

Health Sector News

Coil clogging problem addressed at Frimley

A 'forward-thinking NHS Trust' in Surrey has recently enlisted the expertise of specialist building services engineers, RAB Specialist Engineers (RABSE), to address the issue of coil clogging in the cooling plant at one of its main hospitals, and reduce the cost of running the equipment, via the installation of air intake filter screens.

Richard Betts, RABSE's MD, explained: "Hospitals are a 24/7 operation, and have a significant need for cooling, which can be found at the heart of most HVAC systems. At the request of the Frimley Health NHS Foundation Trust, we recently surveyed two separate cooling systems at Frimley Park Hospital – one Alfa Laval Fin coil unit SCAG-8-5, and four Carrier 09GHCA-178 Aquasnap air-cooled units. Annual energy consumption for these cooling systems alone is 1,618,000 kWh; they thus cost the Trust just over £194,000 per annum to run.

"We found the horizontal coil faces dirty with compacted dust, seed, pollen, and other debris, which, unless



addressed, will be drawn into the fins. A US study by Pacific Gas and Electric identified that just 1 mm of debris on a coil fin would cause a 21% drop in efficiency, and increase energy consumption by up to 30 per cent. To address the issue, we installed RABscreen air intake filter screens to protect the coil faces, which will significantly reduce contamination, particularly in hotter weather."

The air intake screens are produced

using a polyester core and polypropylene overlay which, during air movement, creates an electrostatic charge. This captures the airborne particulate to prevent it reaching the fins. Needing no airflow or electrostatic charge, this system enables maintenance personnel to easily clean the air intake screens using a vacuum cleaner, hose, or brush.

Richard Betts added: "We would expect to see a minimum 10% reduction in running costs compared with similar sites, as the condenser is kept clean, and efficiently rejects heat. The air intake filter screens were secured to the coil support steelwork using marine grade, nylon drop tab fastenings. Should access to the fins be required, the screens can be easily removed and replaced.

"With an air resistance of only 17 Pascals at 3.05m³/s, these highly effective external filters will continue to protect the coils for at least 10 years, giving a return-on-investment of under a year. Thanks to the air intake screens' fitting, the Trust should save at least £175,000 over the next nine years."

Cover Story

Buildings live long lives, so should their energy management systems

Healthcare buildings, more than most, are required to undergo a change of use on a reasonably regular basis.

However, points out Trend Controls, 'any developments must be sustainable, affordable, and above all else remain compliant and resilient'. The company said: "The building energy management system (BEMS) that monitors and controls this built environment needs to offer flexibility and backwards compatibility to maximise the use of existing resources and provide a high quality patient care environment.

"By building resilience into their energy management control systems, estates and facilities managers will benefit considerably from minimising the risks associated with adverse situations such as plant failure, or an environmental condition falling outside acceptable parameters, and equally from the development of a sustainable, long-lifecycle solution."

A Trend BEMS monitors and controls building services such as heating, ventilation and air-conditioning, ensuring that all plant operates at maximum efficiency, while delivering an optimal patient care and working environment. The BEMS does this 'by maintaining the right balance between energy usage and operating requirements'.

All Trend devices are designed to be 'backwards compatible', and the new IQ4E controller can communicate with any earlier Trend model 'right back to the Trend IQ1 range, first available over 30 years ago'. Trend is also using voice technology to simplify and streamline commissioning, meaning that Trend Partners 'will be even better placed to meet commissioning requirements and deadlines'.

Trend added: "Come and see what Trend has to offer, and view the IQ4E in action, on stand D34 at Healthcare Estates 2015." (20-21 October in Manchester).



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Careful planning minimises disruption

Medical Air Technology (MAT) is mid-way through a major turnkey project at Weston General Hospital in Weston-super-Mare, entailing refurbishment of three ultra clean, and one conventional, operating theatre.

MAT won the project – which entails upgrading medical and electrical installations, installing new ultraclean ventilation (UCV) systems, and upgrading finishes, fixtures, and fittings – via competitive tender. Its scheme included significantly shorter theatre shutdown times, due partly to its thorough site knowledge – it has held the hospital theatre service and maintenance contract for six years, and its proposal to prefabricate sections of the plant room, reducing on-site installation time.



In two of the theatres, MAT's ECO-flow UCV canopies will replace existing MAT canopies that have served the hospital well for many years. The theatre 'clean corridor' will also be refurbished. Only seven weeks have been allowed for the shutdown of each theatre, with a 28-week overall completion programme.

To enable access to the theatres without disrupting day-to-day activities, MAT has erected a temporary external staircase and electric materials hoist, 'breaking in' through the existing façade to the 'dirty' corridor behind the theatres; thus accessing the theatres 'from outside rather than inside'. Airtight hygienic screening has been installed around each theatre while work is underway.

Maximising storage, minimising waste

MedStor was recently tasked with providing 'the foundation for materials management solutions' throughout the new Queen Elizabeth University Hospital and Royal Hospital for Children in Govan, Glasgow.

Its goal was to 'support the lean stockholding system that will help minimise waste and maximise storage across all departments'.

The Govan site houses maternity, children's and adult acute hospitals, and laboratory services, on one campus, plus Scotland's biggest critical care complex, and one of its biggest emergency

departments. MedStor holds the contract to provide HTM 71 storage solutions for clinical areas in all NHS Greater Glasgow and Clyde's hospitals.

MedStor provided the liners, trays, and dividers for medical consumable cabinets throughout the new site and, with partner, Metro, the racking systems serving the operating theatres.

Its liners, trays, and dividers 'allow cabinet space to be maximised – storing more products, more efficiently, in less space' – via "making the absolute most of the space available, ensuring product protection and segregation, and avoiding 'stockouts' by



supporting the hospital's own IT system to show stock shortages immediately".

MedStor's colour-coded identification system – which uses coloured cards to facilitate locating items – has been adopted by hospitals throughout NHS Greater Glasgow and Clyde, and 'is proving popular across Scotland'.



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Replica four-bed bay being built

Static Systems Group has created plans for a 'ground-breaking' Design and Innovation Centre (D&IC) at its headquarters near Wolverhampton, with the centrepiece a full-size replica four-bed bay based on one of the ProCure 21+ Repeatable Ward designs.

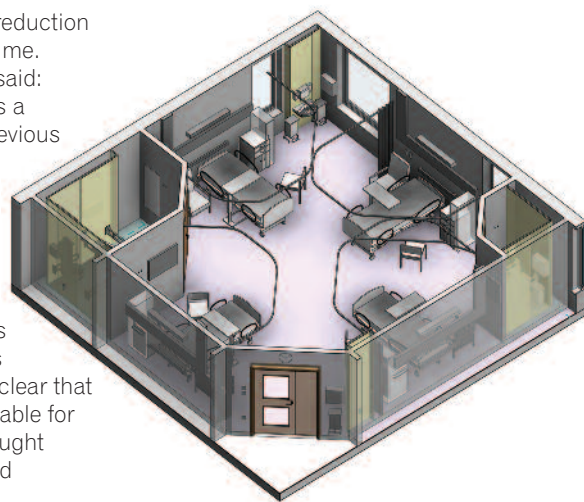
Currently under construction, it will, the company says, be 'the first of its kind in the UK'.

'Inspired by the acclaimed success' of an existing four-bed ward at Wombourne widely used for training and education for over 10 years, Static Systems says it saw an opportunity to showcase one of the new acute wards developed by health planners, architects, design managers, cost consultants, and specialist suppliers,

as part of the ProCure 21+ 'cost reduction through standardisation' programme.

Marketing director, Phil Wade, said: "Our new ward will be available as a convenient drop-in facility. Our previous four-bed bay here has been universally praised as a vital ingredient in helping our clients design, and choose the most suitable bedhead services solutions for, their projects."

A number of specialist suppliers contributed by providing materials and services for the ward. "It was clear that there was no central funding available for such a mock-up facility, so we thought we would take the initiative," added Phil Wade.



Laparoscopic capabilities extended

Two new operating theatres at the Lancashire Women and Newborn Centre at Burnley General Hospital feature Karl Storz's OR1 NEO integrated theatre equipment as part of a £1.3 m investment to further consolidate the hospital's reputation as one of north-west England's leading laparoscopic gynaecological surgery centres.

The hospital was recently accredited as an advanced centre for treating endometriosis. The new theatres will enable four laparoscopic surgeons to work with the hospital's oncology unit to perform many of what would have once been open-surgery hysterectomies, laparoscopically.

The OR1 NEO theatres offer connectivity with hospital ICT systems, giving improved audio-visual communication for teleconferencing, teaching, or telesurgery. Karl Storz also supplied laparoscopic training equipment to help with the development of trainee surgeons.

The company was awarded the contract by East Lancashire Hospitals NHS Trust to install the two theatres, and a further one at Blackburn – which is due for completion later in the year – after demonstrating its IMAGE1 SPIES system during the tender process. A key component of the OR1 NEO theatre, this system 'optimises the surgeon's view of challenging anatomical areas during complex surgery'.



Reduce waiting lists before October

While there is monetary respite from penalties for NHS Trusts that breach the 'incomplete' 18 week referral to treatment standard - from October 1st penalties are set to rise substantially.

In the current period Trusts have a unique opportunity to address waiting list volumes before penalty levels increase - providing they have the necessary clinical capacity.

Vanguard Healthcare, as a pioneer of mobile healthcare technology, can offer clinical capacity on-demand that will allow Trusts to reduce waiting lists in a variety of specialities.

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'Touchless' disposal from updated machine

Vernacare claims to be 'setting new standards in infection prevention' with its new Vortex+ disposal unit, which uses 'touchless' technology to ensure that disposal of patient waste from toileting and washing is entirely hands-free.

Opening and closing is via a foot sensor, eliminating hand movement or contact, and reducing the risk of cross-infection when disposing of fibre-moulded bedpans, urinals, and other products containing human waste.

The new technology can be 'auto-start' enabled, so that when the lid closes, the machine starts automatically without having to press a start button. 'Auto-start' also prevents multiple waste containers 'stacking up' in the machine, eliminating overloading, and ensuring effective flow of disintegrated waste particles through the drains.

Emma Sheldon, Vernacare's group marketing director, said: "The automatic start upgrade is particularly useful in older installations – helping to keep the drains clear by reducing the pulp-to-water ratio."

The new Vortex+ retains the Vortex's original closed-drum system. With its sealed, water-filled hopper and 'unique' twin-blade design, the machine ensures waste products are broken down into a fine slurry. Vernacare added: "Independent tests



prove the Vortex system discharges with a velocity nearly four times that of alternative machines, and that the solids content is substantially lower and less variable. This helps to ensure free-flowing drains."

The new model retains original Vortex features, including an integrated automatic anti-bacterial deodoriser which cleans and disinfects inside the machine at the end of each cycle. A self-diagnosing display panel, together with manual emptying override, help to simplify maintenance.

Looking to the next decade in construction

Next month's Construction Industry Summit in London, themed 'Government & Industry Working Together' will, organiser, Step Exhibitions, says, 'engage and empower stakeholders from across the built environment to achieve and deliver the Construction 2025 vision'.

Led by the Construction Industry Council and the Strategic Forum for Construction, the conference and networking event takes place from 8-9 September at the Grange St. Paul's Hotel. Step Exhibitions said: "Over the two days there will be two main themes – 'Growth' and 'People'. Day One will examine 'the key drivers of growth to 2025'. Speakers will include Dr Peter Hansford, chief construction adviser; Rain Newton-Smith, director of Economics at the CBI; Mike Putnam, President and CEO of Skanska



UK, and Madani Sow, CEO and chairman of Bouygues UK.

"Day Two will focus on 'the people who make up the industry and whose talent and expertise it relies upon to deliver the Construction 2025 vision'." Topics addressed will include 'How can construction compete with other industries to attract top new recruits?', and 'How will the industry develop their skills and retain their expertise long term?'

Speakers will include Adrian Belton, CEO of the Construction Industry Training Board (CITB); Jocelyne Underwood, construction membership manager, Greater Manchester Chamber of Commerce, and Jo Pottinger, head of HR Strategy and Development, BAM Construct UK.

News In Brief

Kawneer's Secured by Design accreditation

Glazing solutions from architectural aluminium systems supplier, Kawneer, have achieved Secured by Design accreditation under the official UK police flagship initiative that supports the principles of 'designing out crime'. Kawneer says the certification for its windows and doors is a tangible demonstration of its 'continued commitment to ongoing testing for safety and security'. It added: "Extensive testing of our products to PAS 24:2012 means architects, planners, contractors, and client end-users, can be assured that they provide the ultimate resistance to criminal attack."

Real-time wireless energy monitoring system

A new wireless energy monitoring system which gives businesses real-time energy consumption statistics can 'significantly extend' the energy savings achieved when replacing 'traditional' commercial lighting system with LEDs, energy efficiency company, Minimise Energy, maintains. The Minimise Monitoring and Control System can be used to 'benchmark' consumption patterns and 'influencing environmental factors' ahead of a lighting refurbishment programme, and, 'long term', to 'identify ongoing energy efficiency opportunities in a room, building, or across an estate'.

Jim Marner elected B&ES President

Jim Marner – who has 32 years' building and engineering services experience with Shepherd Engineering Services (SES), having joined the firm as a craft apprentice in 1982 – has been elected President of the Building & Engineering Services Association (B&ES) for 2015/16. The B&ES said: "As a renowned and popular business leader, whose responsibilities include the North, including Scotland, and business activities in the South, Jim Marner brings to the Association a distinguished national presence."

Bespoke exhaust ventilator for nine-storey car park

A bespoke natural smoke and heat exhaust ventilator (NSHEV) manufactured by Bilco UK has been installed in a new nine-storey, multi-storey car park at Addenbrooke's Hospital, Cambridge, completed by VINCI Construction UK. The Bilco NSHEV, when opened, allows for the rapid evacuation of smoke and heat in the event of fire, and additional passive ventilation.