



PUMPS THAT EXPERTS SELECT.

Pump Reliability Audit

Ross Mackay Associated Ltd.

What you need to know to improve the reliability of your pumps:

1. Gain a better understanding of the use of the various parts of the pump.
2. Be aware of the functional differences in impeller types.
3. Know why there are one, two, or four wear rings.
4. Understand the difference between pressure and head.
5. Understand the role of the pump curve in trouble-shooting.
6. Be aware of the use of Affinity Laws.
7. Know how to maintain pump efficiency and reduce power draw.
8. Appreciate the effect of viscosity on pump performance.
9. Realize the effect of paper stock dryness on pump performance.
10. Understand the effect of speed on pump performance.
11. Understand the key hydraulic factors in a pumping system.
12. Know how to use the system curve in trouble-shooting.
13. Understand parallel pumping.
14. Understand series pumping.
15. Know how to better analyze the pumping system.
16. Know the difference between cavitation, recirculation, and entrainment.
17. Understand how to trouble-shoot cavitation.
18. Understand how to work better with net positive suction head (NPSH).
19. Realize the importance of pump priming.
20. Know how to minimize vertical pump submergence.
21. Understand low flow recirculation.
22. Realize the importance of suction and discharge piping requirements.
23. Be aware of the best pump operating procedures.
24. Understand how piping can improve the pump performance.
25. Understand radial loads and shaft deflection.
26. Gain a better understanding of pump packing.
27. Learn how to select the right mechanical seal for your service.
28. Understand the differences between single vs. double seals.
29. Learn why mechanical seals fail.
30. Appreciate the importance of auxiliary piping.
31. Know how to better trouble-shoot seal and bearing problems.
32. Understand the various bearing styles and why they are used.
33. Know the benefits of the different lubrication methods.
34. Understand grease lubrication.
35. Understand how to better protect your bearings.
36. Appreciate the importance of shaft alignment.
37. Know how to correct the mechanical causes of pump vibration.

Taken from Ross Mackay Associated Ltd.

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