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## HOW TO SAVE RS. 420 EVERY HOUR AND ENHANCE PRODUCTIVITY?

**A**ir is nature's greatest gift to mankind and the quality of air we breathe in affects not only our productivity but the quality of our life as well. Air curtains are one of the best and most cost-effective ways to maintain the quality of air within the premises and retain a hygienic environment.

Do you know air curtains can help us save millions of hard-earned money?

A simple mathematical calculation can prove this. Let's see how:

### Energy Calculation

$$E = m C \Delta T$$

m : Mass of Air

*The complete Guide to Air Curtains*

C : Specific heat of Air at given Temperature

$\Delta T$  : Temperature Difference

**m = Density x Volume**

Density of Air at 40°C = 1.127 Kg/cu. Meter ..... A

C = Specific Heat = 1.005 KJ / (Kg °C)

$\Delta T$  = Temperature difference = 15°C

(assuming outside temperature is 40°C and inside is 25°C)

**Volume = Area x Velocity of Air from Door x Time of Opening**

Say :

Door Size = 8ft x 4ft

Velocity = 1 m/s = 200 fpm

Time of Opening = 1 min

Volume = 32 x 200 x 1 = 6400 cu. ft. = 181.22 cu.

Meter ..... A

**m = Density x Volume**

(from Above A B) = 1.127 Kg/cu. meter 181.22 cu.

Meter = 204 Kgs

E = m C  $\Delta T$

= 204 kgs x 1.005 KJ / (Kg °C) x 15°C = 3075.3 KJ = 0.85425

KWh

*How to Save Rs. 420 Every Hour...*

Thus :

In India if Per KWH cost of Power is Rs. 8.10

Cost of Opening the Door of Size 8ft x 4ft for 1 min is = Rs. 6.92

Cost of Running an Air Curtain of 4 ft = 400W (Input Power) for 1 minute = 6 paise

Rate per Kwh x Time x Power Input

$$8.10 \times 1/60 \times 0.4 = 5.4 \text{ paisa}$$

**Net Saving = Rs. 6.92 - 0.06 = Rs. 6.86 ~ Rs. 7**

**Saving per Hour = Rs. 7 x 60 min = Rs. 420 per Hour**

Thus, you can see how Air Curtains help us save Rs. 420/hour. Also, they create a comfortable and amiable environment by keeping mosquitoes, flies and other pollutants away.

An air curtain helps maximize the savings by reducing energy loss and improving the effectiveness of our cooling/heating systems. They provide a risk-free alternative by shielding the premises without an actual physical door and are one of the best investments for a business.