

**EFFECT OF SERVICE WATER TEMPERATURE ON CAPACITY OF LIQUID RING VACUUM PUMPS**

The temperature of the sealing fluid (in this case water) can have a dramatic effect on the capacity of a liquid ring vacuum pump.

The performance data, which DEKKER Vacuum Technologies publishes, are based on using 60°F water as the sealing liquid for the vacuum pump.

The vapor pressure of the service liquid has a direct influence on the vacuum pump capacity. When the vapor pressure of the service liquid is less than that of water at 60°F, the pump capacity will increase, and when the vapor pressure of the service liquid is higher, the pump capacity will decrease.

The diagrams allow the user to select the correct pump for the application in question, while taking capacity correction factors into account.

Example:

A high seal-water temperature (say 86°F) can have a significant effect on the capacity of the pump. For a single-stage pump, the capacity correction factor when operating at 75 Torr (27" HgV) is 0.76. This means that if the published capacity of the pump is 300 ACFM at 75 Torr, the pump will have a corrected capacity of 228 ACFM with the higher seal-water temperature.

