

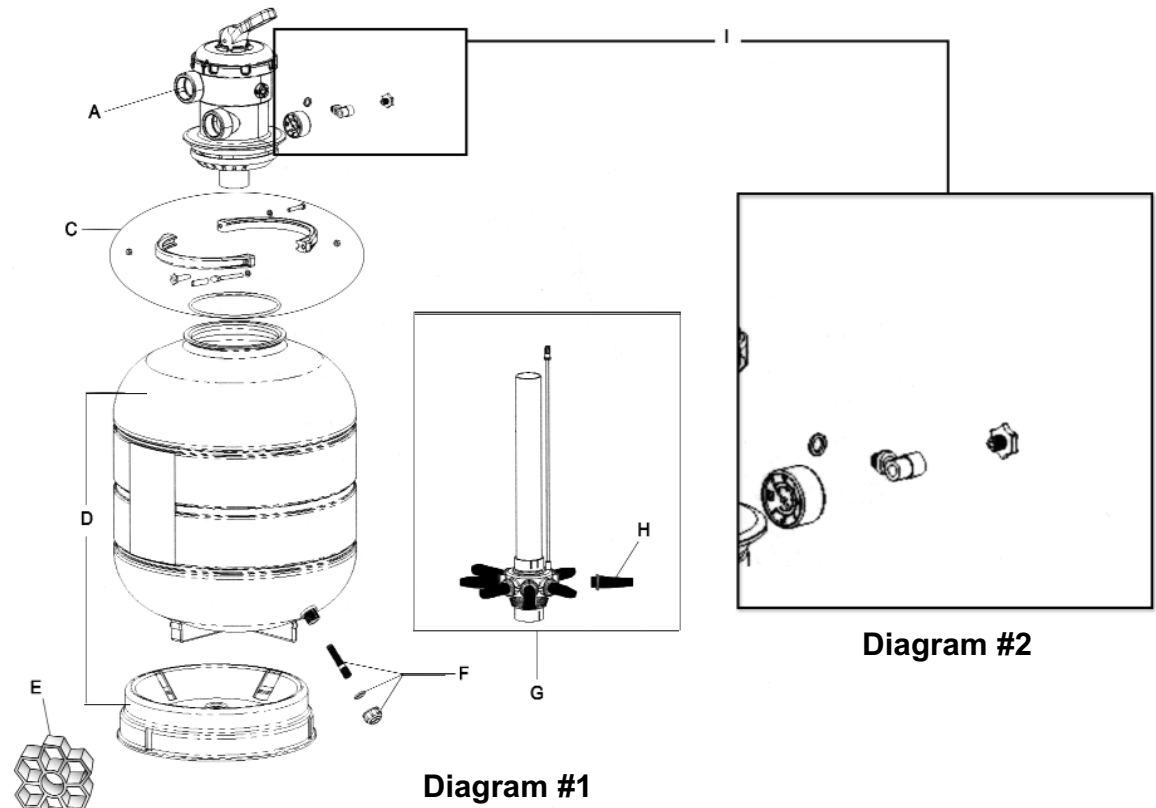
## NitraMAX Pressurized Pond Filter

We at azponds.com would like to thank you for purchasing our NitraMAX Pressurized Pond Filter. Please read these instructions to acquaint yourself with your new NitraMAX filter and its recommendations before you attempt installation. If at any time you have questions regarding parts or installation, please do not hesitate to contact us at [www.azponds.com](http://www.azponds.com), or 1-800-722-8877.



### Top Mount Filter Style

- A. Selector Valve 1 1/2" (#017-22358)
- B. (not shown) Sight Glass Assembly (#017-006)
- C. Clamp Assembly (#01798)
- D. NitraMax 2000 Filter Body 15" (#01790-B)  
NitraMax 4000 Filter Body 17" (#01791-B)  
NitraMax 6000 Filter Body 19" (#01792-B)  
NitraMax 8000 Filter Body 22" (#01793-B)  
NitraMax 10000 Filter Body 26" (#01794-B)
- E. Bee Cell Media
- F. Water Drain Assembly (#1797)
- G. NitraMax 2000 Filter Internal Replacement (#01790-I)  
NitraMax 4000 Filter Internal Replacement (#01791-I)  
NitraMax 6000 Filter Internal Replacement (#01792-I)  
NitraMax 8000 Filter Internal Replacement (#01793-I)  
NitraMax 10000 Filter Internal Replacement (#01794-I)
- H. 3/4" Lateral Arm - x8 needed (#1800-07)
- I. Pressure Gauge Assembly (#01799)



**Diagram #2**

**SAFETY WARNING** \*Whenever handling the filter or valves, ensure electricity is isolated. \*Do not operate the filter without water.

## Side Mount Filter Style

R. Lid Assembly (#01798-2)

S. NitraMax 20000 Filter Body 30" (cannot replace individually)  
 NitraMax 30000 Filter Body 36" (cannot replace individually)

T. NitraMax 20000 Multi-port Selector Valve 2" (#017-09848)  
 NitraMax 30000 Multi-port Selector Valve 2" (#017-28226)

U. Sight Glass Assembly (#017-006)

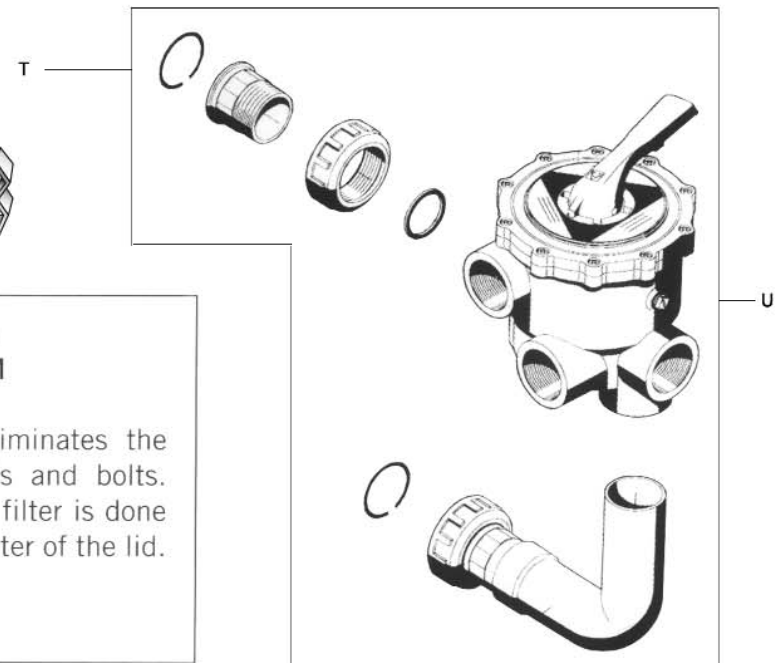
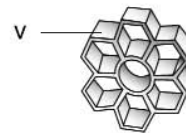
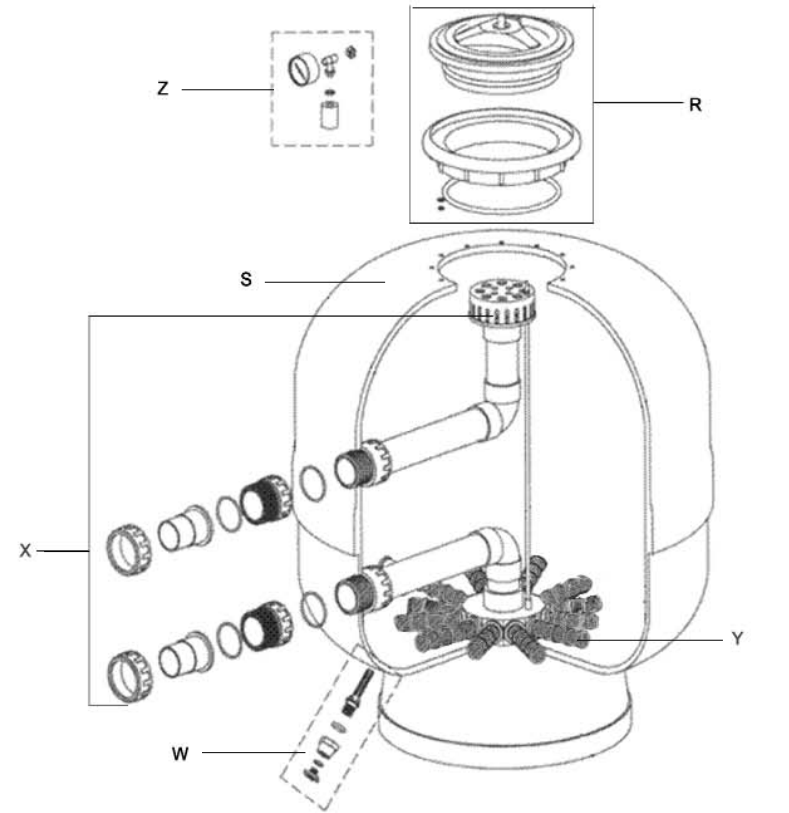
V. Bee Cell Media

W. Water Drain Assembly (#1797-2)

X. NitraMax 20000 Filter Internal Replacement (#01795-I)  
 NitraMax 30000 Filter Internal Replacement (#01796-I)

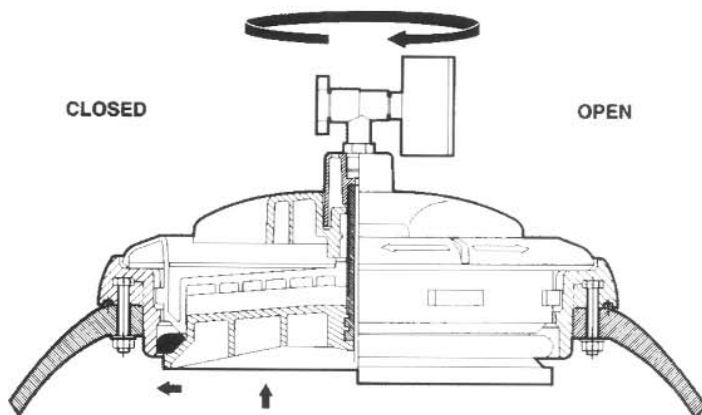
Y. 1" Lateral Arm - x12 needed (#1800-10)

Z. Pressure Gauge Assembly (#01799-2)



### PATENTED LID SYSTEM

This new lid system eliminates the need for traditional nuts and bolts. Opening and closing the filter is done by simply turning the center of the lid.



## Assembly

1. Install the NitraMAX on a clean, stable, level floor/pad
2. Place the filter in its final operating position
3. Make the three connections relevant to the selector valve: to the pump, to waste, and return to the application. Each of these connections can be identified on the valve itself. Each valve connection is 1.5" female thread that can be modified using standard PVC fittings to either socket (#836-015) or Barb (#1435-015). Use Teflon tape or PVC cement where necessary when working with these fittings. If PVC cement is being used read manufacturers instructions regarding use and curing time. Do not use metal pipe fittings.
4. Install the pressure Gauge Tee, the Pressure Gauge, and the Air Purge Plug. Use Teflon tape on brass thread of pressure gauge. Do not use any tools to tighten the pressure gauge, hand tighten only. (Please see Diagram #2 on previous page)
5. The Bee Cell Media is loaded into the filter at the factory.
6. Once the installation is complete the system should be tested to ensure every aspect is working correctly and that there are no leaks.

## Installation

After having checked the list of components, please take into account the following:

1. Use plastic fittings for all connections
2. Do not use Teflon tape when gaskets are used.
3. Install the NitraMAX as close to the aquatic application as possible.
4. The filtration area should have proper drainage in case of failure or breakage of any part of the equipment. This will avoid damage to electrical components.
5. Space should be allowed around the filter for ease of maintenance.

## Operating the NitraMAX

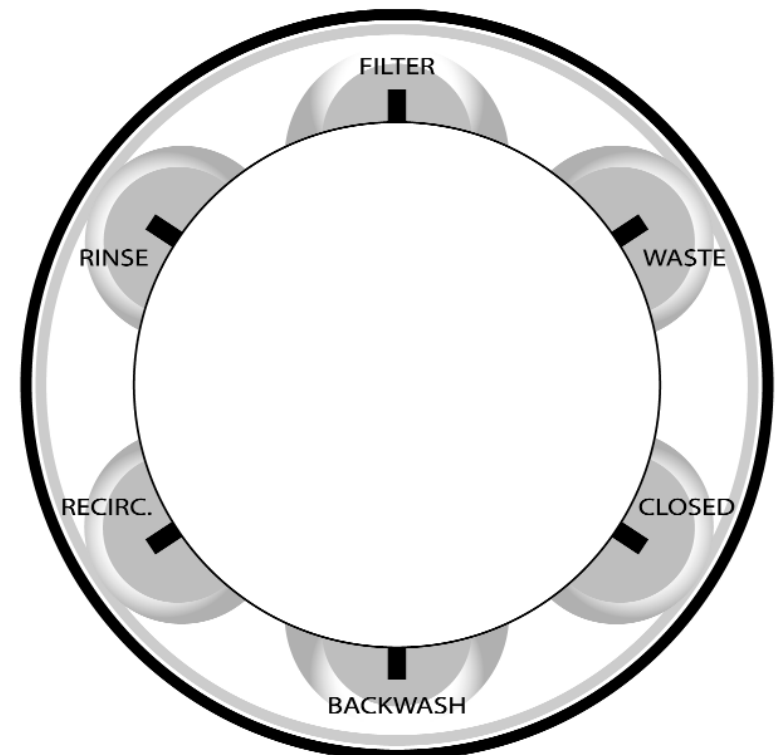
The selector valve handle can be turned to one of seven positions indicating the necessary operations for correctly running the filter.

The filter's selector valve is set to "backwash" before leaving the factory. Prior to installing your new NitraMAX filter we recommend running the filter on backwash for a few minutes, cleaning out any unwanted particles that may be inside of the filter as a result of the manufacturing process.

**IMPORTANT: Always shut down the pump before changing the selector valve position.**

**IMPORTANT:** Soon after filter start up (2-4 weeks), the Bee Cell Media will accumulate a sticky coating on its surfaces that will increase solid waste capture.

**Filter:** The pressure gauge will indicate the build up of dirt inside of the filter. At the start of the filtration process (clean Bee Cell media bed) the pressure gauge will indicate approximately 5-10 PSI of pressure. As the filter bed becomes dirtier, the pressure increases. When the pressure increases to approximately 10-15 PSI backwash the NitraMAX filter.



**Backwash:** The increase in pressure as indicated on the pressure gauge, signifies that backwashing is needed. When the pressure gauge indicates between 5 and 10 PSI above the initial pressure a backwash must be carried out in the following manner:

1. Stop the pump
2. Place the selector valve handle in the position of backwash
3. Start the pump for a maximum period of 2 mins. (Check the sight glass on the selector valve to ensure water is clear).

*Backwashing reverses the flow of water through the Bee Cell media bed, releasing the solid waste and discharging it from the filter.*

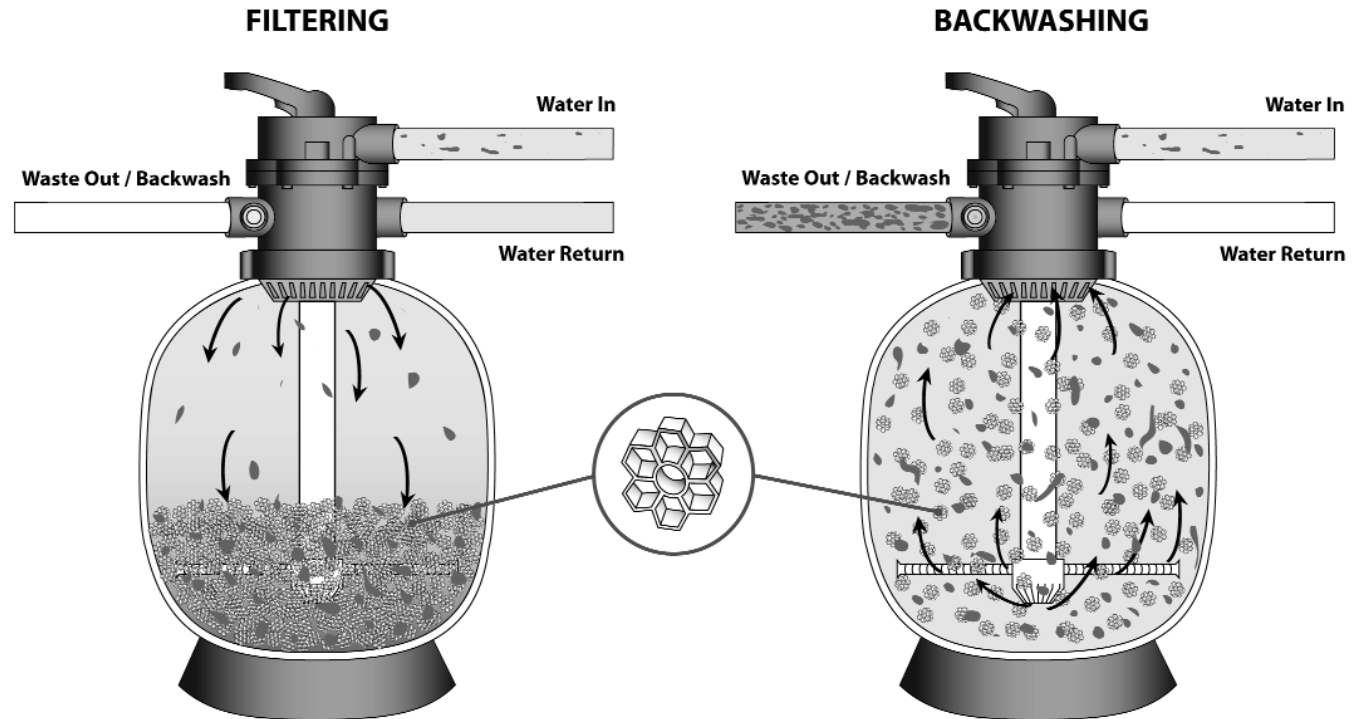
**Rinse:** After backwashing for up to 2 minutes, stop the pump. Rinsing the Bee Cell media bed is recommended before the filtration mode is restarted to ensure that dirty water is not returned to the aquatic application. With the pump turned off, position the selector valve to "rinse" and then start the pump. Operate the pump with the valve in the "rinse" position until the sight glass on the valve is showing clean water. The "rinse" operation flows water in the same direction as the normal filtration mode except that the water goes to waste instead of back to the aquatic application.

**Recirc.:** The "recirculation" option returns the water straight to the aquatic application without being filtered (bypassing the NitraMAX).

**Waste (Empty):** If the aquatic application does not have a drain, it can be emptied via the pump with the selector valve positioned at WASTE (EMPTY).

**Closed:** The "closed" option closes off the entry of water to the filter and is normally used when access to the pump/pre-filter basket is required.

\*Winterizing the NitraMAX filter requires the filter to be drained with the Bee Cell Media being removed and cleaned with fresh water. Conduct winterizing prior to freezing to allow the filter to dry out.



### **Trouble Shooting**

#### **Problem**

Low Water Flow  
No Water Flow  
Pressure Gauge oscillating wildly

#### **Cause**

Strainer basket clogged  
Valve is closed  
Suction line is semi-blocked

#### **Solution**

Shut down pump and clean out strainer basket  
Open Valves Properly  
Check strainer basket

## NitraMAX Specifications

Model No.	Description	Filter Tank Dimensions	In/Out	Maximum Pond Size	Flow Rate	Media Ft. <sup>3</sup>
01790	NitraMAX 2000	15" x 33.75"	1.5"	2,000 Gal.	24 GPH	0.8
01791	NitraMAX 4000	17" x 35.75"	1.5"	4,000 Gal.	32 GPH	1.5
01792	NitraMAX 6000	19" x 37.5"	1.5"	6,000 Gal.	40 GPH	2.0
01793	NitraMAX 8000	22" x 41"	1.5"	8,000 Gal.	54 GPH	3.0
01794	NitraMAX 10000	26" x 41"	1.5"	10,000 Gal.	65 GPH	4.5
01795	NitraMAX 20000	30" x 42"	2"	20,000 Gal.	98 GPH	5.0
01796	NitraMAX 30000	36" x 48"	2"	30,000 Gal.	140 GPH	8.0

## Operating Location

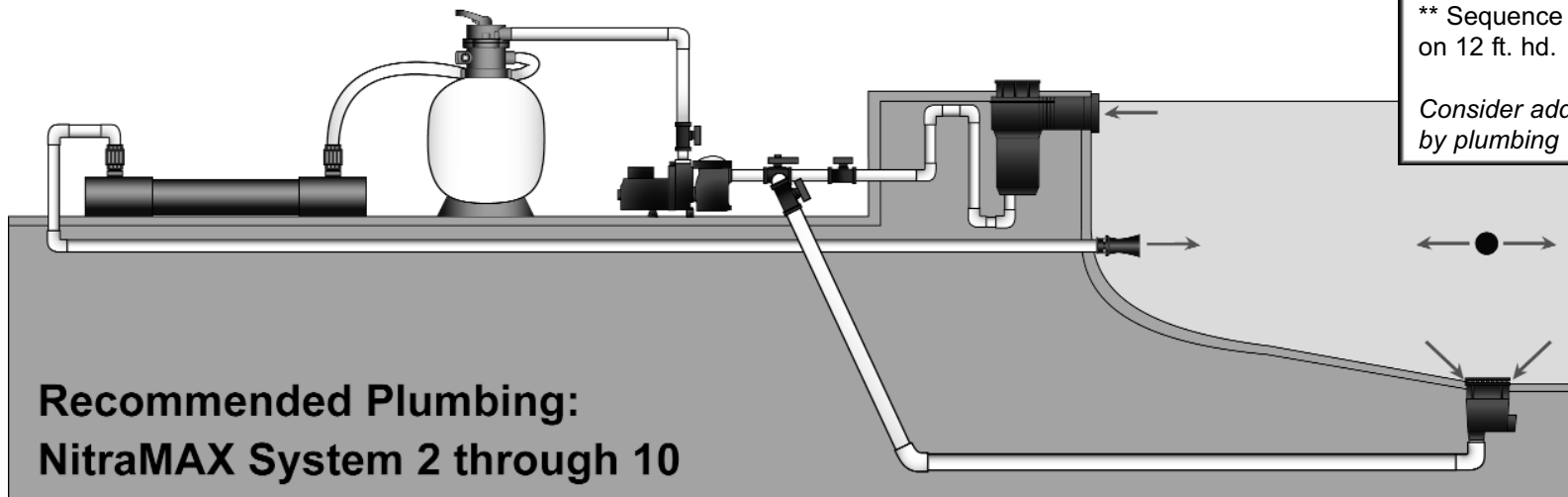
The NitraMAX filter can be located directly aside of the pool or in a remote location. The NitraMAX filter can be positioned below the water level of the pool if swing-check and ball valves are being used.

### Using Surface Skimming & Bottom Drains

We recommend using both bottom drains and surface skimmers with the NitraMAX to maximize filtering performance. If you intend to use both, we suggest that you plumb the skimmer "in-line" with the bottom drain and use true union ball valves to regulate the flow from each (see diagram below).

### Circulation

Circulating water inside the pool should suspend solid waste so that it finds its way to the surface skimmer or bottom drain easily, and therefore out of the application via the NitraMAX filter. Using multiple clean water returns from the filtration system will create optimum circulation.



## Water Pump

Operating the NitraMAX with a properly sized water pump is critical to its operating performance. AZPONDS.COM recommends using an external pump with NitraMAX filters. When selecting a pump be sure to consider "head pressure" or "friction loss" issues that may be present within your plumbing layout. We recommend using a priming basket prior to the pump's suction to eliminate debris from entering the NitraMAX filter.

### NitraMAX 2000

Sequence Primer ¼ Hp (2,400 gph)

### NitraMAX 4000

Sequence Primer ¼ Hp.(2,400 gph)

### NitraMAX 6000

Sequence Primer ¼ Hp.(2,400 gph)

### NitraMAX 8000

Sequence Primer 1/3 Hp. (4200 gph)

### NitraMAX 10000

Sequence Primer 1/3 Hp. (4,200 gph)

### NitraMAX 20000

Sequence Power 1 ½ Hp. (7,000 gph)

### NitraMAX 30000

Sequence Power 2 Hp. (8,500 gph)

\*\* Sequence Primer flow rates based on 8 ft. hd.

\*\* Sequence Power flow rates based on 12 ft. hd.

*Consider additional head pressure created by plumbing when selecting a pump.*

## The NitraMAX Filter System

## Complete Filtration System Available from AZPONDS.COM

The NitraMAX Filter System from AZPONDS.COM combines several critical filtering factors to complete an efficient life support system. Below we will discuss these important filtering factors and how they pertain to the system.

**Surface Skimming & Bottom Drains:** The NitraMAX System diagram shows both a surface skimmer and bottom drain connected to the pump's suction. This arrangement allows for precise adjustments between the surface skimmer and the bottom drain suction. The system includes a three-way 2" valve, other valves are optional, please call for prices. Larger applications may require additional surface skimmers and bottom drains. (Please see NitraMAX System Matrix - next page)

**Multiple Clean Water Returns:** Applying multiple clean water returns from the filtration system provides increased water circulation inside the pool when compared to a single water return or water fall. The objective of multiple returns is to circulate water throughout the entire pool, suspending solid waste and not allowing it settle on the bottom of the pool. Proper water circulation inside the pool gets the solid waste to the surface skimmer and bottom drain.

**Energy Efficient Pump:** NitraMAX Filters create far less pressure due to the size and shape of their Bee Cell media. This in turn allows the filters to be operated with pumps using "low" RPM motors (1750 RPM). It is important to consider all instances within the plumbing that may add head pressure, such as elevated waterfalls. Extended runs of plumbing that are used with remote filter locations will also affect the performance of a pump. It is best to consult with the pump manufacturer when a filter location exceeds 20 feet from the pool.

**Easy Solids Removal:** The NitraMAX Filter's Bee Cell media incorporates a self-cleaning design that promotes better fluidization of the filter bed, while also encouraging optimal backwashing of the media bed.

**Efficient UV Treatment:** Each NitraMAX Filter System is fitted with a properly sized Emperor Aquatics, Inc. SMART HO (High Output) UV Sterilizer. Each Emperor Aquatics SMART HO UV Sterilizer model is sized based on the recommended recirculating flow of the system and also considers "green Water" conditions.

**Decorative Stone Inside the Pond:** Decorative stone when placed on the bottom of the pond may be esthetically pleasing at first, but it soon harbors solid waste, allowing it to accumulate and continually decompose. Rotting organic waste lowers the pond's water quality by increasing phosphorus and nitrogen levels as well as lowering dissolved oxygen levels, which is especially dangerous to fish during hot weather periods.

## NitraMAX System Plumbing Layout

The **Hydro Skimmer** has 2 - 1.5" female threaded outlets that can be plumbed together or used individually depending on the desired recirculating volume. Expect the maximum flow through a single Hydro Skimmer to be 50 GPM. The Hydro Skimmer line running to the three-way valve can be either 1.5" or 2".

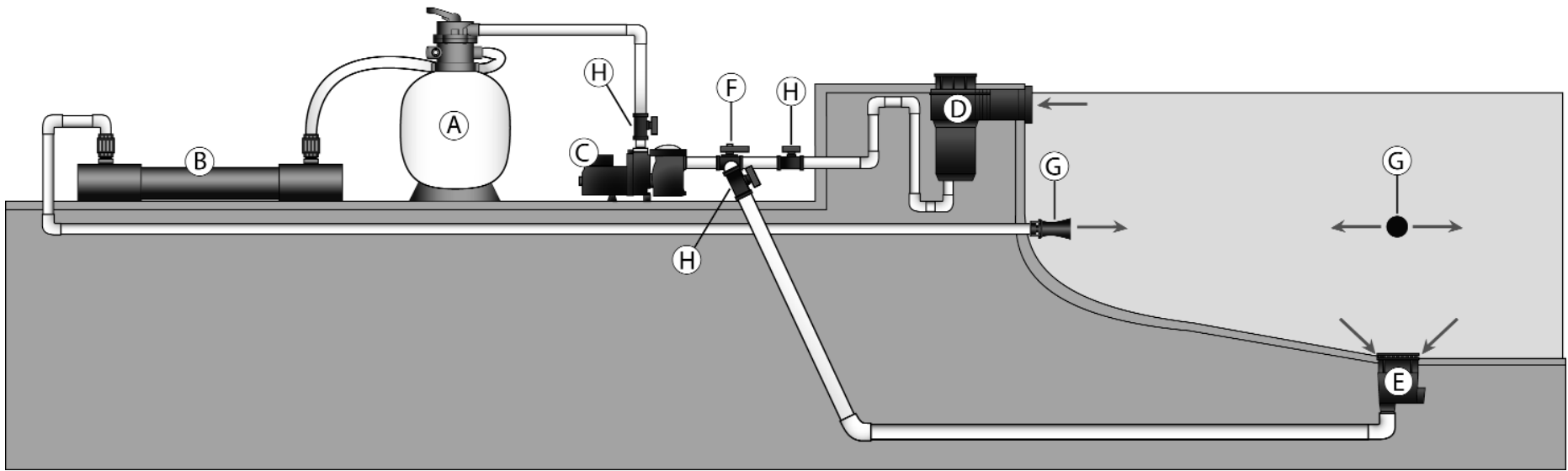
The **Tetra Bottom Drain** uses a 3" line to the three-way pump suction control valve where it is adapted down to 2" to fit the three-way valve.

Installing true union ball valves on the Hydro Skimmer and Tetra Bottom drain lines prior to the three-way pump suction control valve allows complete control of each line.

It is possible to install a 2" swing check valve on the suction of the pump, after the three-way valve.

The pump discharge line feeding the NitraMAX models 2,000 through 10,000 and their respective SMART HO UV models should be 1.5" while the NitraMAX 20,000 and 30,000 models require 2" plumbing.

Clean water returns to the pool via the "**clean water return lines**" that enter the pool either through the liner or concrete or come into the pool from over its side. Each line (inside the pool) should have a 1.5" or 2" female threaded adaptor that will accept a Tank Eductor. The Tank Eductor is 1.5" MPT and installs easily into standard 1.5" PVC fittings. The Tank Eductor creates water pressure internally, creating a water vacuum inside of itself using the pool's water, increasing the return's output by as much as four times. Tank Eductors are a great tool for increasing circulation without changing the pump size.



**NitraMAX Filtration Systems**

Filter System	A Filter Dia. / Part #	B UV Sterilizer / Part #	C Pump / Part #	D Hydro Skim / Part #	E Bottom Drain / Part #	F 3-Way Part #	G Tank Educt Part#	H Check Val. Part#
	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity
NitraMAX System 2	15" 01790	50 HO 025050	Primer 1/4 4200PRM15	50B1006	3" Tetra 16360	OV3-1500U	4MP	2" Swing 1520-20
	1	1	1	1	1	1	1	1
NitraMAX System 4	17" 01791	80 HO 025080	Primer 1/4 4200PRM15	50B1006	3" Tetra 16360	OV3-1500U	4MP	2" Swing 1520-20
	1	1	1	1	1	1	1	1
NitraMAX System 6	19" 01792	80 HO 025080	Primer 1/4 4200PRM15	50B1006	3" Tetra 16360	OV3-1500U	4MP	2" Swing 1520-20
	1	1	1	1	1	1	1	1
NitraMAX System 8	22" 01793	80 HO 025080	Primer 1/3 6000PRM15	50B1006	3" Tetra 16360	OV3-1500U	4MP	2" Swing 1520-20
	1	1	1	1	1	1	1	1
NitraMAX System 10	26" 01794	120 HO 025120	Primer 1/2 7200PRM15	50B1006	3" Tetra 16360	OV3-1500U	4MP	2" Swing 1520-20
	1	1	1	1	1	1	1	1
NitraMAX System 20	30" 01795	150 HO 025150	Power 1.5 8400PWR64	50B1006	3" Tetra 16360	OV3-2010U	4MP	2" Swing 1520-20
	1	1	1	2	2	2	2	1
NitraMAX System 30	36" 01796	260 HO COM6260A	Power 2 9000PWR77	50B1006	3" Tetra 16360	OV3-2010U	4MP	2" Swing 1520-20
	1	1	1	2	2	2	3	1

## Have a question?

AZPONDS.COM recommends that you read all instructions and collect all required plumbing parts before installing the NitraMAX filter or filter system. If you have a question regarding installation or operation please do not hesitate to contact us at AZPONDS.COM

1-800-722-8877  
AZPONDS@AOL.COM

## WARRANTY

The manufacturer guarantees that all products, when shipped, are free from manufacturing defects or faults when installed, applied and used according to specifications. All products are warranted for a period of one year from the date of purchase, unless specified on the individual product warranty. Defective products that fail during the warranty period, except as a result of improper installation or modifications, damages or losses, careless handling, negligence or any other abuse, may be replaced or repaired without charge within 60 days of receipt of defective products.

No claims for freight, labor, or other consequential damages will be allowed.

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### OWNER'S REGISTRATION OF EQUIPMENT

PURCHASER'S NAME: \_\_\_\_\_ PHONE # \_\_\_\_\_

STREET ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

### PURCHASED FROM:

DEALER'S NAME: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

DATE OF PURCHASE: \_\_\_\_\_ MODEL # \_\_\_\_\_

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