

# Tech tips

## Security Grilles & Flow Hood Accuracy

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During test and balance on projects using security grilles for the supply air distribution, we noted an extreme error with airflows measured using the flow hood.

The low free area of most security supply air distribution results in high velocities thrown down the center of the flow hood, causing an erroneous displayed CFM reading. The system can be balanced measuring velocities off the grille and calculating CFM based on free area, but we prefer the flow hood whenever possible.

As recommended by the hood manufacturer, you should always determine hood correction factors on each project for each type of air distribution measured. The correction factor should be calculated using duct traverse airflow compared to flow hood displayed airflow.

The problem we encountered with this particular device was that the correction factor did not remain constant through a range of airflows. In order to deflect and stabilize the velocities hitting the grid in the base of the hood, after some experimentation we ended up attaching a piece of perforation approximately halfway down the center of the hood skirt. The perforation did not alleviate the need for a correction factor, but it improved the correction to less than 10% through a wide range of airflows.

The moral of the story is not to put too much confidence in the hood measurement without taking the initiative to verify the accuracy. In this case, the initial measurement with the flow hood was off by approximately 50%. ●



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