



SPANISH ENERGY GIANT USES JOFRA TO CALIBRATE

Elecnor, a major player in the Spanish energy market, knows that every part of their thermoelectric solar plant must be running properly to ensure maximum energy output. This means that all their sensors must be correctly calibrated, which is why they have chosen to use JOFRA temperature and pressure calibration units from AMETEK.

Solar energy holds a lot of potential for the planet. According to the International Energy Agency, in just 90 minutes enough sunlight strikes the Earth to provide the entire planet's energy needs for a full year. The key is to learn how to effectively harness, store and distribute the energy.

Solar thermal energy (STE) is an innovative technology for harnessing solar energy and converting it to thermal energy (heat). High-temperature solar collectors that concentrate sunlight using mirrors or lenses are generally used for electric power production.

Solar energy in sunny Spain

Elecnor is tackling the design, supply, construction, start-up, operation and maintenance of thermoelectric solar power plants based on parabolic cylinder collector technology.

Parabolic cylinder collector technology uses arrays of mirrors called helio-stats focus the sun on a boiler filled with salt that liquefies at high temperatures. The heat released by the molten salt is used to create steam that drives an electricity-generating turbine. Some of that heat can be held in tanks of molten salt and released when needed to produce electricity



The reliability of the instruments used is essential for the correct and efficient operation of the plants. This means that sensors used throughout the process need regular calibration to ensure that they are functioning optimally. Elecnor's ASTE 1A thermoelectric solar plant, located in Ciudad Real Spain, was equipped with a new calibration laboratory and filled with both JOFRA temperature and pressure calibration instruments.

Elecnor's technical department chose AMETEK's JOFRA instruments over the competitors' products because they know JOFRA delivers high quality and reliability as well as very professional and fast post-sale service. These are very important parameters for Elecnor.

Managing temperature and pressure is important

Monitoring the temperature in the plant is important. Elecnor uses JOFRA temperature calibration units to calibrate sensors located on cooling systems which need to be kept at a constant temperature to ensure maximum energy output.

The actual diameter of the many sensors being calibrated at the plant varies between 6mm and ¼" and the length varies as well, depending on the diameter of the various pipes. Fortunately, AMETEK has many years of expertise ensuring that sensors, regardless of their size and shape, are correctly calibrated.

JOFRA dry blocks are also used to calibrate sensors used in the thermal storage process to ensure that liquid salt remains at its required temperature. The temperature range that the calibrator needs to match is 0 to 400 °C and pressure calibrators need to function between 0 to 400 barg and be able to transmit differential pressure to calibrate flow transmitters. Standard pressure calibrations points including pump systems.

A bright future

A study by Greenpeace and the European Solar Thermal Industry Association (ESTIA) states that by 2040 solar plants will be supplying more energy than nuclear and hydro power plants put together. It looks like a bright future for solar – which means a bright future for sensor calibration at solar plants.

About Elecnor

Elecnor is one of Spain's leading groups in the engineering, construction and development of projects related to infrastructure, renewable energy and new technology. The company has constructed three 50 MW thermoelectric plants already in Spain.



For more information, contact:

Manuel Martínez

Sales Engineer

SEDEM, S.A.

Alts Forns, 52 - 08038 Barcelona - España / Spain

Tel. +34 93 289 71 40

Email: mmartinez@sedemsa.es

Web: www.sedemsa.es