

# The World's Most Advanced and Industry Proven Technology

## The Digi-CRAC® Advanced Technologies

- Modulate both the compressor and supply air fan speeds
- Minimize the temperature difference of air and refrigerant
- Optimize/Minimize the condensing pressure
- Control supply air temperature at constant levels
- FDD for O&M (turn on/off units and generate tickets)

## Industry Proven Performance Since 2009

### 1. Highest Energy Savings

- 30% to 45% for DX units (PUE at 1.2 or below)
- 70% fan power for chilled water units
- Minimal humidification
- No reheating

### 2. Improves Equipment Reliability & Environmental Quality

- No hot spots; stable and constant supply air temperature
- Longer equipment lifespan

### 3. Reduces O&M Cost by FDD

- Switch units on and off automatically
- Generate service tickets
- Reduce the repair/failure rates of belt, fan motor, compressor and contactor

### 4. Increase Data Center Capacity/Capability by up to 15%

### 5. Simple Payback is Less Than 3 years

## FAQs

### 1. What are some benefits to Data Center Owners that install the Digi-CRAC®?

The Digi-CRAC® provides project payback in less than three years. In addition to energy savings, Digi-CRAC® increases the facility capacity for potential expansion, reduces O&M costs significantly and improves system reliability and safety.

### 2. Why do Facility Service Providers and Data Center Service Providers recommend Digi-CRAC® to their clients?

Facility Service Providers and Data Center Service Providers have an obligation to reduce energy consumption annually for their clients and installing Digi-CRAC® will ensure satisfaction of this requirement. Moreover, installing Digi-CRAC® will significantly reduce O&M efforts and costs.

### 3. What important facts should ESCOs and Energy Consultants know about the Digi-CRAC®?

With at least 3 million Data Centers in the USA, there is a significant market for performance contracting and energy retrofits using the Digi-CRAC®.

### 4. Why should MEP and BAS Contractors install Digi-CRAC®?

Offering Digi-CRAC® to their clients can significantly increase revenue by using their existing staff during HVAC shoulder seasons. It will also increase the chances to renew and/or add new service contracts.

### 5. Does installing the Digi-CRAC® void manufacturer warranties?

No! In fact, Bes-Tech will take over the existing warranty for you.

### 6. How does the Digi-CRAC® respond to load variation?

The Digi-CRAC® provides stable supply air temperature and changes airflow automatically when the cooling load changes. It performs dynamic-air-balance smartly.

### 7. How do multiple Digi-CRAC®s work together?

The Digi-SBM® serves as a supervisory controller to coordinate and optimize the Digi-CRAC® as a group.

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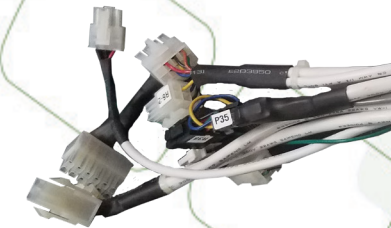


Servicing North America, Europe and Asia with offices in:  
Omaha, Nebraska | Dallas, Texas | San Jose, California | Beijing, China



# Digi-CRAC® Ultimate Solutions

**DX CRAC Units  
Chilled Water CRAC Units**



**ESCOs  
Energy Consultants  
BAS / MEP Contractors  
Facility Service Providers  
Data Center Owners/Service Providers**

## The Digi-CRAC®

A plug and play optimizer for Computer Room (Data Center) Air Conditioning (CRAC) units, which includes DX CRAC units and chilled water cooled CRAC units. The Digi-CRAC® features:

- Modulate both compressor and supply air fan speed to match the cooling load and capacity
- Utilize all compressors during cooling
- Minimize the condensing pressure based on the refrigerant flow and ambient temperature
- Modulate fan speed to maintain the supply air temperature set point for chilled water CRAC units
- Reduce DX CRAC unit power by 30% to 45%
- Reduce chilled water CRAC unit fan power up to 70%

## The Digi-SBM®

A specialized supervisory controller for multiple Digi-CRAC®s, the Digi-SBM® connects to a Digi-CRAC® unit through Modbus then to the internet through a wireless or ethernet connection. Human operators can access the Digi-CRAC® either remotely through the internet or locally through the Digi-SBM® display. The Digi-SBM® features:

- Graphic reviewing speed, power and temperature
- Monitor energy savings and mechanical performance
- FDD for O&M (belt, contactor, fan motor, compressors, VFD and refrigerant)
- Supervisory control and coordination of all CRAC units through Digi-CRAC®

## The Digi-SFT®

A specialized server for multiple Digi-SBM®s focused on large corporations and provides the following functions in addition to the Digi-SBM®:

- View Digi-CRAC® detailed operation information
- Generate O&M service tickets
- Store and organize energy and O&M information

## Retrofit Existing Equipment

The Digi-CRAC® upgrades all existing CRAC units with tonnage higher than 3 tons to the most efficient HVAC equipment.

- Applicable to units both constant and variable capacity compressors, constant speed and variable fans and DX and chilled water cooling
- Installed inside existing units
- 3 to 6 hours installation with cut over time less than one hour
- Utilize with existing BAS or standalone controller
- Reduce DX CRAC unit power by 30% to 45%
- Reduce chilled water CRAC unit fan power up to 70%
- Project payback is 3 years or less

## Replace Existing Equipment

Integrating the Digi-CRAC® with a standard CRAC unit has been proven to be the best option for replacing an old unit.

- Minimal initial investment
- Maximum energy savings

## Install Digi-SBM® and Digi-SFT®

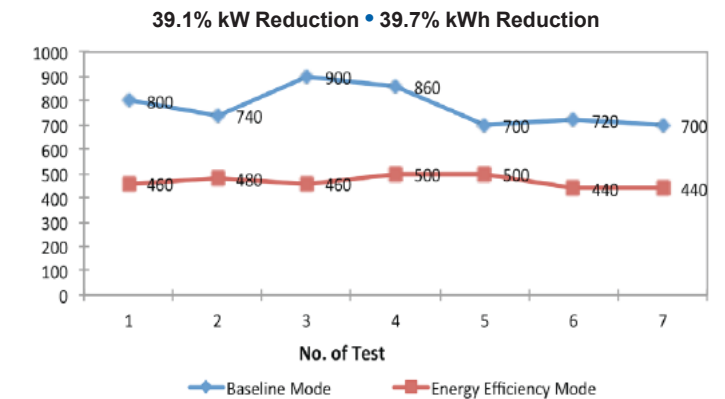
The Digi-SBM® provides Data Center owners and Service Contractors digital “eyes” for improved reliability, energy performance and reduced O&M costs.

Installing Digi-SFT® provides exceptionally modernized tools for large corporations and Facility Service Companies.

- Plug and play, easy installation/set up and minimal cost
- Verifies energy savings automatically and remotely
- Improves system reliability and safety
- Reduces O&M costs
- Simple payback within one year

## Case Studies

Data Center - Beijing, China  
Three (3) 25-ton DX units with two compressors



Data Center - Fairfield, California  
Four (4) 16-ton DX units with two compressors

