Air vs. Electric: What's the cost to you?

What does it cost per CFM (cubic foot per minute) of compressed air? The following example provides a ballpark estimate for a typical air compressor running 6,000 hours annually, assuming a 90% efficient motor, 4 CFM produced per 1 hp, and an electricity cost of $.08/kWh. With typical pneumatic skinners requiring approximately 24.7 cfm to operate, that equates to $2,470 in annual operating costs. That's before you consider blade replacement and other maintenance items.

In the U.S.A., with industrial electricity @ **$0.08/kWh**:

- 1 CFM = 0.25 hp = 0.25 hp/0.90 x 0.746 kW/hp = 0.207 kW
- 1 CFM = 0.207 kW (assuming a 90% efficient motor)
- Annual Electricity Cost for 1 CFM = kW x hrs x Electricity Cost
- Annual Electricity Cost (or 1 CFM = 0.207 kW x 6,000 hrs x $.08/kWh):
  - Annual Electricity Cost for 1 CFM = $99.36 or approx. $100/CFM
- Annual Air Cost (or Electric Cost x approximate 24.7 cfm to operate)
  - Annual Air Cost $2,470 annually at a minimum to operate using air

$2,470 annually to operate with air vs. $100 annually to operate with electric.

In Germany, with industrial electricity @ **€0.151/kWh**:

- 1 CFM = 0.25 hp = 0.25 hp/0.90 x 0.746 kW/hp = 0.207 kW
- 1 CFM = 0.207 kW (assuming a 90% efficient motor)
- Annual Electricity Cost for 1 CFM = kW x hrs x Electricity Cost
- Annual Electricity Cost (or 1 CFM = 0.207 kW x 6,000 hrs x €.151/kWh):
  - .207 x 6000 x .151 = €187.542
- Annual Air Cost (or Electric Cost x approximate 24.7 cfm to operate)
  - €187.542 x 24.7 = 4,632.2874

€4,632.29 annually to operate with air vs. €187.60 annually to operate with electric.

What this analysis reveals is that your savings are potentially huge – just by choosing electric!