



A Basic Guide To Lamp Variants

Lamp Types

ION Science offer 3 different energy levels with their Photoionisation detectors (PIDs) these are 10.0 eV, 10.6 eV and 11.7 eV. All instruments come supplied with a 10.6 eV lamp as standard, and this runs in the middle of the lamp types and is the work horse for most PID manufactures.

The Tiger Select, the Cub^{TAC} and the Falco^{TAC} all come with a specially optimised 10.6 eV lamp and when paired with the stack specifically designed to work with this lamp, creates a 10.0 eV MiniPID. The 10.0 eV this is the most selective of the lamps and is particularly focused, for BTEX compounds, and other aromatics.

The 11.7 eV lamp is the broadest of the lamps but is the most delicate and is used to detect compounds with the highest ionisation energy.

12.6 eV Methane

11.4 eV Chloroform

10.9 eV Methanol

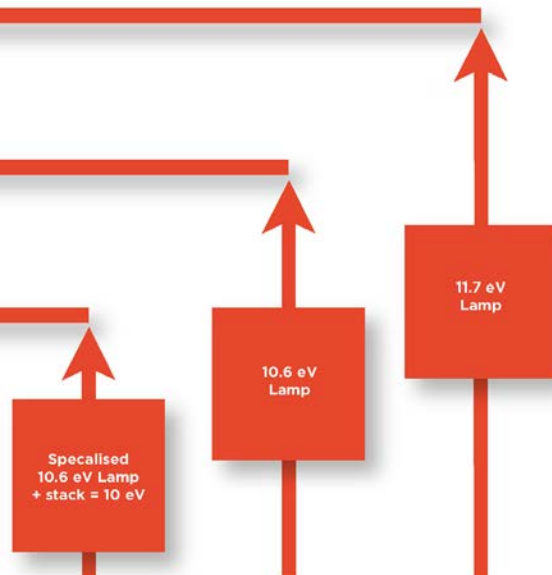
10.5 eV Methyl Bromide

10.1 eV Isopropanol

9.7 eV Acetone

9.5 eV Trichloroethylene

9.25 eV Benzene





Lamp Replacement

ION Science's 10.0 eV and 10.6 eV are warranted for 1 year from date of purchased from ION Science; but are expected to last much longer. Due to the delicate material of the 11.7 eV lamps these are only warranted for 3 months from date of purchased from ION Science, however with good care and maintenance they can last longer.

For replacement lamps, and stacks please quote the part number below to your local ION Science distributor.

| Instrument | Lamp Part Number | Lamp eV | Stack Part Number | Lamp warranty period | Typical Lamp Life |
|-------------------------------------|------------------|-----------|-------------------|----------------------|-------------------|
| Tiger | LA4TM600 | 10.6 eV | A-846267 | 1 year | 2 year + |
| Tiger ^{LT} | LA4TM600 | 10.6 eV | A-846496 | 1 year | 2 year + |
| Tiger Select | LA4TS600 | 10.6 eV** | A-846417 | 1 year | 2 year + |
| Tiger (11.7 eV Lamp*) | LA4TM700 | 11.7 eV | A-846267 | 3 months | 3 months +* |
| Cub | LA4TM600 | 10.6 eV | A-846267 | 1 year | 2 year + |
| Cub ^{TAC} | LA4TS600 | 10.6 eV** | A-846417 | 1 year | 2 year + |
| GasClam | LA4SXL3.2 | 10.6 eV | A-846745 | 1 year | 2 year + |
| Falco 10 D+P | LA4SFL3.2 | 10.6 eV | A-846627 | 1 year | 2 year + |
| Falco 50 D+P | LA4SFL3.2 | 10.6 eV | A-846629 | 1 year | 2 year + |
| Falco 1000 D+P | LA4SFL3.2 | 10.6 eV | A-846627 | 1 year | 2 year + |
| Falco 3000 D+P | LA4SFL3.2 | 10.6 eV | A-846629 | 1 year | 2 year + |
| Falco ^{TAC} | LA4SFL3.2 | 10.6 eV** | A-846767 | 1 year | 2 year + |
| Titan | LA4STL3.2 | 10.6 eV | A-846444 | 1 year | 2 year + |
| TVOC | A-833227 | 10.6 eV | 1/EA-2 | 1 year | 2 year + |
| TVOC2 | LA4SFL3.2 | 10.6 eV | A-846496 | 1 year | 2 year + |
| 10.6 eV & 10.0 eV lamp cleaning Kit | A-31063 | | | | |
| Stack removal tool | 846216 | | | | |
| Falco PID removal tool | 873250 | | | | |
| Falco PID removal tool | 873250 | | | | |

* When not in use MUST be kept in an airtight container with desiccant.

**Specially designed 10.6 eV lamp with specially designed electrode stack to produce a 10.0 eV MiniPID



Lamp Storage

When not in use it is recommended you remove the MiniPID where the lamp is housed and store it in an airtight container with desiccant. This is extremely important for 11.7 eV products as the most damaging thing to the 11.7 eV lamp is moisture.

Lamp Care

Lamps are a delicate part of your instrument and regular maintenance should be practiced. To gain access to your lamp, remove the electrode stack using a “stack removal tool” the electrode stack should spring free and the MiniPID can be inverted to allow the lamp and spring to come away from the MiniPID body. This is also a good opportunity to check the electrodes within the stack, they should be bright and shiny, any corrosion means the stack should be replaced. It is important to only touch the lamp body and avoid touching the window.

To clean the window, use a cotton bud and dip the bud in aluminium oxide if cleaning a 10.0 eV or a 10.6 eV lamp. The 11.7 eV should not be used with aluminium oxide powder as this will destroy the window, instead ethanol should be used. Using a lint free cloth wipe away any residue. After any maintenance or cleaning to your lamp and MiniPID, your instrument should be re-calibrated.

A full video of the procedure can be found on the ION science website

<https://www.ionscience.com/videos/how-to-clean-an-ion-science-minipid-lamp/>

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