

Guide for Existing Evaporative Cooling System Accepting 6" Plastic Pads

Measure Existing Pad Frames

- Height & Length: Confirm the total pad wall dimensions (height × length).
- Thickness: Lubing pads are 6" thick. If the existing system uses 4" pads, check whether the housing/frame can be modified to accept thicker pads.
- Frame Strength: The designed operational loading of the evaporative pad system is 100 kg/m (~67 lbs/ft). Confirm that frames are structurally capable of supporting this load.
- Frame Slots & Retainers: Measure slot width, retainer clips, and track depth. Pads must fit snugly to prevent bypass airflow.

Check Water Distribution System

- Distribution Pipe: Must be 2 inch schedule 40 PVC with holes at least 1/8" diameter, spaced no more than 3" on center.
- Flow Requirement: The evaporative pad system requires 0.75 gallons per minute (gpm) per linear foot of pad length.
- Pump Selection Based on Curves:
 - To ensure your pump delivers adequate flow (Q) at the required head (H), match pump selection to pad wall length: (See Pump Curves Graph)
 - BA4 Pump → suitable for pad walls up to 40 ft
 - BA11 Pump → suitable for pad walls 40–100 ft
 - S25 Pump → suitable for pad walls 100–140 ft
 - Undersized pumps will cause uneven wetting and reduced cooling efficiency.
- Flow Uniformity: Ensure water is evenly distributed across the full thickness and length of the pad.
 - Even waterfall on both sides of distribution pipe
 - No blockage/framing between distribution pipe and pad
- Drainage: Confirm water trough can handle the higher water volume held by 6" plastic pads.

Verify Airflow & Fan Capacity

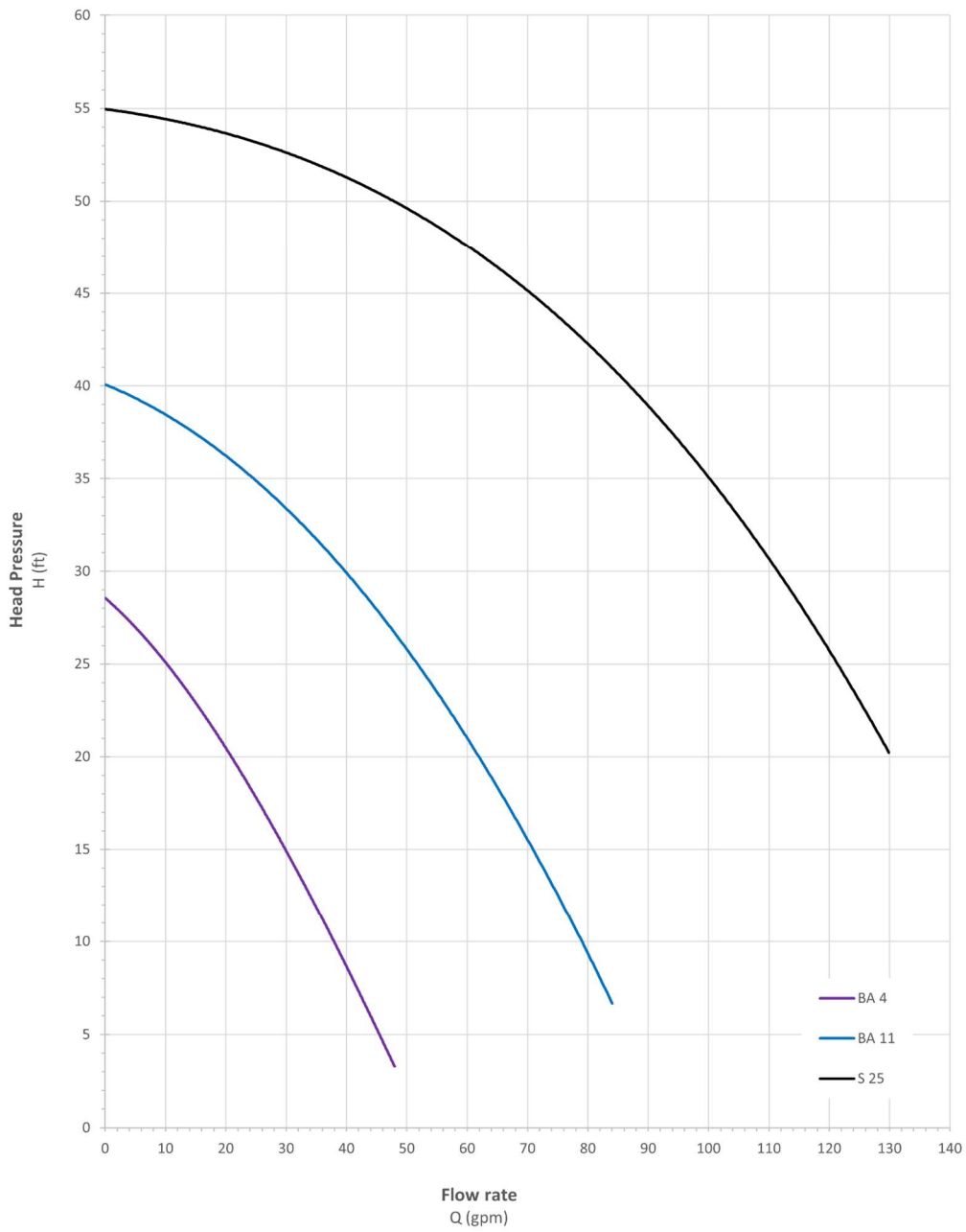
- Static Pressure: Plastic pads create less static pressure than cellulose pads, reducing fan load.
- Face Velocity: The ideal operating range is 300–350 feet per minute (fpm) across the pad face.
- Cooling Efficiency:
 - Efficiency is primarily a function of air velocity, as velocity increases, cooling efficiency decreases.
 - Reference the cooling efficiency chart to evaluate the trade-off between efficiency (%) and pressure drop (inches H₂O) at various air velocities. (See Cooling Efficiency Graph)
 - Pad Cooling Efficiency: For best performance, operate in the recommended velocity range of 300-350 fpm to balance air movement, static pressure, and cooling efficiency.
 - Gaps & Edges: Pads must seat tightly in the housing to avoid air bypass

Evaluate Water Quality

- Hardness & pH:
 - Keep pH levels between 6 and 9.

Appendix

Pump Curves



Cooling Efficiency

