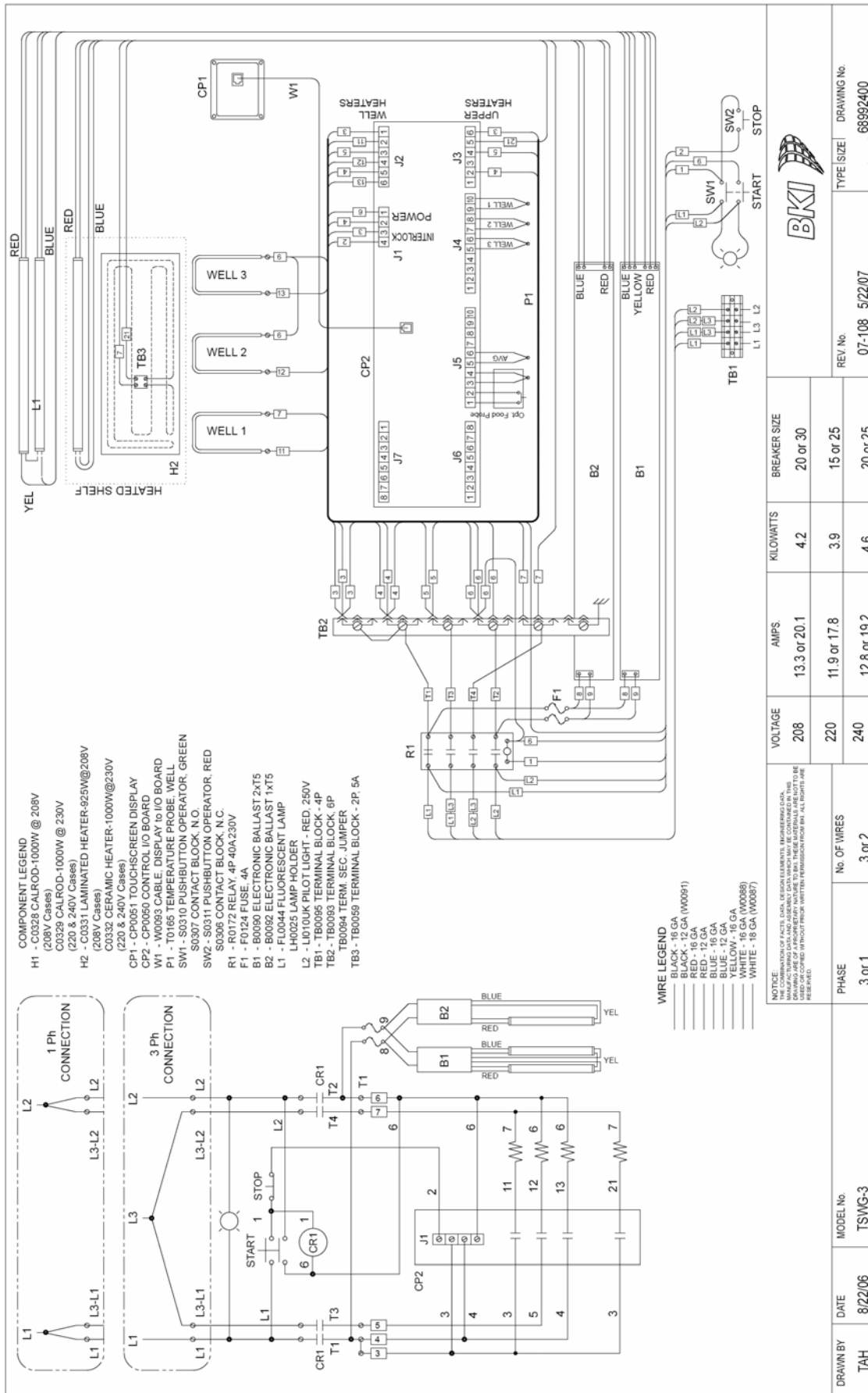


REV. No. 07-108 5/22/07
DRAWING No. 68992300

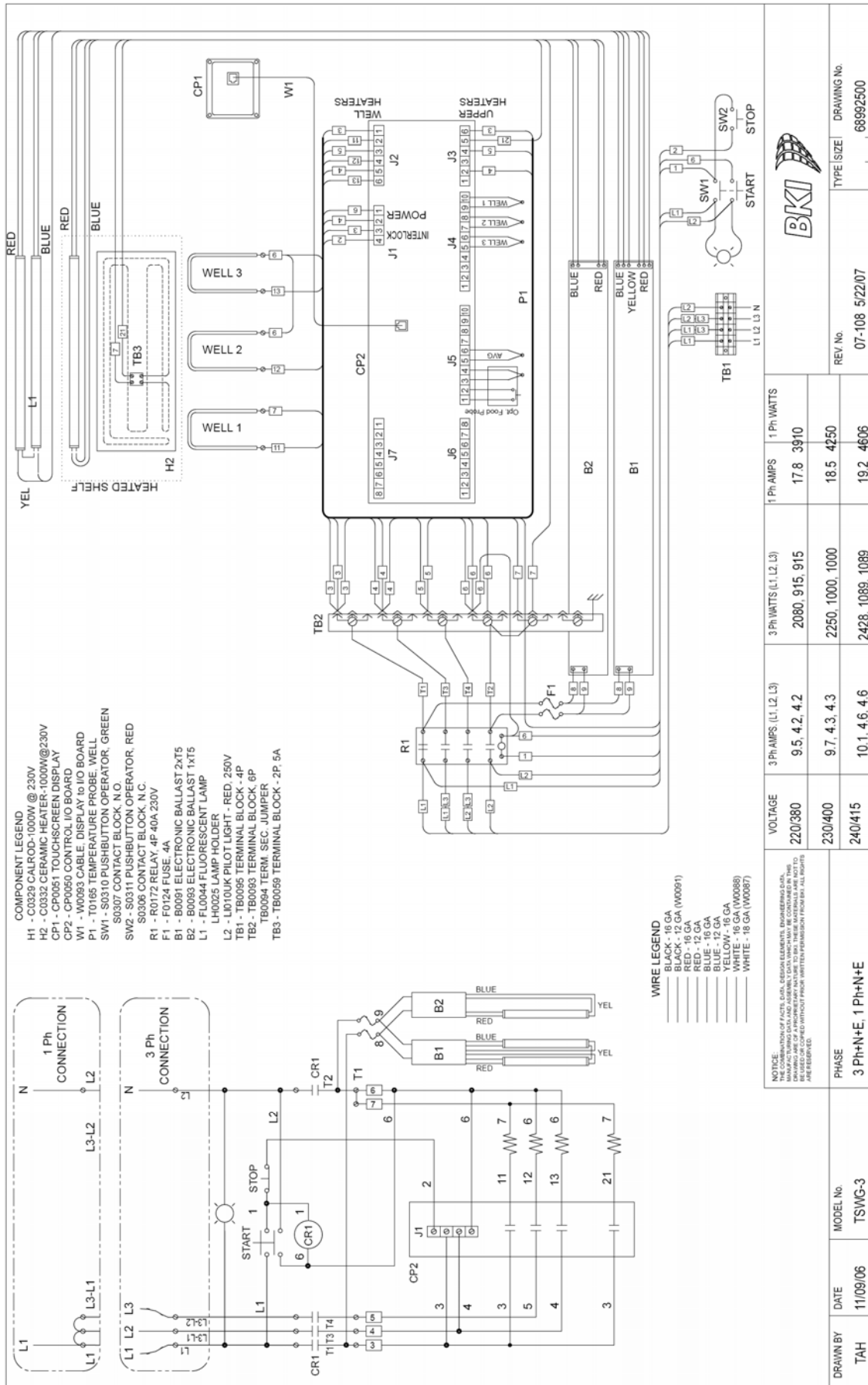
VOLTAGE	AMPS	KILOWATTS	BREAKER SIZE
208	23.5 or 39.5	8.2	30 or 50
220	19.0 or 32.3	7.1	25 or 45
240	20.6 or 35.1	8.4	30 or 45

PHASE	No. OF WIRES
1 or 3	2 or 3

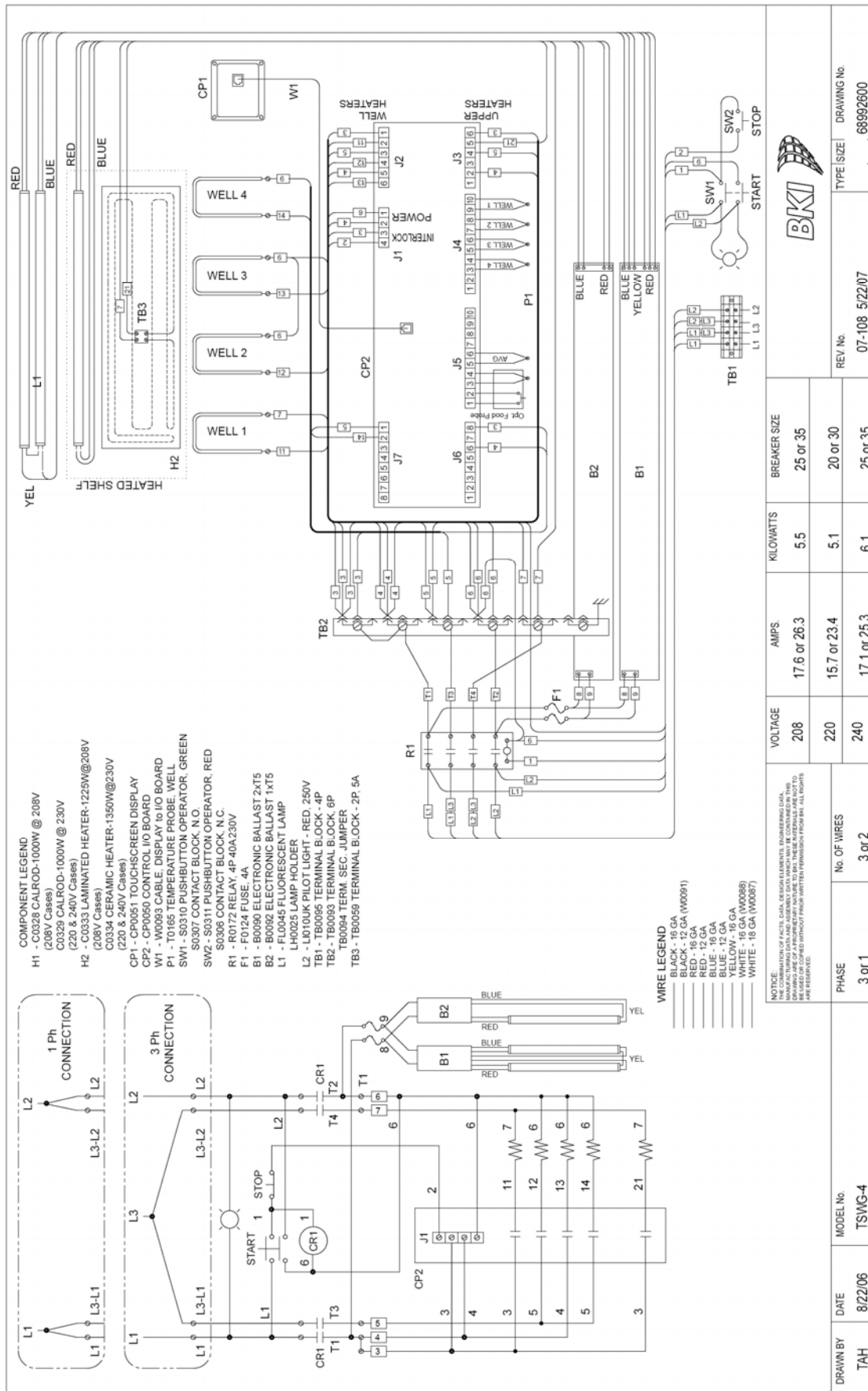
DRAWN BY: TAH
DATE: 6/23/06
MODEL No: WDCG-6

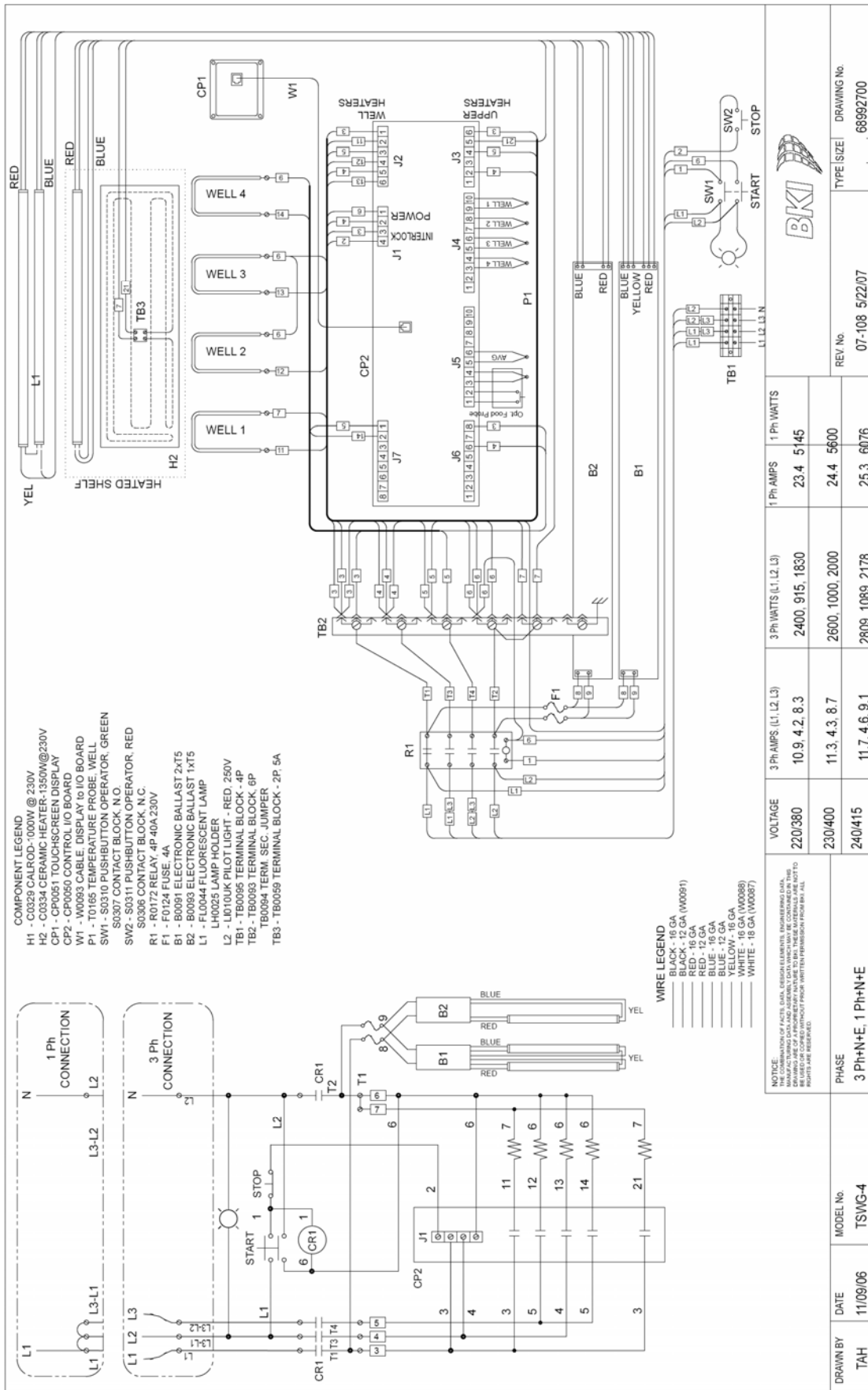


DRAWN BY TAH	DATE 8/22/06	MODEL No. TSWG-3	PHASE	3 or 1	No. OF WIRES	3 or 2	VOLTAGE	208	AMPS	13.3 or 20.1	KILOWATTS	4.2	BREAKER SIZE	20 or 30	
						220	11.9 or 17.8	3.9	15 or 25						
						240	12.8 or 19.2	4.6	20 or 25						
			REV. No.	07-108	5/22/07										
														TYPE/SIZE	DRAWING No.
															68992400

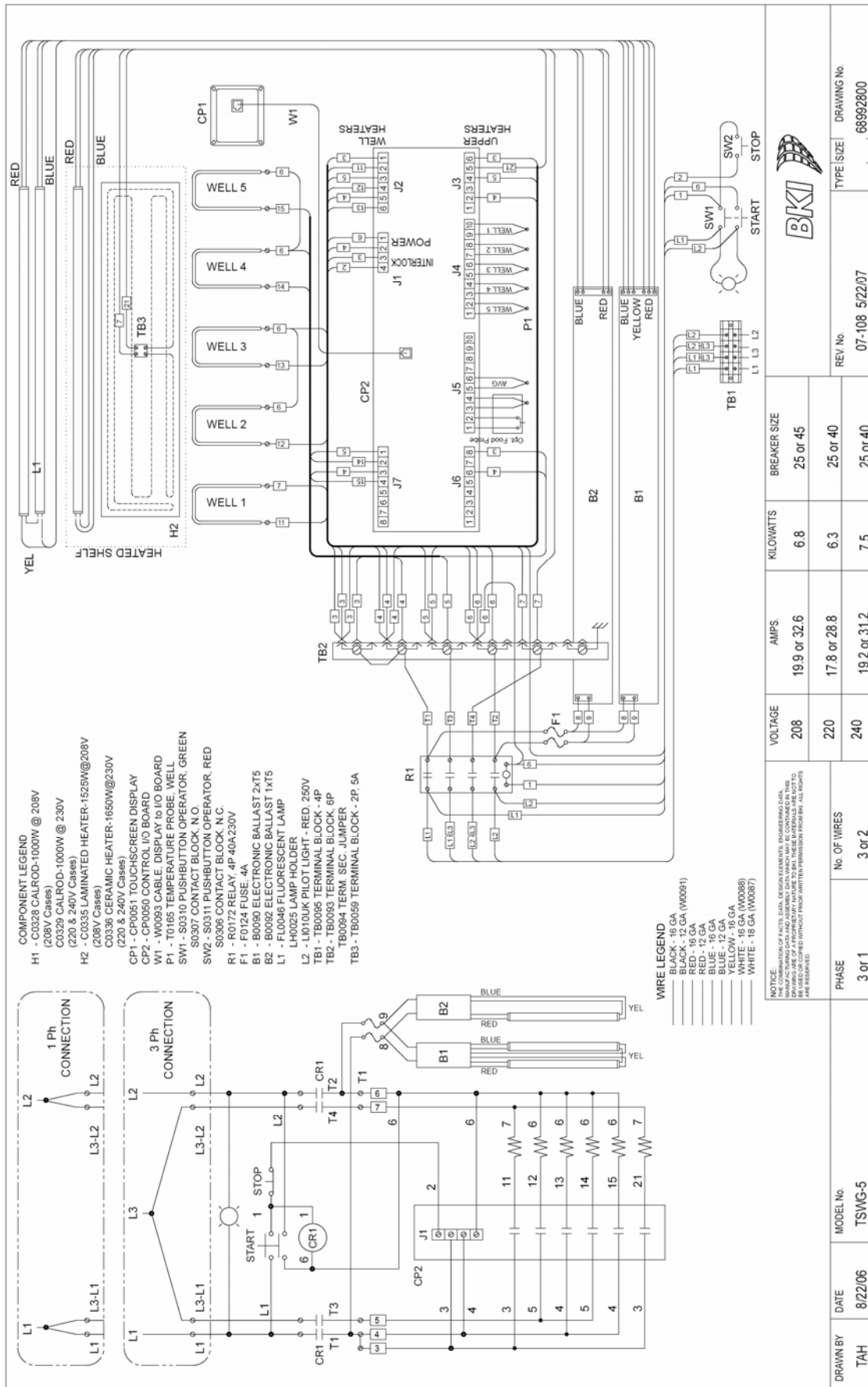


DRAWN BY	DATE	MODEL No.	PHASE	VOLTAGE		3 Ph WATTS (L1, L2, L3)		1 Ph WATTS		REV. No.	TYPE/SIZE	DRAWING No.
				9.5, 4.2, 4.2	2080, 915, 915	2250, 1000, 1000	17.8, 3910	07-108 522/07	68992500			
TAH	11/09/06	TSMC-3	3 Ph+N+E, 1 Ph+N+E	230/400	2250, 1000, 1000	18.5, 4250						
				240/415	2428, 1089, 1089	19.2, 4606						





DRAWN BY	DATE	MODEL No.	PHASE	3 Ph WATTS (L1, L2, L3)		1 Ph WATTS		REV. No.	TYPE SIZE	DRAWING No.
				VOLTAGE	3 Ph AMPS (L1, L2, L3)	3 Ph AMPS (L1, L2, L3)	1 Ph AMPS			
TAH	11/09/06	TSWG-4	3 Ph+N+E, 1 Ph+N-E	220/2080	10.9, 4.2, 8.3	2400, 915, 1830	23.4, 5145	07-108 5/22/07		68992700
				230/400	11.3, 4.3, 8.7	2600, 1000, 2000	24.4, 5600			
				240/415	11.7, 4.6, 9.1	2809, 1089, 2178	25.3, 6076			

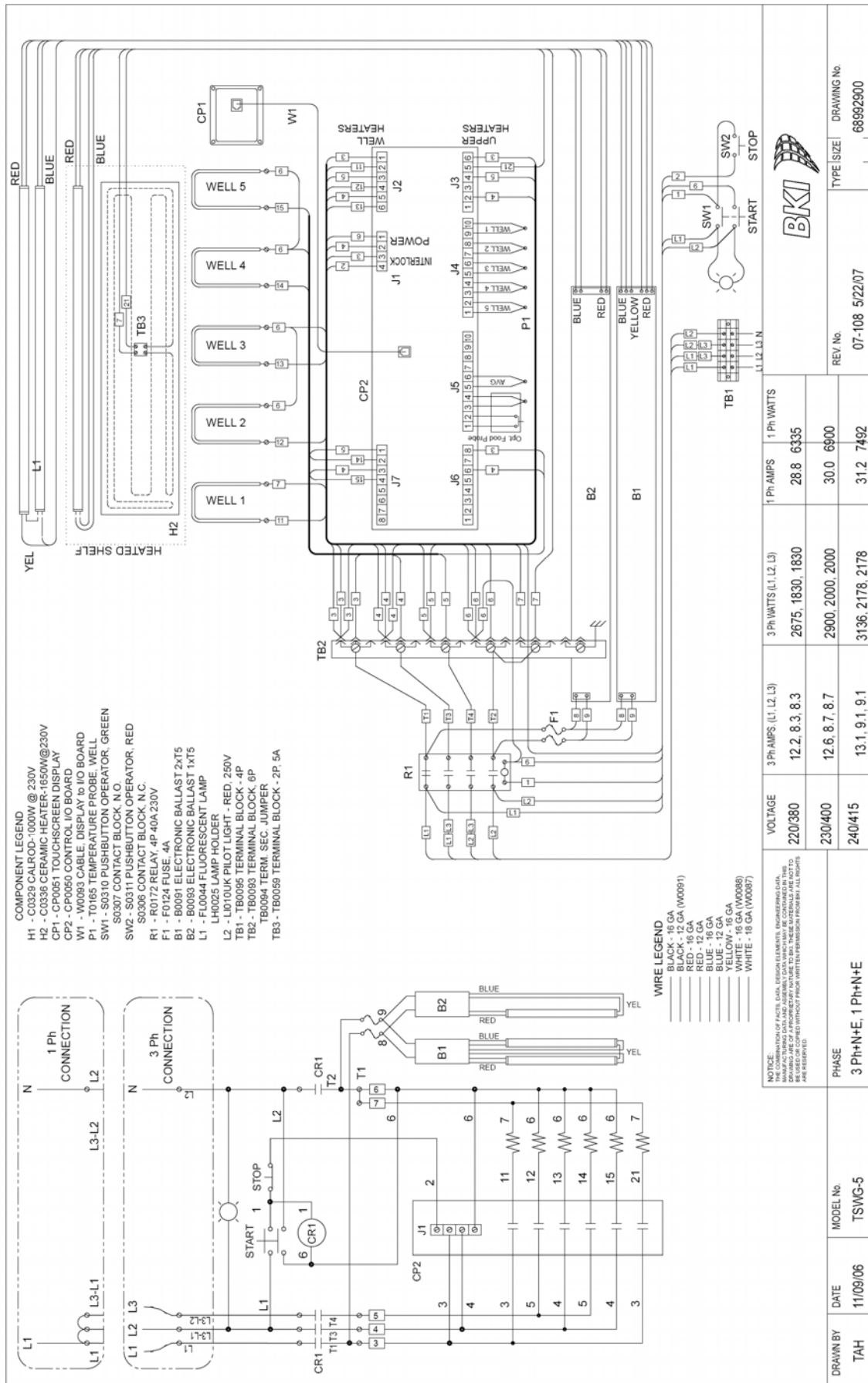


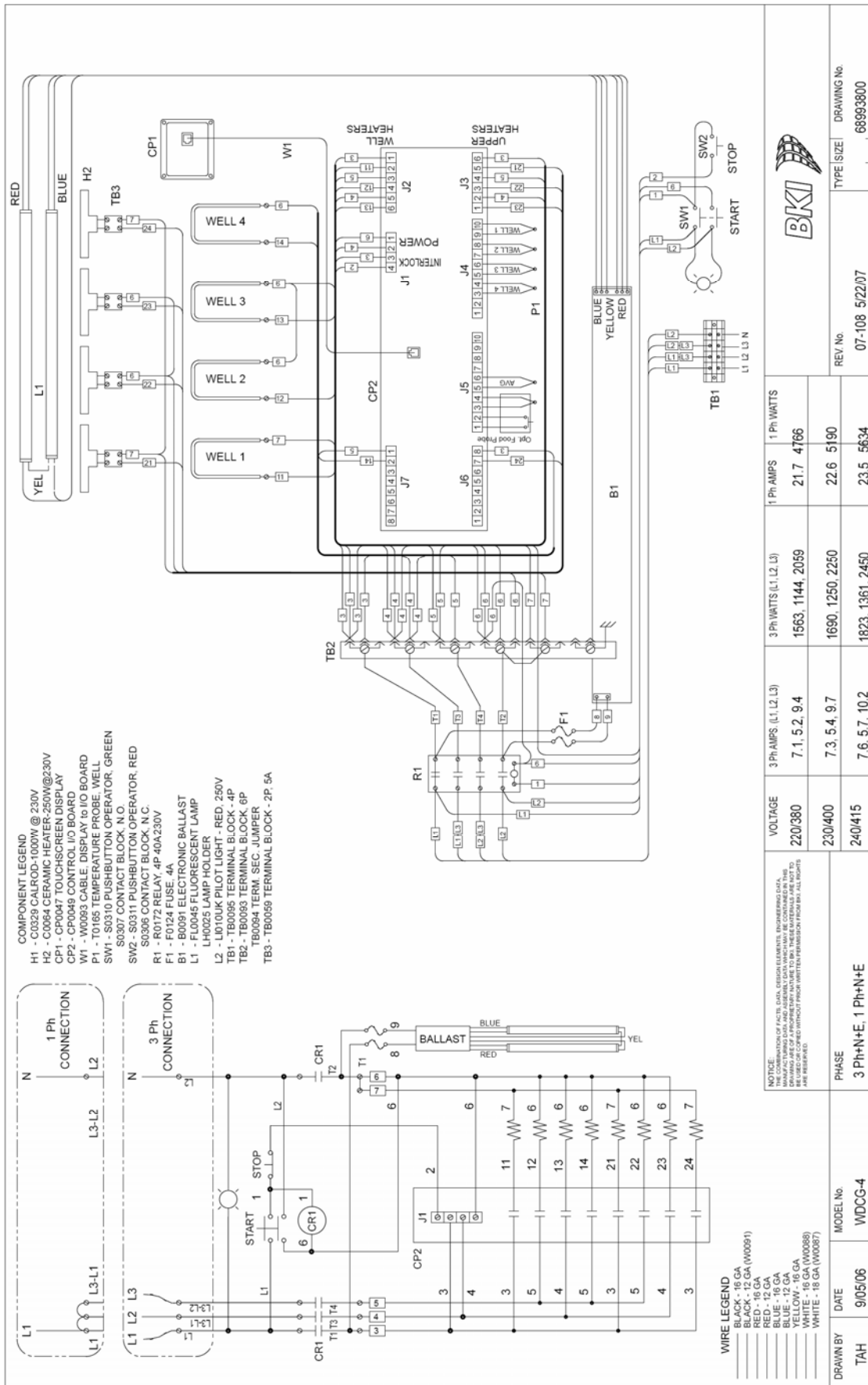
REV No 07-108 5/22/07
DRAWING No. 68992800

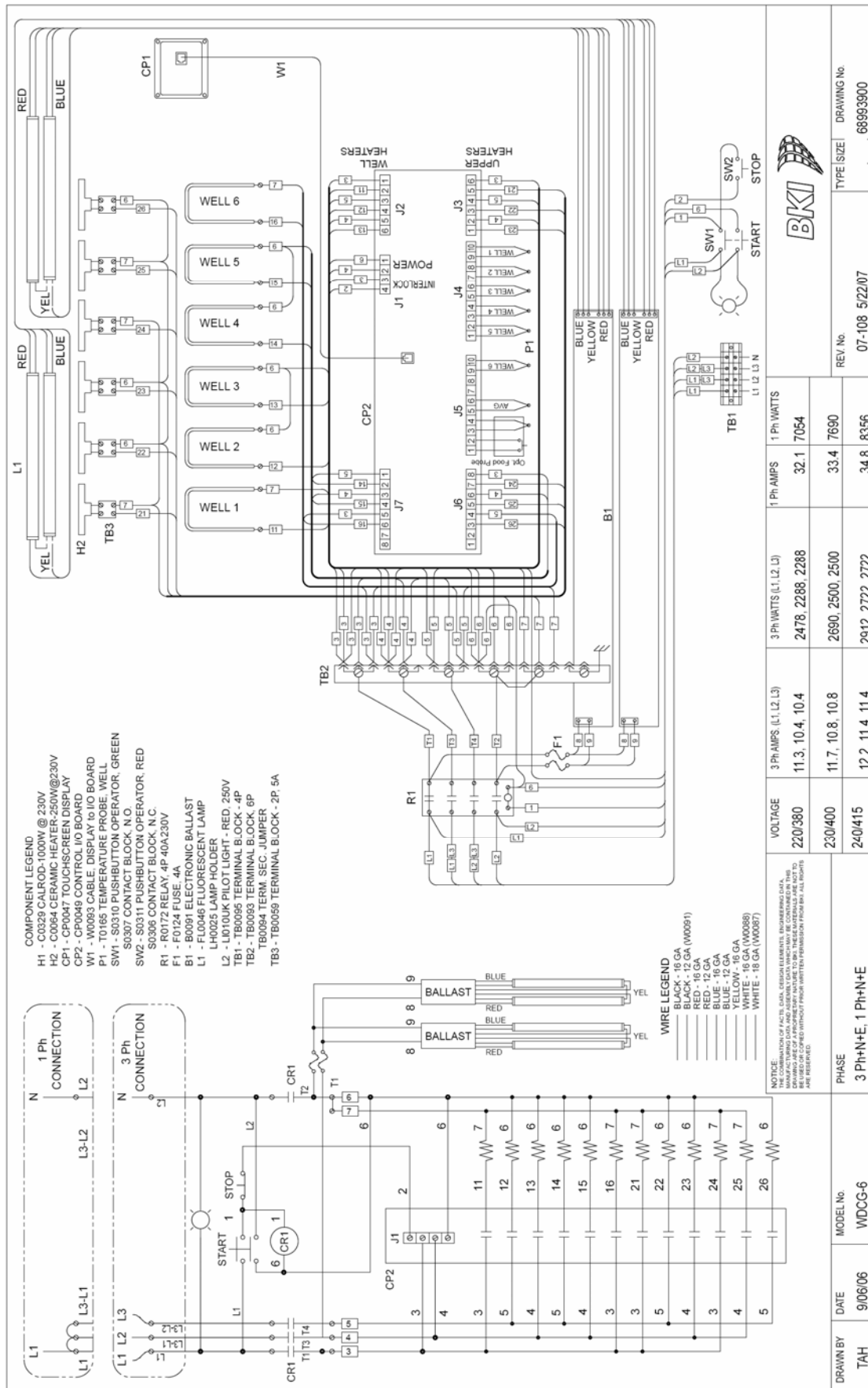
KILOWATTS	AMPS	VOLTAGE	BREAKER SIZE
6.8	19.9 or 32.6	208	25 or 45
6.3	17.8 or 28.8	220	25 or 40
7.5	19.2 or 31.2	240	25 or 40

PHASE	No. OF WIRES
3 or 1	3 or 2

DRAWN BY	DATE	MODEL No.
TAH	8/22/06	TSWG-5







Notes



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