Waterblade® Installation Manual

The Waterblade® is available in standard widths from 300cm to 2.4 metres. This unit must be installed according to these instructions; otherwise the warranty may be void.

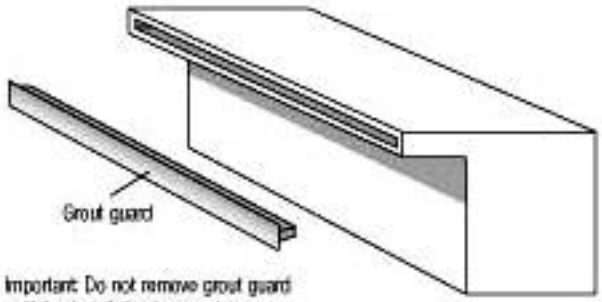
Read and save these instructions.

First steps

Check the illustrations to identify each individual part of the Waterblade® and use this manual to guide you through a trouble-free installation. It was developed with the aid of experienced installation contractors to ensure consistent and hassle-free installation.

Take care not to damage the Waterblade® during installation. It is best to keep it in its original packaging until you are ready to begin the actual installation. The Waterblade® is shipped complete with grout guard fitted in the opening of the waterfall to keep the spillway opening clean and to prevent damage. See below.

Do not remove the protective guard until you are ready to start up the pool equipment. Leave it in place throughout the installation, or damage may occur which will affect the ability of the Waterblade® to perform fully.



Important: Do not remove grout guard until the installation is complete.

Do not leave unit in direct sunlight for long periods of time.

Installing the Waterfall

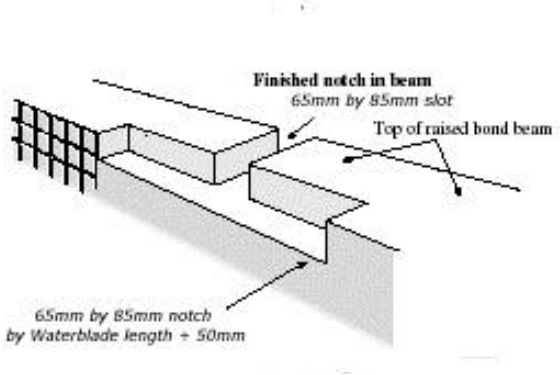
The pool tiler usually installs the Waterblade® waterfall. Be sure to install the waterfall before any decks and coping.

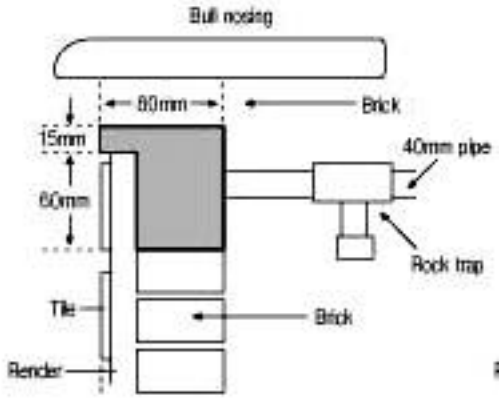
Place the Waterblade® in the pre-cut notch in the brick work, then level the top of the unit to the top of the brick work using tile shims if necessary.

Note: the opening and grout guard are located at the top of the Waterblade®. Fill the gaps around the unit with suitable mastic material.

Cut tiles to fit beneath the lip of the unit and secure with tiling compound.

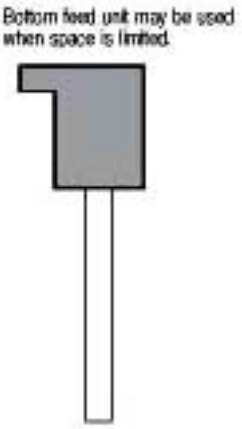
Installation of 25mm lip model Waterblade®, only





Bottom-Feed Unit

A bottom-feed unit may be installed where space is limited.



Cutting the brick work

1. **For Waterblade® models from 300mm to 2400 mm in width with 25mm lip.**

   Choose the exact place where you want to position the Waterblade®.

   Cut a notch in the brick work 85mm deep by 65mm wide and 50mm longer than the length of the Waterblade® (i.e. 25mm each side). For example, if you are installing the 1200mm model cut the notch 1250mm (1200 + 25 + 25 mm) long. Then mark a single slot in the centre and on top of the brick 65mm wide by 85mm deep. Use this notch to plumb 40mm PVC pipe to the Waterblade®. Mark the brick work and cut it accordingly.

Do not apply torque to fittings. Keep all pipng supported so as not to stress the rear of the unit or fitting.

2. **For Waterblade® 1500, 1800 and 2400 mm wide.**

Longer waterfalls need more water, therefore cut two plumbing lines. Mark and cut the brick as above, except that you now need two notches on the top of the brick for piping. Mark the top of the brick for these units as below.

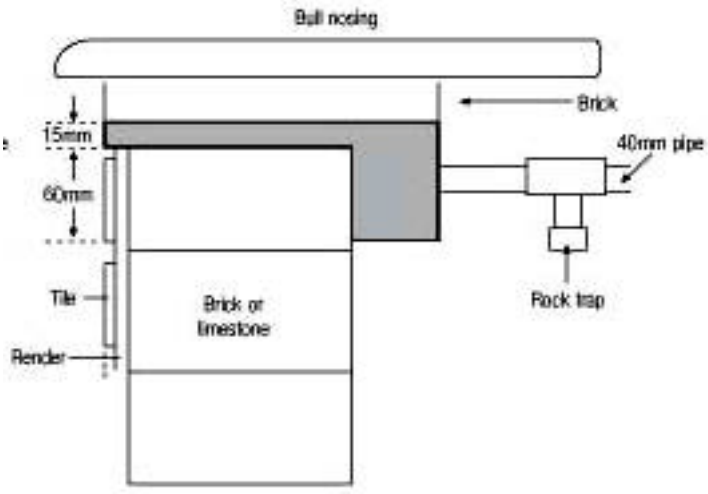
Position of the plumbing in relation to the size of the Waterblade	
Length	**Location of Plumbing**
1500mm	375mm either side of the centre line
1800mm	450mm either side of the centre line
2400mm	600mm either side of the centre line

Complete the cuts in the brick before moving on to the next stage.

3. **Installation of 150-230mm Lip Extension Unit**

Place the Waterblade® unit on a flat, smooth, level surface in the correct location. Set it on a brick or concrete wall using cement or flexible adhesive.

Keep the waterfall unit shielded from the sun until the finishing topping has been positioned. Do not apply torque to fittings. Support all the piping so that the rear of the unit or fitting is not stressed.



Starting Up Your Waterblade®

The Waterblade® is ready to be started as soon as the swimming pool is finished and filled with water. Remove the protective grout guard now and make sure the opening is clean and free from debris before diverting water into the waterfall.

Now switch the pump on. If you are using the main pool pump to supply the waterfall let it run for a few minutes to clear all debris out of the lines. Then slowly open the valve and allow water to flow to the Waterblade® unit. Use the three-way valve to adjust the

water flow rate until the sheet of water reaches out on to the surface of the swimming pool.

After a few minutes all air should have been cleared from the lines and the Waterblade® should now provide a continuous sheet of water.

If you have installed a separate pump, be certain to open all valves before starting the pump. Make sure all lines are clear of rubbish, then start the pump and let water circulate through the filter and return system. Open the valve to the waterfall slowly until it has reached your desired flow rate. Wait for a few minutes until all air has been forced out of the pipes.

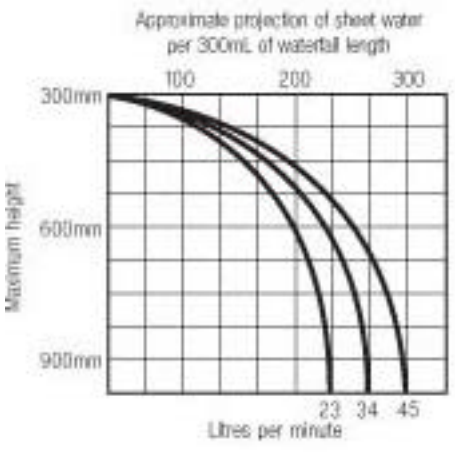
Winterisation

In areas where a heavy frost is likely, drain water from the system during winter. In these areas, the plumbing should be designed for ease of draining the water. The Waterblade® is designed so that only a minimum of water stays in the unit when the plumbing is installed correctly.

For winterising, blow all lines clear of water and follow normal procedure such as covering the pool.

Waterfall Flow Volume

See flowchart (below) to select the preferred volume of water flow, depending on how far forward you want the water sheet to project.



Options for pump size and installation

The Waterblade® can provide a continuous sheet of water with a minimum rate of water flow. A standard 1200mm model, for example, requires only 180 litres of water per minute.

To choose the correct pump size, refer to the Pump Performance Chart below. Figure 5 shows the approximate projection of the water sheet at a range of flow rates.

Pump performance at 15 metre head	
0.35 kW	120 Litres/min
0.50 kW	260 Litres/min
0.70 kW	300 Litres/min
1.0 kW	420 Litres/min
1.5 kW	470 Litres/min
1.0 kW	620 Litres/min

A correctly sized swimming pool pump will normally operate the Waterblade® and the pool filter at the same time with little change in overall flow rate. As a rule of thumb, the Waterblade® requires about 45 litres per minute (L/min) per 300mm of width with little head loss. However, you can increase the water flow rate to make a more a dramatic effect and to project the water sheet further out from the wall.

Note: When you are plumbing more than one waterfall, add the total length of waterfalls together to determine the flow rate required. E.g. When plumbing two 1800mm units, you now have 3600mm of waterfall, which needs 540 litres/min.

Installing with existing pool filter pump in place

The most common plumbing system consists of using the existing main pool filter pump to supply the waterfall. This works well with a very small water flow.

Install a three-way valve on the line returning water from the filter to the pool and connect it to the waterfall feed line with 40mm PVC schedule 40 pipe. Waterfalls more than 1500mm wide require at least a 50mm PVC feed pipe. See Pipe Size Chart.

Pipe Size Chart	
40mm	270 litres/min
50mm	450 litres/min
60mm	620 litres/min
70mm	1000 litres/min

Note:

- Use minimum of 40mm pipe.
- Use minimum of 50mm pipe for runs of more than 20m or if waterfall is more than 1500mm wide
- Use dedicated plumbing lines

When to install a separate pump for the Waterblade®

If you plan to install more than one Waterblade® or a waterfall wider than 1.8m, you will get better results by using a separate pump. For this you require a separate suction pipe of at least 50mm PVC.

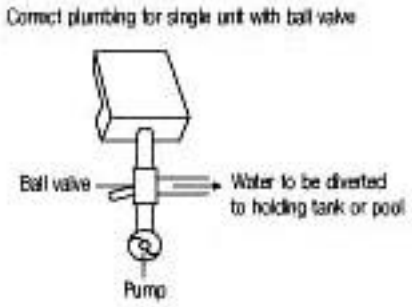
Install at least one anti-vortex safety suction cover, positioned 450mm above the floor of the pool, at the pool side as a safety precaution. Also plumb a Waterblade® filter/strainer, on the return side of the pump, between the pump and the waterfall.

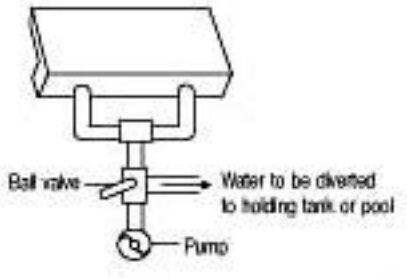
If you are using a separate pump for the waterfall you will need to add a filter, to prevent large pieces of debris from entering the Waterblade® unit. Use one filter for a pump capacity up to 240L/min and two filters plumbed in parallel for higher water volumes. Also install a three-way valve to allow the operator to balance the flow between the Waterblade® and the pool return.

Plumbing in the Waterblade®

Return line: The feed line from either the main pump or a separate pump requires at least 40mm PVC pipe. Use a 50mm line for waterfalls wider than 1.5m. Place the end point of the feed line near the centre of the waterfall at the rear of the bond beam.

Install a three-way valve as the "T" from the return line of the pool to the Waterblade®. Place it in an accessible position on the feed line so that you can control the flow rate of water to the Waterblade® as well as to the rest of the pool. The best place for this valve is usually just after the filter near the equipment pad. See figure.





NB Filter all water supplied to the Waterblade®. If you have a dedicated pump for the Waterblade® you must use a separate filter to keep rubbish out of the unit.

Standard 40mm PVC fittings will fasten to the 40mm pipe provided on all Waterblade® units using standard PVC solvent cement.

Make sure the fittings are properly fastened by cleaning both pipe and fittings before applying solvent cement, smear both parts with solvent cement and if possible slightly twist the pipe when pushing it into the fitting.

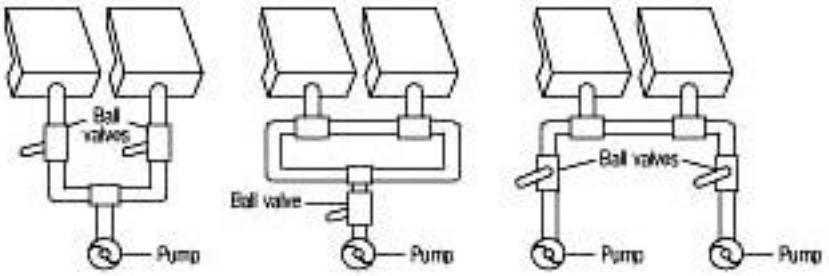
Install the rock trap as close to the waterfall as possible. See below for installation instructions.

Note: You should install a flow control valve in an accessible position on the supply line to regulate the water supply to the Waterblade®.

Installing multiple units

You can install multiple Waterblade® units in exactly the same way as for a single unit except that you will need to include a separate two-way valve for each unit. These valves are used to control the amount and distribution of water between each of the waterfall units. Use minimum 50mm PVC pipe with regulating valves for Waterblade® units 1.5 to 2.4m wide. See figure below.

Correct plumbing for multiple units with ball valve. (It is best to valve each unit)



Installing the rock trap (optional on some Waterblade® models)

- Install the rock trap close to the waterfall for maximum protection.
- Make sure the debris collection chamber is pointing down. If this is not possible do not install the rock trap.
- Before cementing the rock trap in place make sure the flow arrow is pointing in the right direction.

Waterblade® Radius Cut

Concave and convex cuts can be made to order. Contact Waterblade factory to discuss your requirements

Trouble shooting

1. Check that the pump system is switched on and working normally.

2. Make sure all air is purged from the lines

Problem	Cause	Solution
Waterfall is not completely smooth. There is a gap in the water sheet	Rubbish has collected where the input pipe opens into the Waterblade	Place a credit card or similar slim object inside the opening while the waterfall is running. Slide it along to where the rubbish is placed and gently pull it out
One waterfall is stronger than another (where there are more than one waterfall)	Water supply not correctly balances	Adjust three-way valves until balance correct

Warranty