



ENERGY SAVING CASE STUDY

PHARMACEUTICALS INDUSTRY

SAVINGS OF £26,000 PER ANNUM... PAYBACK IN LESS THAN 12 MONTHS...



The potential savings identified by EnerAir, following an analysis of the compressor installations of a major pharmaceuticals manufacturer have led to the installation of an Enercon Energy Management System, together with a retrofit Unidrive variable speed drive package to reduce full load power and off-load running. The calculated energy savings, of £26,043 per annum, will pay back the total cost of the system, £24,040, in under a year.

LOGGING EXERCISE IDENTIFIED POTENTIAL SAVINGS...

Central to the generation of compressed air at the pharmaceutical manufacturer's site are five Ingersoll Rand compressors. Four units, ranging from 11.6m³/min to 23m³/min output, are situated in the main compressor house, and one 26.67m³/min unit in the boiler house. With the impending Climate Change Levy the company was keen to determine if these compressors were operating efficiently. EnerAir through its local specialists, North West Compressed Air, undertook a logging exercise to determine if this was so.

The logging exercise identified that annual energy costs for running the five compressors was approximately £221,107. 93p. Out of this figure off-load, or non-productive running was recorded at 8879 kWh / wk. This equated to £20,776 / annum and represented the single largest opportunity for savings.

The facility to match compressor delivery pressure to site facility requirements provided the second major opportunity for cost reductions. Here, a potential annual saving of £5527 was identified. This was based upon an average lowering of 0.5 bar at the compressors, equating to a 2.5% reduction in energy.

CENTRAL CONTROL OF COMPRESSORS REDUCES OFF-LOAD RUNNING...

The mechanism for delivering these savings is EnerAir's Compressed Air Energy Management System complete with a Control Techniques Unidrive system for matching capacity to demand. The remote/unattended nature of the compressor house means that a system like EnerAir's, which can deliver PC visualisation, is essential. Other features of the system include client central monitoring of the system; a "Dial -Out" facility to the service provider for improved service support; and regular reporting, including trending of system efficiency and energy costs.

UNIDRIVE VSD IS SYSTEM OPTIMISER...

Adding to the facilities provided by the Enercon Management System is a 'retrofit' AC Variable speed drive package based upon Control Techniques' Unidrive. This reduces full load power and off load running / power by using a compressor in the main compressor house as a variable speed unit. The drive unit is linked to the Enercon central controller to ensure that it is used effectively.



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