

VENTILATION

AIR CHANGES SYSTEM

DID YOU KNOW?

Every ventilation problem contains factors that need to be studied. Patterson's dedicated sales staff has done just that! We focus on air movement to remove smoke, fumes, condensation and other specific air quality problems.

Recommended Air Changes in Minutes per Change

	<u>ADEQUATE</u>	<u>BEST</u>
Auditorium	5	2
Bakery	3	1
Boiler Room	4	2
Engine Room	2	1
Factory	6	3
Foundry	4	1
Garage	6	3
Laundry	3	1
Machine Shop	5	3
Paper Mill	3	2
Packing House	5	2
Warehouse	8	3



CFM per SQUARE FOOT

example

Assembly Hall: 70' x 150' x 20'
Local Code: 4 CFM per Square Foot

$$\text{CFM} = 70 \times 150 \times 4 = 42,000$$

This simply states that for every square foot of floor space in a building an amount of air change should be present.

HEAT REMOVAL

example

Dry Cleaning Plant: 200,000 BTU/Hour
Outside Temp. 85°F Inside Temp. 80°F

$$\text{CFM} = \frac{200,000}{(85 - 80) \times 1.08} = 37,037$$

The rate of ventilation required increases rapidly as the difference in outside and inside temperature increases. Excessive heat should therefore be exhausted at the source using a separate ventilation system.

AIR CHANGE

example

Warehouse: 100' x 100' x 25' high
5 minute air change desired

$$\text{CFM} = \frac{100 \times 100 \times 25}{5} = 50,000$$

Sometimes, the rate of air exchange may be established by local health or government regulations.

With more than 25 years experience in industrial fan manufacturing and applications, Patterson **will solve your air movement problems!**