

### How to Choose a New Pump in a Few Easy Steps

Choosing a **Pond Pump** is easy if you have already had a pump (if not see below). Chances are there were some things you liked and things you disliked about the present pump you are replacing. Make a list of things you want to be the same and what you would like to change (more water flow, less clogging etc.). Almost all Pond Pumps operate on 110V standard electricity and most are energy efficient. Larger commercial installations that require 220V are available – see below. Most Pond Pumps have 18-32' of cord.

What makes a pond pump a Pond Pump? Pond Pumps and ALL pumps from PondMarket are:

- 1) Completely fish and plant safe
- 2) Contain NO oil to leak and harm **Pond Fish** or **Pond Plants**
- 3) ALL PondMarket Pond Pumps are CONTINUOUS duty because they should run 24/7.

### Replacing an Existing Pump

If an existing pump is being replaced, answers to the below questions will help you choose a Pond Pump from [www.PondMarket.com/catalog](http://www.PondMarket.com/catalog)

- 1) Was the flow of the old pump satisfactory? How many gallons per hour (GPH) did the old pump move?
- 2) Was there a substantial increase in energy costs with the old pump? What was the wattage?
- 3) Did the old pump clog too often?
  - a. Without a **Pond Skimmer**, once a week – once a month cleaning is normal
  - b. A Pond exposed to frequent runoff the above still holds true
- 4) What is the budget?

### Buying Your First Pump

If you are in the market for a new pump, have no idea as to the performance of the old pump, or are purchasing a new pump for the first time, here are factors to use to choose the correct pump:

- 1) Flow Rate: to determine the flow needed, we use the larger of 2 calculations
  - a. Amount needed for the Waterfall
  - b. Amount needed for Pond volume
- 2) To determine the amount of flow needed for a Waterfall, use the following calculations:
  - a. Low Flow: (1/8" – 1/4" thick sheet of water): 50 GPH for every inch of Waterfall width
  - b. Moderate Flow: (1/4" – 1/2" thick sheet of water): 100 GPH for every inch of Waterfall width
  - c. "Niagara Falls": (1/2"+ thick sheet of water) 150+ GPH for every inch of Waterfall width

**If a Waterfall is 24" wide, and moderate flow is desired, then a 2400 GPH will be required.**

- 3) To determine Pond volume, use the following formula:
  - a. Longest measurement of Pond x Widest part of Pond x Average Depth of Pond x 7.5 = Total Gallons
  - b. Ideally, for optimal water clarity, the entire Pond should be circulated through a Filter once an hour.
  - c. Minimally, the Pond must circulate through a Pond Filter once every two hours to prevent stagnation
  - d. In Ponds with heavy fish loads or in Koi Ponds, Step 3b should be followed.

**If a Pond is 12' long at the longest, 6' wide at the widest, 12" deep in one end and 36" deep in the other, Then:  
12' x 6' x 2' x 7.5 = 1080 Gallons of total Volume for pump purposes**

*The pump needed for the Waterfall is 2400 GPH, and 1080 GPH at most for the Pond volume. Selecting a 2400 GPH pump will ensure great circulation as well as providing a great Waterfall.*

- 4) Filter Flow Rates and UV Flow Rates: Ponds that have **Filters and UVs** cannot have pumps that exceed the flow rates of filters and UVs or the performance of the UVs and Filters may be compromised. In the event a large pump is desired that is too large for the pump and filter in place, it may be necessary to use 2 pumps.
- 5) Choosing between a Mag Drive/Direct Drive Pump and a Submersible/External Pump
  - a. If there is a high head height, a **Direct Drive Pump** may be necessary. **Mag Drive Pumps** from PondMarket are repairable and extremely energy efficient. Head heights in excess of 6-8' may require a direct drive pump.
  - b. **Submersible Pumps** often have 2-3 year warranties and are very easy to install. **External Pumps** are almost maintenance free but require some basic plumbing knowledge and require some extra plumbing to install.

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