



QuikClean[®]

IN - FLOOR

System Installation & User Guide



A&A Manufacturing

Rev. 20200429

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Submitting a Plan

NOTE:

The layout drawings and their dimensions of the pool are based on a 1' radius in the shallow end and a 5' radius in the deep end. Proper hydraulic design and head placement are the most important points to insure that the in-floor system is working properly.

Completed drawings will be returned within 48 hrs of receipt.

Proper Submittal

To ensure proper cleaning and efficiency from the in-floor system, it is mandatory that all pool drawings be sent to the factory for review to insure proper layout design (see Appendix). This can be done through our Dealer Portal, Email or by Fax:

Dealer Portal: dealers.aamfg.com (after a login has been created)

Email: design@aamfg.com

Fax: 602.532.4894

All drawings must be:

Formatted for 100% or actual size and set 1/8" scale,

Accompanied with a Certified Design Cover Sheet completely filled out (see Appendix),

Saved in either a .DWG, .PDF or .DXF file format



Preparation & Layout

NOTE:

It is not advisable to have the excavator dig any of the trenches for the in-floor system, since accurate location and placement of the cleaning heads rest with the plumbers. Therefore, all trenches should be laid out and dug by the plumber.

Excavation

For a standard dig, there is typically no need to dig the pool any deeper than normal to accommodate the plumbing for the in-floor system. However, in the event of a hard dig, where the pool is being dug in an area that exhibits very hard soil conditions (caliche, rock, coral), it may be advisable to over-dig the pool 8" to 12", plumb the floor system, back-fill the pool with compactable soil and then apply the appropriate compaction required.

Equipment Location

It is recommended that the system equipment be located as close to the pool as possible. Locating the equipment further away than 70' may require the plumbing size to be increased, in order to provide the flow needed to the cleaning system. However, in the event that this is not possible, it is necessary to at least, locate the in-floor valve close to the pool and in a serviceable area. This will allow the valve to be supplied with the water required, allowing the cleaning system to operate effectively.

Transitional Breaks

When a transitional break is present, the skimmer should be located near the break or center of the pool. This will allow the return lines for the in-floor system to utilize the same trenches dug for the skimmer and the main drain lines. If this is done, the excavator can dig the skimmer niche all the way to the floor, wide enough to accommodate the return lines for the in-floor system, as well as the main drain lines (Figure 1).

All transitional breaks must be treated as if it were a wall and will require additional cleaning heads, along both sides of the break, in order to insure that the in-floor system will provide proper cleaning for the entire pool floor.

Cleaning Heads Layout

1. Beginning with the corners of the pool, mark the exact location of each cleaning head in the pool floor and drive a wood stake or a piece of rebar into the ground at the proper location (see Appendix).
2. With a piece of cord, tie a loop over the stake. Using the In-floor Design Layout, extend the length of the cord out to the distance listed, this will serve as the radius for the circular pattern created by the in-floor cleaning head.
3. Moving around the stake, use either a sharp object or spray paint at the end of the cord to trace an arc around the stake (Figure 1).
4. Now, move along the walls of the excavation, marking a line parallel to the wall at the distance referenced on the A&A Manufacturing Design Layout. Be sure to add an additional 8"-12" from the excavated wall to account for the structural elements and pool surface.
5. Once the circles have been traced around each of the corner stakes and the pool walls have been determined, the remaining head locations in the center of the pool and on the steps can be determined.
6. When all of the head locations have been located and marked, the trenches can be dug for the skimmer niche, filter run and in-floor pipe runs. The trenches must be a minimum depth of 6" (The skimmer niche can be dug to the pool floor by the excavator, but dressing out the niche may be necessary).

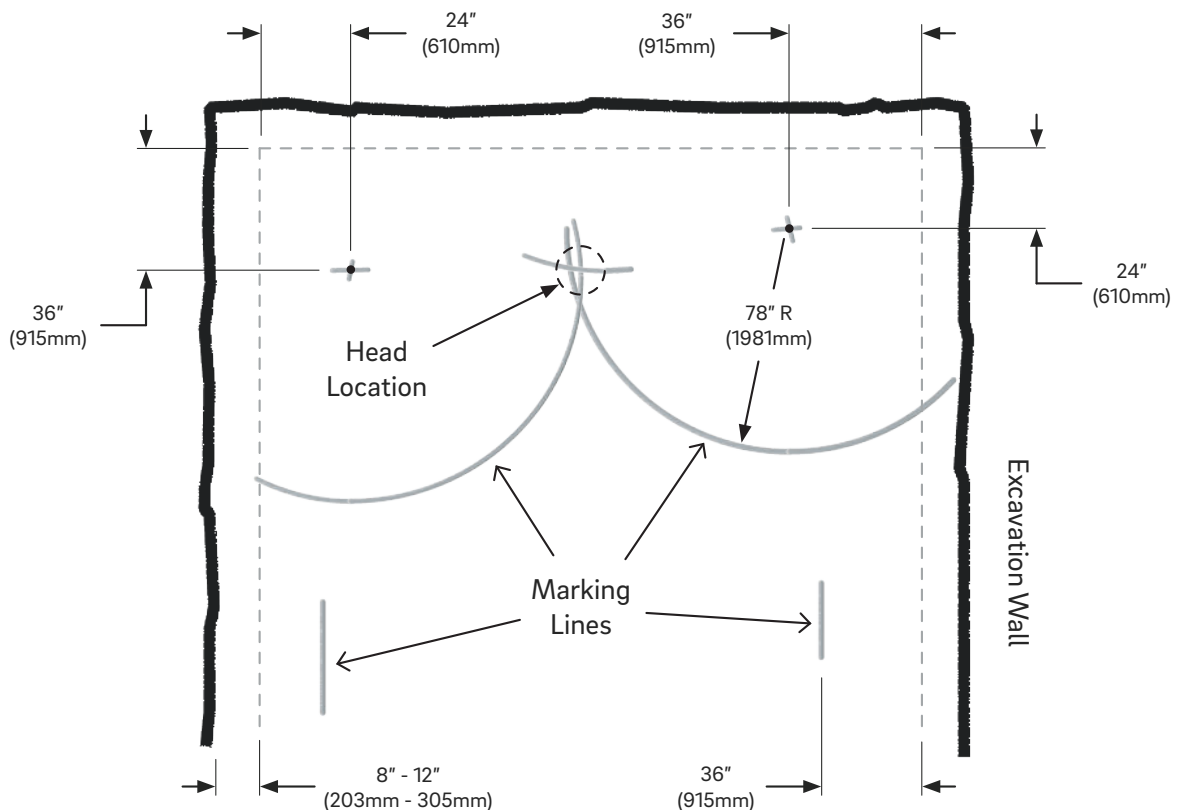


Figure 1



System Plumbing

IMPORTANT

All pipe for the in-floor system must be a minimum of 2" schedule 40 PVC or equivalent, unless otherwise noted on the Certified Design Layout.

NOTE:

Only use the 2" x 15" A&A Manufacturing riser provided for each cleaning head. This riser is not a standard Class 200 or Schedule 40 pipe. It has been specially extruded to ensure that it is the exact inside diameter (ID) required to accept the floor fitting, without the need to ream out the inside of the pipe (Figure 3a). The A&A Manufacturing riser is printed with red ink, in a repeating pattern ("A&A Manufacturing A&A Manufacturing A&A Manufacturing") for easy identification.

It is highly recommended that a colored primer and cement be used to easily determine if a joint has been missed.

Plumbing the Pool Floor and Excavation Run

1. It is recommended that the feed lines to each zone (group of cleaning heads) enter the pool at the skimmer niche, near the transitional break or center of the pool. The skimmer niche should be excavated to the pool floor and be wide enough to accommodate the feed lines for in-floor system, as well as the main drain line.
2. When starting the plumbing for the in-floor feed lines, begin by plumbing down the skimmer niche and follow the trench to the first zone (Figure 2). It is important that the pipes be plumbed as close to the back of the skimmer niche as possible, as this will aid in the placement of the steel and ensure maximum strength of the shotcrete in this area.
3. Take careful consideration that the plumbing of each zone is performed according to A&A Manufacturing's Certified Design Layout. Following the completion of the riser positioning and plumbing, glue a 2" cap on the open end of each riser in preparation of the systems pressure test.

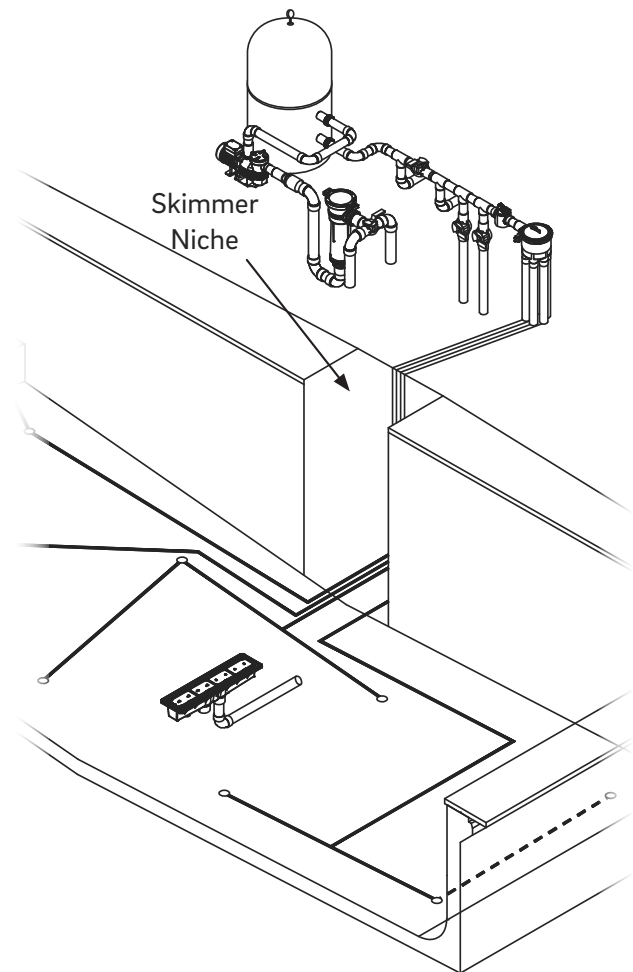


Figure 2

- The risers for the in-floor cleaning heads must maintain a 90° angle to the finished pool floor. In areas where the floor is not level, this can be achieved by combining a 90° sweep elbow, a 45° elbow and a length of pipe between the two fittings, which will allow for any possible adjustments needed to achieve the proper angle to the pool floor (Figure 3b). It is highly recommended that sweep 90° elbows be used in place of standard 90° elbows. This will allow for maximum water flow, while also improving overall system performance. Before gluing these three pieces together, experiment with the position of each until the desired angle is achieved. With a marking pen, mark lines across each of the parts so that, when they are taken apart to be glued, they will be returned to exactly the same position. This will ensure that you have the proper angle for the riser.

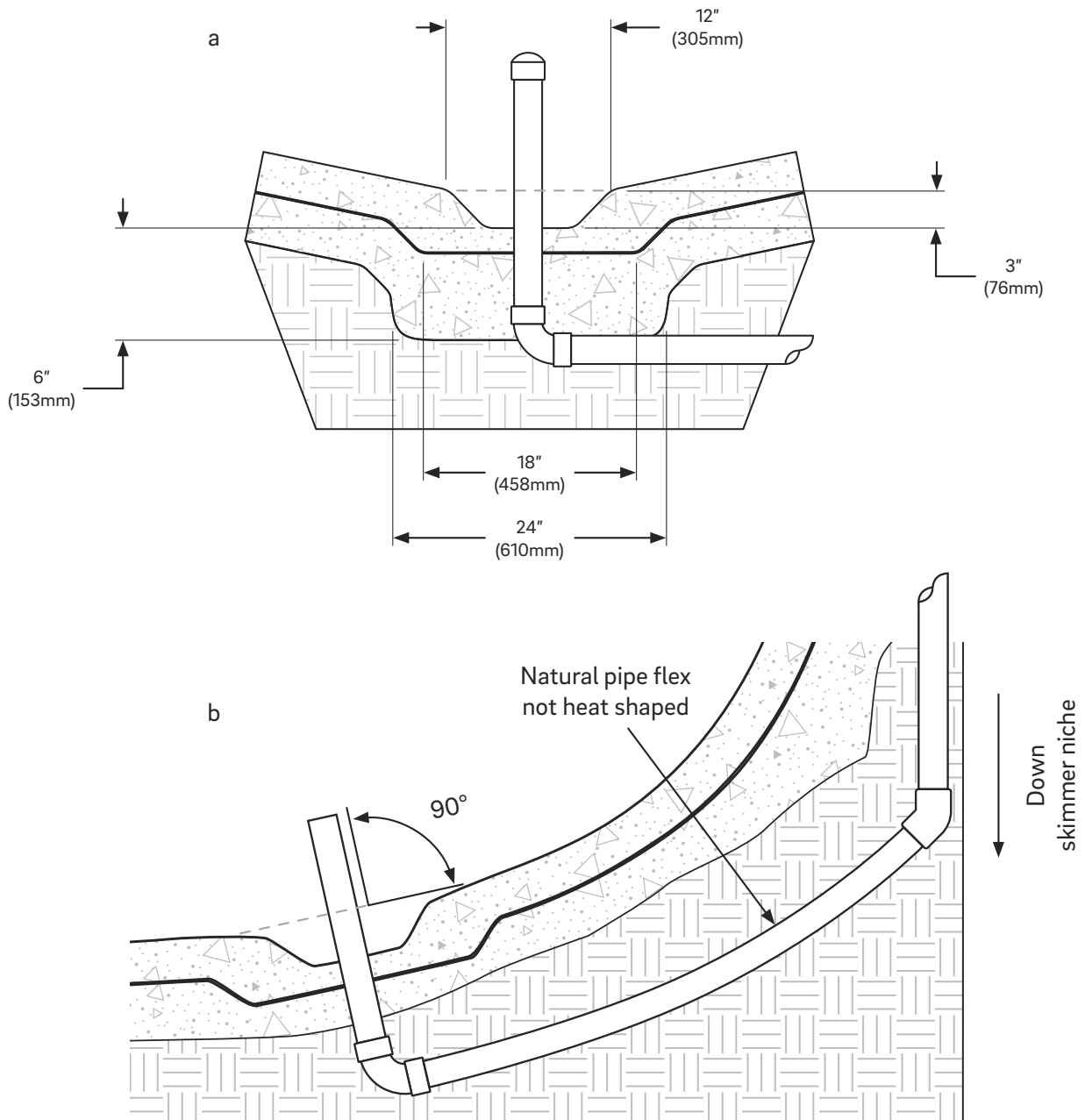


Figure 3

5. Once all of the plumbing for the risers and feed lines inside the pool have been completed, begin plumbing all feed lines from the skimmer niche back to the A&A water valve. This will ensure that all the lines, including the suction lines, are lying flat in the trench. Confirm the placement of the lines in the trench so that they are laying in the proper order in relation to the porting of the water actuator valve.
6. Connect all feed lines in the filter run trench to the A&A Manufacturing water valve (see pages 10-12 for instructions for plumbing the Water Actuator Valve).

Plumbing the Steps and Benches

When designing the steps, it is highly recommended that all corners are flared (Figure 4b) rather than finished with sharp angles (Figure 4a). This will significantly increase the cleaning efficiency of the in-floor system. Further, it is desirable to place the center of the cleaning heads no more than 4" from the front of the finished step edge. This will allow the jets of water to reach further around a curved step. The following drawing (Figure 5) gives the dimensions for riser placements that can be used for the standard step sizes, i.e., top step with an 18" deep tread and the second and third steps with a tread depth of 12". These dimensions are also based upon a 12" bond beam.

The horizontal dimensions are taken from the back of the bond beam form to the centers of the risers while the vertical dimensions are taken from the top of the bond beam form to the top of the 2" cap on the risers.

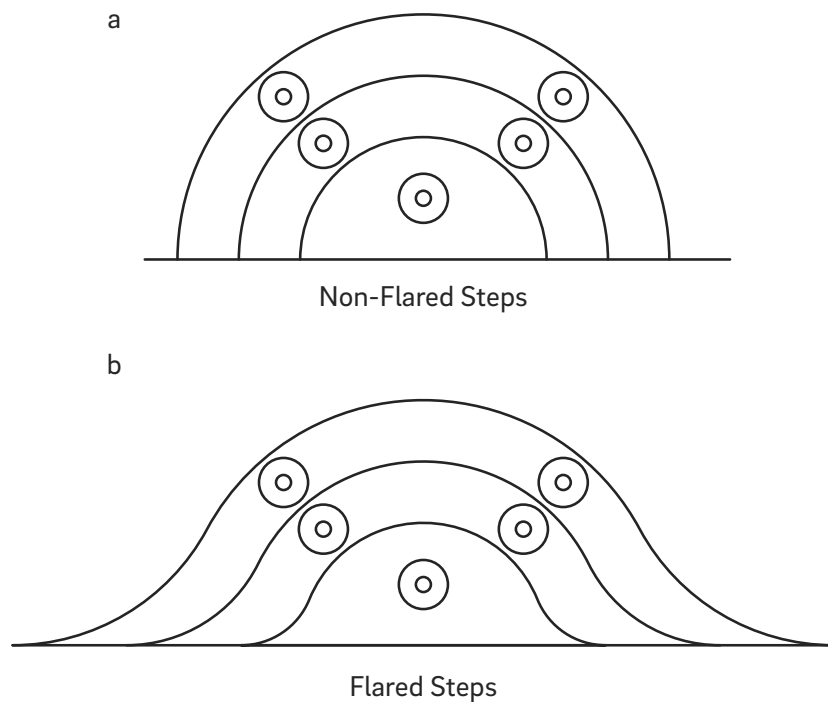


Figure 4

IMPORTANT

Do not try to set the height of the risers by measuring from the bottom up. Always for enough pipe, to be able to trim off to the appropriate length upon completion.

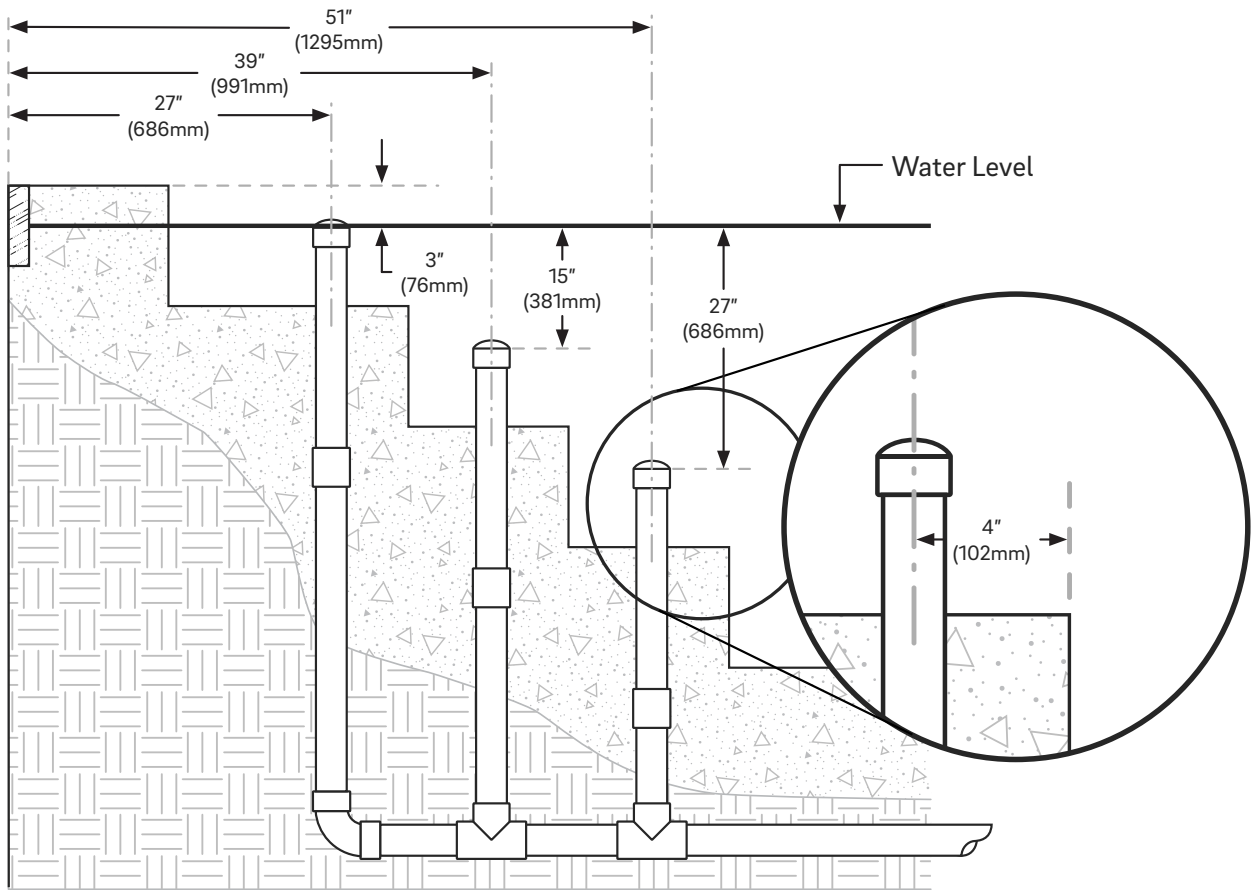


Figure 5

Plumbing the Spa

1. If the spa shares common equipment with the pool, refer to the diagram provided (Figure 6 & Figure 7) for the proper method of plumbing.
2. When the spa shares common equipment with the pool, it will be necessary to provide a means for the water introduced to the spa, through the in-floor system, to be returned to the pool. This is required because the water used to clean the spa has been drawn from the pool. The recommended method of returning this water is with a spa spillway, although, it can also be accomplished by installing a 3" balance line between the pool and spa.
3. If the spa is raised, it is imperative that a check valve be installed just below the actuator valve in the line that feeds the spa. Otherwise, water in the spa will drain back through the cleaning heads until the water in the spa reaches the same level as in the pool.
4. To provide water for a spa spillway feature, consult A&A Manufacturing for the modifications required to assume the cleaning efficiency of the in-floor system will not be reduced.

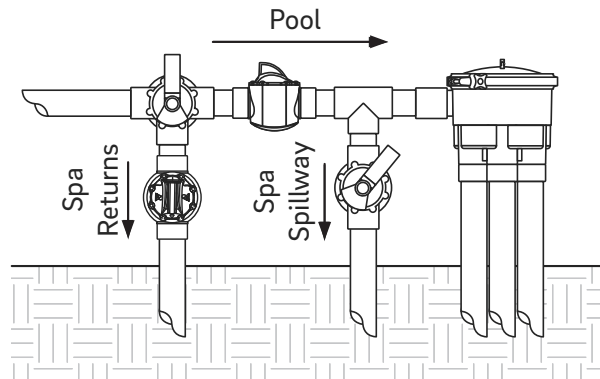


Figure 6

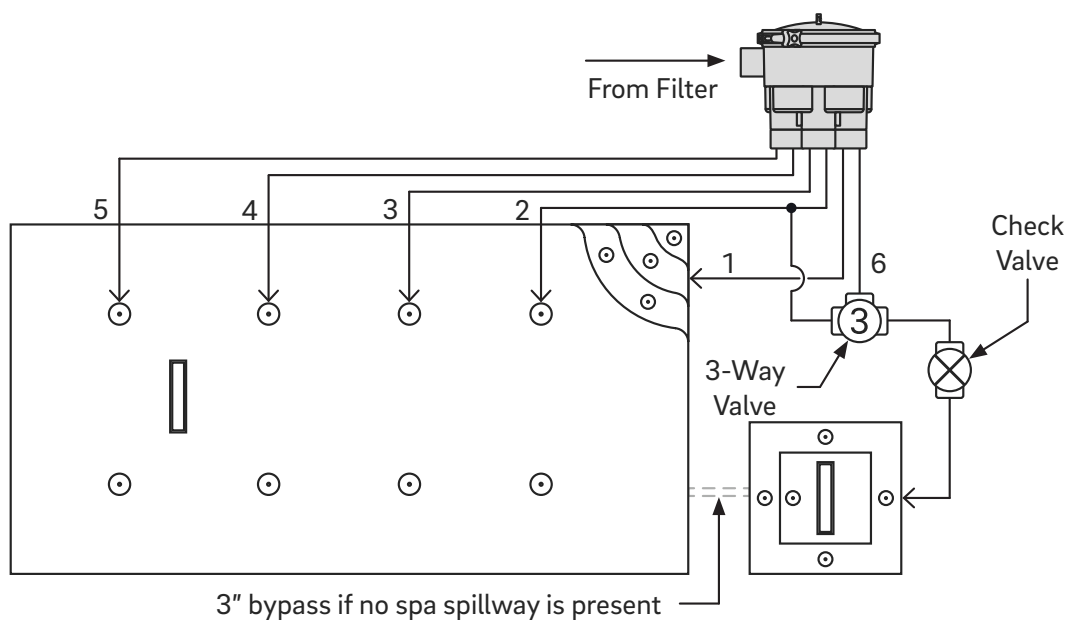


Figure 7



Plumbing the Wave Valve

IMPORTANT

All plumbing for the in-floor system must be a minimum of 2" schedule 40 PVC or equivalent, unless otherwise noted on the Certified Design Layout.

NOTE:

When gluing the 2" schedule 40 PVC to the housing of the Wave Valve, DO NOT USE PRIMER, use only a medium body PVC to PVC pipe cement.

The Wave valve is shipped ready to pressurize. There is no need to open the valve to remove parts prior to pressurizing the system. A brass nut has been installed ahead of the band clamp knob. DO NOT REMOVE this nut until after the pressure test has been completed and the pressure released from the system. This brass nut can be discarded after pressure testing is complete.

Height and Port Arrangement

The Wave valve rotates in a clockwise direction when viewed from above. When the water valve is plumbed as followed, the porting sequence should be arranged differently depending on whether the main-drains are located in the middle or in the deep end of the pool (Figure 8).

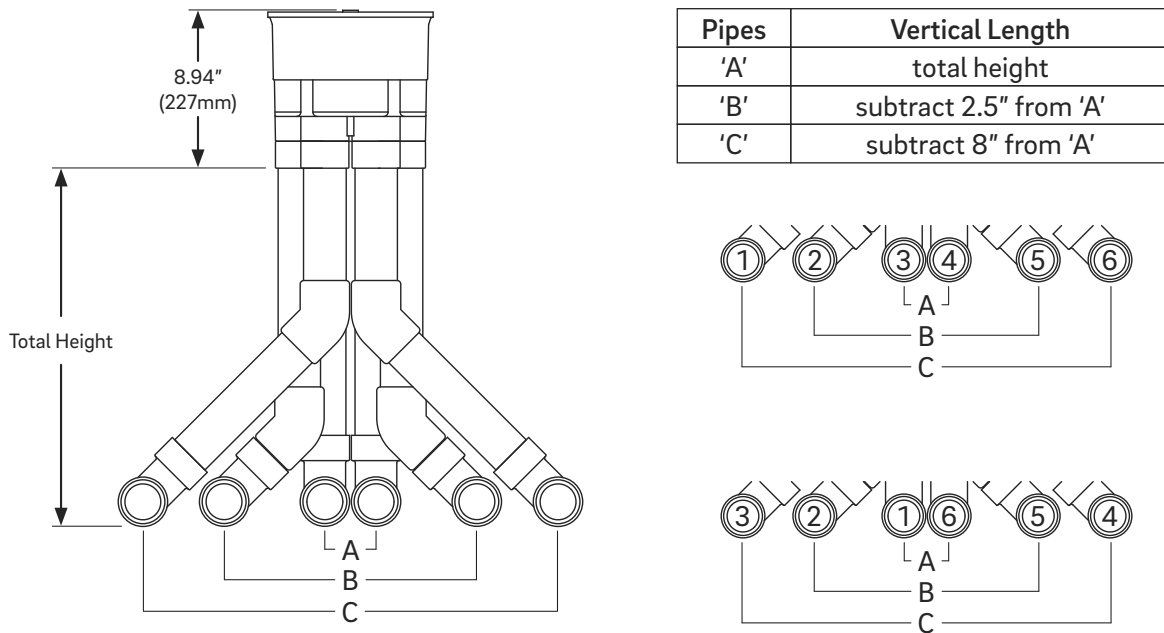


Figure 8

Dimensions

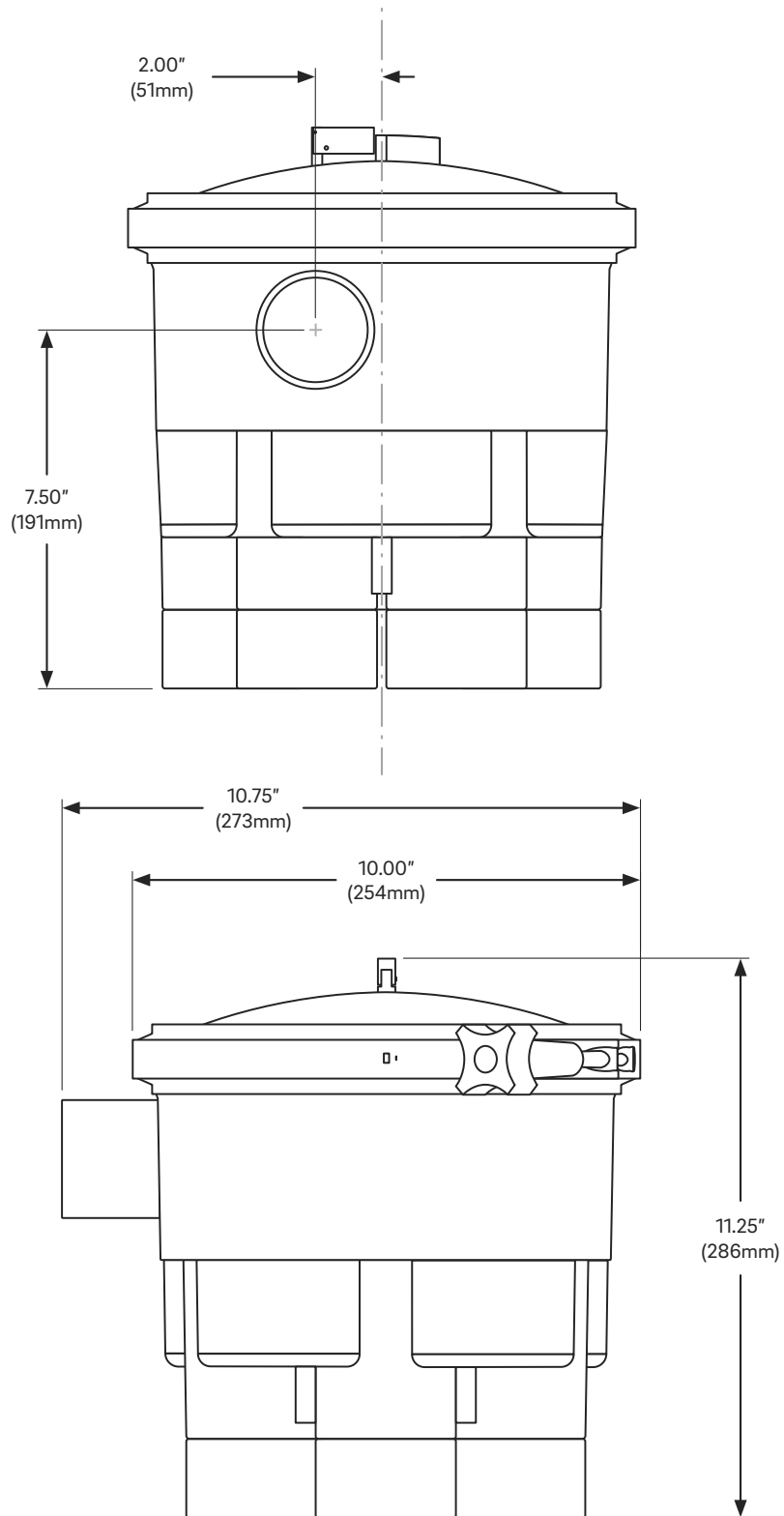


Figure 9



Locating the Wave Valve

Located in the Equipment Area

1. Determine the length of pipe that will be required to continue the feed line into the Wave valve, so that it remains at the same height as the rest of the equipment plumbing manifold and cut two pieces of 2" Schedule 40 PVC pipe to that length (Figure 10).
2. For vertical pipes 'A', the zones in the rear of the plumbing diagram, determine and set the grade height (Figure 8). *Example: If the grade height is 16", cut two 16" lengths of pipe for vertical pipes 'A'.*
3. For vertical pipes 'B', cut two pipe lengths that are 2 ½" shorter than vertical pipes 'A'.
4. For vertical pipes 'C', cut two pipe lengths that are 8" shorter than vertical pipes 'A'.
5. Glue the feed line from the equipment plumbing manifold into the Wave valve using a level to ensure that the pipes from the valve are vertical. Now glue the 2" lines from each zone in the pool into the appropriate sweep 90° elbow at the bottom of the Wave valve.

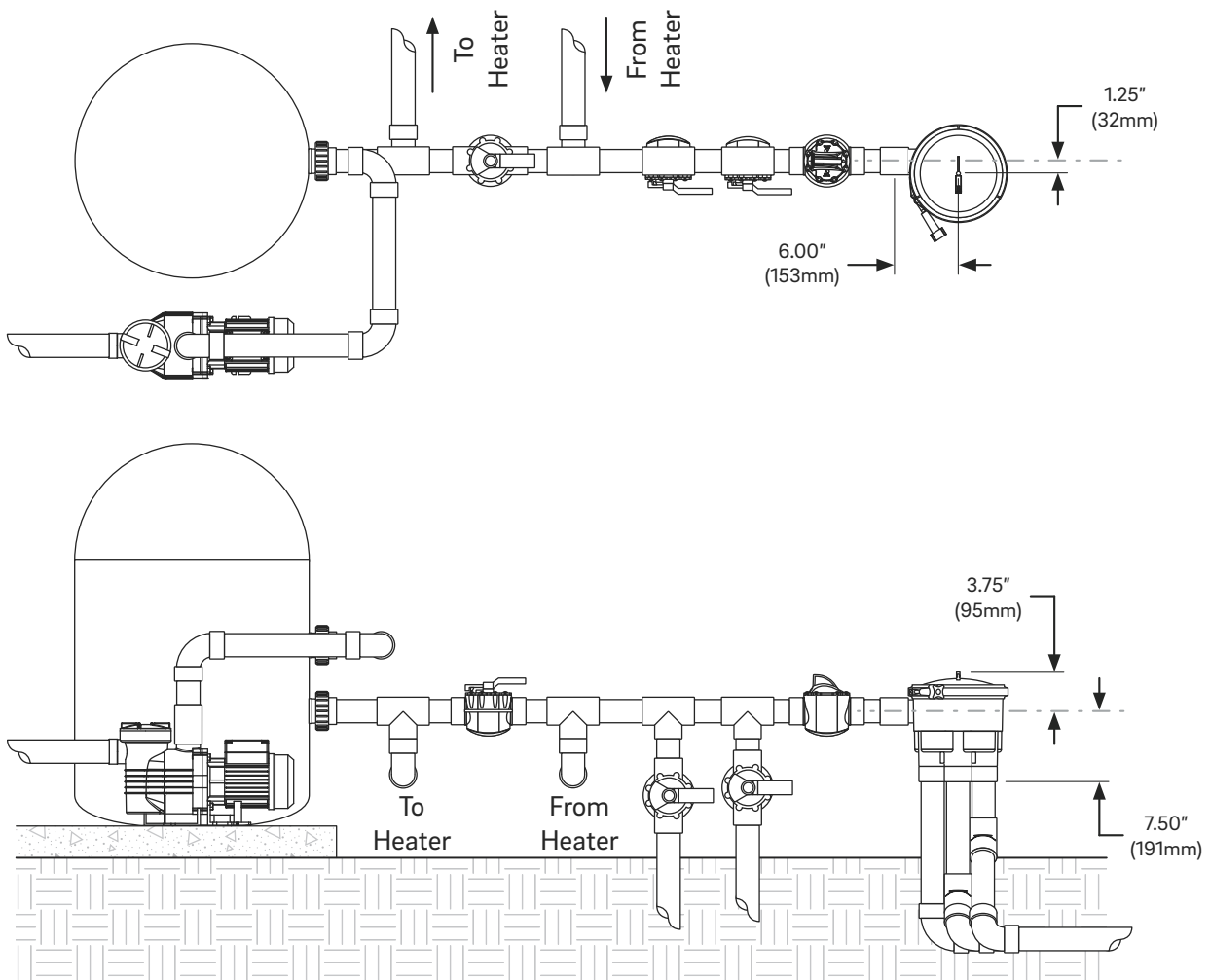


Figure 10

IMPORTANT

The band clamp of the Low Profile Water Valve needs to be higher than the water level of the pool. If lower than the water level, excessive flooding will occur out of the valve when the clear lid is removed for service or repair.

However, if the height of the low profile water valve must be below water level, a shut-off valve will be required on each of the lines entering and exiting the water valve.

ALL SHUTOFF VALVES MUST BE ACCESSIBLE FOR SERVICE.

NOTE:

If the desired level of the low profile water valve is below the finished grade, the valve must be installed inside a housing similar to a sprinkler valve box. This housing must be large enough to allow access to the band clamp of the valve. Center the housing over the valve so that the band clamp knob is accessible (Figure 11).

Located Remotely

1. Run Schedule 40 PVC pipe size specified on the A&A Design Sheet, from the plumbing manifold in the equipment area, to the remote low profile water valve location.
2. Determine and set the grade height and plumb the water valve as specified in the previous section titled, "Located in the Equipment Area."

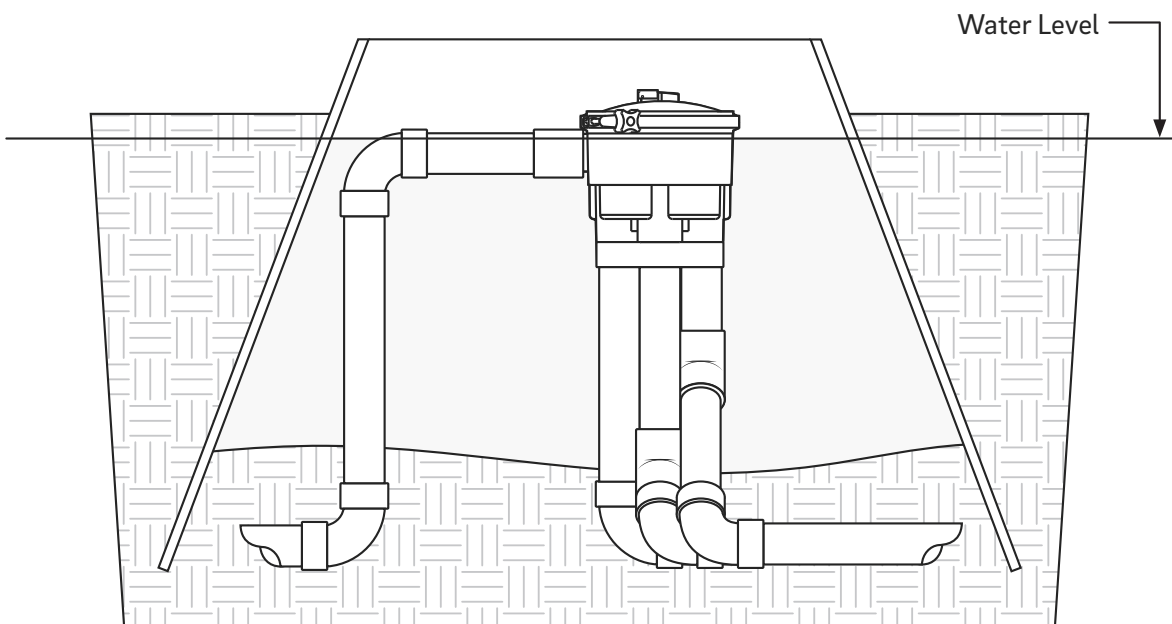


Figure 11

IMPORTANT

No chlorine feeders are to be installed before the Wave valve. This will cause damage to the internal mechanism inside of the valve. Any chemical injection or addition point is installed before the valve will constitute negligence on the part of the installer and will not be covered under the standard warranty.

Automatic Chlorine Feeders

Although the Wave valve components are 6x more resistant to oxidation than any other manufacturers valve, it can still be damaged. Therefore, a chlorine feeder or salt-cell should never be installed where it would allow the chlorine to pass through the valve. The best way to install a chlorine feeder or salt-cell is to install it on a bypass (Figure 12). It is highly recommended that a 2-Way valve is installed before the chlorine feeder or salt-cell to allow for adequate flow adjustment later.

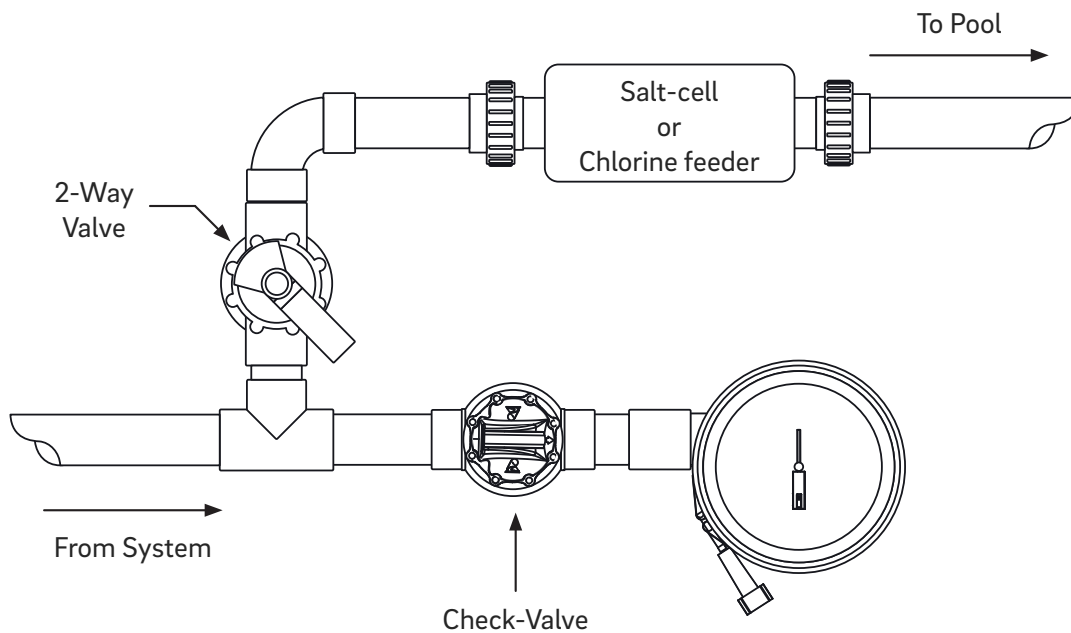


Figure 12



Wave Valve Configurations

NOTE:

Whenever plumbing two ports together, it is essential that neighboring ports, (Figure 13), are not plumbed together. This will allow discharged water from the valve, reversing flow and reentering the valve through the neighboring port. If this occurs, cleaning performance may be severely hindered or completely disabled.

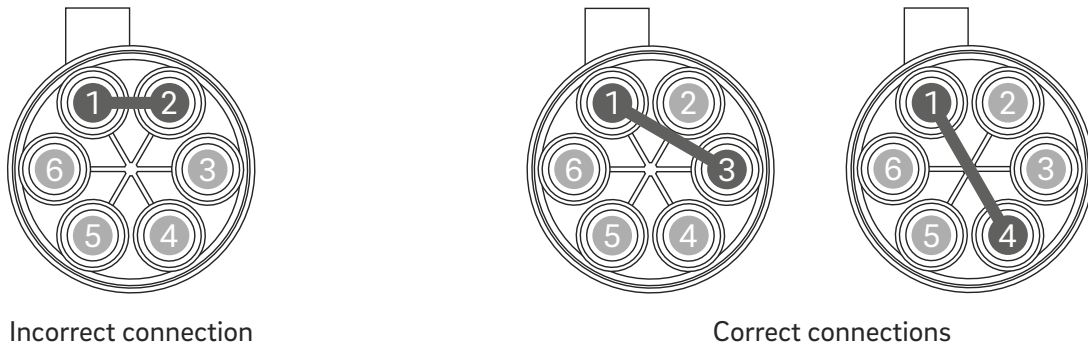
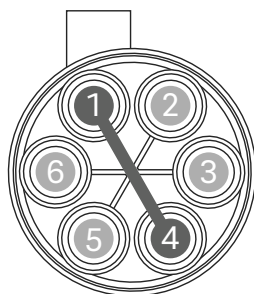


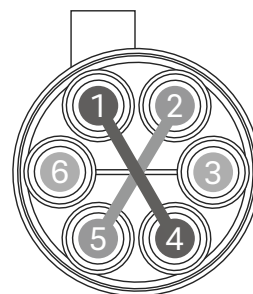
Figure 13

Standard Single-Valve Configurations



5-port configuration

Figure 14



4-port configuration

Figure 15

3-Port Valve Variations

The 3-Port (Figure 16) low profile water valve can be plumbed either manually in the field or by utilizing the factory prepared option.

1. The manually configured option will provide more indexing of the heads and standard operating time per zone (Figure 16a).
2. Alternatively, A&A Manufacturing offers a factory prepared 3-Port option (Figure 16b) that comes with three of the six ports sealed, utilizing a specially designed 3-port cam to switch between zones.

This option will provide less indexing of the heads and greater run-times per zone.

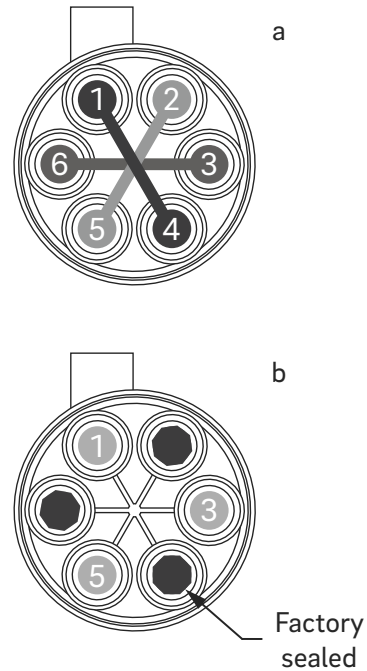


Figure 16

2-Port Valve Variations

The 2-Port (Figure 17) low profile water valve can be plumbed either manually in the field or by utilizing the factory prepared option.

1. The manually configured option will provide more indexing of the heads and standard operating time per zone (Figure 17a).
2. Alternatively, A&A Manufacturing offers a factory prepared 2-Port option (Figure 17b) that comes with four of the six ports sealed, utilizing a specially designed 2-port cam to switch between zones.

This option will provide less indexing of the heads and greater run-times per zone.

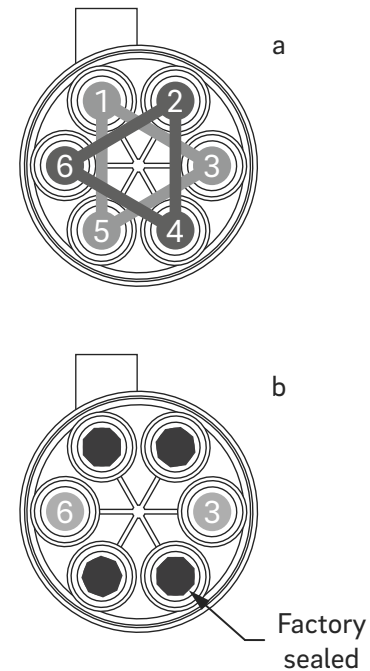


Figure 17

9-Port Valve Configuration

In circumstances where up to nine zones may be required, a nine port configuration (Figure 18) may be utilized. This double valve configuration must not be utilized for an in-floor system that requires ten or more zones. If ten or more zones are required, one of the standard dual valve configurations (Figure 19) need to be utilized instead. Otherwise, balanced flow will not be achieved.

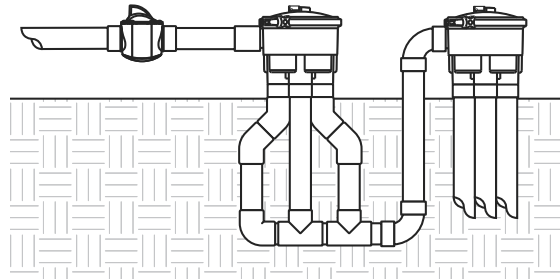


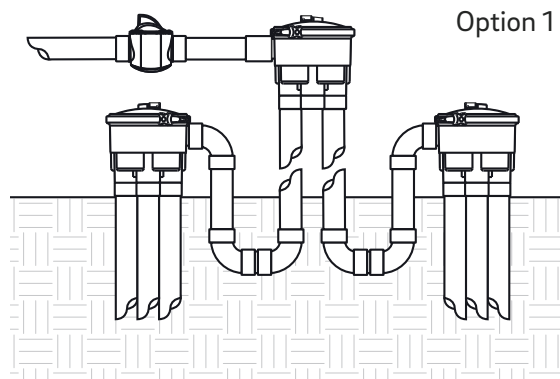
Figure 18

Standard Dual-Valve Configurations

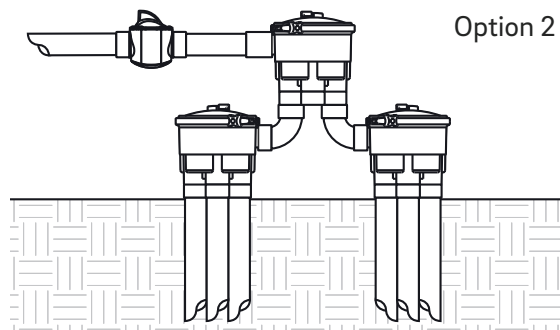
In circumstances where larger pools are concerned, more than six zones may be required. When this is required, A&A Manufacturing offers two configurations that may be used. These configurations are designed to provide a balanced flow to each zone.

OPTION 1: the feed valve (shown as the center valve) (Figure 19) needs to be plumbed at the same height as both receiving valves.

OPTION 2: the feed valve (shown as the center valve) (Figure 19) must be plumbed with sweep 90° elbows. If sweep 90° elbows are unavailable or not used, option 1 must be utilized.



Option 1



Option 2

Figure 19

Properly Joining Ports

When making the connection between two ports it is strongly recommend that the lines are plumbed together as far away from the valve as possible. An absolute minimum distance of 24 inches will be required in order to prevent back-flow into the valve from the connected line (Figure 20).

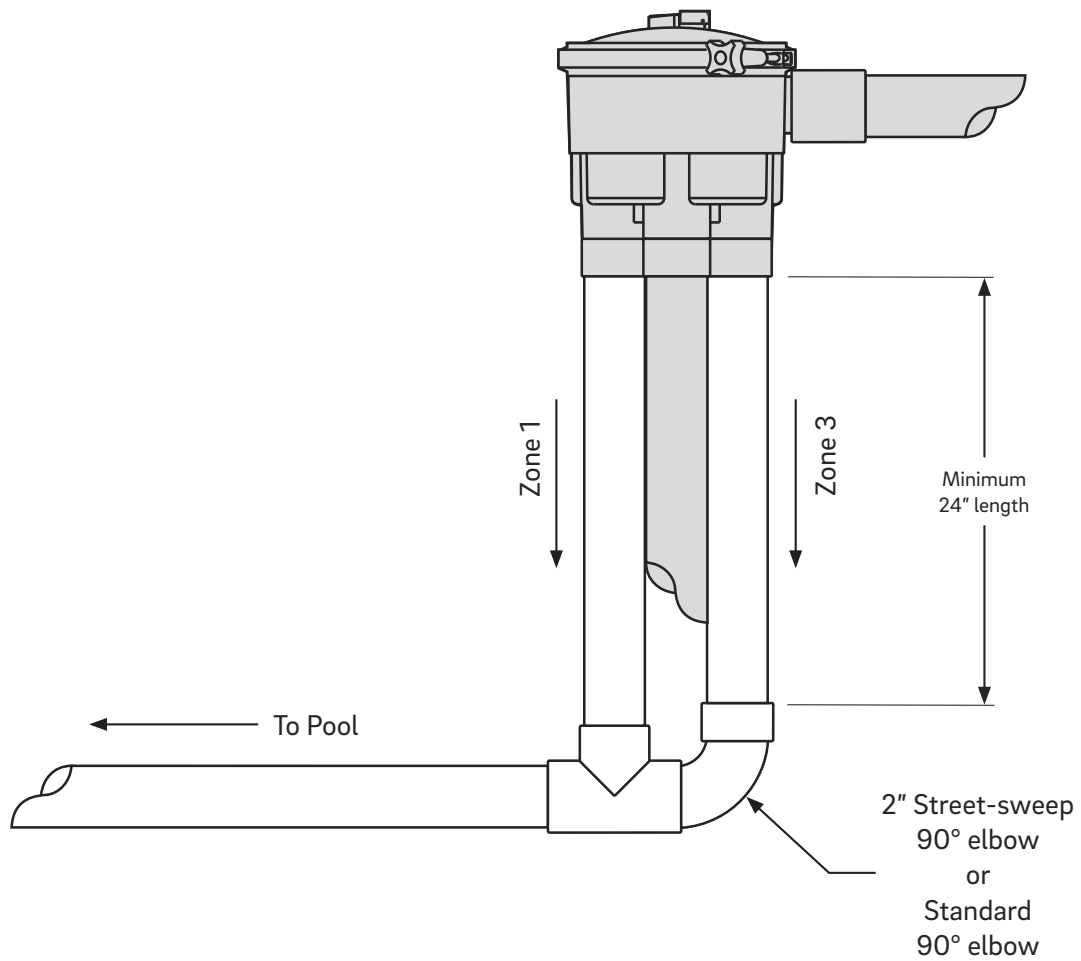


Figure 20



Pressurizing the System



WARNING

It is imperative that the pressure has been released from the system before removing the band clamp from the actuator valve. Failure to perform this task may cause injury or damage to the valve body.

NOTE:

The A&A Manufacturing Low Profile valve comes ready to pressure test. It is imperative that all lines from the actuator valve be cleared of debris before the pool is turned over to the customer. This will ensure that there will be no cleaning head malfunction due to debris plugging or restricting flow.

A 4" diameter PVC ring sits under all the 2" T-valves to keep them held up during the pressurizing process. Remove this ring and discard it before starting operating the system.

Once the pressure from the system pressure test has been released, remove the clamp knob and the brass pressure test lock nut from the band clamp and discard the nut (Figure 21).

Remove the clear lid from the top of the low profile water valve to gain access to the internal valve components. Now remove the impeller, gear plate and the 4" diameter PVC ring sits under the 2" T-valves.

Once the lines have been cleared, you may now replace the gear plate, impeller and clear lid. Now re-install the band-clamp by tapping around the outside of the clamp as you tighten the clamp knob to ensure a good seal. The system is now ready to start-up.

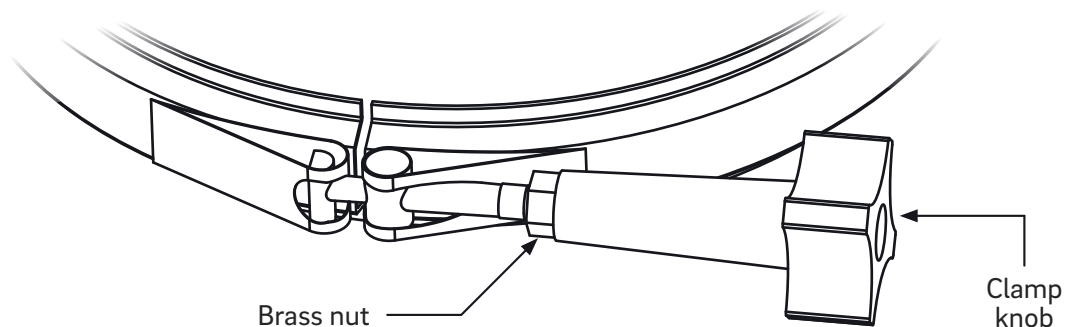


Figure 21



Adjusting the Wave Valve

The Speed Control

The rotation speed of the low profile water valve is determined by the position of the clear top when it is placed on the valve. For maximum cleaning efficiency, it is recommended that the cycle time for each zone be adjusted to run between 30 to 45 seconds. The volume of water allowed to enter the impeller chamber of the actuator valve controls the speed. When the clear valve lid is removed from the housing of the water valve, a raised speed control guide can be seen on the top lip of the housing. When assembled, a molded groove in the clear lid will accept the speed control guide (Figure 22).

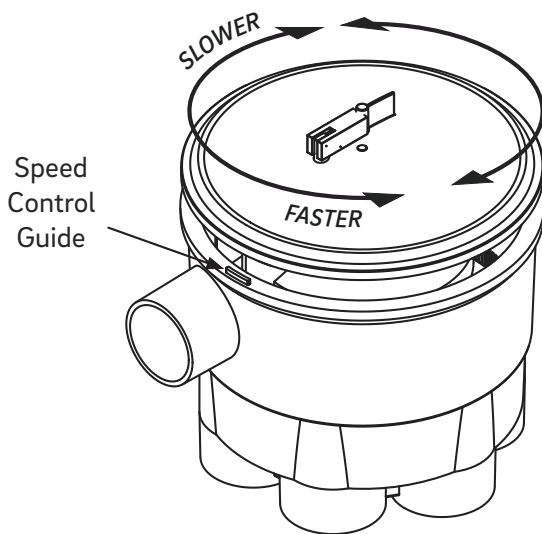


Figure 22

1. Place the clear lid on the valve housing so the molded groove in the lid is over the speed control guide.
2. Cycle time between zones will be increased by rotating the clear valve lid counterclockwise and decreased by rotating it clockwise.
3. Once the desired speed is achieved, remove the band-clamp and, with a marking pen, place a mark on the edge of the clear lid and valve housing as registration marks. This will allow the replacement of the clear lid to the same position if and when the valve is opened.

The QuikStop™

The QuikStop™ is a pause control for the low profile water valve. To pause the valve, raise the black lever on the clear lid to the full vertical position so that it locks in place. To restart the water valve, return the lever to its original horizontal position (Figure 23).

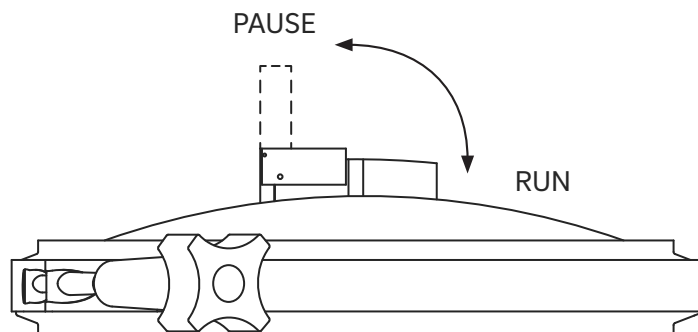


Figure 23



Preparing the Risers

IMPORTANT!

Check to ensure that all of the A&A risers will finish perpendicular to the contour of the finished pool floor prior to applying the concrete.

1. With a saw, cut each of the risers so that the stub will match the finished shotcrete surface (Figure 24b). This will allow each of the riser stubs to maintain the precise depth and angle to the plaster or marcite thickness of 3/8". If exposed aggregate, pebble or a thicker finish is used, slightly modify the cut depth so that it leaves the stub a little higher to compensate.
2. Begin clearing the lines as described in the previous section titled, "Clearing the Lines."
3. Apply both primer and glue on the inside of the A&A Manufacturing's PVC riser stub and apply only glue to the floor fitting only.
4. Do not remove the slurry cap or the Protecta foam from the floor fitting.

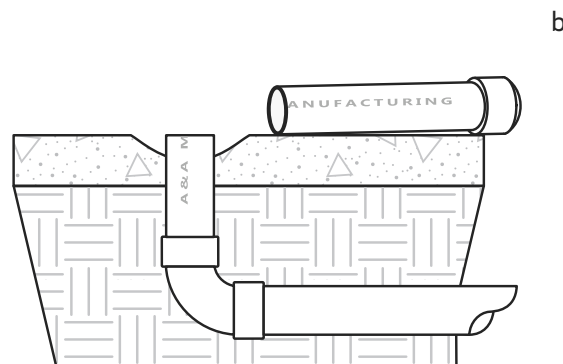
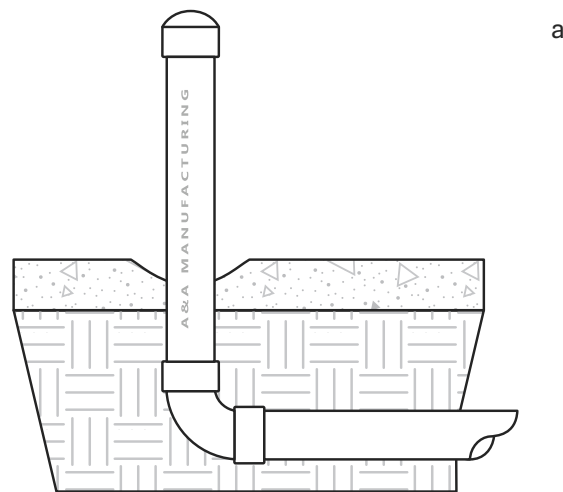


Figure 24



Clearing the Lines

NOTE:

It is important that the following instructions take place after preparing the risers for the floor fittings and before the floor fittings are glued into place. Failure to do so will require an unneeded amount of additional labor during the installation of the floor fittings.

Items Required

- Chicago-style plugs (qty 6-7)
- Canvas 'Drain Jet' (rubber style will not work)
- Garden hose

Prior Considerations

It is imperative that all the lines for the in-floor system be cleared of dirt and debris in two separate stages during the installation process. The first of the two line clearing stages is an essential part required for the proper operation of the cleaning system. Failure to clear the lines will cause additional warranty trips to the finished pool site, as a result of, cleaning heads functioning improperly or not at all.

Pebbles, dirt and other bits of debris can plug the cleaning head orifices reducing or even completely stopping the flow of water through the cleaning head. These obstructions to the return flow will increase the pressure in that particular zone and could result in damage to either the cleaning head itself or the water valves internal gears.

Clearing Procedure

1. After all of the risers have been cut and prepared for the acceptance of their floor fittings (as shown in the following section titled, "Installing the Floor Fittings"), begin by plugging all of the cut risers in a single zone. In the riser positioned furthest from the equipment system, allow the plug to fit loose enough to for quick removal but, tight enough to resist water pressure generated by the canvas 'Drain Jet.'
2. In the equipment area, remove the lid, gear kit and T-valves from the low profile water valve.
3. Insert the canvas 'drain jet,' into the valve port corresponding to the zone previously plugged inside the pool body, and turn it on.
4. Allow the water pressure to build up inside of the zone and then quickly remove the 'loose' Chicago style plug from its port. This will cause a pressurized discharge of water out of the open riser which, will draw the PVC cuttings and dirt debris out of the zone. Once complete, remove a Chicago style plugs from the blocked risers, and begin setting up the next zone.
5. Repeat this process for each zone until the lines for all remaining zones have been cleared.



Installing the Floor Fittings

IMPORTANT!

Check to ensure that all the A&A Manufacturing's PVC risers will finish perpendicular to the contour of the finished pool floor prior to applying the concrete.

NOTE:

Use only ABS to PVC cement when gluing the floor fitting to A&A Manufacturing's PVC riser.

Never apply primer directly to the floor fitting, only glue. The heat produced may distort the plastic.

1. Apply both primer and glue on the inside of the A&A Manufacturing's PVC riser stub.
2. Apply ONLY glue to the floor fitting. DO NOT REMOVE the slurry cap OR the Protecta foam from the floor fitting (Figure 24).
3. Seat the prepared fitting inside of the riser stub, making sure that the depth will allow the floor fitting to remain flush with the floor once the desired surface material has been added.

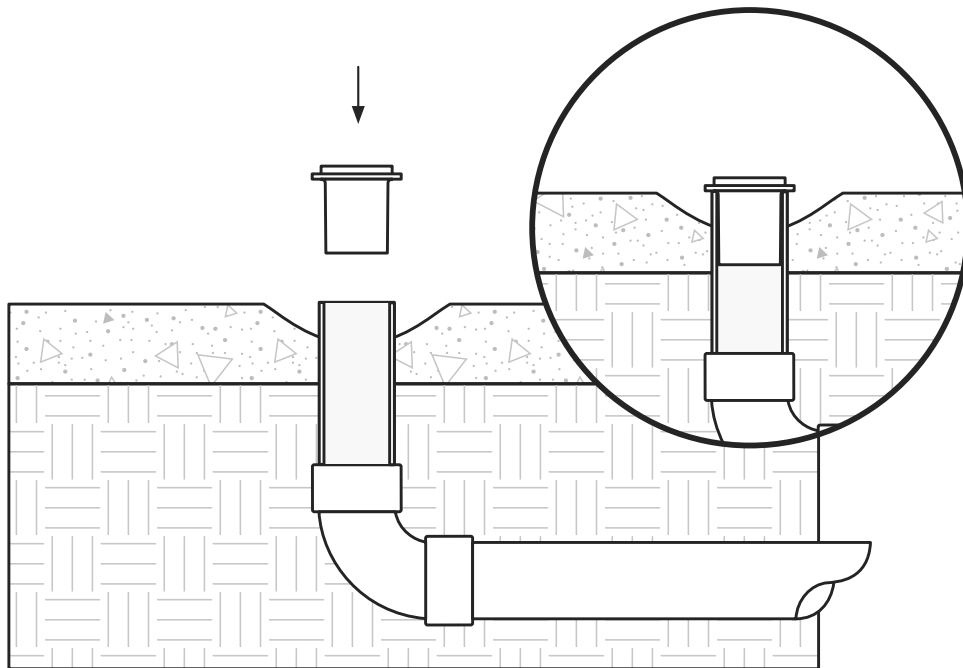


Figure 25



Preparing the Internal Heads

Description

A&A Manufacturing's slurry cap has been designed with the express purpose of providing our builders with the ability to perform a complete pool installation, without exposing the floor plumbing to excessive construction debris.

The slurry cap's flat top has been designed to sit inside the floor fitting while maintaining a flush surface with the color-ring (Figure 26). Just under the flat top, encircling the cap, is a short band that helps provide additional friction to the inside wall of the floor fitting (Figure 26a). Underneath, the tips of the ribs rest on a small lip inside the floor fitting that extends just below the bottom of the color-ring (Figure 26b). The dense rib pattern inside the center ring provides structural strength to aid in resisting the occasional step of plaster spikes from finishing crews.

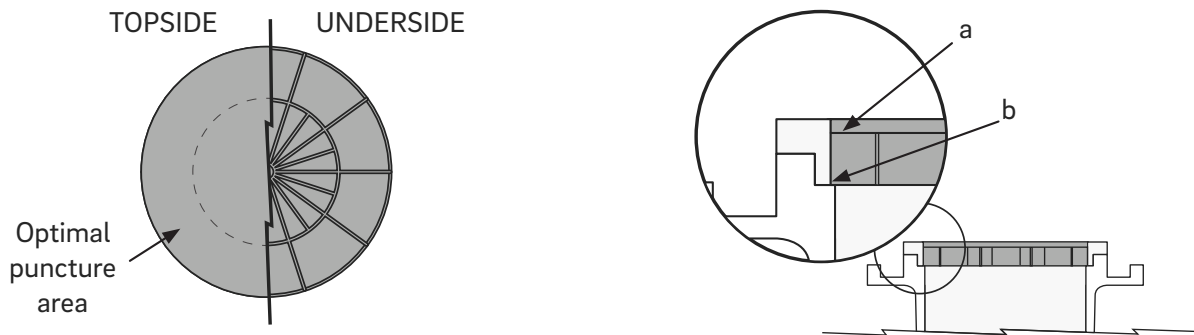


Figure 26

Removal Process

The slurry cap, as well as Protecta foam, will come factory assembled with each floor fitting. Once the floor fitting has been plumbed into the riser, the slurry cap will have no need to be disturbed until the completion of the interior surface (after the final acid wash with aggregate finishes). The slurry cap can be easily removed by puncturing the outer ring of the cap with a flat-head screwdriver or similar tool. Once the slurry cap is removed, it can be discarded and the Protecta foam can be pulled out with two fingers, or with the aid of needle nose pliers (Figure 27).

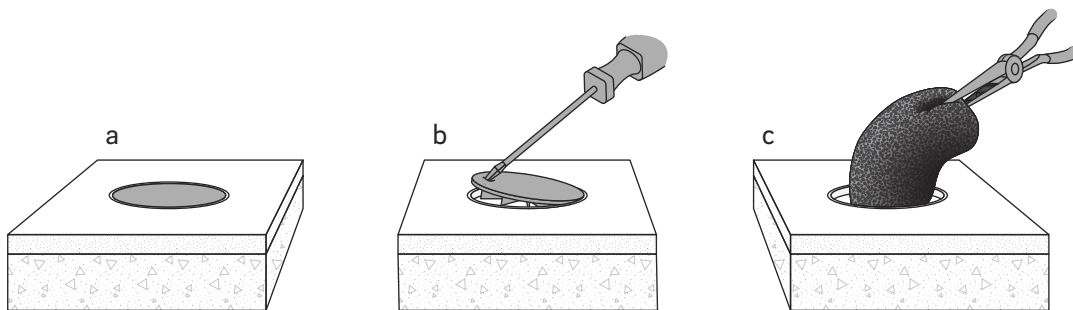


Figure 27



Winterizing the System

NOTE:

In geographic areas where freezing may be a possibility, it will be necessary to take precautionary steps to prevent any damage to the in-floor system. To prevent damage to the system, all the water in the feed lines that are located above the frost line and in the water valve must be removed.

General Winterization Procedure

1. Remove the upper housing from the standard top feed water valve or the lid from the low profile valve.
2. Remove all the internal parts from the water valve and store them for re-installation in the spring.
3. Remove the cleaning heads from the pool and spa that are above the frost line and store them until the spring.
4. Clear the lines by using either a portable tank type air compressor or a 2 hp spa blower. One at a time, blow all of the water out of each port of the A&A water valve. Once a line is cleared of all water, plug that port in the water valve and each of the floor fittings where the cleaning heads were removed in Step #2.
5. Remove the lid from the LeafVac™ canister and set the 3-way valve on the lines into the LeafVac™ so the skimmer side is open and the main drain side is closed. With the blower, blow the water from the suction port in the bottom of the skimmer back through the LeafVac™ canister and place a 2" test plug in the suction port of the skimmer. Switch the 3-way valve on the LeafVac™ from skimmer to main drains.

Winterizing Additional Components

6. With the compressor or spa blower, blow all the water from the LeafVac™ canister to the main drains through the upper port inside the LeafVac™ canister. Once the water has been blown out to the main drains, install a 2" plug in the upper port of the canister to prevent water from rising back up into the pipe.
7. After the filter has been drained for winterizing, turn the pump on for a short time to evacuate all the water from the LeafVac™ canister. While the pump is still running, quickly install another 2" test plug in the bottom threaded fitting of the canister. Shut the pump off. The filter should drain a little more water than was pulled from the LeafVac™.
8. After lowering the pool water level below the skimmer, remove the venturi fitting from the inlet fitting of the venturi skimmer. This will allow the water in the return line to the skimmer to drain into the skimmer when the return header is drained back at the pool equipment.
9. For those feed lines that supply cleaning heads below the frost line, fill the lines with air and quickly install winterizing plugs in that port of the water valve to create air locks that will prevent the water from rising back up the lines to above the frost line.



Preparing the Wave Valve for Winterization

NOTE:

The 2" T-valve removal or winterization tool kit (Figure 28) consists of 3 tools; the extractor tool, the seat protection disc and the T-valve installation tool.

1. With the pump shut OFF, remove the band clamp and lid from the 2" T-valve.
2. Remove all the internal parts (impeller, 2 shims, gear plate, 2 stainless steel anti-friction washers and the center shaft) and place these parts in a box or plastic bag for storage over the winter.
3. With the extractor tool, remove each T-valve assembly from the valve base. Raise the T-valve assembly in a vertical position and insert the extractor tool under the valve. Pry the assembly out of the pin seats by pulling the extractor tool rearward (Figure 29).

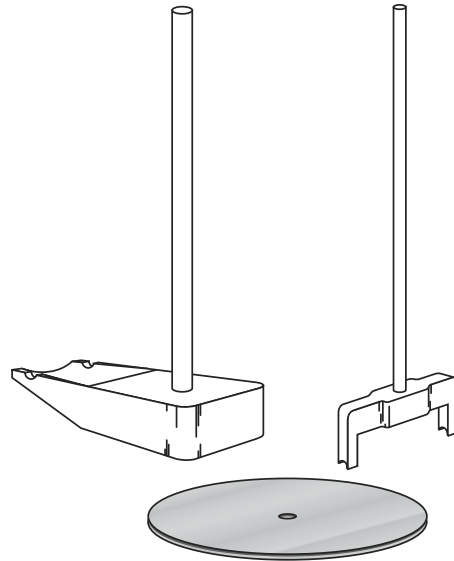


Figure 28

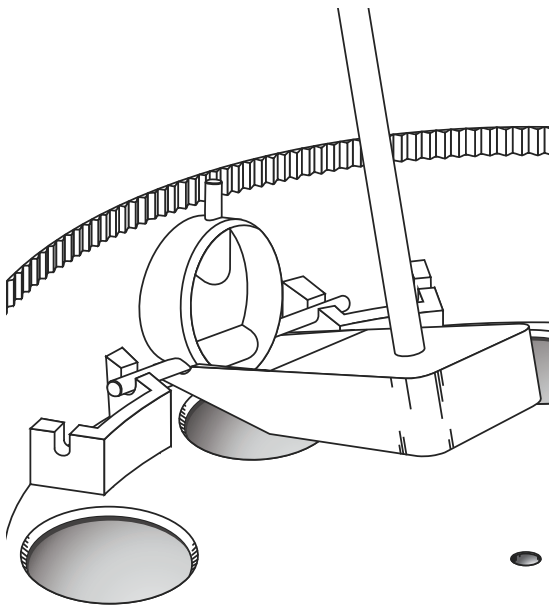


Figure 29

1. Immediately insert the plug of your choice into the cleared port. Repeat this procedure for the remaining five ports. Replace the lid and band clamp for the duration of the winter.
2. Remove the lid from the LeafVac™ canister and set the 3-way valve on the lines into the LeafVac™ so the skimmer side is open and the main drain side is closed. With the blower, blow the water from the suction port in the bottom of the skimmer back through the LeafVac™ canister and place a 2" test plug in the suction port of the skimmer. Switch the 3-way valve on the LeafVac™ from skimmer to main drains.



Configuring the Wave Valve After Winterization

1. Remove the band clamp and lid from the 2" T-valve.
2. Remove the winterizing plugs from all six ports of the T-valve.
3. Place the Seal Protection Disc at the bottom of the T-valve base. This will be used to give a slight lift to the T-valve assembly while reinstalling.
4. Now place the pins of one of the T-valve Assemblies into the notches above one of the valve seats, allowing the front of the T-valve Assembly to rest on the Seal Protection Disc. Failure to lift the T-valve Assembly during re-installation will result in damage to the valve seats and the T-valve Assembly.
5. Place the forked ends of the T-valve Installation Tool on the pins resting on the outside of the notches (Figure 19). With a mallet, firmly tap the top of the installation tool, driving the pins down into the notches until they are fully seated. Test the assembly to make sure it raises and lowers freely.
6. Repeat this procedure with each of the remaining five assemblies.
7. Reinstall the rest of the valve internals (center shaft, 2 seal protection discs, gear plate, 2 stainless steel washers and the impeller).
8. Remove the cam from the gear plate assembly and install it down over the center shaft. If multiple valve configurations are present, make sure the correct cam is added to the correct valve.
9. Lift at least three of the T-valve assemblies and stand them in the vertical position so the cam can drop to the bottom of the valve base. Then allow the three vertical assemblies fall back down on the cam.
10. Take the remaining portion of the gear plate assembly and start it over the center shaft holding the 2 stainless steel shims in place so that the center shaft passes through them as it exits the top of the gear plate assembly.
11. While looking down through one of the holes in the gear plate, line up the square shaft with the square hole in the cam and line the pin in the support post with the small round hole in the cam.
12. Push the gear plate down till the square pin and the support post pin have locked completely into the cam and then install the impeller.
13. Install the valve lid making sure that the speed control guide is lined up with the groove in the underside of the lid. Install the band clamp and hand tighten snugly.

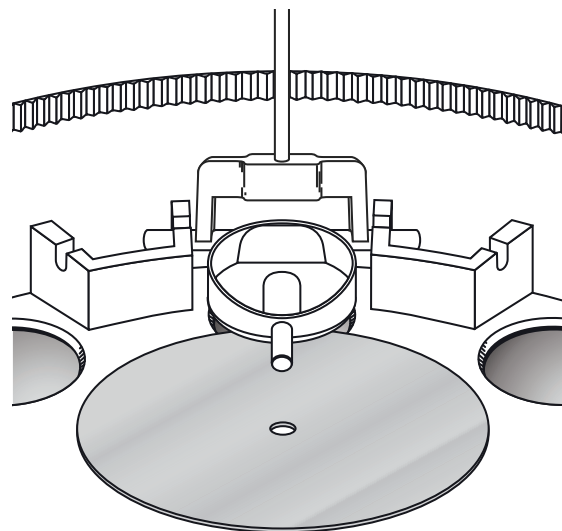


Figure 30



Appendix

A&A Manufacturing
3700 WEST BIGHAM SCHOOL ROAD, PHOENIX, AZ 85019
PH(602) 258-8835 OR 800-461-8492 F(602) 533-4836 AAMF@AZ.COM

DEALER
ABC POOL COMPANY

ADDRESS:
123456 E. MAIN ST.

CITY: SOMEWHERE **STATE:** AZ

JOB NAME: DOE

JOB NUMBER: 123456

SALES PERSON: JOHNNY SALESMAN

SYSTEM ORDERED?

SURFACE AREA 436 **SQ.FT**

ORIGINAL LAYOUT BY: AA

CHECKED BY: DATE: 12/53/56

REV. **DATE:**

REV. **DATE:**

REV. **DATE:**

MAXIMUM A&A IN-FLOOR SYSTEM REQUIREMENTS ONLY: 54 GPM

- G4V HP
- G4V
- G4 HIGH FLOW 7/16"
- G4 LOW FLOW 1/4"
- QUIKSKIM
- QUIKSKIM ULTRA
- AVSC DRAIN
- PDR2
- DEALER DRAIN
- 20" FULL CIRCLE DRAIN
- INFUSION RETURN FITTING

EQUIPMENT REQUIRED FOR THIS POOL

QTY	DESCRIPTION	QTY	DESCRIPTION	QTY	DESCRIPTION
1	6-PORT (2" VALVE)	0	10" PDR DRAIN(S)	0	TRIO DECK JETS
0	2-PORT (2" VALVE)	0	20" FULL CIRCLE DRAIN	0	BUBBLER
0	3-PORT (2" VALVE)	0	DRAINS BY DEALER	1	MULTI-CYCLONE
0	G4V HP VENTURI HEADS	1	QUIK WATER LEVELER		
16	G4V VENTURI HEADS	1	QUIK DEK-CLOR	2"	DIAMETER RETURN LINES
2	G4 HIGH FLOW HEADS	0	INFUSION	2.5"	DIAMETER SUCTION LINES
2	G4 LOW FLOW HEADS	0	QUIKSHITE		DIAMETER RETURN LINE FROM PUMP/FILTER TO WATER VALVE
1	QUIKSKIM	0	DELTA UV D-57		
0	QUIKSKIM ULTRA	1	QUIKPURE 3		
1	QUIK LEAF VAC	0	SPLASH DOWN FOUNTAINS	50'	SUCTION RUN DESIGNATED BY DEALER
2	AVSC DRAIN(S)	0	AQUA ARCHES		

ANY ADDITIONAL WATER DEMANDS MAY BE MET BY SEPARATE PUMP AND SUCTION CRITERIA AND ARE THE RESPONSIBILITY OF THE DEALER TO CALCULATE.

G4V

DRAWING SCALE: 1/8"=1'-0"

SHEET SIZE: A

SHEET NUMBER: 1 of 2

IMPORTANT NOTES
SEE SHEET 2 OF 2

A&A Manufacturing
3700 WEST BIGHAM SCHOOL ROAD, PHOENIX, AZ 85019
PH(602) 258-8835 OR 800-461-8492 F(602) 533-4836 AAMF@AZ.COM

DEALER
ABC POOL COMPANY

ADDRESS:
123456 E. MAIN ST.

CITY: SOMEWHERE **STATE:** AZ

JOB NAME: DOE

JOB NUMBER: 123456

SALES PERSON: JOHNNY SALESMAN

SYSTEM ORDERED?

SURFACE AREA 436 **SQ.FT**

ORIGINAL LAYOUT BY: AA

CHECKED BY: DATE: 12/53/56

NOTE: EFFECTIVE DECEMBER 19, 2008 - ALL DRAINS WITH AN A&A IN-FLOOR SYSTEM MUST BE VGB 2008 COMPLIANT AND CAPABLE OF REMOVING HEAVY DEBRIS.

NOTE: SEE REQUIRED METHOD OF PLUMBING A CHLORINE FEEDER WITH THIS SYSTEM. SEE PAGE 19 OF YOUR A&A IN-FLOOR INSTALLATION MANUAL.

NOTE: RECOMMENDED PLUMBING LINE SIZES ONLY ACCOUNT FOR FLOW REQUIREMENTS OF THE A&A CLEANING SYSTEM COMPONENTS.

NOTE: ANY ADDITIONAL COMPONENTS / WATER FEATURES INCORPORATED INTO THE IN-FLOOR PLUMBING SYSTEM MAY REQUIRE AN INCREASE IN PLUMBING LINE SIZE.

SINGLE VALVE

NOTE: VALVE A = 1 H.P. VARIABLE SPEED PUMP SHARED THROUGH FILTRATION SYSTEM W/ QUIKSKIM & LEAF VAC

NOTE: A&A HIGHLY RECOMMENDS THE 2" 6 PORT LOW PROFILE VALVE(S) TO BE LOCATED POOL SIDE.

NOTE: ALL G4V HEADS MUST BE LOCATED IN A MINIMUM WATER DEPTH OF 18".

NOTE: SPA SPILLWAY WILL REQUIRE A SEPARATE PUMP IF IT IS TO BE RUN AT THE SAME TIME AS THE CLEANING SYSTEM. OR A 3-WAY VALVE MAY BE USED TO RUN EITHER THE CLEANING SYSTEM OR THE SPA SPILLWAY.

NOTE: WITH A RAISED SPA, A CHECK VALVE IS REQUIRED ON THE ZONE FEEDING THE SPA. SEE PAGE 7 OF YOUR A&A INSTALLATION MANUAL.

NOTE: A HEATER BY-PASS IS REQUIRED FOR THIS SYSTEM. SEE PAGE 13 OF YOUR A&A IN-FLOOR INSTALLATION INSTRUCTIONS.

NOTE: 2" BY-PASS IS NEEDED FOR SALT CHLORINATOR. SEE PAGE 7 OF YOUR A&A IN-FLOOR INSTALLATION INSTRUCTIONS.

NOTE: THE SUCTION LINES BETWEEN THE MAIN DRAINS AND THE PUMP MUST BE LESS THAN 70 FEET.

NOTE: ADDITIONAL WATER DEMANDS WILL REQUIRE A SEPARATE PUMP IF IT IS TO BE RUN AT THE SAME TIME AS THE CLEANING SYSTEM. OR A 3-WAY VALVE MAY BE USED TO RUN EITHER THE CLEANING SYSTEM OR THE ADDITIONAL WATER DEMANDS.

REV.	DESCRIPTION:	DATE:
REV A	-	--/~/20--
REV B	-	--/~/20--
REV C	-	--/~/20--
REV D	-	--/~/20--
REV E	-	--/~/20--

NOTE: THE WATER VALVE'S HEIGHT ABOVE GRADE WILL VARY DEPENDING ON THE FINISHED BOND BEAM (POOL) ELEVATION. ACTUAL HEIGHT WILL BE DETERMINED AFTER THE POOL AND DECK ELEVATIONS HAVE BEEN SET, AND THE VALVE'S ACTUAL LOCATION IN THE YARD WILL BE DETERMINED BY POOL BUILDER.

G4V

DRAWING SCALE: 1/8"=1'-0"

SHEET SIZE: A

SHEET NUMBER: 2 of 2

IMPORTANT NOTES
SEE SHEET 2 OF 2



Design Coversheet

G4V HP Layout
(High Performance Heads)

G4V Layout
(G4V Venturi Heads)

G4 Layout
(Standard Head)

(If no selection is made your design will be done as a G4 layout.)

Please award trip points to Pool Salesperson: JOHNNY SALESMAN

Please Fax to A&A at (602) 532-4894 or email to Design@aamfg.com

How do you want the design sent back to you? FAX EMAIL PDF CAD

Pool Company: ABC POOL COMPANY

Address: 12345 E. MAIN STREET

City: SOMEWHERE State: AZ Zip: 850000

E-Mail: johnny.salesman@ABCpools.com

Phone: (123) 456-7890

Fax: _____

FOR A&A USE ONLY REV. ____

Customer / Job Name: JANE & JOHN DOE

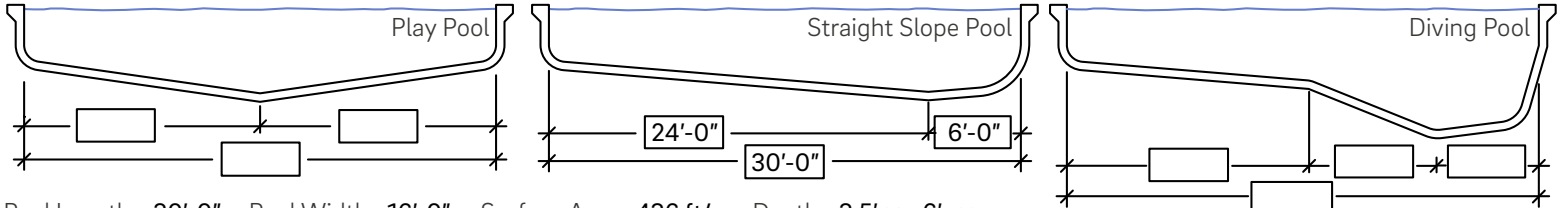
Address: 1234 HOME ADDRESS STREET

City: SOMEWHERE State: AZ Zip: 850000

E-Mail: janeandjohndoe@mail.com

Phone: _____

*****REQUIRED LENGTH OF PIPE BETWEEN THE MAIN DRAIN AND THE PUMP: 50 FEET*****



Pool Length: 30'-0" Pool Width: 16'-0" Surface Area: 436 ft/sq Depth: 3.5' x 6' x _____

We use: UP rated Pumps FULL rated Pumps Variable Speed Pumps Pump Size Sold (if any) 1

Pump Model Name: MANUFACTURE - PUMP NAME Pump Model #: WW-123456

Filter Type: Cartridge DE Sand Interior Finish: Pebble Plaster Vinyl Fiberglass Other: _____

(CHECK ONE BOX FOR EACH)

- | | | |
|---|-------------------------------------|-------------------------------------|
| Pool Only (No cleaning heads in spa) | <input type="checkbox"/> | <input type="checkbox"/> |
| Pool & Spa (Cleaning heads in pool and spa) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Pool & Spa with Common Equipment | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Raised Spa | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Heater | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Solar Heater (If yes: Booster pump required) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| AVSC Channel Drain: <input type="checkbox"/> Pool Only <input checked="" type="checkbox"/> Pool & Spa | <input type="checkbox"/> | <input type="checkbox"/> |
| "PDR2" 10 inch Main Drains (2) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 20" Full Circle Drain (Single Outlet) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Quick Water Leveler | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Beach entry: <input type="checkbox"/> Modified <input type="checkbox"/> True Beach (show waterline) | | |
| Total Quik LeafVacs QTY: <u>1</u> | | |

(CHECK ONE BOX FOR EACH)

- | | | |
|---|--------------------------|-------------------------------------|
| Transitional Break Shown (If applicable) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Heads in the Negative Edge Basin | <input type="checkbox"/> | <input type="checkbox"/> |
| Heads in the Spa Trough | <input type="checkbox"/> | <input type="checkbox"/> |
| Water demands from same pool pump | <input type="checkbox"/> | <input type="checkbox"/> |
| GPM: _____ (18 GPMs MAX) | | |
| Duo Valve System (if necessary) | <input type="checkbox"/> | <input type="checkbox"/> |
| 9 Port Valve System (if necessary) | <input type="checkbox"/> | <input type="checkbox"/> |
| Automatic Surface Returns (If possible)** | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Chlorinator/Generator: | | |
| <input type="checkbox"/> In-Line Chlorine-Generator <input checked="" type="checkbox"/> Deck-Clor | | |
| <input type="checkbox"/> In-Line Erosion (May require additional pump) | | |

Total QuikSkims QTY: 1 Total QuikSkims ULTRA QTY: _____ **Direct return line from Actuator Valve to pool Wall**

ORDER SYSTEM: YES NO P.O. Number: DOE FloVis ****NOTE: All G4V systems will require a FloVis****

Ship Method ----- Next Day 2nd Day 3rd Day Ground Will Call (Pick Up) NO DECK LIDS

Cleaning Heads / Main Drain ----- White Black Gray Light Gray Euro Blue DarkBlue Tan (Heads Only) Gold

Deck Lids ----- White Black Gray Light Gray Tan

Also send ---- QuikSkim QTY: 1 ULTRA Body Color: White Black Gray Bonding **Hydrostatic Valve Connection**

Quik LeafVac QTY: 1 Quik Dek-Clor Quik Water Leveler Protecta **Included on all AVSC Channel Drains**

AVSC Channel Drain QTY: 2 Single Dual Pebble Top Standard Top QuikPure 3 25K 50K DELTA UV QTY: _____

20" Full Circle Drain QTY: _____ White Black Dark Gray Light Gray PDR2 10" Main Drain (2) QTY: _____ With Sumps

**** NOTE: ALL DRAINS WILL BE THE SAME COLOR AS THE CLEANING HEADS SELECTION UNLESS OTHERWISE SPECIFIED. ****

Multicyclone Pro (Pre-Filter) QTY: 1 QuikBrite QTY: _____ Specifications: _____ Whispa: YES

Gunitite Reusable Cover (AVSC) YES Cleaning Head Installation Tool YES Metal Plastic

Aqua Arch (Brass) QTY: _____ Trio Deck Jet QTY: _____ Bronze Gray Tan

SplashDown Water Jet QTY: _____ White Gray 22" 44" SplashDown Crystal (22") QTY: _____ White Gray

SplashDown Water Lilly (22") QTY: _____ White Gray

Additional Information: _____



Design Coversheet

G4V HP Layout
(High Performance Heads)

G4V Layout
(G4V Venturi Heads)

G4 Layout
(Standard Head)

(If no selection is made your design will be done as a G4 layout.)

Please award trip points to Pool Salesperson: _____

Please Fax to A&A at (602) 532-4894 or email to Design@aamfg.com

How do you want the design sent back to you? FAX EMAIL (PDF CAD)

Pool Company: _____

Address: _____

City: _____ State: _____ Zip: _____

E-Mail: _____

Phone: _____

Fax: _____

Customer / Job Name: _____

Address: _____

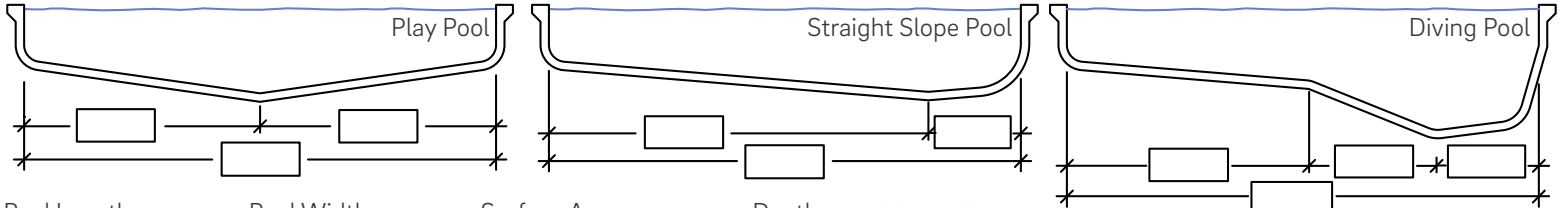
City: _____ State: _____ Zip: _____

E-Mail: _____

Phone: _____

FOR A&A USE ONLY REV. ____

*****REQUIRED LENGTH OF PIPE BETWEEN THE MAIN DRAIN AND THE PUMP: _____ FEET*****



Pool Length: _____ Pool Width: _____ Surface Area: _____ Depth: _____ X _____ X _____

We use: UP rated Pumps FULL rated Pumps Variable Speed Pumps Pump Size Sold (if any) _____

Pump Model Name: _____ Pump Model #: _____

Filter Type: Cartridge DE Sand Interior Finish: Pebble Plaster Vinyl Fiberglass Other: _____

(CHECK ONE BOX FOR EACH)

YES NO

- Pool Only (No cleaning heads in spa) YES NO
- Pool & Spa (Cleaning heads in pool and spa) YES NO
- Pool & Spa with Common Equipment YES NO
- Raised Spa YES NO
- Heater YES NO
- Solar Heater (If yes: Booster pump required) YES NO
- AVSC Channel Drain: Pool Only Pool & Spa YES NO
- "PDR2" 10 inch Main Drains (2) YES NO
- 20" Full Circle Drain (Single Outlet) YES NO
- Quick Water Leveler YES NO
- Beach entry: Modified True Beach (show waterline)

(CHECK ONE BOX FOR EACH)

YES NO

- Transitional Break Shown (If applicable) YES NO
- Heads in the Negative Edge Basin YES NO
- Heads in the Spa Trough YES NO
- Water demands from same pool pump YES NO
- GPM: _____ (18 GPMs MAX)
- Duo Valve System (if necessary) YES NO
- 9 Port Valve System (if necessary) YES NO
- Automatic Surface Returns (If possible)** YES NO
- Chlorinator/Generator: YES NO
- In-Line Chlorine-Generator Deck-Clor
- In-Line Erosion (May require additional pump)

Total Quik LeafVacs QTY: _____

Are your pools constructed with: No/Minimal Covers Standard Covers

Total QuikSkims QTY: _____ Total QuikSkims ULTRA QTY: _____

Direct return line from Actuator Valve to pool Wall

ORDER SYSTEM: YES NO P.O. Number: _____ FloVis ****NOTE: All G4V systems will require a FloVis****

Ship Method ----- Next Day 2nd Day 3rd Day Ground Will Call (Pick Up)

NO DECK LIDS

Cleaning Heads / Main Drain ----- White Black Gray Light Gray Euro Blue Dark Blue Tan (Heads Only) Gold

Deck Lids ----- White Black Gray Light Gray Tan

**Hydrostatic Valve Connection
Included on all AVSC Channel Drains**

Also send ---- QuikSkim QTY: _____ ULTRA Body Color: White Black Gray Bonding

Quik LeafVac QTY: _____ Quik Dek-Clor Quik Water Leveler Protecta

AVSC Channel Drain QTY: _____ Single Dual Pebble Top Standard Top QuikPure 3 25K 50K DELTA UV QTY: _____

20" Full Circle Drain QTY: _____ White Black Dark Gray Light Gray PDR2 10" Main Drain (2) QTY: _____ With Sumps

**** NOTE: ALL DRAINS WILL BE THE SAME COLOR AS THE CLEANING HEADS SELECTION UNLESS OTHERWISE SPECIFIED. ****

Multicyclone Pro (Pre-Filter) QTY: _____ QuikBrite QTY: _____ Specifications: _____ Whispa: YES

Gunitite Reusable Cover (AVSC) YES Cleaning Head Installation Tool YES Metal Plastic

Aqua Arch (Brass) QTY: _____ Trio Deck Jet QTY: _____ Bronze Gray Tan

SplashDown Water Jet QTY: _____ White Gray 22" 44" SplashDown Crystal (22") QTY: _____ White Gray

SplashDown Water Lilly (22") QTY: _____ White Gray

Additional Information: _____



Limited Warranty

QuikClean cleaning heads and water actuated valves shall be free of manufacturing defects for as long as the original consumer owns the pool in which it has been installed. Normal wear and tear included. QuikClean Xtreme system consists of the QuikClean system plus the Quikskim Venturi Skimmer™, and Quik Leafvac™ canister with Anti Vortex Single Channel (AVSC) main drain. The QuikClean Xtreme System shall be free of manufacturing defects for as long as the original consumer owns the pool in which it has been installed. Silt or debris bag(s), skimmer baskets and weir door are warranted for twelve (12) months. Normal wear and tear included.

Conditions: The Lifetime Limited Warranty is only extended to the original consumer named when the products have been installed by an Authorized QuikClean Dealer with A&A Products according to A&A installation instruction and after full payment has been tendered to the dealer. This certificate must be completed and returned to A&A Manufacturing before this warranty can take effect. A&A Manufacturing shall not be liable for any incidental or consequential damages for any reason.

Return Procedures: Affected parts only should be removed, packages and shipped to A&A manufacturing at the address listed below along with this certificate number, at original consumer's expense. Upon confirmation of a manufacturing defect, A&A will replace the affected part with a new one at absolutely no charge. Installation Cost, if any, shall be the responsibility of the consumer. Return Freight will be paid by A&A Manufacturing.

Your Rights May Vary: Some states do not allow limitations on how long an implied warranty lasts, so these limitations may not apply to you. This warranty gives you specific legal right, and you may also have other right which vary from state to state.

Please retain for your records.

Date of Installation _____

(Blank Page)



A&A Manufacturing

QuikClean Warranty Registration Card

Directions: Please Fill out bottom portion completely and mail within 30 days of purchase or register your product online at www.aamfg.com

Please Mail to:
ATTN: WARRANTY DEPT,
A&A Manufacturing
3750 W Indian School Dr, Phoenix AZ 85019

PLEASE PRINT CLEARLY

Owner Information

First Name _____ Last Name _____

Street Address _____

City _____ State _____ Zip _____

Phone Number _____ Purchase Date _____

E-Mail Address _____

Product Model Number _____

Original Purchase Information

Company Name _____

Address _____

City _____ State _____ Zip _____

Phone Number _____