



Tower Place in Tampa, Florida, is a Class A high rise office building with on-site bank, café and fitness center

CASE STUDY

Office Building

Facility at a glance

Name

Tower Place

Location

Tampa, FL USA

Facility size

182,214 ft²

Issue

Aging, inefficient chillers dating from the 1988

Solution

Daikin Magnitude[®] magnetic bearing chiller

Tower Place rises to new heights of energy savings and sustainability

Issues

Aging, inefficient chillers dating from the 1988 construction of Tower Place office building presented an opportunity to save electrical utility costs and improve the sustainability of the chiller plant. The building is cooled 24/7, year-round using a constant flow chilled water system.

Solution

An in-depth energy analysis by Carroll Air Systems showed that a Daikin Magnitude chiller with integrated variable frequency drives provided significant savings in both electric costs and atmospheric gas emissions.

A 387-ton Magnitude chiller using R-134a refrigerant replaced an R-11 water cooled centrifugal chiller in May 2010. R-134a has no ozone depletion potential and no phase-out date under the Montreal Protocol.

Outcome

The chiller replacement project at Tower Place resulted in first year savings of \$79,147 for an approximately 20% reduction in electrical energy consumption. In addition, utility atmospheric emissions associated with electricity consumption were reduced by an estimated one million pounds a year. These gas emissions include CO₂, NO₂, SO₂ and eight vaporized heavy metals.

Tower Place is one of seven buildings that Highwoods Properties plans to upgrade with more energy efficient and more sustainable chiller plants. These projects demonstrate Highwoods Properties' commitment to energy conservation, environmentally responsible refrigerants and reducing the carbon footprint of their buildings. Carroll Air Systems has supplied Daikin products on several Highwoods Properties new construction projects that are LEED[®] certified, including one LEED Gold project

Energy Savings Summary



First year electrical energy savings
\$79,147 or approximately 20% after the chiller replacement project

Projected utility atmospheric gas emissions savings **1,117,416 lbs/yr**



A 387-ton Daikin Magnitude magnetic bearing chiller replaced a 23 year old, water cooled centrifugal chiller resulting in annual energy savings of approximately \$79,000.