



KAYS MEDICAL

DEXTRA GROUP'S LED SOLUTION
HELPS KAYS MEDICAL HQ WIN
ENVIRONMENTAL AWARDS

ABOUT THE CLIENT

From its humble beginnings as a single pharmacy in Liverpool, Kays Medical has grown into one of the UK's largest independent providers of occupational health, first-aid, pharmaceuticals and medical equipment, supplying both the public and private sector.

Since the 1970's, the business has expanded by acquiring a number of leading providers nationwide and has undergone a significant transformation by overhauling its brand and improving its operations whilst extending its market reach.

As the company proudly declares: "for over 40 years we have been supplying organisations with the products to protect their most valuable resources – their people", similarly the aim for its new £6M headquarters was to reflect its strong commitment to the health and well-being of its employees creating a "truly inspirational place to work".

Like Kays Medical, Dextra Group have grown to become leading suppliers for businesses of all sizes across different sectors through years of continual investment in manufacturing, transport and R&D. On the basis of this vast and varied portfolio, Dextra Lighting, Dextra Group's commercial lighting subsidiary, was instructed to provide the lighting for the HQ's three-storey office building whilst Dexco were given full responsibility to focus on the company's warehouse and distribution facilities.

Together, Dextra Group's specialised branches, manufactured, installed and delivered the lighting for the company's brand-new multi-purpose facility, meeting exceptional levels of quality and energy-efficiency.

The project was far-reaching. A complete lighting solution for the business's high-level warehouse and three-storey head office spanning over 55,000 sq. ft on a 4 acre plot in Estuary Commerce Park in Speke.

To fulfil the company's vision of an enjoyable, stimulating and safe environment for employees and visitors alike, Dextra Lighting worked in close collaboration with Kays Medical's managerial staff, award-winning architects Denovo Limited and electrical contractors Barlows.

The successful partnership earned the building two Green Apple Awards for "Built Environment and Architectural Heritage" and "Beautiful Building". The Green Apple Awards is one of the most popular campaigns in the world that recognises, rewards and promotes sustainable best environmental best practice.

The opening of the new headquarters marks the beginning of an exciting turn in Kays Medical's long and successful journey towards achieving its vision of "supporting the physical and mental health and wellbeing of not only their customers and employees, but the wider business community across the whole of the UK".



THE BRIEF

In partnership with the architects and design and build contractors, Dextra Lighting and Dexeco needed to provide a solution that would combine aesthetic appeal, modern functionality and future-proof standards of energy-efficiency. The project was to follow environmental practice from design and construction right through to delivery and future maintenance.

As David Wilkinson, Managing Director of appointed building contractors Williams Tarr Construction commented, the project required "extra attention to detail" and the lighting had to be designed to high-specification and international quality standards.

With a £4.5m investment, the prestigious development project needed to impress and capture the attention of relevant organisations and the media. The lighting would also need to support the company's strong commitment to the health, safety and well-being of staff; creating a truly "inspirational place to work". Achieving these goals would require:

- Luminaries using the best quality LED sources and drivers on the market.
- Specifying products satisfying ETL criteria for energy-efficiency
- Adhere to CIBSE guidelines and British Standards to provide task appropriate illumination in the warehouse, office block and external areas
- Ensure installation and maintenance are kept to a minimum to improve ROI for the company
- Integrate with the surrounding architecture and interior design
- Strictly abide to all relevant safety and emergency regulations
- Offer flexible lighting control where needed
- Automated sensor control to maximise energy savings
- Keep delivery and installation times within the project's tight schedule



THE SOLUTION

Kays Logistics / Warehouse

In logistics, every node within a distribution network needs to hold up to equal measures of efficiency. Just as a transport fleet needs to cut down on its carbon miles, a giant storage facility needs to reduce its carbon footprint by minimising its energy consumption.

A sustainable culture is the key to maintaining lean and successful supply chain - which is where the energy-efficiency and low-maintenance benefits of LED and intelligent lighting controls can really make the difference to a business' green credentials and bottom-line.

The lighting design for the Kays Logistics' 40,000 sq ft warehouse was to help the company maintain its formidable reputation for service excellence and set an example of environmental best practice by utilising Dexeco's range of energy-saving, sensor-controlled LED luminaires designed especially for the industrial sector.

The warehouse was divided into zones for different types of storage, products and logistical tasks including: picking and packing of items, general management of inventory, labelling and product serial number scanning. The lighting was to match the aisle layout, racking heights and store dimensions, as well as provide optimal light levels, distribution and quality in all areas to boost productivity in all departments.

As the warehouse operates 24 hours a day, many areas are often left unmanned. The new solution would therefore need to provide the right light, in the right place at the right time without wasting energy. By keeping their overheads and emissions low, Kays Logistics will continue to offer its customers the best value for money and outstanding logistics management.



THE PRODUCTS

Verteco LED & Ecopak LED - High Racking Aisles and Warehouse

The Verteco LED's continued success amongst blue chip company's across is owed to five key attributes: exceptional efficiency, premium performance, simple installation, low maintenance and finally, flexible sensor control. Apply these elements to warehouse applications and the returns will make this luminaire an essential part of your environmental arsenal, allowing emissions and running costs to be kept to a minimum at no compromise.

Unlike most high-bays, the Verteco LED balances power with glare control by using mid-power LEDs instead of high-power sources. By combining these sources with a high-transmission diffuser, the luminaire delivers the high light output ratio needed without compromising visual comfort. The luminaires operate at an excellent efficiency of up to 125lm/W depending on the output and optic variant.

From a selection of three optics and range of output packages of up to 27,168lm, the Verteco LED was customised to meet specific lighting criteria in each area. For the spacious packing area, the version with Open Area optic was utilised to provide the recommended 150 lux for the spacious packing areas and the High/Ultra-High Rack optic option to achieve a uniform 150 lux average illuminance in the upper and lower regions of the high-level, multi-tiered storage structures.

With the correct lux and uniformity levels achieved, picking and packing staff will now have the visual clarity and comfort to easily handle goods and accurately read shipping labels throughout the duration of their shift. With high-outputs and increased glare control, the Verteco LED will allow forklift operators to manoeuvre safely around the premises. Overall this will lead to increased productivity and safety, as well as more efficient management of storage and distribution.

Like the majority of Dexeco products, the luminaire is manufactured with high-quality LM80-verified 3535 Lumileds LEDs which maintain their luminosity for longer than fluorescent or HID sources. Backed by its Philips driver's Constant Lumen Output function, gradually increasing the voltage to offset the source's lumen depreciation, the new system will keep light

levels as originally intended from the moment of installation. In this way, the Verteco's CLO function adds to the existing low-maintenance benefits of LED, allowing Kays Logistics to accumulate financial returns in the long-term.

The Verteco LED is designed for maximum control over sensor performance and dimming functions, with its integral Reacta 14 sensor offering a choice of three lens types offering different detection ranges to suit the given space. Combined with DALI dimming controls, the PIR sensor offers presence detection and daylight regulation which will allow luminaires only to light up in aisles or areas where staff are present and adjust to natural light levels entering from the roof lights. Control factors will allow the new system to offer an estimated 30% in energy savings in addition to the 70% average compared to HID or fluorescent equivalents.

Groups of luminaires are now programmable from ground level using the user-friendly REA-AP remote controller, allowing the staff to adjust dimming and sensor functions without incurring the costs of calling out specialist technicians. The Verteco's integral sensors also saved Kays Logistics money by avoiding the costs of extra wiring for standalone control equipment. Now installed, the controller offers easily accessible commissioning and accurate control from ceiling heights of up to 18m.

The Verteco LED's robust, white powder-coated steel body and injection moulded green polycarbonate end caps are designed with durability in mind, making it ideal for warehouse and other industrial applications.

Installation was kept hassle-free, quick and cost-effective thanks to the luminaire's unique slide-out mounting brackets allowing mounting onto trunking without removing the reflector and a practical back-flap for easier access for hardwiring. The luminaires were delivered fully assembled and ready to install to further reduce fitting times.



THE PRODUCTS

Ecopak LED - Mid-Level Storage / Corridors

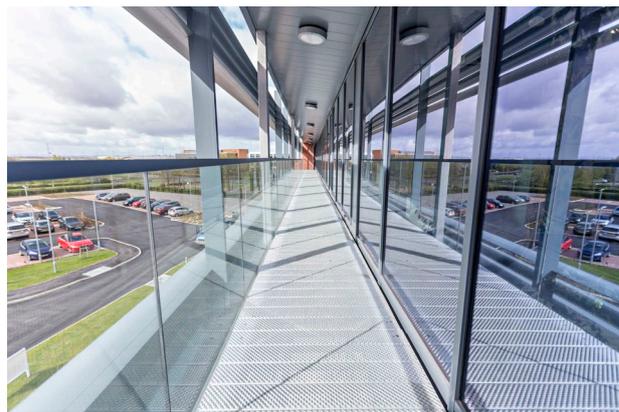
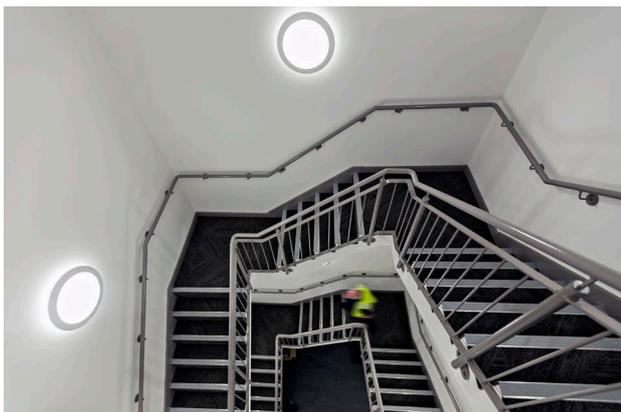
Like the Verteco, the Ecopak LED range of batten luminaires is designed to meet the high performance criteria of the industrial sector whilst maximising return on investment through excellent energy-efficiency, simple installation and sensor-control.

To achieve the most effective design for each application, the EPK range can be modified with a wide selection of options including: output packages between 1933lm and 8484lm across four different lengths, two optics for high or ultra-high distributions, and compatibility with all mainstream digital or analogue dimming types and emergency control.

In the Pharmacy area, the Ecopak LED was installed using a 4794lm output which was customised with a purpose-built High-Rack optic to provide optimal light distribution in the lower and narrower storage area. With light levels at the recommended 200lux, uniform vertical illuminance, and glare reduced to a minimum, staff can now pick and pack goods, inspect dispatch labels comfortably and effectively.

From a wide selection of compatible sensors and dimming options (DALI, DSI, High-Frequency, Switch Dimming and now White Tunable - to regulate the colour temperature of the LED source) offering various lens types and functions, the digitally controllable luminaires were networked to a standalone Reacta 43 PIR sensor with Open Area lens, offering bright-out function and presence detection for maximum energy savings. The luminaires can now be programmed and commissioned via a user-friendly wall switch.

For further return on investment, the Ecopak LED is designed to minimise installation times and costs with a two part construction containing both rear spine and a one-piece, clip-in gear tray, allowing technicians to easily mount the spine before making any electrical connections whilst the gear tray simply snaps into place.



THE PRODUCTS

HYDRA LED - Temperature Controlled Pharmaceutical Storage & Plant Rooms

The robust and highly-efficient Hydra LED luminaire was selected for smaller storage areas and plant rooms requiring resistance to a broader range of temperatures, minimal maintenance and excellent efficiency.

The IP65-rated luminaire is designed for more demanding environments with its tough glass reinforced polyester body, polycarbonate diffuser and steel gear tray offering protection to water, dust, and dirt ingress and light impact. The luminaire also operates comfortably in temperatures as low as - 20°C making it ideal for the warehouse's refrigerated pharmaceutical storage area (2-8°C to 15-25°C).

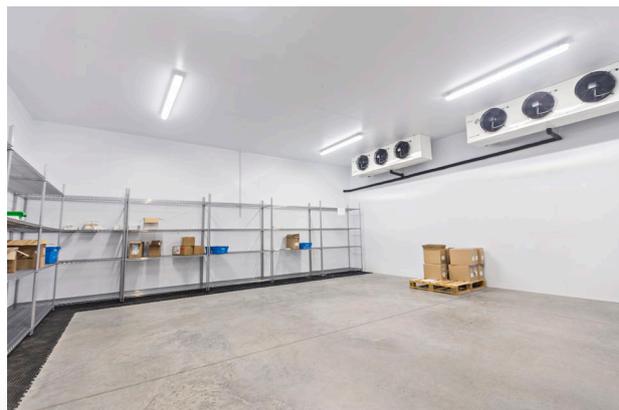
The versatile Hydra LED is available in output packages ranging from 2046lm to as high as 18,630lm across three different lengths in either a single or twin body. By combining the latest Lumileds LEDs and an efficient optic design, the high-performance luminaire offers an LOR of 90% and operates at an average of 140 luminaire-lumens per circuit Watt.

To provide the right light levels and coverage using the most efficient spacings, the luminaire was supplied in either a 9100lm and 4266lm depending on the room size. Available in various installation formats, the luminaire was surface-mounted onto solid concrete ceilings.

With its tough construction and durable LM80-verified Lumileds 3535 LED source offering 90% lumen maintenance for the first 60,000 operating hours and reliable Philips drivers, the Hydra is a fit-and-forget solution ideal for areas with restricted access such as plant rooms and stores whilst minimising disruptions to service. Screw retained stainless steel diffuser clips are included as standard to provide tool access in accordance with regulations.

To maximise energy savings, the Hydra LED offers compatibility with a wide selection of standalone sensors from Dextor's Reacta range as well as with Switch, DALI, Digital and HFR 1-10v Analogue dimming.

Integral 3-hour Self-test and Auto-test emergency lighting functions are also available with this product to suit the application.



THE PRODUCTS

Runway LED & Protec LED - Reception, Lobby, Amenities & Corridors

The award-winning building was designed to welcome visitors and staff with style. The reception reflects Denovo Design's bold and vibrant architectural approach.

Dextra Lighting worked closely with the reputable architects to turn this ambitious and exciting vision into reality; carefully selecting and customising a wide range of luminaires that would not only provide effective and energy-efficient lighting but be a part of the architecture itself and make a statement about the company.

The reception featured Runway LED luminaires staggered in a seemingly ad-hoc arrangement; eschewing expected norms of symmetry. The unique and dramatic installation was composed of six 1500mm versions of the luminaire, surface-mounted onto solid concrete ceiling. This versatile range of luminaires can also be supplied in continuous runs and bespoke trunking systems and gear trays that give designers the freedom to create installations of different shapes and sizes. Gear trays are supplied complete with quick-release clips for fast, easy and flexible installation and access for wiring and maintenance.

In addition to its choice of lengths and installation formats, the luminaire was provided in a 2221lm output from a range of packages of up to 4244lm to achieve the CIBSE recommended 300lux for receptions and lobbies. A C84 (4000k) "cool white" LED source was used to provide a fresh and comfortable light quality. Thanks to its mid-output LED chipboard and high-transmission opal diffuser, this version offers an excellent efficiency of 100lm/W and requires minimal maintenance in the long-term. Additional optic designs include a microprism diffuser, offering BSEN 12464 compliant glare control for office use and a bi-directional (75% Down, 25% Up) distribution for suspended versions.

The Runway's slimline anodised aluminium construction and elegant matt finish (available in matt black or matt white also) harmonised perfectly with the entrance's contemporary minimalist aesthetic. This versatile look make Runway luminaires amenable for countless creative designs and approaches.

The flexibility of this product range extends to its control options with compatibility to all mainstream dimming functions (DALI, DSI, Analogue 1-10V, Switch Dimming and Bi-level dimming) and a wide selection of standalone sensors for Dextra's Reacta range.

The Protec LED downlight brought focus onto the reception desk; raising lux levels to facilitate interaction with visitors entering the building and support receptionists with admin duties as well as illuminating the path towards the lift.

By combining high-efficiency aluminium reflectors with the latest Lumileds LEDs and Philips or Tridonic drivers, the luminaire offers LORs in excess of 90% whilst consuming up to 70% less energy than fluorescent or HID equivalents. These high-quality components and efficient optical design will ensure shorter payback periods for Kays Medical whilst lowering its carbon emissions. Different colour temperatures and colour rendering options are also available to ensure that the optimal light quality throughout.

This highly versatile luminaire can be customised with a range of lumen outputs, specular and semi-specular reflectors, colour attachments and custom bezels, expanding on the possibilities of design. Interchangeable reflectors and attachments can be easily removed and replaced post-installation to match changes in layout, colour branding schemes and décor.

The downlight was installed with an optional IP44 cover which was silicone-sealed in the WC facilities to provide full IP65 protection to water, dust and dirt ingress.

The recessed luminaire was installed into the lowered plasterboard section of the ceiling above desk. The Protec LED is designed for fast and flexible installation, with a practical four-point self-clamping bracket significantly reducing fitting times whilst offering compatibility for a range of ceiling types and surfaces of thicknesses of between 3mm and 30mm. Custom bezels can be provided upon request for existing ceiling cut-outs.

The luminaire's dimmable Tridonic drivers and Lumileds LEDs offer compatibility with DALI (Digital Addressable Lighting Interface) and Touch Dim dimming with standalone sensors to maximise energy savings and a range of automated or manual switch controls.



THE PRODUCTS

Rubix LED Recessed - Executive Board Rooms

The lighting design for the directors' conference room required a touch of class and elegance in order to help convey a sense of exclusivity. The Rubix Recessed is designed for applications where high-quality and aesthetic appeal are top priorities. However, beyond the Rubix's attractive exterior is a luminaire that is built with energy-efficiency and modern functionality in mind.

The luminaire is composed of nine individual cells and a surrounding back-lit halo diffuser at its disposal offering precise optical control. Different lighting modes can be set by switching between the main cells or the surrounding low-level back-light, or operate in unison for maximum illumination. The dimmer surround light also activates for emergency lighting purposes when required.

The luminaire was provided in the standard 600 x 600mm version but is also available in 500 x 500mm and 750 x 750mm and be supplied in lay-in, pull-up or surface-mount versions. Presence detection and daylight regulation sensors can also be incorporated into the surrounding trim or air-handling channels. This integral option saves the cost of modifying the existing infrastructure for additional standalone sensors or HVAC units as well as maintain a clutter-free and more attractive ceiling space. All variants of the Rubix LED are available with all mainstream dimming and emergency options.



Modled Office and Graduate LED Recessed - Small & Large Offices

The MODLED Office is designed to ensure visual clarity and comfort for office applications whilst keeping energy and maintenance costs to a minimum. To make the most of its high-quality Lumileds LED source, the luminaire's dual-optic design combines a central microprism optic and a high-transmission diffuser to balance brightness with glare control. Optimal light intensity can then be achieved using cost-effective luminaire spacings as wide as 3m by 3m. The MODLED Office therefore offers compliance with ECA, L2 and BSEN 12464 in a single package.

Using a lay-in (pull-up version also available) 3328lm version, the recommended 400lux and BSEN 12464 glare limitations for both the 3000 candelas per square metre above 65 degrees and UGR19 were met, providing optimal lighting for the small offices where computers are in constant use. A higher, more controlled light quality will improve the well-being and productivity of Kays Medical's staff whilst consuming approximately 70% less energy than a typical HID or fluorescent equivalents.

The MODLED Office is available in a wide selection of outputs ranging from 1900lm to 7422lm across two body sizes. Integral emergency, dimming and sensor control options to harvest energy savings.

The Graduate Recessed LED was installed in the building's larger offices. The luminaire is fast becoming the luminaire of choice for offices and classrooms nationwide as it is designed to satisfy the practical, performance and aesthetic requirements of modern establishments.

Behind its direct/indirect gull-wing design, similar to traditional fluorescent recessed fittings, the Graduate LED Recessed utilises the latest Lumileds LEDs and highly efficient dual-optic design to offer high LORs and uniform coverage whilst slashing energy and maintenance costs compared to its fluorescent predecessors.

The administrative offices now boast BSEN 12464 compliant 2861lm version, selected from a wide range of output packages and sizes, to achieve the recommended 400lux average for offices using the minimum amount of luminaires to improve ROIs.

To ensure optimal light levels are maintained with minimal energy consumption throughout the day, luminaires are compatible with a wide range of standalone sensors and most known dimming types, allowing the entire system to adjust to daylight entering the room to always provide optimal lux levels, as well as respond to staff occupancy patterns. By incorporating sensor control to the installation, the Kays Medical will be able to reduce energy costs and carbon emissions further by an average of 30% wherever installed.

To add to the Graduate's versatility, the luminaire's central optic can be adjusted from a recessed to a semi-recessed position, whilst pull-up and lay-in formats are available to suit a variety of ceiling types. Integral three-hour emergency lighting was also included in all office areas which can be provided in either standard, self-test or auto-test variants to suit the application.

A 25 litres per second air-handling option is also available with this product which can help integrate the lighting with the building's air ventilation system with no extra modifications required to the ceiling. This practical feature can lower overall installation costs, reduce clutter and improve sound control.

Other products included in this project include the the attractive and highly-efficient and Discolo LED which was wall-mounted in the buildings stairwells and the Amenity Exterior LED and Avalon Wallpack for all external circulation areas.

Emergency

Most luminaires in this project were provided with integral three-hour emergency lighting. With large lighting installations, automatic emergency testing economises on the time, money and inconvenience of manual testing procedures as well as save the cost of installing more standalone emergency fixtures. Luminaires with automated emergency functions include either LED indicators or user-friendly digital interfaces that immediately signal any faults as well as accurately monitor battery life or general status. Entire networks of luminaires can therefore be relied upon to abide to BSEN 5266-1 regulations with little effort and precision, giving company's with large facilities such as Kays Medical additional peace of mind. Incorporating automatic emergency functions is proven to greatly increase return on investment in the long-term as there is reduced maintenance through the elimination of manual emergency testing with key switches.

FEATURED PRODUCTS



RUNWAY
SURFACE/SUSPENDED



HYDRA LED



ECOPAK LED



PROTEC LED



RUBIX RECESSED



MODLED OFFICE



GRADUATE RECESSED
LED



DISCALO LED



AMENITY EXTERIOR
LED



AVALON WALLPACK LED