

Fall off of pumping performance

There are a number of possible reasons for the fall off of the pumping speed. Where diffusion pumps and oil filled backing pumps are used a fall in oil levels or, in the case of the backing pumps, an increase in the water content of the oil can all cause a drop off in performance.

A vacuum system leak would be another common problem. This fall in pumping performance might also be accompanied by the metallized film having a reduced reflectivity, or even a yellow colour, instead of the silver metal normal reflecting appearance.

Similar to the simple vacuum leak would be the related problem of moisture. This can be caused by a number of different factors. An accumulation of stray coating on shields tends to grow as a very porous coating and the surface area is massive and so can attract a huge amount of moisture out of the atmosphere whilst the system is at atmospheric pressure. This can be corrected simply by cleaning off the stray coating at more frequent intervals. There can be other sources of moisture such as forgetting to turn off any chillers that might be connected to the deposition drum, shields, copper contacts or chamber walls. Not turning off the cooling would mean that the surfaces would remain cool and if below the dewpoint could start to condense out the moisture from the atmosphere.