

## The OpTech®-O<sub>2</sub> Model P



MOCON® has developed the OpTech-O<sub>2</sub> Model P as a result of requests from the pharmaceutical, medical device and food industries. It replaces the OpTech-O<sub>2</sub> Platinum, which will no longer be available.

The OpTech-O<sub>2</sub> Model P functions essentially the same as the OpTech-O<sub>2</sub> Platinum, with the added ability to automatically measure the internal package pressure using the new Pressure Needle. The software uses this pressure measurement to correct the oxygen reading.

### The impact of internal package pressure

Incorrect oxygen readings directly impact a product's projected shelf life. For this reason, all current optical technologies must compensate for internal package pressure. The OpTech-O<sub>2</sub> Platinum requires the user to manually enter the package pressure. The OpTech-O<sub>2</sub> Model P utilizes the Pressure Needle and a pressure sensor inside the instrument to compensate for the internal package pressure.

The impact of an incorrect internal pressure measurement is as follows. If the internal pressure is half the ambient pressure and this is not compensated for by the instrument, it will calculate an oxygen percentage that is only half what it actually is. Conversely, if the internal pressure is twice the ambient pressure, the instrument will calculate an oxygen percentage that is two times higher than the actual percentage.

The ability of the instrument to automatically compensate for the internal package pressure when measuring

headspace gas is particularly important for small packages such as blister packs, snack packs and vacuum sealed packages. This is because a variety of actions, such as the force required to insert the needle, can change the internal package pressure.

### Instrument changes

Changes within the instrument include a pressure channel inside the needle and a new pressure sensor block which transfers the package pressure from the needle to a sensor within the instrument.

### Accessories

All current accessories for the OpTech-O<sub>2</sub> Platinum will continue to work with the Model P. Retro-fitting of the internal package pressure sensor to the OpTech-O<sub>2</sub> Platinum is not available, and the Pressure Needle cannot be used with the OpTech-O<sub>2</sub> Platinum. Those using the OpTech-O<sub>2</sub> Platinum will continue to enter the pressure manually in the appropriate box during test setup.

As with our other OpTech needles, the Pressure Needle is not recommended for wet applications. Powder could have the same issues as liquid, depending on how fine it is.

### Competition

The ability to automatically adjust for the impact of internal pressure is a major step and one that cannot be duplicated by competitors. The fluorescence signal on the competitor's product is delivered to the sensor via a long fiber optic cable. If they were to attempt to provide a pathway from the tip of their needle to the sensor, the amount of ambient air within the pathway would itself change the package pressure and, as a result, the oxygen reading. Because of the short distance from the needle tip to the sensor within the OpTech-O<sub>2</sub> Model P, there is insufficient ambient air to impact the test results.

Production of the OpTech-O<sub>2</sub> Platinum will cease immediately. The OpTech-O<sub>2</sub> Model P is available as of July 20th, 2015.