

#58215E

110-120V~60Hz, 1.5A



Intertek
4007787

Bestway®



FLOWCLEAR™ **CHLORINATOR** **OWNER'S MANUAL**

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Contents

1. Safety Instructions	2
2. Introduction	4
3. Specifications	4
4. Parts Reference	4
5. Pool Water Chemistry	4
6. Installation Instructions	4-5
7. Operation Instructions	5
8. Control Panel	5-6
9. Chlorinator Stationary Mounting Option	6
10. Maintenance	6
Flow Sensor Cleaning	
Electrolytic Cell Cleaning	
11. Storage	6
12. Bestway® Test Strips	6
13. Troubleshooting	6
14. Warranty	7

WARNING

IMPORTANT SAFETY INSTRUCTION

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL INSTRUCTIONS

WARNING - RISK OF ELECTRIC SHOCK

—This product cannot be used while people are inside the pool.

WARNING - TO REDUCE THE RISK OF INJURY, do not permit children to use this product unless they are closely supervised at all times.

WARNING - RISK OF ELECTRIC SHOCK. Connect only to a grounding type receptacle. This product is provided with a ground-fault circuit-interrupter. If replacement of the plug is needed, use only identical replacement parts.

WARNING: The unit is provided with a ground-fault circuit-interrupter (GFCI). To test the GFCI, push the test button. The GFCI should interrupt power. Push the

reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to this product without the test button being pushed, a ground current is flowing, indicating the possibility of an electric shock. Do not use this product. Disconnect this product and have the problem corrected by a qualified service representative before using.

CAUTION - To reduce the risk of electric shock the pool must be installed no closer than 6 feet (1.8 m) from any electrical outlet. Do not place portable appliances closer than 5 feet (1.5 m) from the pool.

WARNING: This product is not intended to be bonded to the equipotential bonding grid.

DO NOT BURY CORD. Locate cord to minimize abuse from lawn mowers, hedge trimmers, and other equipment.

WARNING - To reduce the risk of electric shock, replace damaged cord immediately.

WARNING - To reduce the risk of electric shock, do not use extension cord to connect unit to electric supply; provide a properly located outlet.

CAUTION - This product is for use with storable pools only. Do not use with permanently-installed pools. A storable pool is constructed so that it is capable of being readily disassembled for storage and reassembled to its original integrity. A permanently-installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage.

CAUTION - For continued protection against possible electric shock this unit is to be mounted to the base in accordance with the installation instructions.

IMPORTANT - Using this product with an unmatched electrical supply is dangerous

and will result in catastrophic failure of this product.

RISK OF ELECTRIC SHOCK - When working with electricity, turn the electrical power off at the circuit breaker and lock breaker door. Failure to do so will result in increased risk of shock, injury and possibly death.

DO NOT REMOVE THE GROUNDING PRONG OR MODIFY THE PLUG IN ANY WAY. DO NOT USE ADAPTOR PLUGS.

Consult a qualified electrician for any questions related to the validity of your plugs grounding. Handle this product with care. Do not pull or carry this product by the power cord. Never pull a plug from the outlet by yanking the power cord. Keep cord free from abrasions. Sharp objects, oil, moving parts, and heat should never be exposed to this product.

NOTE: Please examine equipment before use. Notify Bestway at the customer service address listed on this manual for any manufacturing defect or missing parts at the time of purchase. Verify that the equipment components represent this product model that you had intended to purchase.

NOTE: Place this product on a solid and level ground. Pay attention to position of pool and this product, so adequate ventilation, drainage, and access for cleaning is available. Never place this product in an area that may accumulate water, or in an area where foot traffic will flow around the pool.

NOTE: Atmospheric conditions may affect the performance and life span of this product. Unnecessary wear and tear may occur during periods of cold, heat and exposure to sun. Whenever possible shelter this product from these conditions.

NOTE: Assembly and disassembly of this

product should only be performed by adults.

- CSA ENCLOSURE 3
- FOR USE WITH SWIMMING POOLS ONLY.
- **CAUTION:** TO ENSURE CONTINUED PROTECTION AGAINST SHOCK HAZARD, USE ONLY IDENTICAL REPLACEMENT PARTS WHEN SERVICING.
- **WARNING:** RISK OF ELECTRIC SHOCK. CONNECT ONLY TO A GROUNDING TYPE RECEPTACLE.
- **CAUTION:** THIS PRODUCT IS FOR USE WITH STORABLE POOLS ONLY - DO NOT USE WITH PERMANENTLY-INSTALLED POOLS.
- **CAUTION:** CONNECT ONLY TO GROUNDING TYPE RECEPTACLE PROTECTED BY A CLASS A GROUND FAULT CIRCUIT INTERRUPTER.
- **CAUTION:** FOR CONTINUED PROTECTION AGAINST POSSIBLE ELECTRIC SHOCK THIS UNIT IS TO BE MOUNTED TO THE BASE IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS.
- **WARNING – RISK OF ELECTROCUTION**
 - 1) Connect Only To Properly Grounded Outlet. Do Not Remove Ground Pin.
 - 2) Inspect Cord Before Using – Do Not Use If Cord Is Damaged.
 - 3) Keep Ground-Fault Circuit-Interrupter Dry And Off The Ground.
 - 4) Do Not Touch Plug With Wet Hands.
 - 5) Double Insulated – When Servicing Use Only Identical Replacement Parts.
 - 6) Read Instruction Manual Before Using.

DO NOT REMOVE THIS TAG
SAVE THESE INSTRUCTIONS.

INTRODUCTION

Common salt (sodium chloride) is made up of two elements, sodium and chloride. During the installation of your chlorinator, a measured quantity of salt is dissolved in the pool water to create a mild saline solution. As part of the daily filtration cycle, the pool water is passed through the chlorinator's electrolytic cell to produce chlorine which is dissolved instantly in the water. In simple, non-technical terms, the chlorine instantly starts to destroy bacteria, algae and oxidizes other organic materials.



• Electrolytic Cell (with Titanium Plates)

The electrolytic cell contains bipolar titanium electrodes which perform the electrolysis and produce chlorine when energized with DC current. Chlorine is generated as pool water containing salt passes through the cell.

• Flow Sensor

The flow sensor protects the electrolytic cell and assures there will always be adequate water flowing through the cell.

• Control Panel

The chlorinator includes a electronic control panel with buttons and LED indicators to control the chlorinator and produce chlorine at the defined operating hours.

SPECIFICATIONS

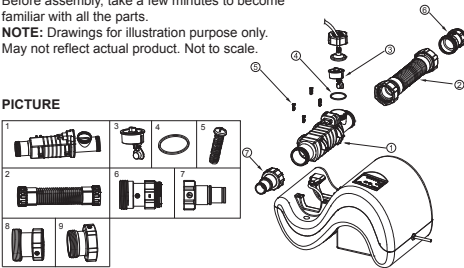
Rated Voltage:	110-120V AC
Electrolytic Cell Working Voltage:	14V DC
Amperage:	1.5A
Maximum Chlorine Output/hour:	12 grams/hour
Minimum Flow Rate:	700~4000gallons/hour (2650~15140L/h)
Recommended Salt Level:	2500ppm (2.5g/L)
Water temperature:	50-95°F(10°C-35°C)
Ambient temperature:	41-104°F(5°C-40°C)

PARTS REFERENCE

Before assembly, take a few minutes to become familiar with all the parts.

NOTE: Drawings for illustration purpose only. May not reflect actual product. Not to scale.

PICTURE



REF. NO.	PARTS NO.	DESCRIPTION	QTY.
1	P6488	Electrolytic Cell	1
2	P6389	Connecting Hose (100cm)	1
3	P6489	Water Flow Sensor	1
4	P6371	Gasket	1
5	P6372	Screw	1
6	P6375	Adaptor E (For connection to filter pumps with 1-1/4in. (32mm) hose size)	1
7	P6376	Adaptor F (For connection to filter pumps with 1-1/4in. (32mm) hose size)	1
8	FBH184	Adaptor A	1
9		Adaptor B	1

POOL WATER CHEMISTRY

Optimum Pool Water Chemistry Conditions

It is recommended that the following pool water chemistry conditions should be maintained to help protect pool users.

The chlorinator is warranted to operate properly only if below conditions are met.

	Minimum	Ideal	Maximum
Free Chlorine	0	1.0-3.0ppm	3.0ppm
Combined Chlorine	0	0	0.2ppm
pH	7.2	7.4 - 7.6	7.8
Total Alkalinity	100ppm	100 - 140ppm	140ppm
Calcium Hardness	150ppm	200 - 400ppm	500 - 1000ppm
Stabilizer (Cyanuric Acid)	10ppm	30 - 50ppm	150ppm

Pool Salt Usage

Use only sodium chloride (NaCl) salt that is at least 99.8% pure.

The ideal salt level in the pool water is between 2000~3000ppm (parts per million).

Water Capacity (Calculated at 90% for Frame Pool and 80% For Fast Set & Oval Pool)		Salt Needed for Startup		Salt Needed when Low Salt Detected	
Gallons	Liters	Lbs	Kgs	Lbs	Kgs
2000	7500	42	20	15	6
4000	15000	85	40	25	10
6000	22500	130	60	40	20
8000	30000	170	75	55	25
10000	37500	210	95	65	30
12000	45000	225	115	80	35
14000	53000	300	135	95	40

Salt Calculation for Pools

Salt Needed for Startup		Salt Needed when Low Salt Detected	
Lbs	Kgs	Lbs	Kgs
Water Capacity (Gallons) x 0.021		Water Capacity (Gallons) x 0.0087	
Water Capacity (Liters) x 0.0025		Water Capacity (Liters) x 0.0008	

Operating Time Reference

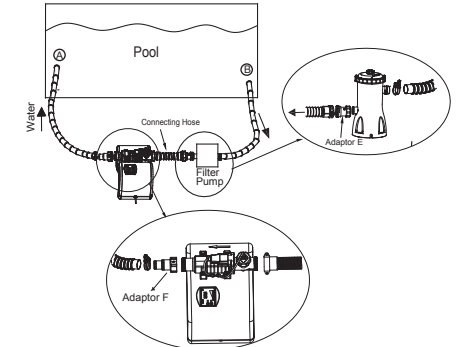
Water Capacity		Operating Time (hours) at different ambient/air temperatures		
Gallons	Liters	10-19°C (50-66°F)	20-28°C (68-82°F)	29-35°C (84-95°F)
2000	7500	1	1	2
4000	15000	2	2	4
6000	22500	2	4	6
8000	30000	4	6	8
10000	37500	4	6	8
12000	45000	6	8	10
14000	53000	6	8	10

INSTALLATION INSTRUCTIONS

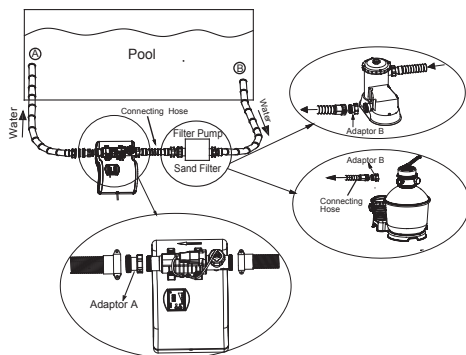
NOTE: The preferred installation is that the chlorinator must be installed as the last piece of pool equipment in the return line to the pool. This will extend the life of the titanium plates and maintain its performance.

1. If your above ground pool is filled with water, remove the debris screens from the inside of the pool and insert the stopper plugs in the pool's inlet and outlet valves before the chlorinator installation (or close the control valves), which will prevent water from flowing out of the pool. Jump to step 2 directly if your pool is empty.
2. Connect the adaptor F to the electrolytic cell outlet and screw the threaded locking ring into position.
3. Disconnect the water return (to the pool) hose from the filter pump connection, and connect this hose to the adaptor F with a hose clamp.
4. Connect the adaptor E to the filter pump outlet and screw the threaded locking ring into position.
5. Connect the connecting hose to the adaptor E and screw the threaded locking ring into position.
6. Remove the stopper plugs and insert the debris screens (or open the control valves) to allow water to flow.

For connection to filter pumps with 1-1/4in. (32mm) hose (with hose clamps):



For connection to filter pumps / sand filters with 1-1/2in. (38mm) hose size.



OPERATION INSTRUCTIONS

How to Add or Remove Salt?

Adding Salt

1. Switch on the filter to circulate the pool water.
2. Keep the chlorinator "OFF".
3. Determine the amount of salt to be added according to the Pool Salt Usage table.
4. Evenly and slowly pour in the salt around the inside perimeter of the pool. To avoid clogging the filter, do not add salt through the skimmer.
5. Brush the pool bottom to speed up the dissolving process. Do not allow salt to pile up on the pool bottom. Run the filter 24 for hours to dissolve salt completely.
6. After 24 hours refer the Flow Status LED Indicator section to check water flow status. If the water flow status is normal, you can set the chlorinator to the desired operating time.

Removing Salt

If too much salt has been added, the "high" salt level Red LED will light up.

The only way to lower the salt concentration is to drain and refill approximately 20% of the pool's water until the "high" salt level Red LED goes out and with the "good" salt level Green LED lights up.

NOTE: After the salt is dissolved, but before operating the chlorinator be sure that:

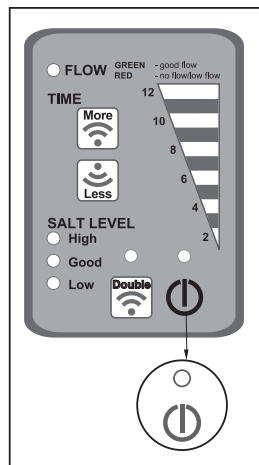
- The filter pump/sand filter and the chlorinator are connected to a grounding type receptacle protected by a ground-fault circuit-interrupter (GFCI). The GFCI plug need to be tested.
 - a. To test GFCI plug, insert the GFCI plug into a grounding type receptacle. The indicator turns red.
 - b. Press the test button. The indicator turns off.
 - c. Press the reset button and the indicator turns red. The filter pump is ready for use.

WARNING: RISK OF ELECTRIC SHOCK. THE GFCI MUST BE TESTED BEFORE EACH USE.

WARNING: DO NOT USE THE PUMP IF THE ABOVE TEST FAILS.

NOTE: After the salt is dissolved, but before operating the chlorinator be sure that:

- The filter pump/sand filter and the chlorinator are connected to a grounding type receptacle protected by a residual current device (RCD).
- The filter pump/sand filter operates several minutes before operating the chlorinator. This removes air pockets and debris in the water hoses.
- No air is trapped in any of the hoses. Follow the filter pump/sand filter manual to release any trapped air.



1. On-off Button

This button turns the chlorinator on and off.

IMPORTANT: Before starting the Flowclear Chlorinator follow the steps below:

- Step 1: First start the filter pump/sand filter pump
 - Step 2: After chlorinator connect with power outlet, LED light above switch button shows red. If the LED light shows green or green with twinkle, press switch button make the LED light turn red.
 - Step 3: Press the on/off button for 5 seconds then release, after release the Chlorinator will emit three long beeps
 - Step 4: on/off button remain red and the chlorinator will be ready to use
 - Step 5: Wait for 1 minute
 - Step 6: Push the on/off button the led above become green and the chlorinator will begin to work. Follow the instruction point 2 for the time adjustment button
- NOTE:** If after step 6, from the LED above the on/off button flashes green, repeat the operation again starting from step 2
- NOTE:** When the LED on/off button is flashing green and all other LED are off, it means the chlorinator is in stand-by mode. The chlorinator goes into stand-by mode after the operation time is completed.

2. Time Adjustment Buttons

Press and hold together the and buttons for less than one second to lock/unlock the keypad. When the keypad is unlocked, the operating time LED indicators will flash; when the keypad is locked the LED indicator will stop flashing.

Press the button to increase the operating time 2 hours

Press the button to decrease the operating time 2 hours

NOTE: The unit will automatically lock after no instructions for 5 seconds.

IMPORTANT: When the operation time is set, to change the operation time, follow the below instructions:

- Push the on/off button for less than one second and the LED will become red
- Follow the instructions in point 1 "on-off button" from step 3

3. Operating Time LED Indicators

The green lights show the remaining hours in the daily operating cycle.

4. Double Time Button

Pressing this button will double the working time shown on the operating time LED, the LED above will light up if in double mode.

5. FLOW Flow Status LED Indicator

Green light indicates there is sufficient water flow turns to produce chlorine.

Red light indicates insufficient water flow, no chlorine will be produced.

NOTE: An alarm, with beeping and a red flashing light, indicating the insufficient water flow will continue for 5 minutes.

After the 5 minutes, the light will continue flashing, however the beeping will stop. After 30 minutes, all lights will turn off

To restart the entire system, press the on/off button for no more than 1 second

6. Salt Level Status LED Indicators

These LED lights indicate the salt level in the pool water.

Red: High. The salt level is too high, no chlorine is produced, salt needs to be removed from the pool water.

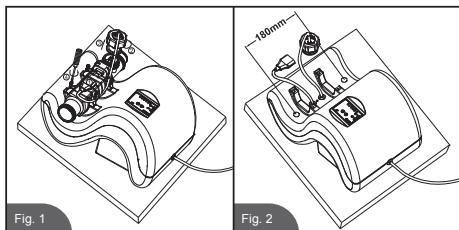
Green: Good. The salt level is optimum, and chlorine is being produced.

Yellow: Low. The salt level is too low, no chlorine is produced, need to add salt to the pool water.

NOTE: An alarm, with beeping and a red/yellow flashing light, indicating the high/low salt level will continue for 5 minutes.
After the 5 minutes, the light will continue flashing, however the beeping will stop.
After 30 minutes, all lights will turn off
To restart the entire system, press the on/off button for no more than 1 second
NOTE: Refer to the Pool Salt Usage section for salt concentration adjustment
NOTE: When the chlorinating cycle ends, only the LED above the On-off button displays green flashing. The chlorinator will go into a standby mode, and will turn itself back on in 24 hours to continue its daily chlorine production.
IMPORTANT: Never use the pool if chlorine level is more than 3ppm. Do not operate the chlorinator while the pool is in use or occupied.
• Always use a test strip to test the chlorine level before entering or using the pool. If the chlorine level is too high, wait until the chlorine level drops below 3ppm before using the pool or operating the chlorinator.
• Heavy pool usage and higher temperatures may require higher chlorine output (longer operating time) to maintain proper free available chlorine residuals.
• If a power outage occurs or the power cord is unplugged for more than 48 hours, then the chlorinator operating time will have to be reset.
NOTE: LED indicator will not off under sleep mode if it has been turned in before.

CHLORINATOR STATIONARY MOUNTING (OPTION)

Chlorinators are required to stay in a permanent upright position according to the regulations in some areas. In this case, mount the product to a platform as shown in the drawings.



1. Unplug the electrolytic cell line cord. Unscrew the lock nut of the flow sensor counter-clockwise and disconnect the flow sensor signal line from the flow sensor. Then screw out the four screws and put aside the electrolytic cell. (See Fig.1)
2. The mounting holes are 6.4mm in diameter and spaced 180mm apart. Use two bolts and lock nuts with a maximum of 6.4mm in diameter. Then reinstall the electrolytic cell and other parts. (See Fig.2)
NOTE: The total assembly must exceed 18kg.

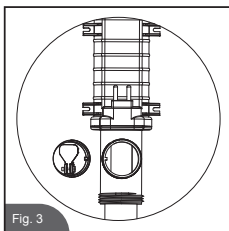
MAINTENANCE

CAUTION: You must ensure the chlorinator is unplugged before any maintenance begins or severe risk of injury or death exists.

Flow Sensor Cleaning

1. Unscrew the lock nut of the flow sensor, disconnect the signal line, and remove them from flow sensor.
2. Clean the deposits and debris on the surface of the flow sensor with a garden hose. (use a plastic brush if necessary, but never a metal one) (See Fig. 3)
3. Reinstall the flow sensor signal line, and the lock nut.

NOTE: Do not over tighten.



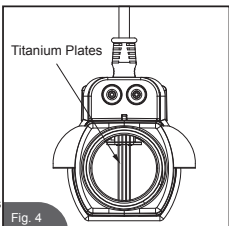
Electrolytic Cell Cleaning

To extend the life and performance of the electrolytic cells, it is recommended to inspect it every 3 months and clean it if necessary. Follow the cleaning instructions below.

1. Turn off the chlorinator and unplug the power cord from the electrical outlet.
2. Remove the debris screens from the inside of the pool and insert the stopper plugs in the pool's inlet and outlet valves or close the connection valves.
3. Remove all other components connected to the electrolytic cell and separate it from the chlorinator.
4. Look inside the electrolytic cell to inspect for scale formation (light colored crusty or flaky deposits). If yes, go to step 5, otherwise, go to step 6. (See Fig. 4)
5. Try to flush the deposits and debris with high a pressure garden hose. Soak the cell in a vinegar solution for 2-3 hours if flushing does not work.
6. Reinstall the electrolytic cell (Reset the operating time)

NOTE: Do not use any metal tools, they may scratch the coating off the plates.

NOTE: A buildup on the cell indicates that there is an unusually high calcium level in the pool. If this is not corrected, you have to frequently check and clean the cell. To avoid this, always keep your pool chemistry at the recommended levels. See "Pool Water Chemistry" for reference.



STORAGE

1. Unplug the power cord from the electrical outlet.
2. After all water is drained from the pool, disconnect the chlorinator from the hoses.
3. Air-dry the chlorinator before storage. It is recommended to visually inspect and clean the electrolytic cell at this time.
4. It is recommended you store the chlorinator in its original package in a warm dry place.

Bestway® TEST STRIPS (Included in The Package)

Test Strips can test the "Free Chlorine", "pH" and "Total Alkalinity" levels at the same time. Use as follows.

1. Dip one strip into water, no more than 18ft. (46cm) below the water surface and remove immediately.
2. Hold strip level for 15 seconds to avoid reactant dripping from one test pad to another.

NOTE: Do not shake off excess water.

3. Compare results immediately lining up the 3 test pads to easy color match chart on the bottle.

TROUBLESHOOTING

Bestway strives to provide the best trouble-free chlorinator on the market. If you experience any problems, do not hesitate to contact your authorized dealer or us.

Here are some helpful tips to help you to diagnose and rectify common sources of trouble.

Problems	Probable Causes	Solutions
Insufficient chlorine	- Insufficient operating time - Insufficient salt level in pool water - Chlorine loss due to intense sunlight exposure - The battery load has increased - Clogged or dirty electrolytic cell	- Increase the operating time per day. See "Operation Instructions" - Test the salt level with test strip, and adjust as needed. See "Pool Water Chemistry" - Use pool cover when the pool is not in use and/or when the unit is operating - Increase the operating time per day. See "Operation Instructions" - Inspect the cell and clean it if necessary. Refer to Maintenance part
White flakes in the water	- Excessive calcium hardness is present in pool water	- Drain about 20 to 25% of the pool Water and add fresh water to decrease the calcium hardness. Visually inspect the electrolytic cell for scale buildup and clean the electrolytic cell if necessary
No LED display	- No power supply - LED failure - GFCI tripped - GFCI broken	- Check for power cord loose or not connected properly - Contact Bestway Service Center for replacement - Reset GFCI - Call for service
No LED display except that the LED above the On-Off Button displays red	- The chlorinator goes in to a power saving mode	- Press any button to view the status of the LED lights

U.S.A.

Bestway (USA) Inc.
3411 E. Harbour Drive, Phoenix, Arizona 85034,
United States of America
Tel: 1 480 838 3888
Fax: 1 480 304 3349
E-mail: info@bestwaycorp.us
www.bestwaycorp.com

Limited BESTWAY® Manufacturer's Warranty

The product you have purchased comes with a limited warranty. Bestway® stands behind our quality guarantee and assures, through a replacement warranty, your product will be free from manufacturer's defects. The limited warranty is valid as follows: 1 year from the original date of purchase.

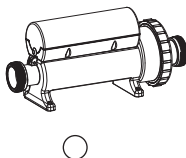
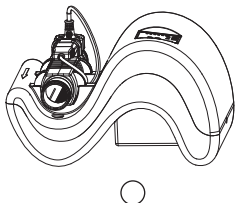
To enact a warranty claim, this form must be completed and supplied with a copy of your receipt/purchase to your local Bestway After Sales Center. Please contact your local Bestway After Sales Center before sending any documents. They will provide full instructions of what is needed for your claim. Bestway® is not responsible for economic loss due to water or chemical costs and will not replace any products deemed to have been damaged due to negligence or having been used outside of the owner's manual guidelines.

Bestway's warranty covers manufacturing defects discovered while unpacking the product or during use as recommended within the user manual. This warranty applies only to products which have not been modified by any 3rd parties. The product must be stored and handled in accordance with the technical recommendations.

The warranty does not cover damages caused by misuse, abuse, neglect, including, but not limited to collision, fire, use of incorrect voltage, excessive heat exposure, improper installation, improper wiring or testing, or improper storage.

Replacements and repairs don't extend the duration of the warranty. The warranty start date is the date of sale shown on the original receipt/purchase invoice.

Please choose your type of Chlorinator:



TO: Bestway® Service Department

Date of purchase: _____

Date: _____

Customer Code Number: _____

FAX/E-MAIL/TEL: Please refer to your country according to the information found on the back cover or on our website:
www.bestwaycorp.com

Please provide your address details in full. **Note:** Incomplete address details will result in delayed shipments.

Bestway reserves the right to charge for redelivery of undelivered packages where the recipient is at fault.

REQUIRED INFORMATION - PLEASE WRITE THE SHIPPING ADDRESS

Name: _____ Address: _____

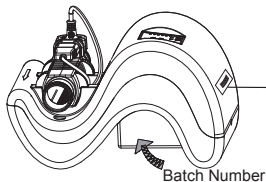
Zip Code: _____ Retailer: _____

Country: _____ City: _____

Mobile: _____ Telephone: _____

Fax: _____ E-mail: _____

Please Clearly Write Your Item Code: _____ Batch Number: _____



Batch Number

Flowclear Chlorinator™
Model #XXXXX

Item Code

Batch Number



All drawings for illustration purpose only. Not to scale.

IMPORTANT: ONLY THE DAMAGED PART WILL BE REPLACED, NOT THE COMPLETE SET.

Bestway reserves the right to request photographic evidence of defective parts, or to require sending the item for additional testing. In order to best assist you, we request all information you provide to be complete.

FOR FAQ, MANUALS, VIDEOS OR SPARE PARTS, PLEASE VISIT OUR WEBSITE:

www.bestwaycorp.com

VIDEOS ARE ALSO AVAILABLE ON OUR BESTWAY CHANNEL ON YOUTUBE:

www.youtube.com/user/BestwayService

Bestway®

