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2. Improper seal flow reduces capacity
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Email Newsletter

E.W. Klein & Co.
Engineered Equipment Since 1921

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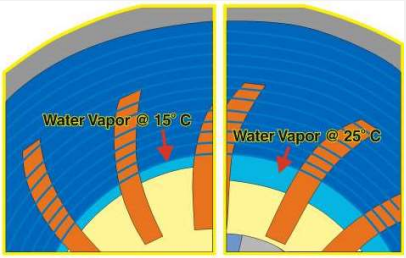
Hot Weather Tips for Liquid Ring Vacuum Pumps and Compressors

Summer is upon us in full force and brings with it high and sometimes extreme temperatures that can negatively impact the performance of liquid ring pumps. Why? Unless the pump system is using city water, which is typically at 75 degrees F or below, the seal water temperature entering the pump may be hotter than normal, exceeding 90 degrees F or higher. High seal water temperatures decrease the capacity (air or vapor flow) of a liquid ring pump and can also reduce the depth of vacuum it can achieve. Here are some tips to consider for obtaining the best performance possible during the summer months.



1. The cooler the seal water, the greater the capacity
2. Improper seal flow reduces capacity
3. Low vapor pressure seal liquids (such as oil) can increase pump capacity and vacuum

Seal Liquid Flow Rate

Confirm that the seal flow into the pump meets the recommended flow for the pump model, speed, and vacuum level. Refer to the O&M manual for details about flow requirements. For control device options, please contact us for assistance.

Seal Liquid Strainer

Check the seal liquid in line strainer for debris, which will block or prevent proper seal liquid flow

Seal Water Temperature

If the seal water temperature entering the pump exceeds 90 degrees F, consider the addition of city water or a source of “cooler” water to introduce to the pump. This can be done manually with some minor piping modifications, and assuming proper flow control devices are in place.

Cavitation

Cavitation is common, especially for 2-stage pumps, when inlet water temperatures increase. Cavitation will destroy the pump over time. Cavitation sounds like rocks or marbles rolling around in the pump. Take measures to mitigate cavitation by insuring the correct seal flow rate, using cooler seal water, and/or a relief valve.

Temperature Readings Across Pump

Measure the seal liquid temperature going into the pump and compare it to the temperature coming out (bottom half of the discharge piping). If the delta T (temperature) exceeds 20 degrees, there may be a seal flow problem.

About E.W. Klein & Company

E.W. Klein has over 98 years of industrial experience with a portfolio that consistently delivers Performance, Value, Reliability, and Efficiency. We represent state of the art vacuum pumps and compressor brands including: NASH, Siemens, and Garo liquid ring pump technologies, Dry-Pro dry screw pumps, and RunTech Turbo brand vacuum pumps…all by Gardner Denver. You can reach us at 404-256-9200 or at www.ewklein.com. For questions about this newsletter, please contact Allison Carroll, acarroll@ewklein.com