



Technical Bulletin 148

Version 1.0

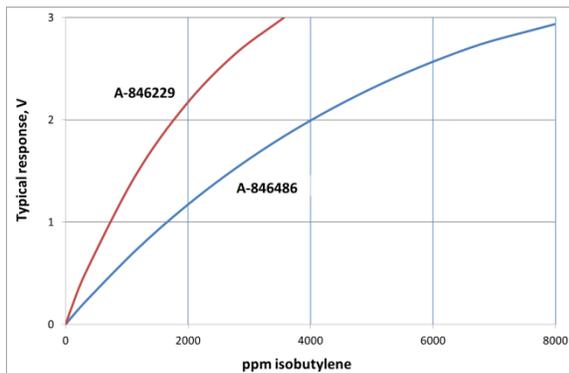
19th February 2013

New PPM IonPID electrode stack or pellet 'HPPM'

Photoionisation detectors (PIDs) sense volatile organic compounds (VOCs) in air by uV light illumination of a gas sample. The light collides with the VOC, generating charged particles called ions, which are then caused by an electric field to induce a tiny current, which is amplified and displayed as a VOC concentration. The deep UV light is provided by a PID lamp, of some 12 mm length.

Ion Science has worked vigorously to improve the quality of lamps which are used within the IonPID sensor. Our lamps are of more consistent performance, and strike dependably. These improvements have been attended by a trend to increased lamp light output, which may cause an IonPID ppm sensor to deliver a saturated signal at concentrations of VOC near to the advised upper detection limit of 4000 ppm isobutylene.

To support these improvements Ion Science has now developed a new PID sensor pellet or electrode stack, the *HPPM stack*. The HPPM stack is compatible with modern lamps, and delivers PID gas sensing comfortably within the PID PPM specification. The lamp linearity engaging *HPPM* is also improved on its predecessor, as shown below.

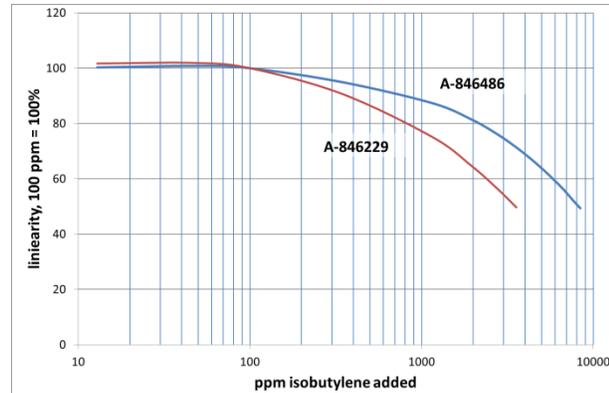


Typical response of an IonPID PPM cell containing a contemporary PID Kr lamp, with the HPPM stack, (part no A-846486) and previous PPM stack (A-846229).





*Note: *IonPID* formerly known as MiniPID



The extended range of linearity of the HPPM stack A-846486: 90% responsivity is obtained at 1000 ppm vs 100 ppm, compared with ~78% for the previously manufactured stack A-846229.

The responsivity of the new HPPM electrode stack is >0.65 mV/ppm. The stack delivers slightly improved humidity invariance. It is also less affected by percentage concentrations of methane or other PID response suppressing compounds.



IonPID production stack A-846229, left, and the new HPPM stack reference A-846486, right.

To order the new improved lamp and HPPM stack, please order LA42SM60 @ £60.

For more information contact Ion Science

Tel: +44 (0)1763 208503

Email: mareting@ionscience.com www.ionscience.com

