

## Scope

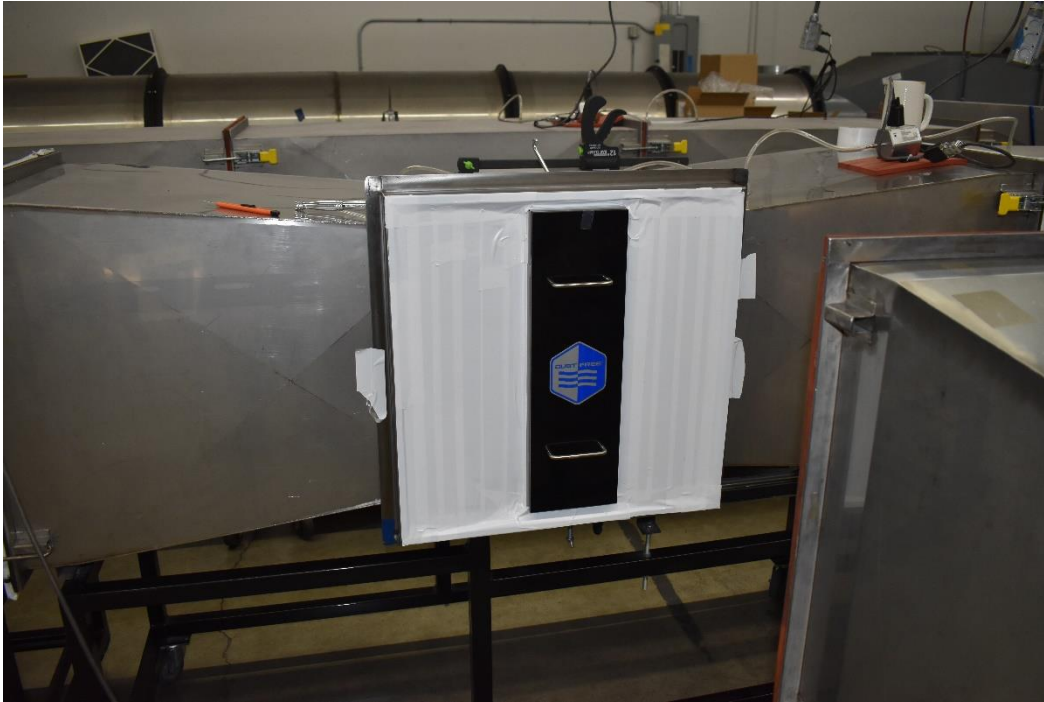
Testing was conducted on a (28"x24.5"x5") Dust Free cabinet to quantify the airflow leakage from the cabinet door at airflow rates of 500, 1000, 1500, and 2000 cfm.



Figure 1. Dust Free Cabinet

## Test System

The cabinet was sealed into a standard ASHRAE 52.2 U-shaped test duct under negative pressure. A separate duct with a laminar flow element was attached to the cabinet door to measure the airflow leakage.



**Figure 2. Test cabinet installed in an ASHRAE 52.2 U-shaped test duct.**



**Figure 3. Cabinet door connected to laminar flow element.**



Figure 4. ASHRAE 52.2 test duct.

## Test Results

The results from the airflow leakage test are shown in Table 1 and Figure 5.

Table 1. Airflow leakage test results at airflow rates of 500, 1000, 1500, and 2000 cfm.

<b>Dust Free Cabinet</b>		
Airflow Rate (cfm)	Leakage (cfm)	Leakage (%)
500	14.8	2.96%
1000	26.3	2.63%
1500	35.5	2.37%
2000	43.3	2.17%

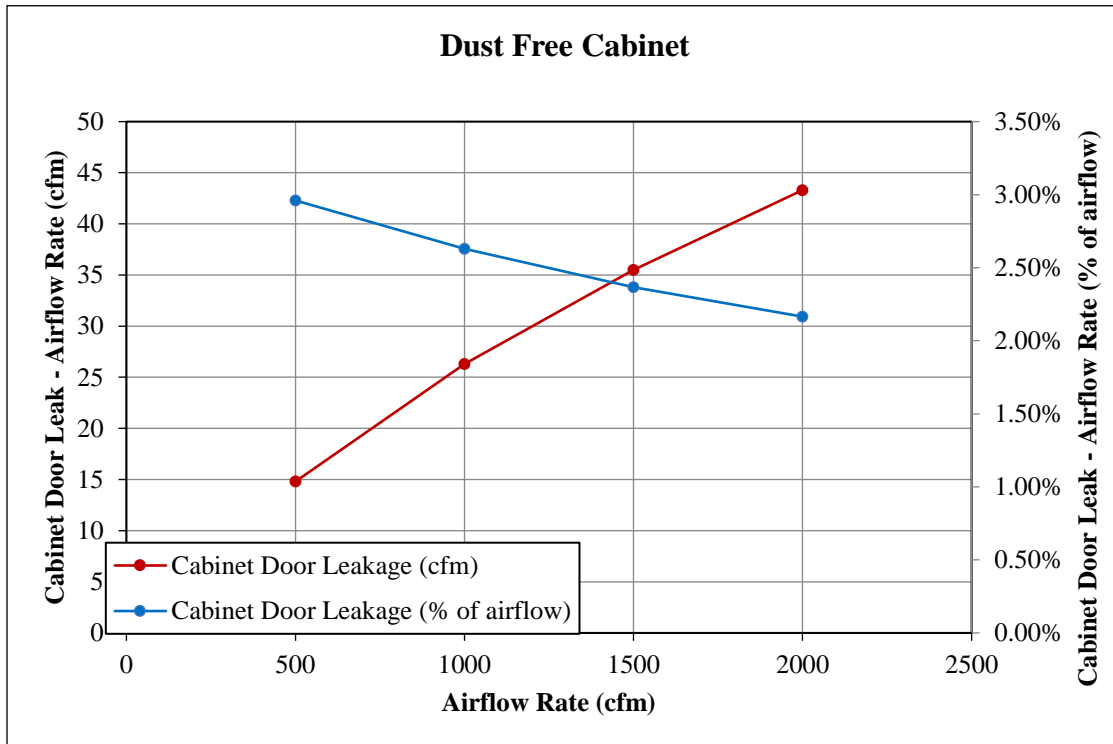


Figure 5. Graph of cabinet door leakage in terms of airflow rate (cfm) and percentage of airflow.