USER'S GUIDE

Gemini® 120A Series Coffee Brewing System



READ AND SAVE THESE INSTRUCTIONS

NOTICE TO INSTALLER: Please leave this booklet with the machine.

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Contact Information

Wilbur Curtis Co., Inc.
6913 Acco Street | Montebello, CA 90640 US
Phone: 323-837-2300 | Toll Free: 800-421-6150
Email: csrassistance@wilburcurtis.com | Web: www.wilburcurtis.com

For the latest specifications and information go to www.wilburcurtis.com
Toll Free: 800-995-0417 | Monday - Friday 5:30 A.M. - 4:00 P.M. PT
Email: techsupport@wilburcurtis.com

Due to continued product improvement, the products illustrated/photographed in this guide may vary slightly from the actual product.

Key Features

- Brews automatically in 12 or 24 cup increments per cycle.
- Automatic timer allows brewing of 24 cups without brew basket reloading.
- Hot water faucet lets you draw steaming hot water for tea or soups — even during brewing.
- High-efficiency, double-wall insulation in each satellite server maintains coffee temperature for extended periods without warming. Coffee cannot deteriorate, but maintains its rich, full-bodied flavor.
- Locking satellite lids guard against accidental spills.
- Color-coded satellite faucets available for regular or decaffeinated coffee.

Specifications (Selected Models)

Electrical Supply Requirements

MODEL #	DESCRIPTION	PHASE	VOLTS	AMPS	HEATING CONFIG	WIRE	WATTS	HERTZ	GAL/HR
GEM-120A-10	Single, 1.0 Gallon	1 PH	120 V	15.0 A	1 X 1600 W	2W + G	1775 W	50/60 Hz	4.5
GEM-120A-63	Single, 1.0 Gallon, Dual Voltage	1 PH	120/220 V	15.0/10.0 A	1 X 1600/1 X 2000 W	2/3W + G	1775/2100 W	50/60 Hz	4.5/6.0
EXPORT									
GEM-120A-30	Single, 1.0 Gallon	1 PH	230 V	10.3 A	1 X 2000 W	2W + G	2380 W	50/60 Hz	6.0

Dimensions / Water Supply Requirements

MODEL #	HEIGHT	WIDTH	DEPTH	SHIP WEIGHT	SHIP CUBE	WATER CONNECTOR	WATER PRESSURE	MIN. FLOW RATE
GEM-120A-10	27.13”	9.13”	20.25”	43.0 lbs	7.0 cu ft	1/4” flare	20 - 90 psi	1.0 gpm
GEM-120A-63	27.13”	9.13”	20.25”	43.0 lbs	7.0 cu ft	1/4” flare	20 - 90 psi	1.0 gpm
EXPORT								
GEM-120A-30	27.13”	9.13”	20.25”	43.0 lbs	7.0 cu ft	1/4” flare	20 - 90 psi	1.0 gpm

Following are the factory default settings for the Gemini brewer:

- Brew Temperature = 200°F
- Brew Volume = 0.5 Gallon, 1 Gallon

Symbols



This is the safety alert symbol. It is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER - Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



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



CAUTION - Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



NOTICE - Indicates a situation which, if not avoided, could result in property damage.



IMPORTANT - Provides information and tips for proper operation.



SANITATION REQUIREMENTS

Important Safeguards/Conventions



WARNING:

- Make sure that this appliance is installed and grounded according to the INSTALLATION INSTRUCTIONS by qualified personnel before attempting to use it. Failure to follow the INSTALLATION INSTRUCTIONS could result in personal injury or void the warranty.
- This appliance is designed for commercial use. Any service other than cleaning and preventive maintenance should be performed by an authorized Wilbur Curtis service technician.
- To reduce the risk of fire or electric shock, DO NOT open the service panels. There are no user serviceable parts inside.
- Keep hands, arms and other items away from hot surfaces of the unit during operation.
- Clean the appliance and any dispensers completely before using them for the first time as according to the CLEANING INSTRUCTIONS. Clean them regularly as instructed in the CLEANING INSTRUCTIONS.
- Use this appliance only for its intended use, brewing/dispensing hot and/or cold beverages/water.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.
- Avoid spillage onto the power (mains) connector.

CE Requirements

- This appliance must be installed in locations where it can be overseen by trained personnel.
- For proper operation, this appliance must be installed where the temperature is between 5°C to 35°C.
- Appliance shall not be tilted more than 10° for safe operation.
- An electrician must provide electrical service as specified in conformance with all local and national codes. For safe use, an all-pole disconnection must be incorporated into the fixed wiring in accordance with the wiring rules outlined in clause 7.12.2 of IEC 6.335-1 for meeting the minimum electrical safety of this standard.
- This appliance must not be cleaned by water jet.
- This appliance can be used by persons aged from 18 years and above if they have been given supervision or instruction concerning use of the appliance in a safe way and if they understand the hazards involved.
- Keep the appliance and its cord out of reach of children aged less than 18 years.
- Appliances can be used by persons 18 years and above with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children under the age of 18 years should be supervised to ensure they do not play with the appliance.
- If the power cord is ever damaged, it must be replaced by the manufacturer or authorized service personnel with a special cord available from the manufacturer or its authorized service personnel in order to avoid a hazard.
- Machine must not be immersed for cleaning.
- Cleaning and user maintenance shall not be made by children unless they are older than 18 years and supervised.
- This appliance is intended to be used in household and similar applications such as:
  - – staff kitchen areas in shops, offices and other working environments;
  - – by clients in hotels, motels and other residential type environments;
  - – bed and breakfast type environments.
- This appliance not intended to be used in applications such as:
  - – farm houses
- Access to the service areas permitted by Authorized Service personnel only.
- The A-Weighted sound pressure level is below 70 dBA.

WARNING: Installation is to be performed only by a qualified installer.

WARNING: Improper electrical connection may result in an electric shock hazard. This brewer must be properly grounded.

NOTICE: DO NOT connect this brewer to a hot water supply. The water inlet valve is not rated for hot water. Do not exceed the maximum water pressure stated in the *SPECIFICATIONS* section.

IMPORTANT: Observe all governing codes and ordinances.

Installation Instructions

Installation Requirements

- A secure surface capable of supporting the weight of the appliance.
- For units without an attached cord set: Appropriately sized, UL listed, grounding type power cable to meet the electrical specifications for the appliance. If you have questions about the correct cable size and length, consult a qualified installer. If the appliance will be hard wired to a junction box, the power cable must be long enough so that the unit can be moved for cleaning underneath.
- A grounded electrical connection to an electrical circuit that meets the electrical specifications of the appliance (see *SPECIFICATIONS*). The circuit must be protected by the appropriate sized circuit breaker. If you are not certain that the existing circuit meets the requirements for your unit, consult a licensed electrician.
- A water filtration system is required to maintain trouble-free operation. Wilbur Curtis Co., Inc. recommends a Wilbur Curtis approved water filter. Visit www.wilburcurtis.com to see the full line of Wilbur Curtis approved water filters.
- Potable water supply line connection from the water filter capable of supplying the minimum flow rate required by the specifications. The water supply line must be able to connect to the flare fitting on the back of the unit. See the *SPECIFICATIONS* section for the correct size. The water line should also be capable of being controlled by a shut off valve. Do not connect the water line to a saddle valve.

NSF International requires the following water connection:

1. A quick disconnect or additional coiled tubing (at least two times the depth of the appliance) is required so that it can be moved for cleaning underneath.
2. This equipment is to be installed with adequate back-flow protection to comply with applicable federal, state and local codes.
3. Water pipe connections and fixtures directly connected to a potable water supply shall be sized, installed and maintained in accordance with federal, state and local codes.

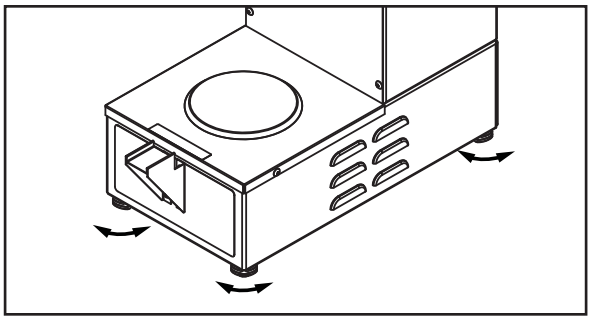
The International Plumbing Code of the International Code Council and the Food and Drug Administration (FDA) Food Code manual, direct that this equipment must be installed with adequate back-flow prevention in compliance with federal, state and local codes. For units installed outside of the U.S.A., make sure that the installation is in compliance with the applicable plumbing/sanitation code for your area.

Installation

Leveling

WARNING: Use the leveling legs to level the brewer only. Do not use them to adjust brewer height. Do not extend them higher than necessary.

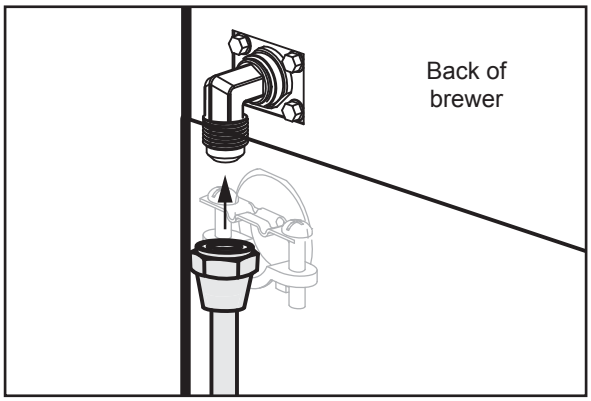
1 Position the brewer on the counter top. Level it left to right and front to back by turning the bottom of the legs.



Connect the Water Supply

2 Flush the water supply line prior to installation to purge air and debris from the water filter and tubing.

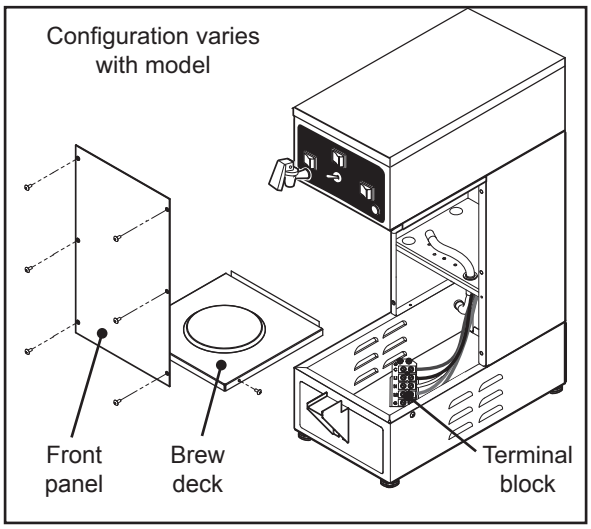
3 Connect the water supply line to the flare fitting on the back of the brewer. Leave the water supply valve closed until the power is connected.



Connect the Brewer Wiring

Brewers Without A Cord Set Attached and Dual Voltage Brewers to be Operated at 220 Volts

WARNING: Turn off power to the junction box at the circuit breaker panel before connecting the power cable to the brewer.



4 Remove the front cover and brew deck by removing the screws that hold them in place.

5 Loosen the strain relief on the back of the brewer.

6 On dual voltage units being operated at 220 Volts (nominal) disconnect the existing power cable from the terminal block and remove.

7 On dual voltage units being operated at 220 Volts, disconnect and cap the black jumper wire connected to terminal “C” on the terminal block. Uncap and connect the red jumper wire to terminal “C” on the terminal block.

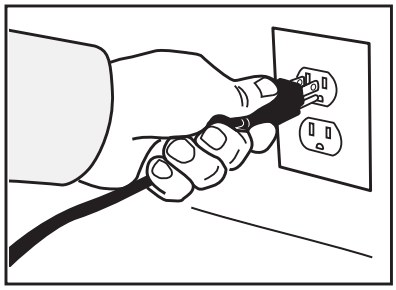
8 Feed the 220 Volt power cable into the brewer.

9 Connect the wires on the power cable to the brewer terminal block.

10 Tighten the strain relief and replace the front cover and brew deck.

Connect the Brewer Wiring (cont.)

11 Connect the power cable wires to the terminals in the junction box. See the *ELECTRICAL SCHEMATIC* for the power supply requirements.



Brewers With A Cord Set Attached

WARNING: Connect the power cord to the appropriate type and size electrical outlet. If the electrical outlet is not compatible with the power cord, have it upgraded by a licensed electrician. Do not modify the power plug. Do not use an extension cord. Do not use a power cord/plug that is damaged.

12 Connect the power cord to the appropriate type of electrical outlet.

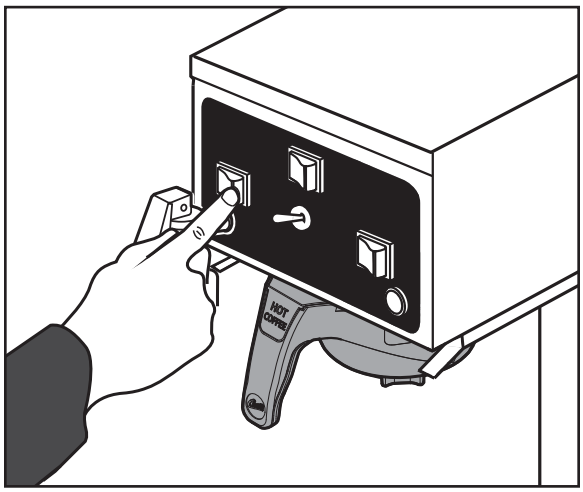
Power Up the Brewer

13 Turn on the water supply valve.

14 Make sure that the circuit breaker supplying power to the unit is on.

15 Turn the toggle switch on the back of the brewer to the ON position. The water tank will start to fill. While the tank is filling, inspect the water supply line for leaks.

16 If the control panel is not already lit, push the OFF/ ON button. When the water level in the tank rises to the correct volume, the heating elements will turn on automatically. Depending on the incoming water temperature and the electrical specifications, the water tank typically requires 20 to 30 minutes to reach the factory set operating temperature. When the water has heated, the BREW WHEN LIT light will turn on.



17 Before brewing for the first time, dispense 12 ounces of hot water through the hot water faucet to help purge air from the tubing inside the brewer.

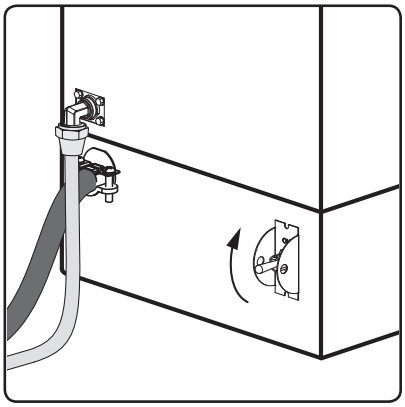
18 Brew a cycle of at least 1/2 gallon, to purge any remaining air from the tubing. See the *OPERATING INSTRUCTIONS*. During the initial brew cycle and whenever the filter is replaced, you may hear the sounds of air being purged from the filter, tubing and water tank.

Brewing Instructions

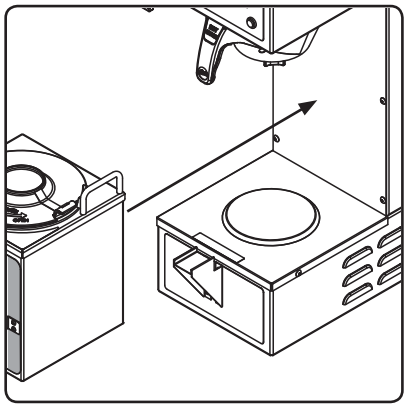
WARNING - TO AVOID SCALDING, AVOID SPLASHING. Keep body parts clear of the brewer during brewing. Do not remove the brew basket while the "BREW" light is flashing.

NOTICE - Do not use IntelliFresh® satellites on non-IntelliFresh brewers.

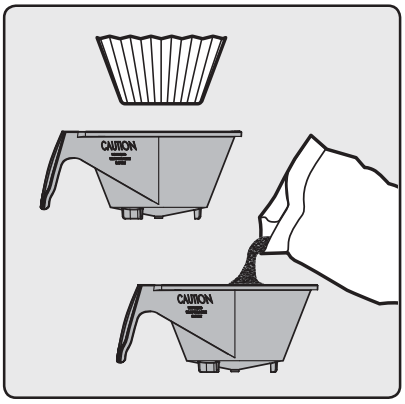
The Gemini Brewer is factory preset for optimal performance.



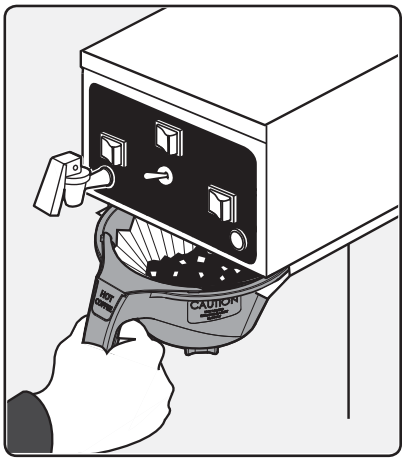
1 The brewer should be ON. Confirm this at the rear toggle switch. The BREW WHEN LIT light should be on.



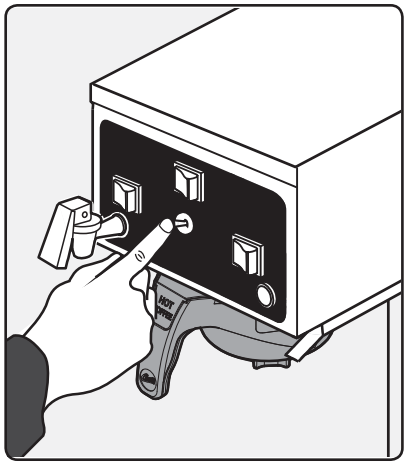
2 Place an empty satellite under the brew basket. Push it all the way back against the front cover. Press the WARMER button to preheat the satellite.



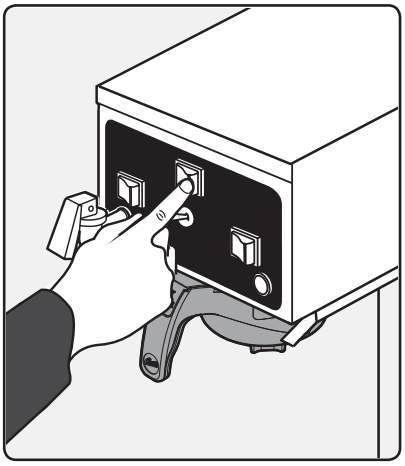
3 Insert a clean paper filter into the brew basket. Fill with the proper amount of ground coffee. Level the coffee in the filter.



4 Slide the filled brew basket into the brew rails under the control panel. Slide it all the way back until it stops.



5 Determine the brew volume and flip the BREW SELECTOR switch to the desired size, position 1 = ½ gallon, 2 = 1 gallon.



6 Press the BREW button. Brewing will begin immediately.

The brewer will brew coffee based on the BREW SELECTOR setting.

WARNING: HOT SURFACES - To avoid injury, allow the brewer and dispenser(s) to cool before cleaning.

NOTICE - Do not use cleaning liquids, compounds or powders containing chlorine (bleach) or corrosives. These products promote corrosion and will damage the finishes. **USE OF THESE PRODUCTS WILL VOID THE WARRANTY.**

Cleaning The Brewer - Daily

WARNING: DO NOT immerse the brewer in water or any other liquid.

The brewer should be OFF. Turn the brewer off by flipping the rear toggle switch to the OFF position.

1 Remove the dispenser(s). Wipe exterior brewer surfaces with a damp cloth to remove spills and debris.

2 Remove the brew basket(s) and clean them in a mild detergent solution. Use a soft bristled brush for hard to clean areas. Rinse with clean water, then dry.

3 Wipe the spray head area with a cloth soaked in a mild detergent solution. Rinse with a cloth soaked with clean water removing any residual detergent. Use a clean, soft cloth to dry.

4 Dump out the drip tray(s) (if applicable). Rinse with clean water, then dry with a soft, clean cloth.

Cleaning The Brewer - Weekly

The brewer should be OFF. Turn the brewer off by flipping the rear toggle switch to the OFF position.

1 Remove the spray head(s), unscrewing counterclockwise from the dome plate.

2 Thoroughly clean and rinse the dome plate area.

3 Clean the brew basket rails with a brush soaked with a mild detergent solution. Rinse the area with a cloth soaked with clean water, removing any residual detergent.

4 Dry the area with a soft, clean cloth.

5 Reattach the spray head(s).

Cleaning the Satellite (Daily)

WARNING: DO NOT immerse the satellite in water or any other liquid. Do not place the satellite in a dishwasher. Placing the satellite in a dishwasher will void the warranty.

Cleaning the Liner

1 Prepare a mild solution of detergent and warm water. Remove the satellite from the brewer and remove the lid. Rinse.

2 **Wash** - Wipe the exterior surfaces of the satellite with a sponge soaked with the detergent solution to remove spills and debris. Fill the liner with the detergent solution. Take a sponge brush and scrub out the stainless steel liner and the lid.

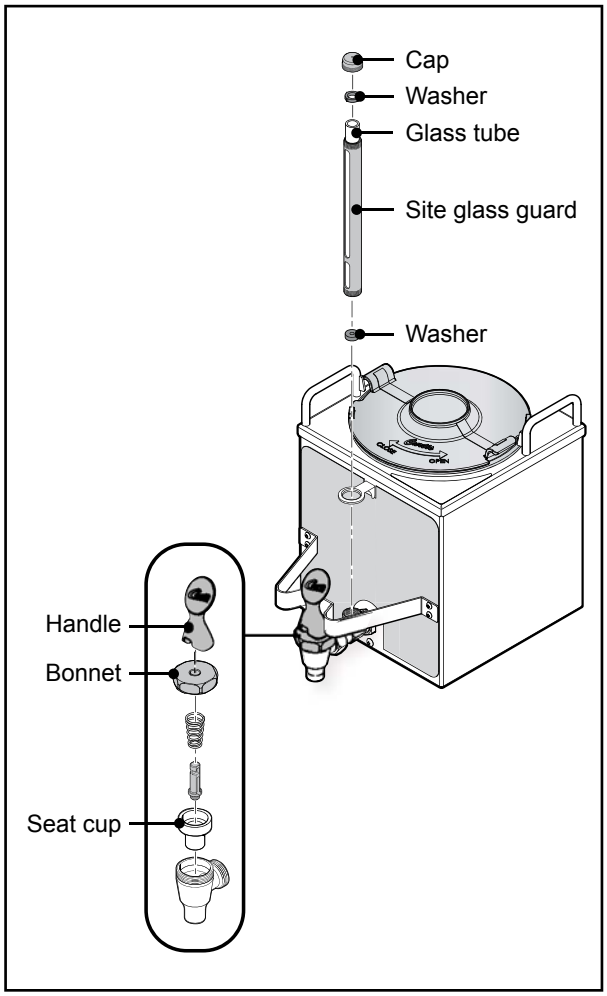
3 **Rinse** - Rinse with clean, warm water.

4 **Sanitize** - Sanitize the interior of the satellite and the lid, using a commercial sanitizer suitable for food grade applications. Sanitize according to the directions on the package.

5 Disassemble the faucet - Unscrew the handle/ bonnet assembly from the top of the faucet and remove it. Inspect the seat cup for wear. Replace the seat cup if it is damaged.

Disassemble the sight gauge (some versions). Remove the cap and unscrew the guard, as shown, to disassemble the gauge. Remove the glass tube. Inspect it for cracks or chips. If broken, replace the glass with a new one.

6 **Air Dry** - Turn the satellite and lid upside down and allow to air dry.



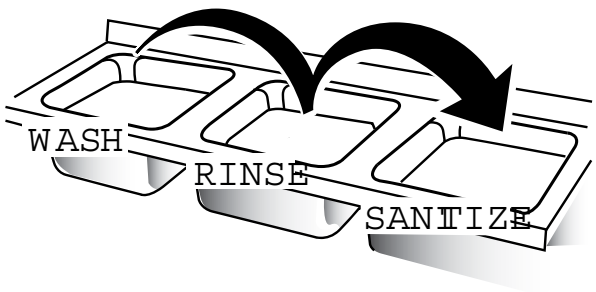
Cleaning the Faucet Parts and Site Gauge

7 **Wash** - Wash <u>all</u> faucet and gauge glass parts with the detergent solution. Clean the inside of the gauge glass with a gauge brush soaked with detergent solution.

8 **Rinse** - Thoroughly rinse all parts with clean, warm water.

9 **Sanitize** - After rinsing, place <u>all</u> faucet and gauge parts in a sink to be sanitized. Immerse them in a commercial sanitizer suitable for food grade applications. Sanitize according to the directions on the package.

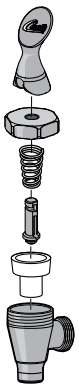
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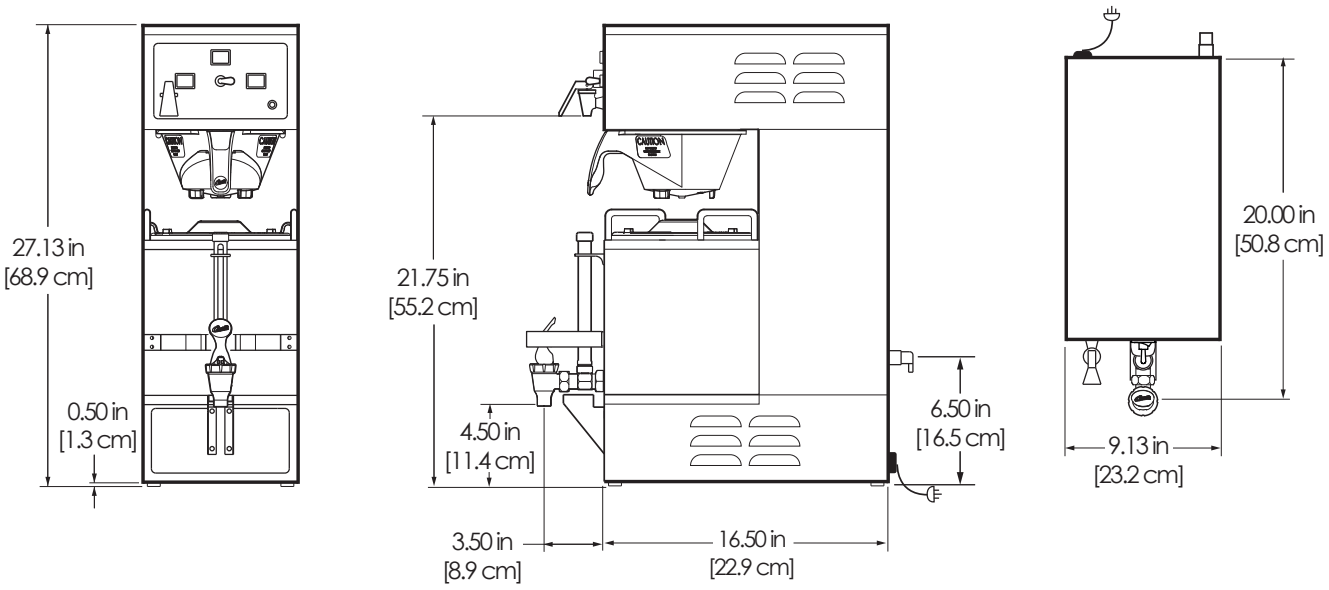
Cleaning the Faucet Parts and Site Gauge (cont.)

10 **Air Dry** - Allow all parts to thoroughly air dry.

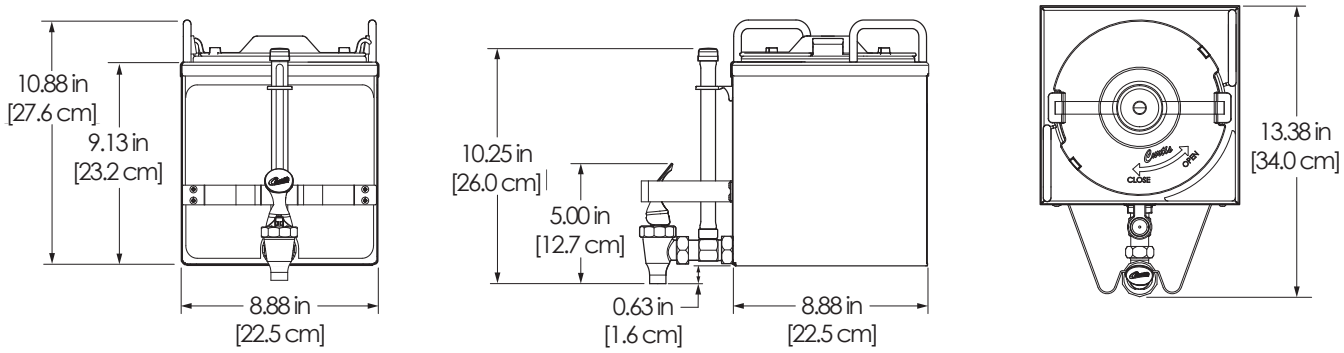
11 Reassemble - When dry, reassemble the handle/bonnet. Hand tighten the handle/bonnet onto the top of the faucet assembly. Reinstall the site gauge (if applicable). If replacing a broken gauge glass, carefully remove any traces of glass from the silicone parts before inserting the new gauge glass tube. Reinstall the lid.



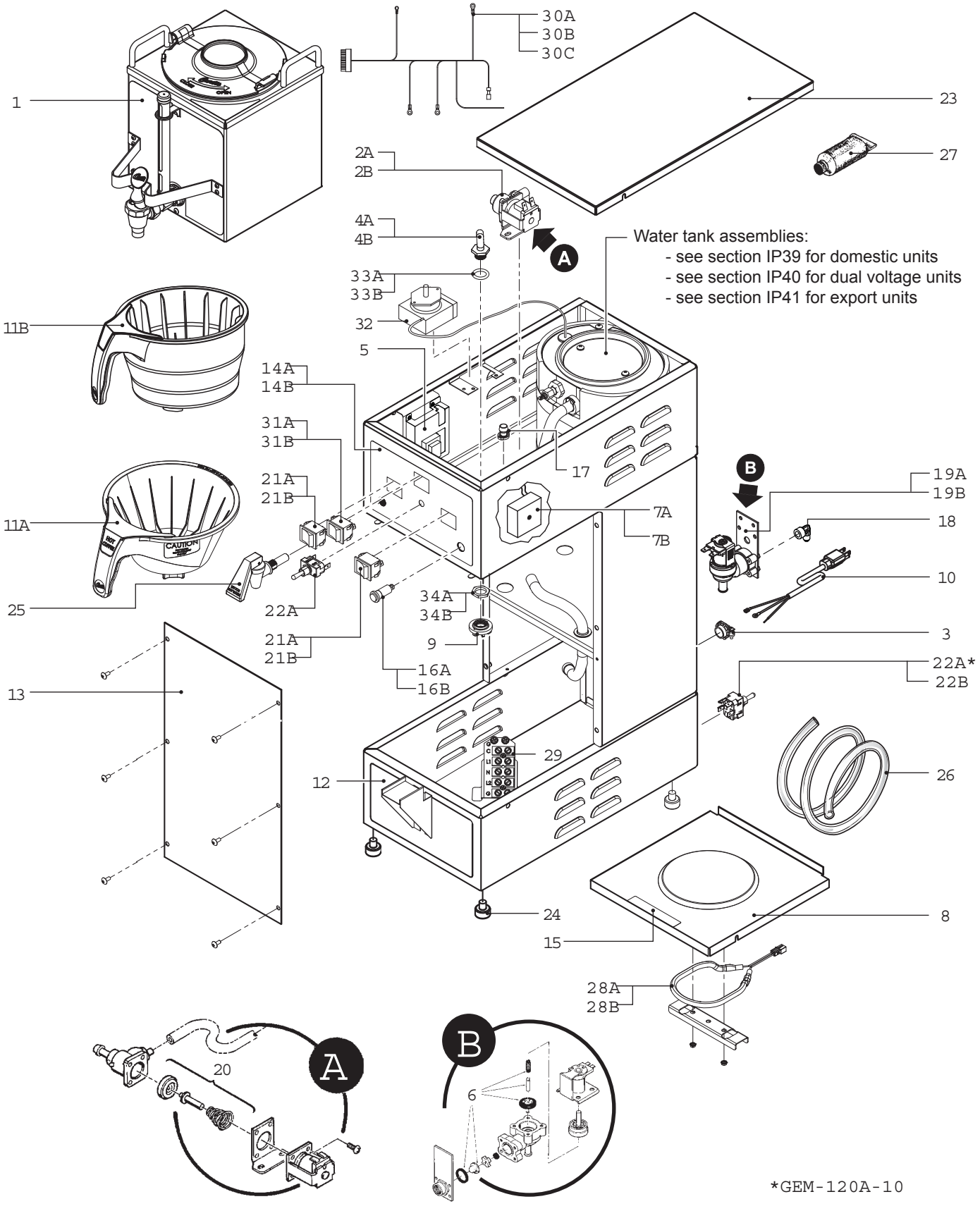
GEM-120A - Single Coffee Brewer



GEM-3 - Satellite Server



GEM-120A - Main Chassis - Exploded View



GEM-120A - Main Chassis - Parts List

ITEM #	PART #	DESCRIPTION
1	GEM-3	SATELLITE SERVER, 1-1/2 GAL.
2A	WC-817[1,2]	VALVE, DUMP RIGHT 120V 12W W/ RECTIFIER AP/GEM
2B	WC-861[3]	VALVE, DUMP RIGHT 240V 9W
3	WC-1412	CORD GRIP, 3/4" FOR METAL CORD TO .81"OD
4A	WC-2977K [a]	KIT, SPRAYHEAD FITTING METAL
4B	WC-2977-101K [b]	KIT, SPRAYHEAD FITTING PLASTIC
5	WC-608-101K	KIT,LIQUID LEVEL CONTROL BOARD RETROFIT
6	WC-3765L[1,2]	KIT, INLET VALVE REPAIR USE ON WC-826/ WC-826L/WC-847 (OLDER UNITS)
7A	WC-603-101K-GEM[1,2]	KIT, RETROFIT TIMER BREW SELECTOR 120V GEM-120A/12
7B	WC-622-101K-GEM[3]	KIT, RETROFIT TIMER, BREW SELECTOR 220V GEM-120A
8	WC-5428	DECK, WARMER FORMED MINI-GEMS
9	WC-2936	SPRAYHEAD, RED (Ø.131)
10	WC-1200[1,2]	CORD, 14/3 SJTO 6' BLK W/PLUG
11A	WC-3621-101	BREW CONE, NON-METAL UNIVERSAL (WITH SPLASH POCKET)
11B	WC-3338-101	BREW CONE,ASSY W/SPLASH POCKET NON-METAL DELUXE D500/D1000GT (OPT)
12	WC-3920B	LABEL, BOTTOM PANEL GEM-120A CURTIS
13	WC-5452	KIT, COVER FRONT GEM-120A/120P /230A/200R/300IL/600ILD
14A	WC-3920-01	LABEL, SWITCH PANEL GEM-120A CURTIS
14B	WC-3920T	LABEL, SW PANEL GEM-120A CURTIS
15	WC-38310	LABEL, CAUTION HOT SURFACE GEN USE
16A	WC-207[1]	LIGHT, BREW 115V GREEN
16B	WC-208[2,3]	LIGHT, BREW 250V GREEN
17	WC-29044	SLEEVE, OVERFLOW ASSY GEN USE
18	WC-2401	ELBOW, 3/8 NPT X 1/4 FLRE PLTD PLATED
19A	WC-826L[1,2]	VALVE, INLET 1 GPM 120V 9W
19B	WC-856[3]	VALVE, INLET 1 GPM 240V 6W
20	WC-3763[1,2]	KIT, DUMP VALVE FOR DELTROL WC-820WDR,WC-821WDR, WC-844WDR

ITEM #	PART #	DESCRIPTION
21A	WC-114R[1,2]	SWITCH, ROCKER (RED) 120V NEON SPST 15A 250V
21B	WC-135[3]	SWITCH, ON/OFF (RED) 220V WRMR
22A	WC-102[1,2,3]	SWITCH, TOGGLE NON-LIT SPST 15A 125/6A 250VAC RESISTIVE
22B	WC-103[2,3]	SWITCH, TOGGLE NON-LIT DPST 25A 125/250VAC RESISTIVE
23	WC-58117	COVER, TOP ALPGT/D500GT/D60GT TLP/ TCTS/CBS/GEMSS
24	WC-3503	LEG, 3/8"-16 STUD SCREW BUMPER
25	WC-1809	FAUCET, PS/HPS SERIES HOT WTR 1/2-20 UNF AP/ALP
26	WC-5310	TUBE, 5/16 ID x 1/8W SILICONE GEN USE
27	WC-5231	COMPOUND, SILICONE 5 OZ
28A	WC-37102[1,2]	KIT, WARMER ELEMENT 100W 120V GEN USE
28B	WC-37163[3]	KIT, WARMER ELEMENT 100W 220V GEN USE
29	WC-314[2,3]	POWER BLOCK, 5 STATION
30A	WC-13508[1]	HARNESS ASSY, GEM-120A-10 W/ NEW TIMER AND LIQUID LEVEL
30B	WC-13509[2]	HARNESS ASSY, GEM-120A-63 W/ NEW TIMER AND LIQUID LEVEL
30C	WC-13507[3]	HARNESS ASSY, GEM-120A-30 W/ NEW TIMER AND LIQUID LEVEL
31A	WC-122[1,2]	SWITCH, BREW (GREEN) 120V NEON SPST 15A 250V
31B	WC-132[3]	SWITCH, BREW (GREEN) 220V
32	WC-504	THERMOSTAT, CAPILLARY SPST 250V 25A GEM
33A	WC-4320 [a]	O'RING, 0.487I.D.x 0.693OD x0.103CS BUNA-N #112
33B	WC-43089 [b]	GASKET, 1.00OD X .625 I.D. X .030 THK WHITE EPDM 70 SHORE
34A	WC-4213 [a]	NUT, 5/8 LOCK PLATED
34B	WC-4212-02 [b]	NUT, 5/8-18 JAM PLASTIC

[1] GEM-120A-10, [2] GEM-120A-63, [3] GEM-120A-30

[a] Units built 05/15/17 and later. Stainless steel fitting kit (4A) is compatible with older units.

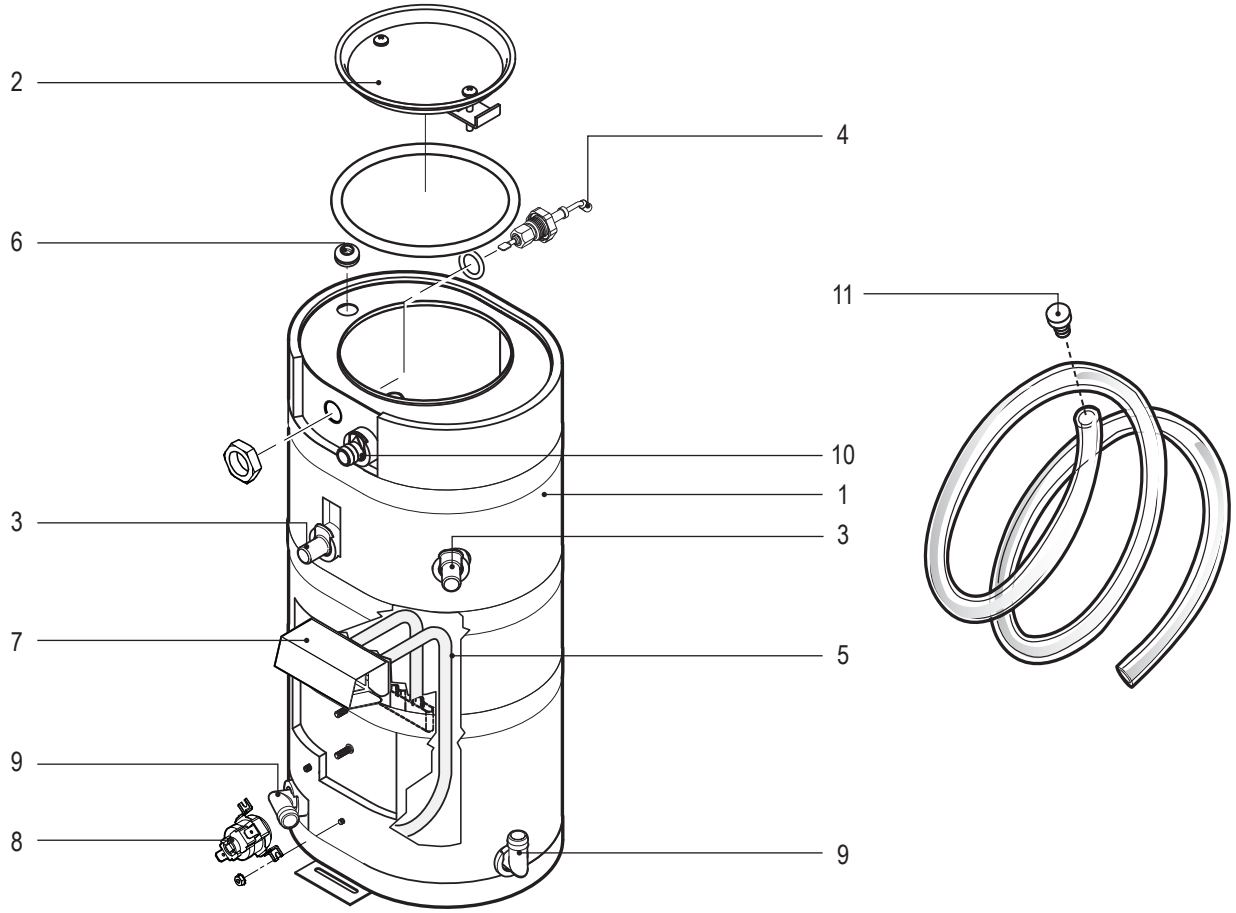
[b] Units built before 05/15/17.

GEM-120A - Recommended Parts to Stock

ITEM #	PART #	DESCRIPTION
2A	WC-817	VALVE, DUMP RIGHT 120V 12W W/ RECTIFIER AP/GEM
4A	WC-2977K	KIT, SPRAYHEAD FITTING METAL
5	WC-608-101K	KIT,LIQUID LEVEL CONTROL BOARD RETROFIT
6	WC-3765L	KIT, INLET VALVE REPAIR USE ON WC-826/ WC-826L/WC-847 (OLDER UNITS)
7A	WC-603-101K-GEM	KIT, RETROFIT TIMER BREW SELECTOR 120V GEM-120A/12
9	WC-2936	SPRAYHEAD, RED (Ø.131)
11A	WC-3621-101	BREW CONE, NON-METAL UNIVERSAL (WITH SPLASH POCKET)

ITEM #	PART #	DESCRIPTION
19A	WC-826L	VALVE, INLET 1 GPM 120V 9W
20	WC-3763	KIT, DUMP VALVE FOR DELTROL WC-820WDR,WC-821WDR, WC-844WDR
21A	WC-114R	SWITCH, ROCKER (RED) 120V NEON SPST 15A 250V
24	WC-3503	LEG, 3/8"-16 STUD SCREW BUMPER
26	WC-5310	TUBE, 5/16 ID x 1/8W SILICONE GEN USE
28A	WC-37102	KIT, WARMER ELEMENT 100W 120V GEN USE
31A	WC-122	SWITCH, BREW (GREEN) 120V NEON SPST 15A 250V
32	WC-504	THERMOSTAT, CAPILLARY SPST 250V 25A GEM

WC-5466 - Tank Assembly



WC-5466 - Tank Assembly - Parts List

ITEM #	PART #	DESCRIPTION
1	WC-5466	TANK, COMPLETE GEM-120A/C500AP
2	WC-37008	KIT, TANK LID ROUND (INCLUDES GASKET)
3	WC-37317	KIT, STRAIGHT FITTING & BUSHNG 8mm GEN USE
4	WC-5527K	KIT, PROBE WATER LEVEL O-RING & NUT
5	WC-904-04	KIT,ELEMENT, HEATING 1.6KW120V W/ JAM NUT & SILICONE O-RING
6	WC-4314	INSERT, SILICONE GROMMETS RD FDA GRADE

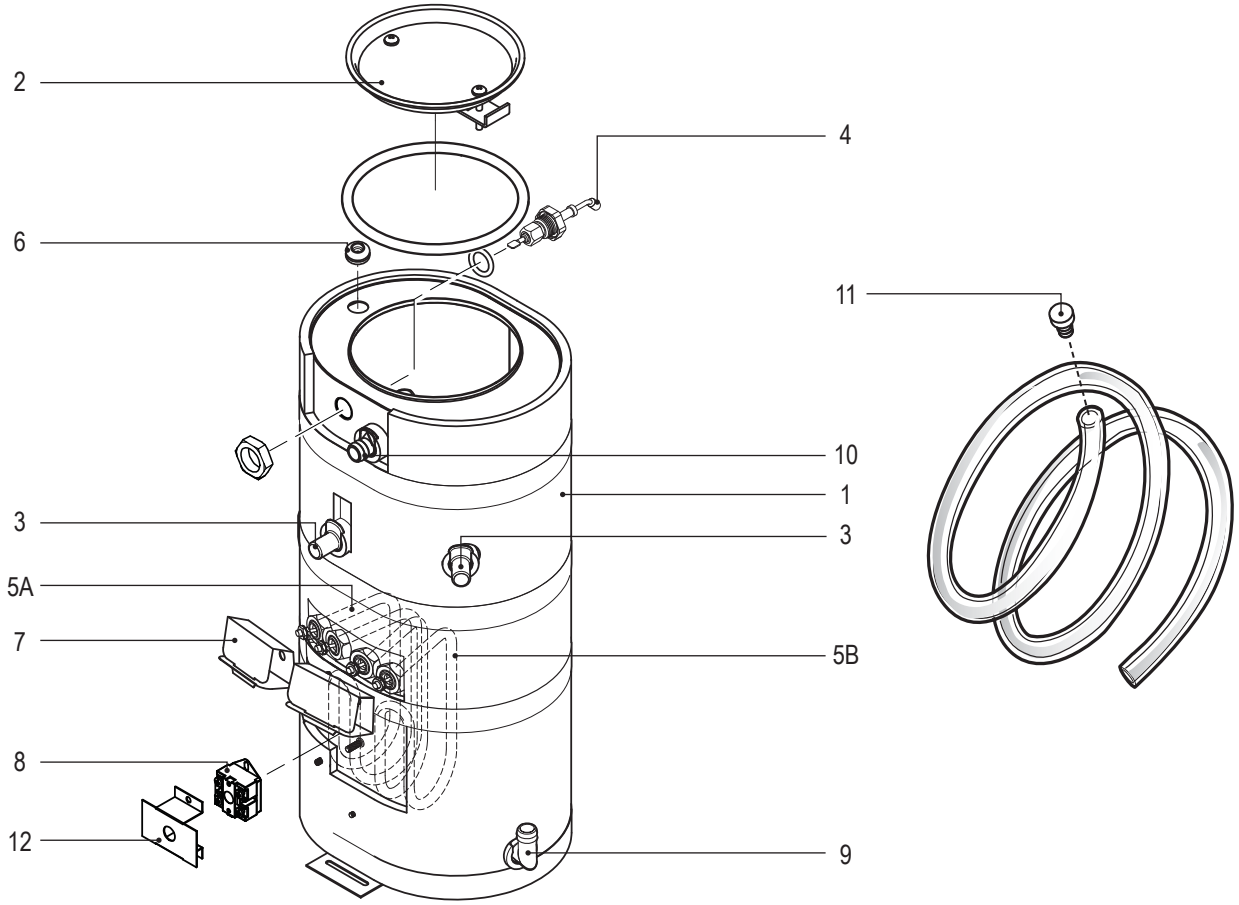
ITEM #	PART #	DESCRIPTION
7	WC-4394	GUARD, SHOCK/HEATING ELEMENT FOR SINGLE HEATING ELEMENT
8	WC-523	THERMOSTAT, MANUAL RESET 120/ 240 VAC 25A 220 DEG F MAX
9	WC-37365	KIT, FITTING TANK INLET
10	WC-37266	KIT, FITTING TANK OVERFLOW
11	WC-43058	PLUG, TANK DRAIN PLASTIC

WC-5466 - Recommended Parts to Stock

ITEM #	PART #	DESCRIPTION
2	WC-37008	KIT, TANK LID ROUND (INCLUDES GASKET)
3	WC-37317	KIT, STRAIGHT FITTING & BUSHNG 8mm GEN USE
4	WC-5527K	KIT, PROBE WATER LEVEL O-RING & NUT
5	WC-904-04	ELEMENT,HEATING 2KW 220V W/JAM NUTS

ITEM #	PART #	DESCRIPTION
8	WC-523	THERMOSTAT, MANUAL RESET 120/ 240 VAC 25A 220 DEG F MAX
9	WC-37365	KIT, FITTING TANK INLET
10	WC-37266	KIT, FITTING TANK OVERFLOW

WC-54133 - Tank Assembly



WC-54133 - Tank Assembly - Parts List

ITEM #	PART #	DESCRIPTION
1	WC-54133	TANK, COMPLETE GEM-120A 120/220V DV
2	WC-37008	KIT, TANK LID ROUND (INCLUDES GASKET)
3	WC-37317	KIT, STRAIGHT FITTING & BUSHNG 8mm GEN USE
4	WC-5527K	KIT, PROBE WATER LEVEL O-RING & NUT
5A	WC-904-04	KIT,ELEMENT, HEATING 1.6KW120V W/ JAM NUT & SILICONE O-RING
5B	WC-906-04	KIT, ELEMENT, HEATING 2KW 220V W/ JAM NUT & SILICONE O-RING
6	WC-4314	INSERT, SILICONE GROMMETS RD FDA GRADE
7	WC-4394	GUARD, SHOCK/HEATING ELEMENT FOR SINGLE HEATING ELEMENT

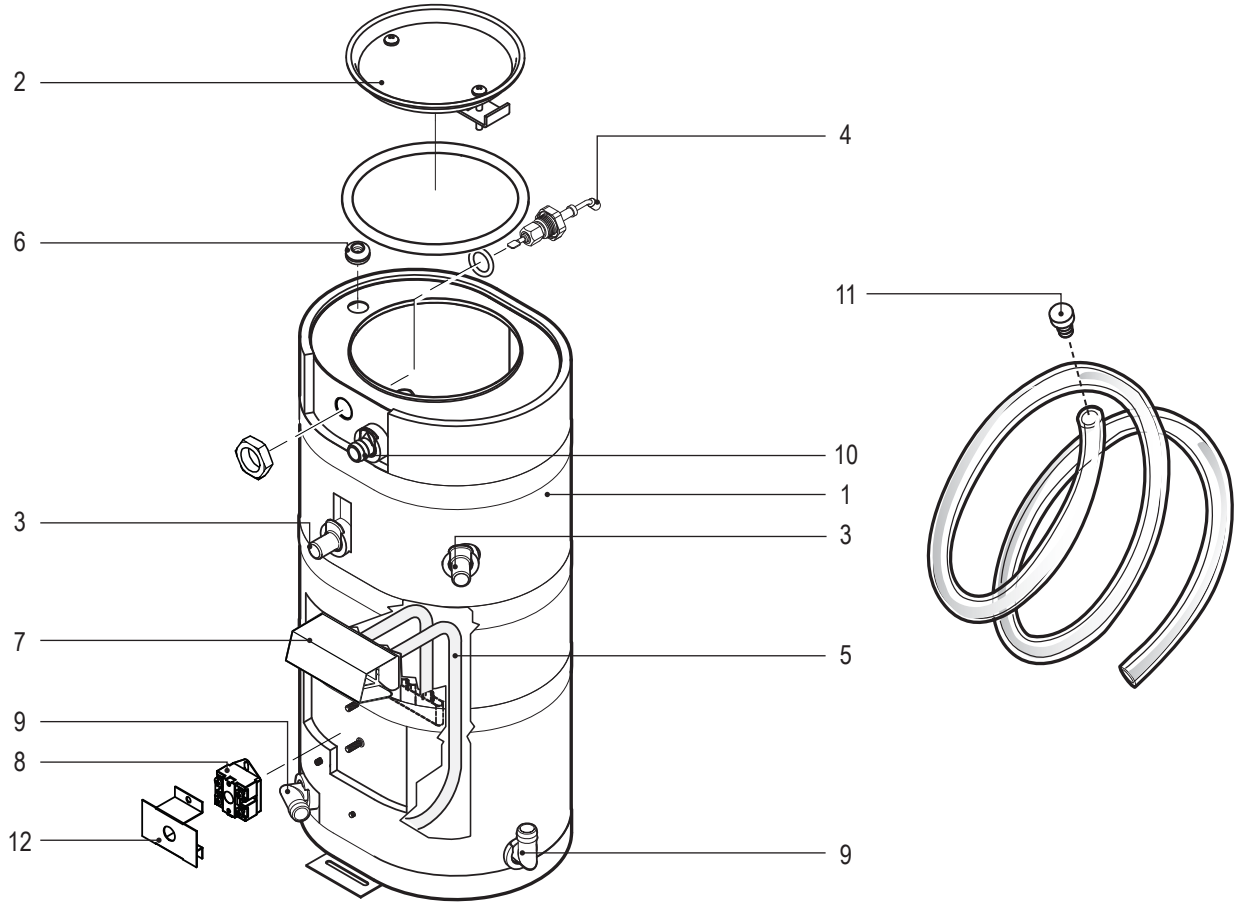
ITEM #	PART #	DESCRIPTION
8	WC-522	THERMOSTAT, HI LIMIT HEATER CONTROL DPST 277V 40A
9	WC-37365	KIT, FITTING TANK INLET
10	WC-37266	KIT, FITTING TANK OVERFLOW
11	WC-43058	PLUG, TANK DRAIN PLASTIC
12	WC-43055	GUARD, SHOCK RESET THERMOSTAT (WC-522)

WC-54133 - Recommended Parts to Stock

ITEM #	PART #	DESCRIPTION
2	WC-37008	KIT, TANK LID ROUND (INCLUDES GASKET)
3	WC-37317	KIT, STRAIGHT FITTING & BUSHNG 8mm GEN USE
4	WC-5527K	KIT, PROBE WATER LEVEL O-RING & NUT
5A	WC-904-04	ELEMENT,HEATING 2KW 220V W/JAM NUTS
5B	WC-906-04	KIT, ELEMENT, HEATING 2KW 220V W/ JAM NUT & SILICONE O-RING

ITEM #	PART #	DESCRIPTION
8	WC-522	THERMOSTAT, HI LIMIT HEATER CONTROL DPST 277V 40A
9	WC-37365	KIT, FITTING TANK INLET
10	WC-37266	KIT, FITTING TANK OVERFLOW

WC-5466-30 - Tank Assembly



WC-5466-30 - Tank Assembly - Parts List

ITEM #	PART #	DESCRIPTION
1	WC-5466-30	TANK, COMPLETE GEM-120A
2	WC-37008	KIT, TANK LID ROUND (INCLUDES GASKET)
3	WC-37317	KIT, STRAIGHT FITTING & BUSHNG 8mm GEN USE
4	WC-5527K	KIT, PROBE WATER LEVEL O-RING & NUT
5	WC-906-04	KIT, ELEMENT, HEATING 2KW 220V W/ JAM NUT & SILICONE O-RING
6	WC-4314	INSERT, SILICONE GROMMETS RD FDA GRADE
7	WC-4394	GUARD, SHOCK/HEATING ELEMENT FOR SINGLE HEATING ELEMENT

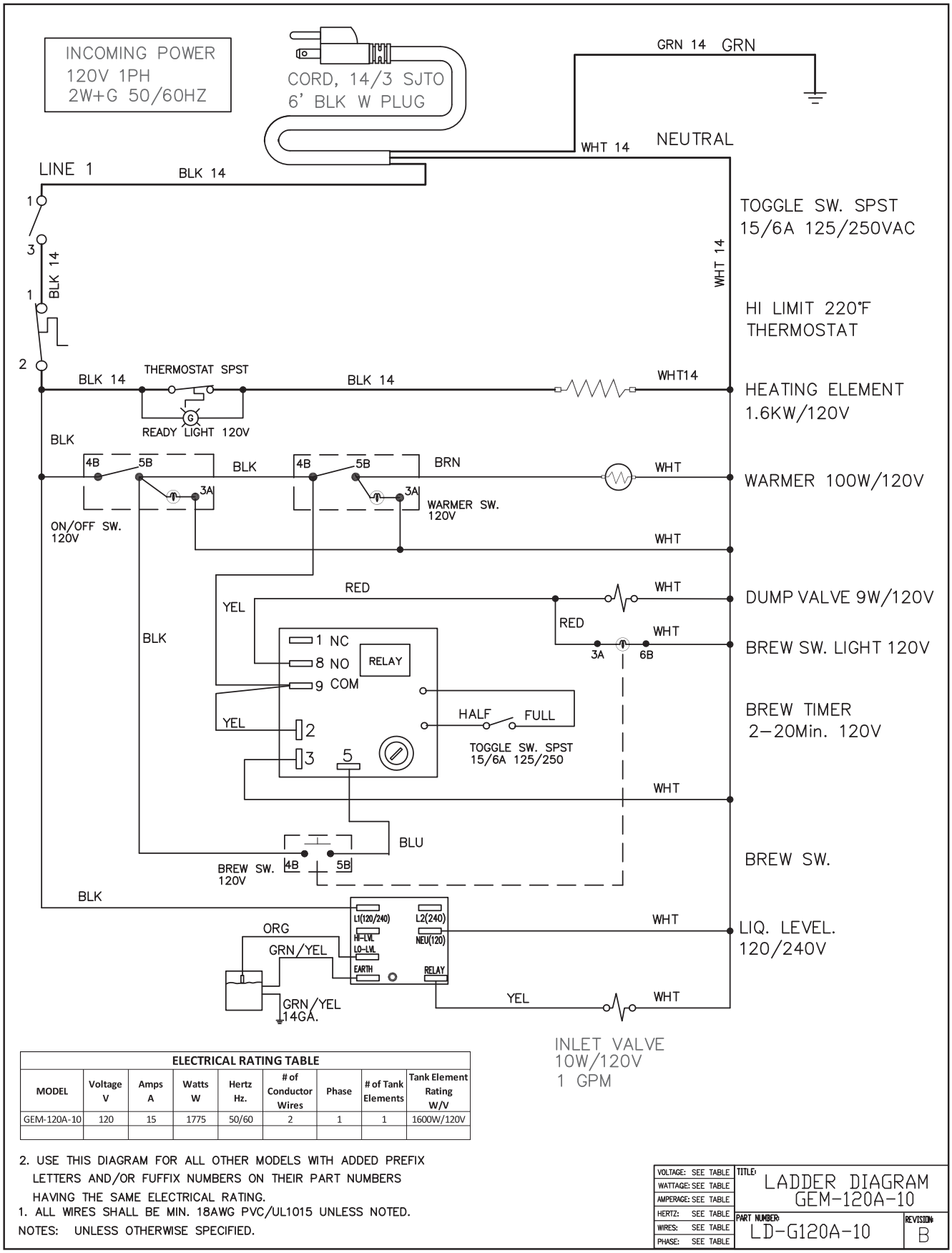
ITEM #	PART #	DESCRIPTION
8	WC-522	THERMOSTAT, HI LIMIT HEATER CONTROL DPST 277V 40A
9	WC-37365	KIT, FITTING TANK INLET
10	WC-37266	KIT, FITTING TANK OVERFLOW
11	WC-43058	PLUG, TANK DRAIN PLASTIC
12	WC-43055	GUARD, SHOCK RESET THERMOSTAT (WC-522)

WC-5466-30 - Recommended Parts to Stock

ITEM #	PART #	DESCRIPTION
2	WC-37008	KIT, TANK LID ROUND (INCLUDES GASKET)
3	WC-37317	KIT, STRAIGHT FITTING & BUSHNG 8mm GEN USE
4	WC-5527K	KIT, PROBE WATER LEVEL O-RING & NUT
5	WC-906-04	KIT, ELEMENT, HEATING 2KW 220V W/ JAM NUT & SILICONE O-RING

ITEM #	PART #	DESCRIPTION
8	WC-522	THERMOSTAT, HI LIMIT HEATER CONTROL DPST 277V 40A
9	WC-37365	KIT, FITTING TANK INLET
10	WC-37266	KIT, FITTING TANK OVERFLOW

GEM-120A-10



ELECTRICAL RATING TABLE								
MODEL	Voltage V	Amps A	Watts W	Hertz Hz.	# of Conductor Wires	Phase	# of Tank Elements	Tank Element Rating W/V
GEM-120A-10	120	15	1775	50/60	2	1	1	1600W/120V

2. USE THIS DIAGRAM FOR ALL OTHER MODELS WITH ADDED PREFIX LETTERS AND/OR FUFFIX NUMBERS ON THEIR PART NUMBERS HAVING THE SAME ELECTRICAL RATING.
1. ALL WIRES SHALL BE MIN. 18AWG PVC/UL1015 UNLESS NOTED.

NOTES: UNLESS OTHERWISE SPECIFIED.

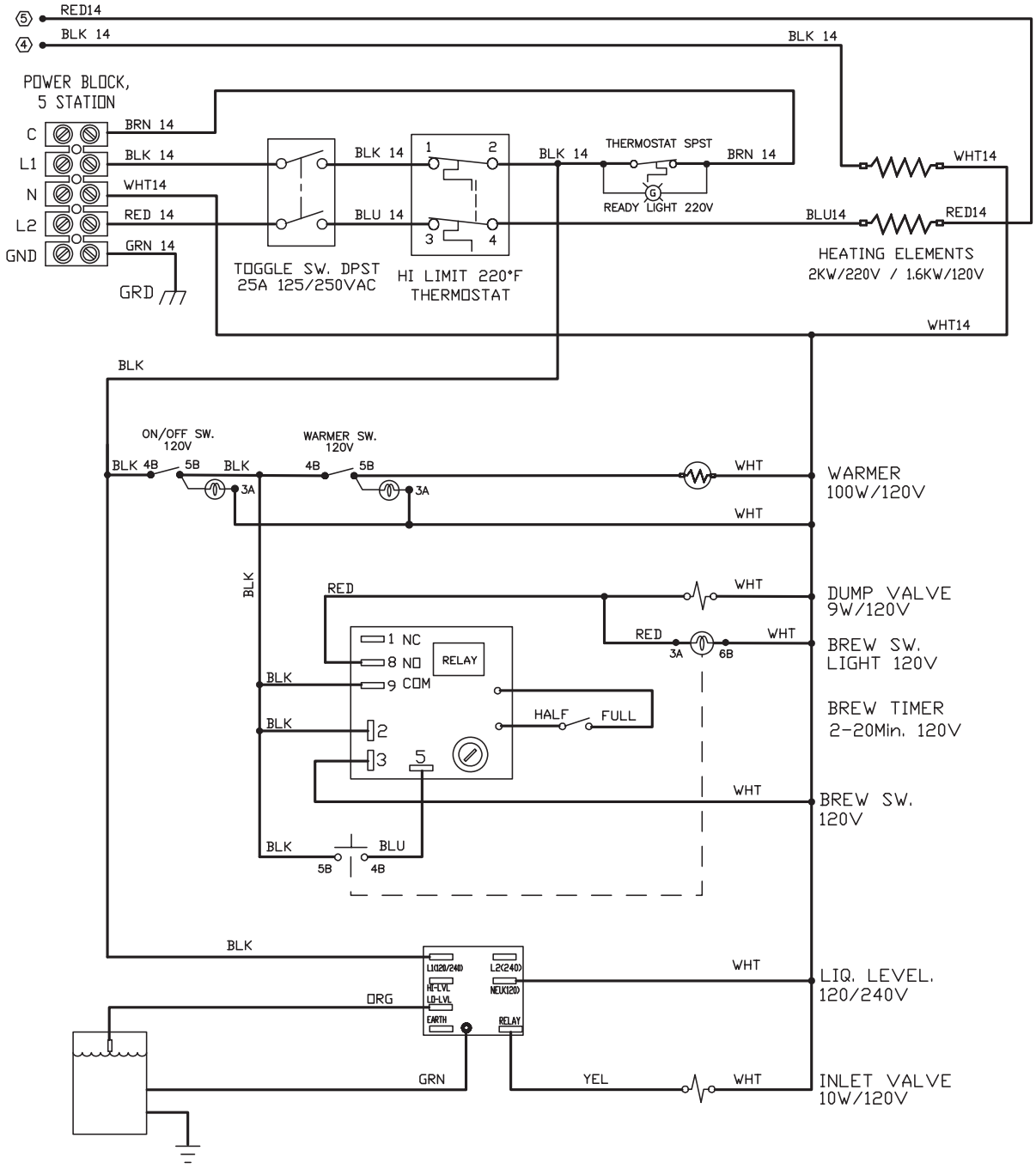
VOLTAGE:	SEE TABLE
WATTAGE:	SEE TABLE
AMPERAGE:	SEE TABLE
HERTZ:	SEE TABLE
WIRES:	SEE TABLE
PHASE:	SEE TABLE

TITLE: LADDER DIAGRAM GEM-120A-10

PART NUMBER: LD-G120A-10

REVISION: B

GEM-120A-63



6 USE THIS DIAGRAM FOR ALL OTHER MODELS WITH ADDED PREFIX LETTERS AND/OR DIFFERENT DASH NUMBER ON THEIR PART NUMBERS HAVING THE SAME ELECTRICAL RATINGS. Ex.: SCGEM-120A-63 and/or GEM-120A-63-01.

5 FOR 220VAC OPERATION: CONNECT RED14 WIRE TO POINT 'C' ON POWER BLOCK WC-314, CAP & STOW BLK14.

4 FOR 120VAC OPERATION: CONNECT BLK14 WIRE TO POINT 'C' ON POWER BLOCK WC-314, CAP & STOW RED14.

3 NOTE DELETED.

2 TEFLON WIRES 14 AWG MAY BE USED AS A SUBSTITUTE FOR THE 14 AWG APPLIANCE WIRE.

1 ALL WIRES SHALL BE 18 AWG UL APPROVED APPLIANCE WIRE.

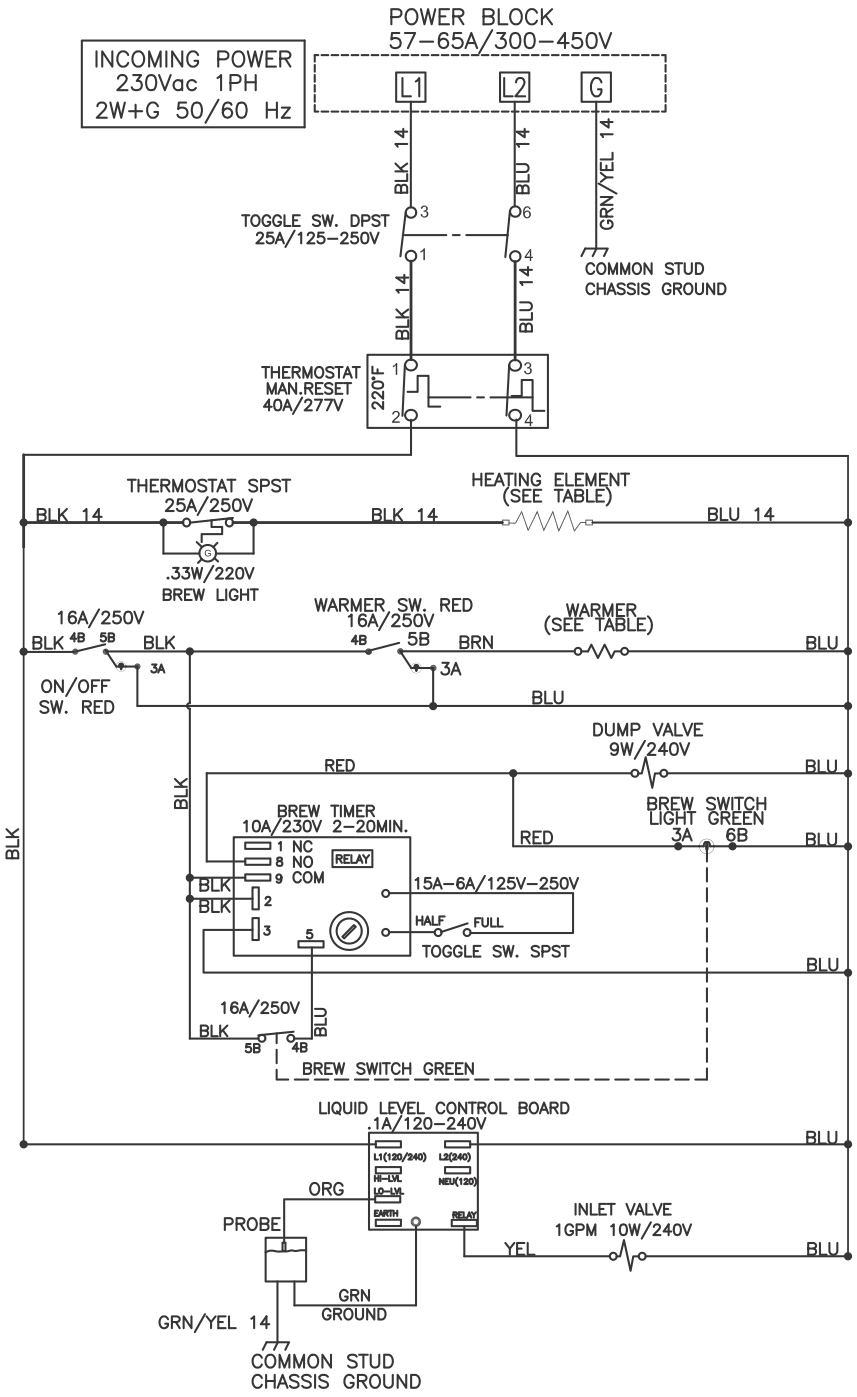
NOTES: unless otherwise specified

VOLTAGE:	120/220
WATTAGE:	1775/2100
AMPERAGE:	15/10
HERTZ:	60
WIRES:	2W/3W+GRD
PHASE:	1

TITLE: LADDER DIAGRAM GEM-120A-63

PART NUMBER: LD-G120A-63 REV:NC

GEM-120A-30



ELECTRICAL RATING TABLE									
Model	Voltage V	Amps A	Watts W	Hertz Hz	# of Conductor Wires	Phase	# of Tank Elements	Tank Element Rating W/V	Warmer Element Rating W/V
GEM-120A-30	220	9.9	2175	50/60	2	1	1	2000W/220V	(1X) 100W/220V
	230	10.3	2380						
	240	10.8	2590						

2. USE THIS DIAGRAM FOR ALL OTHER MODELS WITH ADDED PREFIX LETTERS AND/OR DIFFERENT DASH NUMBER ON THEIR PART NUMBERS HAVING THE SAME ELECTRICAL RATINGS.
1. ALL WIRES SHALL BE MIN 18AWG PVC PER UL1015.
NOTES: UNLESS OTHERWISE SPECIFIED

VOLTAGE:	SEE TABLE
WATTAGE:	SEE TABLE
AMPERAGE:	SEE TABLE
HERTZ:	SEE TABLE
WIRES:	2W+G
PHASE:	SINGLE

TITLE: LADDER DIAGRAM

PART NUMBER: LD-G120A-30

REVISION: B

WARNING:

Electric Shock Hazard - the following procedures are to be performed only by a qualified service technician. Turn off power when replacing components. Neither Wilbur Curtis Co., Inc. nor the seller can be held responsible for the interpretation of this information, or any liability in connection with its use.

Scald and Burn Hazard - keep body parts clear of hot surfaces during troubleshooting.

Troubleshooting Guidelines

- A brewer that is not level may not function properly. Make sure the brewer is properly leveled before proceeding.
- This troubleshooting guide identifies some, but not all, of the possible causes for common problems that can occur.
- Use this troubleshooting guide along with the appropriate *ELECTRICAL SCHEMATIC.*

Valve Test Procedure

Use a digital multi-meter to measure the resistance of valve coils.

Measure the resistance across the valve coil terminals with the wiring harness disconnected. Reverse the meter leads on the terminals and measure the resistance in the opposite direction. A resistance of less than 100 ohms, in either direction, indicates a shorted coil. The valve must be replaced.

If a shorted coil is not detected, test for an open coil:

1 Reconnect the valve terminals to the wiring harness.

2 Power up the brewer with the appropriate cover removed to allow access to the valve.

3 Run a brew cycle while monitoring the voltage at the valve coil terminals. If voltage is present on the terminals, you should hear the valve click open/closed at the moment power is applied or removed from the terminals. The inlet valve should open any time the water tank is not full. If the valve does not open, replace the valve. If voltage is not detected, first check the wiring, then trace the fault back to the source.

No Power - No Control Panel Lights Come On

1 Make sure the circuit breaker to the circuit supplying power to the brewer is not tripped and is turned on.

2 On brewers with a power plug, make sure it is connected to the power receptacle.

3 Make sure that the main power toggle switch on the back panel is turned ON.

4 Verify that all wires from the power cord are properly connected inside the unit. Check to make sure the wires are not burned/overheated. Check chassis ground.

Water Not Hot Enough

1 If the water heats, but is not hot enough, first check for the correct temperature setting on the thermostat.

2 If the temperature setting is OK, check the heating element for high resistance. If the element is OK, replace the thermostat.

Water Does Not Heat At All

- Check to see if the water level in the tank is in contact with the water level probe. If not, see *Tank Does Not Fill*.
- If the water heats, but is not hot enough, see *Water Not Hot Enough*.
- If the water tank is full, but the water is not hot, check the resistance across the leads of the capillary thermostat. If the thermostat is open when the water is hot, turn the thermostat stem clockwise until it stops. If the thermostat still measures open, replace the thermostat.

The following steps are performed with the rear toggle switch in the ON position.

1 Check for power across the terminals of the heating element. If power is being supplied, remove the wires and check for an open heating element (nominal resistance is 13 Ohms).

2 If there is no power to the element, trace the circuit back (using the *ELECTRICAL SCHEMATIC*) to the power cord to find out where power is lost.

Water Heats More Slowly Than Usual

1 Check for the proper voltage across the terminals of the heating element.

2 If the proper voltage is being supplied, disconnect the heating element and check for high resistance. Replace a heating element if the resistance is too high.

Water Tank Does Not Fill

IMPORTANT: No water or low water in the tank can cause the tank to overheat, resulting in the thermostat reset switch opening. If after correcting a tank fill problem there is no power to the control panel, push the reset switch button to reset.

1 Check to make sure the water supply is turned on. Check for a plugged water supply line or plugged inlet valve.

2 If there are no plugs in the water supply line, check for power across the inlet valve terminals. If power is being supplied, but there is no water flow, replace the inlet valve.

3 If power is not being supplied to the inlet valve, check the wires between the liquid level control board and the inlet valve. Check for corroded connections.

4 If the wiring between the control board and the inlet valve is OK, but there is no power to the inlet valve, remove the orange wire from the water tank probe. If the water tank starts to fill, replace the probe. If the water tank does not start to fill, replace the control board.

Water Tank Overfills

1 Turn the toggle switch on the back of the brewer ON and OFF. If water continues to flow when the switch is in both positions, replace the inlet valve.

2 If water stops flowing to the water tank when the toggle switch is turned OFF and resumes when the switch is turned back ON, remove the orange wire from the water probe on the tank. While power is ON, short the end of the orange wire to the metal surface on the outside of the tank. If the water tank stops filling when the orange wire is shorted to the tank, check for a corroded connection at the water probe.

3 If water does not stop flowing when the orange wire is shorted to the tank, check the tank ground connection and the continuity of the orange wire connecting to the liquid level control board. Also check the ground connection to the liquid level control board. If all connections are OK, replace the control board.

Brewer Does Not Start When Brew Button is Pressed (Control Panel Lights Are On)

First check the tank water level. If the water level is low, see *Water Tank Does Not Fill*.

If the brewing light goes on when the BREW button is pressed, but brewing does not start:

1 Check for power across the dump (brew) valve. If the brew valve is getting power, but does not open, replace the brew valve.

2 If the brew valve is not getting power when the brewing light is on, check for faulty wiring and connections between the timer and the dump valve. If the wiring is OK, replace the brew timer.

If the brewing light DOES NOT go on when the BREW button is pressed:

1 First check for a faulty BREW switch, and/or faulty BREW switch wiring.

2 If the brew switch and wiring are OK, replace the brew timer.

Dispenser Overflows

1 Check to make sure the dispenser is empty before starting a brew cycle.

2 With the rear toggle switch in the ON position, check to see if water continues to flow from the spray head, when the front panel OFF/ON switch is turned OFF. Replace the dump (brew) valve if it is stuck open.

3 If the dump valve turns on when the front panel OFF/ON switch is ON and turns off when the switch is OFF (with rear toggle switch ON), replace the timer.

Dispenser Not Filled To Normal Level During Brewing (Coffee Too Strong)

1 Check to make sure that the flow rate and water pressure from the water supply line meet the minimum specifications for the brewer. See the *SPECIFICATIONS* section.

2 Check to make sure that the spray head is clean and free of debris. Clean or replace as needed. Also make sure that the spray head is correctly aligned and that the tubing is routed properly to allow for maximum water flow (no kinks).

3 Remove the brew basket and place a large container under the dump (brew) valve. Run a brew cycle and confirm that the dump valve opens completely during the brew cycle. If flow is restricted, check for obstructions in the related tubing or valve. If there are no obstructions, but flow through the valve is slow, it can be assumed that the particular valve is not opening all the way and should be replaced.

4 Check to make sure the BREW SELECTOR switch is working. To do so, perform a brew cycle with the BREW SELECTOR in position 1, then position 2. The output volume should double in position 2. If the volume is the same in both positions, check the switch and associated wiring. If the switch and wiring are OK, but the volume does not double in position 2, replace the timer.

5 If all of the above are OK, but volume is limited, check the timer setting. See *Setting The Brew Timer*, at the end of this section.

Water Too Hot (Boiling or Excessive Steaming)

IMPORTANT: Make sure that the control panel temperature is adjusted to compensate for higher elevations. The factory setting is 200°F. Reduce the temperature setting two degrees for every 1000 feet of elevation.

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1 First check to make sure that the temperature sensor is attached tightly to the tank and that heat sink compound was used.

2 Check for a thermostat that is stuck closed.

Warmer Does Not Heat

1 Turn on power to the warmer. Check for power at the terminals of the warmer element. If power is supplied to the element terminals, but the element does not heat, replace the element.

2 If the warmer is not receiving power, check the wiring to the element and the warmer switch.

Setting the Brew Timer

The dial range on the timer is from “0” to “100”. “0” represents 2 minutes and “100” represents 20 minutes. To change the brew time setting:

1 Disconnect the power cord.

2 Turn the brew selector switch to 2.

3 Open the top cover and locate the brew timer. On the brew timer, rotate the timer arrow to change the setting. Rotating it to the right will increase the brew time, rotating it to the left will decrease it. The default setting is 25. This setting is intended to deliver one gallon of water (brew 24 cups) per brew cycle.

4 After making an adjustment, run a brew cycle with coffee to test the liquid level in the dispenser and the coffee taste. If this is not satisfactory, repeat the steps above. Disconnect the power cord during timer adjustments in the interest of safety.

5 Once you achieve acceptable results, replace the top cover.

Wilbur Curtis Co., Inc. certifies that its products are free from defects in material and workmanship under normal use. The following limited warranties and conditions apply:

3 years, parts and labor, from original date of purchase on digital control boards
2 years, parts, from original date of purchase on all other electrical components, fittings and tubing
1 year, labor, from original date of purchase on all other electrical components, fittings and tubing

Additionally, Wilbur Curtis Co., Inc. warrants its grinding burrs for forty (40) months from the date of purchase or 40,000 pounds of coffee, whichever comes first. Stainless steel components are warranted for two (2) years from the date of purchase against leaking or pitting. Replacement parts are warranted for ninety (90) days from the date of purchase or for the remainder of the limited warranty period of the equipment in which the component is installed.

All in-warranty service calls must have prior authorization. For authorization, call the Technical Support Department at 800-995-0417. Additional conditions may apply. Go to www.wilburcurtis.com to view the full product warranty information.

CONDITIONS & EXCEPTIONS

The warranty covers original equipment at time of purchase only. Wilbur Curtis Co., Inc., assumes no responsibility for substitute replacement parts installed on Curtis equipment that have not been purchased from Wilbur Curtis Co., Inc. Wilbur Curtis Co., Inc. will not accept any responsibility if the following conditions are not met. The warranty does not cover:

- **Adjustments and cleaning:** *The resetting of safety thermostats and circuit breakers, programming and temperature adjustments are the responsibility of the equipment owner. The owner is responsible for proper cleaning and regular maintenance of this equipment.*
- **Replacement of items subject to normal use and wear:** *This shall include, but is not limited to, spray heads, faucets, light bulbs, shear disks, "O" rings, gaskets, silicone tubing, silicone elbows, canister assemblies, whipper chambers and plates, mixing bowls, agitation assemblies and whipper propellers.*

The warranty is void under the following circumstances:

- **Improper operation of equipment:** *The equipment must be used for its designed and intended purpose and function.*
- **Improper installation of equipment:** *This equipment must be installed by a professional technician and must comply with all local electrical, mechanical and plumbing codes.*
- **Improper voltage:** *Equipment must be installed at the voltage stated on the serial plate supplied with this equipment.*
- **Improper water supply:** *This includes, but is not limited to, excessive or low water pressure and inadequate or fluctuating water flow rate.*
- **Damaged in transit:** *Equipment damaged in transit is the responsibility of the freight company and a claim should be made with the carrier.*
- **Abuse or neglect (including failure to periodically clean or remove lime accumulations):** *The manufacturer is not responsible for variation in equipment operation due to excessive lime or local water conditions. The equipment must be maintained according to the manufacturer's recommendations.*

Repairs and/or Replacements are subject to Curtis' decision that the workmanship or parts were faulty and the defects showed up under normal use. All labor shall be performed during regular working hours. Overtime charges are the responsibility of the owner. Charges incurred by delays, waiting time, or operating restrictions that hinder the service technician's ability to perform service is the responsibility of the owner of the equipment. This includes institutional and correctional facilities. Wilbur Curtis Co., Inc. will allow up to 100 miles, round trip, per in-warranty service call.

Return Merchandise Authorization (RMA): All claims under this warranty must be submitted to the Wilbur Curtis Technical Support Department prior to performing any repair work or return of this equipment to the factory. **All returned equipment must be properly re-packaged in the original carton and received by Curtis within 45 days following the issuance of a RMA.** No units will be accepted if they are damaged in transit due to improper packaging. **NO UNITS OR PARTS WILL BE ACCEPTED WITHOUT A RETURN MERCHANDISE AUTHORIZATION (RMA). THE RMA NUMBER MUST BE MARKED ON THE CARTON OR SHIPPING LABEL. All warranty claims must be submitted within 60 days of service. Invoices will not be processed or accepted without a RMA number. Any defective parts must be returned in order for warranty invoices to be processed and approved.** All in-warranty service calls must be performed by an authorized service agent. Call the Wilbur Curtis Technical Support Department to find an agent near you.