

PHI 5600: Ion Pump

- **Manual of Perkin Elmer DIGITEL 500 Ion Pump System Controller**, [click here](#).
 - **Theory behind the operation of ion pumps**. To watch a video explaining the operation of ion pumps [click here](#), and for more information [click here](#).
 - **How to "rejuvenate" the PHI 5600 ion pump**. After prolonged periods of sputtering with Argon gas, the ion pumps can become saturated. This results in occasional "belches" of Argon during which the ion pumps overheat and release large amounts of gas. These belches usually result in a snowball effect that dumps the system. Rejuvenating the ion pumps once every few months (more often if you do a lot of sputtering) will help to prevent the belch problem from recurring. To learn how [click here](#).
 - **Ion pump element rebuild procedure**. After a number of years it becomes necessary to replace the ion pump elements, but depending on how worn out the plates are, you may simply be able to "flip" the plates. To learn how [click here](#).
 - **Endoscopic ion pump inspection**. An way to determine if an ion pump needs to be rebuilt is to perform an endoscopic ion pump inspection, to learn how to do it [click here](#).
 - **Clean an ion pump using an ion plasma**. If you start an ion pump when the vacuum is in the mid 10⁻⁴ range, the gas load will be high enough to produce a visible ion plasma, this can be used to clean the ion pump. To learn how [click here](#).
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