

How to Use the Puroxi Pump Selection Calculator

Customer website guide | Revised 15 October 2026

What this calculator does

It estimates a preliminary pump duty point (water flow and total dynamic head) for a Puroxi Nano Bubble Nozzle installation. It now also suggests a preliminary pipe internal diameter and compares the selected pipe with that suggestion.

Before you start

Have your nozzle model and quantity, pump type, source and return water levels, pipe length/material/internal diameter, and number of elbows, valves and other fittings ready.

1. Choose the nozzle

Select the Puroxi Nano Bubble Nozzle model and enter how many nozzles run simultaneously from the same pump. The calculator sums the required flow.

2. Describe the installation

Choose surface or submersible pump; indicate whether source and return are the same pond or tank. Enter vertical elevation only when applicable, measured relative to the source water surface.

3. Enter the pipe route

Enter the full pump-to-nozzle pipe length, material, actual internal diameter and fittings. Internal diameter is not the same as nominal pipe size.

4. Review the pipe sizing assistant

Review the preliminary suggested internal diameter and the water velocity. A suggestion is not a mandatory pipe size; confirm actual commercially available inside diameter and pressure rating.

5. Compare the two pipe cases

Compare the selected pipe with the suggested pipe for velocity, pipe friction, total dynamic head and estimated power. If a pipe warning appears, consider a larger pipe and recalculate.

6. Review the pump duty point

Use the calculated system flow and total dynamic head when requesting a manufacturer pump curve. The estimated horsepower is not itself a pump selection.

7. Send results for review

Use Copy duty point or Send this duty point to Puroxi if the website form is operational. Include model, nozzle count, pipe inputs, results and site details.

Understanding the results

Display	What it tells you
Suggested pipe diameter	Preliminary internal diameter based on estimated flow velocity

Display	What it tells you
Velocity warning	The chosen pipe may create excessive water velocity and friction
Comparison	How pipe diameter affects velocity, losses, head and estimated input power
Duty point	Required total flow and total dynamic head to check against a pump curve

Important technical notes

- The 40 psi default is the confirmed starting nozzle inlet-pressure setting for the website calculator; do not substitute the separate 10–12 m differential-head reference from the older illustrated guides. These refer to different pressure concepts and operating assumptions.
- Pipe recommendations are preliminary, based on a target velocity band of approximately 1–2 m/s. Fittings, material, water properties, suction and outlet conditions can change the final design.
- For surface pumps, check priming, suction lift, net positive suction head (NPSH), and the pump manufacturer curve. Pump arrangement alone does not change the calculator hydraulic equations.
- The Send to Puroxi integration must be tested on the WordPress staging website before the guide is published as final.

Example: one MNB20

One MNB20 requires a nominal 20 m³/h. The website uses a 40 psi nozzle inlet-pressure starting setting. Enter the actual pipe route and fittings, review the suggested diameter and compare results. Do not choose a pump by horsepower alone: ask the pump supplier to confirm the full flow/head duty point on its curve.

Need help? Send your calculator results and installation photographs to Puroxi. Thank you for the opportunity to understand your water.