Quintex

Energy Management Systems

Cheetah Energy Saving in Commercial Kitchens

Company profile

- Quintex Systems Ltd was established in 1996
- Focused on being the UK's number one energy control expert in commercial kitchens
- National self delivery installation team of 20
- Installed over 6,000 systems within the retail, hospitality, leisure and government sectors
- In house R&D, manufacturing, sales and operational teams operate out of our HQ

  just outside of Reading
- On site UK manufacturing and assembly
- Complete turn-key service from design, installation, monitoring and on-going maintenance

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Cheetah

Energy Control

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Cheetah Technology

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- Demand based ventilation control system which modulates the extract and supply fans in line with cooking activity
- Integrates in to the cooking hoods as a retrofit solution
- Unique fully patented design
- Intelligent solution works on grill, hob and oven based sources
- Up to 80% fan energy savings
- Up to 40% conditioned air energy saving
- Improvement in space comfort and noise conditions
- Remote access for optimisation and energy reporting
- Increased safety awareness with CO_2 and high temperature monitoring

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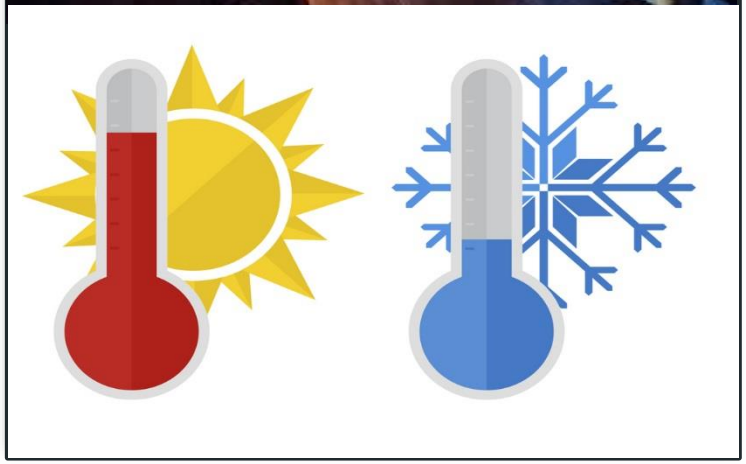
Significant Benefits – Cost



- Demand based control maintains smoke, steam and odour removal whilst minimising energy costs, automatically
- Reducing fan speed by up to 60% reduces energy consumption by up to 93% at stand by(no cooking) mode
- High energy costs mean large savings, high return on investment and rapid paybacks
- Energy costs are expected to rise annually by an average of 8.53% (figure provided by DECC)
- Reductions in necessary airflow through the restaurant when not cooking reduce heating and cooling costs too, whilst maintaining optimised temperatures within the kitchen and restaurant.

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Significant Benefits - Noise

- Noise levels are reduced significantly in the supply and extract fans usually mounted on the roof, improving the surrounding environment for neighbours of the site
- For a reduction in fan speed of 50%, noise reduction of 15 db can be achieved
- In the kitchen environment the reduction in background noise from the fans provides a calmer and happier working environment for employees and staff alike.
- Where the kitchen is open to the restaurant, the reduction in noise improves the quality of the dinning experience too

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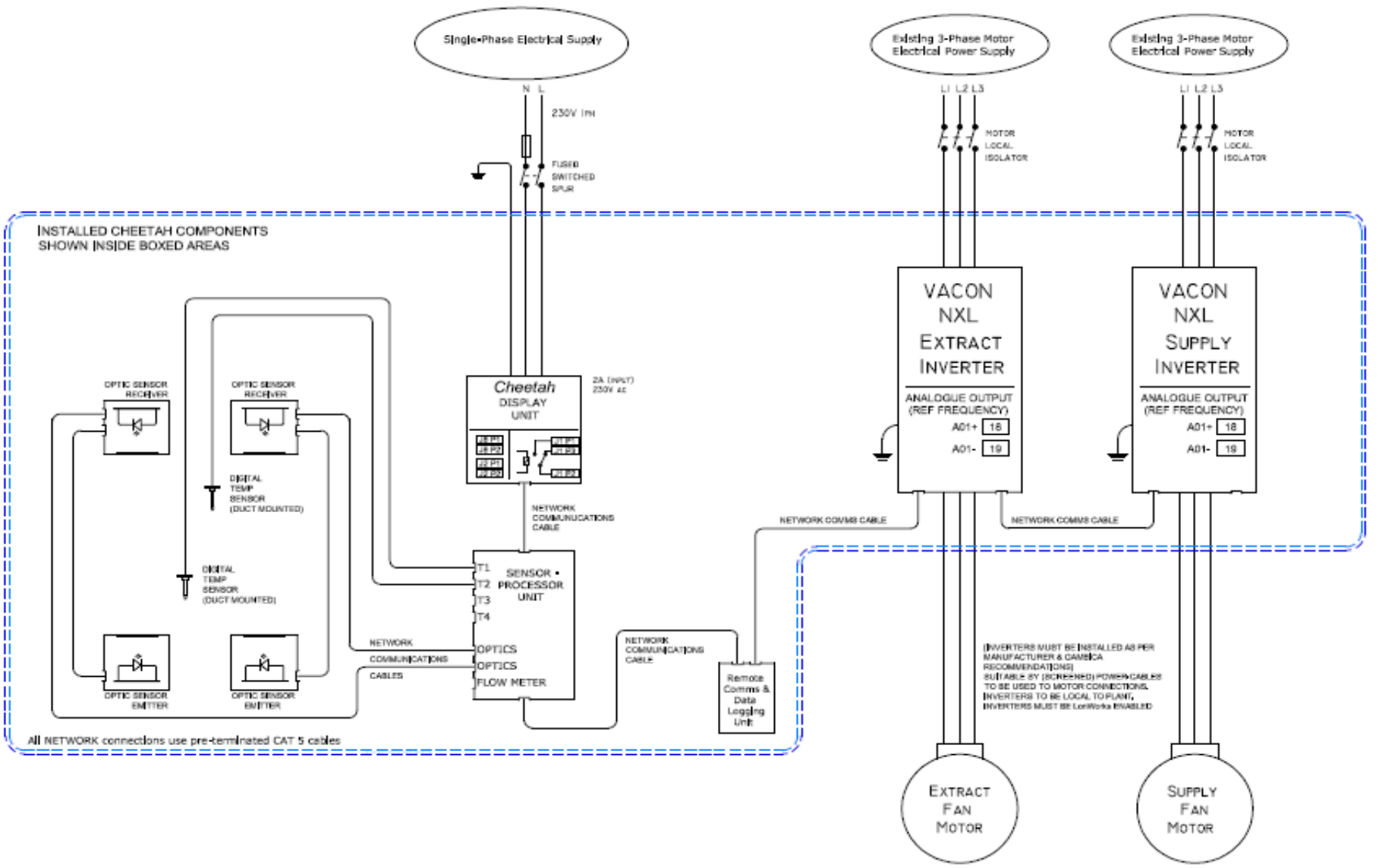
System Overview



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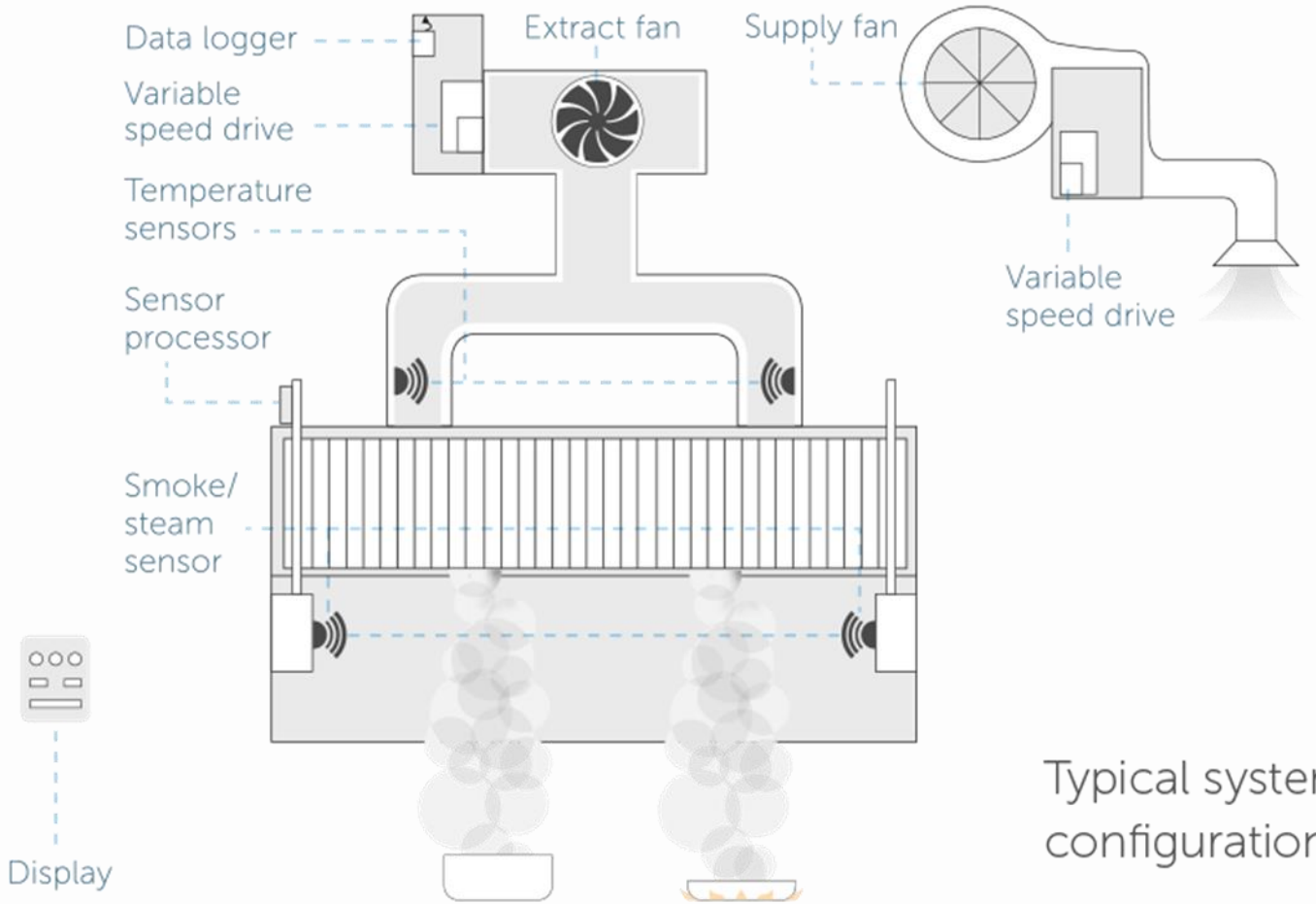

Typical system configuration

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Integrated sensors

Heat

Sensor located in hood and duct work

Smoke

Sensors in hood to detect cooking activity

Gas (optional)

Shut off valve to cut supply if fans fail

CO_2 (optional)

Sensor to speed up fan if levels are too high

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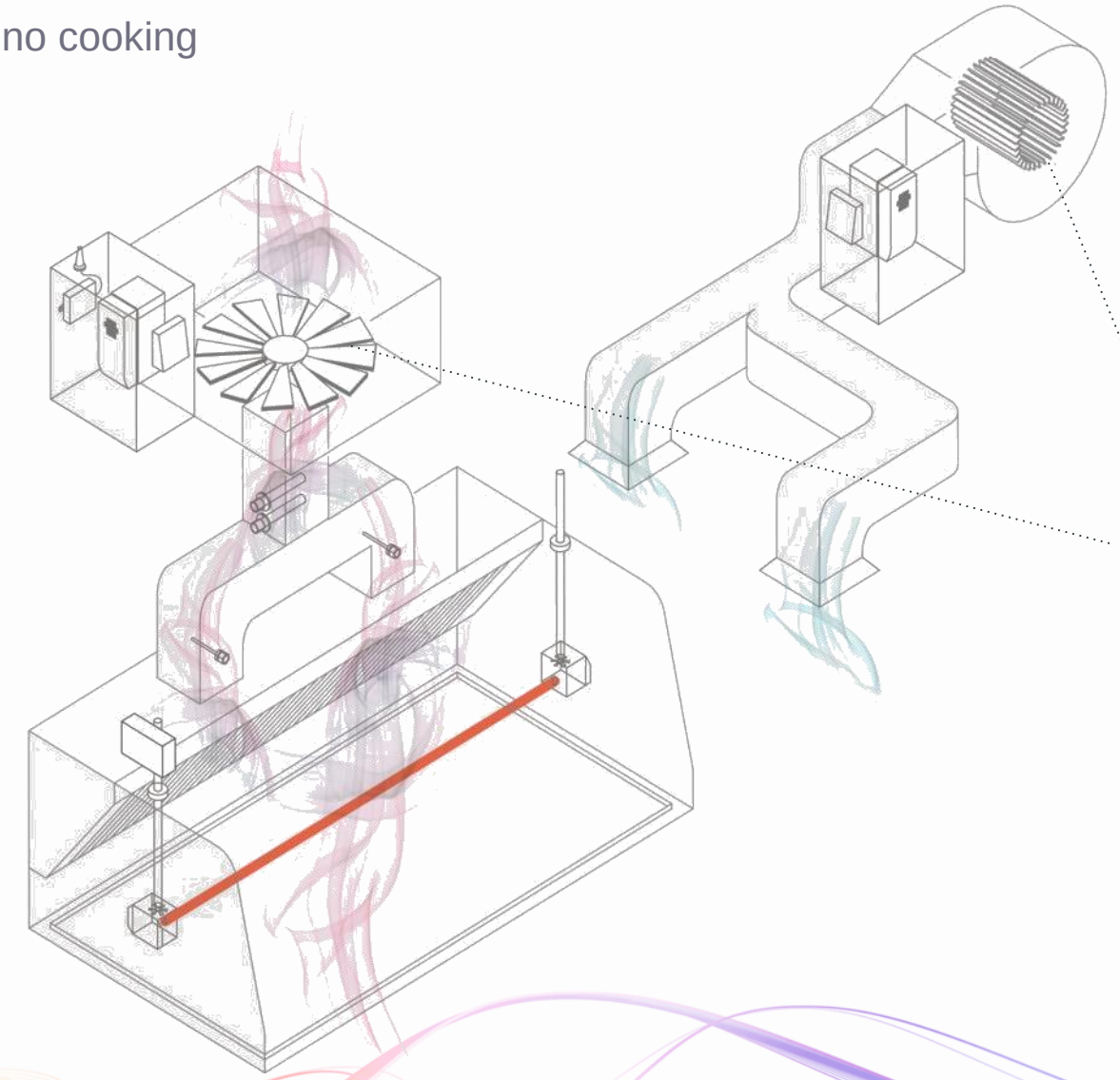
Low or no cooking



Low or no cooking - ramps down the extract and supply fan

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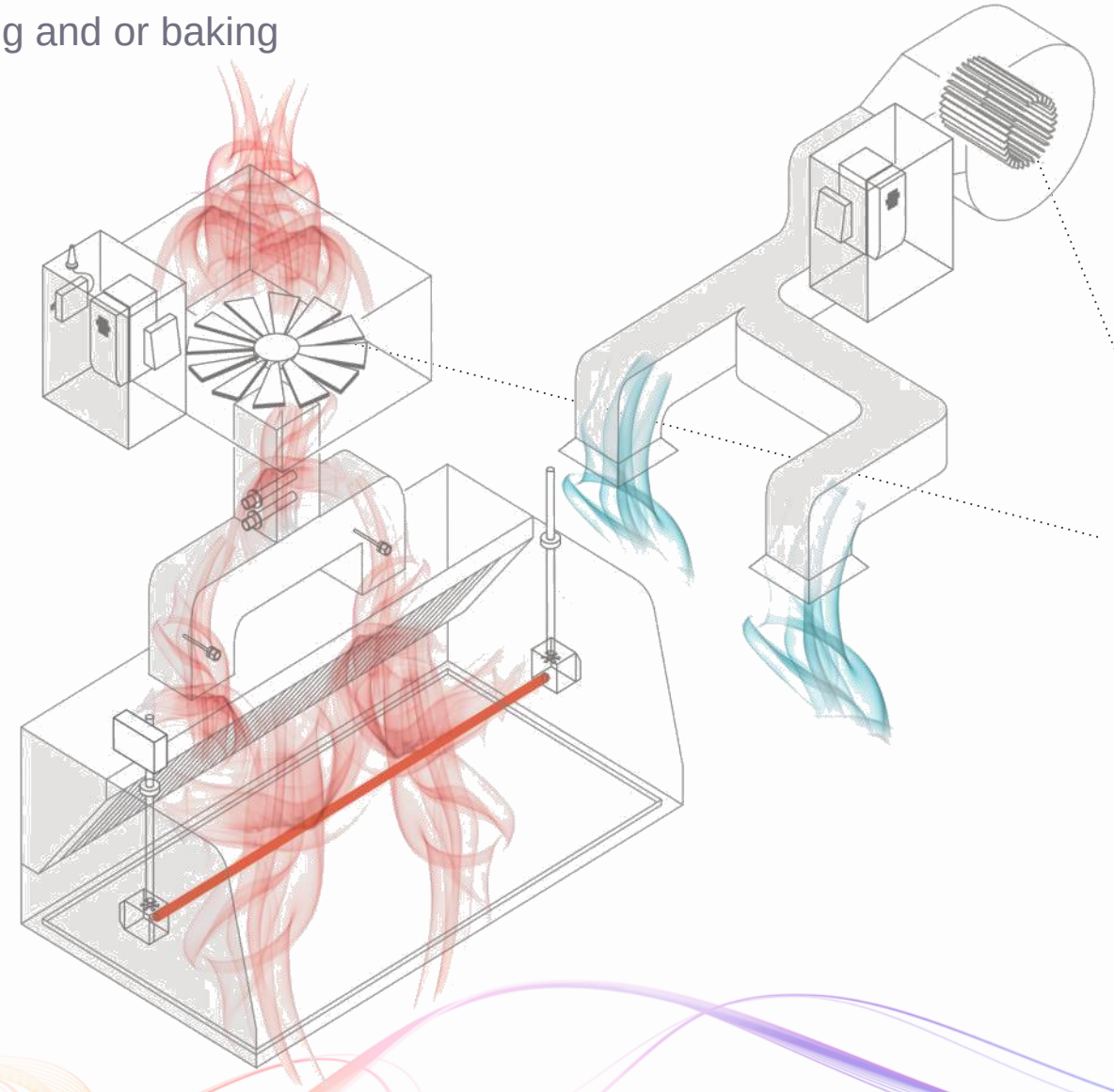
Cooking and or baking



High heat and/or cooking ramps up the extract and supply fan

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Savings

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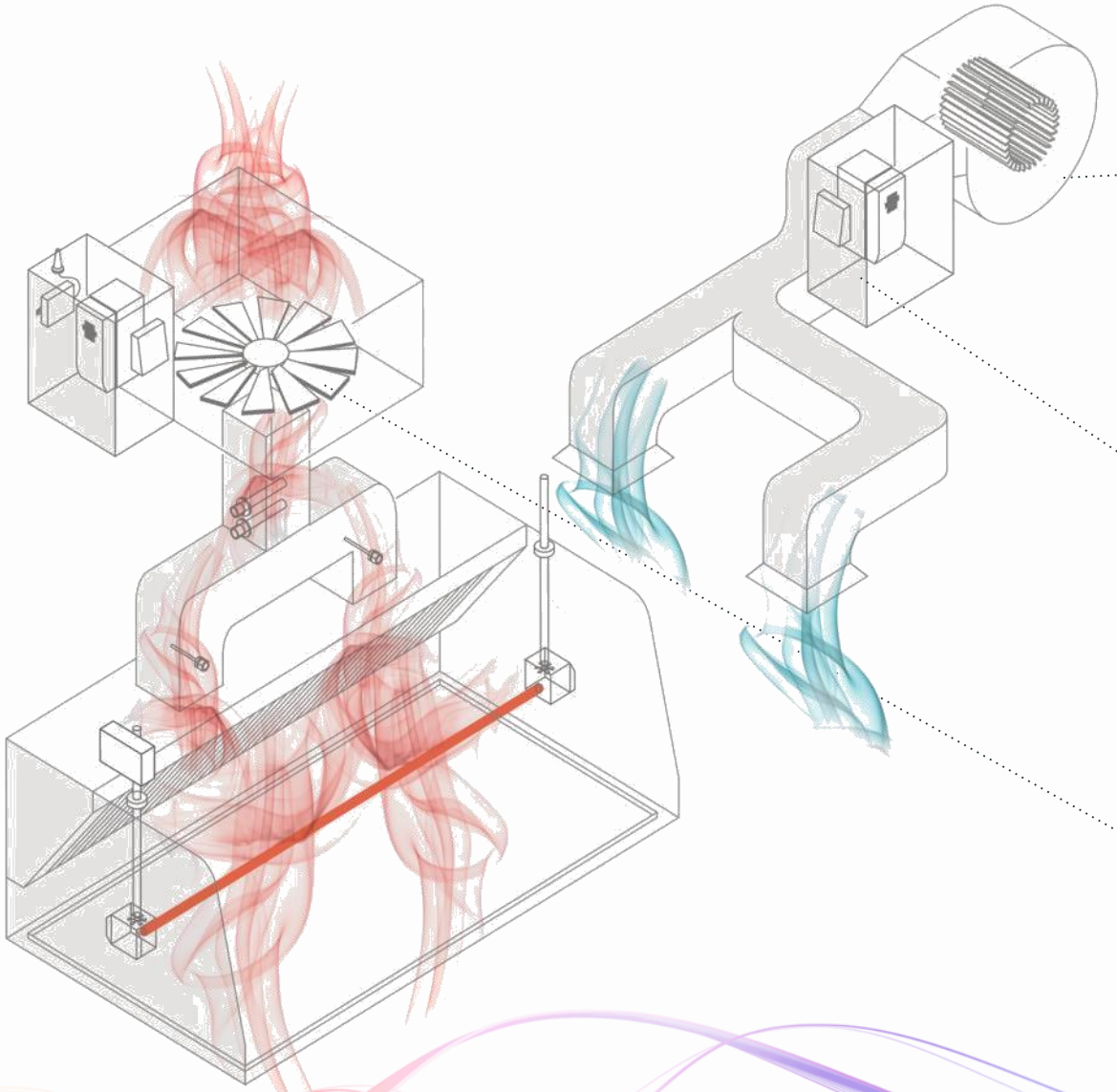

Reducing **supply fan** speed will save energy

When supply fan speed reduces so less **Conditioned air** (both cooling and/or heating is required) so saves energy

Reducing **Extract Fan** speed will save energy

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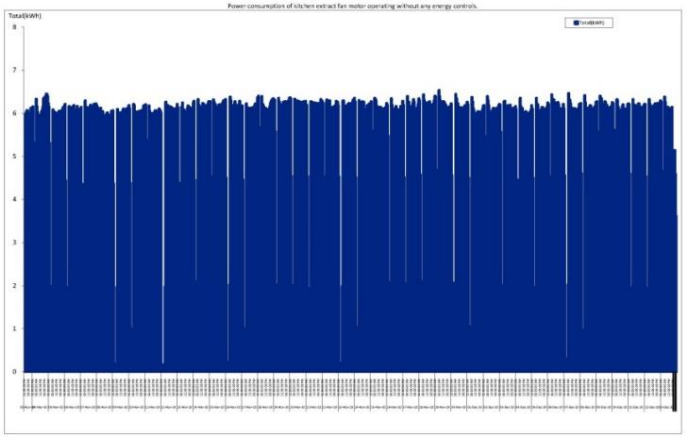
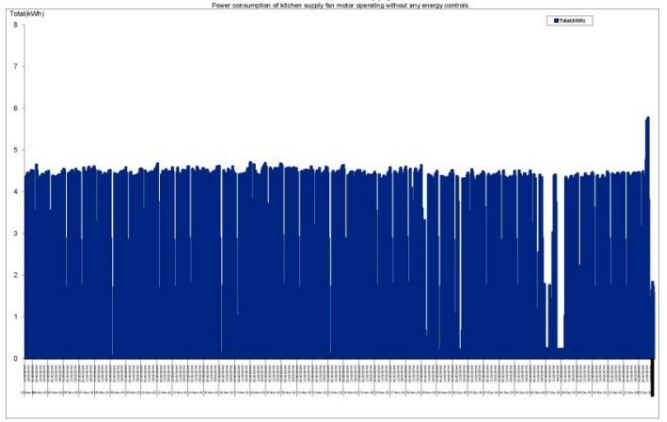
Typical Cheetah Results

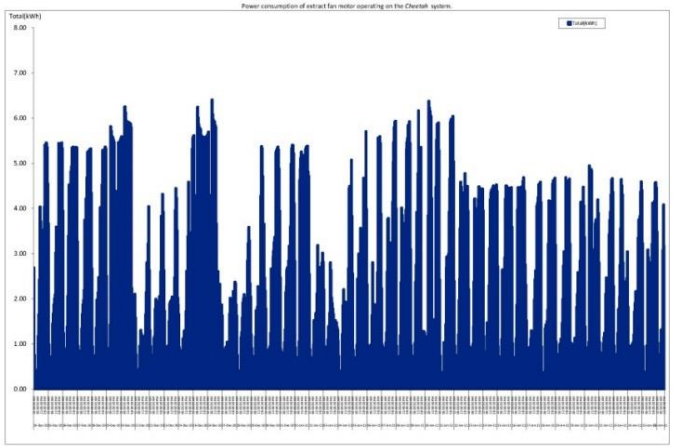
Extract system energy before installation



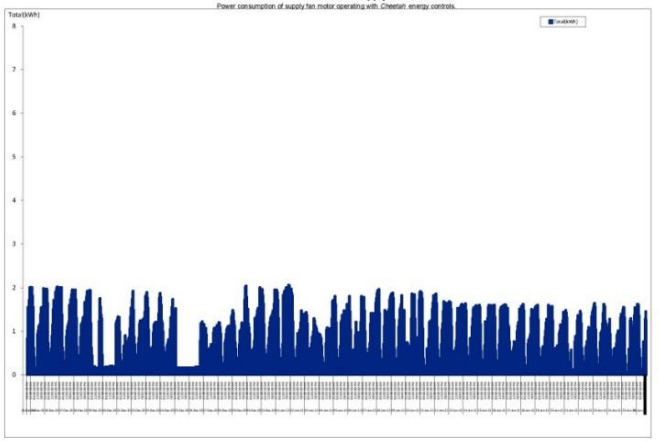
Supply system energy before installation



Extract system energy after Installation



Supply system energy after Installation



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Our Core Clients

Restaurants

Pizza Hut

roast

the restaurant group plc

TRAGUS

Hotels

Hilton

Four Seasons

Marriott

Pubs

wetherspoon

EAT SLEEP & DRINK WHITBREAD

Mitchells & Butlers

Supermarkets

TESCO

Sainsbury's

M MORRISONS

Department Stores

Harrods

John Lewis

IKEA

M&S

Corporate

Pfizer

IBM

bp

LLOYDS BANK

Deutsche Bank

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Our Hotel Clients

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Clients currently trialling Cheetah for 2015 roll out programs

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Service - Post Installation

Monitoring

Remote monitoring and support

Service Cover

Annual service and maintenance

Service Cover Plus

Annual service and maintenance with parts cover

3 Core Packages

Monitoring - Remote monitoring and reporting out of tolerance and non functioning including:

- Status - GSM network - if system is contactable
- % of time that Cheetah is running in manual override mode (indicative of on-site staff intervention)
- % of time that the fans are running above 90%
- Unlimited reactive telephone support from our technical support team
- Remote fault diagnosis
- Remote system settings and system optimisation

Service Cover - Annual site visit PPM to ensure continual optimisation

Service Cover Plus - Annual site visit PPM to ensure continual optimisation with comprehensive warranty of all parts and labour

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Site Survey

- The survey of a site would take on average 1 to 1½ hours, is completely non intrusive, and would not interfere with kitchen activities
- Time of the survey will be agreed in advance with the local site manager
- The engineer will need access to the location of the extract and supply fans as well as the kitchen which Cheetah is controlling
- Details of the extract and supply fans are taken including:-
  - Measurement of current drawn at full power,
  - Details of specification and Insulation class of the fans,
  - Power requirement of the fans (3 phase or single phase)
  - Details of any local isolator fitted
  - Air flow and cooking activities

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Installation Requirements

- The installation would take on average 4> 6 hours and while elements of the installation can be done while working around a live kitchen at least half of the time will require shut down of the kitchen
- Agreement with local site manager is obtained for best access times and if overnight, provide security access as required

Items of work which can be completed while the kitchen is in operation

- Fitting drive enclosure and or drives close to the fans
- Fitting control cables from the fans to location of the processor in the kitchen
- Fitting of the display in the kitchen

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Installation Requirements (cont.)

- Find suitable location for the data logger with GPRS, including location of aerial and cabling
- Running communication cables for sensors in local/ new fitted trunking or above false ceiling (where fitted)
- Running power cables in for new fused spur for Cheetah display

Items of work which has to be fitted while the kitchen is temporarily shut down

- Rerouting of armoured power cable to new variable speed drive and then on to the fan
- Connection of all communication cables to processor, display and sensors
- Fitting of laser optical sensors on hoods and temperature sensors in duct work
- Full test and commission

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Health & Safety

- Strong links are maintained with regulatory and advisory health and safety bodies
- Involvement with local health and safety groups
- Close working relationships with client safety professionals
- Conduct Toolbox Talks and H&S inductions with all local staff including our supply chain
- H&S induction, including management of partners
- Accident and incident reporting
- Permits to work

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Customer Care

- Dedicated customer care team
- Managing through our works management system
  - Project planning
  - Priority based
  - Planned maintenance
  - Call outs
  - Supplier parts management
- Management of customer reporting & contract performance

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