Cheshire Pump Company Ltd

Tech Talk - 1 Pump Application

It is a simple fact that most pump failures are caused by one problem, poor application

The resulting electrical / mechanical failures will present themselves in many ways, without doubt the main cause being seal failure, estimated to be over 60%

The conflict in this fact is that poor application may not directly lead to the failure; it is simply that the seal is the weakest link in the component chain and the most likely to fail soonest

Do not think that replacing seals or getting seal specialist advice will improve a poor application **it will not**

Every pump is designed for a specific application, an optimum duty point, an ideal environment and design life. Getting a pump specialist involved in your pump project at design stage will undoubtedly provide the best pump for the application. This must take the environment, application and pump pipework and valve design into consideration

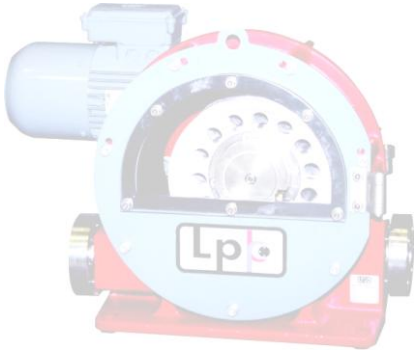
High efficiency is only a realistic goal where the running time and frequency is high enough. There is little point paying a high cost to achieve high efficiency for a pump that runs for ten minutes three times a day. The reverse is true for pumps in continuous operation; high efficiency and reliability are the only factors to consider. The capital outlay is usually around 5% of the whole life running costs of a pump. **Focus on the 95%**

Only use a pump supplier that has the knowledge to provide design assistance for your whole project, the sump (wet well), your pipework valves, materials and controls

From this point you can then make an assessment of a pump design most suited to your project

Simple method to estimate the power requirement of a roto-dynamic pump (eg submersible pump, pumping fluid such as water)
Multiply the flow in Litres / second by the design head loss in Metres, divide this figure by 101.95, this provides the fluid Kw value
Divide this value by a pessimistic estimate of the pump efficiency expressed as a decimal – that is 60% becomes 0.6, 70% would be 0.7 etc
Example - Design duty point is 60L/s @ 14.5M, and a 60% pump efficiency, 60 x 14.5 = 870, 870 / 101.95 = 8.53Kw (fluid Kw), 8.53 / .6 = **14.2Kw (absorbed Kw at duty)**

DON'T FORGET the system head loss is governed by the pipework and valve design, get this right and you will lower the running costs of your system **FOR LIFE**



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Larox Flowsys Pumps and Valves
SEKO Pumps – CDR Pumps – Ebara Pumps - ABS Pumps