



exergenics

SMART AIR CONDITIONING

Exergenics' Smart Controller - "The most transparent black box on the market"

Next generation central plant optimisation software that integrates easily into existing Building Management Systems.

Exergenics' powerful optimisation engine has won 2020 Innovation Awards from both the Green Building Council of Australia and Engineers Australia.



Available at no upfront cost on a simple shared savings contract



No changes to space temperature set points / occupant comfort



Energy and peak demand savings of 10-20%, compared to existing controls



Compatible with any central plant equipment and configuration





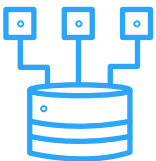
How it works:

Advanced analytical algorithms, coupled with a smart IoT controller, deliver energy and peak demand savings of up to 20% without sacrificing occupant comfort. Exergenics' optimisation engine combines the next generation of Big Data and AI software to ensure that every plant is operating at peak performance. Every Box comes with a performance guarantee and simplified M&V reporting.



1 // INITIAL DATA COLLECTION

Data collected from the existing BMS trains machine learning algorithms, which represent chillers, pumps and cooling towers (of any manufacturer). Data extraction typically takes only a few hours, with no disruption to building operations.



2 // CHILLED PLANT MODELLING

Advanced algorithms are used to construct a digital twin (mathematical representation of a physical system) of the whole central plant. This powerful analytical tool provides the ability to test different control strategies under a range of scenarios. These models are flexible, adapting to any system configuration (e.g..... primary only or primary / secondary) and encompassing any number of physical constraints.

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3 // CONTROL STRATEGY GENERATION

To determine the optimal control strategy, an optimisation algorithm extracts the ideal equipment loading for all possible cooling loads and ambient weather conditions. This process covers all possible conditions, including when chillers are unavailable. The collation of the results forms the basis of the new control strategy.



4 // INTEGRATED SOFTWARE INSTALLATION

Engineers install the smart IoT controller containing the optimised strategy in a matter of minutes. Once installed and commissioned, real time performance information is available via the dashboard, providing Building Managers with all the relevant information.



5 // MEASUREMENT AND VERIFICATION

The system comes with automated M&V reporting, providing complete transparency on the performance of the optimisation. This reporting is International Performance Measurement and Verification Protocol (IPMVP) compliant, making M&V quick and easy.



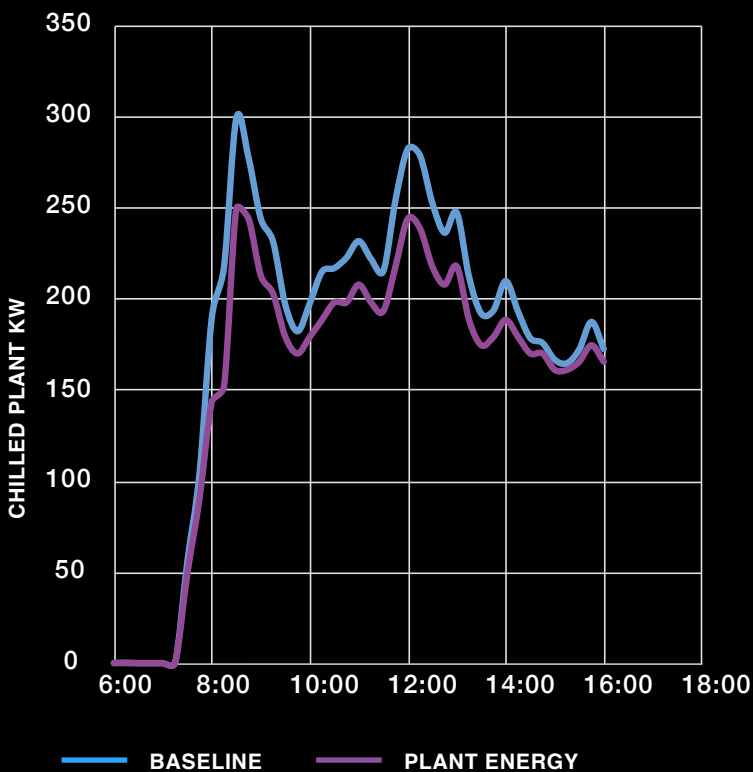


Exergenics Dashboard

This shows the key metrics tracked by Exergenics Smart Controller

	ENERGY SAVED	PEAK REDUCTION
MARCH 9TH	199.2 kWh	54.0 kVA
SAVINGS TODAY	10.8%	16.4%
YTD	10,237.8 kWh	63.4 kVA
SAVINGS YTD	11%	15.8%

CHILLED PLANT ENERGY SAVINGS



CURRENT TEMPERATURE
31.4°C



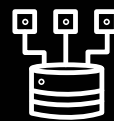
RELATIVE HUMIDITY
31.8%



PLANT ENERGY DEMAND
165.9kW



COOLING LOAD
1,056.5kWr



CURRENT PLANT COP
6.4

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