

Selecting the Right Pond Pump

Check out this Product Guide to find out all you need to make sure you're buying the right pump for your application, whether you're circulating pond water, projecting off a spillway or pushing up a fountain.

Product Guides by [SunshowerOnline](#)



Submersible Pond Pumps

Selecting the Right Pump for Your Pond or Water Feature

With [Submersible Pond Pumps](#) of all shapes and sizes on the market it can be hard to know which pump will be right for your pond or water feature. Of course you don't want to buy a pump that's too weak, and to get the right effect, you don't want a pump that's too powerful. The key to knowing the right sized pump is to know exactly what you want the pump to do, there are 4 main 'uses' for a pump:

- Circulating Pond Water
- Flowing out of a Water Feature
- Spraying for a Fountain

Calculating the Size of Pump You Need

Once you have chosen what you need to do with the water out of the previous 4 options, you can start working out the size of pump you need. First we need to know a couple terms that describe the power of the pump:

Output (Litres per hour): Is the amount of water the pump turns over in an hour. On a typical pond pump box there will be an output figure written, this is the amount of water the pump turns over per hour at zero 'head'.

Head (m): This is the maximum vertical distance that the pump can push the water. As a pump pushes water vertically, its output gets lower until can't water any higher, that is the maximum head of a pump.

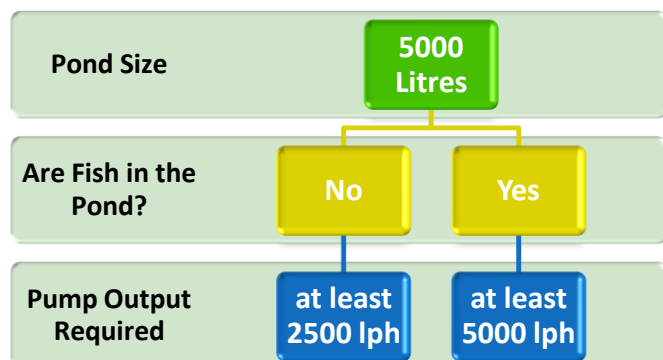
Different Types of Pumps

Each of the different 'uses' for pond pumps require different output and head requirements, read below how to calculate what requirements you need.

Circulating Pond Water

To avoid having your pond water become stagnant, dirty, bad smelling and a health hazard, your pond will need to be filtered and continuously have its water circulated. In this situation, without talking to the right person, it's hard to know what sized pump you'll need.

Of course, if you're just circulating water in the pond you won't be pumping vertically so you don't require any head. So the size of the pump is determined purely size of the pond, to keep the pond in good health the rule of thumb is to circulate the capacity of the pond every 2 hours, and if there are fish you'll need to double it.

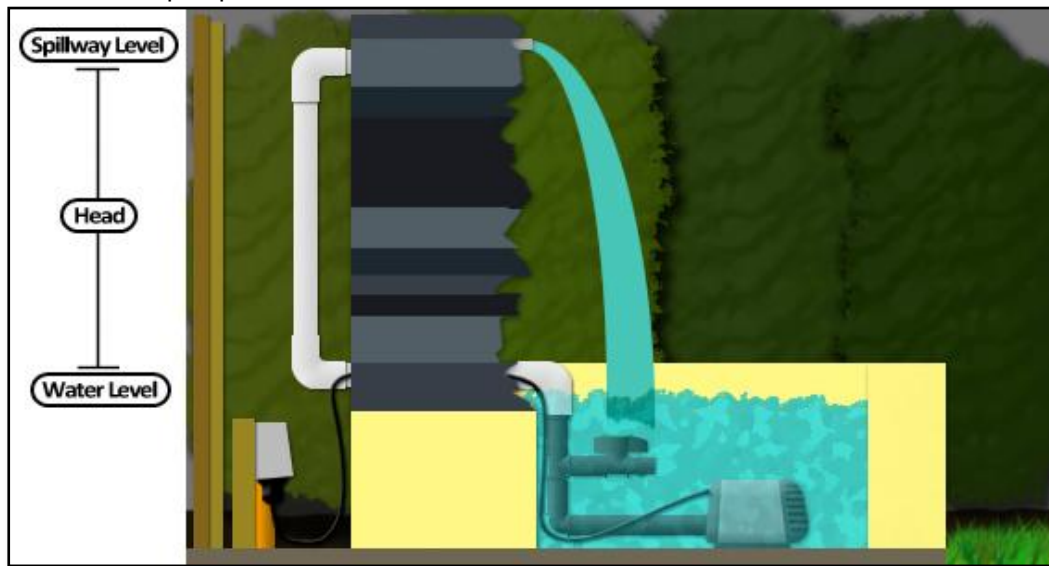


Cascading Off a Water Feature

If you have a spillway, rock wall, urn or small waterfall, choosing the right pump is absolutely vital if you want to get the right effect. Here's a basic guide to the volume of water you'll need for different water feature effects:

Water Feature Volume Requirements	
Desired Effect	Volume per 100mm
Trickle Only	1.50 Lpm (90 Lph)
Finest Vertical Sheet	2.00 Lpm (120 Lph)
Medium Vertical Sheet	4.00 Lpm (240 Lph)
Solid Vertical Sheet	7.00 Lpm (420 Lph)
Projecting Sheet	8.00 Lpm (480 Lph)

The size of the edge that the water is cascading off needs to be taken into account because a larger edge needs more water to get even flow than a smaller one. Also, because the feature will be above the level of the water, we need to take Head into account, which is the height of the feature above the water level, not the pump.



To help you understand how to calculate the right pump to use, we'll use a configuration like the picture above as an example calculation. To work it out follow these 3 steps:

1. Calculate Volume Required for the Desired Effect:

This example will use a [1000mm Spillway](#) for a Projected Effect. If you refer to the table above, you will see we require 8.00 Lpm per 100mm, so for this setup we'll need 80 Lpm (4800 Lph) to flow out.

2. Calculate Head:

In this example the spillway will be 1 metre above the water level. There's no need to take the position of the pump into account, so the head is simply 1m.

3. Refer to Pump Chart:

Now we have the key figures, we need a pump that will pump at 80 Lpm (4800 Lph) at a head of 1m. All we need to do choose the brand of submersible pump and refer to the pump chart supplied by pump manufacturer which outlines the capabilities of each pump to help you select the right one. For this example we'll choose a submersible pump by Pondmate. The Pondmate Flow Chart shows the maximum capabilities of the pump as well as the capabilities of the pump at different head heights. This chart shows that a [Pondmate 6000 \(PM6000P\)](#) would be perfect for this example.

Pump	Watts	Max Flow	Max Head	0.5m	1.0m	1.5m	2.0m
PM3500P	70	58	2.80	50	41	33	21
PM4800P	90	80	4.00	73	66	56	50
PM6000P	130	100	4.00	88	80	66	56
PM8500P	230	141	5.50	130	121	110	98

Spraying for a Fountain

Calculating the right Ornamental Pump for a spraying fountain is probably the fiddliest process out of all of the different configurations. It is a little bit more like taking an educated guess because there are a few variables that are difficult to accurately measure. Regardless, we have a useful method to help you gain the confidence that you're buying the right pump for your pond.



1. Test with a Garden Hose:

Because you don't have a Pump and a Garden Tap is the only accessible source where you can test water flow in the home we suggest using your Garden Hose as a guide. Simply hold your hose so it is pointing vertically, positioned like a fountain. If you don't want to get wet, set up some elbows or whatever's handy to hold it in position. Turn the tap on and adjust the flow until you are happy with the height the water is spraying. Now that you have found the flow rate you want you need to measure it. Take the hose and point it into a standard 10 litre bucket, time how long it takes to fill at that flow rate.

2. Calculate the Pump you'll need:

For this example we'll say the 10 Litre bucket was filled in 8 seconds, so to make that a useful number we need to turn that into Litres per minute. And we can do that by using the following calculation:

- A. Seconds in a minute (60) / Seconds to fill bucket (8) = 7.5
- B. Litres in the bucket (10) x A (7.5) = 75 Litres per Minute
- C. B (75) x Minutes in an Hour (60) = 4500 Litres per Hour

This formula says we'll need a pump with a 4500 Lph flow rate, but keep in mind the hose outlet is 13mm or ½ inch, if you use a larger pipe you'll need a bigger pump.

SunshowerOnline sells only the highest quality Pond Pump & Filtration components we use all of the trusted brands to make sure your system works first time everytime!