



BEARING & POWER TRANSMISSION SOLUTIONS

Case Study

WEG W22 E3 Motor



INDUSTRY

Air Conditioning

PROBLEM

Years of moisture, high temperatures and hard work caught up with two of this major hotels cooling tower drives recently and it was time for an upgrade.

Corrosion due to the moisture of the cooling tower was reducing product life time. The use of "old" technology in the drives, such as lower efficiency motors and wrapped v-belts that slip, was limiting the hotel's ability to reduce energy consumption.



APPLICATION

Cooling Tower Drives

SOLUTION

BSC were asked to assist with energy savings plus a solution to corrosion issues.

Energy - BSC recommended the WEG W22 E3 High Efficiency motor for energy savings and reduced CO2 emissions. Using the Carlisle Drive Engineer design program, BSC also redesigned the v-belt drive to a more efficient and higher power transmitting drive: Going from 4 groove pulleys and 4 x B128 wrapped v-belts down to 3 groove pulleys and Raw Edge Cog SPAX3350 belts.

Corrosion - BSC added 2 pack epoxy paint to the motor and changed out all fasteners to Stainless steel. We also coated the exposed surfaces of the v-belt pulleys with Molykote 7409 heat cured dry film lubricant to protect against surface rust.

BENEFIT

The hotel changed the motors and belt drive on the two cooling towers and is reaping the rewards of reduced energy consumption. Improved efficiency is estimated to be \$1036.00 per annum combined for the 2 motors. The combined reduction in CO2 emissions is estimated to be 10.4 tonnes per annum.



Sustainability Solutions