

AQUA SMARTE Plus® Instruction Manual

Mineral Pool-Care Docking Station®
for Pools up to 25,000 Gallons



AQUA SMARTE Plus® Docking Station®
comes with the
AQUA SMARTE Plus® Mineral Activator®

Patented Mineral Disinfectant

Customer Service 800-222-0169

kingtechnology.com



WARNING

To minimize the risk of serious injury, death or damage, before installing or first using this equipment, read Instruction Manual and all safety labels and follow all safety instructions and precautions. Save manual for future reference.

TABLE OF CONTENTS

AQUA SMARTE Plus Introduction	3
Notes and Safety Information	4
Safety Labels on Docking Station	5
Installation Tips to Ensure Proper Performance	6
Sand Filter Installation with Nipple Kit and Flex Hose	7
Sand Filter Installation with Flex Hose Only	8
DE and Cartridge Filter Installation With Flex Hose	9
Hard-Plumbed Installation	10
Step 1: Preparing the Pool	11
Step 2: Putting the System to Work	12
Step 3: Setting the Control Dial	13
Step 4: Routine Pool Care	14
Replacing AQUA SMARTE Plus Mineral Activator	15
Using AQUA SMARTE Plus Pool Awake!®	16
Using AQUA SMARTE Plus Cannonball®	17
Using AQUA SMARTE Plus MizerMax Pac®	18
Winterizing	19
Troubleshooting	20
Parts List	21
Maintenance - Replacing Control Dial O-Rings	22
Maintenance - Replacing Cap O-Rings and Knobs	22
For information on King Technology's entire product line, visit our website at kingtechnology.com	

Welcome to easier pool care courtesy of AQUA SMARTE Plus. With AQUA SMARTE Plus, your pool water will look and feel better without a lot of work or a lot of chlorine. This system† controls bacteria using a combination of minerals and reduced chlorine levels. Chlorine lasts 2X longer* with AQUA SMARTE Plus Mineral System.



Part 1 **AQUA SMARTE Plus** **Docking Station**

The water treatment center that controls the flow of water to each part of the AQUA SMARTE Plus System.

For Pools up to 25,000 gallons
Product # 01-02-7780

Part 2 **AQUA SMARTE Plus** **Mineral Activator**

Holds the minerals and fits inside the AQUA SMARTE Plus Docking Station.
Product # 01-13-7712

THE AQUA SMARTE PLUS MINERAL ACTIVATOR MUST BE REPLACED EVERY SIX MONTHS OR AFTER ONE POOL SEASON WHICHEVER IS SHORTER.



There are 5 parts to the AQUA SMARTE Plus System:

1. AQUA SMARTE Plus Docking Station
2. AQUA SMARTE Plus Mineral Activator
3. AQUA SMARTE Plus Pool Awake
4. AQUA SMARTE Plus MizerMax Pac
5. AQUA SMARTE Plus Pool Asleep®



SHINE®, OPTIMIZE® AND Cannonball

Part 3 **AQUA SMARTE Plus** **Pool Awake!**

Three-step pool opening kit with an Algae Protection Guarantee.
Product # 01-11-7723

Part 4 **AQUA SMARTE Plus** **MizerMax Pac**

Pre-filled with chlorine tablets and fits inside AQUA SMARTE Plus Mineral Activator.
Product # 01-04-7792



Part 5 **AQUA SMARTE Plus** **Pool Asleep**

Two step pool closing kit
Product # 01-11-7734



SHINE AND CANNONBALL

AQUA SMARTE Plus Mineral Activator comes inside the AQUA SMARTE Plus Docking Station and is also sold separately. AQUA SMARTE Plus MizerMax Pac, AQUA SMARTE Plus Pool Awake and AQUA SMARTE Plus Pool Asleep also sold separately.

†AQUA SMARTE Plus Mineral System consists of the AQUA SMARTE minerals silver chloride and carbonate used in conjunction with 0.5 ppm chlorine. The AQUA SMARTE Plus Mineral Activator must be used in conjunction with the AQUA SMARTE Plus MizerMax Pac (EPA Reg. No.: 53735-2), an EPA registered chlorine pool product or a chlorine delivery device.

* Compared to the minimum EPA recommended chlorine level of 1.0 ppm for a stabilized swimming pool.

Notes and Safety Information

General Notes

These instructions contain information for the safe and proper operation of this Docking Station. Observe the following principles:

- Ensure that everyone using this Docking Station follows the instructions and safety precautions.
- Keep the instructions nearby and available for reference throughout the service life of this Docking Station.

These instructions do not provide for every possible contingency that might be encountered in connection with installation, operation or maintenance of this equipment. Should further information be desired or should particular issues arise which are not covered sufficiently in this manual, contact King Technology at 800-222-0169.


Explanation of the signal words

Signal words, which depict the probability and severity of harm, are used in these instructions. They are defined as follows:

Signal Word	Meaning
DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death, serious injury or major property damage.
WARNING	Indicates a hazardous situation which, if not avoided, could result in serious injury, death, or major property damage.
NOTICE	Indicates special instructions that are important but not related to physical injury hazards.


Explanation of the safety pictographs

The following pictographs illustrate the type and source of a hazard.

Pictograph	Type of Danger
	Safety Alert/General Hazard
	Explosion Risk
	Hazardous Pressure
	Flammable Fire Hazard

Identification of warnings

Warnings are intended to help you recognize risks and avoid death, injury or property damage. This is how warnings are identified:

 Signal Word
Pictographs
Description of danger. Consequences if ignored. ⇒ The arrow signals a safety precaution to be taken to eliminate or reduce the risk.

Safety Label on Docking Station

Review this label before installing or operating this Docking Station. Contact King Technology at 800-222-0169 if this label is missing from your AQUA SMARTE Plus Docking Station.



Fire, explosion and high pressure hazards

To minimize the risk of serious injury, death or property damage while using the AQUA SMARTE Plus Docking Station:

- ⇒ Read, understand and follow all instructions and safety precautions in the manual, and on this Docking Station and on any label for chemicals used with this Docking Station including AQUA SMARTE Plus MizerMax Pacs, AQUA SMARTE Plus Mineral Activator and AQUA SMARTE Plus Pool Awake! (which includes Shine, Optimize and Cannonball) or AQUA SMARTE Plus Pool Asleep (which includes Shine and Cannonball).



DANGER

- ⇒ Never use fast dissolving chlorine tablets, liquid bleach, or calcium hypochlorite in the AQUA SMARTE Plus Docking Station.
- ⇒ Never mix Trichlor chlorine tablets with Calcium Hypochlorite, or with any other form of concentrated chlorine or other chemicals.
- ⇒ Never add any other types of chlorine or shock treatments through the skimmer. These products should be added directly into the pool if required.
- ⇒ Do not contaminate the AQUA SMARTE Plus Docking Station, AQUA SMARTE Plus Mineral Activator, AQUA SMARTE Plus MizerMax Pac, AQUA SMARTE Plus Pool Awake (which includes Shine, Optimize and Cannonball) or AQUA SMARTE Plus Pool Asleep (which includes Shine and Cannonball) with dirt, organic matter, pool chemicals (such as calcium hypochlorite or pool shocks), fertilizers or other household chemicals. Contact between any of these substances and the AQUA SMARTE Plus Docking Station, AQUA SMARTE Plus Mineral Activator, AQUA SMARTE Plus MizerMax Pac, AQUA SMARTE Plus Pool Awake or AQUA SMARTE Plus Pool Asleep will result in a chemical reaction with the generation of heat, liberation of hazardous gasses and fire or explosion.



WARNING

- ⇒ Use only AQUA SMARTE Plus MizerMax Pac, AQUA SMARTE Plus Mineral Activator, AQUA SMARTE Plus Pool Awake! (which includes Shine, Optimize and Cannonball) and AQUA SMARTE Plus Pool Asleep (which includes Shine and Cannonball) in the AQUA SMARTE Plus Docking Station. Never use bulk chemicals.
- ⇒ To prevent the build up of gas pressure in the AQUA SMARTE Plus Docking Station, be sure the pool return line valves are open – except when opening or servicing the unit.
- ⇒ Do not inhale fumes from the AQUA SMARTE Plus Docking Station or AQUA SMARTE Plus MizerMax Pac.
- ⇒ Avoid sparks, smoking, or any open flame near AQUA SMARTE Plus Docking Station or chemicals.
- ⇒ Do not exceed maximum operating pressure of 50 psi or maximum temperature of 104° F.
- ⇒ Do not remove the cap while under pressure. Always turn off pump and bleed off pressure before opening AQUA SMARTE Plus Docking Station.
- ⇒ Do not install automatic or fast shut off valves downstream of the AQUA SMARTE Plus Docking Station.
- ⇒ Always install the AQUA SMARTE Plus Docking Station AFTER a heater (if applicable) on the return line.
- ⇒ Always install any additional sanitizing equipment AFTER and NEVER BEFORE the AQUA SMARTE Plus Docking Station is installed on the return line.
- ⇒ Do not permit children to use or climb on this product. This product must be positioned to prevent children from using it as a means of access to the pool.
- ⇒ Always stand clear of the AQUA SMARTE Plus Docking Station during pump start-up.
- ⇒ Replace AQUA SMARTE Plus Docking Station if you see signs of cracks, damage or degradation to the Docking Station body or cap.

NOTICE

- ⇒ Prior to pressurizing, check with your dealer to ensure your plumbing connections meet building codes.
- ⇒ Failure to properly winterize your AQUA SMARTE Plus Docking Station could result in freeze damage. (See page 19 for winterizing details.)

Installation Tips to Ensure Proper Performance

Before installing, read all directions carefully and contact your dealer for installation support.



WARNING

- Do not exceed maximum operating pressure of 50 psi.
- Do not install automatic or fast shut off valves downstream of AQUA SMARTE Plus Docking Station.
- Always install the AQUA SMARTE Plus Docking Station AFTER the heater (if applicable) on the return line.
- Always install any additional sanitizing equipment AFTER and NEVER BEFORE the AQUA SMARTE Plus Docking Station is installed on the return line.

1) If using a multi-speed pump, run pump for at least 6 hours per day at high speed (at least 40 gpm).

If the pump will run on low speed 24 hours per day or less than 6 hours per day on high speed, you must bleed the air while the pump is on by unscrewing the back knob until water appears. Then screw the knob back in. Repeat this process each time the cap is removed for any reason.



2) Install system with 4-8 psi back pressure.

Lower back pressures could result in under chlorination. Change the eyeball fittings in the return jets to a smaller size to increase back pressure. Contact King Technology at 800-222-0169 for a specially designed Docking Station pressure gauge to determine back pressure at pool start-up.



PN #01-22-4000

3) Special installation:

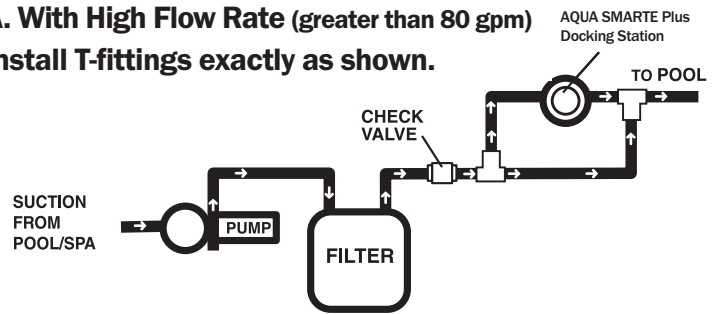
IMPORTANT: Over chlorination or damage to the AQUA SMARTE Plus Docking Station or other equipment could result if special installations A, B or C are not used in these situations:

- If water flow is higher than 80 gallons per minute (gpm), see diagram A.
- If an in-floor cleaner is included with pool, see diagram B, with two options. Preferred installation is Option 1 with two separate lines.
- If set-up is a pool and spa combination with common equipment, see diagram C.

Questions? Call Customer Service at 800-222-0169 Monday thru Friday, 8am to 5pm central time.

A. With High Flow Rate (greater than 80 gpm)

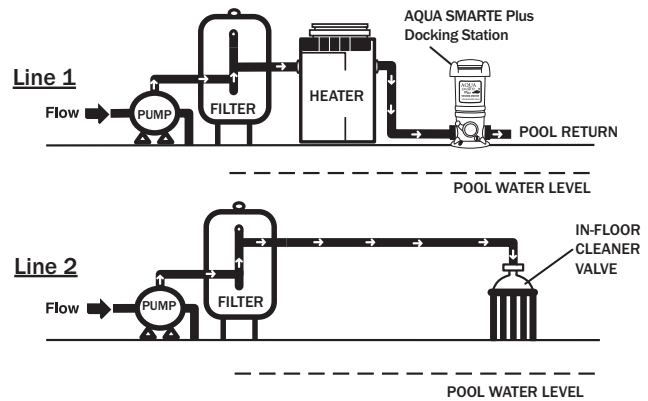
Install T-fittings exactly as shown.



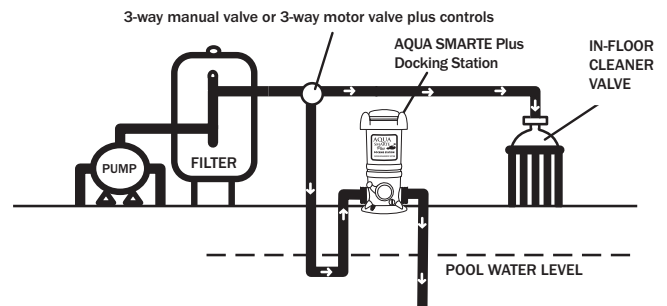
B. With In-Floor Cleaner - TWO OPTIONS

OPTION 1 - A Two-Line Installation

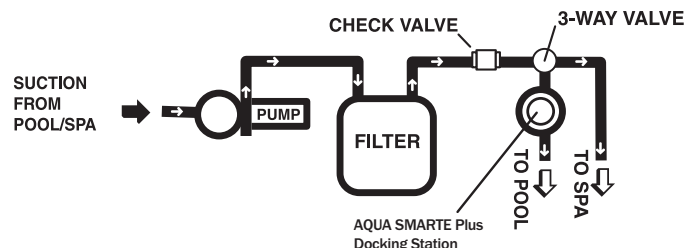
The best option is to have two lines. One line with pump, filter, heater and AQUA SMARTE Plus Docking Station and a second line with a separate pump for the in-floor cleaning system (filter optional).



OPTION 2 - A 3-Way Valve Installation



C. Pool and Spillover Spa Combination

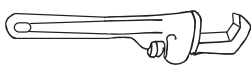


TOOLS NEEDED

Screwdriver



Pipe Wrench



INCLUDED WITH AQUA SMARTE Plus Docking Station

Pipe Thread Tape or Sealant



One 6" X 1 1/2" TBE PVC Nipple



MATERIALS NEEDED

One Hose Adapter
1 1/2" X 1 1/2" X 1 1/4"



One Section of
1 1/2" or 1 1/4" Flex Hose



One
Hose Clamp



RECOMMENDED

4-8 psi Back Pressure

To avoid over or under chlorination, replace eyeball fittings in the return jets to a smaller or larger size to adjust back pressure. For best results use King Technology's pressure gauge, order part number 01-22-4000.



Sand Filter Installation with Nipple Kit and Flex Hose

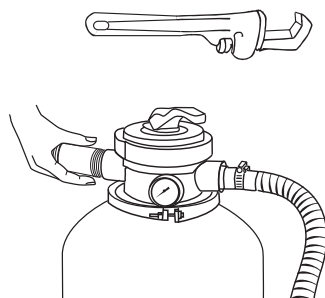
1.

Apply pipe thread tape or sealant to each threaded end of nipple.



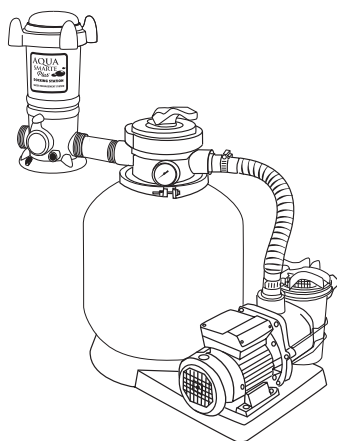
2.

Screw one end of nipple into the filter return. Hand tighten. Finish tightening by turning 1 to 2 revolutions with a pipe wrench. **DO NOT OVER TIGHTEN.**



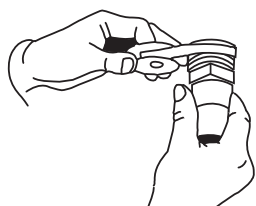
3.

Screw either side of AQUA SMARTE Plus Docking Station on to open nipple end until upright and secure.



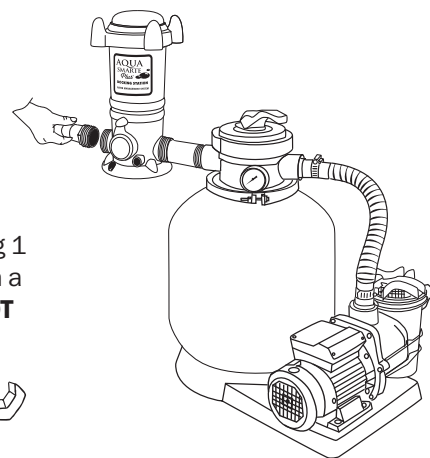
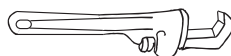
4.

Apply pipe thread tape or sealant to threaded end of hose adapter.



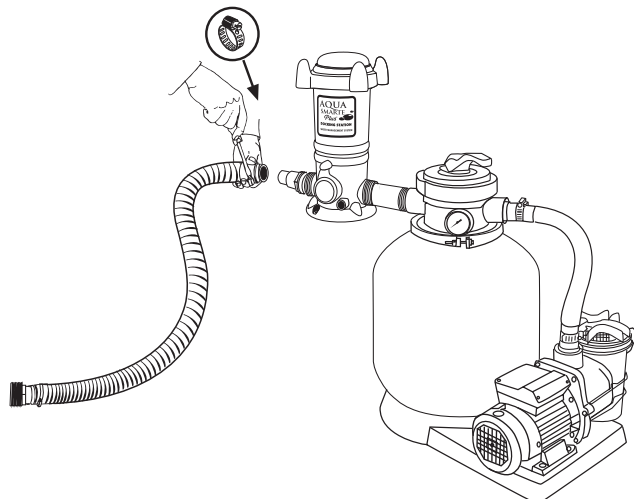
5.

Screw adapter into the other side of AQUA SMARTE Plus Docking Station. Hand tighten. Finish tightening by turning 1 to 2 revolutions with a pipe wrench. **DO NOT OVER TIGHTEN.**



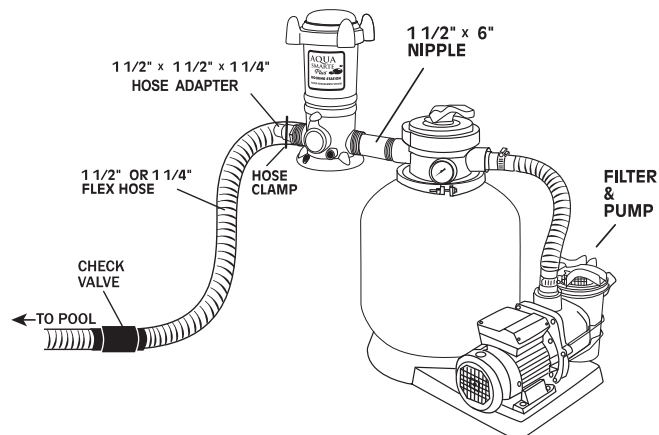
6.

Attach return section of hose to the adapter with clamp. Tighten clamp with screwdriver.



7.

To prevent damage to heaters or filters, see your dealer about installing a **corrosion resistant check valve** which will reduce the back flow of chlorine gas when the AQUA SMARTE Plus is turned off.

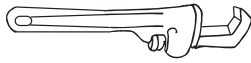


TOOLS NEEDED

Screwdriver



Pipe Wrench



MATERIALS NEEDED

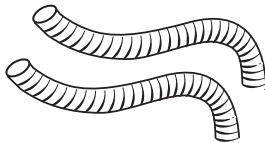
Pipe Thread Tape
or Sealant



Two hose adapters
1½" X 1½" X 1¼"



Two Sections of 1½"
or 1¼" Flex Hose (one
provided with filter)



Two
Hose
Clamps



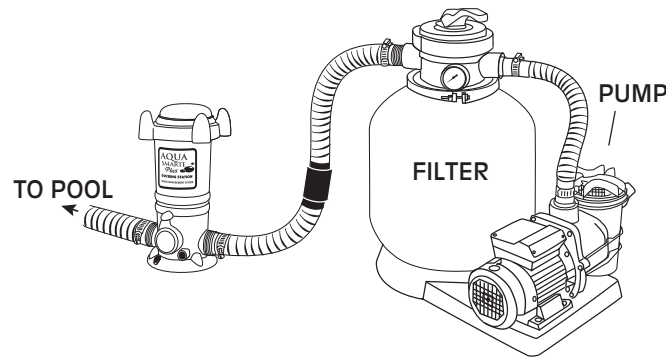
RECOMMENDED

4-8 psi Back Pressure

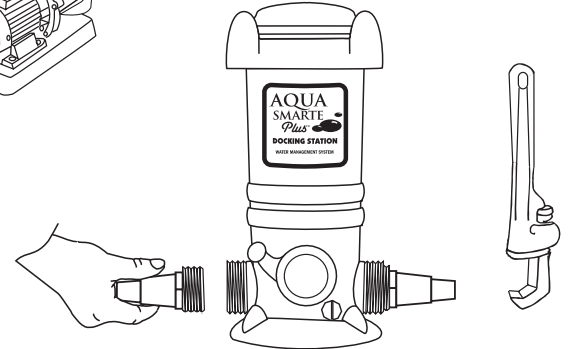
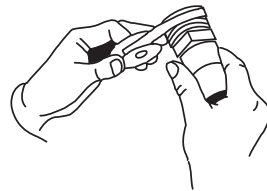
To avoid over or under chlorination, replace eyeball fittings in the return jets to a smaller or larger size to adjust back pressure. For best results use King Technology's pressure gauge, order part number 01-22-4000.



Sand Filter Installation with Flex Hose Only



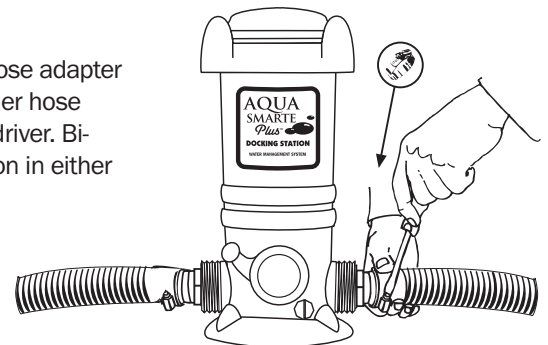
The AQUA SMARTE Plus Docking Station should always be installed between the filter and pool (or between heater and pool if applicable). Never install AQUA SMARTE Plus Docking Station before the heater or damage to the heater could occur.



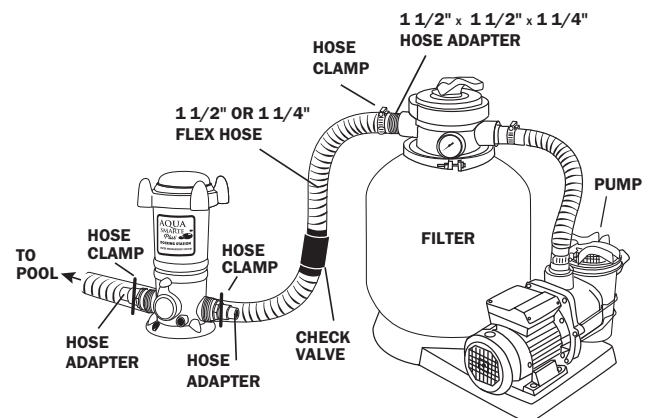
1. Apply pipe thread tape or sealant to the threaded end of both hose adapters.

2. Screw adapters into each end of AQUA SMARTE Plus Docking Station. Hand tighten. Finish tightening by turning 1 to 2 revolutions with pipe wrench. **DO NOT OVER TIGHTEN.**

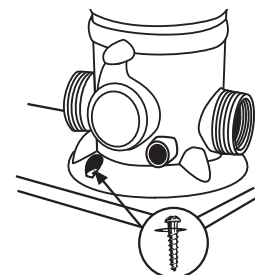
3. Attach the filter section of flex hose to one hose adapter and the return section of flex hose to the other hose adapter with clamps and tighten with screwdriver. Bi-flow valve design allows water flow installation in either direction.



4. To prevent damage to heaters or filters, install a **corrosion resistant check valve** which will reduce the back flow of chlorine gas when the system is turned off.



5. For better stability, AQUA SMARTE Plus Docking Station may be mounted on a treated wood base using **Phillips pan head screws**, one in front and two in back. If you have questions about stability, please contact your dealer or King Technology.

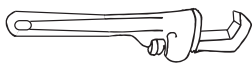


TOOLS NEEDED

Screwdriver



Pipe Wrench



MATERIALS NEEDED

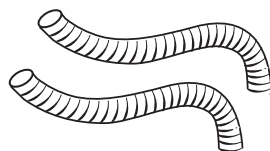
Pipe Thread
Tape
or Sealant



Two Hose Adapters
1½" X 1½" X 1¼"



Two Sections of 1½"
or 1¼" Flex Hose



Two
Hose
Clamps



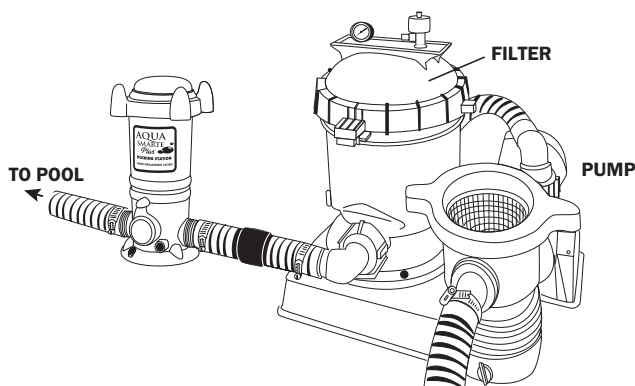
RECOMMENDED

4-8 psi Back Pressure

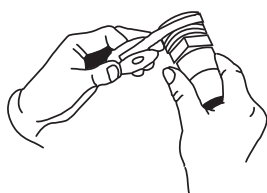
To avoid over or under chlorination, replace eyeball fittings in the return jets to a smaller or larger size to adjust back pressure. For best results use King Technology's pressure gauge, order part number 01-22-4000.



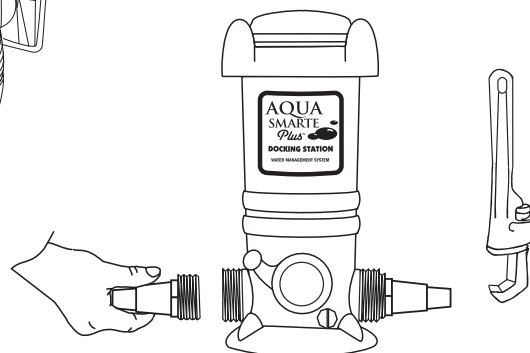
DE and Cartridge Filter Installation With Flex Hose



The AQUA SMARTE Plus Docking Station should always be installed between the filter and pool (or between heater and pool if applicable). Never install AQUA SMARTE Plus Docking Station before the heater or damage to the heater could occur.

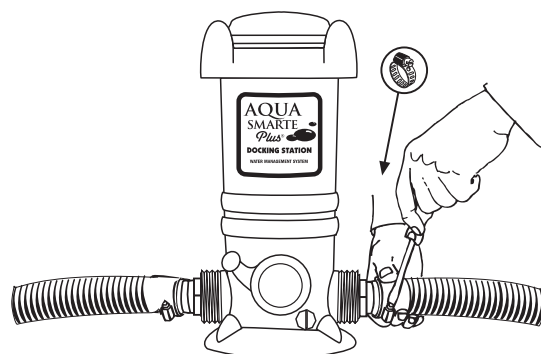


1. Apply pipe thread tape or sealant to the threaded end of both hose adapters.

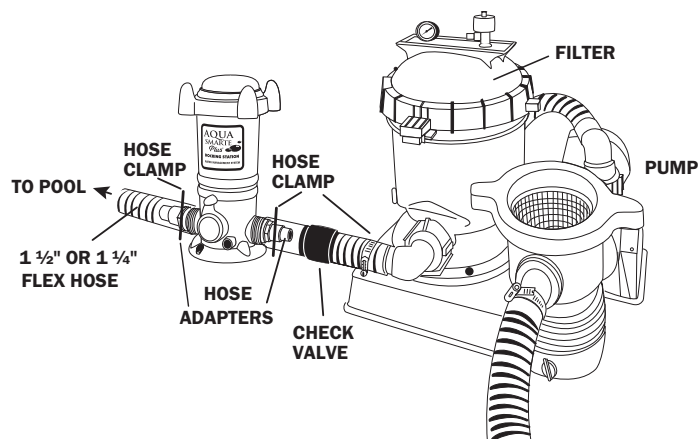


2. Screw adapters into each end of AQUA SMARTE Plus Docking Station. Hand tighten. Finish tightening by turning 1 to 2 revolutions with a pipe wrench. **DO NOT OVER TIGHTEN.**

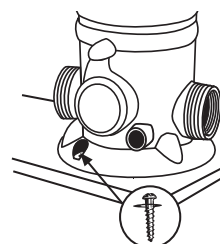
3. Attach the filter section of flex hose to one hose adapter and the return section of flex hose to the other hose adapter with clamps and tighten with screwdriver. Bi-flow valve design allows water flow in either direction.



4. To prevent damage to heaters or filters, see your dealer about installing a **corrosion resistant check valve** which will reduce the back flow of chlorine gas when the AQUA SMARTE Plus Docking Station is turned off.

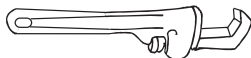


5. For better stability, AQUA SMARTE Plus Docking Station may be mounted on a treated wood base using **Phillips pan head screws**, one in front and two in back. If you have questions about stability, please contact your dealer or King Technology.

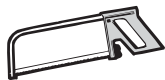


TOOLS NEEDED

Pipe Wrench



Hacksaw

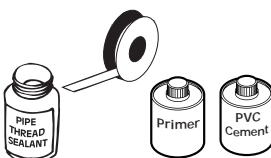


Tape Measure



MATERIALS NEEDED

Pipe Thread Tape or Sealant, Primer and PVC Cement



1½" Male Adapter (slip x MPT)

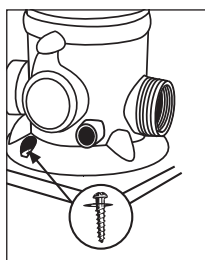


or

2" Female Adapter (slip x FPT)

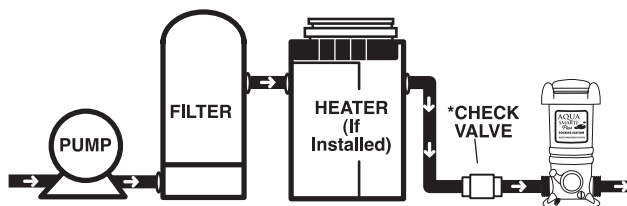


Secure Docking Station



For better stability, AQUA SMARTE Plus Docking Station may be mounted on a treated wood base using **Phillips pan head screws**, one in front and two in back. If you have questions about stability, please contact your dealer or King Technology.

Hard-Plumbed Installation

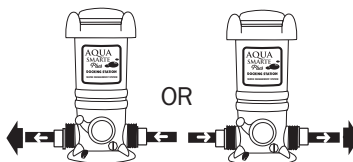


The AQUA SMARTE Plus Docking Station should always be installed between the filter and pool (or between heater and pool if applicable). Never install AQUA SMARTE Plus Docking Station before the heater or damage to the heater could occur.

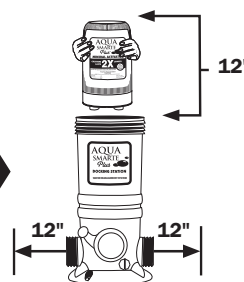
Do NOT install in copper pipe if using AQUA SMARTE Plus MizerMax Pac as chemical corrosion may lead to pipe failure.



Do NOT install AQUA SMARTE Plus Docking Station off-line.

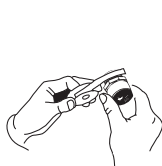


Bi-flow valve design allows installation in either flow direction.



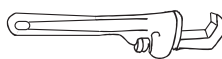
Allow a minimum of 12" above and on each side of AQUA SMARTE Plus Docking Station to ensure room for easy replacement of AQUA SMARTE Plus Mineral Activator and AQUA SMARTE Plus MizerMax Pac.

1. Screw adapters into each end of AQUA SMARTE Plus Docking Station following directions for a male adapter or a female adapter. Hand tighten. Finish tightening by turning 1 to 2 revolutions with a pipe wrench. **DO NOT OVER TIGHTEN.**



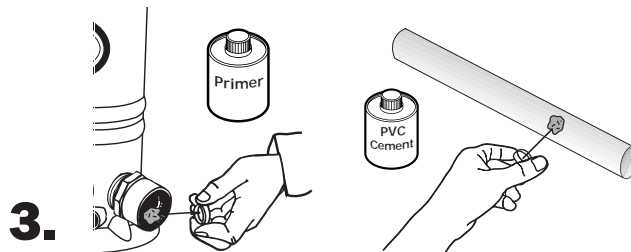
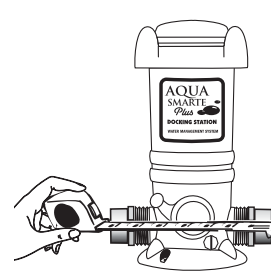
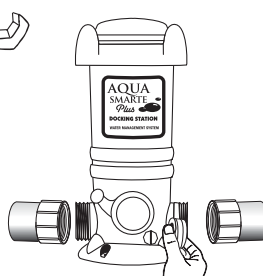
1a.

If using **male adapters**, apply pipe thread tape or sealant to the threaded end of each adapter.



1b.

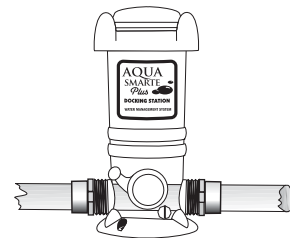
If using **female adapters**, apply pipe thread tape or sealant to the threaded end of each Docking Station port.



3.

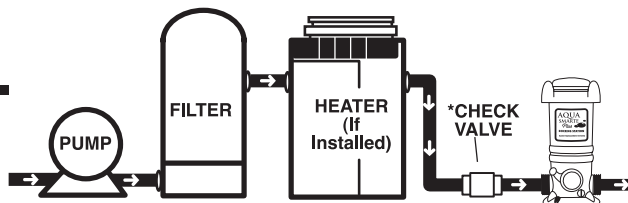
Following Primer directions, brush Primer on the inside of the adapters and to ends of pipe. Repeat this process with PVC cement following manufacture's directions on that product.

4.




Insert PVC pipe into adapters with a twisting action. Hold in place 5 to 10 seconds to bond.

5.

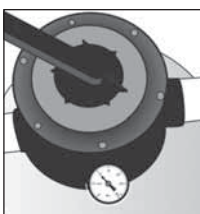


To prevent damage to heaters or filters, see your dealer about installing a **corrosion resistant check valve** which will reduce the back flow of chlorine gas when the AQUA SMARTE Plus Docking Station is turned off.

Step 1: Preparing the Pool

- 

Make sure the pool has adequate circulation. The total volume of pool water must completely circulate through the pump and filter at least 1 to 2 times per day. This usually requires 8 to 12 hours of circulation. Check with your dealer for the proper circulation time for your pool.

- 


Check the pool's filter gauge often and periodically clean filter per the manufacturer's directions. A dirty filter will slow the flow of water which could hamper proper circulation.



WARNING

Do not exceed maximum operating pressure of 50 psi.

- Check the Water Hardness of your fill water before adding to the pool. If calcium content is higher than 400 ppm, find a soft water source to fill your pool instead; otherwise water balance will be very difficult.

- 

Check for metals in the pool such as iron or copper. Before attempting water balance, these should be removed. See your dealer for a metal out or sequesterant and follow the label directions carefully.

- Before beginning with any pool care program, you must first balance your pool water. Take a water sample to your local pool professional (or use a complete test kit) to test for the important Water Balance Guidelines.

IMPORTANT: Always follow printed instructions on the balancing chemical packages. Add balancing chemicals in small increments one at a time with circulation running. **For best results, wait 8-12 hours** before testing again and adding any additional balancing chemicals.

Water Balance Guidelines

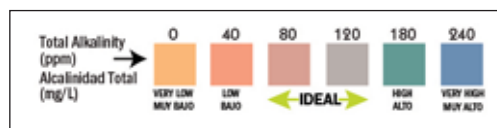
pH:	7.2 – 7.8
Total Alkalinity:	80 – 120 ppm
Calcium Hardness:	200 – 400
Total Dissolved Solids:	<1500
Stabilizer:	20 – 80 ppm
Free Chlorine:	0.5 – 1.0 ppm

For best results in achieving water balance, follow steps **5a through 5e** in order.

- Take a water sample from the pool and dip a **AQUA SMARTE Plus Test Strip** into it.



- Look at the **Total Alkalinity** reading first. Adjustments should be made to bring the Total Alkalinity in the range of **80 – 120 ppm** prior to making any adjustments to pH even if it throws pH off further.




- After Total Alkalinity is in range, test for **pH**. It should be between **7.2 and 7.8**. If higher or lower, add a pH adjuster.



- Then test your Water Hardness again. If lower than 200 ppm, add Calcium Increaser. Always maintain 200-400 ppm.

- Lastly test for **stabilizer** or **conditioner levels**. Add conditioner if the level is below 20 ppm. This will prevent chlorine burn off. If stabilizer level is above 80 ppm, partially drain water and re-fill.

- 

Initially shock the pool with a **chlorine shock only** to rid the water of contaminants and establish a chlorine residual. Always follow the manufacturer's directions carefully. See the DANGER box below for important guidance on shocking.

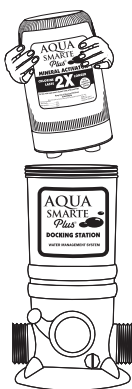


DANGER

- Never add any other types of chlorine or shock treatments through the skimmer. These products should be added directly into the pool if required.
- Never use bulk chemicals, fast dissolving chlorine tablets, liquid bleach, or calcium hypochlorite in the **AQUA SMARTE Plus Docking Station**.

Step 2: Putting the System to Work

1.



Install AQUA SMARTE Plus Mineral Activator into the AQUA SMARTE Plus Docking Station. (See page 15 for directions.)

IMPORTANT:

Replace the AQUA SMARTE Plus Mineral Activator every 6 months or after one pool season, whichever is shorter. After that time, you will hear the spent media inside, however it is no longer effective and must be replaced.

2.



Replace cap and run AQUA SMARTE Plus Docking Station, with AQUA SMARTE Plus Mineral Activator inserted, for 10 minutes at Setting 5.

3.



Shock the pool with AQUA SMARTE Plus Shine to rid the water of contaminants. (See page 16 for AQUA SMARTE Plus Shine directions.)

4.



Create a chlorine residual with AQUA SMARTE Plus Optimize. (See page 16 for AQUA SMARTE Plus Optimize directions.)

5.



Insert AQUA SMARTE Plus Cannonball into the open center of the AQUA SMARTE Plus Mineral Activator in the AQUA SMARTE Plus Docking Station. (See page 17 for directions.)



6.



When chlorine reading is down to 1.0 ppm, which may take a few days, insert AQUA SMARTE Plus MizerMax Pac into the open center of the AQUA SMARTE Plus Mineral Activator. (See page 18 for directions.)

Step 3: Setting the Control Dial

1.

This Docking Station is designed to work effectively with a variety of pool equipment as long as the following procedures are followed.

Set the control dial by matching up the parameters of your pool on the chart below. THIS IS A STARTING POINT ONLY and may need to be adjusted to fit your individual pool needs. See #2 below for adjusting directions. **IMPORTANT:** If using a multi-speed pump, pump-run times of at least 6 hours per day at high speed are recommended for proper performance.

If running the pump at low speed only or on high speed less than 6 hours, please follow the 24 hour low-speed directions below.

POOL SIZE		SINGLE-SPEED PUMP OR HIGH-SPEED PUMP RUN TIME											
		8 HOUR PUMP RUN TIME				12 HOUR PUMP RUN TIME				24 HOUR PUMP RUN TIME			
		PUMP SIZE				PUMP SIZE				PUMP SIZE			
Gallons	Diameter	1/2 hp	3/4 hp	1 hp	1 ½ hp	1/2 hp	3/4 hp	1 hp	1 ½ hp	1/2 hp	3/4 hp	1 hp	1 ½ hp
7,000	(18')	5.0	4.5	4.0	3.5	4.5	4.0	3.0	5.0^	3.5	3.0	2.5	4.0^
9,000	(21')	5.5	5.0	4.5	4.0	5.0	4.5	4.0	5.5^	4.0	3.5	3.0	4.5^
12,000	(24')	6.0	5.5	5.0	4.5	5.5	5.0	4.5	4.0	4.5	4.0	3.5	5.0^
15,000		NR	6.0	5.5	5.0	6.0	5.5	5.0	4.5	5.0	4.5	4.0	3.5
20,000		NR	NR	6.0	5.5	NR	6.0	5.5	5.0	5.5	5.0	4.5	4.0
25,000		NR	NR	6.5	6.0	NR	6.5	6.0	5.5	6.0	5.5	5.0	4.5

^ – Bypass installation recommended. See “Installation Tips” on page 6. RECOMMENDED FLOW RATE: 20-60 gpm
NR – This pump size is not recommended for this size pool.

24 HOUR, LOW-SPEED PUMP-RUN TIME

In order to ensure proper performance when running the pump on low speed for 24 hours per day or high speed less than 6 hours per day, bleed the air while the pump is on by unscrewing the back knob until water appears. Then screw the knob back on. Repeat this process each time the cap is removed for any reason. Set the control dial at 6 and follow the adjustment directions in Step 2 to determine the correct setting for your pool.

EXAMPLE

POOL SIZE		12 HOUR PUMP RUN TIME			
		PUMP SIZE			
Gallons	Diameter	1/2 hp	3/4 hp	1 hp	1 ½ hp
7,000	(18')	4.5	4.0	3.0	5.0*
9,000	(21')	5.0	4.5	4.0	5.5*
12,000	(24')	5.5	5.0	4.5	4.0
15,000		6.0	5.5	5.0	4.5
20,000		NR	6.0	5.5	5.0
25,000		NR	6.5	6.0	5.5

Find your starting dial setting by matching up the parameters of your pool on the above chart. An above ground pool with approximately 12,000 gallons with a 1 horsepower pump running 12 hours a day would require a starting setting of 4.5.



For the first week, test the pool water daily for free chlorine with AQUA SMARTE Plus Test Strips to ensure correct dial setting. Continue to test weekly throughout the season.



After each testing, adjust the dial up by 1/2 increment if the free chlorine reading has dropped below 0.5 ppm or adjust down by 1/2 increment if the reading has risen above 1.0 ppm. Continue this process each day until the free chlorine reading stabilizes to at least 0.5 ppm.

IMPORTANT: Control dial settings in excess of these recommendations could result in excess trichlor levels being discharged into the pool. This can result in bleaching or discoloration of areas around the pool inlet or, in some cases, bleaching or discoloration of the entire pool liner or paint. In addition, excess trichlor in the pool can create health hazards to bathers.

Remember to adjust dial by 1/2 increments only in order to prevent over chlorination which may bleach pool surfaces.

Step 4: Routine Pool Care

1.



Run filtration enough hours to circulate all water 1 to 2 times per day. More than that could result in over chlorination.



WARNING

To prevent the build up of gas pressure in the AQUA SMARTE Plus Docking Station, be sure the pool return line valves are open –except when opening or servicing the unit.

2.



Regularly test water with AQUA SMARTE Plus Test Strips to maintain pH and Total Alkalinity.

NOTE: Water balance is affected by bather load, chemical usage, evaporation and the makeup of source water, so maintaining water balance regularly is important.

3.



Maintain 0.5 to 1.0 ppm free chlorine level at all times.

Note: These lower chlorine levels are only acceptable when using AQUA SMARTE Plus Mineral Activator.



DANGER

Do not contaminate the AQUA SMARTE Plus Docking Station, AQUA SMARTE Plus Mineral Activator, AQUA SMARTE Plus MizerMax Pac, AQUA SMARTE Plus Pool Awake (which includes Shine, Optimize and Cannonball) or AQUA SMARTE Plus Pool Asleep (which includes Shine and Cannonball) with dirt, organic matter, pool chemicals (such as calcium hypochlorite or pool shocks), fertilizers or other household chemicals. Contact between any of these substances and the AQUA SMARTE Plus Docking Station, AQUA SMARTE Plus Mineral Activator, AQUA SMARTE Plus MizerMax Pac, AQUA SMARTE Plus Pool Awake or AQUA SMARTE Plus Pool Asleep will result in a chemical reaction with the generation of heat, liberation of hazardous gasses and fire or explosion.

4.



Shock the pool every other week or as needed. We recommend a non-chlorine shock as reducing chlorine use is the goal of AQUA SMARTE Plus products. However, using a chlorine shock is OK too.



DANGER

- Never add any other types of chlorine or shock treatments through the skimmer. These products should be added directly into the pool if required.
- Never use bulk chemicals, fast dissolving chlorine tablets, liquid bleach, or calcium hypochlorite in the AQUA SMARTE Plus Docking Station.

5.



Before closing the pool for the winter, use AQUA SMARTE Plus Pool Asleep following the same directions as AQUA SMARTE Plus Pool Awake! on page 16.

6.



Remember to replace AQUA SMARTE PLUS Mineral Activator and all other AQUA SMARTE Plus replacements as directed.

Replacing an AQUA SMARTE Plus Mineral Activator

Must be replaced every 6 months or after one pool season.



1.

AQUA SMARTE Plus® Mineral Activator®

kingtechnology.com • 800-222-0169

Serial No. _____ FOR POOLS UP TO 25,000 GALLONS

Product Description: The AQUA SMARTE Plus Mineral Activator is the heart of an advanced pool care system that destroys bacteria. The patented mineral formula in the AQUA SMARTE Plus Mineral Activator also neutralizes acids, which helps keep the pH in an acceptable range with less monitoring. The controlled release of minerals provides an optimum level of protection in your pool. The AQUA SMARTE Plus Mineral System™ reduces chlorine use up to 50%*. Simply use with at least 0.5 ppm of an EPA registered source of chlorine such as the

Check the top of the box and back label of product to make sure you have the correct AQUA SMARTE Plus Mineral Activator to fit your AQUA SMARTE Plus Docking Station.

IMPORTANT: The AQUA SMARTE Plus Mineral Activator must be replaced every 6 months or after one pool season, whichever is shorter.

2.

IMPORTANT REMOVE AND READ

AQUA SMARTE Plus

Less Chlorine with AQUA SMARTE Plus Mineral Activator
To obtain a 50%* chlorine reduction use this mineral activator with a AQUA SMARTE Plus Mineral Activator. *Chlorine use is reduced by 50% when used with the recommended chlorine level of 1.0 ppm. See additional testing report.

AQUA SMARTE Test Strips
To accurately measure the reduced chlorine level of 0.5 to 1.0 ppm, use AQUA SMARTE Test Strips and adjust your chlorine levels to maintain the ideal chlorine level and get a longer life to the AQUA SMARTE Plus Mineral Activator.

WARNING
Do not put anything in the center of the mineral reservoir other than the appropriate AQUA SMARTE Plus product as directed in the product instructions. Damage could result to the pool or equipment and warranty will be null and void.

King Technology, Inc.
www.kingtechnology.com

IMPORTANT: Remove and read the information card.

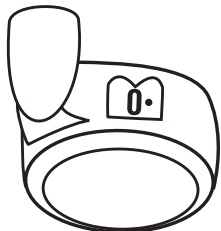
Please note: Complete instructions for inserting an AQUA SMARTE Plus Mineral Activator, and all other AQUA SMARTE Plus products are included inside the AQUA SMARTE Plus Mineral Activator.



DANGER

- Never use fast dissolving chlorine tablets, liquid bleach, or calcium hypochlorite in the AQUA SMARTE Plus Docking Station.

3.



Turn off pump and turn dial to Setting 0.

4.

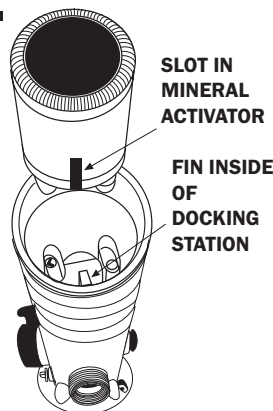


Open AQUA SMARTE Plus Docking Station cap.

5.

Remove the AQUA SMARTE Plus MizerMax Pac and if not empty, set to the side or store for winter. Then remove the AQUA SMARTE Plus Mineral Activator and discard if it has been used for one pool season or 6 months, whichever is shorter.

6.



Find slot on side of the AQUA SMARTE Plus Mineral Activator and line up with fin inside the AQUA SMARTE Plus Docking Station. Lower the AQUA SMARTE Plus Mineral Activator into the AQUA SMARTE Plus Docking Station until secure.

Replace the AQUA SMARTE Plus MizerMax Pac inside the AQUA SMARTE Plus Mineral Activator to continue operating system (see directions on page 18).

7.



Mark your calendar ahead for the six month replacement of the AQUA SMARTE Plus Mineral Activator. **Once wetted, the time-released mineral coating of this product is effective up to 6 consecutive months or one pool season, whichever is shorter. After that time you will hear the spent media inside, however, it is no longer effective and must be replaced.**

Using AQUA SMARTE Plus Awake



AQUA SMARTE Plus Shine



AQUA SMARTE Plus Optimize



AQUA SMARTE Plus Cannonball

AQUA SMARTE Plus Shine is a one time start-up product used to rid the water of all contaminants.

AQUA SMARTE Plus Optimize - also used at start up, sets the chlorine residual to help find the proper dial setting for maintaining up to 50%* less chlorine.

AQUA SMARTE Plus Cannonball offers a 90-Day Algae Protection Guarantee
AQUA SMARTE Plus Cannonball also sold separately.

For AQUA SMARTE Plus Shine and Optimize



DANGER

Never use fast dissolving chlorine tablets, liquid bleach, or calcium hypochlorite in the AQUA SMARTE Plus Docking Station.



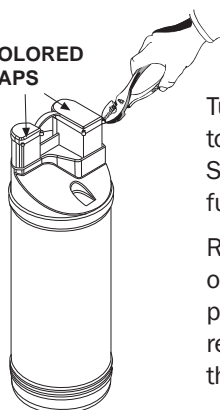
WARNING

Avoid sparks, smoking, or any open flame near AQUA SMARTE Plus Docking Station or chemicals.

Important: Read the labels on the AQUA SMARTE Plus Shine, Optimize and Cannonball products carefully before using.

1.

COLORED CAPS



Turn off pump. Turn control dial to 0. Open Docking Station cap. Stand back to let any chlorine fumes dissipate.

Remove colored tabs by grabbing on to the lip of one cap with a pliers and pulling up until cap releases. Repeat the process for the other cap.

2.



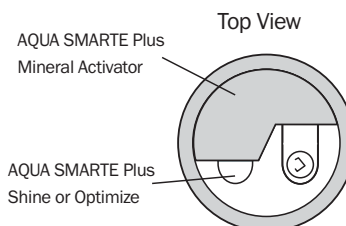
PAC TOWERS

Invert pac over and shake slightly until ingredients fall into tower areas.

3.



Line up the small leg of the AQUA SMARTE Plus Shine or Optimize with the small opening in the AQUA SMARTE Plus Mineral Activator and the large leg with the large opening. Lower pac into the AQUA SMARTE Plus Mineral Activator until secure.



4.



Replace cap by hand only.
DO NOT OVER TIGHTEN.

5.

Turn control dial on AQUA SMARTE Plus Docking Station to Setting 10.

6.

Run the pump and filter for each pac according to the directions on the product label. Remove from the AQUA SMARTE Plus Docking Station when empty and discard or offer for recycling.

Using AQUA SMARTE Plus Cannonball for an Algae-Protection Guarantee

If you are not using AQUA SMARTE Plus Cannonball refer to page 18 for Using an AQUA SMARTE Plus MizerMax Pac. See AQUA SMARTE Plus Cannonball product labeling for complete directions for use (EPA Reg. No. 53735-9).

For a preventive dose add:

- One AQUA SMARTE Plus Cannonball for pools up to 15,000 gallons.
- Two AQUA SMARTE Plus Cannonball for pools between 15,000 and 30,000 gallons.

NOTE: If using directly after a shock treatment, test the water first to ensure the pH is in the proper range of 7.2-7.8 and the chlorine level is no more than 4.0 ppm. Avoid using other chemicals until this product has been circulated (filtered) for at least 24 hours.



DANGER

Never use fast dissolving chlorine tablets, liquid bleach, or calcium hypochlorite in the AQUA SMARTE Plus Docking Station.

Important: If storing AQUA SMARTE Plus Cannonball prior to use, always keep in a cool, dry place away from children and pets.

- 1.** Remove cap from the AQUA SMARTE Plus Cannonball without removing seal.

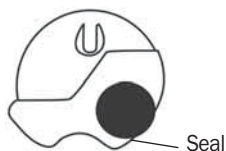


- 2.** Turn off pump. Turn control dial to 0. Open AQUA SMARTE Plus Docking Station cap. Stand back to let any chlorine fumes dissipate.



Insert upside down into center of AQUA SMARTE Plus Mineral Activator pushing down firmly on AQUA SMARTE Plus Cannonball allowing key in AQUA SMARTE Plus Docking Station to puncture seal.

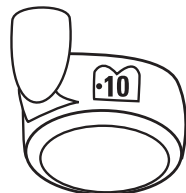
Looking down at top of bottle



- 3.** Replace cap by hand only. **DO NOT OVER TIGHTEN.**



- 4.** Turn control dial on AQUA SMARTE Plus Docking Station to Setting 10.

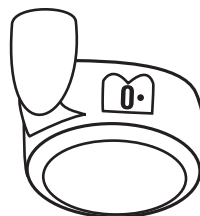


5.



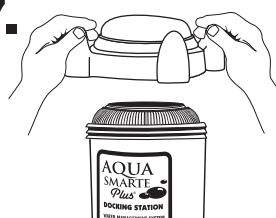
Turn pump on for 90 minutes allowing AQUA SMARTE Plus Cannonball to circulate through pool.

6.



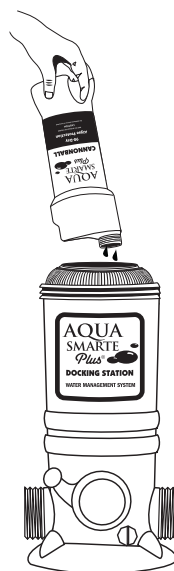
To remove expended AQUA SMARTE Plus Cannonball bottle, turn pump off and turn dial to Setting 0.

7.



Remove AQUA SMARTE Plus Docking Station cap.

8.



Lift AQUA SMARTE Plus Cannonball up and allow any water in the container to drain through the AQUA SMARTE Plus Docking Station before discarding in trash or offering for recycling. Do not reuse or refill this container.

NOTE: If water shows more than a hint of blue inside the AQUA SMARTE Plus Docking Station, replace the AQUA SMARTE Plus Docking Station cap, turn dial to Setting 10 and run the pump for one minute.

8a. If pool size requires additional AQUA SMARTE Plus Cannonball, repeat steps 1-8.

8b. When water is clear in the AQUA SMARTE Plus Docking Station, insert an AQUA SMARTE Plus MizerMax Pac according to the instructions on page 18.

Using the AQUA SMARTE Plus MizerMax Pac



AQUA SMARTE Plus MizerMax Pac is required to assure up to 50% reduction in chlorine use*. AQUA SMARTE Plus MizerMax Pac sold separately. (EPA Reg. No. 53735-2)



DANGER

Never use fast dissolving chlorine tablets, liquid bleach, or calcium hypochlorite in the AQUA SMARTE Plus Docking Station.

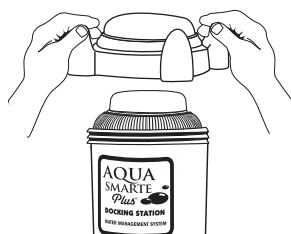


WARNING

Avoid sparks, smoking, or any open flame near AQUA SMARTE Plus Docking Station or chemicals.

IMPORTANT: Read the label on the AQUA SMARTE Plus MizerMax Pac carefully before using.

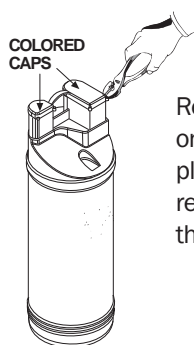
1.



Turn off pump. Turn control dial to 0.

Remove cap from AQUA SMARTE Plus Docking Station and stand back to let any chlorine fumes dissipate.

2.



Remove colored caps by grabbing on to the lip of one cap with a pliers and pulling up until cap releases. Repeat the process for the other cap.

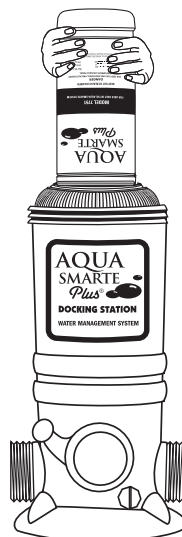
3.



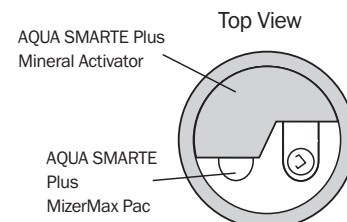
PAC TOWERS — — PAC TOWERS

Invert AQUA SMARTE Plus MizerMax Pac and shake slightly until chlorine tablets fall into tower areas.

4.



Line up the small leg of the AQUA SMARTE Plus MizerMax Pac with the small opening in the AQUA SMARTE Plus Mineral Activator and the large leg with the large opening. Lower AQUA SMARTE Plus MizerMax Pac into the AQUA SMARTE Plus Mineral Activator until secure.



5.



Replace cap by hand only. **DO NOT OVER TIGHTEN.**

6.



The chlorine pac container is made of HDPE plastic. Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Rinse thoroughly before recycling or discarding in trash.

7.



Mark your calendar ahead for the approximate replacement times for the AQUA SMARTE Plus MizerMax Pac.

Winterizing

1.



AQUA SMARTE
Plus Shine

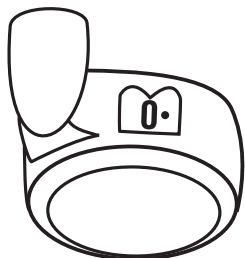


AQUA SMARTE
Plus Cannonball

Before closing your pool, refer to page 16 and follow directions for using AQUA SMARTE Plus Pool Asleep (follow the same directions as Pool Awake).

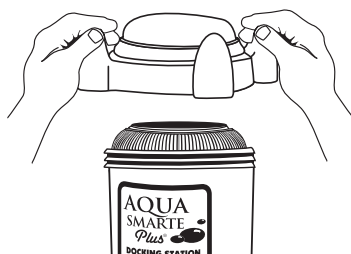
Then proceed to steps 2-7 below.

2.



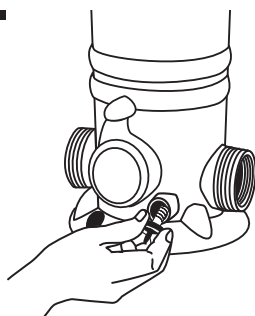
Turn pump off and turn dial to Setting 0.

3.



Remove cap.

4.



Unscrew knob from the front of AQUA SMARTE Plus Docking Station. Allow all water to drain.

5.



If AQUA SMARTE Plus MizerMax Pac still contains chlorine, wrap in plastic bag and store in shed or cool well-ventilated location away from children, pets, cars, motorcycles or anything metal that can rust, pit, etc.

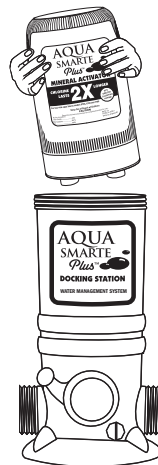
If empty, rinse and recycle.



WARNING

Avoid sparks, smoking, or any open flame near AQUA SMARTE Plus Docking Station or chemicals.

6.



Remove the AQUA SMARTE Plus Mineral Activator and discard in trash. You will hear spent media inside, however, it is no longer effective.

7.



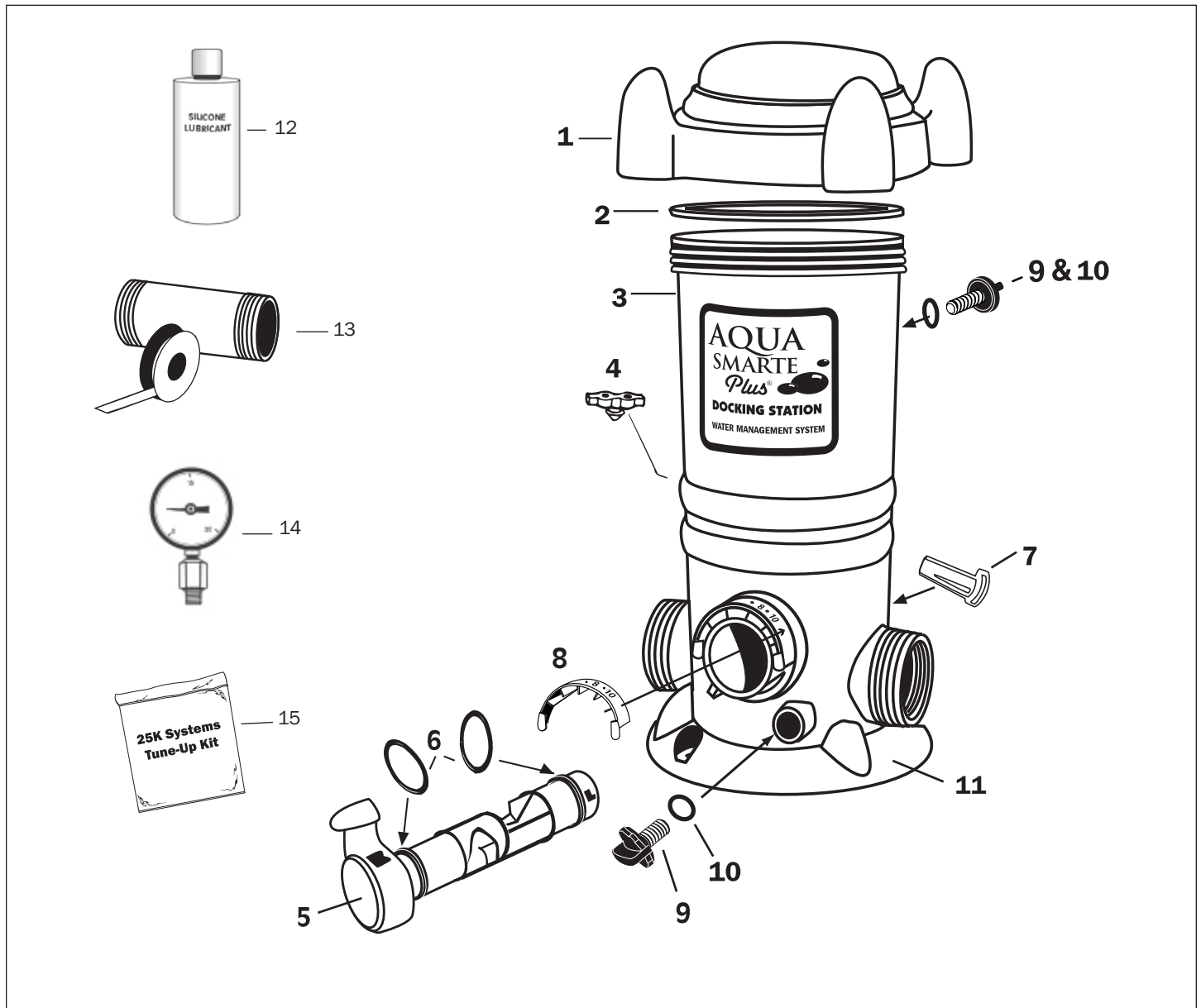
Replace the cap and knob loosely.

Troubleshooting

For more in-depth troubleshooting, go to kingtechnology.com or call King Technology at 800-222-0169.

Problem	Remedy		
1. What do I do if the water looks cloudy?	<p>1. Make sure your filtration system is working properly (i.e. clean filter, skimmer and pump basket).</p> <p>2. Make sure circulation time is adequate – increase pump</p>	<p>time if not.</p> <p>3. Make sure the pool is properly balanced. (See page 10.)</p> <p>4. Shock the water to eliminate build up of any organic matter.</p>	<p>5. Make sure pool has a free chlorine reading of 0.5 to 1.0 ppm.</p> <p>6. Check with your dealer for more information.</p>
2. What do I do if the water turns color?	<p>1. Algae may be trying to form shock the pool, increase circulation time if needed and clean the filter.</p>	<p>2. Metals in the fill water may have been oxidized. Have the pool tested. See pool dealer if a metal control product is required.</p>	<p>3. Check with your dealer for more information.</p>
3. What do I do if algae forms in or on my pool?	<p>1. Use AQUA SMARTE Plus Cannonball or an effective algicide per the directions on the bottle and brush the sides of the pool often.</p>	<p>2. Clean the filter and shock the pool with chlorine daily until water clarity returns.</p> <p>3. If you are in an area of the country that struggles with algae growth, see your dealer</p>	<p>regarding a 90-day Algae Protection Guarantee with AQUA SMARTE Plus Pool Awake!</p> <p>4. Check with your dealer for more information.</p>
4. What do I do if I am under chlorinating with the AQUA SMARTE Plus MizerMax Pac?	<p>1. If you are unable to maintain 0.5 to 1.0 ppm, first make sure there are chlorine tablets in the tower areas of the AQUA SMARTE Plus MizerMax Pac and it is installed properly. If a correction was made, test the water in 24 hours.</p> <p>2. If still low, turn the dial up one setting and test the water again in 24 hours. Continue raising the setting by one increment each day until the</p>	<p>proper reading is achieved.</p> <p>3. Shock the pool if the reading has been lower than 0.5 ppm for more than one day.</p> <p>4. Make sure pump run time is at least 6 hours on high speed (40 gpm or higher) or if not, bleed the air from the back knob each time cap is open.</p> <p>5. Contact your dealer to have your back pressure tested. If under 4 psi, consider a smaller</p>	<p>eyeball fitting in the return jet.</p> <p>6. Check for a suction side leak by looking for air bubbles in your pump basket or at the return jet. Contact dealer for help in correcting this situation.</p> <p>7. Contact King Technology's Customer Service Department at 800-222-0169.</p>
5. What do I do if I am over chlorinating with the AQUA SMARTE Plus MizerMax Pac?	<p>1. If the chlorine reading is over 3.0 ppm, remove the AQUA SMARTE Plus MizerMax Pac from the AQUA SMARTE Plus Mineral Activator and test the water daily until the reading is down to 1.0 ppm.</p> <p>2. Reinsert the AQUA SMARTE Plus MizerMax Pac, lower the dial one setting and test the water again in 24 hours. If the reading has risen, lower the dial one setting again. Continue this process until</p>	<p>proper reading is achieved.</p> <p>3. If over-chlorinating at the lowest possible setting, consider decreasing the circulation time. Depending on your pump size, you may be circulating the water more than is necessary.</p> <p>4. Contact your dealer to have your back pressure tested. If over 8 psi consider a larger eyeball fitting in the return jet.</p>	<p>5. Check to see if the pressure relief valve is loose or missing and replace. It is a clear plastic piece approximately 1" long installed inside near the base. If loose or missing, it can provide another avenue for water to reach the chlorine.</p> <p>6. Contact King Technology's Customer Service Department at 800-222-0169.</p>

Parts List Model 7700



Included with AQUA SMARTE Plus Docking Station

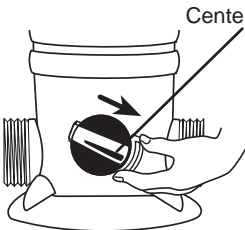
REF. #	DESCRIPTION	QTY. INCLUDED
1 & 2	Cap w/O-Ring	1
3	Body	1
4	Pressure Relief Valve	1
5, 6, 7, 8	Control Dial with O-Rings, Locking Pin and Number Plate	1
9 & 10	Knob with O-Ring	2
11	Mounting Base	1
12	Silicone Lubricant	1
13	Nipple Kit	1

Replacement parts for AQUA SMARTE Plus Docking Station

REF. #	PART NO.	DESCRIPTION
1 & 2	01-22-1424	Cap w/O-Ring
2	01-22-1922	Cap O-Ring
4	01-22-9485	Pressure Relief Valve
5, 6, 7, 8	01-22-1457	Control Dial with O-Rings, Locking Pin and Number Plate
6	01-22-1456	Control Dial O-Ring Set
9 & 10	01-22-9625	Knob with O-Ring
11	01-22-1481	Mounting Base
12	01-22-9972	Silicone Lubricant 3/4 oz.
13	01-22-1711	Nipple Kit
14	01-22-4000	Pressure Gauge
15	01-22-1470	25k Tune-Up Kit

AQUA SMARTE Plus Docking Station Maintenance

Replacing the Control Dial O-Rings

- 1.**  Center of locking pin
- In the back of the AQUA SMARTE Plus Docking Station, depress center of locking pin with a finger and pull pin out of dial.

- 2.** 
- Turn control dial back and forth as you pull it out of the housing.

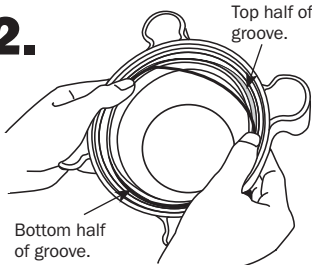
- 3.**  
- Replace both O-rings. Apply silicone lubricant that came with your AQUA SMARTE Plus Docking Station on O-rings.
- Product # 01-22-9972

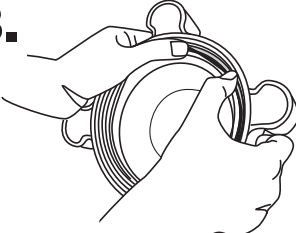
- 4.** 
- Carefully insert control dial back into housing.

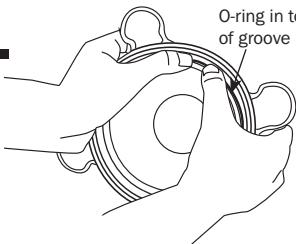
- 5.** 
- Replace locking pin by pushing it through the slots on the dial until it locks into place.


Replacing the Cap O-Ring

- 1.** Remove old O-ring.



- 2.**  Top half of groove. Bottom half of groove.
- Place new O-ring in bottom half of groove.

- 3.** 
- Place your thumbs on each side of the cap over the O-ring in the groove.

- 4.**  O-ring in top of groove
- Roll your thumbs back and forth over the O-ring while pushing upward until the O-ring falls into the top of the groove.

- 5.** 
- Lubricate O-ring every couple of months with silicone lubricant that came with your AQUA SMARTE Plus Docking Station. DO NOT USE petroleum based lubricants.
- Product # 01-22-9972

Replacing Knobs

- Front of AQUA SMARTE Plus Docking Station**  **Back of AQUA SMARTE Plus Docking Station** 
- To replace, simply unscrew old knob and replace with the new one.

For limited warranty terms and to register your product,
see kingtechnology.com/reg or call 1-800-222-0169.

Failure to register your product does not diminish
your warranty rights.

Made in U.S.A.
Patents: kingtechnology.com/IP

MANUFACTURED FOR



6000 CLEARWATER DR | MINNETONKA, MINNESOTA 55343
800-222-0169 | kingtechnology.com