

SOLAR PUMPING DESIGN INFORMATION

A submersible pump is used for most applications. Sometimes due to theft or flooding issues, a pump located above the water is used. This is a different pump and requires a suction lift (height from water level to pump) to operate. A suction lift places additional performance and energy requirements on the pump and each pump has limits to the amount of suction lift it can manage and still be effective.

Submersible pump tethered in river hole or supported by a float in the dam tethered with stainless steel cables

Distance from solar to pump (m) to calculated cable size

Delivery length (m) and internal pipe diameter (mm) to calculate friction loss

Static delivery head (m)

$$\text{Total dynamic head} = \text{Static del. head (m)} + \text{friction loss (m)}$$

Solar panels need to be in full sun and above flood level

Dam or river

Accurate measurements are required when sizing a pumping system to ensure that the pump model chosen will be effective for the location chosen. The measurements required are on our design form available on our web site or can be emailed if required.

With a well or bore application, the water level will fall from the standing water level as pumping starts. There will be water inflow from the ground as the water level drops. Based on the rate of pumping, the water inflow must be equal to or more than the rate at which pumping occurs or loss of prime switches must be fitted to avoid damaging the pump. The level the water reaches when pumping is the draw down level.

Submersible pump tethered in bore hole or well with stainless steel cables

Distance from solar to pump (m) to calculated cable size

Delivery length (m) and internal pipe diameter (mm) to calculate friction loss

Static delivery head (m)

$$\text{Total dynamic head} = \text{Static del. head (m)} + \text{friction loss (m)}$$

Standing water level

Draw down water level

Pump depth (m)



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