



How to Use the Puroxi Pump Selection Calculator

Simple customer instructions

What this calculator does

The calculator gives you a preliminary pump duty point for a Puroxi Nano Bubble Nozzle system. The duty point tells a pump supplier the flow and total dynamic head the pump must provide.

You do not need to calculate pipe friction, fitting losses, pump efficiency or horsepower. The revised calculator will estimate those values from the simple information you enter.

Information to have ready

- The Puroxi nozzle model you plan to use.
- The number of nozzles that will operate from the same pump.
- Whether you will use a submersible pump or a surface pump.
- Whether the pump and nozzle return water to the same pond or tank.
- The approximate pipe length from the pump to the nozzle.
- The pipe material and nominal pipe size.
- The approximate number of elbows, valves and other items in the pipe.

Important

The result is a starting point, not a final pump-model recommendation. A pump must be checked against the manufacturer's pump curve to confirm that it can deliver the required flow at the calculated total dynamic head.

Complete the calculator step by step

1. **Select the Puroxi nozzle model.** Choose the nozzle from the dropdown list. The calculator will automatically enter the approved flow and starting operating pressure for that model.
2. **Enter the number of nozzles.** Enter the number that will operate from the same pump at the same time. Most single-nozzle installations use 1.
3. **Select the pump arrangement.** Choose Submersible Pump when the pump operates underwater. Choose Surface Pump when the pump is installed outside the water.
4. **Answer the water-return question.** If the pump draws water from and returns it to the same pond or tank, select Yes. The calculator will use 0 m for static elevation.
5. **Enter the vertical lift only when required.** If the water is discharged above the source water level, enter the vertical height from the source water surface to the discharge point. Do not enter the pipe length or the underwater depth of the pump.
6. **Enter the pipe length.** Enter the approximate total length of pipe between the pump and nozzle. Follow the pipe route rather than measuring only a straight line between the two points.
7. **Select the pipe material and size.** Choose the closest option shown. Use the size printed on the pipe or ask the pipe supplier. The calculator will use the corresponding internal diameter for its estimate.
8. **Enter the fittings and equipment.** Select the quantities of elbows, valves, check valves, filters, strainers, manifolds or other restrictions installed between the pump and nozzle.

Static elevation made simple

Installation	What to enter
Pump and nozzle are submerged in the same pond or tank	Select Yes; static elevation is 0 m
Nozzle discharges 2 m above the source water surface	Select No and enter 2 m
Elevated tank inlet is 6 m above the source water surface	Select No and enter 6 m

Understanding your result

Result	What it means
Required system flow	The total water flow needed for all nozzles operating from the pump.
Total dynamic head	The total resistance the pump must overcome, including nozzle pressure, elevation and piping losses.
Hydraulic power	The power transferred to the water, shown in kW and HP.
Estimated input power	A preliminary power estimate that includes the assumed pump efficiency, shown in kW and HP.
Preliminary duty point	The flow and total dynamic head that must be checked on the manufacturer's pump curve.

Worked example for one MNB30

Customer entry	Example
Nozzle model	MNB30
Number of nozzles	1
Pump arrangement	Submersible
Same pond or tank	Yes
Approximate pipe length	5 m
Pipe internal diameter used for test	Approximately 75 mm
Simple fittings	One full-port valve and a small number of connections

Example result

Calculated result	Example value
Required system flow	30 m ³ /h
Total dynamic head	31.8 m / approximately 45.2 psi
Hydraulic power	2.60 kW / 3.49 HP
Estimated input at 65% efficiency	4.00 kW / 5.36 HP

A calculated 5.36 HP does not mean that any pump labelled 5.36 HP will work. The pump supplier must confirm that the selected pump curve delivers 30 m³/h at 31.8 m total dynamic head. The final motor rating may differ.

Customer information worksheet

Use this page to collect your information before opening the calculator. If you are unsure about an item, send the available details and photographs to Puroxi.

Puroxi nozzle model

Number of nozzles operating from the same pump

Pump arrangement Submersible or Surface

Same pond or tank Yes or No

Vertical lift above the source water surface Metres; enter 0 for the same pond or tank

Approximate total pipe length Metres

Pipe material PVC UPVC, CPVC, HDPE, stainless steel or other

Pipe size Use the size printed on the pipe where possible

Fittings and equipment

Item	Quantity
90 degree elbows	
45 degree elbows	
Full-port ball valves	
Check valve	
Filter or strainer	
Manifold	
Other restriction	

Need help

Send Puroxi the nozzle model, installation type, pipe information and photographs of the proposed installation. Puroxi can review the preliminary duty point before the pump is purchased.

Thank you for the opportunity to understand your water.