

HOW TO



Choose a POND PUMP

Calculate the required flow rate:

As a rough guide you will need a flow rate of about 500 litres (110 gallons)/hour for a 1m (40") high tiered fountain plus about 1000 litres (220 gallons)/hour to give a reasonable waterfall for every 10cm (4") of waterfall width. Once you have calculated the flow rate as above, we recommend you multiply this by 1.25 (or 1.5 for hose runs over 6m) to compensate for losses due to friction in the pipework and fittings etc.

Calculate the required "head":

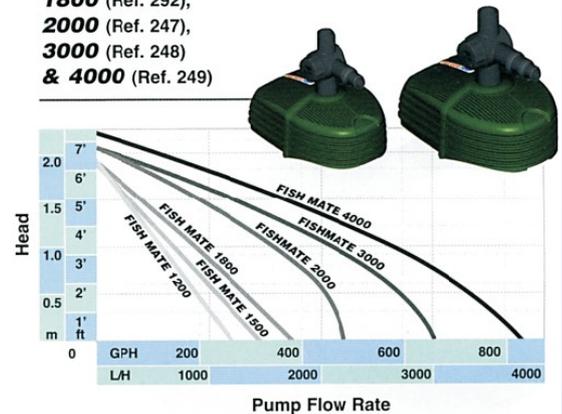
As a reasonable approximation to calculate the required head (pressure) measure the height of the highest outlet above the pond surface. Find the point on the chart opposite where your figures for flow rate and head meet. To achieve the flow at that head you will need a pump whose line is above this point.

Example:

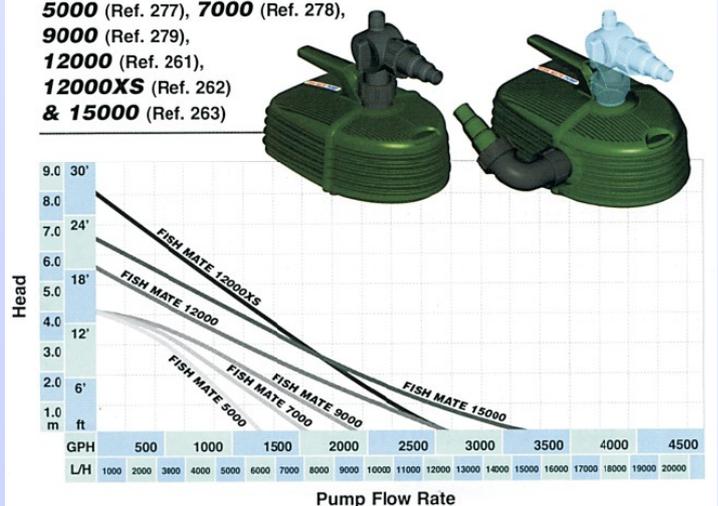
You require a 25cm (10") wide waterfall and a small fountain. The waterfall starts 1m (40") above the pond surface.

- 500L/h for fountain + (2.5 x 1000)L/h for waterfall = 3000L/h. Multiply by 1.25 to allow for pipe losses etc. gives 3750L/h required flow rate.
- Required "head" = 1m (40")
- First consult the top flow chart, (Head 1m, Flow rate 3750L/h). From the chart the FISHMATE 4000 pump would not quite have sufficient power and therefore we must consult the bottom chart from which it is clear that the FISHMATE 5000 would be the preferred choice.

1200 (Ref. 290), **1500** (Ref. 291),
1800 (Ref. 292),
2000 (Ref. 247),
3000 (Ref. 248)
& 4000 (Ref. 249)



5000 (Ref. 277), **7000** (Ref. 278),
9000 (Ref. 279),
12000 (Ref. 261),
12000XS (Ref. 262)
& 15000 (Ref. 263)



We stock a leading range of pond pumps with output up to 15000 litres per hour (3300 gallons per hour). All our *Fishmate* pumps feature pond-life friendly, anti-clog filter designs and very low running costs - complete with a 3 year guarantee and competitive prices on all models.

Flow required (Litres/min.)	Hose size (mm/inch)	Head loss (M loss per M run)
30	20 mm – 3/4"	0.12 m
50		0.32 m
50	25 mm – 1"	0.03 m
75		0.19 m
100		0.34 m
100	32 mm – 1 1/4"	0.11 m
150		0.21 m
100	40 mm – 1 1/2"	0.03 m
150		0.07 m
200		0.12 m
250		0.15 m
200		50 mm – 2"
250	0.06 m	
300	0.08 m	
350	0.10 m	
400	0.14 m	
450	0.17 m	

Friction Loss In Pipe And Hose Runs

To get the most from the pump capacity, select the greatest hose diameter possible. Inadequate hose diameters or angles and flow through obstructions in hose connections affect the flow rate.