WATERFALL FLOW RATE CALCULATION

This calculation gives a recommended flow-rate for the height and width of your waterfall, for your chosen thickness of water flow.

1 **Choose the thickness of water you want running over the top of your waterfall.** Generally, the higher the waterfall, the thicker the sheet of water should be. Our suggestions are:

Height of Waterfall	0.25m	0.5m	0.75m	1.0m	1.25m	1.5m	1.75m	2.0m	2.5m	3.0m
Suggested Thickness of Water Flow	5mm	7.5mm	10mm	12.5mm	15mm	17.5mm	20mm	22.5mm	27.5mm	30mm

2 **Calculate the suggested flow-rate** by using the formula ***Width of Waterfall (in metres) x Thickness (in mm) x 1450 (constant) = Flow in L/Hr.*** Example: For a waterfall 1.0m high, choose 12.5mm thickness, the waterfall is to be 0.8m wide. 0.8m (width) x 12.5mm (thickness) x 1450 (constant) = 0.8 x 12.5 x 1450 = 14,500 litres/hour

3 **Choose a pump that is capable of providing the desired flow rate.** For the above example, select a pump that is capable of 14,500 L/Hr (or greater) at 1.0m head height. It is important to remember that the flow is at the height of the waterfall, so you need to look at the flow-charts to find a pump that can give this flow or preferably more, at 1.0m head height. To allow for friction losses etc., in pipework, it is always best to over-specify.

TIP! If you encounter difficulty with calculations, or cannot find a large enough pump, please phone us on 1800 807 604

PUMP & TUBING SIZES FOR WATERFALLS

The chart below will assist you in choosing the correct pump and tubing required for the width and height of your waterfall. For larger waterfalls, give us a call!

Height of Waterfall	**Width of Waterfall**														
	0.25m			**0.50m**			**0.75m**			**1.00m**			**1.25m**		
	Flow L/Hr*	**Pump Code**	**Tubing Size**	**Flow L/Hr***	**Pump Code**	**Tubing Size**	**Flow L/Hr***	**Pump Code**	**Tubing Size**	**Flow L/Hr***	**Pump Code**	**Tubing Size**	**Flow L/Hr***	**Pump Code**	**Tubing Size**
0.25m	1815	12241	20mm	3625	12243	25mm	5440	12245	32mm	7250	12586	32mm	9060	9437	32mm
0.50m	2720	12243	25mm	5440	12245	32mm	8160	9437	32mm	10880	9468	40mm	13600	9468	40mm
0.75m	3625	12244	32mm	7250	9437	32mm	10900	9468	40mm	14500	9468	40mm	18200	9468	50mm
1.00m	4535	12245	32mm	9070	9437	32mm	13600	9468	40mm	18140	9499	50mm	22700	9499	50mm
1.25m	5440	9376	32mm	10900	9468	40mm	16305	9499	63mm	21800	9499	63mm	27200	enquire	63mm
1.50m	6345	9437	32mm	12700	9468	40mm	19100	9499	63mm	25400	9499	63mm	31800	enquire	63mm

IMPORTANT NOTES

1. Pumps specified use typical parameters to give generally acceptable waterfall flow rates. Please check that these flow rates suit your application.
2. Tubing sizes suggested are suitable for up to 5 metres of tubing length. For 5 - 10 metres, go up a size. For over 10 metres, please enquire!
3. Regulating valves should always be included in the pipe work setup.

HEALTHY POND TIPS

WATER QUALITY

The overall health of a pond is largely determined by the filtration efficiency and the balance of the pond water. Bad water quality can be as a result of a number of factors, including improper filtration, unbalanced water chemicals, excessive livestock and many more. Fish can take care of themselves if the pond keeper cares for the water. Check the pH of the water regularly - especially after heavy rain.

AQUATIC PLANTS

Water-borne plants play a critical role in the health of an aquatic ecosystem. Suggested plant coverage for a pond is between one third and one half the pond surface area. Be careful not to over plant, as plants dissolve oxygen from the pond water during the day, which may lead to oxygen deprivation at night. Oxygen deprivation at night can lead to numerous pond health complications, and is particularly threatening to fish.

CHOOSING FISH STOCK

Fish are a great ornamental addition to a pond, but require constant care. The key to success is moderation. When choosing fish, carefully consider the home and environment into which they will be placed. For example: a small or shallow pond will not be able to sustain large fish, neither will it be able to support copious quantities of fish. High fish stock can quickly cause an imbalance in pond health and in turn affect the health of the fish. This can be prevented with the installation of a properly designed bio-filtration system. Refer to your local fish livestock supplier for more information and advice.