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| --- | --- | --- |
|  | Size | Exhaust CFM |
| Kitchen Exhaust Hood | 11.5 linear ft. | 3,450 |
| Dishwasher Exhaust Hood | 3 linear ft. | 600 |
| Men’s/Woman’s Bathroom | 10 ft. x 12 ft./11ft. x 12 ft. | 250/250 |
| Totals |  | 4,550 |

If you were provided with the table above and did not have a code book available how would you determine the amount of airflow required if a piece of cooking equipment was removed and the kitchen exhaust hood size was changed to 10 linear feet?

3,450 ÷ 11.5 = 300 CFM per linear foot; Thus 300 × 10 = 3,000 CFM

If you were provided with this table and did not have a code book available how would you determine the amount of airflow required if the dishwasher hood size was changed to 4 linear feet?

600 ÷ 3 = 200 CFM per linear foot; Thus 200 × 4 = 800 CFM

If the two previous were made and the bathroom exhaust remained at 500 CFM, what would the new total exhaust be?

3,000 + 800 + 500 = 4,300 CFM

If an exhaust hood that was 11.5 linear feet long had the requirement of 550 CFM per linear foot due to extra heavy usage from because it covered a mesquite wood charbroiler, what would the exhaust fan total in CFM need to be?

11.5 × 550 = 6,325 CFM

Field Notes:

A brand new kitchen hood and exhaust duct system installed in a Chinese restaurant was not removing enough air resulting in smoke from the fryers and grilles getting into the cooking space.

Pulley and belts were changed to increase the airflow: still not enough airflow out through the exhaust hood.

A Technician finally checked the exhaust fan motor for direction, and found out it was running backwards.

The wiring was done by an electrician who did not know that a fan turning in the wrong direction moves less air.

The motor wiring was changed so the direction was reversed, and the problem was solved.