PANDA Duct Leakage Rates with the Low Flow Nozzle below 0.8 l/s (1.7 cfm)

Application Note AF-158

It is possible the leakage rate is below that measurable by the PANDA low flow nozzle if the duct system is very tight with little to no leaks. The low flow limit is approximately 0.8 l/s (1.7 cfm) depending on conditions at the time of test. If this happens, the leakage test screen will not display a **Pass** or **Fail**, but will show **Under Range** and the values for the indicated **Leak Factor** and **Leak Rate** will be shown as **X.XXX**.

When this happens, the following procedure can be used to demonstrate that the leakage rate is truly below that measurable by the PANDA low flow nozzle.

1. With the fan turned off, zero both the PVM 610 and the TA465-P.
2. Set the fan running and generate the required duct test static pressure, indicated on the PVM610 manometer.
3. When the duct pressure is stable, select **Leakage Test** from the **Applications** menu and update or make sure the following options are correct:

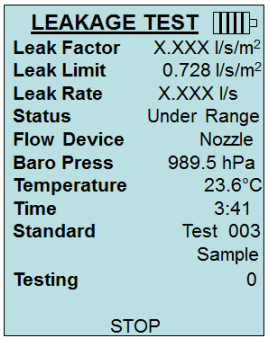
   Surface Area = calculated duct surface area

   Static Pressure = value indicated on PVM610 for duct static pressure

   Flow Device = Nozzle

   Tightness Class = set as appropriate

   Test Length = at least 5 minutes



4. Select **Run Test** to display the **Leakage Test** screen. Press **Start** to initiate. With the test running, if the leak factor and Leak rate are showing **X.XXX**, and the status line is showing **Under Range,** then the leakage rate is below 0.8 l/s (1.7cfm).
5. To verify this, introduce a leak into the system until the **Leak Factor** and **Leakage Rate** display a true value and *not* **X.XXX**. The Status line should show **OK**.
6. Gradually reseal the introduced leak while watching the leak test display. The **Leak Factor** and **Leakage Rate** should decrease until **X.XXX** and **Under Range** once again appears.

NOTE: It is important that the fan is running and the duct static pressure is maintained during the test since **Under Range** and **X.XXX** are also the default values when the fan is not working, hence the need to introduce a leak and then reseal it to demonstrate that the system is working correctly.

If this method of demonstrating the leakage rate is below that measureable by the PANDA is unacceptable during commissioning, then the alternative is to increase the amount of ductwork under test.

Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

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