EC Upgrade in a financial Datacenter

GreenTech EC centrifugal fan - RadiPac

Technical Data

Emerson product	21×	**Liebert 10UC - CRAC unit**
Emerson product	39×	**Liebert 14UC - CRAC unit**
Stulz product	16×	**CCD900CW - CRAC unit**
Amount of fans		191
ebm-papst product	1×	**R3G560-AG21-01**

Project

The end client was a financial institution with 3 data centres in the London area.
ebm-papst worked via Emerson Network Power and their onsite facility management company Norland Managed Services.
Norland were very keen to look for any improvements to efficiencies within the datacenter.
An initial site survey was carried out to review the types of units being used and the potential solutions that were needed and an estimation of payback.
To improve the cooling system efficiency, it was decided to replace all fans with direct driven ebm-papst GreenTech EC centrifugal fans.

Application

Paybacks

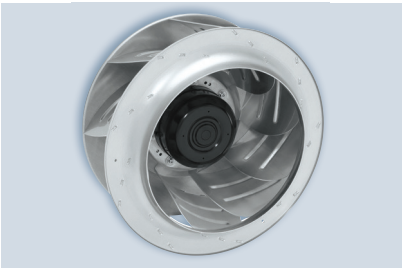
14UC: 39 units:
– 49 % energy saving
– Total annual energy cost saving £ 175,000
– Annual CO2 reduction 957 tonnes
– Payback 1.04 years

10UC: 21 units:
– 39 % energy saving
– Total annual energy cost saving £ 52,000
– Annual CO2 reduction 281 tonnes
– Payback 1.4 years

CCD900CW: 16 units:
– 20 % energy saving
– Total annual energy cost saving £ 16,000
– Annual CO2 reduction 84 tonnes

Overall energy savings expect to be around £ 240,000 - £ 270,000 per annum.

Advantages/Benefits ebm-papst product



Additional benefits
– Removal of belt driven fans - Less maintenance and no belt dust
– Reduced noise levels in the data hall
– Increased cooling capacity
– Increased Data centre availability
– Datacenter now ready for Cold Aisle containment to help achieve greater energy savings
– Extended fan life
– Extended unit life

Statement from end client:
„In an on site discussion during a recent EC fan replacement project our client commented that not only were the energy savings exactly as predicted, there was almost no need to perform any significant analysis as the monthly energy reports from the site leapt of the page as being significantly lower.“