



6 Smart Ways to Improve Energy Efficiency & Cut Operational Costs of your Centrifugal Pump

As we all try to make this Earth a better place to live, everywhere we look there is a serious concern for the environment. From governments to large-scale industries, everyone is working on ways to protect and preserve the environment.



One of the best ways to protect our environment is to cut down energy consumption. By reducing the energy we use, we reduce our dependence on natural resources, helping us protect and conserve the earth's fuel. Energy efficiency has many ecological impacts, as well as helping to cut down operational costs. By making your industrial pumps energy efficient, you can reduce the overall operational costs of your pumps quite significantly.

Continue reading to find out the top 6 ways to make your centrifugal pumps energy efficient and reduce your operational costs.



01.

Trim Impellers

Is your pump too big for the job? If so, an easy and cost-effective way to reduce the pressure and flow is to size down the impellers. Impeller trimming is an excellent way to make your pumps energy efficient. It even works better than using a throttling valve to achieve the same output.

02.

Use VFDs (Variable Frequency Drives)

Depending on the requirements, VFDs alter the rotational speed of the motor. The head and flow are produced as per demand, when you use a VFD, instead of what the pump can produce. Energy consumption can be reduced by VFDs in the following two scenarios:

- By slowing down the motor of an oversized pump
- By altering the speed of the motor as demanded by the application

A cooling pump is a perfect example of a VFD reducing energy consumption; the pump has to be operated in accordance with the temperature of the fluid to be cooled.

Although VFDs have a high initial investment, they are worth it because they can help in energy saving over the years.



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Go for Parallel Pumping Systems



Another way to reduce energy consumption and improve efficiency is to use multiple pumps throughout a system. If your pump continuously operates away from its Best Efficiency Point (BEP), then it's likely to consume higher energy and you intended. When you install a second pump that operates in parallel to the primary pump, the load on the primary pump can be reduced thereby increasing the energy efficiency of the overall system.

0.4

Eliminate Pressure Loss in the Pipework

Frictional losses are another major reason for energy loss. Adjusting the velocity in the pipes helps to reduce losses caused by friction. There are several factors including, pipe length, pipe diameter, layout and components that affect the friction in the pipes. Below are a few points to consider during the design stages of your system:

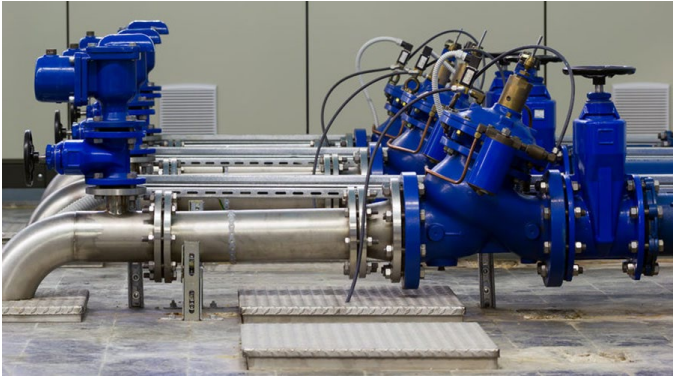
- Reduce the amount of bends in the system
- Try to keep the pipelines straight as possible
- Keep the diameter for all the pipes the same
- Pipes with smaller diameters are prone to more losses due to friction
- Similarly, the pipe material affects the friction produced in the system
- Friction is also increased when there is corrosion and rust in the pipes

Pipework can be expensive and time-consuming, so make sure you get it right during the initial installation. Also, ensure you regularly clean and maintain the pipes to avoid friction losses.



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Avoid Oversized Pumps



Using the wrong sized pumps is a common mistake made by pump engineers. Studies show that centrifugal pumps account for 80% of all pump installations. Yet, they are one of the most oversized pumps. High energy is required by a large pump and leads to unnecessary energy consumption. Ensure you select a pump that is close to the BEP (Best Efficiency Point) to improve energy efficiency. If you're unsure of this, you can always contact our team on 1800 333 424 to help you with the right pump sizing requirements.

0.6

Avoid Unnecessary Use of Pumps

This may seem obvious, however, there are several scenarios where pumps are operated unnecessarily. Energy costs can be cut down significantly with the use of automatic control systems and sensors to turn off the pumps when not in use.

