



## JUST FOUR STEPS



### Two sides of the same coin

Pumps account for an incredible 20-25% of the industrialised world's energy consumption. So it's vital that pump systems are optimised to their full potential. Inefficient pumps waste money and produce unnecessary CO<sub>2</sub> emissions. By ensuring that your systems operate efficiently, you not only save money but you also help protect the environment. It's literally two sides of the same coin. Take advantage of the Grundfos Pump Audit and like others who have already, you will find out that optimising your pump processes can save you a substantial amount of money, lower your CO<sub>2</sub> emissions and save man-hours in environmental reporting.



### Chart your performance

Across the world, performance reporting requires an increasing amount of attention and man-hours to complete demands to account for operating costs, energy usage and environmental impact. A Grundfos Pump Audit is a service concept that will, in just a few steps, provide you with the facts about the efficiency of your pump process. The Pump Audit report will enable you to take further steps to optimise your ability to complete these demands quickly, and implement changes to keep your pump system running optimally – saving you money and reducing your environmental impact. That is because correctly sized, new pumps are more efficient, require longer service intervals and encounter less downtime. What's more, pay-back time is usually as little as six months to two years.

### Just a few steps away from results

The Grundfos Pump Audit is a non-intrusive, four-step process. Depending on the complexity of your facility, different tools may be deployed to attain the data needed to recommend points of optimisation.

### An expert team

Grundfos has put together a team of dedicated specialists who are the backbone of the Pump Audit. Specially trained and, with years of collective experience, they know exactly the challenges you face and can discuss the most complex pump issues confidently, constructively and efficiently.

### Leaders by example

With years of experience, Grundfos has worked with some of the world's leading companies. Results have been impressive. Customers who have already benefitted from a Grundfos Pump Audit have proved the value of the concept. The Pump Audit team is ready to offer you the same thorough investigation of your pump system and lead the way to financial and environmental savings.





# 1. WE LISTEN TO YOU



### Meeting and discussion

The first step of the Pump Audit is a meeting with a Grundfos Area Sales Manager. They will introduce you to the process, discuss your challenges and your needs and talk about other possible areas of concern. They will also tell you what we can do to help you achieve your optimisation goals and how we can realise them.



### On site inspection

Here, we visit your facility and ask questions that help us define the task ahead. We listen carefully and then formulate an action plan. We map your pump portfolio, incorporate your goals and prioritise the tasks we need to complete to get there. We will need your input as we inspect the site to completely inform us about your system and its applications.

### Questions

- Information we will ask for:
- Process to be looked at
  - Flow in the process, peaks and lows
  - Needs for optimum production
  - Quantities pumped annually
  - Type and number of existing pumps
  - Size of existing pumps
  - Age of existing pumps
  - Location of pumps in relation to intake and process
  - Periodical reporting obligations

### Last small hurdles

Information we will ask for:  
 The initial meeting should answer most of your questions but should you have any concerns about how the Pump Audit will be customised to suit your specific application, feel free to talk to the Area Sales Manager. They're there for you.

# 2. SEEING WITH EXPERIENCE

The second step of the Pump Audit process is a visual inspection of the system. To avoid unnecessary interference, and to ensure that the most obvious points of optimisation are discovered, we conduct a comprehensive inspection of your pump system. Amongst other things, this includes inspecting existing pumps, their surrounds, piping, valves and line drawings.

### Discovering the unknown

The visual inspection will reveal the possible areas for improvement. It provides the starting point for measurements and testing, and assessing the need for special equipment.

### Emerging results

In this step, after taking the information gained earlier into account, we work out exactly what kind of analysis should be performed on specific pumps and the options involved in doing this. It's here that we look for answers and become familiar with the energy consumption of the pumps. These analyses measure loads over a specific period and from this we can calculate an optimum capacity. The combination of the data gathered from the initial meeting and the visual inspection will allow us to formulate primary conclusions. When these results are compared with Grundfos' calculation tools, we can indicate possible cost savings by implementing optimisation recommendations.





### 3. THE RIGHT TOOLS FOR THE JOB



Grundfos will select Pump Audit tools most appropriate for your particular processes.

The Pump Audit tool box includes:

**1. Installed base checks**

A minor evaluation is conducted based only on the data from the identification plate on the pump compared to the newer, more efficient technology and materials found in modern pumps. This may lead to a suggestion to replace the pump.

**2. Pump efficiency quick check**

Pressure and kWh consumption of the pump are measured. Flow is estimated based on available pump data and the measured results. Based on this data an appropriate new pump is selected.

**3. Pump Audit without long-term logging**

Pressure, kWh and flow are measured but not logged. Five operation peaks are induced by valves. A fictive load profile is created from your input. The suggested new pump is selected based on the measured data of the five operation points and the fictive load profile.

**4. Pump Audit**

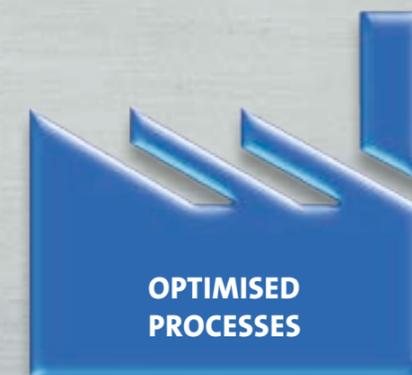
Pressure, kWh and flow are measured and logged. Temperature can be measured if necessary. From the logged data, the information contributed earlier and the visual inspection, a load profile is generated with five operation points. The new pump is selected based on considerations of the load profile in relation to the running time between the operation peaks and the criteria of the highest efficiency and most running hours.



### 4. START REAPING THE BENEFITS

**The evaluation**

The inspection and diagnosis result in a report. The report describes the conclusions of the measurements. It suggests a solution that could include reassessing the pump involved, replacing piping, re-situating the pump or using currency converters. During the discussion we will explain the consequences of the current configuration and compare the performance of the current process to a suggested solution. We will discuss the economic and environmental consequences of implementing the changes or keeping the process as it is. The comparison is supported by a pay-back time calculation. This shows the pay-back rate and benefits to your CO<sub>2</sub> footprint.



**Offer**

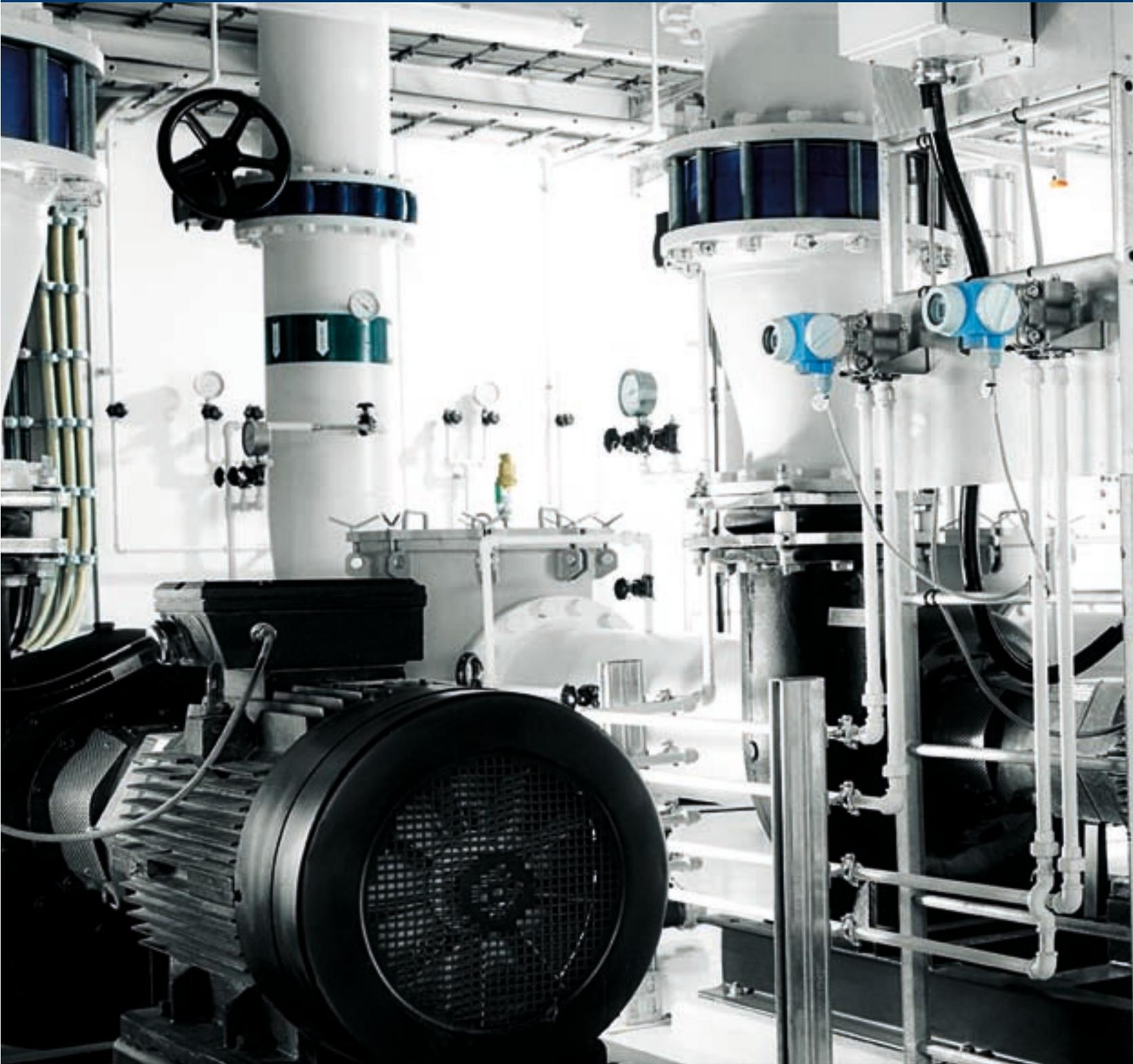
As well as the results of the Grundfos Pump Audit and debrief, we will include an offer to incorporate a complete solution to the problems highlighted in the evaluation. This offer explains in detail the actual pay-back time and CO<sub>2</sub> reductions to be made, ready to taken further.



**Start making significant savings and reduce your CO<sub>2</sub> emissions now!**  
 Optimise your pump processes by ordering a Pump Audit. Call us or visit [www.grundfos.com/pumpauidit](http://www.grundfos.com/pumpauidit)

BE > THINK > INNOVATE >

Being responsible is our foundation  
Thinking ahead makes it possible  
Innovation is the essence



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