18000 GALLON SALT WATER CHLORINATOR

ITEM # 90147

OWNER'S MANUAL AND SAFETY INSTRUCTIONS

SAVE THIS MANUAL. KEEP THIS MANUAL FOR SAFETY WARNINGS, PRECAUTIONS, ASSEMBLY, OPERATION, INSPECTION, MAINTENANCE AND CLEANING PROCEDURES. WRITE THE PRODUCT'S SERIAL NUMBER ON THE BACK OF THE MANUAL, OR THE MONTH AND YEAR OF PURCHASE IF PRODUCT HAS NO SERIAL NUMBER

FOR QUESTIONS, PLEASE CALL CUSTOMER SERVICE: 909.628.0880

SAFETY WARNINGS

WARNING

Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in injury and/or property damage. Save all warnings and instructions for future reference.

The warning and safety instructions in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when operating or cleaning tools and equipment. Always contact your dealer, distributor, service agent or manufacturer about problems or conditions you do not understand before operating the product.

- Before attempting to operate your new chlorine generator, salt must be added to your pool and your pool's water chemistry must be properly balanced. Properly balanced pool water is not only necessary for chlorine generation, but also to protect your pool equipment and users of the pool.
- To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
- **NOTICE TO USERS**: This control product is to be used only in accordance with the directions of this label. It is an offense under the Pest Control Products Act to use a control product under unsafe conditions.
- Before installing this product, read and follow all warning notices and instructions which are included. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage
- To reduce the risk of injury, service should only be personnel by a qualified pool service professional.
- Never operate the Chlorine Generator (SCG) without proper flow or water circulation. A build-up of flammable gases will result in hazardous conditions.
- Use of chemicals other than those recommended may be hazardous. Even proper use of the recommended chemicals can be hazardous. Follow the Chemical Manufacturer's Instructions.
- To reduce the risk of electric shock, install the Chlorine Generator a minimum of five (5) feet away from the inside wall of the pool.
- To reduce the risk of electric shock, install the Chlorine Generator a minimum of five (5) feet away from the inside wall of the pool.
- Disconnect this product from the main power supply completely before servicing the swimming pool equipment.
- Be certain the product is only plugged into a protected outlet that is protected from short-circuits.
- To reduce the risk of electric shock, do not use extension cord to connect unit to electric supply; provide a properly located outlet.
- Use Only Genuine Replacement Parts.
- Do not operate the product if the power cord is damaged. This can cause an electric shock. A damaged power cord must be replaced by a service agent or a similarly qualified person immediately in order to avoid a hazard.

SAVE THESE WARNINGS.

INSTALLATION

PRE-INSTALLATION CHECKLIST

1.For 70180, make sure the pool is not bigger than 37000 gallon; for 70181, the pool is no bigger than 18500 gallon.

2.You have acquired an CELL salt cell(sold separately)

3.There is at least 10 inches of straight pipe in the return piping after all installed equipment and the pipe is at least 2 inches off of the ground) to install the Cell Vessel

4.The control Box will be mounted within 6.5 feet of a GFCI outlet

5.The control Box will be mounted within 15 feet of the installed Cell Vessel

6.The control Box will be installed at least 10 feet away from the pool

7.Pool plumbing is 2”

8. You have a saw suitable for cutting PVC

9.You have tools for mounting the Control Box (drill, drill bits, screwdriver)

10.You have a permanent marker to mark the PVC pipe

11.You have balanced your pool chemistry and have 3200ppm salt in you pool (see Chemistry Quick Start Guide)

INSTALLATION PREPARATION

1.Read this entire Quick Start Guide

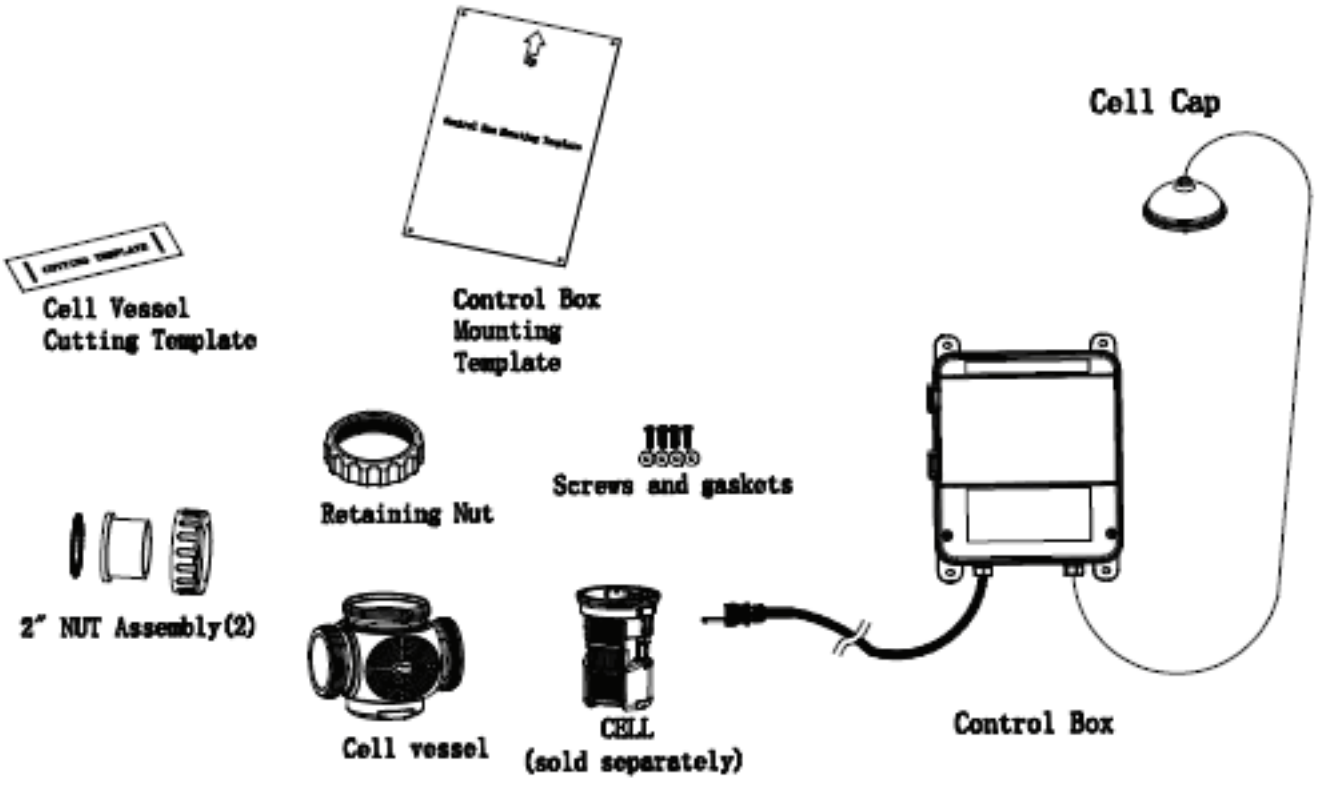
2.Remove power to filter pump

3.Dram water from pool piping

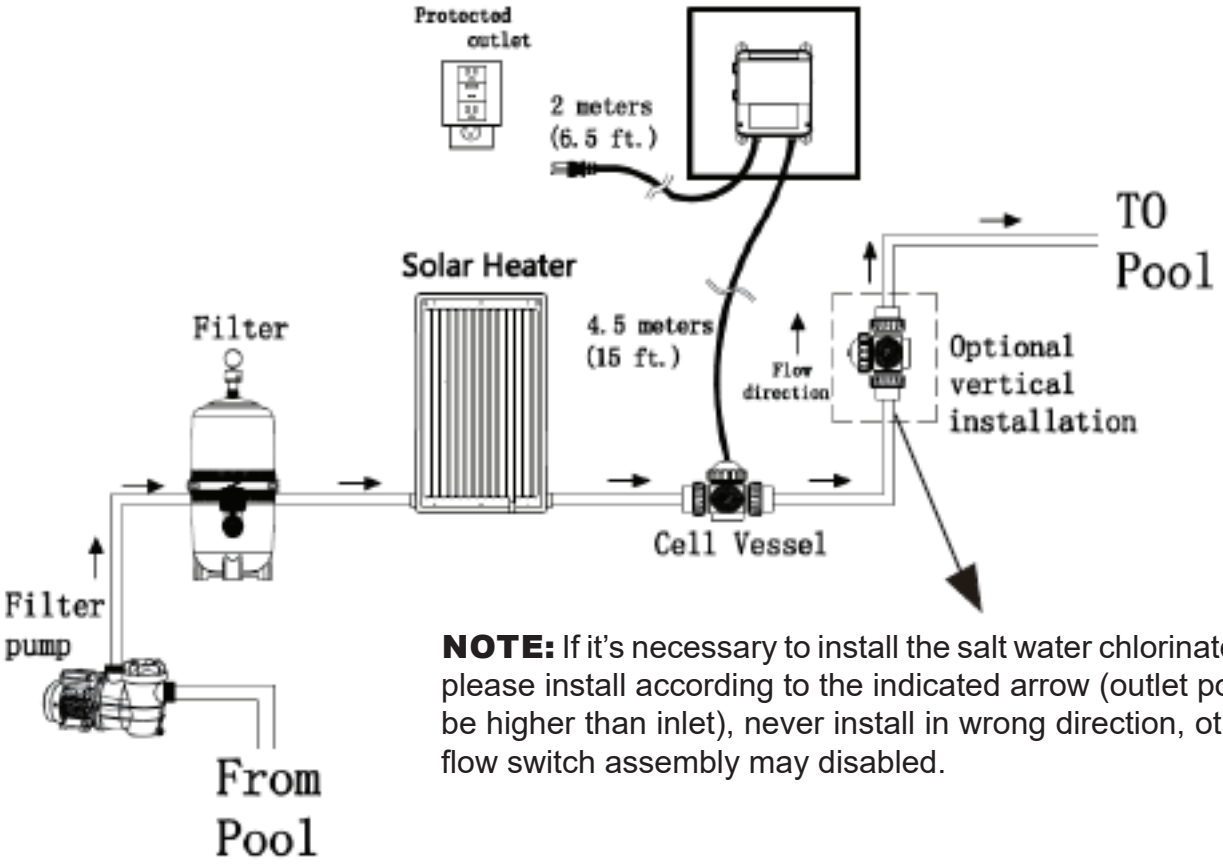
4.Verify that all parts are included in the box

5.You are wearing safety glasses and have read the safety precautions in the owner’manual

Spreads parts out and identify each part. If any parts are missing or damaged, please call customer service at 909.628.0880



INSTALLATION



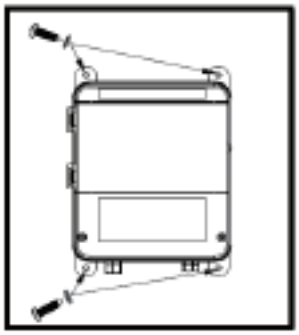
NOTE: If it's necessary to install the salt water chlorinator vertically, please install according to the indicated arrow (outlet position must be higher than inlet), never install in wrong direction, otherwise the flow switch assembly may disabled.

STEP 1: MOUNT CONTROL BOX

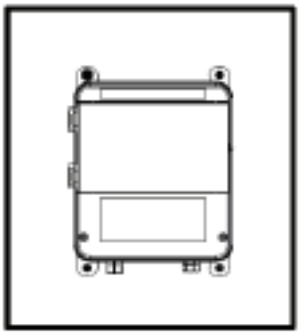
Mount the Control Box to a wall or post within 6.5 feet of a GFCI outlet, making sure that the cord will reach. The Control Box will also have to be mounted within 15 feet of the Cell Vessel as shown in the Overview.

Use the include Mounting Template to help locate the mounting holes and fasten the Control Box to the intended surface.

Secure mounting template to desired mounting location and drill mounting holes



Fix the controller box on the wall and put gaskets on the screwws. Fasten the screws into the holes

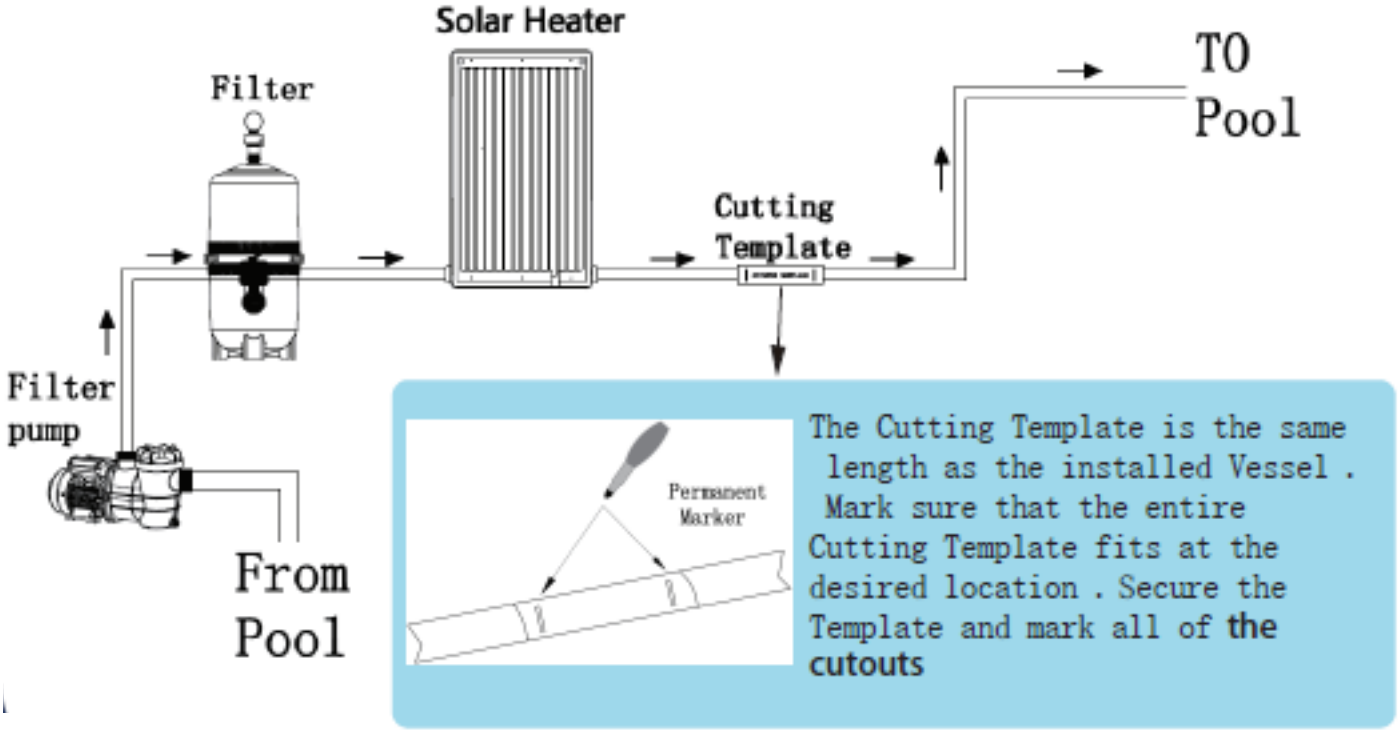


Screw in botton fasteners securely

STEP 2: DETERMINE WHERE CELL VESSEL WILL BE INSTALLED

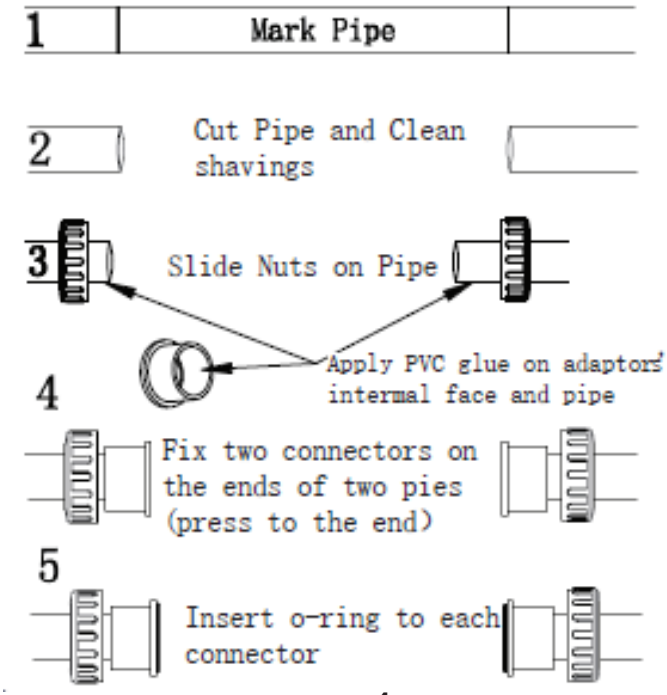
The Cell Vessel must be the very last component installed in the pool piping before the water returns back to the pool. It can be installed vertically or horizontally and requires approximately 10 inches of straight pipe at the installation location.

Use the included Cutting Template to aid in marking and cutting the pipe. The entire Cutting Template must fit on the pipe otherwise the Cell Vessel will not fit. Secure the Template and use a permanent marker to mark all 2 cutouts.



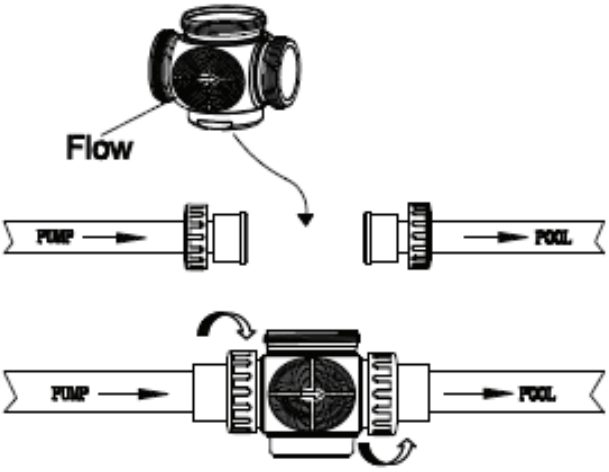
STEP 3: INSTALL NUT ASSEMBLY

Follow the procedure below to install the Nut Assembly Cutting Template.



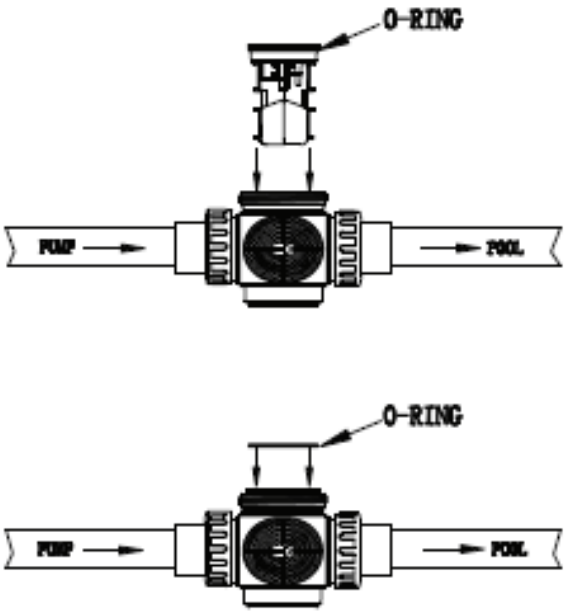
STEP 4: INSTALL CELL VESSEL

Insert cell vessel and hand tighten nuts (Make sure the water direction is consistent with the arrow).



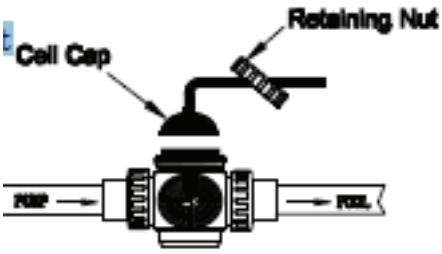
STEP 5: INSERT CELL

Put o-ring on cell, and insert cell into cell vessel (Please pay attention to the direction when install), put another o-ring on the sealing slot.



STEP 6: ATTACH CAP

Plug in Cell Cap and secure with Retaining Nut.

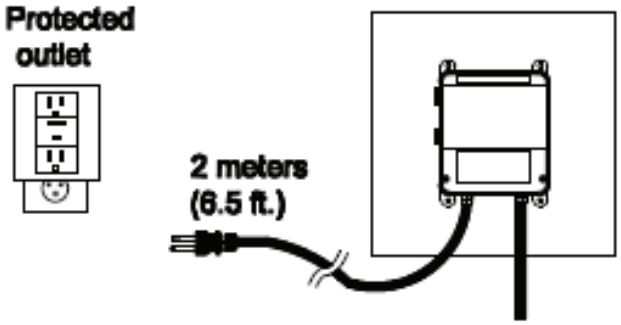


Put the cell cap on the generator, make sure the cell cap fits the generator's locating slot well. Damage may be caused to the elements if installed forcefully.

Run the pump for 5 minutes or until all air is out of the system. Check for leaks and then turn the pump off.

STEP 7: PLUG IN LINECORD

With the pump off and water chemistry adjusted (see Water Chemistry Quick Start Guide), plug linecord into a ground fault circuit interrupter (GFCI) safety outlet or an outlet protected by a ground fault circuit breaker (GFCB). If local codes require bonding, see manual.



STEP 8: CHECK FLOW SWITCH

1. Make sure the water chemistry is adjusted, power on the salt chlorinator. “GENERATING” indicator light starts to twinkle, which means the chlorinator is powered on and standby.

2. Turn the filter pump ON. Make sure that full flow is achieved (no air in the system) and run the pump for at least 15 seconds.

3. Press “+” button to start chlorine generating mode. This moment, “NO FLOW” indicator light is off.

4. Turn the filter pump OFF for 15 seconds.

5. “NO FLOW” indicator light ison, and “ GENERATING” indicator light is off.

6. Repeat turn on and off filter pumpfor couple times to make sure Flow Switch works well. Suggest to follow up above steps to check the Flow Switch monthly.

ERROR CODE LIST

Error Code	Cause
Err 1, load short circuit	Conductive metal embedded in the middle of the titanium anode
	Titanium anode water short circuit
Err 2, load break	Insufficient salt, so no current or insufficient current
	Titanium anode wire falling off
	Titanium anode aging
Err 3	Salt concentration exceeded the specified maximum limit
Err 4	Salt concentration below the specified minimum limit
Water Temperature light on	Pool water temperature out of range 51 - 113 F
No Flow	Water flow low, cavity filled with air, water flow switch turned off
	Filter in backwashed status
	Water flow switch turned off

BECAUSE SOME CHEMICALS INFLUENCE MORE THAN ONE CHEMISTRY PARAMETER, IT IS IMPORTANT THAT YOU FOLLOW THE STEPS IN THE ORDER PRESENTED.

The following steps require the use of a reliable pool chemical test kit(s).

STEP 1:

Determine the total number of gallons of water in your pool using the formulas below. This calculation will be used frequently when adjusting pool chemical levels so take care when measuring. For non-standard shaped pools, it may be easier to break the pool up into "sections" to make the calculations. When done, add all the "sections" to determine the total volume of your pool.

	GALLONS (*pool size in feet*)	LITERS (*pool size in meters*)
Rectangular	Length x Width x Average Depth x 7.5	Length x Width x Average Depth x 1000
Round	Diameter x Diameter x Average Depth x 5.9	Diameter x Diameter x Average Depth x 785
Oval	Length x Width x Average Depth x 6.7	Length x Width x Average Depth x 893

STEP 2:

IDEAL RANGE: Before adding salt, test your pool water for the current level of salt.

RECOMMENDED LEVEL: 2700 - 3400 ppm (3200 ppm ideal)

After testing salt, refer to Table 1 to determine how much salt must be added to achieve a level of 3200 parts per million (ppm).

Salt should be added directly to the pool with the pool pump on. Brush the salt around to speed up the dissolving process - do not allow the salt to pile up on the bottom of the pool. For new plaster pools, wait 10-14 days hours with the suction coming from the main drain (use pool vac if there is no main drain) to allow the salt to evenly disperse throughout the pool.

Use common food quality salt usually available in 40-80 lb. bags labeled "Pool Salt" or "Coarse Solar Salt". Do not use rock salt, salt with yellow prussiate of soda, salt with anti-caking additives, or iodized salt.

STEP 3:

Cyanuric Acid (Stabilizer) is very important to the performance of your chlorine generation system. It's a mild acid that helps prevent the breakdown of chlorine due to the sun's ultraviolet rays.

IDEAL LEVEL: 30 - 50 ppm outdoor pools
0 ppm indoor pools

Test your pool's Cyanuric Acid level using a pool test kit or bring a water sample to your local pool store.

Refer to Table 2 to determine the amount of Cyanuric Acid needed to raise the Cyanuric Acid to the desired level.

STEP 4:

Total Alkalinity (TA) is a measure of the total alkaline substances found in the pool water. The results of improper TA levels range from corrosion of metal pool parts, staining of the pool, burning eyes, cloudy water and reduced Chlorine efficiency.

IDEAL LEVEL: 30 - 50 ppm outdoor pools
0 ppm indoor pools

Test your pool's TA.

Refer to Table 3 to increase the pool's TA using Baking Soda (Sodium Bicarbonate 100%).

Refer to Table 4 to decrease the pool's TA using Muriatic Acid (Hydrochloric Acid 31.45%).

STEP 5:

Total Hardness is the measurement of the total amount of minerals that are found in your pool's water. Too much calcium hardness will cause scaling in your pool and too little will cause the pool water to become corrosive.

IDEAL LEVEL: 200 - 400 ppm

Test your pool's Total Hardness.

If low, add Calcium Chloride (77%) according to Table 5.

If Total Hardness is high, dilute or replace the pool water.

STEP 6:

pH is the measure of how acid/alkaline the pool water is. If pH is too low, the water can be corrosive to pool equipment. If pH is too high, then the chlorine becomes much less effective for sanitization.

IDEAL LEVEL: 7.2 - 7.8

Table 1

POUNDS and (Kg) OF SALT NEEDED FOR 3200 PPM

Current salt level ppm	Gallons and (Liters) of Pool/Spa water						
	12,000 (45,000)	14,000 (52,500)	16,000 (60,000)	18,000 (67,500)	20,000 (75,000)	22,000 (82,500)	24,000 (90,000)
0	320 (145)	373 (170)	427 (194)	480 (218)	533 (242)	587 (267)	640 (291)
200	300 (136)	350 (159)	400 (182)	450 (205)	500 (227)	550 (250)	600 (273)
400	280 (127)	327 (148)	373 (170)	420 (191)	467 (212)	513 (233)	560 (255)
600	260 (118)	303 (138)	347 (158)	390 (177)	433 (197)	477 (217)	520 (236)
800	240 (109)	280 (127)	320 (145)	360 (164)	400 (182)	440 (200)	480 (218)
1000	220 (100)	257 (117)	293 (133)	330 (150)	367 (167)	403 (183)	440 (200)
1200	200 (91)	233 (106)	267 (121)	300 (136)	333 (152)	367 (167)	400 (182)
1400	180 (82)	210 (95)	240 (109)	270 (123)	300 (136)	330 (150)	360 (164)
1600	160 (73)	187 (85)	213 (97)	240 (109)	267 (121)	293 (133)	320 (145)
1800	140 (64)	163 (74)	187 (85)	210 (95)	233 (106)	257 (117)	280 (127)
2000	120 (55)	140 (64)	160 (73)	180 (82)	200 (91)	220 (100)	240 (109)
2200	100 (45)	117 (53)	133 (61)	150 (68)	167 (76)	183 (83)	200 (91)
2400	80 (36)	93 (42)	107 (48)	120 (55)	133 (61)	147 (67)	160 (73)
2600	60 (27)	70 (32)	80 (36)	90 (41)	100 (45)	110 (50)	120 (55)
2800	40 (18)	47 (21)	53 (24)	60 (27)	67 (30)	73 (33)	80 (36)
3000	20 (9)	23 (11)	27 (12)	30 (14)	33 (15)	37 (17)	40 (18)
3200	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal
above 3400	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute	Dilute

Table 2

POUNDS and (Kg) OF STABILIZER (CYANURIC ACID) NEEDED FOR 40 PPM

Current Stabilizer level (ppm)	Gallons and (Liters) of Pool Water								
	8,000 (30,000)	10,000 (37500)	12,000 (45000)	14,000 (52500)	16,000 (60000)	18,000 (67500)	20,000 (75000)	22,000 (82500)	24,000 (90000)
0 ppm	2.7 (1.2)	3.4 (1.5)	4.0 (1.8)	4.7 (2.2)	5.4 (2.5)	6.0 (2.7)	6.7 (3.0)	7.4 (3.4)	8.0 (3.6)
10 ppm	2.0 (.9)	2.5 (1.1)	3.0 (1.4)	3.5 (1.6)	4.0 (1.8)	4.5 (2.0)	5.0 (2.3)	5.5 (2.5)	6.0 (2.7)
20 ppm	1.3 (.59)	1.7 (.77)	2.0 (.90)	2.3 (1.1)	2.7 (1.3)	3.0 (1.3)	3.3 (1.5)	3.7 (1.6)	4.0 (1.8)
30 ppm	0.7 (.31)	0.8 (.36)	1.0 (.45)	1.2 (.54)	1.4 (.64)	1.5 (.68)	1.7 (.77)	1.8 (.82)	2.0 (.91)
40 ppm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 3

POUNDS and (Kg) OF BAKING SODA (SODIUM BICARBONA TE 100%) NEEDED TO INCREASE TOTAL ALKALINITY TO THE RECOMMENDED RANG E

Desired Increase (ppm)	Gallons and (Liters) of Pool Water						
	400 (1,500)	1,000 (3,750)	5,000 (19,000)	10,000 (38,000)	15,000 (57,000)	20,000 (75,000)	25,000 (95,000)
10 ppm	0.1 (0)	0.1 (0.1)	0.7 (0.3)	1.4 (0.6)	2.1 (1)	2.8 (1.3)	3.5 (1.6)
20 ppm	0.1 (0.1)	0.3 (0.1)	1.4 (0.6)	2.8 (1.3)	4.2 (1.9)	5.6 (2.5)	7 (3.2)
30 ppm	0.2 (0.1)	0.4 (0.2)	2.1 (1)	4.2 (1.9)	6.3 (2.9)	8.4 (3.8)	10.5 (4.8)
40 ppm	0.2 (0.1)	0.6 (0.3)	2.8 (1.3)	5.6 (2.5)	8.4 (3.8)	11.2 (5.1)	14 (6.4)
50 ppm	0.3 (0.1)	0.7 (0.3)	3.5 (1.6)	7.0 (3.2)	10.5 (4.8)	14.0 (6.4)	17.5 (7.9)
60 ppm	0.3 (0.2)	0.8 (0.4)	4.2 (1.9)	8.4 (3.8)	12.6 (5.7)	16.8 (7.6)	21 (9.5)
70 ppm	0.4 (0.2)	1 (0.4)	4.9 (2.2)	9.8 (4.4)	14.7 (6.7)	19.6 (8.9)	24.5 (11.1)
80 ppm	0.4 (0.2)	1.1 (0.5)	5.6 (2.5)	11.2 (5.1)	16.8 (7.6)	22.4 (10.2)	28 (12.7)
90 ppm	0.5 (0.2)	1.3 (0.6)	6.3 (2.9)	12.6 (5.7)	18.9 (8.6)	25.2 (11.4)	31.5 (14.3)
100 ppm	0.6 (0.3)	1.4 (0.6)	7.0 (3.2)	14 (6.4)	21 (9.5)	28 (12.7)	35 (15.9)

Table 4

OUNCES and (L) OF MURIATIC ACID NEEDED TO DECREASE TOTAL ALKALINITY TO THE RECOMMENDED RANG E

Desired Decrease (ppm)	Gallons and (Liters) of Pool Water						
	400 (1,500)	1,000 (3,750)	5,000 (19,000)	10,000 (38,000)	15,000 (57,000)	20,000 (75,000)	25,000 (95,000)
10 ppm	1 (0)	2.5 (0.08)	13 (0.41)	26 (0.81)	39 (1.2)	52 (1.6)	65 (2)
20 ppm	2 (0.06)	5 (0.16)	26 (0.81)	52 (1.6)	78 (2.4)	105 (3.3)	131 (4)
30 ppm	3.2 (0.1)	8 (0.24)	39 (1.2)	78 (2.4)	105 (3.3)	157 (4.9)	196 (6)
40 ppm	4.2 (0.13)	10.5 (0.33)	52 (1.6)	105 (3.3)	157 (4.9)	208 (6.5)	260 (8.1)
50 ppm	5.2 (0.16)	13 (0.41)	65 (2)	131 (4)	196 (6)	260 (8.1)	325 (10.1)
60 ppm	6.2 (0.2)	15.5 (0.49)	78 (2.4)	157 (4.9)	235 (7.3)	314 (9.8)	390 (12.2)
70 ppm	7.2 (0.23)	18 (0.57)	91 (2.8)	183 (5.7)	275 (8.5)	366 (11.4)	457 (14.2)
80 ppm	8.4 (0.26)	21 (0.65)	105 (3.3)	208 (6.5)	312 (9.8)	416 (13)	520 (16.2)
90 ppm	9.4 (0.3)	23.5 (0.73)	118 (3.6)	235 (7.3)	353 (11)	470 (14.6)	588 (17.9)
100 ppm	10.4 (0.32)	26 (0.81)	131 (4.7)	260 (8.1)	390 (12.2)	520 (16.2)	651 (20.9)

Table 5

POUNDS and (Kg) OF CALCIUM CHLORIDE (77%) NEEDED TO INCREASE CALCIUM HARDNESS TO THE RECOMMENDED RANG E

Desired Increase (ppm)	Gallons and (Liters) of Pool Water						
	400 (1,500)	1,000 (3,750)	5,000 (19,000)	10,000 (38,000)	15,000 (57,000)	20,000 (75,000)	25,000 (95,000)
10 ppm	0 (0)	0.1 (0.1)	0.6 (0.3)	1.2 (.5)	1.8 (.8)	2.4 (1.1)	3 (1.4)
20 ppm	0.1 (0)	0.2 (0.1)	1.2 (0.5)	2.4 (1.1)	3.6 (1.6)	4.8 (2.2)	6 (2.7)
30 ppm	0.1 (0.1)	0.4 (0.2)	1.8 (0.8)	3.6 (1.6)	5.4 (2.5)	7.2 (3.3)	9 (4.1)
40 ppm	0.2 (0.1)	0.5 (0.2)	2.4 (1.1)	4.8 (2.2)	7.2 (3.3)	9.6 (4.4)	12 (5.5)
50 ppm	0.2 (0.1)	0.6 (0.3)	3.0 (1.4)	6.0 (2.7)	9 (4.1)	12.0 (5.5)	15 (6.8)
60 ppm	0.3 (0.1)	0.7 (0.3)	3.6 (1.6)	7.2 (3.3)	10.8 (4.9)	14.4 (6.5)	18 (8.2)
70 ppm	0.3 (0.2)	0.8 (0.4)	4.2 (1.9)	8.4 (3.8)	12.6 (5.7)	16.8 (7.6)	21 (9.5)
80 ppm	0.4 (0.2)	1 (0.4)	4.8 (2.2)	9.6 (4.4)	14.4 (6.5)	19.2 (8.7)	24 (10.9)
90 ppm	0.4 (0.2)	1.1 (0.5)	5.4 (2.4)	10.8 (4.9)	16.2 (7.3)	21.6 (9.8)	27 (12.2)
100 ppm	0.4 (0.2)	1.2 (0.5)	6.0 (2.7)	12 (5.4)	18 (9.5)	24 (10.9)	30 (13.6)

Table 6

OUNCES AND (GRAMS) OF SODA ASH (SODIUM CARBONA TE) NEEDED TO RAISE pH TO THE R ECOMMENDED RANG E

CURRENT pH	Gallons and (Liters) of Pool Water						
	400 (1,500)	1,000 (3,750)	5,000 (19,000)	10,000 (38,000)	15,000 (57,000)	20,000 (75,000)	25,000 (95,000)
7.0 - 7.2	0.25 (8.5)	0.75 (21.3)	4 (113)	8 (227)	12 (340)	16 (454)	20 (568)
6.7 - 7.0	0.5 (14)	1.25 (35.4)	6 (170)	12 (340)	16 (454)	24 (681)	32 (908)
under 6.7	0.6 (17)	1.5 (42.5)	8 (227)	16 (454)	24 (681)	32 (908)	40 (1100)

Table 7

OUNCES AND (GRAMS) OF MURIATIC ACID NEEDED TO LOWER pH TO THE RECOMMENDED RANGE

CURRENT pH	Gallons and (Liters) of Pool Water						
	400 (1,500)	1,000 (3,750)	5,000 (19,000)	10,000 (38,000)	15,000 (57,000)	20,000 (75,000)	25,000 (95,000)
7.8 - 8.0	0.6 (17)	1.5 (43)	8 (225)	16 (454)	24 (680)	32 (900)	40 (1125)
8.0 - 8.4	1.0 (28)	2.5 (70)	12 (340)	24 (680)	36 (1020)	48 (1360)	60 (1700)
over 8.4	1.2 (35)	3 (86)	16 (454)	32 (900)	48 (1350)	64 (1800)	80 (2250)

PLEASE READ THE FOLLOWING CAREFULLY

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Record Product's Serial Number Here: _____
Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only and are not available individually as replacement parts.

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