



Accu-Tab® System Aquatics Manual

February 2015 Revision 7



www.accu-tab.com

1-800-245-2974



Table of Contents

Axiall Company Background	2
Accu-Tab System	
System Overview	4
<i>Accu-Tab</i> Blue SI Tablets	6
NSF Overview	7
<i>Accu-Tab</i> Chlorinator Overview—Erosion Feed	8
How the <i>PowerBase</i> Systems Work	9
Accu-Tab Chlorination System Options	
<i>Accu-Tab</i> System Models—Overview	12
Chlorinator Models—Detail	13
<i>PowerBase</i> Models—Detail	15
Installation Options	18
How to Size a System	20
Specifications	
<i>Accu-Tab</i> Tablet Specs	24
<i>PowerBase</i> Specs	25
<i>PowerBase</i> AutoCAD Drawings	28
Wiring Diagrams	30
Pump Curves	31
PowerBase Installation and Operation	
<i>PowerBase</i> Installation	34
Start-Up / O&M / Cleaning	36
Troubleshooting	38
Accu-Tab System vs. Competitive Technologies	42
Water Balance Chemistry	
Overview + Detailed Chemistry	46
Cyanuric Acid Stabilizer	49
Appendix	50
<i>PowerBase</i> Quick Reference	51
Chlorinator Delivery Rate Charts	53
Chlorinator Sizing by State	56
<i>PowerBase</i> Replacement Parts List	58
FAQs	69

NEW IN 2015...

Starting on February 16, 2015 several important changes were made to the *Accu-Tab* Systems. You'll find more detail on each change within this document:

- **Delivery rate changes**—several of the *Accu-Tab* System models have been updated to include a new sieve plate which increases the lbs/hr output of the chlorinator. See the **Sizing** section for more information.
- **Standard overflow protection**—all of the *Accu-Tab* PowerBase systems now come standard with solution tank level switches to provide an extra safeguard against solution tank overflow. *You no longer need to add this as an option.*

Axial Background

For more than 20 years, the *Accu-Tab* System has been offering simple and effective chlorination solutions for a wide range of applications in the aquatics, food processing, potable water and water to wastewater industries. Our success is a result of a strong focus on manufacturing from raw materials production through systems manufacturing testing and certification. The unique system technology we employ was developed by us and is continuously improved to meet the widest range of customer requirements. Additionally, our systems have been engineered and built to stand up to tough environments in which they are placed with minimal maintenance.

The Axial Water Treatment Products group is made up of a team of devoted sales, customer service, and technical experts. Many of these individuals have been with us since we launched the *Accu-Tab* system program and their experience allows them to address customer questions and needs head on.

Axial Water Treatment Products is a business unit of Axial Corporations a leading integrated chemicals and building products company. Headquartered in Atlanta, Axial has manufacturing facilities located throughout North America and in Asia to provide industry-leading materials and services to customers.



Accu-Tab® System Overview

The *Accu-Tab* system is the total solution for all your chlorination needs. From the smallest commercial pool installation to large-scale water parks, we manufacture high-quality tablet chlorination systems that stand up to tough water conditions and rigorous industry and government standards—safely, simply, accurately, and with minimal maintenance.

Our pioneering work in erosion chlorinators and three-inch calcium hypochlorite tablets has resulted in easy-to-use calcium hypochlorite tablet-based systems built on advanced engineering and proprietary tablet technology.



Accu-Tab System

Precisely engineered yet affordable, the robust *Accu-Tab* system is a recognized leader in chlorination. All aquatics system models are listed NSF/ANSI 50 to stand up to the challenges of commercial pool environments. Here's why so many commercial pool operators are choosing the *Accu-Tab* system over other methods of chlorination:

Safer

Simply place *Accu-Tab* tablets into the chlorinator. There are no gas leaks or bleach spills and no special containment measures or elaborate safety equipment. In addition, *Accu-Tab* tablets are manufactured to high standards of chemical purity and physical integrity.

Simpler

Unlike gas or bleach, *Accu-Tab* tablets are easy to store and handle. They are shipped in convenient 55-pound pails; each is roughly equivalent to a large drum of bleach weighing 400 pounds.

More Accurate

The *Accu-Tab* system is more consistent than bleach and easier to maintain. The system—chlorinator and tablets—automatically delivers the precise level of chlorine you need.

Rugged *Accu-Tab* chlorination systems stand up to challenging commercial environments and rigorous government requirements. NSF-listed, our tablet-based chlorinators are designed to consistently and accurately deliver the chlorine you need to kill bacteria, control algae, and destroy organic contaminants for water that's clean, sparkling, and sanitary—day after day, all season long. Water balance is easy, maintenance is reduced to once a year in most cases, and the handling, storage, and safety issues of gas and bleach are eliminated.

Applications

Clean, safer water is the primary goal for every commercial chlorination system, but each application also has specific challenges that are easily met by the *Accu-Tab* system.

Spas

Eliminates the safety and handling concerns of gas and bleach; reduces scale build-up through a scale inhibitor in our *Accu-Tab* Blue SI tablets; reduces cleaning and maintenance of the chlorinator to typically once a year.

Water Parks

Avoids the corrosion of equipment and pool surfaces; eliminates fluctuations in chlorination levels; reduces cleaning and maintenance of the chlorinator to typically once a year.



Competitive Pools

Provides consistent delivery to help reduce fluctuations in chlorination levels; avoids high TDS levels; minimizes fumes and offensive odors.

Resorts

Avoids over-stabilization; reduces product degradation (loss of chlorine strength); eliminates product waste caused by non-uniform erosion.

Municipal Pools/Spray Grounds

Reduces the frequency and amount of required water-balance adjustments; eliminates the safety and handling concerns of gas and bleach; recovers quickly from chlorine level insufficiencies.

Health Clubs/Hotels/Motels/Apartments and Condos

Avoids over-stabilization; reduces fluctuations in chlorination levels; recovers quickly from chlorine level insufficiencies.



Accu-Tab Blue SI Tablets

Axiall manufactures *Accu-Tab* Blue SI (scale inhibitor) tablets specifically formulated to help prevent scale formation inside the chlorination chamber, especially in hard-water areas.

The three-inch *Accu-Tab* calcium hypochlorite tablets are formulated to perform reliably and consistently. The tablets are compressed to exacting or proprietary specifications, not formed, ensuring their physical integrity and eliminating brittleness and extensive breakage. The resulting tablets erode at a consistent pace. And because the tablets do not contain cyanuric acid, they're ideal for use with indoor pools.

No other tablet offers all of the benefits of an *Accu-Tab* tablet.

Technology in the Tablet:

- 3 1/8" diameter x 1 3/8" tall
- Pressed using a proprietary process that minimizes breakage
- Distinguishing blue color—for safety to avoid mixing with incompatible chemicals
- NSF-listed along with chlorinator
- With scale inhibitor
- Continuous use maintains limited warranty of *PowerBase* chlorinator
- More than 20 years of proven technology behind every tablet!



NSF Overview

Manufacturers, regulators and consumers look to NSF International for the development of public health standards and certification programs that help protect the world's food, water, consumer products and environment. Its mission is to protect and improve global human health. As an independent, accredited organization, they develop standards, and test and certify products and systems. NSF also provides auditing, education and risk management solutions for public health and the environment. For more information visit www.nsf.org.

NSF International certifies flow-through chemical feeders to the requirements of NSF/ANSI Standard 50. Feeders are certified for use only with chemicals recommended by the manufacturer of the feeder and certification is void if different chemicals are utilized.



The *Accu-Tab* Commercial Pool Chlorination System is NSF/ANSI Standard 50 certified as long as it is operated using only Accu-Tab 3-inch Blue or Blue SI calcium hypochlorite tablets.

Use of any other tablets voids the System's NSF listing, putting the subject pool out of compliance with state and local health codes that rely upon NSF guidelines for automatic chlorine feed systems. It may also cause a safety issue for the facility and the patrons.



Accu-Tab Chlorinator warning label included on all units (in English, peel back for Spanish)

How *Accu-Tab* Chlorinators Work— Erosion Feed

All *Accu-Tab* Chlorinators utilize erosion feed technology. Erosion feed enables the end user to precisely control the chlorine delivery with or without a chemical controller. The chlorinator itself is made of rugged PVC and has no moving parts. Because the tablets are eroded as opposed to being soaked or dissolved, the concentration of the chlorine solution remains consistent; this results in minimal maintenance and cleaning. The faster the water is flowing through the chlorinator the higher the lbs/hr of chlorine that will be delivered to the pool. *Accu-Tab* delivery curves show the relationship between GPM flow and lbs/hr delivery.

In early 2015 the *Accu-Tab* sieve plates in some chlorinator models were updated to include a new spiral design. These new plates still utilize the principles of erosion feed, however, they enable higher delivery rates to be achieved. See the **Sizing** section for more information.



2015 sieve plate design

“Internal” Chlorinator Diagram:



Illustration Description (*Accu-Tab* Chlorinator)

1. *Accu-Tab* tablets are placed on the sieve plate in the *Accu-Tab* chlorinator.
2. Incoming untreated water enters the chlorinator from a side stream.
3. The water rises through the holes in the sieve plate to reach the tablets.
4. Tablets erode at a predictable rate according to the amount of water that enters the chlorinator; this allows for a consistent delivery rate.
5. Chlorinator effluent (treated water) is returned to the main system flow with the appropriate amount of chlorine

** Accu-Tab chlorinators cannot be pressurized. If the chlorinated solution needs to feed in to a pressurized return line then a PowerBase type system is required.*

How Accu-Tab Systems Work—PowerBase Pressure Systems

The *Accu-Tab* erosion chlorinator is the heart of the *PowerBase* chlorination system. These systems allow the chlorinated solution to be returned to the main return line of the pool using an easy to install, skid mounted, plug-and-play system.

Illustration Description (PowerBase Models 1030, 3070AT)

1. When chlorine is required, filtered water enters chlorinator feed pipe from the pool
2. The water passes through the flow meter and float valve
3. Water, metered by the float valve, fills the center section of the chlorinator
**as the level in the tank lowers the ball on the float valve drops which allows more water to enter the chlorinator*
4. Water channels through the holes in the sieve plate, eroding chlorine from the tablets
5. The chlorinated water drains over the outside edge of the sieve plate and down into the solution tank
6. The flow rate of solution is controlled by the discharge control valve
7. The solution delivery pump injects the diluted chlorine solution into the pool return line
8. When the chemical controller calls for chlorine the solution pump begins pumping the chlorinated solution in to the pool return line.
9. Overflow protection is standard on each system. If the water level in the solution tank hits the top level switch it will force the pump to run until the water level is once again below the bottom level switch in order to prevent overflowing.

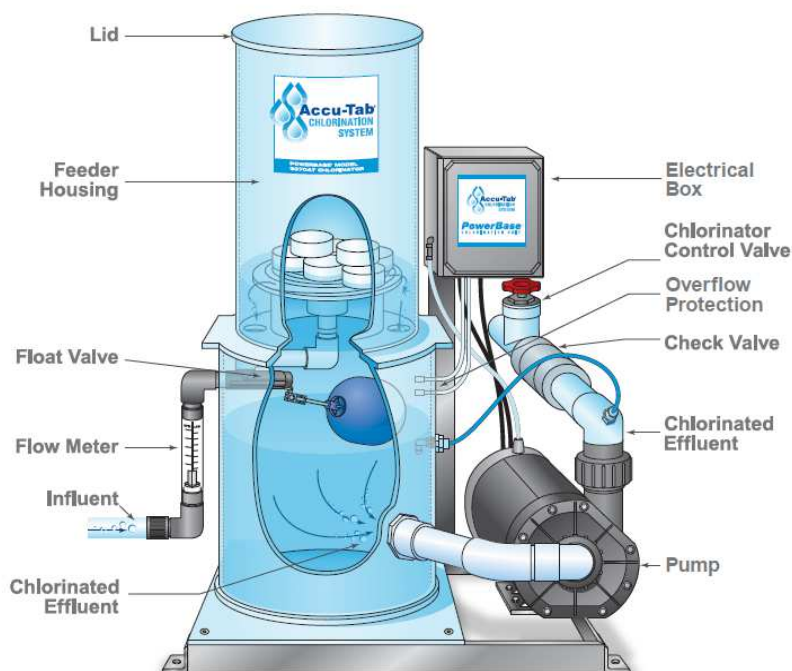
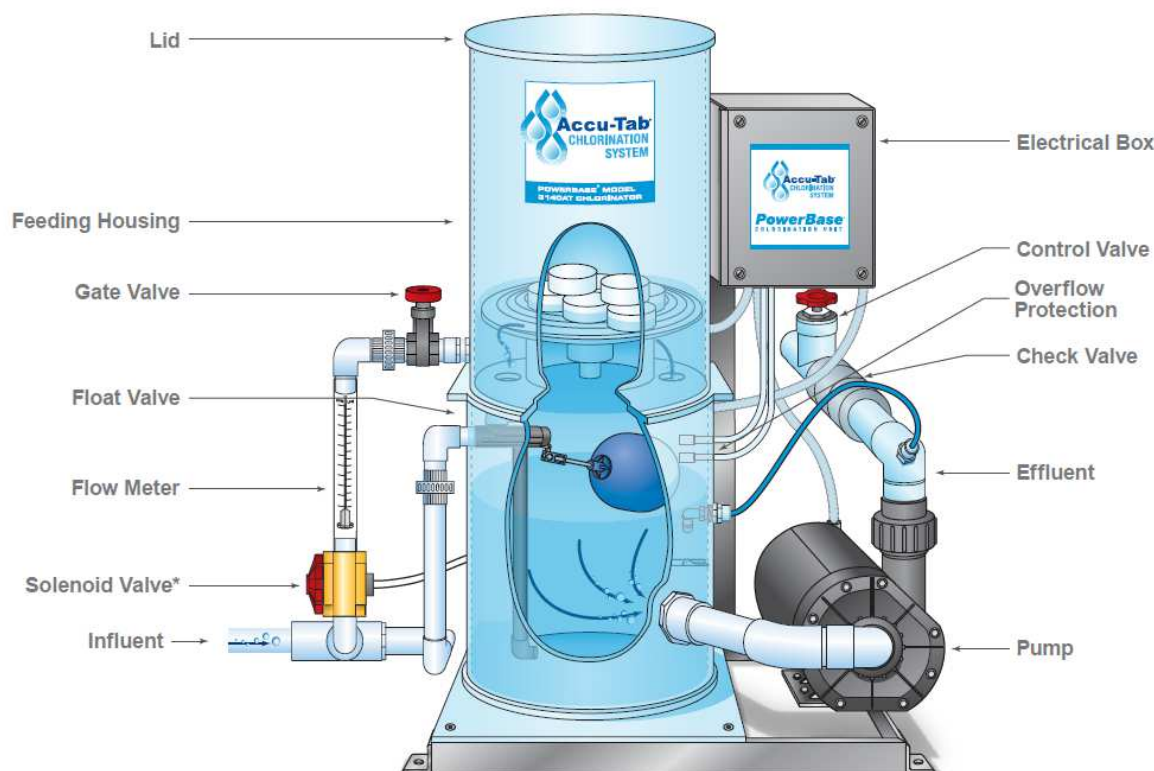


Illustration Description (*PowerBase* Models 3140AT, 3500)

1. When chlorine is required, filtered water enters chlorinator feed pipe from the pool
2. The water passes through the solenoid valve, flow meter, and inlet control valve
3. Water, metered by the inlet control valve, fills the center section of the chlorinator
4. Water channels through the holes in the sieve plate, eroding chlorine from the tablets
5. The chlorinated water drains over the outside edge of the sieve plate and down into the solution tank
6. Bypass water enters the solution tank through a modulating, level-controlled float valve
7. The solution delivery pump injects the diluted chlorine solution into the pool return line
8. When the chemical controller calls for chlorine the solenoid valve receives a signal to open the solenoid valve and the solution pump begins pumping the chlorinated solution in to the pool return line.
9. Overflow protection is standard on each system. If the water level in the solution tank hits the top level switch it will force the pump to run until the water level is once again below the bottom level switch in order to prevent overflowing. For models with a solenoid a third level switch, if activated, will close the solenoid valve to prevent additional water from entering the system.



Accu-Tab Chlorination System Options

There are a variety of installation options to fit every application and budget. The most simple installation uses only the *Accu-Tab* chlorinator and is installed using gravity feed or suction return, as discussed below. For installations where a controller is utilized or it is necessary to inject the chlorine solution in to a pressurized return line the *PowerBase* systems are preferred (as discussed on the next page). Finally the *Accu-Tab* 100 offers a cost effective solution for the smaller HMAC market.

Accu-Tab Models—Overview

Below is a list of the available Chlorinator / PowerBase model options. These units are discussed in more detail on the following pages.

Model	Max Size (gallons)		Max Delivery	Tablet Capacity	Inlet / Outlet
Chlorinator Only Models					
3012	Indoor	200,000	1.0 lbs/hr	12-lbs	¾" x 1 ½"
	Outdoor CYA	70,000			
	Outdoor no CYA	40,000			
3075	Indoor	1,120,000	10.2 lbs/hr	75-lbs	1" x 2"
	Outdoor CYA	400,000			
	Outdoor no CYA	220,000			
3150	Indoor	2,000,000	22 lbs/hr	150-lbs	1 ½" x 3"
	Outdoor CYA	700,000			
	Outdoor no CYA	400,000			
3500	Indoor	4,800,000	36.4 lbs/hr	500-lbs	2" x 3"
	Outdoor CYA	1,400,000			
	Outdoor no CYA	800,000			
PowerBase Models					
AT100	Indoor	80,000	0.8 lbs/hr	30-lbs	½" x ½"
	Outdoor CYA	60,000			
	Outdoor no CYA	30,000			
PowerBase 1030	Indoor	360,000	2.8 lbs/hr	30-lbs	1" x 1"
	Outdoor CYA	140,000			
	Outdoor no CYA	60,000			
PowerBase 3075/3070AT	Indoor	1,120,000	10.2 lbs/hr	75-lbs	1 ½" x 1 ½"
	Outdoor CYA	400,000			
	Outdoor no CYA	220,000			
PowerBase 3150/3140AT	Indoor	2,000,000	22 lbs/hr	150-lbs	2" x 2"
	Outdoor CYA	700,000			
	Outdoor no CYA	400,000			
PowerBase 3500	Indoor	4,800,000	36.4 lbs/hr	500-lbs	2" x 2"
	Outdoor CYA	1,400,000			
	Outdoor no CYA	800,000			

**Stabilizer levels assumed to be 15 ppm. Treatable gallons may vary depending on factors such as bather load, climate, water depth, stabilizer levels, etc. Gallon ratings are recommendations only.*

Gallon ratings / chlorine delivery are applicable for units manufactured after February 16, 2015 and are based on NSF certification

Accu-Tab Chlorinators

Accu-Tab chlorinators are made of rigid PVC. With four standard sizes available there is an *Accu-Tab* chlorinator for nearly every requirement. There are no moving parts and installation is simple. *Accu-Tab* chlorinators cannot be pressurized—therefore this installation option is only available for **gravity** or **suction return** applications.

3012 Chlorinator:

For small to medium sized water features:

- 24 lb/day (1.0 lb/hr) chlorine feed rate
- 12-pound tablet storage capacity
- Inlet: 0.75", Outlet: 1.5"
- Indoor pools up to 200,000 gallons
- Outdoor stabilized pools up to 70,000 gallons
- Outdoor un-stabilized pools up to 40,000 gallons
- Dimensions: 26" H x 9" D
- Additional parts required for installation



3075 Chlorinator:

For medium sized water features:

- 245 lb/day (10.2 lb/hr) chlorine feed rate
- 75-pound tablet storage capacity
- Inlet: 1", Outlet: 2"
- Indoor pools up to 1.12MM gallons
- Outdoor stabilized pools up to 400,000 gallons
- Outdoor un-stabilized pools up to 220,000 gallons
- Dimensions: 24" H x 13" D
- Additional parts required for installation



3150 Chlorinator:

For large water features:

- 528 lb/day (22 lb/hr) chlorine feed rate
- 150-pound tablet storage capacity
- Inlet: 1.5", Outlet: 3"
- Indoor pools up to 2MM gallons
- Outdoor stabilized pools up to 700,000 gallons
- Outdoor un-stabilized pools up to 400,000 gallons
- Dimensions: 26" H x 18" D
- Additional parts required for installation



3500 Chlorinator:

For large water features:

- 874 lb/day (36.4 lb/hr) chlorine feed rate
- 500-pound tablet storage capacity
- Inlet: 2", Outlet: 3"
- Indoor pools up to 4.8MM gallons
- Outdoor stabilized pools up to 1.4MM gallons
- Outdoor un-stabilized pools up to 800,000 gallons
- Dimensions: 27" H x 30" D
- Additional parts required for installation



Accu-Tab PowerBase Systems

A true plug-and-play, this pre-packaged system includes the *Accu-Tab* chlorinator, solution delivery pump, solution tank with float valve, flow meter, check valve, inlet and discharge control valves, solenoid valve (select models) and overflow protection (select models). The system requires only the piping in and out, a 110v power supply for the pump, and a 110v signal supply (such as from a chemical controller). The *PowerBase* system is available in four models: 1030, 3070AT, 3140AT and 3500.

The main difference between the *Accu-Tab* chlorination system models is the amount of chlorine that each unit can deliver as well as the size of the foot print. A member of the Water Treatment team at Axial or your authorized *Accu-Tab* Specialist can help you to select the model that best fits your needs.

PowerBase 1030:

For small to medium sized water features:

- 67 lb/day (2.8 lb/hr) chlorine feed rate
- 30-pound tablet storage capacity
- Indoor pools up to 360,000 gallons
- Outdoor stabilized pools up to 140,000 gallons
- Outdoor un-stabilized pools up to 60,000 gallons
- Dimensions: 20" x 27" x 36" (h)
- 1" inlet and outlet pipe
- 1.0 HP pump



PowerBase 3070AT:

For medium sized water features:

- 245 lb/day (10.2 lb/hr) chlorine feed rate
- 70-pound tablet storage capacity
- Indoor pools up to 1.12 MM gallons
- Outdoor stabilized pools up to 400,000 gallons
- Outdoor un-stabilized pools up to 200,000 gallons
- Dimensions: 23" x 33" x 52" (h)
- 1 ½" inlet and outlet pipe
- 1.5 HP pump



PowerBase 3140AT:

For large water features:

- 528lb/day (22 lb/hr) chlorine feed rate
- 140-pound tablet storage capacity
- Indoor pools up to 2MM gallons
- Outdoor stabilized pools up to 700,000 gallons
- Outdoor un-stabilized pools up to 400,000 gallons
- Dimensions: 23" x 43" x 51" (h)
- 2" inlet and outlet pipe
- 1.5 HP pump



PowerBase 3500

For really big water features:

- 874 lb/day (36.4 lb/hr) chlorine feed rate
- 500-pound tablet storage capacity
- Indoor pools up to 4.8MM gallons
- Outdoor stabilized pools up to 1.4MM gallons
- Outdoor un-stabilized pools up to 800,000 gallons
- Dimensions: 31" x 63" x 53" (h)
- 2" inlet and outlet pipe
- 1.5 HP pump



Accu-Tab Series 100

Specially designed for the HMAC market, the *Accu-Tab* Series 100 chlorination unit has a variety of installation options to fit your installation needs while keeping your budget in mind. Plus *Accu-Tab* tablets are cyanuric acid free! The basic system includes the chlorinator, flow meter and gate valve. Installation kit options include the forced venturi kit depending on your installation requirements.

Accu-Tab 100 (AT 100)

For HMAC facilities and small water features:

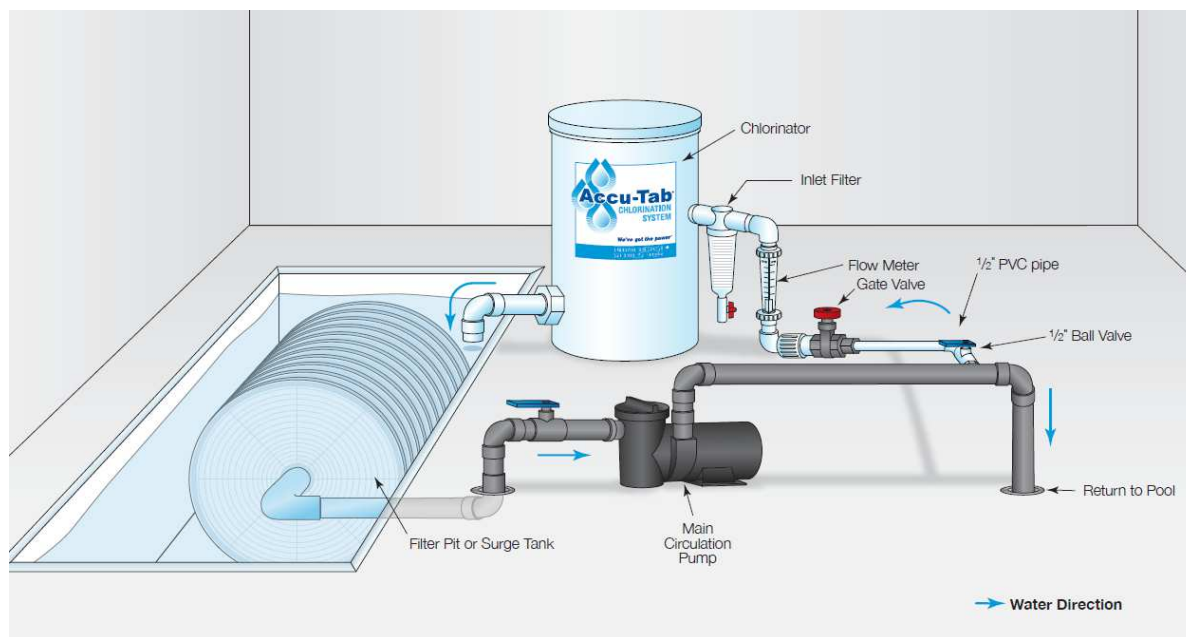
- 19.2 lb/day (0.8 lb/hr) chlorine feed rate
- 30-pound tablet storage capacity
- Indoor pools up to 80,000 gallons
- Outdoor pools up to 30,000 gallons
- Dimensions: 24" x 13"
- 1/2" inlet and outlet flex hose



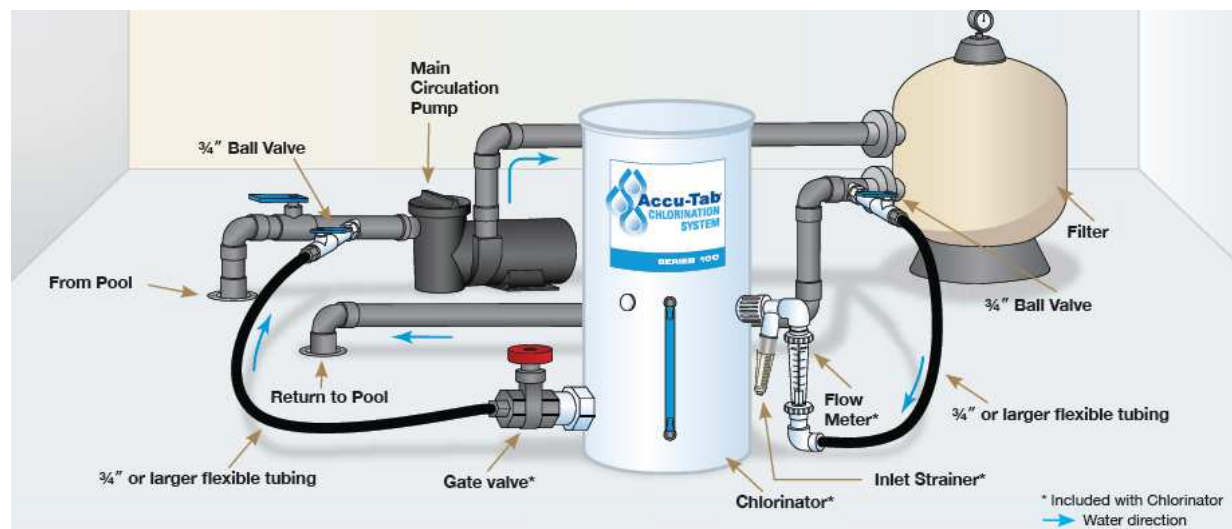
Installation Options

Chlorinator Only—Gravity Install

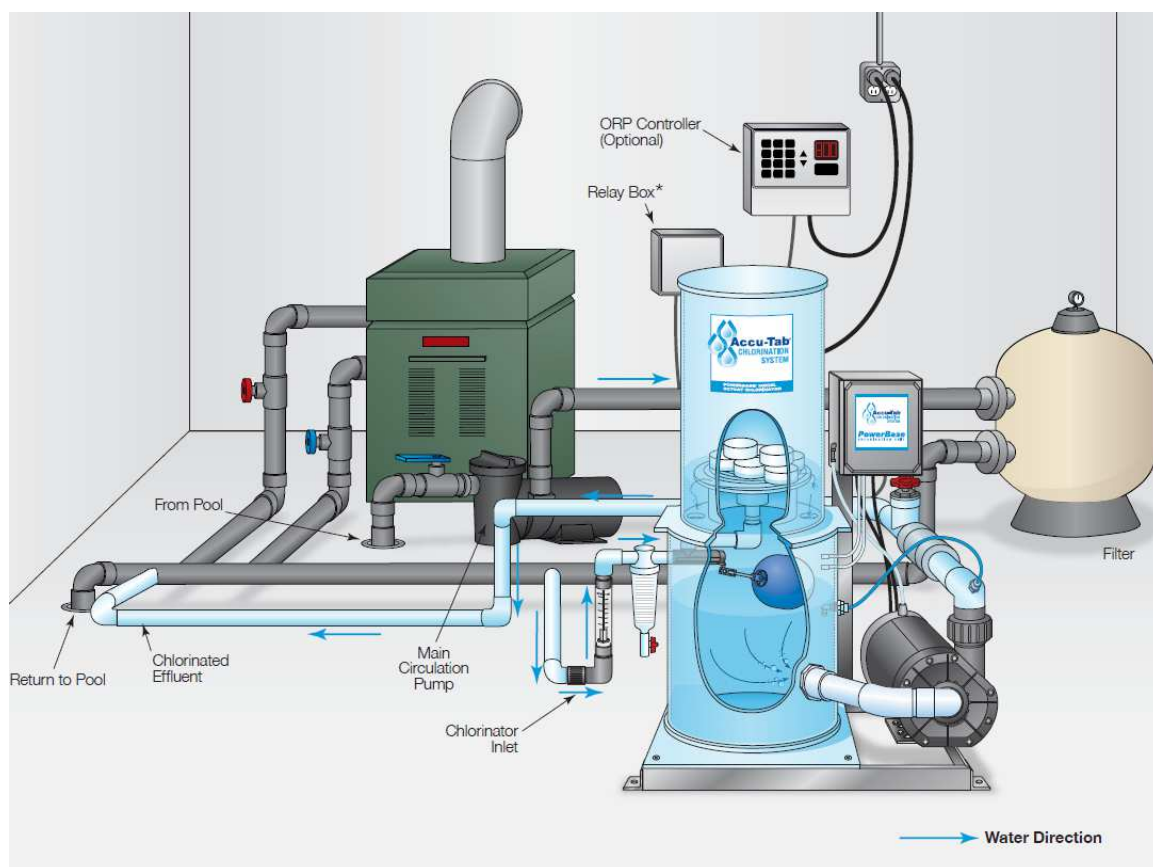
(chlorinator outlet must drain to gravity/cannot run uphill)



Chlorinator Only—Suction Return Install (Chlorinator must be above pool water level/circulation pump—models 3012, AT100, 3075 and 3150 ONLY)



PowerBase Pressure Installation



System Sizing

OPTION 1

To properly size a chlorinator, you must know your state regulations. State or local regulations can be worded a number of different ways. The calculation is slightly different depending on the statute: *Example calculations are shown on the next page.*

1. Chlorinator must be capable of **X lbs AvCl per day per 10,000 gallons** (states like California, Florida, and Nevada)
2. Chlorinator must be capable of **X ppm per day** (Texas)
3. Chlorinator must be capable of chlorinating return line at **X ppm** (New York)

OPTION 2

While it is always best to size a chlorinator based on your state regulations, the formulas below can be used as guidelines in selecting the correct model. These calculations are based on assumptions in chlorine demand and are recommendations only. *Example calculations are shown on the next page.*

$$1. \text{ lbs/day Chlorine} = \text{Gallons (pool size)} * \text{ppm} * \frac{8.331}{1,000,000}$$

$$2. \text{ To get the required lbs/hr of Chlorine: } \frac{\text{lbs}}{\text{hr}} \text{ AvCl} = \frac{\text{lbs}}{\text{day}} \text{ AvCl} * \frac{1 \text{ day}}{x \text{ hours}}$$

*where x = number of hours of operation/day

⇒ The ppm in the formula above refers to the total ppm of chlorine required for the pool per day. If actual values are not known use the following assumptions:

- 2 ppm/day for INDOOR Pools
- 8 ppm/day for OUTDOOR Stabilized Pools (10-20 ppm CYA)
- 16 ppm/day for OUTDOOR Un-Stabilized Pools
- 50—80 ppm/day for Spas

LBS OF CHLORINE ≠ LBS OF ACCU-TAB TABLETS

All delivery rates published for Accu-Tab use the 100%AvCl convention. To get the usage of actual tablets you must multiply the lbs/day or lbs/hr chlorine rating by 1.5. This is because cal-hypo is only 68% AvCl. When sizing a chlorinator it is recommended to check the lbs/day tablet usage so that the chlorinator can go 3-4 days without needing to be refilled. **See the table on the next page.**

Calculation examples: Size for a 140,000 gallon outdoor pool:

OPTION 1

1. Chlorinator must be capable of 3 lbs AvCl per day per 10,000 gallons

PowerBase 1030 has a delivery capacity of 2.8 lbs AvCl/hr so it is the appropriate model.

$$\left(\frac{3 \text{ lbs AvCl/day}}{10,000 \text{ gal}} \right) \left(\frac{140,000 \text{ gal}}{1} \right) \left(\frac{1 \text{ day}}{24 \text{ hour}} \right) = \left(\frac{3 \times 140,000}{10,000 \times 24} \right) = 1.75 \text{ lbs AvCl/hour}$$

2. Chlorinator capable of delivering 20 ppm AvCl per day

PowerBase 1030 has a delivery capacity of 2.8 lbs AvCl/hr so it is the appropriate model.

$$\left(\frac{20 \text{ lbs AvCl/day}}{1,000,000 \text{ lbs water}} \right) \left(\frac{140,000 \text{ gal}}{1} \right) \left(\frac{8.3 \text{ lbs water}}{\text{gal}} \right) \left(\frac{1 \text{ day}}{24 \text{ hour}} \right) = \text{lbs AvCl/hour}$$

$$\left(\frac{(20)(140,000)(8.3)}{(1,000,000)(24)} \right) = 0.97 \text{ lbs AvCl/hour}$$

3. Chlorinator must be capable of chlorinating at 10 ppm

This is another way of stating that the chlorinator must be capable of making the pool return water 10 ppm AvCl from 0 ppm; it must deliver 10 ppm AvCl to the water returning to the pool. Assuming a 4 hour turn over for our 140,000 gallon lazy river example:

$$\left(\frac{140,000 \text{ gal}}{4 \text{ hr}} \right) = 35,000 \text{ gal/hr}$$

$$(10 \text{ ppm}) = \left(\frac{10 \text{ lbs AvCl}}{1,000,000 \text{ lbs water}} \right)$$

PowerBase 1030 has a delivery capacity of 2.8 lbs AvCl/hr so this would be on the extreme upper end of it's capabilities. The 3070AT at a max rate of 10.2 lbs/hr is the appropriate model

$$\left(\frac{10 \text{ lbs AvCl}}{1,000,000 \text{ lbs water}} \right) \left(\frac{35,000 \text{ gal}}{\text{hr}} \right) \left(\frac{8.3 \text{ lbs}}{\text{gal}} \right) = 2.9 \text{ lbs AvCl/hr}$$

OPTION 2

1. LBS/DAY Chlorine using generic calculation

Assuming an outdoor stabilized pool using 8 PPM/day Chlorine:

$$\left(\frac{140,000 \text{ gal}}{1} \right) \left(\frac{8 \text{ ppm}}{1 \text{ day}} \right) \left(\frac{8.3 \text{ lbs}}{\text{gal}} \right) \left(\frac{1}{1,000,000 \text{ ppm}} \right) = 9.3 \text{ lbs AvCl/day}$$

2. LBS/HR Chlorine calculation

Assuming the pools runs for 10 hrs/day:

$$\left(\frac{9.3 \text{ lbs AvCl}}{1 \text{ day}} \right) \left(\frac{1 \text{ day}}{10 \text{ hrs}} \right) = 0.93 \text{ lbs AvCl/hr}$$

To get tablet usage: $\left(9.3 \frac{\text{lbs AvCl}}{\text{day}} \right) \left(\frac{1.5 \text{ lbs tablets}}{1 \text{ lb AvCl}} \right) = 14 \frac{\text{lbs AccuTab tablets}}{\text{day}}$

In addition to checking the lbs/hr or lbs/day AvCl rating when sizing a chlorinator it is recommended to check the lbs/day tablet usage so that the chlorinator can go 3-4 days without needing to be refilled.

Multiply lbs of AvCl by 1.5 to calculate the tablet usage—then check the table below for the capacity of each chlorinator!

The following table shows the NSF-50 rating for each *Accu-Tab* Model:

Applicable for models manufactured AFTER February 16, 2015

Model	Max Delivery/Day	Max Delivery/hr	Tablet Capacity
AT100	19 lbs/day	0.8 lbs/hr	30-lbs
3012	24 lbs/day	1.0 lbs/hr	12-lbs
1030	67 lbs/day	2.8 lbs/hr	30-lbs
3070 / 3075	245 lbs/day	10.2 lbs/hr	75-lbs
3140 / 3150	528 lbs/day	22 lbs/hr	150-lbs
3500	874 lbs/day	36.4 lbs/hr	500-lbs

** Values based on 2015 NSF Certification data*

Accu-Tab Blue SI Tablet Specifications

1.Manufacturer. The tablets shall be calcium hypochlorite 3 ⅛" *Accu-Tab* Blue SI tablets manufactured by Axiall Corporation, and shall be NSF Standard 50 listed.

2.Packaging. The tablets shall be packaged in 6 ½-gallon plastic pails containing 55 pounds by weight.

2.Technical Properties

Chemical Name:	Calcium Hypochlorite
Chemical Formula:	$\text{Ca}(\text{OCl})_2$
Dimensions:	3 ⅛" diameter x 1 ⅜" tall
Weight:	325 grams, nominal
Color:	White w/blue colorant
Additives:	0.25% scale inhibitor

4.Chemical Assay of Cal-Hypo:

Active Ingredient, Calcium Hypochlorite,	68% nom.
Other Ingredients,	32%
Minimal Available Chlorine,	65%

5.NSF Certification The tablet and chlorinator shall be NSF/ANSI Standard 50 listed as a combination only. Other combinations shall not be acceptable.



PowerBase System Specifications *(For AT100 Specs contract your Axiall Representative)*

General Description

The system shall be designed to feed low concentrations of calcium hypochlorite in solution intermittently or continuously as required for pool and spa applications. The system shall be a single pre-assembled, package unit with a welded aluminum frame consisting of chlorinator, electrical box, centrifugal pump, and balance tank for ease of installation and operation. The system shall be the PowerBase Model _____ by Axiall Corporation. Only Accu-Tab® Blue SI calcium hypochlorite tablets by Axiall Corporation shall be used, with the patented solution modifier and blue colorant added for safety (to help prevent accidental mixing with other chemicals).

The base proposal requires furnishing equipment as specified herein, though substitutions will be considered. The bidder is cautioned that substitutions must meet the quality and operational requirements of each feature specified in Section 1.02 below. Batch systems with pressure mixing components producing chlorine concentrations exceeding the limits of the specifications will not be considered.

Any system offered shall use an NSF Standard 50 listed erosion feeder and tablet combination, and shall be capable of meeting all requirements of the Health Department having jurisdiction over the installation.

System Features

- a. A maximum chlorine solution level of 0.1% (1000 ppm) shall be maintained to prevent calcification in system components. Systems producing chlorine concentrations higher than 0.1% shall not be acceptable.
- b. Delivery shall be by erosion feed technology to control accurate and consistent concentration limits in the chlorine treatment solution. Soaking type, spray and/or vortex technology systems shall not be acceptable.
- c. The chlorinator shall automatically and continuously feed a limited quantity of chlorine in solution as needed; when the system is not running, no more chlorine than that amount which can be fed in one minute or less shall be left in the tank to prevent dilution. Batch systems preparing excess quantities of solution for delivery over an extended period shall not be acceptable.
- d. A centrifugal pump wired to the system electrical box shall feed freshly mixed chlorine treatment solution only as required for maximum efficiency. Batch systems requiring the use of a metering pump or pumps to feed pre-prepared standing solution shall not be acceptable.
- e. All piping in the chlorinator unit shall be Schedule 40 PVC. Systems with flexible tubing shall not be acceptable.

System Components

- a. **Tablet Chlorinator.** Accu-Tab® chlorinators by Axiall Corporation are designed exclusively for Accu-Tab® Blue SI calcium hypochlorite tablets by Axiall Corporation. Tablets

are placed on a sieve plate inside the chlorinator; as water flows across the sieve plate, the tablets erode at a rate proportional to the flow rate.

b. Inlet Water Supply Connection.

Model 1030	1" FNPT	10 GPM required
Model 3070AT	1 ½" FNPT	30 GPM required
Model 3140AT	2" FNPT	60 GPM required
Model 3500	2" FNPT	60 GPM required

c. Inlet Solenoid Valve. Opens and closes on command when the system receives a signal. 110 VAC required from chemical controller. Applicable to models 3140AT and 3500.

d. Inlet Water Strainer. A strainer to protect chlorinator components from start-up debris and sand from broken filter laterals.

e. Flow Meter. A rotameter (flow through) flow meter, measuring the flow of the water-eroding stream to the chlorinator.

f. Inlet Flow Control Valve. PVC gate valve mounted in line with the flow meter allows operator to adjust flow of water-dissolving stream. Applicable to models 3140AT and 3500. This valve is located on the discharge of the 1030 and 3070 models.

g. Solution Tank. PowerBase 3500 made of HDPE, all others made of PVC. Capacities:

Model 1030	7 gallon
Model 3070AT	22 gallon
Model 3140AT	22 gallon
Model 3500	30 gallon

h. Primary Solution Tank Level Control (Float Valve). Made from Schedule 80 PVC and 316L stainless steel.

- 1030/3070AT Models: this float valve meters the flow through the chlorination system. The float valve opens or closes to maintain the pump rate as it is manually throttled. ¾" for the 1030, 1" for the 3070AT
- 3140AT/3500 Models: this 1" float valve meters the tablet by-pass flow. The by-pass stream balances the variation in the water-dissolving stream. The float valve opens or closes to maintain the pump rate as it is manually throttled.

i. Secondary High Level Solution Tank Control. Prevents the solution tank from overflowing. High level: when activated, a switch opens the circuit to the solenoid valve, causing the solenoid valve to close. Applicable to models 3140AT and 3500.

j. Solution Delivery Pump. Delivers chlorinated solution to the return line. A single-stage centrifugal pump is provided for systems with pressures up to 20 PSIG. (For systems requiring a discharge pressures greater than 20 PSIG, a custom selected pump shall be utilized.)

k. Solution Injection Pump Air Bleed. Used to prime the pump at start-up, or at any time, if necessary.

- l. **Overflow Protection.*** Two level switches in the upper portion of the solution tank will run the pump from high to lower level to prevent system overflow.
- k. **Backflow Prevention.*** A PVC check valve prevents reverse flow of water into the chlorinator system.
- l. **Discharge Control Valve*** (manual). Used to balance system output water flow with system input water flow.
- m. **Aluminum Frame.*** Type 6061-T.
- n. **Electrical Enclosure***
- o. **Outlet Connection.***

Model 1030	1" NPT
Model 3070AT	1.5" NPT
Model 3140AT	2" NPT
Model 3500	2" NPT

Optional Equipment

- a. **High Pressure Pump.** On systems requiring unit discharge pressures greater than 20 PSIG.
- b. **Inlet Booster Pump.** For use when there is insufficient inlet water flow/pressure to the Chlorinator.
- c. **Low Level Protection.** Low level switch to add protection from pump running dry. When added in addition to the new standard overflow protection it is equivalent to the original HHL option.
- d. **Constant Run Pump.** Allows pump to run at all times to minimize clogging in high scale forming installations. Includes an on/off switch on the electrical panel. Model 3140 limited to 30-35 gpm. Not available for 1030/3070AT models.
- e. **Inlet pressure Regulator.** Required if inlet pressure exceeds 15 psi. Model 1030 only.

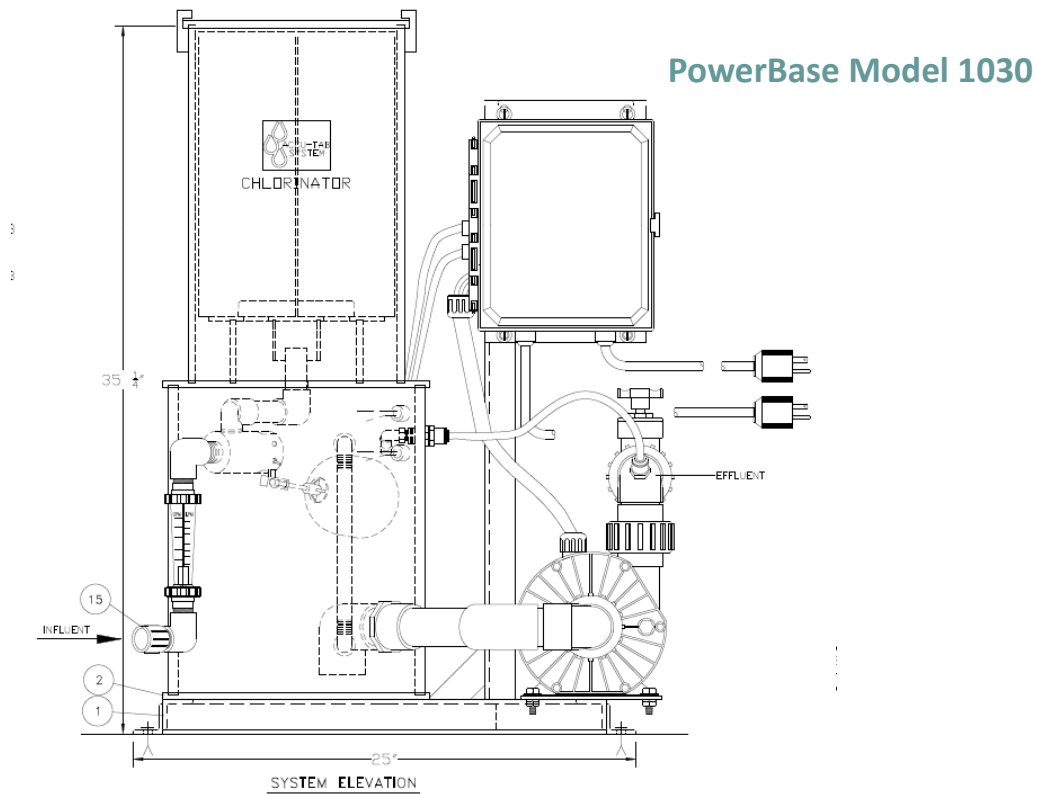
Electrical Requirements

Two electrical circuits are required for operation: (1) 110v 15 amp power, and (1) 110v control circuit from a pool controller.

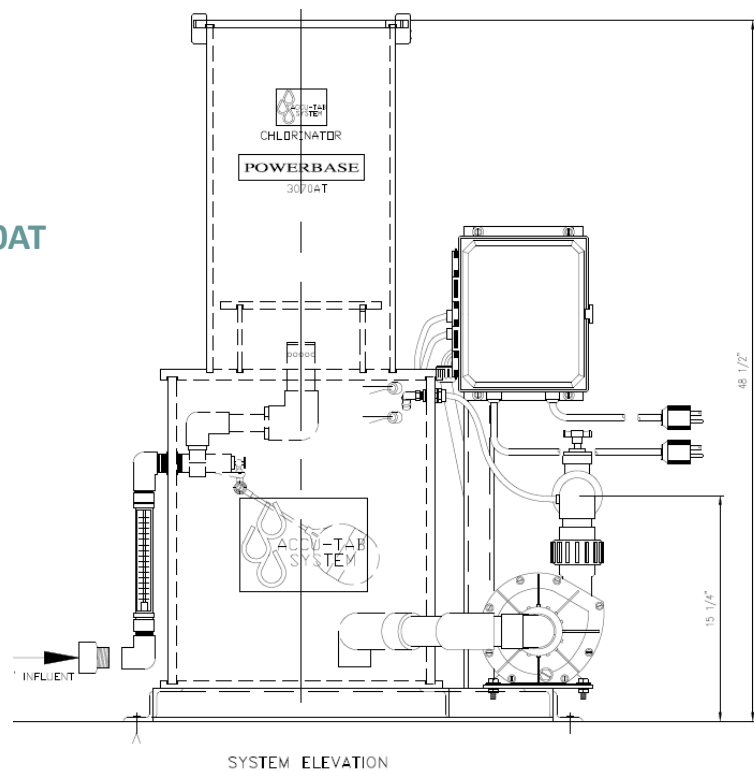
Warranty

The manufacturer shall guarantee in writing that this unit, if operated in accordance with written instructions given and accepted by the Owner, will perform in complete accord with the specifications. All components will be warranted against manufacturers' defects for twelve (12) months from its original installation date.

PowerBase System Drawings *Contact your Axial representative for CAD/PDF files*

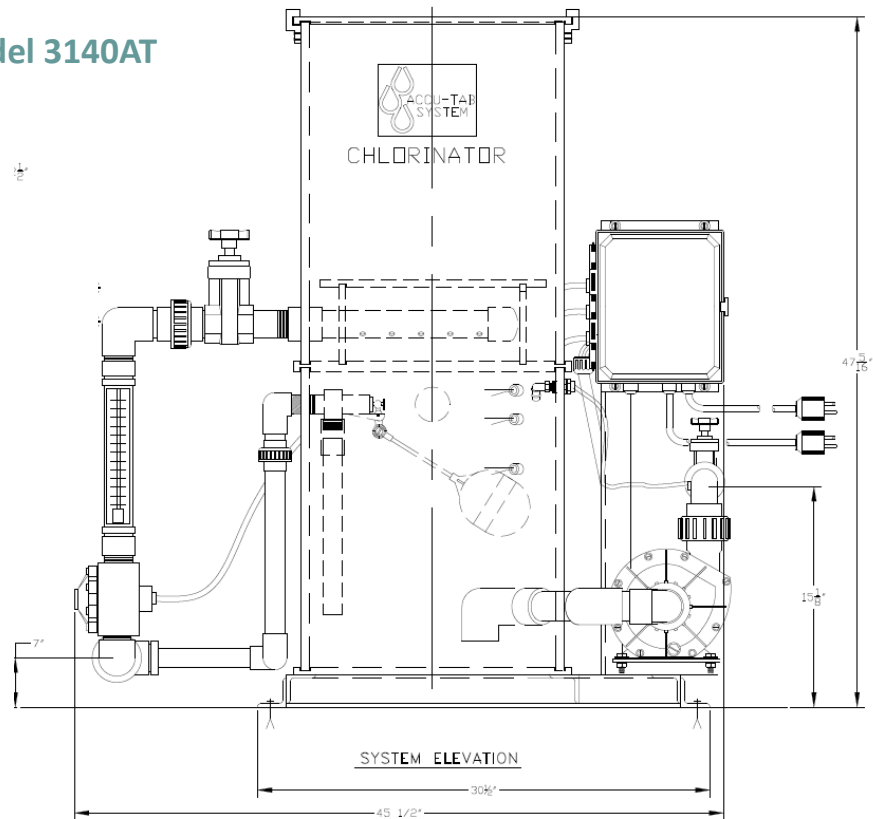


PowerBase Model 3070AT

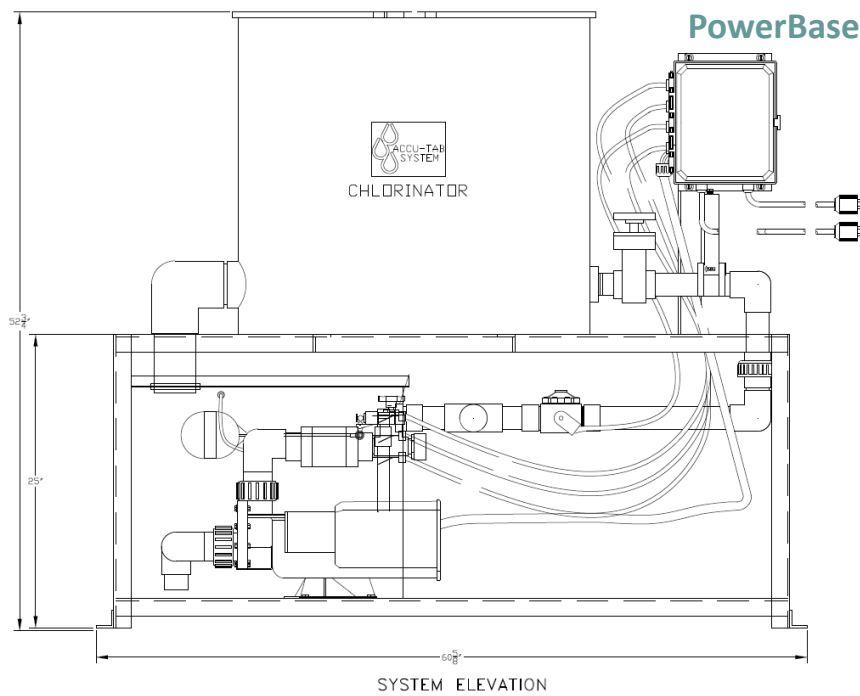


PowerBase System Drawings *Contact your Axiall representative for CAD/PDF files*

PowerBase Model 3140AT



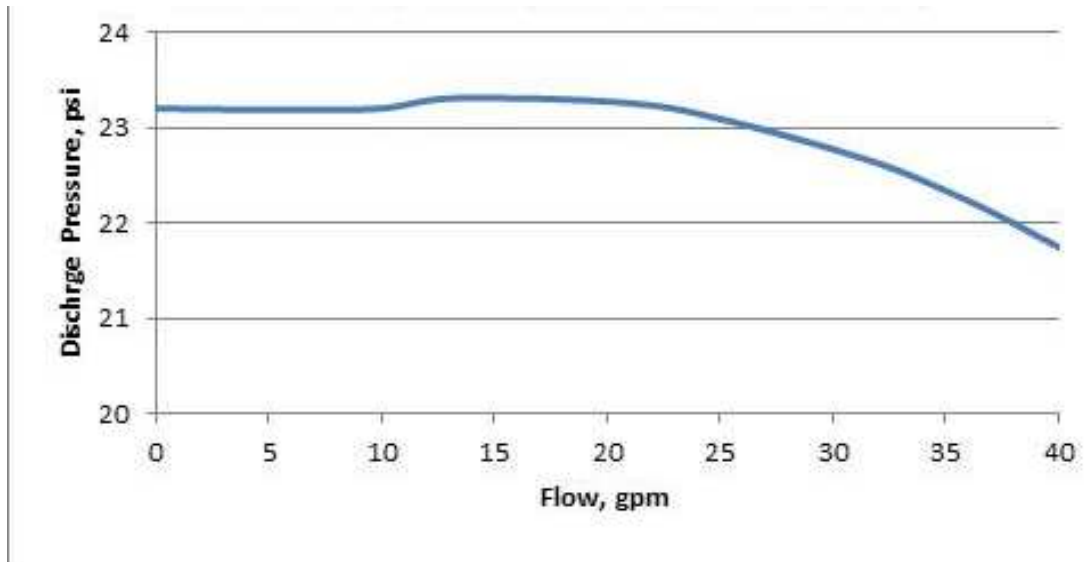
PowerBase Model 3500



PowerBase Pump Curves

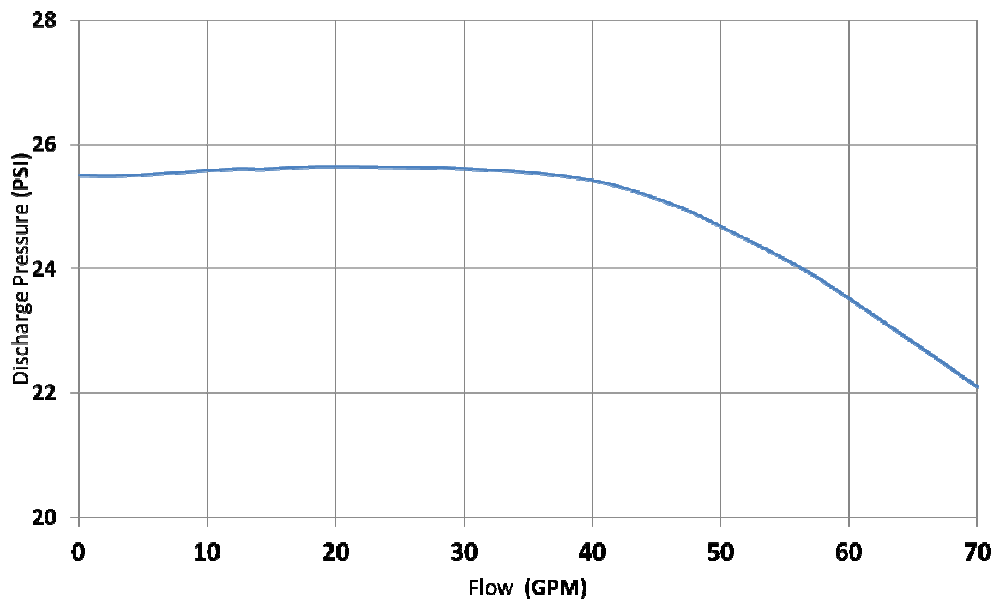
PowerBase Model 1030 ONLY

Hayward PPAP 1000 (1.0 HP) Pump Performance



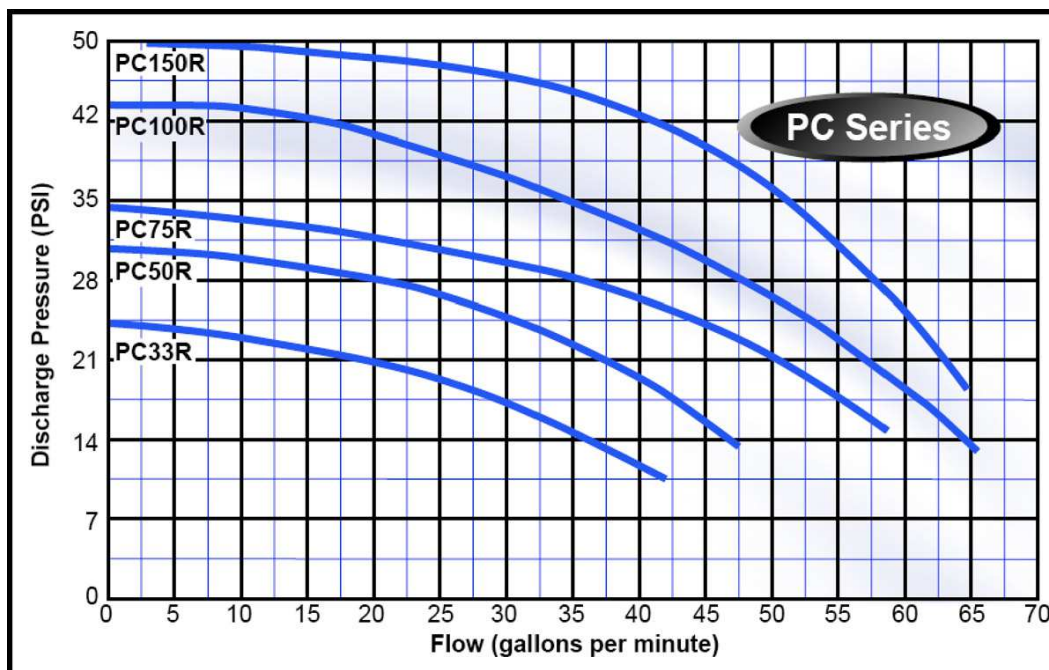
All Other PowerBase Models

Hayward PPAP 1500 (1.5 HP) Pump Performance



OPTIONAL High Pressure Pump

Webtrol Pump Performance



Webtrol Delivery Curve

PC100R = 1 HP

PC150R = 1.5HP

Installation Instructions (*PowerBase* Systems excluding AT100)

1. Uncrate, remove from pallet, check for damage that may have occurred during shipping.
2. Position *PowerBase* system in adequately ventilated area and on level ground. If the proposed spotting area is in area subject to standing water, then system should be raised above standing water. Adjust Leveling Bolts as necessary.
3. All systems are tested in full operation at the factory; however fittings may loosen during shipping; hand-tighten all fittings and pipe unions as necessary.
4. Use the proper piping on the chlorinator inlet and outlet piping to ensure ample supply of water.
5. Install isolation valves at main system connections. Quarter-turn ball valves are suggested.
(not included)



6. The provided Discharge Check Valve & Discharge Control Valve MUST be installed on the discharge line from the chlorinator.



Inlet



Outlet

7. Connect cords to proper power source and controller source. Plugs are labeled "Controller" and "120 Volt"



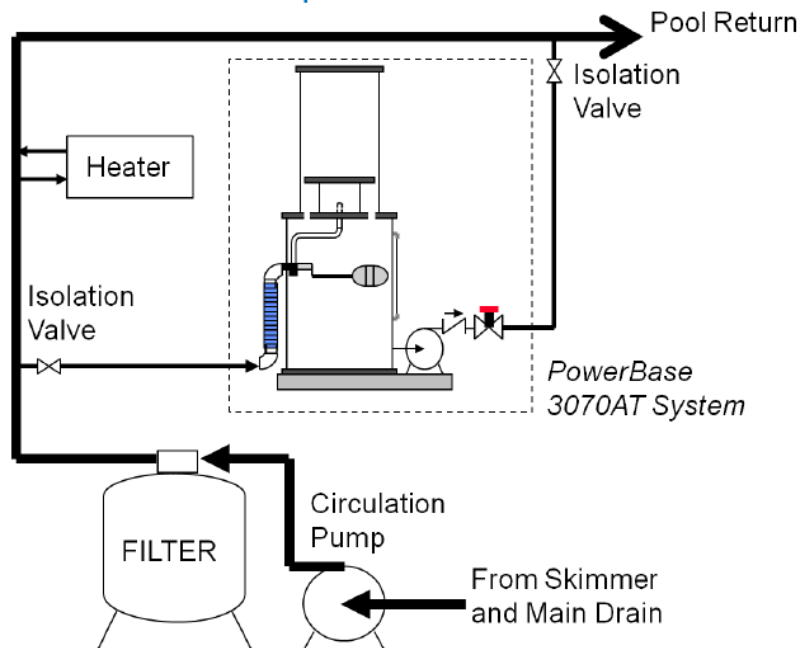
8. Once the power and water input and output connections are in place, open isolation valves and check for leaks. Supply water will begin filling the tank through the float valve. This will automatically prime the pump. (Any air initially in the pump will vent into the solution tank through the blue prime line.)

9. Turn system on using the chemical controller
10. Open the pump discharge valve slightly to start water flow through system.
11. Open inlet valve and set to desired flow rate.
12. Slowly, and in small increments, continue to open the discharge valve, and adjust inlet valve as necessary to get desired inlet flow.
13. Make incremental changes to the discharge valve until the tank water level drops and stabilizes at approximately $\frac{3}{4}$ tank level. The level is shown on the sight tube in most models



14. Turn the system OFF and ON several times, allowing it to operate for several minutes each time. Check all connections for leaks; make sure the delivery pump suction always remains covered with water.
15. To begin chlorinating, remove the chlorinator lid and fill the Chlorinator with ACCU-TAB® Blue SI Tablets.
16. Check the system daily for leaks and proper operation of all components.
17. Adjust the flow rate through the chlorinator by adjusting the chlorinator adjustment valve.
(Depending on the model this valve may be located on the inlet or discharge of the PowerBase system)
18. Using the delivery rate charts shown in the Appendix of this document set the GPM flow rate on the PowerBase system flow meter to meet the lbs/hr chlorine delivery rate required. See Sizing section for more detail.

Installation Example:



Start Up Instructions (*PowerBase Systems*)

1. Close the discharge control gate valve.
2. Open the feed and discharge isolation valves. Water will begin to fill the solution tank.
3. When water stops flowing, switch the system "ON" using the chemical controller. The pump will circulate water through the blue tubing.
4. Begin opening the discharge gate valve to start flow in and out of the system.
5. Determine the maximum inlet flow rate by continuing to open the discharge gate valve in small increments. Remember to allow a few minutes each time to allow the flow meter to stabilize. If pump loses prime, maximum inlet flow has been exceeded. Shut down system for a few minutes (which will prime the pump), close back on the discharge gate valve and restart the system. Continue this process until the maximum inlet flow is determined.
6. Adjust flow through feeder using the discharge gate valve. The chlorine delivery is determined by the flow rate through the chlorinator. Use the graph above to determine proper flow rate. NOTE: After adjusting the discharge valve, the flow meter will take a few moments to stabilize.
7. Check all piping for leaks.

Operation Instructions (*PowerBase Systems*)

1. Remove lid from chlorinator and fill with the appropriate amount of Accu-Tab Blue SI tablets. Add no more than the amount of tablets that will be used within one week.
2. Check pool water for desired chlorine level and adjust flow through chlorinator as needed.
3. Tablets may be added while the system is running. Take care to protect eyes, skin, clothing and other equipment from splashing. Do not inhale fumes.
4. Replace lid.

System Cleaning

Over time the chlorination system may develop a build-up of scale. This should be cleaned on a periodic basis, up to twice per year. If scale formation is severe, more frequent cleanings may be necessary. Cleaning may be accomplished by soaking the chlorinator with a dilute acid solution according to the instructions below. Ensure that the Check Valve and Float Valve are cleaned every 4-6 months in order to maximize system performance over time.

NOTE: Addition of muriatic acid may lower the pH of the pool water

Preparation for cleaning

1. Prepare 2 gallons of weak acid solution by adding 1 quart of muriatic acid to 2 gallons of water. ALWAYS ADD ACID TO WATER, NOT WATER TO ACID!
2. **Always use** appropriate safety equipment while servicing the unit or handling chemicals.
3. Clean the feeder in a well-ventilated area. Chlorine gas may be released during the cleaning process!

Cleaning procedure

1. Turn system off.
2. Open lid, remove all tablets. Use proper protective equipment when handling chemicals.
3. Switch system on to begin flushing the system.
4. Wash out the feeder with a hose to remove remnants of tablets and loosen scale.
5. Operate system until normal solution tank level is achieved. Switch system off.
6. Close inlet and outlet isolation valves.
7. Very carefully, pour the acid into the upper chlorinator to dissolve scale. It may be necessary to pour directly on the inside walls to remove any scale above the water level. Always add acid to water, never add water to acid.
8. Let soak for 30 minutes. As acid dissolves scale, carbon dioxide will be released, and foaming will occur. If any tablets were left in the feeder, chlorine gas may also be released.
9. Turn system on to start acid circulation through the blue tubing. Circulate for 10 minutes.
10. Open all valves to begin purging acid from system.
11. Wash the walls and sieve plate of the feeder with a hose to remove all acid residue. Chlorine gas may be released if any acid remains in the system.
12. Allow feeder to flush water for 30 minutes. Turn system off. System is ready for operation.

Winterizing

1. Clean chlorination system following instructions above.
2. Close inlet isolation valve and operate pump until no more water can be pumped out.
3. Shut system down and close the outlet isolation valve.
4. Siphon any remaining water from the solution tank.
5. Remove any debris from the chlorinator or solution tank.
6. Open the bottom drain on the pump, drain water from feed and discharge lines.
7. Make sure no water remains in the pump, chlorinator, pipe line, or solution tank to prevent freezing over the winter.

Troubleshooting Guide

- **Solution Tank fills and continuously overflows when system shuts down.**

- 1. Solenoid Valve has failed in the open position (PowerBase Models 3140 and 3500 only)**

- a. Close inlet isolation valve to verify that the Solenoid Valve is still open (i.e. leaking).
- b. Carefully disassemble the Solenoid Valve to check for debris.
- c. Pay special attention to the very small equalization orifices. If they get plugged, the solenoid can stay open even after the magnet has disengaged.
- d. Reassemble the Solenoid Valve, and open isolation valve.
- e. If overflowing continues, replace solenoid valve or rebuild using rebuild kit option.

- 2. Discharge Check Valve has failed in the open position**

- a. Close Discharge isolation valve to verify that it is the Discharge Check Valve leaking.
- b. Disassemble the Discharge Check Valve to inspect for debris or scale.
- c. If scale is present, clean with a dilute acid solution.
- d. Reassemble the Discharge Check Valve making sure it is in the proper orientation and open the isolation valve.
- e. If overflowing continues, replace Discharge Check Valve.

- 3. Float Valve has failed in the open position**

- a. Remove Chlorinator Lid from the Solution Tank and verify that the Float Valve moves freely (up and down).
- b. If the Float Valve does not move freely, take it apart and clean all rubber parts or replace plunger.
- c. Replace Float Valve if rubber parts are damaged.

- **Solution Tank fills and overflows slightly, but does not continue indefinitely.**

Level in the Solution Tank is too high during operation. Slightly open up the Discharge Control Valve to increase the flow rate through the Solution Delivery Pump. Refer to “Operating and Maintenance Instructions” section for Solution Tank leveling instructions or adjust float valve to operate at lower level.

- **Solution Tank overflows when system is running**

- 1. The system is not balanced.** Refer to “Operating and Maintenance Instructions” section for Solution Tank leveling instruction.

2. High Level Switch may have failed

- a. Make sure the High Level Switch can toggle freely: you should hear the Solenoid Valve “snap” as you toggle the switch. Or using a multimeter check the switch for continuity open and close circuit.
- b. Make sure the High Level Switch is positioned “up and down”. If it is positioned incorrectly, a high water level will not toggle the switch
- c. Clean or replace High Level Switch.

- **Solution Tank continually runs low level/empty, causing Solution Delivery Pump to lose prime.**

1. Float Valve not operating properly

- a. Remove Chlorinator Lid from the Solution Tank and verify that the Float Valve moves freely.
- b. If the Float Valve does not move freely, take it apart and clean all rubber parts or replace plunger.
- c. Replace Float Valve if rubber parts are damaged.

2. Solenoid Valve failure (PowerBase Models 3140 and 3500 only)

- a. Check flow rate on Flow Meter.
- b. If no flow, then check for power to Solenoid Valve.
- c. If no power, check electrical system. Refer to Electrical Schematic.
- d. If power checks out, close inlet isolation valve, disassemble the Solenoid Valve and check for debris and plugged orifices.
- e. If no debris, then Solenoid Valve may be faulty.
- f. Replace or rebuild Solenoid Valve.

3. Improper Solution Tank leveling

- a. The Discharge Control Valve may be open too much, allowing too much flow through the pump
- b. Refer to “Operating and Maintenance Instructions” section of this manual for Solution Tank leveling instruction.

- **Solenoid cycles ON and OFF while system is running. (PowerBase Models 3140 and 3500 only)**

1. System is not balanced. Slightly open up the Discharge Gate Valve to increase the flow rate through the Solution Delivery Pump or reduce flow to the chlorinator.

2. Refer to Operating and Maintenance Instructions section for Solution Tank leveling instruction.

- **PowerBase not chlorinating properly**

- 1. Solution delivery pump does not pump when analyzer calls for chlorine.**

- a. Check analyzer output signal voltage—120 Volts. To confirm that the problem is not the analyzer, unplug the “Controller” plug from the analyzer and plug it directly into the wall. If the pump starts, then the analyzer may be responsible for the malfunction.
- b. Check pump contactor voltage—120 volts. Confirm that the contactor “pulls in” when the analyzer signal is engaged. If the contactor “pulls in” and the pump does not start, confirm a 120 volt potential from the bottom left contactor to #2. The pump may be burned out.

- 2. Solenoid valve does not open to allow flow through the chlorinator (PowerBase Models 3075, 3140/3150 and 3500 only)**

- a. Check analyzer output signal voltage—120 Volts. To confirm that the problem is not the analyzer, unplug the “Controller” plug from the analyzer and plug it directly into the wall. If the solenoid opens, then the analyzer may be responsible for the malfunction.
- b. Confirm that the coil is “actuating.” The coil may be burned out—evident by a tar-like substance oozing out of the coil body. If it warms up and the does not work, then the problem is inside the solenoid valve.
- c. Take solenoid valve apart. Be careful not to lose the small gaskets that seal the main body to the cover. Check for debris or build-up inside the solenoid valve.

- 3. Pump is running but not pumping solution**

- a. Confirm that the solution tank is full. The pump may have lost prime. Stop and restart the unit to allow water to flow back into the pump.
- b. Discharge pressure may be too high. If the pressure is above 20 psig, the standard pump will not work.

For other questions, contact Axiall Technical Service (855-934-3570) for assistance.

Accu-Tab System vs. Competitive Technologies

Accu-Tab System vs. Liquid Bleach

Subject	Accu-Tab System	12% Chlorine Bleach
Safety	Solid chemical – no dual containment required	Dual containment required for concentrated liquid solution
Handling	55-pound(6.5-gallon) pails are nearly equivalent to 55-gallon drums	55-gallon drums weigh 555 pounds
Water quality	Calcium polishing results in clearer water	May contribute to dull water due to TDS buildup
Total alkalinity adjustments	More neutral pH require less total alkalinity adjustments	High pH adds a lot of total alkalinity to the water
pH	pH of 8.5. Less pH control required	pH of 11.2 to 13.2 Expensive pH control required
Corrosivity	Relatively dilute 100-300 ppm hypochlorite solution	Concentrated (120,000 ppm) hypochlorite solution very corrosive to pump room equipment
Water balance chemicals	Provides helpful amounts of calcium and total alkalinity	Provides no calcium; often too much total alkalinity
Chlorine strength	Shelf life of one year when stored properly: minimal strength degradation	Unstable liquid causes rapid strength degradation
Storage	68% available chlorine: compact chemical storage	12% available chlorine: bulky and cumbersome
Maintenance	Chlorinators rarely require cleaning and maintenance	Feed pumps need constant repair and tubing leaks regularly. Gas locking of pump is not uncommon.
Material compatibility	Extends life of plaster finish and friendlier to metallic parts	No benefits to plaster and may increase corrosion in equipment rooms

Accu-Tab System vs. Alternative Cal-Hypo System

Subject	Accu-Tab System	Alternative System
Design principal	High water flow rate, low chlorine concentration ~ 1000 ppm	Soaking or spraying over briquettes, high concentration chlorine ~ 10,000 ppm
Maintenance	Low concentration chlorine results in less scaling and sludge – Once per year cleaning!	Strong chlorine solution leads to faster scaling of chlorinator – Clean out sludge twice per month or more!
Flexibility	Chlorinators have a proportional 95% turn-down capability for small bodies of water	Chlorinators need costly controllers to chlorinate small bodies of water
Plumbing	Large (up to 2-inch) PVC plumbing minimizes spill potential and maintenance	Small diameter tubing can get plugged with scale from concentrated calcium hypochlorite solutions. Potential that the tubing can be pinched and cause leaks
Parts replacement	Off the shelf replacement parts – fewer parts overall	Small plastic parts are proprietary and must be purchase from dealer
Chlorinator construction	Rugged aluminum frame with schedule 40 PVC pipe. Chlorinator and pump on one skid.	Molded plastic chlorinator construction and separate pump installation
Tablet Quality	Tablets resist breakage and erode consistently	Formed small briquettes can break and crumble
Electricity use	Chlorinator solution delivery pump runs only when chlorinator is active	Booster pump runs 24 hours per day even when chlorine is not needed

Accu-Tab System vs. Salt-to-Chlorine Generation Equipment

Subject	Accu-Tab System	Chlorine Generator
Design principal	Chlorine is maintained in solid tablets and converted to aqueous chlorine upon command	Must maintain ~3000–9000 PPM salt concentration in the pool. Salt is converted to chlorine as it's passed through the cells
Active Sanitizer	Chlorine is the active sanitizer	Chlorine is the active sanitizer
Capital Cost	Low capital cost	High capital cost. \$750 per pound of chlorine generation per 24 hour period
Maintenance Cost	Minimal maintenance cost through out the life of the chlorinator	Must replace costly cells every 2-4 years
Overall cost	No expensive equipment. Only pay for the chlorine that you use.	Often takes 8 years or more to “break even” from initial capital cost
Electricity cost	The “green” solution to on demand chlorination.	This mini version of a bleach plant uses expensive electricity to create its chlorine solution.
Capacity	High instantaneous chlorine rates for peak chlorine demand	Typically sized for “average” use not peak chlorine demand
pH Control	pH control necessary	pH control necessary
Water Balance Chemicals	Adds calcium and a little alkalinity	Calcium addition will be necessary to maintain proper water balance
Leaking pools	Chlorine use the same for leaking or non-leaking pools	Leaking pools cause rapid reduction in salt concentration: increased cost and maintenance
Outdoor aquatics facilities	Ample chlorine capacity for the peak demands of hot summer days and high bather loads	Backup chlorinators often needed to maintain chlorine level in some outdoor pools

Accu-Tab System vs. Trichlor

Subject	Accu-Tab System	Trichlor Tablets
Stabilizer build-up	No stabilizer buildup	Constant buildup requires periodic draining. Some states ban its use, especially on indoor public pools.
pH adjustments	Does not lower pH – closer to pH neutral	Very low pH increases need for pH adjustments
Total Alkalinity	Slowly increases	Destroys total alkalinity
Effect on pool surfaces	Non-corrosive to plaster, metal fittings and pumps	Highly corrosive; reduces life of equipment and surfaces
Filtration	Improved filtration and water quality	Does NOT improve filtration
Chlorinator design	Tablet-water interface is only at the bottom – consistent surface area	Flood delivery design causes inconsistent chlorine delivery
Chlorinator safety	Chlorinator does not build up pressure	Creates pressure buildup increasing safety hazards
Chemical odor	Less irritating mild bleach odor	Strong pungent odor
Chlorine delivery	High, consistent chlorine delivery per canister size	Low, inconsistent chlorine delivery

Water Balance Chemistry—Overview

For balanced water, monitor the following parameters through frequent testing of pool water. The acceptable ranges for each parameter are listed below, however you should always calculate the Langelier Saturation Index (LSI) to maintain proper water balance. See the following pages for more information.

1	pH: Target Range = 7.2–7.4 ▲ To increase pH add Sodium Carbonate ▼ To decrease pH add Muriatic Acid
2	Total Alkalinity: Target Range = 80 – 100 ppm ▲ To increase TA add Sodium Bicarbonate ▼ To decrease TA add Muriatic Acid
3	Calcium Hardness: Target Range = 200 – 1000 ppm ▲ To increase CH add Calcium Chloride ▼ To decrease CH dilute the pool water Dilution may be avoided by maintaining pH and TA in the lower range—confirm with LSI*
4	Stabilizer (CYA): Target Range = 10 – 20 ppm ▲ To increase CYA add Stabilizer ▼ To decrease CYA dilute the pool water * The Langelier Saturation Index (LSI) uses pool water parameters in relation to each other to indicate the overall pool water balance. The LSI should be maintained between –0.3 and 0.3

How to Balance Your Water

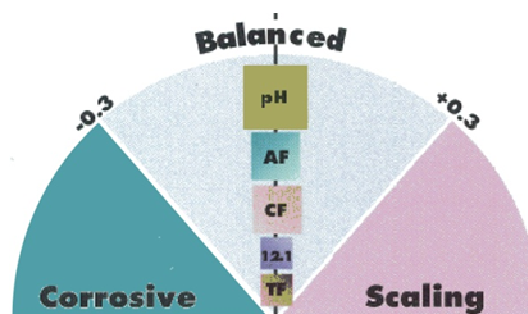
1. Determine pH, Calcium Hardness, Total Alkalinity, and Stabilizer level pool water
2. Adjust pool water parameters to maintain balanced water:
3. Maintain pH and Stabilizer within the recommended ideal ranges, 7.2 – 7.4 and 10-20 ppm respectively.
4. Measure Calcium Hardness
5. Adjust Total Alkalinity to the value that corresponds to the Calcium Hardness level you measured (i.e. if CH = 300 ppm, adjust TA to 100 ppm)
6. For ranges indicated, the Target Alkalinities at various Calcium Hardness levels will provide balanced water.

pH	Cyanuric Acid (ppm)	Calcium Hardness (ppm)	Target Total Alkalinity (ppm)
7.2-7.4	10-20	200	140
↓	↓	250	120
↓	↓	300	100
↓	↓	400	80
↓	↓	600	60
↓	↓	1000	50

Detailed Water Balance Chemistry

Balanced pool water preserves pool equipment, maintains water clarity, and protects the swimmer. For balanced water, monitor the following parameters through frequent testing of pool water.

1. Total Dissolved Solids (TDS)
2. pH
3. Total Alkalinity (TA)
4. Calcium Hardness (CH)



All four parameters affect water balance, but the two factors you ordinarily adjust to achieve water balance are pH and TA. All parameters, however, are involved in the Langlier Saturation Index (LSI) calculation – the swimming pool industry standard. The LSI is calculated by knowing the five pool water parameters and using their associated factors. See the next page.

Langelier Saturation Index (LSI)

The Langelier Saturation Index incorporates the pool water parameters described on the preceding pages into the following equation to determine if water conditions are corrosive, scaling or balanced.

Balanced Water: $-0.3 \leq \text{LSI} \leq +0.3$

Corrosive Water: $\text{LSI} < -0.3$

Scaling Water: $\text{LSI} > 0.3$

Calculating the LSI permits you to determine if the pool water condition is corrosive, scaling, or balanced. Corrosive water causes pitting of concrete, plaster, and metal components. Scaling water leads to cloudy water and deposits of calcium carbonate. (CaCO_3)

$$\text{SI} = \text{pH} + \text{TF} + \text{CF} + \text{AF} - 12.1$$

To calculate the SI, measure the temperature, pH, TA, CH, and determine actual TA of the pool and refer to the following chart to determine their appropriate factors, i.e. Temperature Factor (TF), Calcium Factor (CF), and Alkalinity Factor (AF). Then use these factor values in the equation above to calculate the Saturation Index.

Sample LSI Calculation:

pH = 7.4	CYA = 90
Temp. = 84°F	CH = 1000 ppm
TA Measured = 70	TA Actual = 40

$$\text{LSI} = 7.4 + 0.7 + 2.6 + 1.7 - 12.1 = +0.3$$

Langelier Chart

pH	Temperature		Calcium Hardness		Actual Total Alkalinity	
	°F	TF	PPM	CF	PPM	AF
6.8	32	0.0	25	1.0	5	0.7
6.9	37	0.1	50	1.3	25	1.4
7.0	46	0.2	75	1.5	50	1.7
7.1	53	0.3	100	1.6	75	1.9
7.2	60	0.4	150	1.8	100	2.0
7.3	66	0.5	200	1.9	150	2.2
7.4	76	0.6	300	2.1	200	2.3
7.5	84	0.7	400	2.2	300	2.5
7.6	94	0.8	500	2.3	400	2.6
7.7	105	0.9	800	2.5	800	2.9
7.8	128	1.0	1000	2.6	1000	3.0

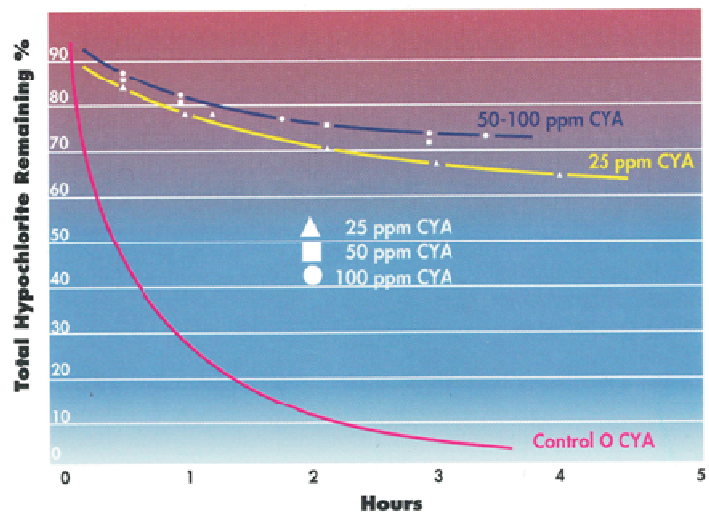
Cyanuric Acid (CYA) Issues: A Closer Look

Effect of Sunlight

The ultra-violet rays of the sun reduce the useful species of chlorine to the common chloride form that has no sanitizing or oxidizing power. The addition to the water of cyanuric acid (CYA), commonly referred to as stabilizer, puts most of the chlorine in the form resistant to sunlight and therefore is said to 'stabilize' the chlorine. Stabilized chlorine lasts longer, which in turn lowers the cost of chlorinating pool water.

The recommended levels of stabilizer to maintain are in the range of 10-20 ppm. When the stabilizer level is greater than 40 ppm there is no need to add more since it will not provide additional stabilization benefit. If the stabilizer level is above 40 ppm, simply allow the level to drift down gradually by dilution or splash out.

The common test kits to determine CYA have an upper level limit of 100 ppm. If the test kit reads 100 ppm, the CYA may actually be higher. Higher levels can be determined by running the test after diluting the water sample. CYA levels greater than 100 ppm will reduce the effectiveness of chlorine in controlling bacteria and algae growth, while CYA levels below 10 ppm result in excessive chlorine consumption.



Controlling CYA Levels

While CYA can be a good thing too much can cause issues in your pool water. There are also multiple regulations/association guidelines that limit the amount of CYA that can be in your pool. This is because at high levels CYA can cause the chlorine to be less effective as shown in the chart above. This can create an especially dangerous situation during an Accidental Fecal Release (AFR). In fact see the difference in the CDC's recommended response for pools with and without stabilizer:

1. Raise the free chlorine concentration to 20 PPM
2. Maintain pH 7.5 or less and a temperature at 77°F (25°C) or higher.
3. The free chlorine and pH should remain at these levels for at least 12.75 hours.
4. With 50ppm of CYA– it could take up to 82 hours (½ week) or more to achieve the desired result!**

** Shields JM, Arrowood MJ, Hill VR, Beach MJ. The effect of cyanuric acid on the chlorine inactivation of *Cryptosporidium parvum*. J Water Health 2008; 7(1): 109-114

Appendix

PowerBase Quick Reference

Chlorinator Delivery Charts

By State Sizing Requirements

Spare Parts Information

PowerBase Chlorinator Specification Summary

Accu-Tab System Models

Gallon ratings / chlorine delivery are applicable for units manufactured after February 16, 2015 and are based on NSF certification

Model	Max Size (gallons)		Max Delivery	Tablet Capacity	Inlet / Outlet
Chlorinator Only Models					
3012	Indoor	200,000	1.0 lbs/hr	12-lbs	¾" x 1 ½"
	Outdoor CYA	70,000			
	Outdoor no CYA	40,000			
3075	Indoor	1,120,000	10.2 lbs/hr	75-lbs	1" x 2"
	Outdoor CYA	400,000			
	Outdoor no CYA	220,000			
3150	Indoor	2,000,000	22 lbs/hr	150-lbs	1 ½" x 3"
	Outdoor CYA	700,000			
	Outdoor no CYA	400,000			
3500	Indoor	4,800,000	36.4 lbs/hr	500-lbs	2" x 3"
	Outdoor CYA	1,400,000			
	Outdoor no CYA	800,000			
PowerBase Models					
AT100	Indoor	80,000	0.8 lbs/hr	30-lbs	½" x ½"
	Outdoor CYA	60,000			
	Outdoor no CYA	30,000			
PowerBase 1030	Indoor	360,000	2.8 lbs/hr	30-lbs	1" x 1"
	Outdoor CYA	140,000			
	Outdoor no CYA	60,000			
PowerBase 3075/3070AT	Indoor	1,120,000	10.2 lbs/hr	75-lbs	1 ½" x 1 ½"
	Outdoor CYA	400,000			
	Outdoor no CYA	220,000			
PowerBase 3150/3140AT	Indoor	2,000,000	22 lbs/hr	150-lbs	2" x 2"
	Outdoor CYA	700,000			
	Outdoor no CYA	400,000			
PowerBase 3500	Indoor	4,800,000	36.4 lbs/hr	500-lbs	2" x 2"
	Outdoor CYA	1,400,000			
	Outdoor no CYA	800,000			

**Stabilizer levels assumed to be 15 ppm. Treatable gallons may vary depending on factors such as bather load, climate, water depth, stabilizer levels, etc. Gallon ratings are recommendations only.*

Electrical Requirements

- A 120 volt, 15 amp circuit is required for all chlorinator models.
- This is **in addition** to the 120 volt, 5 amp control circuit provided by the chemical controller.

System Water Pressure Requirements

- **Inlet** water pressure for the chlorinator feed must be at least 10 psig. Please contact Axiall if the system pressure is not sufficient.
- System water pressure at the chlorine **injection point** cannot exceed 20 psig. Axiall can provide a higher pressure pump for applications which require it.
- The *PowerBase 1030* requires a pressure regulator on the inlet side if system pressure is higher than 25 psig.

Optional Equipment – *Contact Axiall or your authorized Accu-Tab representative for help with this optional equipment*

- High Pressure Pump.** On systems requiring unit discharge pressures greater than 20 PSIG.
- Inlet Booster Pump.** For use when there is insufficient inlet water flow/pressure to the Chlorinator.
- Low Level Protection.** Low level switch to add protection from pump running dry. When added in addition to the new standard overflow protection it is equivalent to the original HHL option.
- Constant Run Pump.** Allows pump to run at all times to minimize clogging in high scale forming installations. Includes an on/off switch on the electrical panel. Model 3140 limited to 30-35 gpm. Not available for 1030/3070AT models.
- Inlet pressure Regulator.** Required if inlet pressure exceeds 15 psi. Model 1030 only

Installation Hints

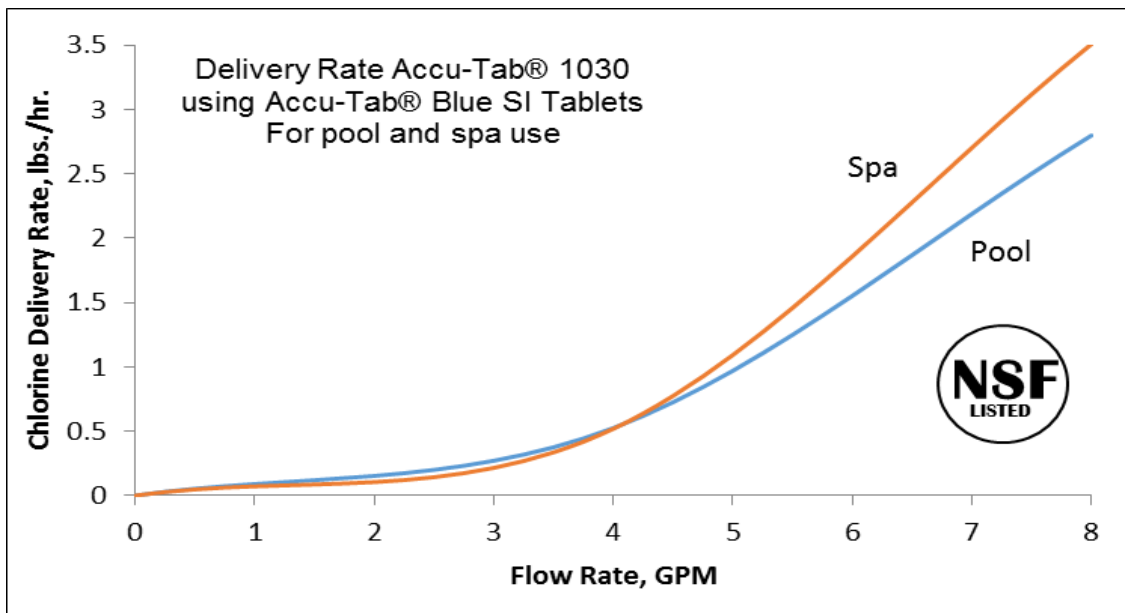
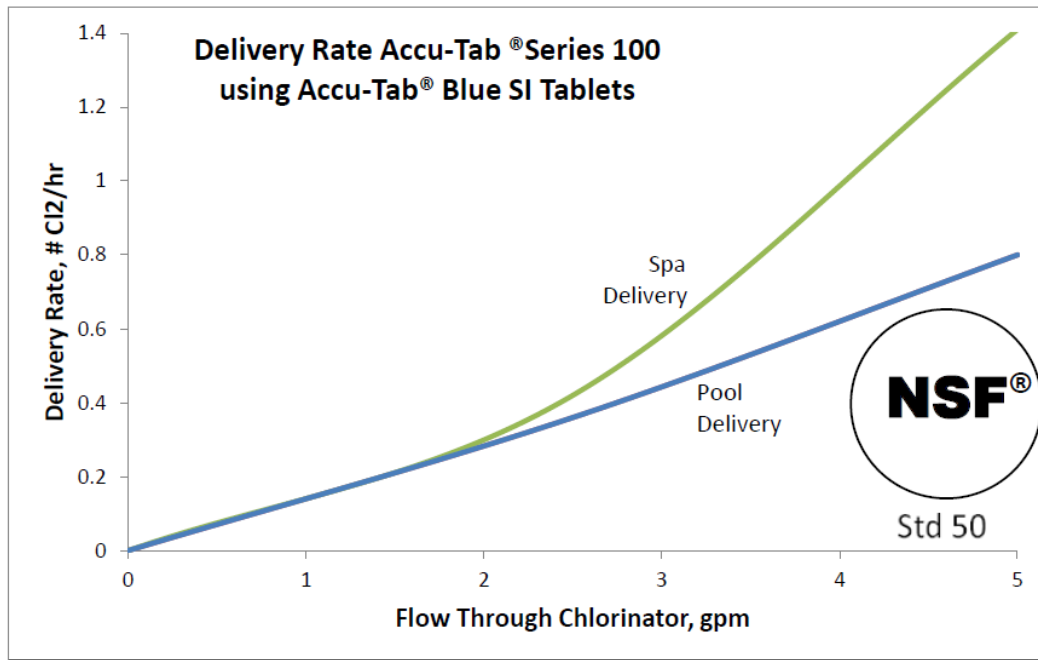
Long supply pipe runs: Long pipe runs exceeding 40 feet, can reduce the water flow to the chlorinator significantly. Use 3 inch pipe for long pipe runs in excess of 40 feet.

Sufficient water pressure: *PowerBase* chlorinators require 10 psig supply pressure for sufficient water flow through the chlorinator. If 10 psig will not be available downstream of the filter, then connect the feed pipe upstream of the filter.

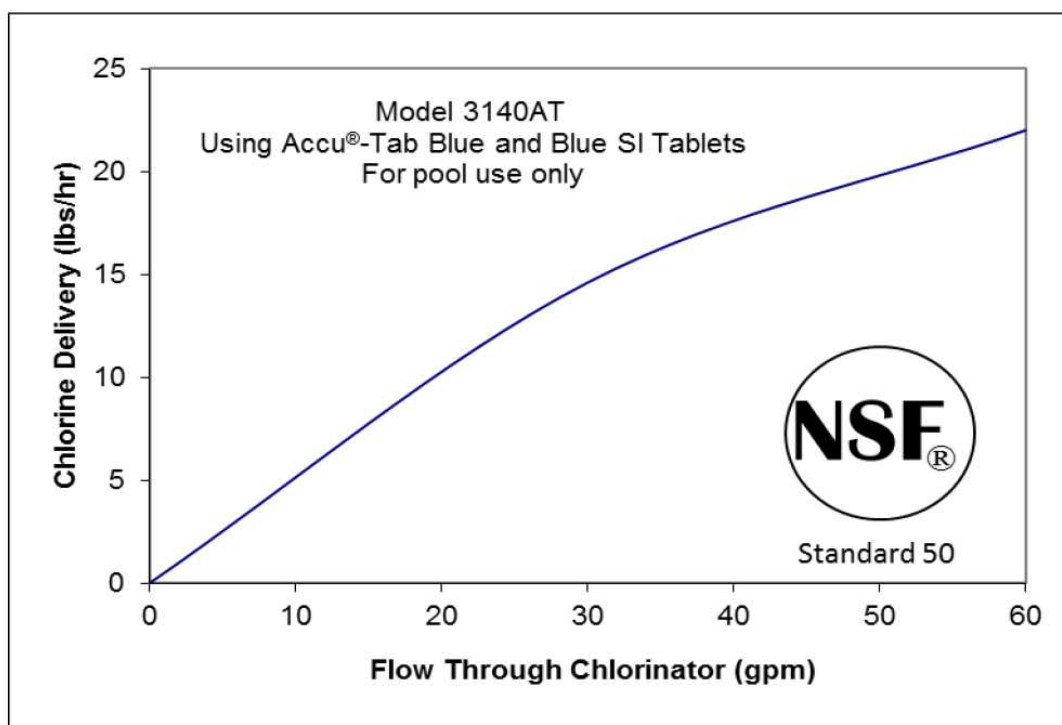
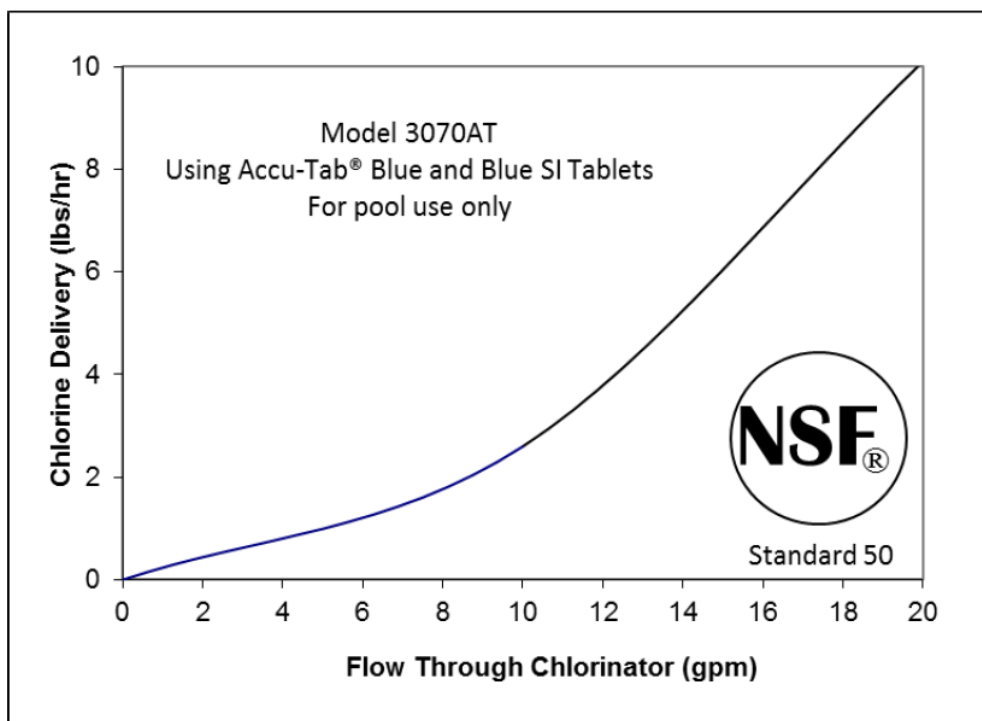
Solution injection pump capacity: *PowerBase* chlorinators are designed to inject chlorine into a pressurized return line of 20 psig or less. Most aquatics facility's return lines operate at 10 psig or less. If the return pressure is higher than 20 psig, then request a *PowerBase* with the optional high-pressure pump which can inject up to 45 psig.

Chlorinator Accessibility: Make sure to install the system where it is easy to access the chlorinator to add tablets to the system. Also make sure to leave room around the solution tank to access the pump, solenoid, electrical box, and check valves for annual maintenance and repair.

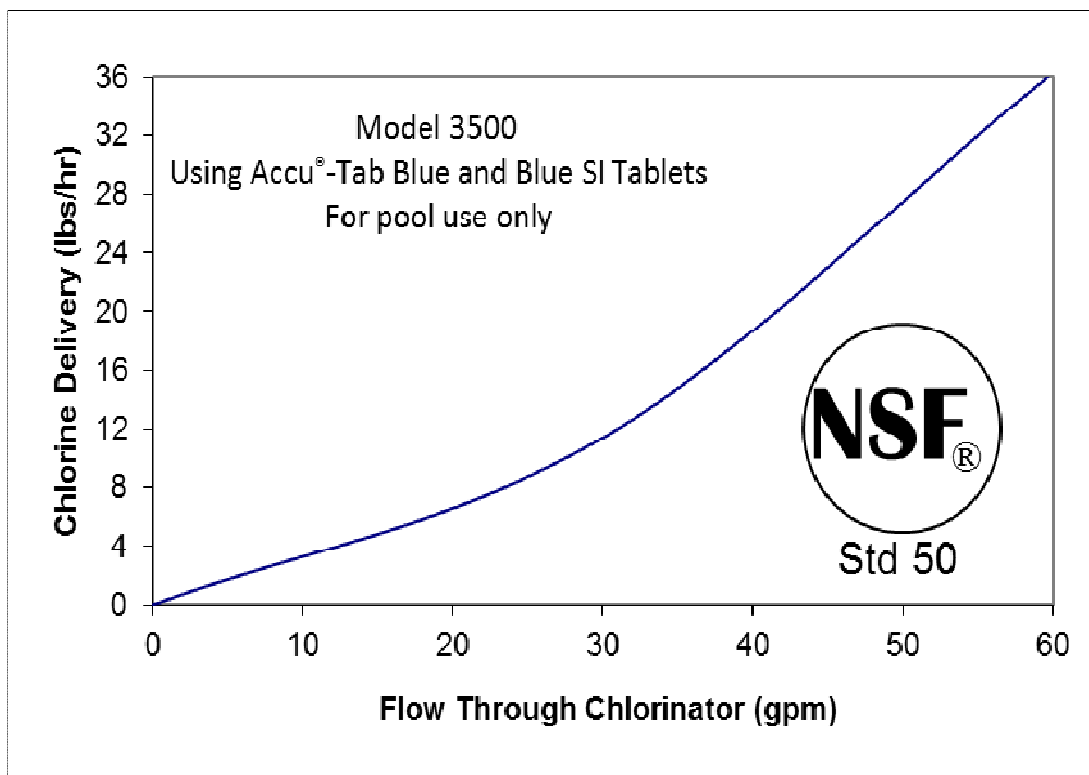
PowerBase Delivery Rate Charts



PowerBase Delivery Rate Charts



PowerBase Delivery Rate Charts



Chlorinator Capacity Required per State Health Code

Regulations may change over time, always check with your local inspection for the most recent code

State	Indoor			Outdoor		
	ppm/day	# AvCl/day per 10,000 gal	Circulation water Conc in PPM	ppm/day	# AvCl/day per 10,000 gal	Circulation water Conc in PPM
AK	none	none	none	none	none	none
AL	8	0.67	2	8	0.67	2
AR	15	1.25	3.75	15	1.25	3.75
AZ	none	none	none	none	none	none
CA	36	3	9	36	3	9
CO	36	3	9	36	3	9
CT	36.72	3.06	9.18	36.72	3.06	9.18
DE	20	1.67	5	40	3.33	10
FL	24	2	6	24	2	6
GA	36	3	9	36	3	9
HI	5.76	0.48	1.44	11.52	0.96	2.88
IA	none	none	none	none	none	none
ID	36	3	9	36	3	9
IL	12	1	3	32	3	8
IN	12	1	3	32	3	8
KS	none	none	none	none	none	none
KY	12	1	3	32.5	3	8.125
LA	5.76	0.48	1.44	11.52	0.96	2.88
MA	8	0.67	2	36	3.00	9
MD	30	2.5	7.5	30	2.5	7.5
ME	none	none	none	none	none	none
MI	30	2.5	7.5	30	2.5	7.5
MN	36	3	9	36	3	9
MO	40.8	3.4	10.2	40.8	3.4	10.2
MS	none	none	none	none	none	none
MT	24	2	6	24	2	6
NC	11.5	0.96	2.875	11.5	0.96	2.875
ND	40	3.33	10	40	3.33	10
NE	none	none	none	none	none	none
NH	30	2.5	7.5	30	2.5	7.5
NJ	10	0.83	2.5	10	0.83	2.5
NM	10	0.83	2.5	10	0.83	2.5
NV	12	1	3	36	3	9
NY	40.3	3.36	10	40.3	3.36	10
OH	36	3	9	36	3	9
OK	18	1.5	4.5	18	1.5	4.5
OR	none	none	none	none	none	none
PA	30.3	2.53	7.575	30.3	2.53	7.575
RI	36.7	3.06	9.175	36.7	3.06	9.175
SC	24	2	6	24	2	6
SD	36.9	3.08	9.225	36.9	3.08	9.225
TN	11.52	0.96	2.88	11.52	0.96	2.88
TX	11.52	0.96	2.88	11.52	0.96	2.88
UT	36	3	9	36	3	9
VA	24	2	6	24	2	6
VT	11.52	0.96	2.88	11.52	0.96	2.88
WA	12	1	3	36.9	3	9.225
WI	11.52	0.96	2.88	20	1.67	5
WV	11.52	0.96	2.88	11.52	0.96	2.88
WY	8	0.67	2	8	0.67	2



Axial PowerBase Parts List

March 2015

AT 100 Parts List

Lid:

Part # 9500368

Inside Tank:

½" Miller Float Valve: Part # 9500367

Oval Float (5"x4"): Part # 9500373

Stainless Rod 3": Part # 9500201

1" Rusco Inlet Strainer:

Part # 9500000 - 1

½" Acrylic Tube Flow Meter:
Part # 9500372

Level Sight Tube Kit:

Part # 9500369

½" PVC Socket Gate Valve:
Part # 9500016

OPTIONAL Items Not Pictured:

AT100 Forced Venturi Kit:

Part # 9500154

This kit includes the following key parts:

1½" Mazzei 1587 Venturi: Part # 9500370

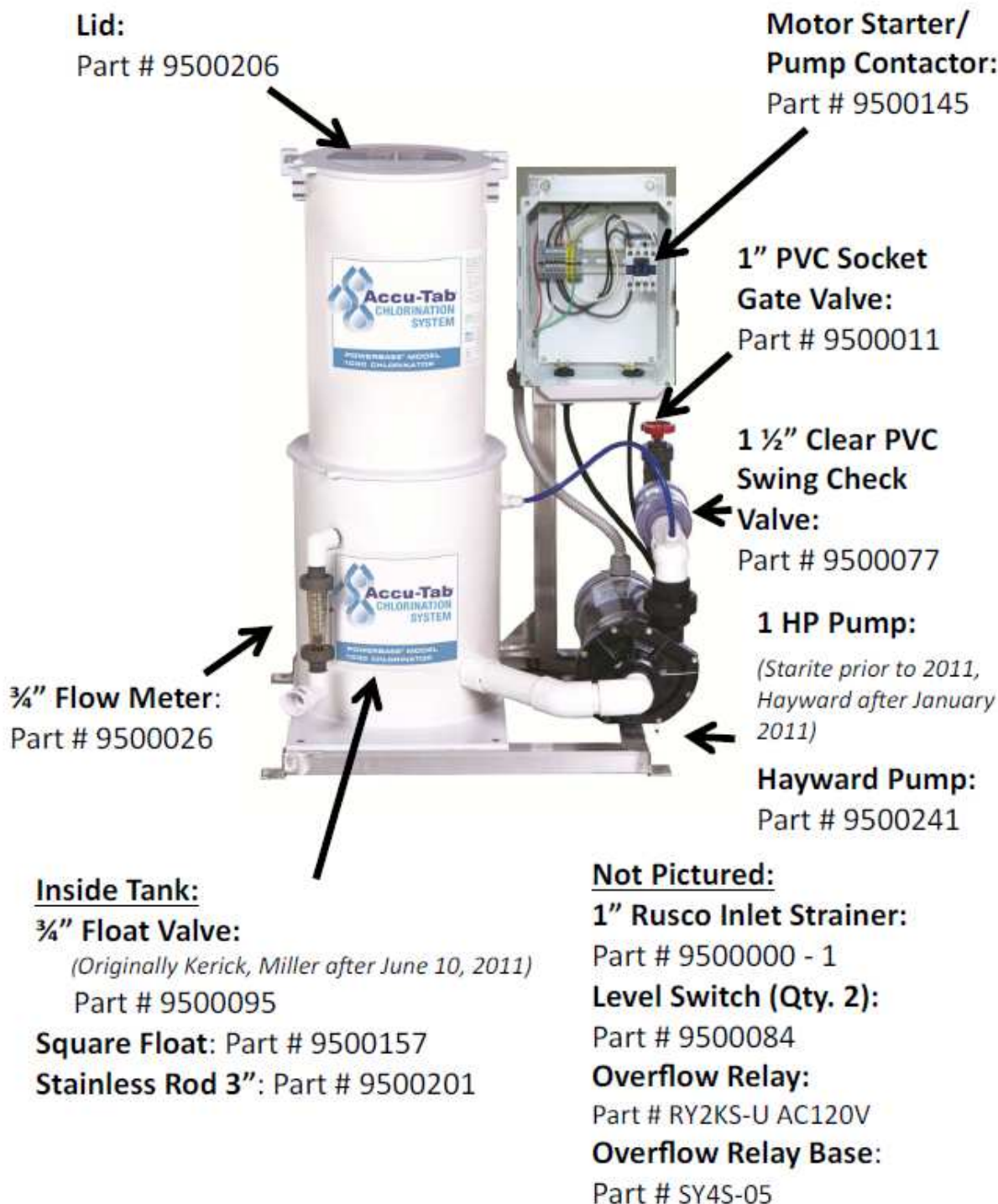
¾ Check Valve: Part # 9500371

1½" Gate Valve: Part # 9500011

1 HP Hayward Pump: Part # 9500241

Pump Contactor: Part # 9500145

PowerBase 1030 Parts List



PowerBase 3070AT Parts List

Lid:

Part # 9500087

**Motor Starter/
Pump Contactor:**
Part # 9500145

**1" Acrylic Tube
Flow Meter:**
Part # 9500008

**1½" PVC Socket
Gate Valve:**
Part # 9500006

Not Pictured:

**1½" Rusco Inlet
Strainer:**

Part #: 9500000

1" Solenoid Valve

(Older Models Only):

Part # 9500009

Level Switch (Qty. 2):

Part # 9500084

Overflow Relay:

Part # RY2KS-U AC120V

Overflow Relay Base:

Part # SY4S-05

Inside Tank:

1" Kerick Float Valve

Assembly: PT100SS

Part # 9500007

Kerick Valve Rebuild Kit:

Part # 9500200

6" Round Float:

Part # 9500038

1½ HP Pump:

(Starite prior to 2011,
Hayward after January 2011)

Hayward Pump:

Part # 9500080

Hayward Pump +

Conversion Kit:

Part # 9500163



PowerBase 3140AT Parts List

Lid:

Part # 9500088

**1½" Acrylic Tube
Flow Meter:**

Part # 9500002

**1½" Solenoid
Valve:**

Part # 9500001

**1½" Solenoid
Rebuild Kit:**

Part #
PASV150BK

**Solenoid Re-
placement Coil:**

Part # 9500156

Inside Tank:

**1" Kerick Float Valve
Assembly: PS100SS**

Part # 9500007

Kerick Valve Rebuild Kit:

Part # 9500200

6" Round Float:

Part # 9500038

Motor Starter/

Pump Contactor:

Part # 9500145

**1½" PVC Socket
Gate Valve:**

Part #: 9500006

**1½ Clear PVC
Swing Check
Valve:**

Part # 9500077

1½ HP Pump:

(Starite prior to 2011,
Hayward after January
2011)

**Hayward Part #
9500080**

**Hayward Pump +
Conversion Kit:**

Part # 9500163

Not Pictured:

2" Rusco Inlet Strainer:

Part #: 9500000-2

Level Switch (Qty. 3):

Part # 9500084

Overflow Relay:

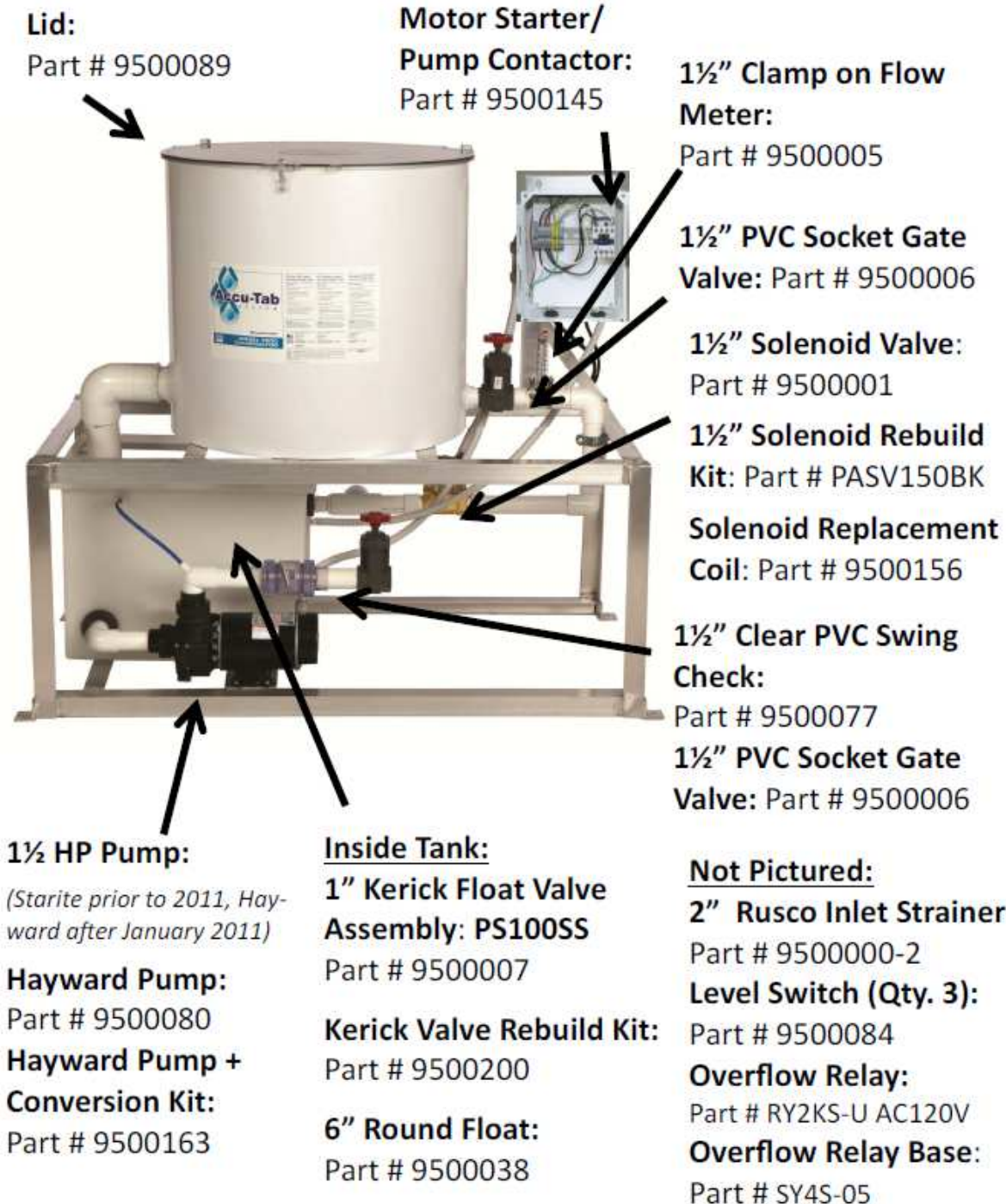
Part # RY2KS-U AC120V

Overflow Relay Base:

Part # SY4S-05



PowerBase 3500 Parts List



Float Valves

Complete Kerick Float Valve Assembly:

(These kits include the Kerick Float Valve, 6" rod, 3" rod, and 6" round float)

¾" Kerick Float Valve Assembly: PT075SS

Part # 9500025

(This assembly is used only as a replacement part for the old 1030 models)

1" Kerick Float Valve Assembly: PS100SS

Part # 9500007

(PT100SS for 3070AT models)



Kerick Float Valve Rebuild Kits:

(These kits include a plunger and pin)

¾" Kerick Float Valve Viton Rebuild Kit:

Part # 9500029

1" Kerick Float Valve Viton Rebuild Kit:

Part # 9500200



Individual Parts:

½" Miller Float Valve: Part # 9500367

¾" Miller Float Valve: Part # 9500095

6" Round Float: Part #9500038

5"x 4" Round Float: Part # 9500373

Square Float: Part # 9500157

3" Rod: Part # 9500201

6" Rod: Part # 9500039



Pump Accessories

Prime Line Kit:

Part # 9500144



Pump Seals:

Hayward Pump Seal: Part # SPX1250XZ2C

Webtrol Pump Seal: Part # 70X130-M

Inlet Booster Pump Kit

(For use in applications where the inlet pressure to the chlorinator is less than 10 psi. This kit includes a pump, pump contactor, and field-mounted electrical box)

Part #: 9500099

Hayward Face Plate:

Part # SPX1580AAT



Other Parts

Side-Mounted Level Switch:

Part # 9500084



Overflow Relay and Base: standard after 2/16/2015

Part # RY2KS-U AC120V + SY4S-05



Relay and Timer: for HHL Option prior to 2/16/2015

Part # 9500147 (relay & base)

Part # MS4SM-AP-ADC & TP411X (timer & base)



1" PVC Chlorinator Rings:

For use in the 1030: Part # 9500209

For use in the 3070AT & 3075:

Part # 9500148-11

For use in the 3140AT & 3150:

Part # 9500148-21

For use in the 3500: Part # 9500148 -41



Level Sight Tube Kit: Part # 9500369

(Includes the Sight tube and two 90° fittings for the top and bottom of the tube)



Inline Filter Cartridges for Rusco Strainers:

1" 60 Mesh Screen: Part # 9500234-1

1½" 60 Mesh Screen: Part # 9500234

2" 60 Mesh Screen: Part # 9500234-2



Solenoid Valves

Complete Solenoid Valves:

¾" Solenoid Valve: Part # 9500027

1" Solenoid Valve: Part # 9500009

1½" Solenoid Valve: Part # 9500001



Solenoid Rebuild Kits:

(These kits include the spring, plunger, O-ring, retain-er, diaphragm, and diaphragm retainer)

¾" Solenoid Rebuild Kit: Part # PASV075BK

1" Solenoid Rebuild Kit: Part # PASV100BK



(This kit includes the O-ring, small O-ring, spring, plunger, plunger spring, flange seal, diaphragm as-sembly, and wrench nut tool for sleeve removal)

1½" Solenoid Rebuild Kit:

Part # PASV150BK



Solenoid Replacement Coil:

Part # 9500156



Pumps

Hayward Pumps:

(For use in most applications with pressure requirements up to 20psi)

1.0 HP: Part # 9500241

1.5 HP: Part # 9500080

1.5 HP w/ Conversion Kit: Part # 9500163

(This is used on units that need to be retrofitted where a Starite pump had been in use)



Webtrol Pumps:

(For use in applications with pressures over 20psi)

1.0 HP 120/240 Single Phase Pump—60/50 Hz:

Part # 9500184

1.5 HP 120/240 Single Phase Pump—60/50 Hz:

Part # 9500185

1.5 HP—3 Phase 60 HZ: Part # 9500187



FAQs

As with all chemicals, we encourage you to read the *Accu-Tab* system material safety data sheet and product label for proper safe use, handling, and storage information.

Is the *Accu-Tab* chlorinator designed to hold pressure?

No. *Accu-Tab* chlorinators are not pressure vessels because they are not designed to fill with water, which would erode all of the tablets at once and lead to a build-up of a highly concentrated chlorine solution. This solution would not allow for consistent delivery of chlorine. Therefore, the units have been designed to operate under the slight vacuum created by the suction side of the pump or by gravity flow.

Do all the tablets get soaked in water at once?

No. The chlorinator does not fill with water. Only the bottom of the tablets in contact with the sieve plate will get wet. The rest of the tablets remain dry and drop down automatically to replace the wetted tablets that are eroded.

What is the composition of 3-inch *Accu-Tab* tablets?

Accu-Tab tablets are 68% nominal chlorine. Typically, they contain approximately 2% insolubles.

Commercial pool tablets have a blue salt to distinguish them from other pool tablets (primarily trichloroisocyanurates), which are not compatible with *Accu-Tab* tablets and could lead to fire or explosion if mixed together. Commercial tablets (only Blue SI) also contain a patented erosion modifier that promotes more consistent delivery of chlorine.

In what size pails are *Accu-Tab* tablets sold?

Accu-Tab tablets are packaged in a 55-pound pail. For large applications, a 400-pound bag is available. (Facilities must meet specific criteria to obtain bags. Check with your local specialist or Axiall for details).

What is the shelf life of calcium hypochlorite?

Accu-Tab calcium hypochlorite tablets maintain their strength for up to a year when stored under the proper conditions. (Store in original container with the lid sealed in a cool, dry, well-ventilated place. Keep away from heat, sparks, flames, direct sunlight, and other sources of heat.)

My tablets are not eroding fast enough to keep up with the chlorine demand?

Low tablet delivery rates can be caused by low flow through the chlorinator, or an increase in chlorine demand may have occurred within your system. If your system has extended intermittent use, call the Axiall Customer Service Hotline at 855-934-3570 (Monday – Friday, 8 a.m. to 5 p.m.)

Why do the chlorine levels in the pool seem so hard to maintain on bright, sunny days?

Well, for one thing you probably have more bathers (and therefore more bather waste) on a sunny day than on a cloudy day and it will often be warmer on a sunny day. These factors tend to increase the chlorine demand. But even without the extra bathers or higher temperatures bright sunlight itself can have a devastating impact on chlorine. Depending on other factors such as water depth, temperature, etc. bright sunlight can destroy 3/4 of the chlorine in pool water in an hour or so. By adding 25 PPM of cyanuric acid ("stabilizer" or "conditioner") to the pool water, the rate of chlorine loss can be cut by two-thirds.

Does cal hypo burn?

Calcium hypochlorite is an inorganic chemical, and therefore it will not burn by itself. It is an oxidizing chemical and will decompose, and this decomposition liberates oxygen and heat. Should an organic compound be present, a fire can result. In fact, contaminating cal hypo with organic liquids or acids, such as algaecides or soda pop, can result in a fire and/or the release of toxic gases. Upon request, Axiall will provide you with a safety wall chart that provides guidelines in the case of a spill or emergency.

What safety measures are recommended for the storage of cal hypo?

Calcium hypochlorite should be stored in its original container with the lid sealed in a cool, dry, well-ventilated place. It should be kept away from heat, sparks, flames, direct sunlight, and other sources of heat, including lighted tobacco products. It is important to remember that calcium hypochlorite is a Class III oxidizer, and local fire officials should be contacted and made aware of your current storage conditions and the quantities you intend to store. Refer to container labeling for full storage and warning information and details. Axiall also has safe storage guidelines available by calling 855-934-3570.

What type of *Accu-Tab* tablet is right for my system?

Axiall makes two different types of *Accu-Tab* tablets. *Accu-Tab* Blue SI is for commercial swimming pool applications. *Accu-Tab* SI is for industrial/municipal applications, such as potable water or wastewater, food processing applications, or industrial processing and cooling water.

How is chlorine dosage controlled?

Regulating water flow through the chlorinator controls the dose. The more water through the unit, the more available chlorine delivered. This can be controlled either manually or automatically and is as simple as adjusting a valve.

What safety equipment is needed for the handling of *Accu-Tab* tablets?

Typically, only rubber gloves and safety glasses/goggles are recommended.

What routine maintenance is required?

Axiall recommends cleaning the chlorinator once a year with muriatic acid to remove any deposits. However, system water quality will ultimately determine how often cleaning is need-

ed. For specific cleaning instructions, refer to the cleaning instructions section of your chlorinator manual. Instructions may also be obtained by calling the Axial Customer Service Hotline at 855-934-3570 (Monday – Friday, 8 a.m. to 5 p.m.).

Will the *Accu-Tab* system cause corrosion of pipes and pumps?

Surprisingly, no! The calcium hypochlorite solution that is discharged from the chlorinator is a mildly alkaline solution that actually reduces the corrosive properties of the water.

Does the unit come with a warranty?

Yes. *Accu-Tab* chlorinators are made from PVC for durability, and they rarely break. However, Axiall will supply replacement parts (or, in rare cases, an entire chlorinator for the life of a particular application) provided that the chlorinator has been installed correctly and has been using only *Accu-Tab* tablets. Refer to Axiall's limited warranty for details. PowerBase® chlorination systems have a standard one year warranty with options to extend the warranty.

Can the system be installed for intermittent chlorination?

Yes. The chlorinator is uniquely designed to allow water to drain from the tablets when the system is not in use, thereby preventing the tablets from soaking and forming a high concentration solution.

How often does the chlorinator need to be filled with tablets?

This really depends on two things—how much calcium hypochlorite is being used per day and what size chlorinator is being used. For example, a system using 25 pounds of cal hypo per day utilizing an *PowerBase* 3140AT chlorinator would need to be refilled every six days since the 3140AT model holds up to 140 pounds of calcium hypochlorite.

Is this the same chemical used in pools?

Calcium hypochlorite is the major chemical in both our pool and industrial tablets, with different additives blended in for use in different applications. Calcium hypochlorite is used extensively in the swimming pool industry as a chlorine bactericide and algicide.

How long has the *Accu-Tab* system been in use?

The *Accu-Tab* chlorination system (tablets and chlorinators) has been in use since 1992 in industrial/municipal and pool applications and is a proven leader in alternative chlorination systems.

Why did my pool turn cloudy?

Pool water can turn cloudy due to high pH, high total alkalinity (TA), filtration problems, or the need for shocking. The pH should be 7.2 to 7.4. The TA should be 80 to 100 ppm as CaCO₃. Check to see that the filter is working properly and that the pump is circulating the water properly. If free available chlorine levels are low or combined chlorine levels are high, shocking of the pool water may be needed.

What is the blue color in the *Accu-Tab* Blue SI tablets?

The color is caused by a small amount of colored salt added to the product. It is readily dispersed into the water and may be collected on the filter. The colorants are added for safety reasons since the mixing of chemicals can be dangerous. The blue color is added to clearly distinguish *Accu-Tab* Blue SI tablets from other pool sanitizing chemicals (in particular, trichloroisocyanurate, which is typically white in color).

Why is NSF certification important?

NSF certification validates chlorination system performance. For more information, visit the NSF website. Read the NSF Article in the Appendix

What is the quickest way for me to size a chlorinator?

Please refer to our model sizing guide.

Why can't I use other tablets in an *Accu-Tab* chlorinator?

The mixing of chemicals can cause a fire or explosion. Not using *Accu-Tab* tablets will violate your NSF certification and will void the chlorinator's limited warranty.

Are there any steps I should take to winterize the chlorinator?

To winterize the chlorinator or an *Accu-Tab* system, remove the water from the components. On systems equipped with pumps, make sure all water is removed from the pump housing to prevent freezing water from cracking the head.

Why did you decide to add the level switches as standard equipment on select PowerBase units?

The level switches have been added as standard equipment on select PowerBase units simply as an extra level of protection in the event of an issue with the check valve or the float valve.