

# Hydrocollator<sup>®</sup>

## MASTER HEATING UNITS

### Operation Manual



**SS**



**E-2**



**E-1**

120 and 220/240 Volt Units.



Hydrocollator® is a registered trademark of Chattanooga Group, Inc.

HotPac™ is a trademark of Chattanooga Group, Inc.

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# **WARRANTY**

Chattanooga Group, Inc. ("Company") warrants that the Hydrocollator® Models E-1, E-2 and SS Heating Units ("Product") are free of defects in material and workmanship. This warranty shall remain in effect for one (1) year from the date of original consumer purchase of this Product and extends to any owner of the Product during the warranty period. If this Product fails to function during the one year warranty period because of defect in material or workmanship, the Company or the selling dealer will replace or repair this Product without charge within a period of 30 days from the date on which the defective Product is returned to the Company or the dealer. The Company or the dealer will ship the replacement or the repaired Product to the consumer's facility.

All repairs must be performed by a service center authorized by the Company. Any modifications or repairs performed by unauthorized centers or groups will void this warranty. To participate in warranty coverage, this Product's warranty registration card (included with Product) must be filled out and returned to the Company by the original owner within ten business days of purchase.

## ***This Warranty Does Not Cover***

1. Replacement parts or labor furnished by anyone other than the Company, the dealer or an approved Company service agent.
2. Defects or damage caused by labor furnished by someone other than Company, the dealer or an approved Company service agent.
3. Any malfunction or failure in the Product while it is in the possession of the owner during the warranty period if the malfunction or failure is not caused by a defect in material or workmanship, or if the malfunction or failure is caused by unreasonable use, including the failure to provide reasonable and necessary maintenance.

## ***Company Shall Not Be Liable for Incidental or Consequential Damages to Property or Business***

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

TO OBTAIN SERVICE from Company or the selling dealer under this warranty, the owner must do or abide by the following:

1. A written claim must be made within the warranty period to the Company or the selling dealer. If the claim is made to the Company, written claim should be sent to:

4717 Adams Road  
P.O. Box 489  
Hixson, TN 37343  
Phone: (800) 592-7329 USA  
(423) 870-2281  
(423) 870-7200 International

2. The Product must be returned to the Company or the selling dealer by the owner.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

The Company does not authorize any person or representative to create for it any other obligation or liability in connection with the sale of the Product. Any representation or agreement not contained in the warranty shall be void and of no effect.

## ***FOREWORD***

This manual has been written for the owners and operators of the Hydrocollator SS, E-2 and E-1 Master Heating Units. It contains general instructions on operation, precautions, maintenance and parts information. In order to maximize use, efficiency and the life of your Hydrocollator SS, E-2 and E-1 Master Heating Units, please read this manual thoroughly and follow all instructions prior to operating the unit.

Specifications put forth in this manual were in effect at the time of publication. However, owing to Chattanooga Group's policy of continual improvement, changes to these specifications may be made at any time without obligation on the part of Chattanooga Group, Inc.

## ***PRECAUTIONARY INSTRUCTIONS***

1. **CAUTION:** Read, understand and practice the precautionary and operating instructions. Know the limitations associated with the Hydrocollator SS, E-2 and E-1 Master Heating Units. Observe the cautionary and operational decals installed on the unit.
2. **CAUTION:** The thermostat is extremely sensitive and the slightest adjustment will alter the temperature several degrees. The recommended operating temperature is 160° F to 166° F (71° to 74°C). The temperature of the water should be checked with a thermometer after every adjustment, before using the HotPacs. Always allow sufficient time for the water temperature to stabilize.
3. **CAUTION:** ALWAYS keep the water level over the top of the HotPacs to avoid burning or scorching of the packs.
4. **CAUTION:** NEVER allow the HotPacs to dry after use.
5. **CAUTION:** Check water level daily as it has a natural loss due to evaporation.
6. **CAUTION:** NEVER adjust the thermostat too high. The thermostat is extremely sensitive to the slightest adjustment.
7. **CAUTION:** Clean the tank periodically as described in the maintenance portion of this manual.
8. **CAUTION:** ALWAYS replace Hydrocollator HotPacs as soon as they show signs of wear.
9. **CAUTION:** If the unit is to be left unattended for a period of time, unplug, remove the packs, empty the water and clean the tank.
10. **CAUTION:** Hydrocollator may tip over if product is moved while filled with water. It is best to unplug the Hydrocollator from the power source and allow hot water inside to cool to room temperature before moving. If this is not possible, take extreme caution when moving product with hot water inside. Tipping over could result in a burn to the user or others. DO NOT pull toward you while moving.
11. **CAUTION:** ALWAYS use factory authorized replacement parts.
12. **CAUTION:** ALWAYS destroy and replace HotPacs which are exposed to contamination.
13. **WARNING:** Grounding the Hydrocollator SS, E-2 and E-1 Master Heating Unit: Make certain the unit is electrically grounded by plugging into a hospital grade electrical outlet with a ground terminal receptacle (U-ground outlet), 120 VAC only. Follow the National Electrical Code.
14. **WARNING:** The water temperature in the Hydrocollator is approximately 160° F (71° C), and the water scalding temperature is approximately 120° F (49° C).

## ***GENERAL OPERATING INSTRUCTIONS***

The Hydrocollator is simple and easy to operate. The controls are located in the rear, near the bottom of the unit. The thermostat controls the temperature of the water. It is located near the bottom of the unit on the control panel. It has been tested and preset at the factory to normal operating temperature. If further adjustment is necessary, it can be easily accomplished by turning the adjusting screw located on the thermostat. Turning the outer screw counterclockwise lowers the temperature, while turning it clockwise raises it.

**NOTE:** Do not turn the inner stem.

The Hydrocollator units operate through the use of a hydraulic capillary-type thermostat and can be left plugged in and turned "ON" to provide a ready supply of heated HotPacs™.

The HotPac rack is adjustable and accommodates different sizes and types of packs.

**SS Unit** – Holds eight Standard Size packs. Special rack holds two Neck Contour packs.

**E-2 Unit** – Adjustment is accomplished by inserting the hanging platform. The E-2 unit comes complete with two oversize, three Standard Size packs and one Neck Contour pack.

**E-1 Unit** – Adjustment is accomplished by placing the rack insert in or leaving the insert out. With the insert in, the rack accommodates four Standard Size packs.

## **INDICATORS AND CONTROLS**

**GREEN LAMP** (220/240 volt units), when illuminated, indicates that main power is connected, the switch is ON and unit is operating.

**RED LAMP** (if applicable), when illuminated, warns of an overheat/low water condition. Action is necessary to rectify the condition.

**IMPORTANT:** Some models are fitted with a thermal cut-out thermostat which acts as a "Non self-resetting" thermal cut-out. In the unlikely event of a fault condition occurring, this device is designed to open the power circuit between 180°F to 185°F (82°C to 85°C). It is NOT possible to alter its operating range. The operation of the unit may be restored by depressing the red button after the water/element temperatures have been allowed to cool. If the fault condition persists, please contact Chattanooga Group, Inc. or an authorized agent.

### **EXPLANATION OF SYMBOLS**



**ATTENTION:** Consult accompanying documents



Type B equipment. Denotes the degree of protection against electric shock, particularly regarding allowable leakage currents and the reliability of the protective earth connection.



**DANGER:** Risk of explosion if used in the presence of flammable anesthetics.

## **INSTALLATION**

Remove all of the contents inside the Hydrocollator and then replace the wire rack. Make certain the drain valve is closed before filling the tank with water. The tank should be approximately 3/4 full with packs removed. The tank may be filled from any standard type faucet.

Check the voltage rating on the serial decal plate which is located on the back of the unit. To turn the unit on, simply plug the unit into a 120 Volt~, 60 Hz outlet or a 220-240 Volt~, 50-60Hz outlet as indicated on the decal plate. To turn the unit off, simply unplug from mains power supply. DO NOT attempt to use direct current. Follow the procedures indicated in the Precautionary Instructions. DO NOT attempt to use the unit if it is not properly grounded.

# ***MAINTENANCE***

## **Care and Cleaning**

The Hydrocollator is equipped with an immersion type heating element and a hydraulic capillary type thermostat which evenly maintains the HotPac temperature in the water and provides a ready supply of heated packs. It is critical to maintain the water level over the top of the HotPac to avoid damage to the heating element, the stainless steel, or the HotPac. Water is constantly lost during operation due to evaporation. Therefore, it is essential that water be added daily. The tank should also be drained and cleaned systematically, at a minimum every two (2) weeks.

Always unplug the unit from its electrical service when emptying or cleaning the unit. Drain Unit by the drain valve located at the bottom rear of the unit. Either move the unit to a floor drain or attach the extension hose to it when draining.

**CAUTION!** Hydrocollator may tip over if product is moved while filled with water. It is best to unplug the Hydrocollator from the power source and allow hot water inside to cool to room temperature before moving. If this is not possible, take extreme caution when moving the product with hot water inside. Tipping over could result in a burn to the user or others. DO NOT pull unit toward you while moving.

Your Hydrocollator Heating Unit is made of high quality stainless steel that should last a lifetime. That is *Stainless* not *Stainproof* steel. You must properly care for your Hydrocollator Heating Unit if you wish for it to last a lifetime. And it will.

***Follow these simple steps to ensure that your Hydrocollator Heating Unit lasts and lasts.***

1. *Chlorine means death to stainless steel. No bleach or any cleaner with high chlorine content.*
2. Clean it regularly if you want it to last for years. NOTE: Failure to maintain your equipment (including regular cleaning) will void your warranty.
3. Fill it daily with water. Water is constantly lost during operation due to evaporation.
4. Chlorine in regular tap water may be present in high enough concentrations to damage your unit by causing rust. If you suspect high levels of chlorine in your Hydrocollator Heating Unit, we recommend the addition of a dechlorinator.
5. Certain additives (such as herbal teas, essential oils, etc.) will damage the components of the heating unit including the stainless steel. The Hydrocollator Heating Unit was designed to heat water and HotPacs only.

***To avoid potential for rusting.***

1. **Do not use bleach** or cleaners with high chloride content.
2. **Do not** use paper clips, safety pins staples coat hangers, etc., in or on the unit.
3. **Do not** clean the unit with steel wool or a carbon steel brush.
4. **Do not** use abrasive cleaners which tend to disturb the grain in the finish.
5. Water level is critical: Add water daily and keep it full.
6. Do regular cleaning and draining of the tank (every two weeks).
7. Remove all deposits from interior surfaces and parts (including heating element). The deposits are concentrations of chlorine that allow rusting to begin. If allowed to accumulate on the heating element, these deposits will lower the efficiency of the element and increase the power consumption of the unit.
8. If you suspect that you have "hard water", you may need to change your water more frequently. Salt deposits are an indication of hard water that will eventually cause rust.

***Cleaning Tips***

1. The interior of the unit should be scoured, usually every two weeks, using a low abrasive bathroom cleaner. Check for low or no chlorine content in your cleaner and make sure that the residue is thoroughly rinsed away with water.

2. A strong solution of vinegar and water will usually dissolve away deposits, which then must be thoroughly rinsed away.
3. To maintain the high luster of the stainless steel exterior, use Hydrocollator Stainless Steel Cleaner and Polish.

### Care of HotPacs™

**ALWAYS** return the Hydrocollator HotPac to the hot water of the heating unit after each treatment. There it is heated, kept clean and ready for immediate use. The HotPac may be boiled; however, this hastens the deterioration of the pack. The pack may also be cleaned by scrubbing the pack with soap and water. The simplified method of keeping the pack clean is to keep it immersed in water.

The Hydrocollator HotPac, under constant daily use, should have a useful life of at least one year. When the pack begins to wear out, the filler oozes and leaks through the fabric of the cloth and sections of the pack appear to be loose and empty and will not retain heat properly. The pack should be replaced when it reaches this state. Original replacement Hydrocollator HotPacs may be ordered from an authorized Chattanooga Group, Inc. dealer.

**NOTE:** If HotPacs are to be stored for extended periods, they may be placed - while wet - in plastic bags and stored in a freezer.

## TROUBLESHOOTING

The following is a solutions guide to minor performance problems. Only qualified personnel should service all other equipment problems.

PROBLEM	POSSIBLE CAUSE	POSSIBLE SOLUTION
Unit Plugged In, Water Doesn't Get Hot	<ol style="list-style-type: none"> <li>1. Breaker for electric circuit off.</li> <li>2. Thermostat not functioning.</li> <li>3. Heating element burned out.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn breaker ON.</li> <li>2. Replace thermostat.</li> <li>3. Replace element.</li> </ol>
Cloudiness of Water	<ol style="list-style-type: none"> <li>1. Filler from packs is seeping</li> <li>2. Too long a period between cleanings.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace packs.</li> <li>2. Drain and clean.</li> </ol>
Packs Too Hot	<ol style="list-style-type: none"> <li>1. Thermostat set too high.</li> <li>2. Thermostat failure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust thermostat.</li> <li>2. Replace thermostat.</li> </ol>
Packs Too Cool	<ol style="list-style-type: none"> <li>1. Thermostat set too low.</li> <li>2. Thermostat failure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust thermostat.</li> <li>2. Replace thermostat.</li> </ol>
Unit Boils	<ol style="list-style-type: none"> <li>1. Thermostat failure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace thermostat.</li> </ol>
Rust	<ol style="list-style-type: none"> <li>1. Contact with ferrous metal.</li> <li>2. Deposits on inside of tank.</li> <li>3. Too much chlorine in water.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove the ferrous metal item from the unit - usually a staple, paper clip, safety pin, etc., and clean thoroughly.</li> <li>2. Thoroughly clean tank and remove all deposits.</li> <li>3. Clean tank and rinse thoroughly. Add de-chlorinator if local water has high chlorine content.</li> </ol>



# **TECHNICAL SPECIFICATIONS**

## **SS Model Technical Specifications**

Power Supply	110-120V~, 220-240V~
Rated Frequency	50/60Hz
Power Consumption	1000 W
Tank Capacity	31.64 Liters
Temperature Range	71° - 74°C
Thermal Cut-out Temp	82° - 85°C
Accuracy	+/- 10%
Heating Up Time	Time to 70°C - 3 Hours
Cool Down Time	Time from 70°C - 2 Hours
Safety Class	Type B
Safety Tests	UL, cUL, CE
Dimensions	49.53 cm (H) x 44.45 cm (L) x 39.37 cm (W)
Weight	22.39 kg

### **Standard accessories**

Includes eight standard size HotPacs.

## **E-2 Model Technical Specifications**

Power Supply	110-120V~, 220-240V~
Rated Frequency	50/60Hz
Power Consumption	1000 W
Tank Capacity	43.23 Liters
Temperature Range	71° - 74°C
Thermal Cut-Out Temp	82° - 85°C
Accuracy	+/- 10%
Heat Up Time	Time to 70°C - 4 Hours
Cool Down Time	Time from 70°C - 2 Hours
Safety Class	Type B
Safety Tests	UL, cUL, CE
Dimensions	54.61 cm (H) x 36.83 cm (L) x 31.75 cm (W)
Weight	13.43 kg

### **Standard accessories**

Includes two (2) oversize HotPacs, three (3) standard size HotPacs and 1 Neck Contour Pack.

## **E-1 Model Technical Specifications**

Power Supply	110-120V~, 220-240V~
Rated Frequency	50/60Hz
Power Consumption	1000 W
Tank Capacity	15.44 Liters
Temperature Range	71° - 74°C
Thermal Cut-out Temp	82° - 85°C
Accuracy	+/- 10%
Heating Up Time	Time to 70°C - 2 Hours
Cool Down Time	Time from 70°C - 1 Hour
Safety Class	Type B
Safety Tests	UL, cUL, CE
Dimensions	40.64 cm (H) x 33.02 cm (L) x 22.89 cm (W)
Weight	7.09 kg

### **Standard accessories**

Includes four (4) standard size HotPacs.

**Parts List Model SS**  
**120 VOLT – Standard**

(Cat. No. – 2202 w/packs, 2204 w/o packs)

1	10630	Element, Heating, 1000W	1
2	10631	Thermostat, Hydraulic	1
3	22148	Lamp, Pilot Light	1
4	20568	Cordset, 16-3, Hospital Grade	1
5	23406	Switch, Toggle	1
6	22232	Rack, Wire	1
7	21882	Water Thief	1
8	21635	Hose, Nylon 5/8 x 4, Coupled M-F	1
9	22219	Lid, Assembly, w/ Handle	1
10	20513	Handle, Lid, Finished	1
11	22223	Cover, Junction Box	1
12	21031	Harness, Wiring	1
13	21373	Valve, Boiler Drain, 1/2 I.D. Chrome	1
14	21288	Drain, Copper, Part A	1
15	21289	Drain, Copper, Part B	1
16	21023	Bracket, Bulb Thermostat	1
17	23381	Tank, Replacement, w/Drain	1
18.	21053	Insert, For Neck Contour Packs	1
19.	21737	Lid, Rod Nut	2
20.	22231	Lid, Rod	1

**Parts List Model SS**  
**220/240 VOLT – Low-Water**

(Cat. No. – 2207 w/packs, 2209 w/o packs)

1	22245	Element, Heating, 1000W	1
2	10631	Thermostat, Hydraulic	1
3	22146	Lamp, Green, Lens	1
4		Cordset (Country Specific)	1
5	23406	Switch, Toggle	1
6	22232	Rack, Wire	1
7	21882	Water Thief	1
8	21635	Hose, Nylon 5/8 x 4, Coupled M-F	1
9	22219	Lid, Assembly, w/ Handle	1
10	20513	Handle, Lid, Finished	1
11	22223	Cover, Junction Box	1
12	21288	Drain, Copper, Part A	1
13	21289	Drain, Copper, Part B	1
14	61579	Harness, Wiring	1
15	21373	Valve, Boiler Drain, 1/2 I.D. Chrome	1
16	20031	Bracket, Bulb Thermostat	1
17	74723	Receptacle, Power	1
18	20548	Thermostat, Low-Water	1
19	72734	Holder, Fuse	2
20	72733	Carrier, Fuse	2
21	71772	Fuse, Anti-Surge, 6.3 Amp	2
22	23385	Tank, Replacement, w/Drain	1
18.	21053	Insert, For Neck Contour Packs	1
19.	21737	Lid, Rod Nut	2
20.	22231	Lid, Rod	1
21.	22147	Lamp, Red Lens	1

**Parts List Model E-1**  
**120 VOLT Standard**

(Cat. No. – 2102 w/packs, 2104 w/o packs)

1	10630	Element, Heating, 1000W	1
2	10631	Thermostat, Hydraulic	1
3	22148	Lamp, Pilot Light	1
4	20568	Cordset, 16-3, Hospital Grade	1
5	23406	Switch, Toggle	1
6	21062	Rack, Wire	1
7	21053	NCP Insert, Stainless Steel, Accommodates Neck Contour Packs	1
8	21025	Knob, Lid	1
9	21994	Handle, Side, Set of Two	1
10	21004	Lid, w/o Knob	1
11	21005	Cover, Junction Box, 8 x 10-3/8	1
12	21031	Harness, Wiring	1
13	21023	Bracket, Bulb Thermostat	1
14	22668	Hinge, Rod	1
15	60072	Heyco Strain Relief	1
16	21027	Washer, Nylon	4
17	21737	Nut, Hinge Rod	2

**Parts List Model E-1**  
**220/240 VOLT – Lo-Water**

(Cat. No. – 2107 w/packs, 2109 w/o packs)

1	22245	Element, Heating, 1000W	1
2	10631	Thermostat, Hydraulic	1
3	20548	Thermostat, Low Water	1
4	22146	Lamp, Green, Lens	1
5	22147	Lamp, Red, Lens	1
6		Cordset (Country Specific)	1
7	23406	Switch, Toggle	1
8	21062	Rack, Wire	1
9	21053	NCP Insert, Stainless Steel, Accomodate Neck Contour packs	1
10	21025	Knob, Lid	1
11	21994	Handle, Side, Set of Two	1
12	21004	Lid, w/o Knob	1
13	21005	Cover, Junction Box, 8 x 10-3/8	1
14	61579	Harness, Wiring	1
15	20031	Bracket, Bulb Thermostat	1
16	22668	Hinge, Rod	1
17	74723	Receptacle, Power	1
18	72734	Holder, Fuse	2
19	72733	Carrier, Fuse	2
20	71772	Fuse, Anti-Surge, 6.3 Amp	2
21	21027	Washer, Nylon	4
22	21737	Nut, Hinge Rod	2

**Parts List Model E-2**  
**120 VOLT – Standard**

(Cat. No. – 2802 w/packs, 2804 w/o packs)

1	10630	Element, Heating, 1000W	1
2	10631	Thermostat, Hydraulic	1
3	22148	Lamp, Pilot Light	1
4	20568	Cordset, 16-3, Hospital Grade	1
5	23406	Switch, Toggle	1
6	22259	Rack, Wire	1
7	21882	Water Thief	1
8	21635	Hose, Nylon 5/8 x 4, Coupled M-F	1
9	21053	NCP Insert, Stainless Steel, Accommodates Neck Contour Packs	1
10	23457	Lid, w/o Handle E-2	1
11	20512	Lid Handle	1
12	21012	Switch Plate	1
13	23460	Cover, Junction Box	1
14	21031	Harness, Wiring	1
15	21373	Valve, Boiler Drain, 1/2 I.D. Chrome	1
16	21288	Drain, Copper	1
17	21023	Bracket, Bulb Thermostat	1
18	60072	Heyco Strain Relief	1
19.	90796	Lid, Rod	1

**Parts List Model E-2**  
**220/240 VOLT – Low-Water**

(Cat. No. – 2806 w/packs, 2808 w/o packs)

1	22245	Element, Heating, 1000W	1
2	10631	Thermostat, Hydraulic	1
3	22146	Lamp, Green, Lens	1
4	22147	Lamp, Red, Lens	1
5		Cordset (Country Specific)	1
6	23406	Switch, Toggle	1
7	22259	Rack, Wire	1
8	21635	Hose, Nylon 5/8 x 4, Coupled M-F	1
9	21053	NCP Insert, Stainless Steel, Accommodates Neck Contour Packs	1
10	23457	Lid, w/o Handle	1
11	20512	Lid Handle	1
12	23460	Cover, Junction Box	1
13	61579	Harness, Wiring	1
14	21373	Valve, Boiler Drain, 1/2 I.D. Chrome	1
15	21288	Drain, Copper	1
16	20031	Bracket, Bulb Thermostat	1
17	74723	Receptacle, Power	1
18	20548	Thermostat, Low-Water	1
19	21882	Water Thief	2
20	72734	Holder, Fuse	2
21	72733	Carrier, Fuse	2
22	71772	Fuse, Anti-Surge, 6.3 Amp	2
23.	90796	Lid, Rod	1



ISO 9001 CERTIFIED

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