

PV PUMPING SYSTEMS: A USEFUL TOOL TO CHECK OPERATIONAL PERFORMANCE

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From the daily water demand, total head and the daily average irradiation, is possible to determine the size of the PV generator for pumping systems. However, once the equipment is acquired, some tests are recommended, specially to verify its performance. One of the most relevant parameters to qualify a pumping system is the daily water delivered (m^3/day) as a function of daily irradiation (Wh/m^2). Facilities that fit different boundaries conditions, as for example constant total head (m) are not easily available, and just few laboratories have this capability. In this way, a simple instrumentation with the capability to determine the daily performance of PV pumping systems is presented. The proposed test tools use a hydraulic circuit with two motopumps, one connected to the PV system and the other to the electric grid. The total head is maintained constant by the variable-speed drive connected to the grid. Copyright © 2006 John Wiley & Sons, Ltd.

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