



Why is so much energy wasted with pumps?

Problem:

Pumps are running 24/7

Pumps typically go unobserved year in, year out, and because they're running okay, people often turn a blind eye to the fact that they use a lot of power while providing services such as heating, cooling and water supply. Yet the pumps are often set up to accommodate worst case scenarios. For example, heating pumps work to keep buildings warm on cold, snowy days yet this extreme in temperature doesn't always occur, so the pump is running more than it needs to. There is also a general lack of pump control, and variable speed drives can be incorrectly programmed.

Solution:

Our engineers can conduct a thorough system analysis to identify the system usage. With this data, we are able to make the necessary modifications such as alter the output so that they can run at 50%, which equates to 25% of total power consumption. Often basic pump control can be used to save around 40% of the energy used. We also review how the pumps are controlled as it may be possible to run at 50% at night, or even turn it off.

Problem:

Pumps are oversized.

Pumps are an integral part of systems such as heating and chilling (either boilers or air handling units), and during the design phase of the system, a margin of error is often added to the plan for safety's sake. The engineers who then lay the pipework will also add a margin of error, as will the specifiers who install the pump. These small (10%) margins for errors can sometimes add up to 45% more pressure than is needed.

Solution:

Our engineers can evaluate what is really being used on site by analysing the system requirements and removing all the guesswork, before then supplying the optimal pump for the project. Yet sometimes it goes beyond the pump. An accurate system analysis means that an exact duty point can be selected. With this data, we can customise a pump to suit that exact system requirement which maximises its efficiency. We also review how the pump is controlled as it may be possible to run at 50% at night, or even turn it off.

Problem:

Pumps, by design, are inherently inefficient.

Technology has moved on leaps and bounds in the past few decades. Older pumps that are belt-driven are not as efficient as those with a direct drive. A belt loses 20% of power regardless of the function it is performing.

Solution:

We recommend installing a direct drive pump which can save 30-40% of power in any application. In addition to making energy savings, you will reduce maintenance costs and keep downtime to an absolute minimum.



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Problem:

A building layout, or process, has been altered which makes the pumps inefficient for the new process.

When factories are altered, or processes changed, the main focus of the maintenance crew is to keep solutions that still work, and not reconsider if it is the most efficient solution. So where previously there may have been 20 machines, and now there are 10, it wouldn't be uncommon to find the original pump still in use "because it's always been that way."

Solution:

If your system has been modified, our engineers are able to re-evaluate the system and make suitable recommendations. We are able to specify a pump and controls to suit your exact requirements. For example, we worked with a hospital in Banbury to replace their existing 37kW pump with an 18.5kW pump and still service the hospital as required. On a smaller scale, we can replace 5.5kW with 3kW pumps which save 2.5kW per hour. This equates to 21,900kW a year – approximately £2,190 in savings.

Problem:

It's the wrong pump.

Some pumps are incorrectly specified at the beginning of a project, either because they are put in as temporary solutions or because there is no other equipment available.

Solution:

Our engineers will reevaluate the system with the pumps and find the solution right for your application.

Problem:

The pumps are old.

Ageing is always going to be an issue, as almost everything becomes more inefficient with age.

Solution:

Pumps should be serviced at a minimum, every three years to ensure that they are running as efficiently as they can. But for older pumps, we would recommend that they are checked every 12 months.



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