

SolarDock™

Pentalift SolarDock™ Questions and Answers

Will the solar / battery system be able to supply sufficient power to my loading dock?

With the battery fully charged there is sufficient power for approximately 150 cycles of the leveler. This is without any replenishing charge. Consider that the solar cell will continue to trickle charge the battery whenever light is present. In most conditions the solar cell will sufficiently replenish the battery at a rate to more than offset the use of the dock leveler. In instances in which the battery gets overly depleted or there is extremely high use, the 115 volt charger (provided as standard) can be selected on the control panel using the key selector to replenish and maintain the battery charge. During periods of less daylight, winter or overcast periods the 115 volt charging system can be selected and utilized as required.

Pentalift offers an auto charging feature that is available for its popular SolarDock series of solar powered dock levelers. This option is highly recommended. The auto charge system automatically senses the charge status of the battery and, if required, automatically turns on the AC charger to replenish the charge in the battery, then automatically turns off the AC charger and then reverts back to the solar cell charging system. This feature eliminates the requirement to monitor the charge status of the battery and manually select and deselect the AC charge circuit in the event the battery charge level is low.

What is the 115/1/60 AC amp draw for the system when the charger is selected?

The 115/1/60 draw for the charger is 250ma (1/4 amps). This is well below the normal 15 amps provided for 115/1/60 circuits. The system simply plugs into a standard 115/1/60 wall outlet.

Is there any charge in the battery when it is shipped out?

There is a partial charge. The installation instructions state to select the AC charger to “on” when the installation is first completed to facilitate a complete charge. Then after a minimum of 24 hours, select the AC charger to “off”. If the SolarDock is equipped with the auto charge feature. The battery will automatically charge as required once the 115/1/60 plug is connected to the power receptacle.

Will auto return and deck stop options be available on the SolarDock?

Yes.

What effect will cold weather have on the system?

Cold weather reduces the capacity of the battery. At 32°F battery capacity is reduced by 20% to 25%. At 0°F the battery capacity is reduced by approximately 50%. Consider that 50% capacity still equates to 75 dock leveler cycles; more than sufficient for most applications. As well, as the temperature decreases the solar cell ability to generate power increases although not at the same extent as the battery's ability to hold a charge decreases. The other important factor is that the solar cell continues to replenish the battery when ever light is present.

What can be done to accommodate installations in which extreme cold temperature is expected to occur on a regular and extended basis?

- Install the power unit remotely in the interior of the facility. The main components are located inside the heated facility. Hoses are routed under the dock leveler from the power unit to activate the cylinders as required.
- Utilize the auto charge feature noted above as it will automatically turn on the AC charge system as required to assure that a full charge is present in the battery. This will compensate for any battery capacity loss due to cold temperature.
- Utilize the AC charger during the cold periods. Simply selecting the charger using the key switch would provide substantial increase in charging to offset severely cold temperatures. A policy could be adopted to engage the charger at a predetermined exterior temperature.

What size are the solar cells?

Approximately 24" wide by 30" High

Approximate Thickness 1.5"

Approximate Weight 15 Lbs

Where should the solar cell be installed?

Outside with the greatest exposure to light. Consideration must also be given to prevention of damage and avoiding blocking of the solar cell by snow or debris. The more intense the light exposure the greater the level of power replenishment that solar

cell provides. The solar cell will continue to provide power on overcast days or darker periods (where there is some light) however, the power output correlates directly to the intensity of the light provided to the solar cell. There is no maximum distance for mounting. The cell produces 12 volts of electricity at a maximum of 40 watts.

Can a restraint be interlocked with the SolarDock? Will the solar cell power the restraint?

All Pentalift models of restraints can be interlocked to the solar dock. Models MFRSA32, HFR32 & LPR35 will run on the solar system. The lights of the restraint will require AC connection as they run continuously at a very low power consumption 50ma (1/20 amps). As the hydraulics run from the same power unit as the SolarDock dock leveler (if ordered with common power unit) this will be done using the solar power the same as for the dock leveler.

For the UHR40 restraint and an inflatable seal or shelter, full time AC power would be required. This is based on the duty cycles of these products.