

REDUCE ENERGY WITHOUT RISKS



THE WRONG WAY

Fit inverters to existing fans

REASON

- Savings are only derived from using the equipment less, not from efficient component design
- Forward curved fan characteristics are NOT suitable for speed variation
- Forward curved fans can become unstable/hunt when the speed is varied or pressure changed
- They create a single point of failure
- DX cooling units can freeze if the fans hunt and reduce speed too far
- Harmonics from inverters are undesirable in the data center environment
- Harmonic filters are passive and do not change with the fluctuating loads
- If you want to reduce the speed then why not just change the pulleys
- What's the long term goal? will you install more racks & then have to ramp the fans back up?

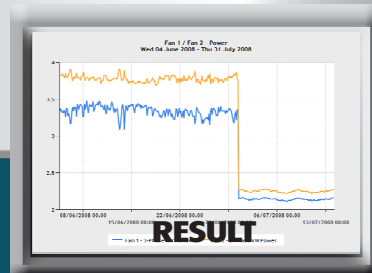
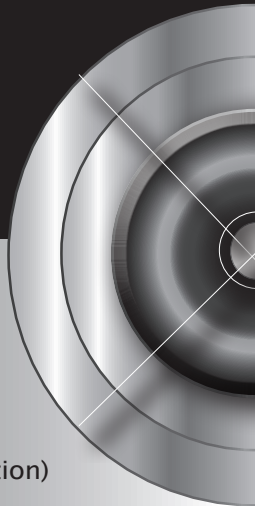


THE RIGHT WAY

Retrofit new, high efficiency, backwardcurved, EC fans, designed for modulation

REASON

- The savings are actual. Eg 'fan for fan' at the same volume, pressure & duty
- Further operational savings can then be made by reducing speed, (as the above inverter option)
- The fans impellers are backward curved so ideal for ramping speeds up and down
- The fans don't need inverters or BMS interfacing, just a simple 0-10 volt signal
- Typical savings are circa 45%, although we have seen 52% on the full CRAC unit load
- The fans are directly driven, which gets rid of belt transmission losses
- No belts, so no dust, and no belt maintenance
- If one fan fails, the other one can be ramped up to compensate
- The fans are EC so produce less heat which reduces cooling demand
- The fans produce a better air flow over the heat exchanger therefore requiring less cooling
- The fans create a pressurised plenum, so waste less energy by cooling the floor slab
- Tried, tested & approved over several years by top FTSE100 data centre & telecommunication organisation
- Less than a 1/3rd of a new unit cost with no installation issues
- Less energy consumed means more available server/rack space



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