



# CPECS

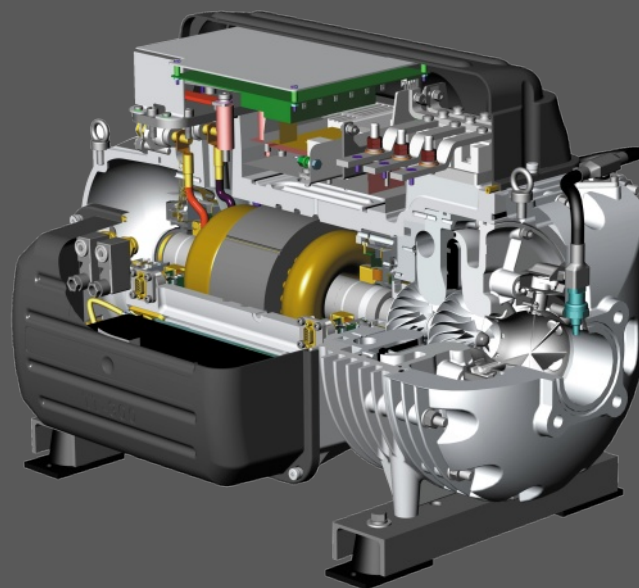
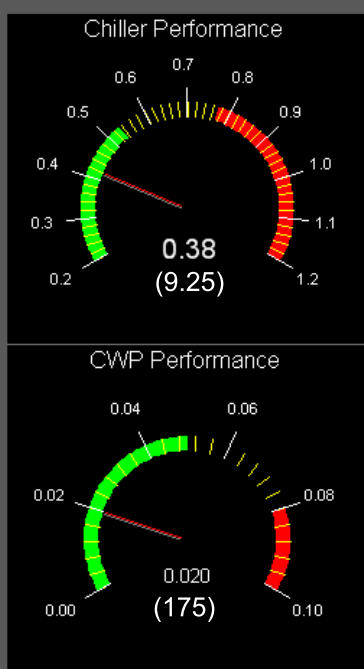
Optimized variable speed solutions for  
new and existing chilled water plants



**KILTECH**

A variable speed chiller's performance is directly related to cooling tower temperature and flow rate. An increase of 1°F (0.56°C) in condenser water inlet temperature may impact chiller performance by as much as 2.8%.

Accurate cooling tower control and an optimized total system energy approach is essential in an efficient chiller plant.



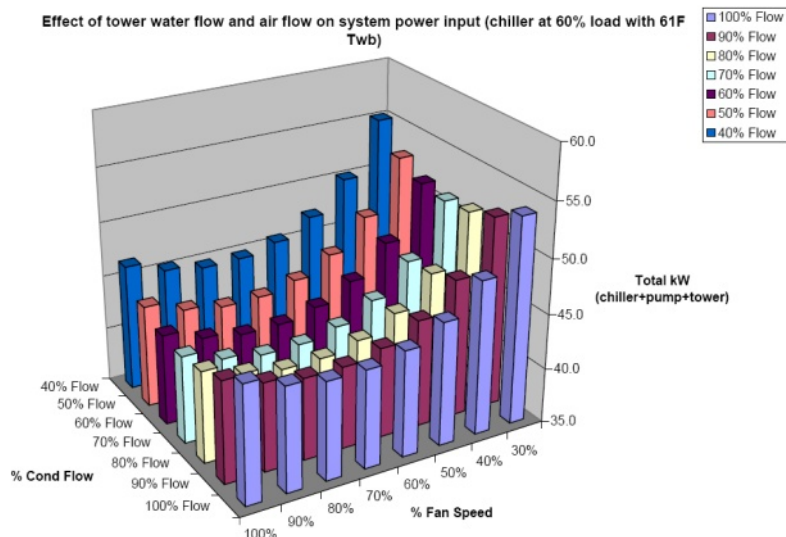
## KILTECH CONTROLS

NOW OPTIMIZING TOTAL CHILLED WATER PLANT EFFICIENCY

**CPECS**, Central Plant Energy Control System, was developed by Kiltech Controls, the originator of the energy enhancing control solutions that empower SMARTD & Powerpax, service contractors and building owners to make vast improvements in equipment performance levels, and systems management.

**CPECS** was created to close the gap between expectation and reality in next generation All Variable Primary only and variable primary/secondary central plants. CPECS delivers high efficiency variable speed plant control solutions to today's energy-conscious marketplace, with outstanding performance and experience. CPECS packaged controls allow for individualized controls performance with a short turn around.

Effect of tower water flow and air flow on system power input (chiller at 60% load with 61°F Twb)



## PART LOAD PERFORMANCE

HIGH POTENTIAL FOR IMMEDIATE SAVINGS

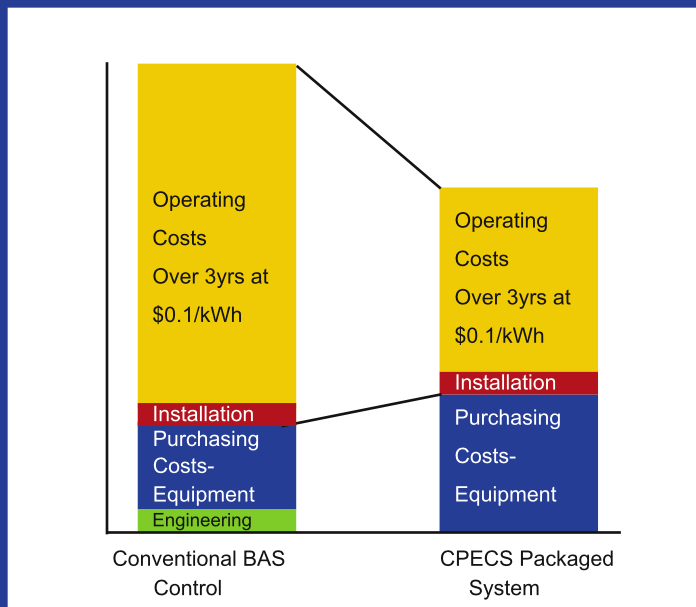
The CPECS system may be delivered as a complete controls package with VFD's, control cabinet, touch panel, I/O hardware or as a networked smart box deployed on the BAS backbone (BacNet, Lon, Modbus & N2 capable).

The proof - Each CPECS system comes with NIST certified BTU (kW cooling) metering equipment that can be viewed via the BAS interface or from the CPECS web interface so the end user can validate actual plant performance in real time. All CPECS control systems have the ability to remotely warn of equipment failures or poor efficiency via an built-in email server.

The CPECS control software utilizes advanced control algorithms designed specifically for the Turbocor™ range of compressors. The CPECS software has complete knowledge of compressor, tower and pump performance characteristics which it uses in real time to modulate control levels to all VFD's and provide the maximum level of system performance while respecting chiller flow and temperature limits.

Any time a variable speed chiller plant operates at a capacity less than its maximum there exists an opportunity for optimization of set points and flows without compromising occupant comfort or process temperatures. ASHRAE studies conclude that air conditioning applications operate at part load over 96% of the time.





3-year comparison, Phoenix, AZ. The pre-engineered and factory assembled CPECS all variable speed plant control solution demonstrated operational savings when compared to a conventional fixed set point BAS approach yielding rapid return on investment.



### Reduced risk

CPECS systems are factory designed and tested, guaranteeing quick installation and trouble free startup. Plant controls may be shipped with complete drop-in-place enclosure or as a modular kit for existing plant room installation.

### Reduced design time

CPECS software uses a "design once deploy multiple approach". Years of lab research and field beta testing have resulted in a modular configurable software system that saves the customer tens of thousands of dollars up front in controls engineering and sequence design.

### Features:

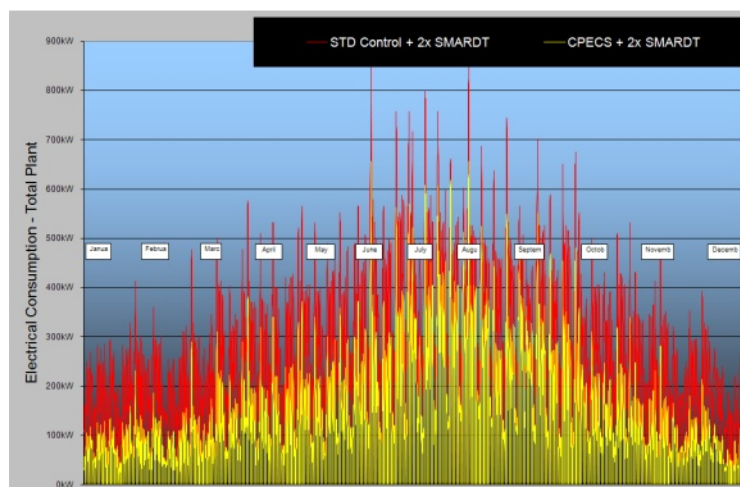
- Variable speed cooling tower control.
- Variable primary flow control.
- Optimized chiller sequencing.
- Variable condenser water pump control.
- Operation of water control valves.
- Fully optimized for SMARTD & Powerpax Chillers.
- Internet remote monitoring and control.
- Chilled water flow monitoring as standard.
- Large range of building automation protocols supported.
- Most units ship assembled on truck ready for placement.

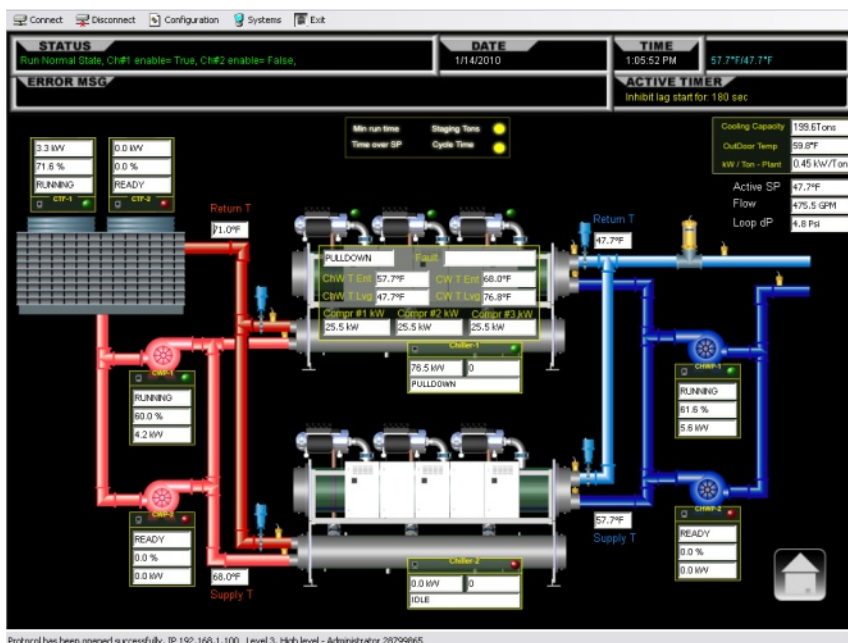
### Better technology, greater savings

CPECS has achieved annual total plant operating efficiencies of 0.50kW/Ton (7.0 COP) and better. These results far exceed today's energy efficiency requirements and defy conventional thinking. Each plant is installed with its own flow, electrical and temperature metering, which enables the owner to view plant efficiency in real-time. In addition to electrical savings, reductions of up to 10% in tower water consumption can be realized.

### CPECS plants offer connectivity to:

- ALL SMARTD & POWERPAX Chillers.
- Modbus RTU.
- Modbus TCP/IP.
- BacNet.
- Lon.
- N2.
- Analogue / Digital hard wired





## Savings

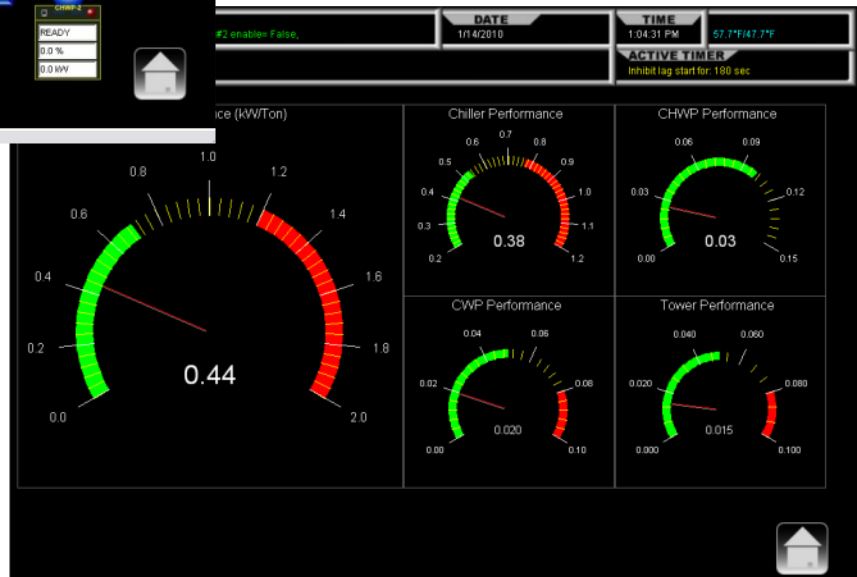
AT YOUR FINGERTIPS. CPECS TOTAL  
SYSTEM OPTIMIZATION

### SERVICES OFFERED

Variable speed chiller plant optimization design and planning.

Energy consultation for mid to large chilled water plants.

Chiller VFD retrofit and controls consultation.



CPECS graphical interfaces are user friendly and can be viewed from anywhere via the internet. Standard graphics packages are available for one to four chiller plants, custom graphics available upon request.



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