

(all models)

SILKFLOW AND CASCADE WATERFALLS

WARNING

FOR YOUR SAFETY - This product must be installed and serviced by a trained Swimming Pool Technician in accordance with the latest applicable version of AS/NZS 3000, along with any other applicable local and national installation codes/standards, and any other local applicable regulations. Before installing this product, read and follow all warning notices and instructions that accompany this product. Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation will void the warranty.

Improper installation and/or operation can create unwanted electrical hazard which can cause serious injury, property damage, or death.

EQUIPMENT INFORMATION RECORD

DATE OF INSTALLATION _____

INSTALLER INFORMATION _____

INITIAL PRESSURE GAUGE READING
(WITH CLEAN FILTER) _____

PUMP MODEL _____

HORSEPOWER _____

FILTER MODEL _____

CONTROL PANEL MODEL _____

SERIAL NUMBER _____

NOTES _____

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Section 1. Important Safety Instructions

READ AND FOLLOW ALL INSTRUCTIONS

All electrical work must be performed by a licensed electrician and conform to all national, state, and local codes. When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

⚠ WARNING

RISK OF SUCTION ENTRAPMENT HAZARD, WHICH, IF NOT AVOIDED, CAN RESULT IN SERIOUS INJURY OR DEATH. Do not block pump suction, as this can cause severe injury or death. Suction outlet (drain) covers must be certified to the latest published edition of ANSI/ASME A112.19.8 or its successor standard ANSI/APSP-16. In Australia AS1926.3 is also an acceptable standard.

⚠ WARNING

To reduce the risk of injury, do not permit children to use this product.

⚠ WARNING

Due to the potential risk of fire, electric shock, or injuries to persons, AstralPool Equipment must be installed in accordance with the National Electrical Code® (NEC®), all local electrical and safety codes, and the Occupational Safety and Health Act (OSHA). Copies of the National Electrical Code may be ordered from the National Fire Protection Association® (NFPA®) online at www.nfpa.org or call 617-770-3000, or contact your local government inspection agency.

⚠ WARNING

To reduce the risk of property damage or injury, do not attempt to change the backwash (multiport, slide, or full flow) valve position with the pump running.

⚠ WARNING

Incorrectly installed equipment may fail, causing severe injury or property damage.

⚠ WARNING

- Do not connect system to an unregulated city water system or other external source of pressurized water producing pressures greater than 250 KPA (35 PSI).
- Trapped air in the system can cause the pump and/or filter lid to be blown off, which can result in death, serious personal injury, or property damage. Be sure all air is out of the system before operating.

 **WARNING**

To minimize risk of severe injury or death, the filter and/or pump should not be subjected to the piping system pressurization test.

Local codes may require the pool piping system to be subjected to a pressure test. These requirements are generally not intended to apply to the pool equipment, such as filters or pumps.

AstralPool pool equipment is pressure tested at the factory.

If, however, the WARNING cannot be followed and pressure testing of the piping system must include the filter and/or pump, BE SURE TO COMPLY WITH THE FOLLOWING SAFETY INSTRUCTIONS:

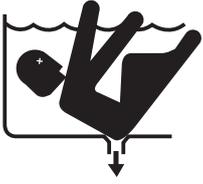
- Check all clamps, bolts, lids, lock rings, and system accessories to ensure they are properly installed and secured before testing.
- **RELEASE ALL AIR** in the system before testing.
- Water pressure for test must NOT EXCEED 250 KPA (35 PSI).
- Water temperature for test must NOT EXCEED 38°C (100°F).
- Limit test to 24 hours. After test, visually check system to be sure it is ready for operation.

Notice: These parameters apply to AstralPool equipment only. For non-AstralPool equipment, consult the equipment manufacturer.

 **WARNING**

Chemical spills and fumes can weaken pool/spa equipment. Corrosion can cause filters and other equipment to fail, resulting in severe injury or property damage. Do not store pool chemicals near your equipment.

SAVE THESE INSTRUCTIONS



⚠ WARNING

SUCTION HAZARD. Can cause serious injury or death. Do not use this pump for wading pools, shallow pools, or spas containing bottom drains, unless pump is connected to at least two (2) functioning suction outlets.

⚠ WARNING

Pump suction is hazardous and can trap and drown or disembowel bathers. Do not use or operate swimming pools, spas, or hot tubs if a suction outlet cover is missing, broken, or loose. The following guidelines provide information for pump installation that minimizes risk of injury to users of pools, spas, and hot tubs:

Entrapment Protection - The pump suction system must provide protection against the hazards of suction entrapment.

Suction Outlet Covers - All suction outlets must have correctly installed, screw-fastened covers in place. All suction outlet (drain) covers must be properly maintained. They must be replaced if cracked, broken, or missing. Drain covers must be listed/certified to the latest published edition of ANSI®/ASME® A112.19.8 or its successor standard, ANSI/APSP-16. In Australia, AS1926.3 is also an acceptable standard. The pool must be shut down and bathers must be restricted from entering the pool until any cracked, broken, or missing drain covers are replaced.

Number of Suction Outlets Per Pump - Provide at least two (2) hydraulically-balanced suction outlets, with covers, as suction outlets for each circulating pump suction line. The centers of the suction outlets (suction outlets) on any one (1) suction line must be at least three (3) feet apart, centre to centre. See Figure 1.

The system **must** be built to include at least two (2) suction outlets (drains) connected to the pump whenever the pump is running. However, if two (2) suction outlets run into a single suction line, the single suction line may be equipped with a valve that will shut off both suction outlets from the pump. The system shall be constructed such that it shall not allow for separate or independent shutoff or isolation of each drain. See Figure 1.

Additional pumps can be connected to a single suction line as long as the requirements above are met.

Water Velocity - The maximum water velocity through the suction outlet assembly and its cover for any suction outlet must not exceed the suction outlet assembly and its cover's maximum design flow rate. The suction outlet (drain) assembly and its cover must comply with the latest version of ANSI®/ASME® A112.19.8, the standard for Suction Fittings For Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs, or its successor standard, ANSI/ASME APSP-16. In Australia, AS1926.3 is also an acceptable standard.

Testing and Certification - Suction outlet covers must have been tested by a nationally recognized testing laboratory and found to comply with the latest published edition of ANSI/ASME A112.19.8 or its successor standard, ANSI/APSP-16, the standard for *Suction Fittings For Use in Swimming pools, Wading Pools, Spas, and Hot Tubs*. In Australia, AS1926.3 is also an acceptable standard.

Fittings - Fittings restrict flow; for best efficiency use fewest possible fittings (but at least two (2) suction outlets).

Avoid fittings that could cause an air trap.

Pool cleaner suction fittings must conform to applicable International Association of Plumbing and Mechanical Officials (IAPMO) standards.

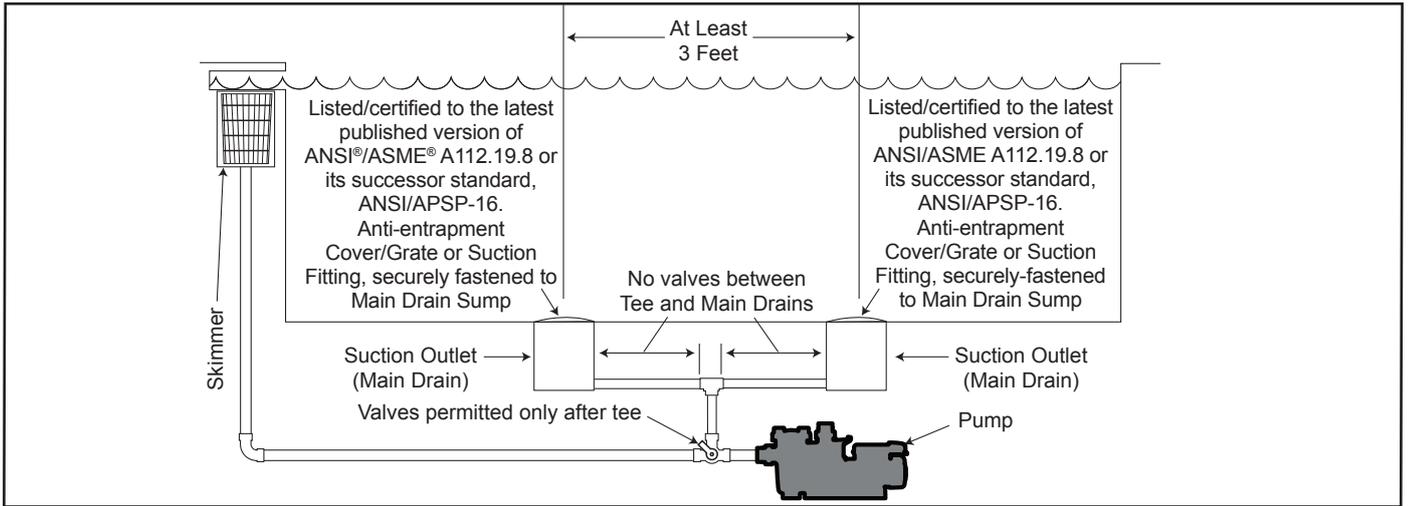


Figure 1. Number of Suction Outlets Per Pump

Section 2. General Installation Requirements

This document gives instructions for installing the AstralPool Silkflow and Cascade Waterfalls. Read through the instructions completely before starting the procedure.

2.1 Preparation Instructions

⚠ WARNING

To avoid risk of property damage, do not leave un-installed waterfall in direct sunlight. Do not remove the plastic protection or protective tape until the waterfall is ready for use. Keep the protective red tape placed over the waterfall lip opening to protect from grout and dirt during installation.

During all phases of the installation, care should be taken not to damage the AstralPool Silkflow and Cascade Waterfall. Keep the unit in the original packaging until the site is prepared for permanent installation.

The AstralPool Silkflow and Cascade Waterfalls are available in standard sizes from 300mm to 2400mm in length and are shipped complete with protective tape or tongue installed on the opening of the waterfall. See Figure 2. This protection keeps the spillway opening clean and damage free. **DO NOT REMOVE THE PROTECTIVE TAPE OR TONGUE** until the startup of the pool equipment. The protective tape must be left on the opening during the entire installation, or damage to the unit, which would effect its ability to perform, may occur.

To properly install this product please review the following installation and maintenance instructions.

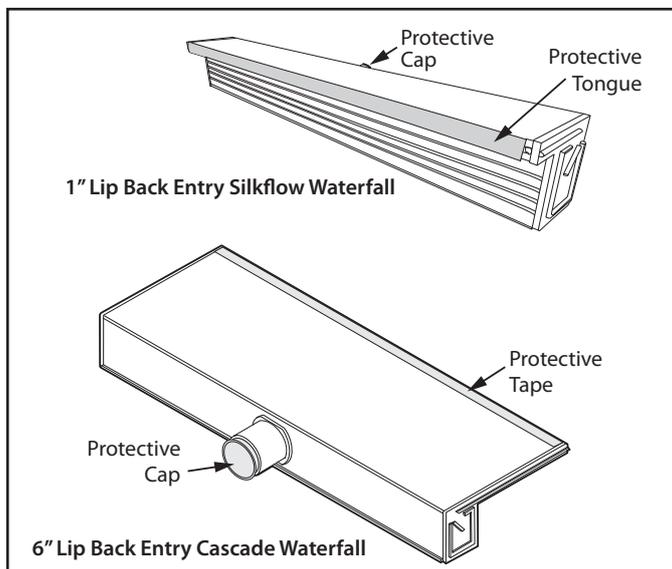


Figure 2. AstralPool Waterfalls

2.2 Excavation and Steel Modifications

It is recommended that the area designated for the AstralPool Silkflow or Cascade Waterfall be marked off with colored stakes, yellow construction ribbon, or similar material during the framing process, prior to excavation.

In preparation for the installation of the steel rebar, mark the EXACT area designated for the Silkflow or Cascade Waterfall. To allow room for notching the bond beam and installing the unit, offset the steel pattern by 76mm below the original form and 25mm on both ends of the AstralPool Silkflow or Cascade Waterfall. For example, if the AstralPool Silkflow or Cascade Waterfalls are 1200mm in length, offset the steel pattern to measure 76mm down from the top of the frame and 1270mm in length (this allows 25mm of space on each side of the Astral Pool Silkflow or Cascade unit). See Figure 3.

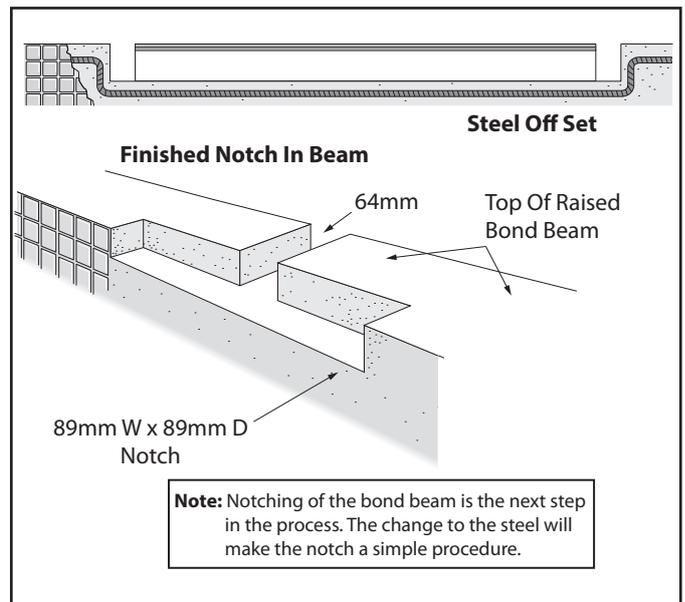


Figure 3. Excavation and Steel Installation

2.3 Concrete Installation and Modifications

As the concrete installation (or similar process) nears completion, a notch must be cut into the inner edge of bond beam in the same area at which the steel was offset to allow for the installation of the AstralPool Silkflow or Cascade Waterfall. See Figure 4.

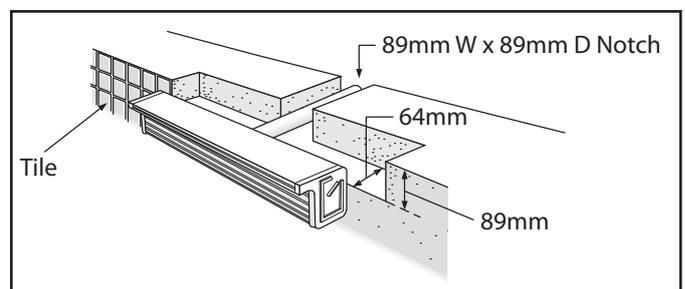


Figure 4. Concrete Installation

When installing waterfalls in a sprayed concrete or brick walls, do not tie the waterfall to the Reinforcing Steel or spray in the concrete as they can distort and cause internal damage due to excessive stressing and movement. Provide a penetration using polystyrene or wood, allowing for connection of the pipe work at the rear. The Waterfall can then be installed at a later date once the wall has set.

2.3.1 Cutting the Bond Beam - For AstralPool Silkflow or Cascade Waterfall Sizes 300mm through 1200mm

Select the EXACT location for the AstralPool Silkflow or Cascade Waterfall. The notch in the bond beam should be cut 89mm D x 64mm W and 51mm longer than the length of the proposed AstralPool Silkflow or Cascade Waterfall (25mm per side). For example, if a 1200mm model is to be installed, the notch length should be 1270mm(1219mm + 25mm + 25mm = 1270mm). In addition, mark a single slot on the top of the beam in the center of the proposed notch 89mm W x 89mm D. The notch will be used to plumb 38mm pipe to the AstralPool Silkflow or Cascade Waterfall. Mark the bond beam and proceed with cutting the beam. See Table 1 and Figure 5.

Length	Plumbing Center Measurement
300mm	150mm
600mm	300mm
900mm	450mm
1200mm	600mm

Table 1. Waterfall Plumbing Center Measurement- Single Inlet

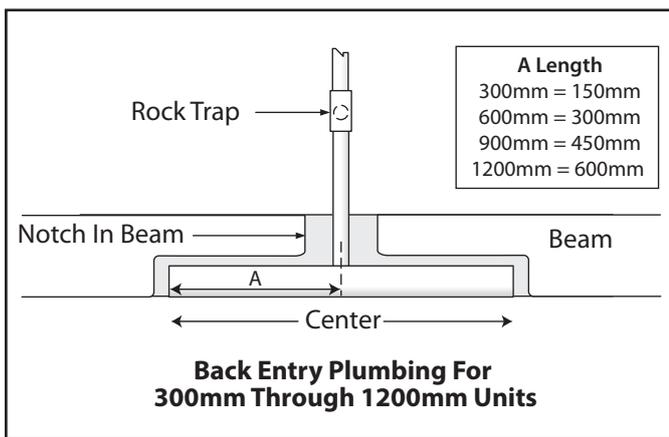


Figure 5. Plumbing for 300mm through 1200mm Lengths

2.3.2 Cutting the Bond Beam - For AstralPool Silkflow or Cascade Waterfall Sizes 1800mm and 2400mm

Mark and cut the beam as instructed previously, with the exception that two notches are required on the top of the beam for piping. Longer waterfalls require more water; consequently, two plumbing lines are required. The top of the beam should be marked for these units as noted in Figure 6 and Table 2.

Length	Plumbing Center Measurement
1800mm	450mm from right and left edge
2400mm	600mm from right and left edge

Table 2. Waterfall Plumbing Center Measurement- Dual Inlet

NOTE These measurements are from the center of the AstralPool Silkflow or Cascade Waterfall unit.

The notches should be 89mm W x 89mm D. See Figure 6.

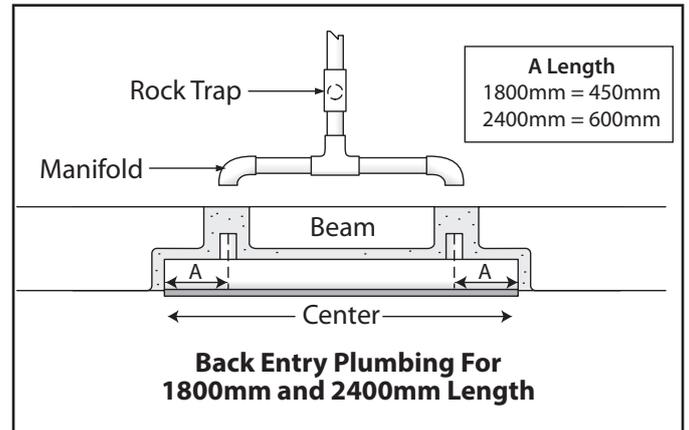


Figure 6. Plumbing for 1800mm and 2400mm Lengths

2.3.3 Pool Wall Lintels

⚠ WARNING

To avoid risk of property damage, install a lintel for support of the extended lip of the waterfall. Any direct weight applied to the waterfall brick work /concrete without using lintels will result in warranty being made void.

Waterfalls are not designed to lift heavy weights. A lintel is needed to properly support the waterfall to ensure the overall performance of the waterfall. See Figures 7 and 8.

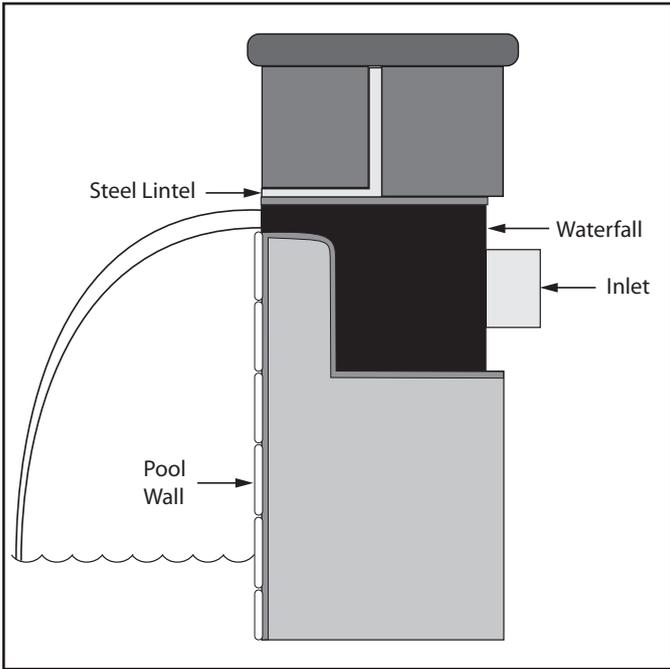


Figure 7. Lintel Installation for 1" Lip Back Entry Waterfall

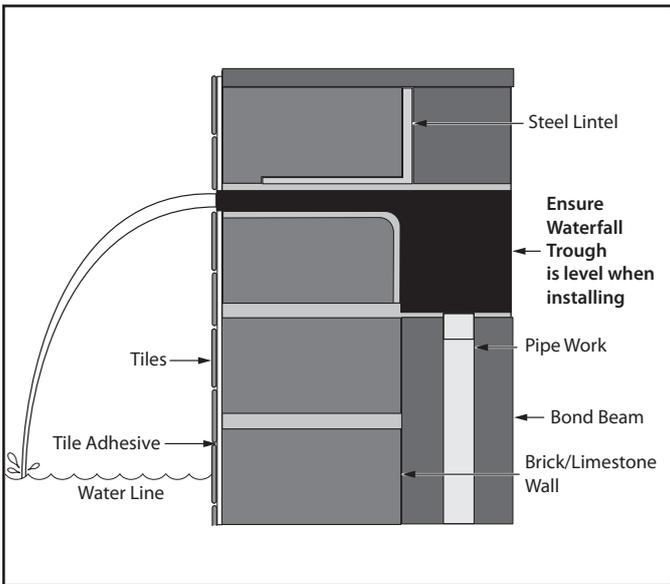


Figure 8. Lintel Installation for 6" Lip Bottom Entry Waterfall

Section 3. Pump Sizing and Installation Options

NOTE Make sure the cuts in the beam are properly completed before proceeding.

One of the advantages of the AstralPool Silkflow and Cascade Waterfalls is the ability to provide a continuous sheet of water with a minimum of water flow. A standard 1200mm model, for example, requires only 151 litres per minute to operate. In order to size your pump properly, refer to the Water Flow Requirement Chart. In most cases, a properly sized standard swimming pool pump will operate the AstralPool Silkflow or Cascade Waterfall and filter the pool with little loss of total water turnover. As a general rule of thumb, the AstralPool Silkflow or Cascade waterfall requires approximately 4 litres per minute per mm with little head loss. Refer to Figure 10 and Tables 3 and 4.

NOTE When plumbing multiple falls, add the total length of waterfalls together to determine litres required. e.g. When plumbing two (2) 2400mm units, you now have 2400mm of waterfall, which requires 454 litres per minute.

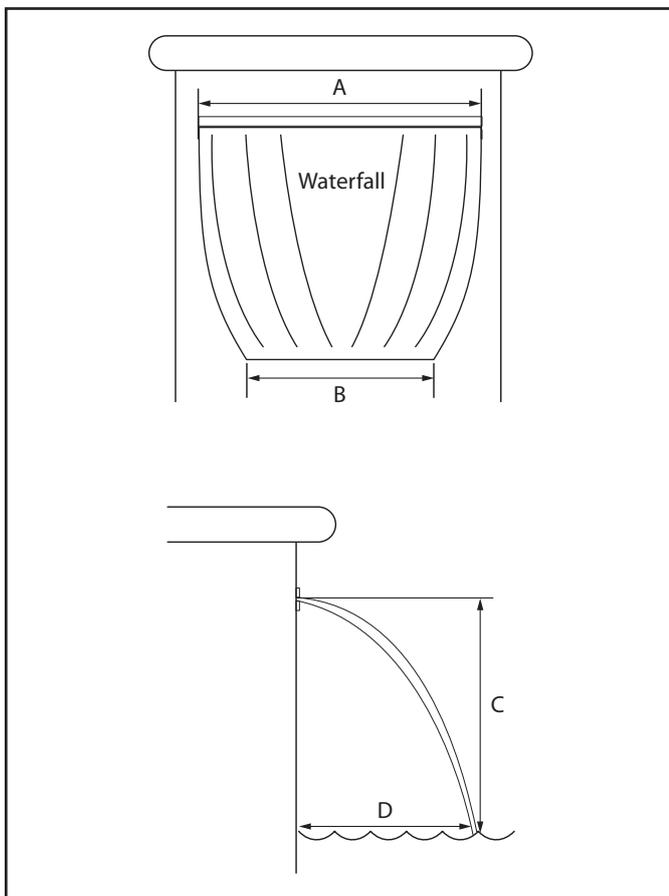


Figure 9. Waterfall Measurements for 300mm to 2400mm Models

Length (A)	Entry Width (B)	Height (C)	Distance (D)	Waterflow
300mm	200mm	300mm	300mm	50 lpm
600mm	500mm	600mm	300mm	100 lpm
900mm	800mm	900mm	300mm	150 lpm
1200mm	1100mm	900mm	300mm	200 lpm
1800mm	1700mm	900mm	300mm	300 lpm
2400mm	2300mm	900mm	300mm	400 lpm

Table 3. AstralPool Silkflow Waterflow Requirements

Length (A)	Entry Width (B)	Height (C)	Distance (D)	Waterflow
300mm	200mm	300mm	300mm	25 lpm
600mm	500mm	600mm	300mm	50 lpm
900mm	800mm	900mm	300mm	75 lpm
1200mm	1100mm	900mm	300mm	100 lpm
1800mm	1700mm	900mm	300mm	150 lpm
2400mm	2300mm	900mm	300mm	200 lpm

Table 4. AstralPool Cascade Waterflow Requirements

3.1 Pump Selection

NOTE If installing multiple waterfalls, select the appropriate pump to power the total water flow capacity. For example, two (2) 1200mm Silkflow Waterfalls equate to a 2400mm waterfall requiring a total water flow capacity of 400 litres per minute. See Tables 5 or 6 for the appropriate pump selection for a Silkflow or Cascade Waterfall.

Length	Required Water Flow (lpm)	Typical Pump Size (HP)	AstralPool Pump (8m Head)
300mm	50	0.50	E140
600mm	100	0.50	E170
900mm	150	0.75	E230
1200mm	300	0.75	CTX280
1800mm	300	1.50	CTX360
2400mm	400	2.00	CTX500

Table 5. AstralPool Silkflow Waterfall Pump Selection

Length	Required Water Flow (lpm)	Typical Pump Size (HP)	AstralPool Pump (8m Head)
300mm	25	0.50	E140
600mm	50	0.50	E170
900mm	75	0.50	E140
1200mm	100	0.50	E170
1800mm	150	0.75	E230
2400mm	200	0.75	CTX280

Table 6. AstralPool Cascade Waterfall Pump Selection

3.2 Existing Pool Filter Pump Installation

The installation of the AstralPool Silkflow or Cascade Waterfall using the main pool filter pump is the most common plumbing system, due to the unique low flow aspect of the waterfall system. Simply plumb a three way valve on the return line, after the filter, and plumb the waterfall feed line in a minimum of 40mm PVC Schedule 40 pipe. Units above 1800mm in length need a minimum of 50mm plumbing.

3.3 Separate Pump for the AstralPool Silkflow or Cascade Waterfall

If multiple waterfalls are being installed, or a AstralPool Silkflow or Cascade Waterfall 1800mm or longer is being installed, we recommend installing a separate pump. When plumbing a pump dedicated for use by the waterfall, a separate suction line to the pool must be plumbed. This should be plumbed in a minimum of 50mm Schedule 40 pipe.

⚠ WARNING

For safety, at least two certified ANSI/APSP-16 'VGB' compliant suction outlets must be installed. It is recommended that they be 457mm above the pool floor and must be at least 914mm apart with no valves between the "Tee" and any of the suction covers.

Next, a AstralPool Silkflow or Cascade filter/strainer (Part #10060), or equivalent, must be installed on the return side of the pump, between the pump and the AstralPool Silkflow or Cascade Waterfall. A FILTER IS REQUIRED for separate pump installations, as large debris must not be allowed to enter the Silkflow and Cascade unit. For installations requiring up to 227 litres per minute, use one AstralPool Silkflow or Cascade filter. For higher water requirements, use two or more filters plumbed in parallel.

A separate return line, with a three way valve plumbed in such a way that water can be balanced between the AstralPool Silkflow or Cascade Waterfall and return back to the pool, is also required. See Figure 11.

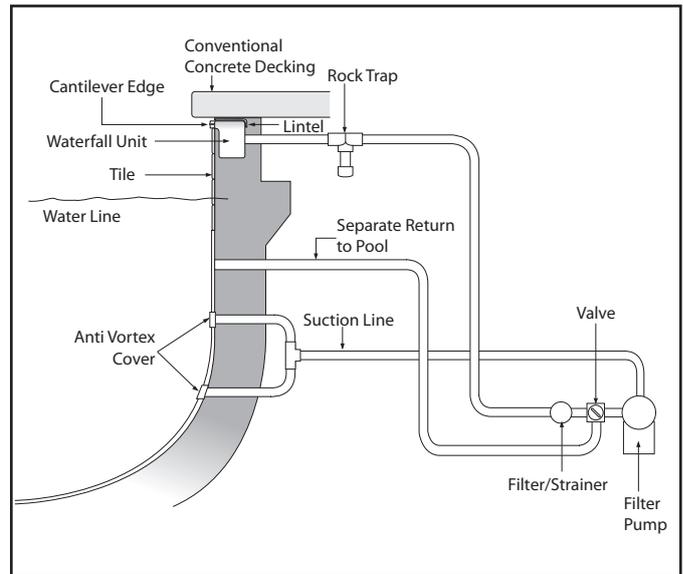


Figure 10. Filter Pump Installation

Section 4. Plumbing the AstralPool Silkflow or Cascade Waterfall

A dedicated plumbing line is recommended for all waterfalls. Waterfalls up to 900mm can use 40mm PVC pipe, but it is recommended that 50mm PVC pipe be used for all installations and must be used where the required flow rate exceeds 200 ltr/min or the total pipe length exceeds 20 metres. The waterfall must be installed before the deck and coping are laid to cover the Waterfall.

4.1 Waterfall Return Line Plumbing

The waterfall feed line, from either the main filter pump or a separate pump, should be plumbed with a pipe size capable of handling the required flow rate of the waterfall. See Table 7.

NOTE 50mm plumbing or larger is suggested for waterfalls over 1800m in total length. Refer to Hydraulic Guideline Chart, Table 7, for specifications. The feed line should end near the back of the bond beam near the center of the waterfall location.

It is important to have a valve located in a convenient location on the feed line to regulate the flow of water to the AstralPool Silkflow or Cascade Waterfall. A three-way valve is suggested to be used as the “T” from the return line of the pool to the AstralPool Silkflow or Cascade Waterfall. A properly plumbed valve in that position will allow full control of the water to the waterfall, as well as to the rest of the pool. In most cases, this valve can be located after the filter near the equipment pad. See Figure 12.

NOTE All water to the AstralPool Silkflow or Cascade must be filtered. Those systems using a separate pump must use our separate energy filter (Part #10060) to prevent debris from entering the AstralPool Silkflow or Cascade unit.

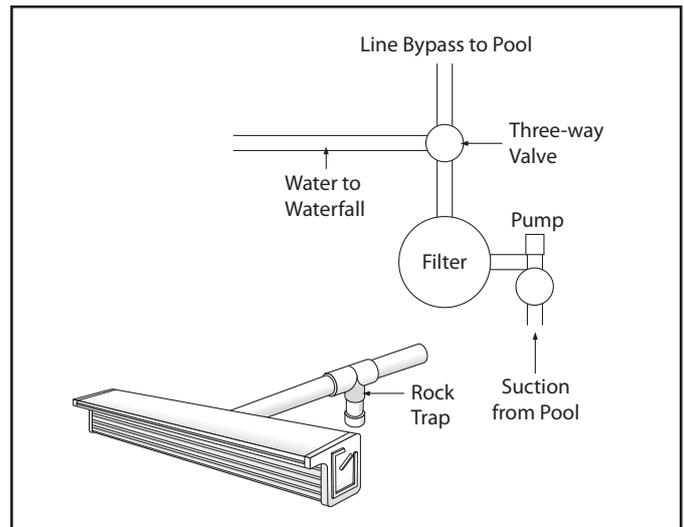


Figure 11. Waterfall Return Line Plumbing

4.2 Plumbing a Single Waterfall

All Back Entry AstralPool Silkflow or Cascade Waterfalls have the equivalent of standard 40mm pipe protruding from the back of the unit. For waterfalls 300mm through 1200mm in length, this fitting is located in the center of the back of the waterfall.

For AstralPool Silkflow or Cascade waterfalls 1800mm or 2400mm in length, two 50mm fittings are located as shown in Table 1.

Standard 40mm PVC fittings will glue over the 40mm pipe provided on all AstralPool Silkflow or Cascade Waterfalls. Make sure the fittings are properly glued. Also, make sure the Rock Trap is properly installed as close to the waterfall as possible (Figure 12). See Section 4.8 for Rock Trap installation instructions.

NOTE A flow control valve must be plumbed in a convenient location on the supply line for regulation of the water supply to the unit. See Figures 13 and 14.

Minimum Recommended Pipe Size (Max Suction = 6ft/sec; Min Discharge side = 10 ft/sec)			
AstralPool Silkflow / Cascade Size	Flow (Q) lpm	Suction Side Pipe	Discharge Side Pipe
300mm	50 / 25	40mm	40mm
600mm	100 / 50	40mm	40mm
900mm	150 / 75	40mm	40mm
1200mm	200 / 100	50mm	40mm
1800mm	300 / 150	50mm	50mm
2400mm	400 / 200	50mm	50mm

Table 7. Hydraulic Guideline Chart

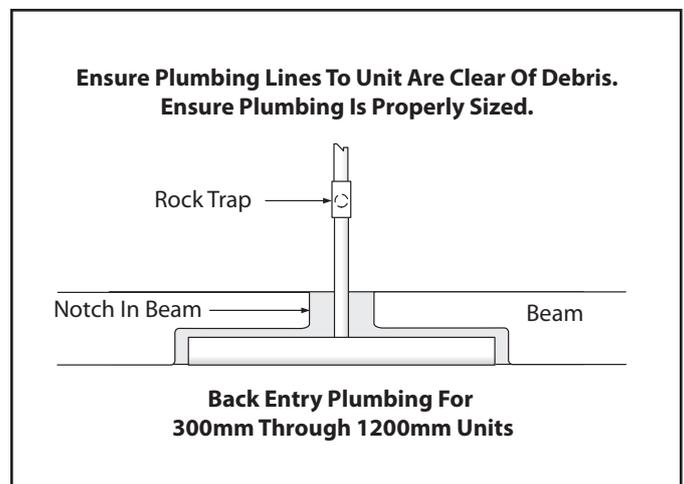


Figure 12. Single Waterfall Plumbing for 300mm to 1200mm

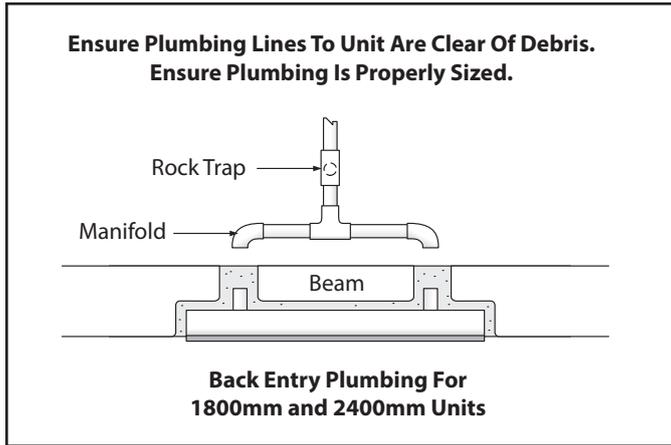


Figure 13. Single Waterfall Plumbing for 1800mm and 2400mm

4.3 Plumbing Multiple Units

Plumbing two or more AstralPool Silkflow or Cascade Waterfalls together is done in exactly the same way as the installation procedure for a single unit, explained previously, with the exception that additional two-way valves are required for each AstralPool Silkflow or Cascade Waterfall. These valves regulate and balance the amount of water between the various waterfalls. For units 1800mm and 2400mm long, separate minimum 50mm lines are required, with valves to regulate the balance. See to Figure 15.

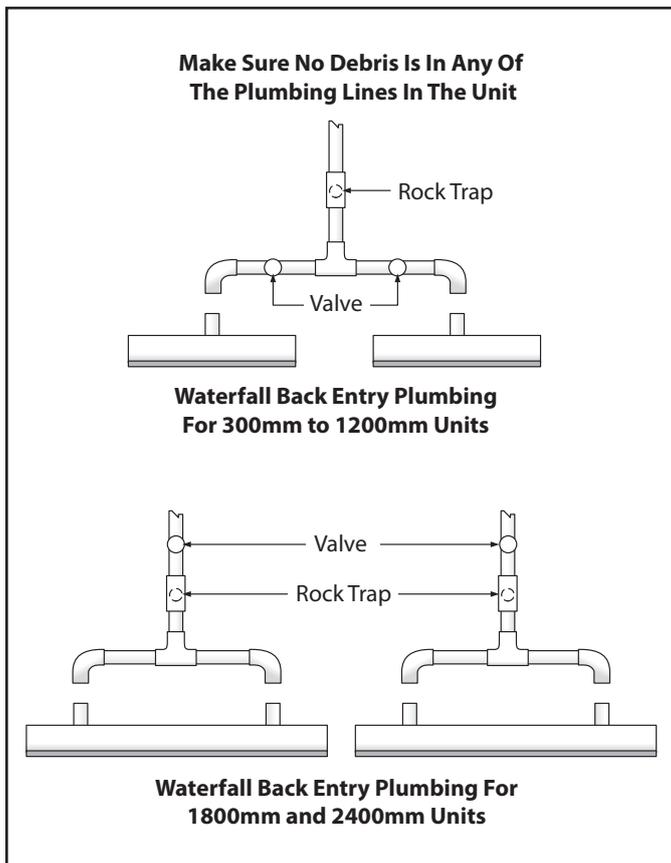


Figure 14. Multiple Waterfall Plumbing

4.4 Installing the AstralPool Silkflow or Cascade Waterfall

The AstralPool Silkflow or Cascade Waterfall is generally installed by the tile installer.

NOTE The AstralPool Silkflow or Cascade Waterfall must be installed prior to installing the decks and coping. Place the AstralPool Silkflow or Cascade Waterfall in the pre-cut notch in the bond beam. Level the top of the AstralPool Silkflow or Cascade unit to the upper edge of the bond beam with tile shims.

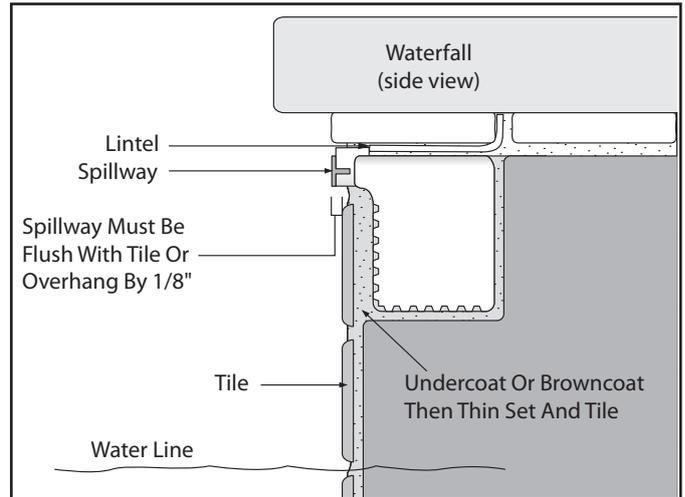


Figure 15. Waterfall Installation

NOTE The top of the AstralPool Silkflow or Cascade Waterfall is where the opening and tongue are located. Fill the gaps around the unit with concrete brown coat, or similar material, and surface the face of the AstralPool Silkflow or Cascade unit in preparation for tile. The face of the AstralPool Silkflow or Cascade Waterfall has been designed to allow concrete to “grip” the surface and assure a strong tile bond. Cut the tile to fit under the “lip” of the unit and secure with “thin set” or similar compound. See Figure 16.

4.5 Installing the AstralPool Silkflow or Cascade Extended Lip Waterfall

The AstralPool Silkflow or Cascade Extended Lip Waterfalls are used for radius cuts or when the lip of the waterfall needs to extend over wide objects such as brick, glass block, etc. The lip extension is 6” (the standard AstralPool Silkflow or Cascade Waterfall has a one inch lip). Operation and installation of both products is identical, with the exception that the steel pattern and notch in the beam may need to be altered to accommodate the lip width.

NOTE The extended lip must be fully supported. See Figure 17.

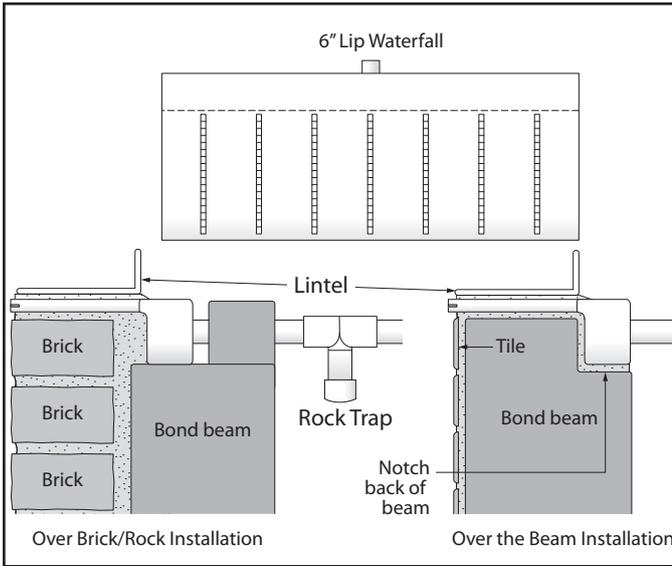


Figure 16. Extended Lip Waterfall Installation

Mortar will not stick to the plastic parts on the AstralPool Silkflow or Cascade Waterfall. When using various types of coping material, consult with your decking contractor for appropriate installation and or modification to the installation.

NOTE The tongue must stay in place during entire installation, but make sure it is removed prior to system start up. All aspects of the installation are the same as the standard model AstralPool Silkflow or Cascade Waterfall.

4.6 Cutting the Lip for Curves or Custom Installations

The 6" Lip AstralPool Silkflow or Cascade Waterfall can be custom cut in the field to meet specific needs, such as curves, irregular shapes, etc. In order to custom fit the waterfall, carefully measure the amount of extended lip to be removed. Remember to leave enough room for tile and thin set, so the deepest edge of the radius cut will not be recessed from the tile line.

NOTE Never remove more than 4" of the extended lip, leaving a minimum of 2" of lip. See Figures 18 and 19.

Remove the protective tape or tongue prior to cutting the waterfall. Remember to REPLACE THE PROTECTIVE TAPE OR TONGUE after cutting the radius to protect the fall from construction debris.

The waterfall must be cut with a coarse tooth saw blade. Running water can be applied to the surface being cut to keep the blade cool. Caution must be taken to make the cut as smooth as possible to avoid a jagged edge.

After cutting the waterfall, insert the support removal tool (included in product packaging) 1 inch into the waterfall opening. Move the tool around the opening. If the tool hits a support, use the notch in the tool to remove the support. See Figures 18 and 19. Make sure all supports within 1 inch of lip opening are removed. DO NOT LEAVE THE LOOSE SUPPORT SECTION IN THE WATERFALL.

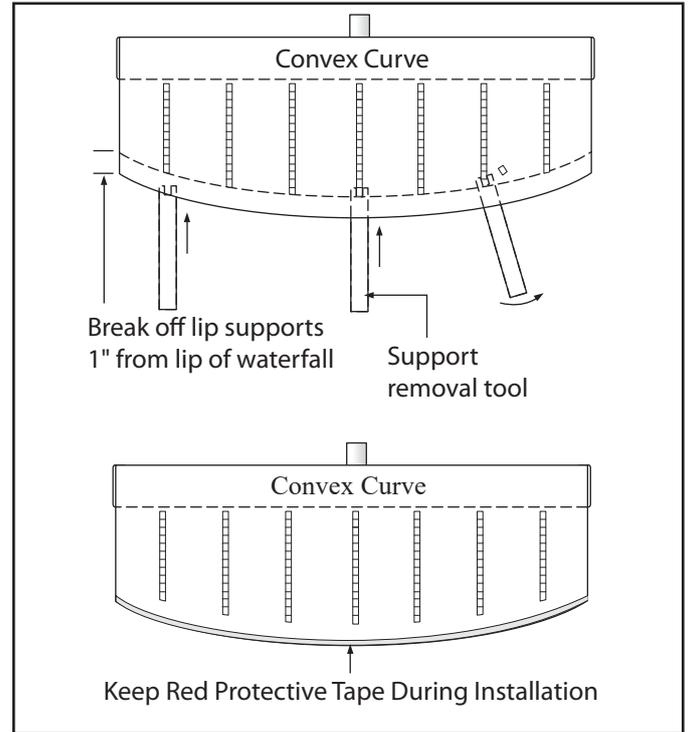


Figure 17. Custom Waterfall Installation - Convex Curve

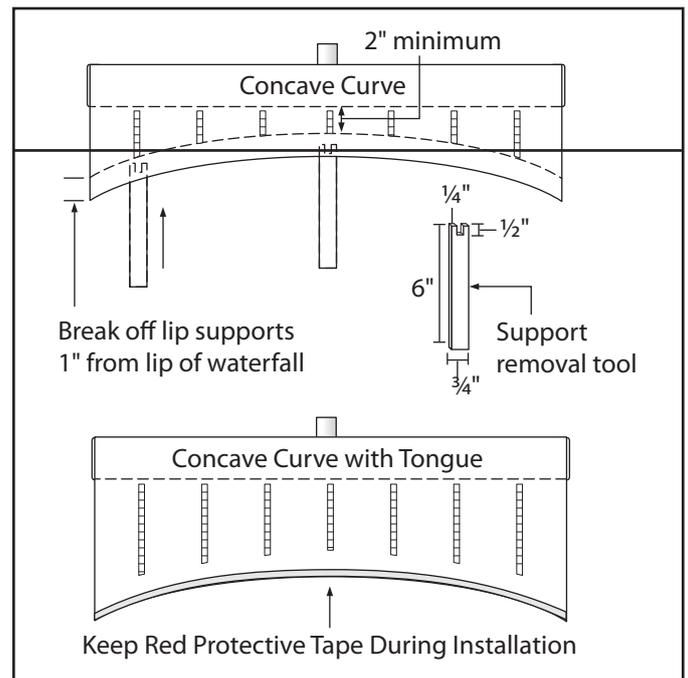


Figure 18. Custom Waterfall Installation - Concave Curve

After removing sections of the supports, use a coarse grade of sandpaper to smooth the edges of the waterfall, follow with a fine grade of sandpaper to get the edge as smooth as possible. A sanding block is recommended to avoid rounding the edges of the waterfall.

Insert the protective tape onto the lip (or protective tongue into the lip) and continue installation, following the installation instructions for the standard AstralPool Silkflow or Cascade Waterfall.

NOTE Ensure the protective tape or tongue completely covers the lip opening so no debris can enter the spillway opening.

4.7 AstralPool Silkflow or Cascade Waterfall Radius Cut Guideline

NOTE Never remove more than 4" of the extended lip, leaving a minimum of 2" of lip. The top of the beam, where the AstralPool Silkflow or Cascade unit is to be installed, should be a minimum of 9" thick. When designing custom curves for the AstralPool Silkflow or Cascade 6" Lip models, please refer to Section 4.6 for further instructions. Refer to Figure 20.

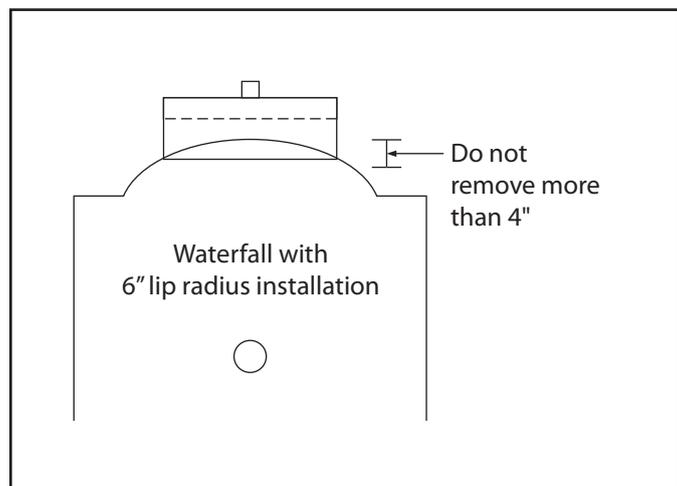


Figure 19. 6" Lip Radius Installation

4.8 Rock Trap Installation Instructions

1. Install the Rock Trap as close to the water fixture (waterfall, jets, etc.) as possible, to assure maximum protection.
2. Rock Trap must be installed with debris collection chamber pointed DOWN. See Figure 21.
3. Prior to gluing the Rock Trap, ensure flow arrow is properly aligned.
4. NEVER install Rock Trap where debris chamber cannot be pointed DOWN. Refer to Figure 22.

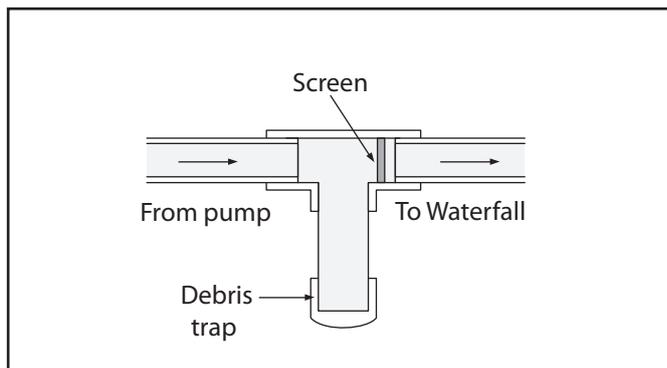


Figure 20. Rock Trap Installation

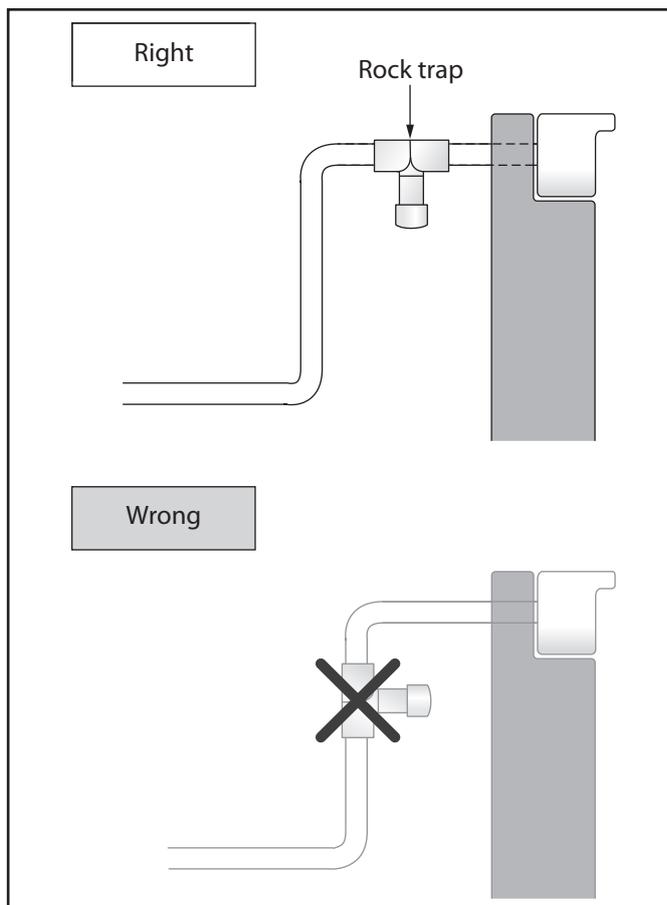


Figure 21. Rock Trap Debris Chamber Installation

Section 5. Start Up

5.1 Start Up Instructions

After the swimming pool is completed and filled with water, the AstralPool Silkflow or Cascade Waterfalls are ready to be activated.

1. REMOVE THE PROTECTIVE TAPE OR TONGUE NOW. This must be done before water is diverted to the waterfall. Also, ensure the opening is clean and clear of any debris.
2. Turn the pump on. If the Waterfalls are plumbed with the main pool filter pump, allow the pump to run a few minutes to clear the lines of debris.
3. Slowly open the regulating valve and supply water to the AstralPool Silkflow or Cascade Unit. Adjust the flow of water until the sheet of water extends out onto the pool surface.
4. Allow for air to clear the lines. This should only take a few minutes. The AstralPool Silkflow or Cascade Waterfall unit should now provide a clear, continuous sheet of water.
5. If a separate pump was installed, make sure all valves are open prior to starting the pump. ENSURE ALL LINES ARE CLEAR OF DEBRIS BEFORE STARTING. Start the pump and allow water to circulate through the separate filter system and return line. Slowly open the valve to the waterfall and regulate to the desired setting. Allow a few minutes to purge all air from the lines.

Section 6. General Maintenance and Troubleshooting

Before proceeding, make sure the pump system is fully functional and activated. Also, ensure all air is purged from plumbing lines.

6.1 Troubleshooting

Problem	Cause	Solution
The Silkflow and Cascade Waterfalls are not completely smooth. A gap in the sheet of the water is present.	Debris in the plumbing has lodged in the opening of the waterfall.	Use a credit card or similar object and gently position it inside the opening while the waterfall is on. Slide it along the opening to the point where the debris is located and gently pull the debris through the opening.
Where multiple Silkflow and Cascade Waterfalls are installed, one of the waterfalls is stronger than the other.	The water supplied to the units is not properly balanced.	Adjust the valves for each waterfall until the proper effect and balance is achieved. See Figure 14 for valve location.

6.2 Freeze Protection and Winterizing

In order to prevent freeze damage to the system, the plumbing to the unit must be installed so water drains easily from the system. The AstralPool Silkflow and Cascade Waterfalls have been engineered to allow only a minimum of water to stay in the unit as long as the plumbing is installed properly. Blow out all water from the pipes and AstralPool Silkflow or Cascade unit. Follow the normal procedures for winterizing.

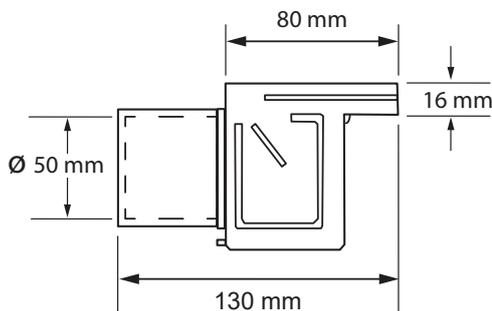
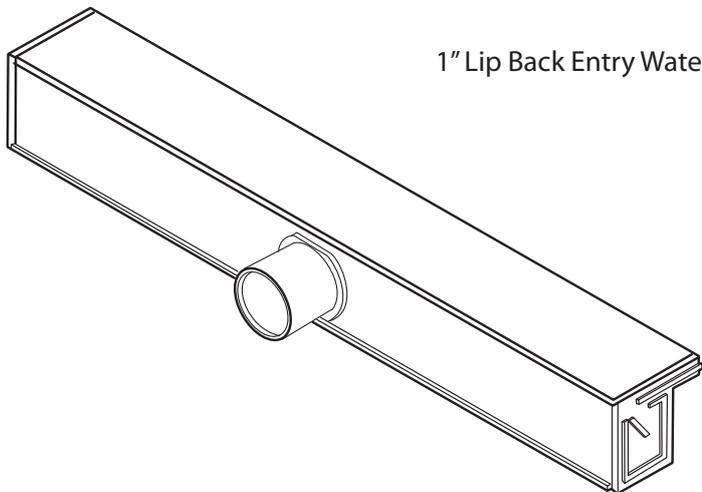
Section 7. Parts List and Views

7.1 Parts List

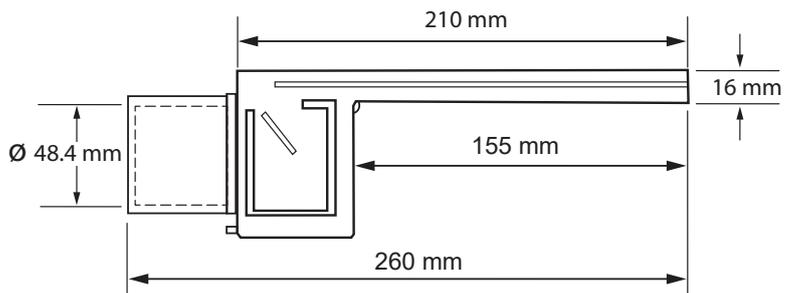
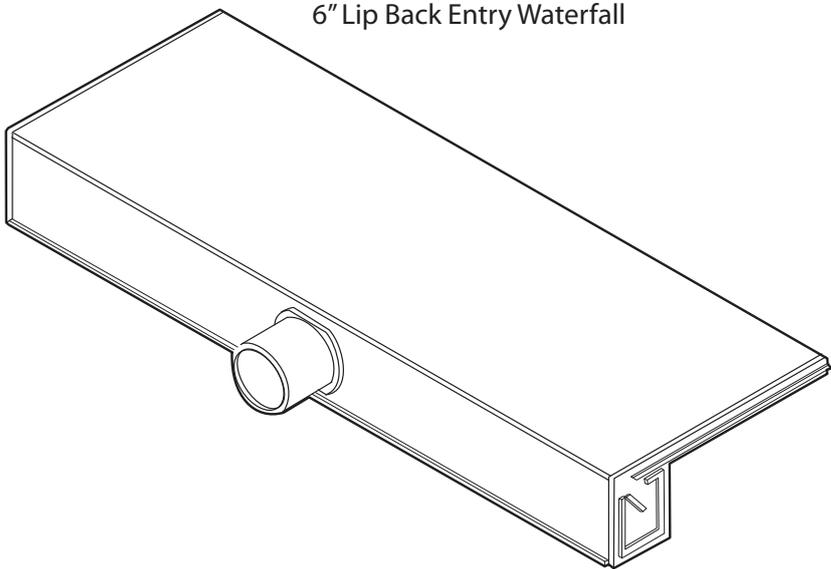
Description	Size	Part
Silkflow, 25mm / 1" Lip	300mm	10270
	600mm	10271
	900mm	10272
	1200mm	10273
	1800mm	10274
	2400mm	10275
Silkflow, 150mm / 6" Lip	300mm	10277
	600mm	10278
	900mm	10279
	1200mm	10280
	1800mm	10281
	2400mm	10282
Cascade, 25mm / 1" Lip	300mm	10283
	600mm	10290
	900mm	10291
	1200mm	10284
	1800mm	10285
	2400mm	10286
Cascade, 25mm / 1" Lip Bottom Entry	300mm	10210
	600mm	10211
	900mm	10212
	1200mm	10213
	1800mm	10214
	2400mm	10215
Silkflow, 25mm / 1" Lip Bottom Entry	300mm	10250
	600mm	10251
	900mm	10252
	1200mm	10253
	1800mm	10254
	2400mm	10255
Silkflow, 150mm / 6" Lip Bottom Entry	300mm	10257
	600mm	10258
	900mm	10259
	1200mm	10260
	1800mm	10261
	2400mm	10262

7.2 Back Entry Waterfalls

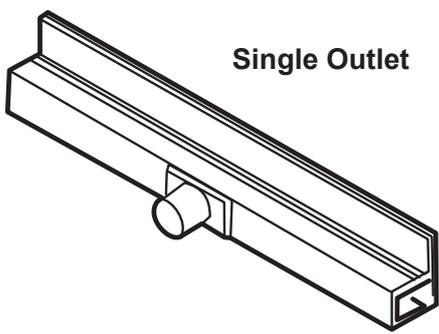
1" Lip Back Entry Waterfall



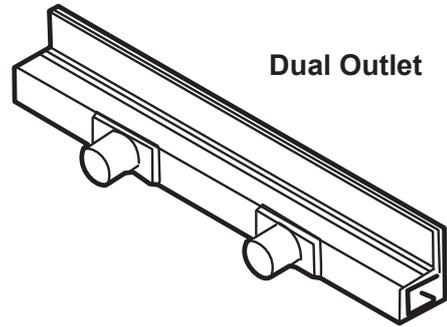
6" Lip Back Entry Waterfall



7.3 Bottom Entry Waterfalls

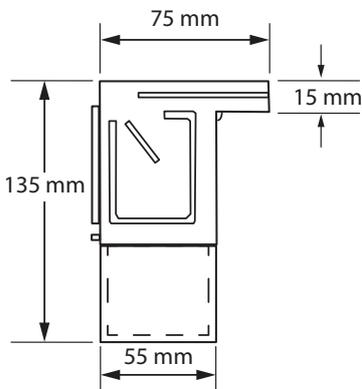


Single Outlet

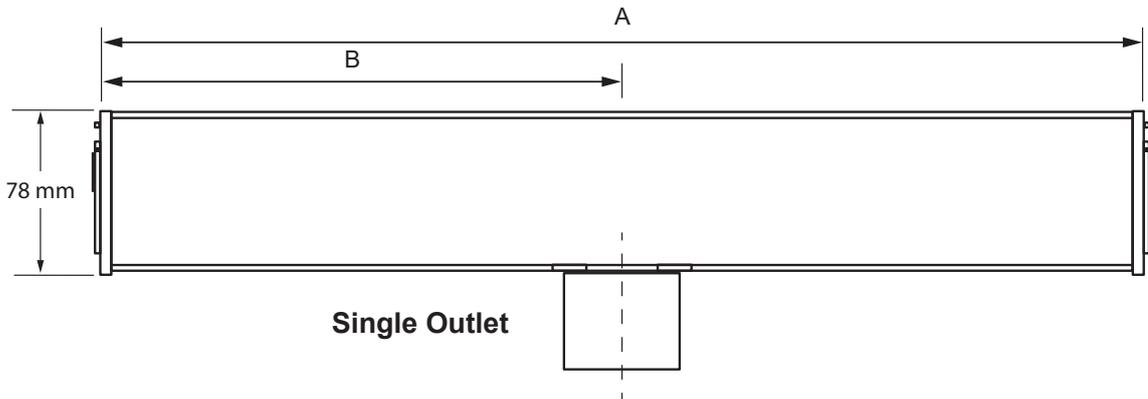


Dual Outlet

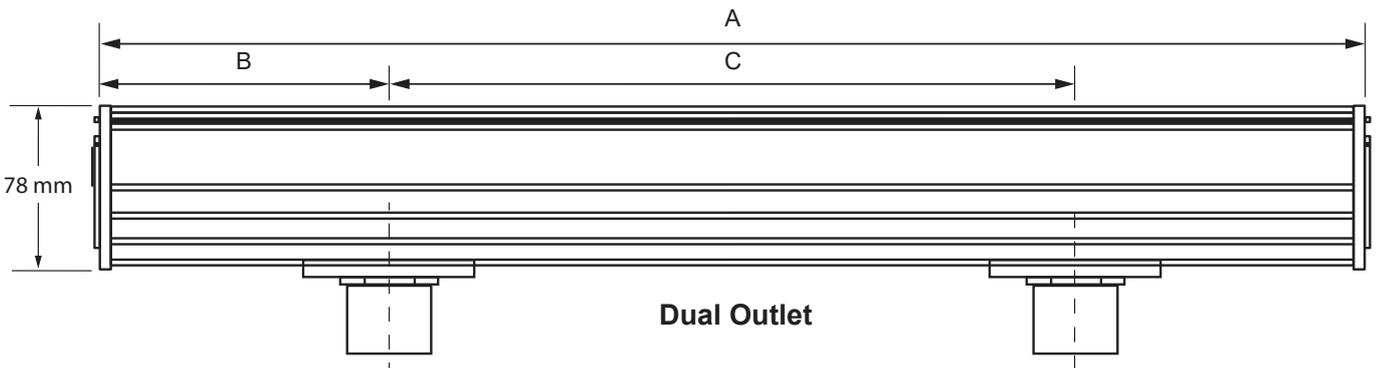
1" Lip Bottom Entry



INLETS	SINGLE	A	B	C
		300	150	N/A
		600	300	N/A
		900	450	N/A
		1200	600	N/A
INLETS	DUAL	1800	450	900
		2400	600	1200



Single Outlet



Dual Outlet

NOTES

NOTES



For full warranty terms and conditions and to register your warranty, simply visit **www.astralpool.com.au/warranty** and complete your details. Or scan the QR code and be taken directly to the registration page.

Record your equipment details here for quick reference:

Model No.: _____

Serial No.: _____



INST180

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