



**TES-CLEAN AIR SYSTEMS**

The ideal way to measure the status of an EFEM/Tool clean zone is via differential pressure

The Following pages detail several integrated solutions, designed as part of the application of a custom FFU.

The mini-environment (EFEM )

FFU fills the space with unidirectional ULPA filtered while controlling the exit of the air such that a differential pressure is established. The differential pressure is regulated to not less than 0.005" WG (1.25PA) and typically not more than 0.04" WG (10 PA). The positive differential pressure ensures that air from adjacent, lower ISO class zones never leaks into the mini-environment, per accepted clean room best practices

Typically the fans in the FFU are monitored against failure. The shortcoming of only monitoring the fans is that the volume of air from the fans is only half of the differential pressure equation. In the event that a hatch or maintenance door is left ajar the differential pressure drops or even disappears.

This panel mounted Basic Pressuring Monitoring System (BPMS) allows programming of a pressure alarm level directly from the keypad. When an alarm level is reached, a buzzer sounds. Powered from a connector on the FFU, it is ready to mount onto your tool and provides not only a visual display of the system pressure, but also an audible alarm if the pressure goes out of specification.



The panel mounted Deluxe Pressuring Monitoring System (DPMS) allows programming of a pressure alarm level directly from the keypad, plus features an optional TRH probe. When an alarm level is reached a buzzer sounds, the screen turns red, and a set of SPDT contacts change state to alert your tools' computer. Powered from a connector on the FFU, this solution is ready to be installed right on the tool .

