

Computer Analysis




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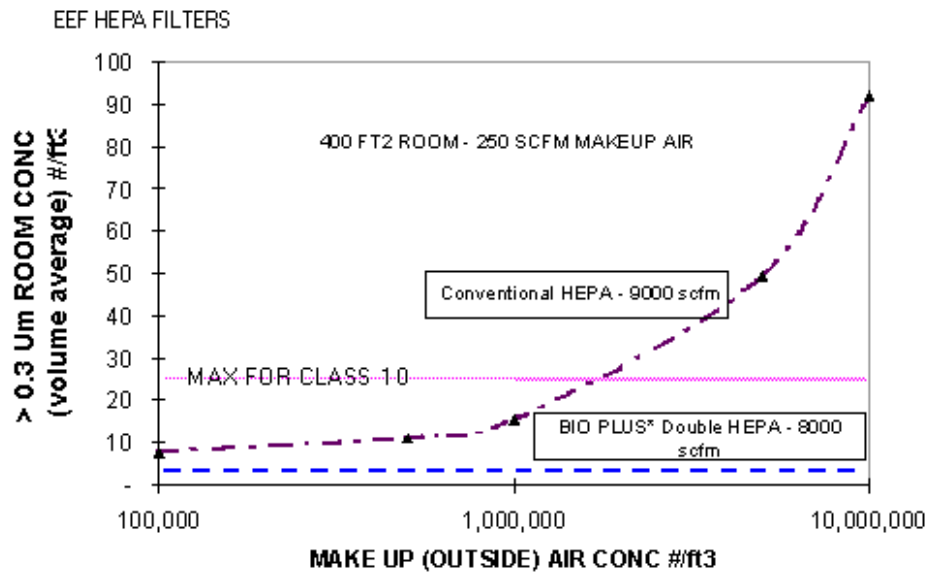
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Most Cleanroom companies use simple charts for the design of Cleanrooms. These charts are based on nothing more than mere opinions. These charts do not take into account the effect of cleanroom variables such as filtration efficiency, make up air, flow rate and internal particle generation rates. The result is often over-designed or poorly performing rooms.

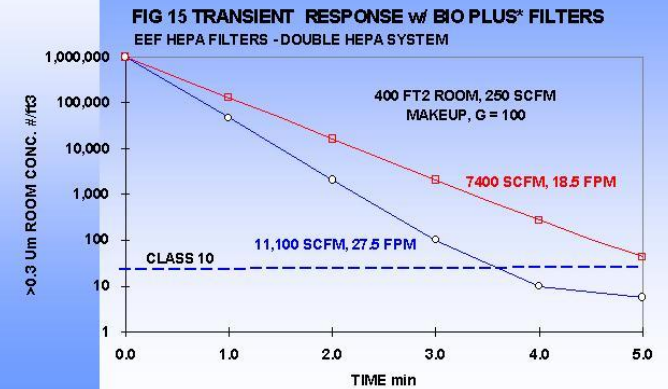
Technovation, on the other hand, utilizes computer analysis based on the following models, developed here at Technovation:

-  Dilution
-  Transient
-  Computational Fluid Dynamics

For highly complex projects Technovation can the Dilution model in conjunction with [Computational Fluid Dynamics](#) so as to produce highly accurate results. These methods enable predicting Cleanroom performance even at the proposal stage. In some cases, for higher accuracy, we also utilize computational fluid dynamics for final analysis. As a result, we are able to predict the **steady state** and **transient** concentration of a Cleanroom:



Example of a transient analysis



Note: The graph on the left shows how the BIO PLUS[®] Double HEPA filter system is immune to the makeup air conditions by which conventional single HEPA systems are easily affected as the make up air gets dirtier.

The second graph shows how fast a contaminated room recovers for different flow rates applied in the design of the room. The recovery time is a key design parameter for optimizing the airflow rate.

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