



How vineyards in Spain are irrigated in a cost-saving way using the 4" Solar High Efficiency System

In Spain, a vineyard is irrigated using the 4" Solar High Efficiency System. The customer's initial skepticism quickly turned into enthusiasm about the enormous cost savings and the excellent support during commissioning.

4" HIGH EFFICIENCY SOLAR SYSTEM

SUPERIOR EFFICIENCY

- Up to 15 points (21 %) improved motor efficiency*
- Excellent partial load behaviour (SKU reduction**)
- Due to the high motor efficiency, amps are significantly reduced, which might lead to smaller drop lead cross size and thus cost saving
- Power factor corrected input (No power compensation needed)
- One-stop shop and perfectly matching components guarantee first-class performance/efficiency
- Less panels, more water respectively
- Integrated voltage "boost" (up to 2.2 kW) significantly reduces number of solar panels
- Direct DC feeding
- MPPT algorithm maximizes system performance

INCREASED LIFETIME

- Speed control (Optimum aggregate operation - pump matches system any time)
- Incorporated Soft start and protection features (no additional investment)

SPECIFICATION

- Motor range:
1.1 / 2.2 / 3.0 / 4.0 / 7.5 kW (50 Hz - 3000 rpm)
1.2 / 2.5 / 3.4 / 4.6 / 8.6 kW (60 Hz - 3600 rp)
- System Power Supply:
≤ 2,2 kW: 90 - 400 V DC / AC Backup: 90 - 265 V
≥ 3,0 kW: 160 - 850 V DC / AC Backup: 190 - 520 V
- Top class protection with Electronics in IP66 / 65 No cabinet - no cooling fan / dust filter - no maintenance
- Backup Power supply / Direct AC feeding to maximize system runtime

*compared to asynchronous technology

** SKU = stock kept units



Solar system for irrigation

The 4" High Efficiency System was installed in a customer's vineyards in central Spain for irrigation. The system consists of the following components:



- 4" Encapsulated permanent magnet Solar motor 3 kW, 220 V
- 4" submersible pump VS4
- Variable frequency drive Drive-Tech 3.030 Solar MP
- flow switch

The system was connected to 2 x 9 PV panels of 275 watts each.



The frequency inverter can be installed directly on the mast, as it is optimally protected against environmental influences by its IP65 housing.



Cost reduction through the HES

The local Franklin distributor Likitech assisted the customer during selecting the right system and commissioning. The customer was initially skeptical about using Franklin Electric's High Efficiency System because he had been using a competitor's system. However, knowing the high quality of other Franklin products, he was finally convinced. Also the promise that Franklin Electric's Technical Service would provide remote support during the commissioning of the system and would also assist the customer with any future problems, made the customer trust in Franklin. Ultimately, he is thrilled with the results, as the system is operating even more efficiently and cost-saving than expected. Franklin Electric is setting new standards with its High Efficiency Systems (HES) up to 250 kW, achieving energy savings of up to 21% compared to systems with asynchronous motors.

While it is also the combination of perfectly matched components, the decisive factor in the energy savings is the highly efficient permanent magnet motor technology, which almost completely reduces rotor losses and thus significantly motor current and heat rise. In many cases, reduced motor current equals less drop cable cross sectional area further reducing overall installation cost.

And in the case of solar systems, the MPPT algorithm and integrated voltage boosting (up to 2.2 kW) ensure that the number of solar modules can be significantly reduced, as the system output is maximized accordingly.



Well installation with the 4" High Efficiency System

Remote control and maintenance via app

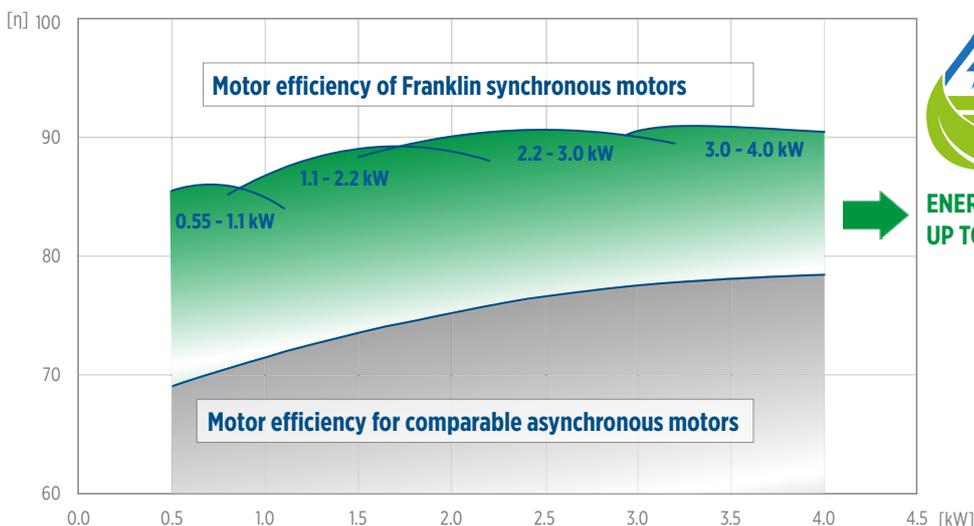


EASY INSTALLATION

- Easy commissioning, control and maintenance remotely thanks to Franklin Electric App solution
- Fully supported by the Technical Support Professionals and Field Service Engineers

UP-TO-DATE CONNECTIVITY (up to 4 kW)

- Factory-featured with Bluetooth 4.0 Connectivity
- Remote control and maintenance via Mobile App



Motor efficiencies at 3000 rpm



For more information on the Franklin High Efficiency Solar System, please visit franklinwater.eu.

