The impact of the energy crisis on using pumps in chemical and industrial manufacturing

Manufacturing is undoubtedly a highly impacted sector in the current energy crisis. With natural gas prices remaining high while electricity prices continue to fluctuate and rise, manufacturers are feeling the pressure. If you're a chemical or industrial manufacturing company, you know first-hand how these rising utility costs impact your day-to-day operations. As a result, many manufacturers are looking for ways to reduce their energy usage and costs by using more efficient processes and technologies.

Be Proactive with energy monitoring and management

The first step to managing your energy costs is to track them. By monitoring the energy your company consumes, you can identify where you can reduce energy consumption, and thus, reduce costs.

Utilize continuous manufacturing

Lean manufacturing is a method for reducing waste and increasing profit by eliminating any non-essential activities in the production process. For instance, if your company has multiple production lines running at the same time, you can reduce waste by supplying each line with the exact load of raw materials needed. This means setting up a materials replenishment system that delivers just-in-time or continuous raw materials to each line based on their production rates.

Choosing electric pumps over air-operated

Compressed air is one of the most expensive commodities, however, as most manufacturing sites have compressors, it can often be overlooked as an expense. Choosing the right type of pump for a specific application and monitoring energy usage through sensors can help improve energy efficiency across your whole site. One of the ways we can do this is by switching from air-operated pumps to electrically driven pumps, or, more specifically, the electronically operated air diaphragm pump

Recently, the impact of rising energy costs has been talked about from a domestic standpoint but commercial energy usage doesn't benefit from a price cap with some large sites reporting unit prices of around £0.34 per kWh with some companies seeing a 400% increase from this time 7 years ago pushing energy-efficiency higher up the agenda.

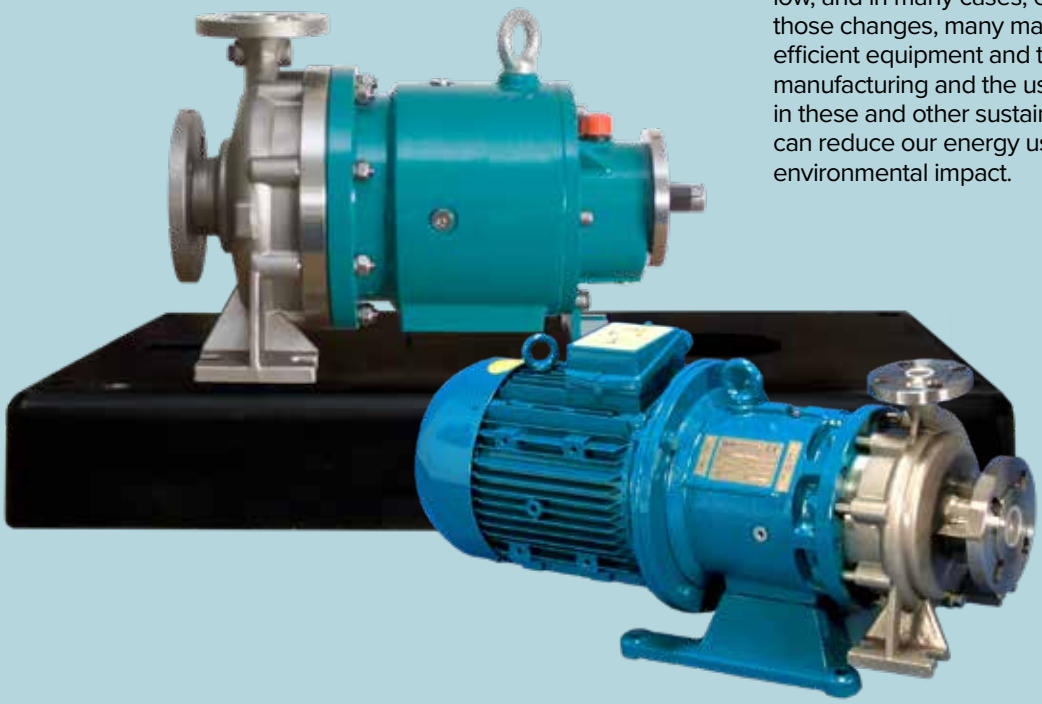
Example 1:

Unloading pumps were being run 24 hours a day for unloading applications because the product would solidify when it cooled down. To save money and increase efficiency, the existing pumps were replaced with stainless steel magnetic drive pumps which could be run using a motor half the size without compromise and the new pumps were fitted with heating jackets to maintain the temperature utilising steam that was readily available preventing the product from solidifying when cooling. By reviewing and modifying the original process, this site went from using 397,440 kWh of electricity each year for four units down to 198,720 kWh per year and reduced CO2 emissions by 90% saving £31,000 in operating costs – before the recent energy price increase, in 2022, this saving is now closer to £60,000 a year.

Example 2:

An air-operated diaphragm pump is being operated 24 hours a day, 7 days a week, 51 weeks of the year using 63,310 kWh of power during this time. By swapping the pump out for an electronically operated diaphragm pump which uses just 4847 kWh – that's 90% less power for one unit or a saving of over £18,100 (not including VAT).

The energy crisis is impacting manufacturers of all industries, forcing us all to make changes to our operations to keep costs low, and in many cases, ensure their survival. In order to make those changes, many manufacturers are turning to energy-efficient equipment and techniques, such as continuous manufacturing and the use of electric pumps. By investing in these and other sustainable manufacturing practices, we can reduce our energy usage and costs, while also reducing environmental impact.



Kevin Pratt
Business Development Manager
CDR Pumps (UK) Ltd
For further information visit
https://www.cdrpumps.co.uk