

Energy Saving With KESS

Kitchen appliance manufacturer lowers costs with the KAESER energy saving system.

For a successful launch into the new millennium Brettener NEFF Ltd., a subsidiary of the Bosch Siemens household appliance group, implemented a corporate fitness program under the name of "NEFF 2000 top".

The program included 140 projects and actions aimed at cost reductions including revision of the product range, innovations and, last but not least, a change of company philosophy. In the main, this change will be achieved by enhancing initiative and mobilizing the creative potential inherent in every employee.



Compressed air is vital to NEFF in almost all manual and automatic processes.

Specialists in built-in kitchen appliances

Powerful, functional and environmentally friendly are features which characterize NEFF products for the modern kitchen. The product range covers electric cookers, gas cookers, extractor hoods, dishwashers and compact 'fridge/freezer combinations, and all are of the highest quality for long, trouble-free life and designed for easy recycling.

Environmental protection – declared company policy

Quality and innovation are not the only goals set by NEFF; environmental protection is an important one as well. This was the reason for an environmental inspection to EU Ecological Audit Regulations as long ago as 1994. An elementary component of the NEFF environmental program is the constant effort to reduce energy consumption. Even though this was reduced by 12 per cent between 1991 and 1994, NEFF is aiming at a further total energy reduction of 20 per cent by 1999 based on the 1994 figures.

Compressed air - a key energy medium

The part that compressed air plays in NEFF's energy-saving program is quickly apparent when one makes a tour of the factory. There are very few production steps that can manage without this versatile medium. One of the main users, for example, is the sheet metal workshop. Here, the presses and stamps alone demand six to ten cubic meters of air per minute each. The numerous assembly and conveying equipment in production, the multispot welding robots that can weld individual sheet metal panels into complete cookers and the enamel or paint powder coating plant all depend on compressed air as a control and energy medium. "Our peak demand lies at around 58 cubic meters per minute" explains Herbert Legner, responsible for maintenance and energy at NEFF.



Waste air from compressor cooling is carried away by weatherproof ducting.

Welding robots in cooker assembly.

KESS successfully applied

A detailed analysis of the company's compressed air demands was carried out by means of the KAESER-developed, computer-aided system known as ADA (Air Demand Analysis) and, based on the data gathered, a second KAESER tool was brought to bear. KESS (KAESER Energy Saving System) was able to analyze the weaknesses in the existing air compressing plant and formulate a much more efficient and economic alternative. KESS has the ability to simulate various possibilities and judge their economic effect. The best solution proved to be an air station consisting of three KAESER model DS 170 screw compressors to supply the base load, another of the same as a standby and three smaller model BS 61 compressors to cover peak loads. The KAESER 3D planning system was of great assistance in presenting a realistic visualization of the proposed equipment from which potential trouble spots could be seen and avoided, resulting in the most convenient and optimum layout for the new air station. Thanks to the excellent cooperation between the compressor manufacturer, the company responsible for installation and service on site and the employees responsible at NEFF, a significant contribution to an efficient and environmentally friendly supply of compressed air was made. As Herbert Legner comments "The KESS concept was just what we were looking for to help us implement our energy-saving program successfully. It has taken us a long way towards our goal of saving 30 per cent of our power consumption by 1999. On top of this, the air center is highly reliable, as is the service provided by our local KAESER representative, the Ehlgötz company in Karlsruhe".

A KAESER VESIS master controller was chosen for overall supervision and coordination of the seven KAESER- screw compressors to ensure not only their harmonious operation but also that they are evenly utilized (right at the bottom).

Energy savings were not achieved solely by the more efficient compressors, as Herbert goes on to explain, "By changing from a double to a single air main we saved three kilometers of air pipeline! This in itself brought down energy consumption, then we rounded off our economy measures by tracking down and eliminating all leaks."

