

NEW OLFACTORY "SNIFFER" DETECTOR FOR GAS CHROMATOGRAPHY

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The Olfactory Detector Outlet (ODO II) is designed to take the outlet stream from a gas chromatograph and transfer it to a nose cone in which it is mixed with humidified air. This allows the human nose to identify individual components as they elute from the capillary column.

The system incorporates a flexible heated transfer line for easy positioning of the nose cone away from hot zones on the GC. This makes "sniffing" during long GC runs possible because the nose cone can be moved to a new position at any time to suit each run, even during runs, without any changes to the system or effect on the chromatography. The heater itself is flexible and totally contained within the transfer line along with a separate channel carrying humidified air to the nose cone. **Figures 1 and 2** show the transfer line and nose cone in detail.

The glass cone is purged with air that has been humidified by passing it through a reservoir containing water. Breathing in humidified air prevents the nasal mucous membranes from drying out over long periods and helps maintain olfactory sensitivity. The ODO II control unit contains an advanced humidifier with Fill, Purge and Drain functions and factory set air flow controller.

Previously it was quite difficult to split the outlet of the column between two detectors when one of the detectors was an MS. A common limitation of using an olfactory and an MS detector simultaneously is maintaining similar elution times in both detectors. This can make matching the peaks that smell to the corresponding mass spectra quite difficult. The ODO II solves this problem by introducing make-up gas at the exact point that the column flow is split between the two detectors. This occurs inside the oven and ensures that the flow velocity to the Olfactory Detector is equal to the velocity of the flow to the MS. This balances the time the compounds take to reach each detector. All of the components required to do this are supplied as standard.

The ODO II is a significant improvement over any Olfactory Detector currently available on the market. The column flow can be split to any other detector without affecting peak shape in any way. The compounds will always reach the detectors at identical times as sharp peaks without any sign of tailing. The nose cone has no "memory" of any previous fragrances and is located on a flexible heated transfer line that can be bent in any direction.

Figure 2. Internal design of the Olfactory Detector Outlet (ODO II).

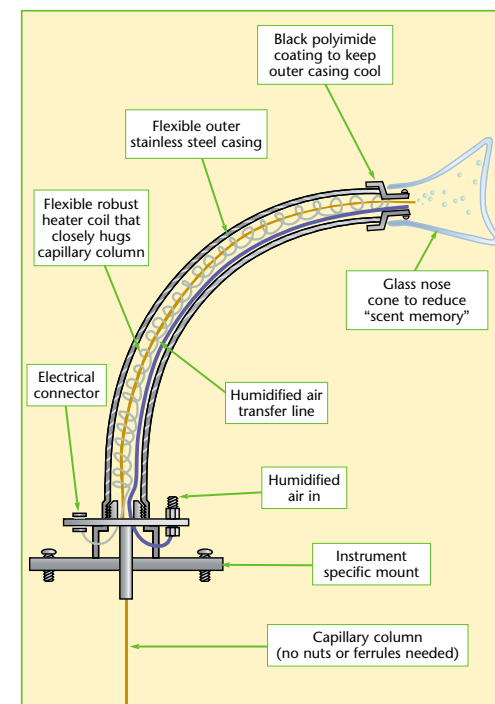


Figure 1. The Olfactory Detector control box, transfer line and nose cone.



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