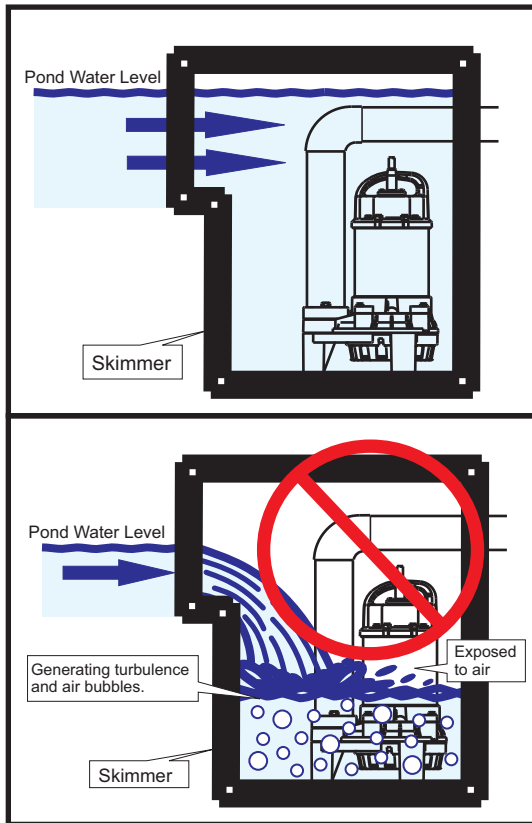


Instructions to maintain your **Tsurumi pond pump for maximum pump life**

Thank you for choosing a Tsurumi submersible pump ! Here are some quick guidelines to maintain your pump properly, ensuring you get maximum pump life possible.

- Pond Skimmer (Filter)

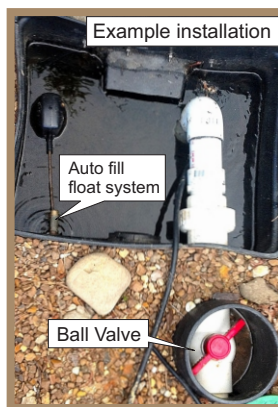
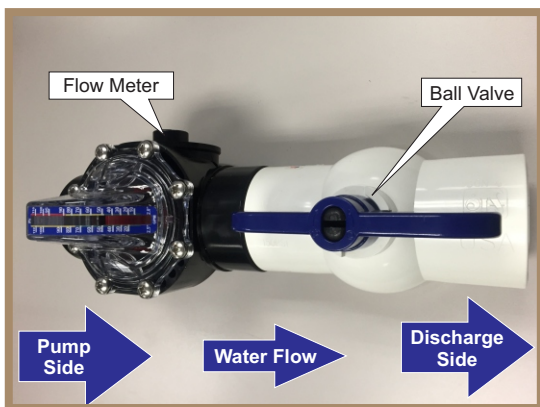


It is important to ensure the pump stays **FULLY submerged at all times**. Running a submersible pump in air for extended periods may result in motor damage. This can be accomplished by following these guidelines :

1. Check for proper water level in the pond and especially in the pump chamber. Inspect as often as needed, possibly daily.
2. Choose a skimmer box sized large enough to allow the pump to remain fully submerged at all times and that avoids any turbulence in the skimmer. Any 'gurgling' sounds, swirling, or vortexing at the inlet of the pump may be an indicator that the skimmer box is too small.
3. Always maintain a clean skimmer box and filter pad to ensure proper inflow. Rocks and other foreign debris can damage the pump's impeller, casing, and mechanical seal.
4. Insure discharge piping is free of obstructions and periodically inspect check valves for stuck flappers/gaskets.

- Maintain proper pressure.

Ideally, a submersible pump should run at a range that is within 70%-120% of the point that is most efficient, or its BEST EFFICIENCY POINT (BEP). To operate in this range, we recommend installing a ball valve and pressure gauge on the discharge of the pump and 'dialing in' the correct pressure by adjusting the valve. Our recommended pressure ranges are shown in the following chart:



RECOMMENDED RANGES OF PRESSURE AND FLOW

Model	FLOW (GPM)	PRESSURE PSI (ft head)
2-OM (OM3)	7 - 39	3-10 (6-24)
2-PU (50PU2.15S)	11 - 45	3-8 (7-17)
3-PN (50PN2.25S)	12 - 53	4-11 (10-25)
4-PN (50PN2.4S)	14 - 71	5-15 (11-36)
8-PN (50PN2.75S)	24 - 87	6-18 (15-43)
12-PN	50 - 166	2-8 (5-17)