

Case Study

Engel Plastic Injection Machines in Madrid Save 38% on Energy

MARKET REQUIREMENTS

Engel is one of the world's largest manufacturers of plastic mold injection machines. Engel is well known for its high-quality machines which are utilized extensively, in multiple shifts, around the clock, at the customers' factories. Most plants own several units, scaling to the required volume of production.

Electricity is considered one of the main production costs in the plastic mold injection industry, resulting in high energy bills for manufacturers.

Engel is aware of the market requirement to reduce the machines' substantial energy consumption, and, therefore supports technologies to address this need. The savings desired by end users includes reducing energy bills, maintenance costs, and CO₂ emissions to protect the environment.

In order to improve energy-efficiency of Engel's machines, GTA - Engel's distributor in Spain, conducted market research to identify an advanced, cost-effective, and simple to install solution which will enable energy-saving on machines already in operation.



SOLUTION

GTA, Engel's Spain-based distributor, has chosen PowerSines' advanced energy saving technology, and collaborated with PowerSines' local distributor, **enertronic**, in order to conduct an energy saving demonstration at an Engel customer's site in Madrid, Spain.

SinuMEC 400V/50HZ/43A was installed and connected to Engel's plastic mold injection machine. SinuMEC's patented technology remarkably reduced energy consumption by 38%, also improving PF, and reducing harmonics substantially – using PowerSines' unique pure-sine technology.

38% direct saving in electricity expenses

26.4% reduction in maximum power value consumed (kVA)

54.4% reduction in minimum current value consumed (Amp)

Reduction in motor temperature

Reduction in maintenance costs and increase of motor lifetime

Improve stability of the production process

No harmonics generated – uses patented pure-sine technology

Reduction of CO₂ emissions



RESULTS

PowerSines' SinuMEC 43A was connected to Engel's plastic mold-injection machines in a quick and simple installation with minimized disruption to ongoing production.

SinuMEC achieved direct energy-savings of 38.03%, without affecting the normal functionality of the machines.

This type of machines work at the facility 16 hours per day, 5 days a week, all year round, and therefore, using SinuMEC saves €4,301 annually per machine – a significant reduction in operating costs.

SinuMEC also provides substantial indirect savings which is attributed to decrease in equipment failure and to lowered maintenance and replacement costs.

Additionally, with SinuMEC installed, the facility achieves a notable reduction in CO₂ emissions, which contributes to the preservation of the environment.

