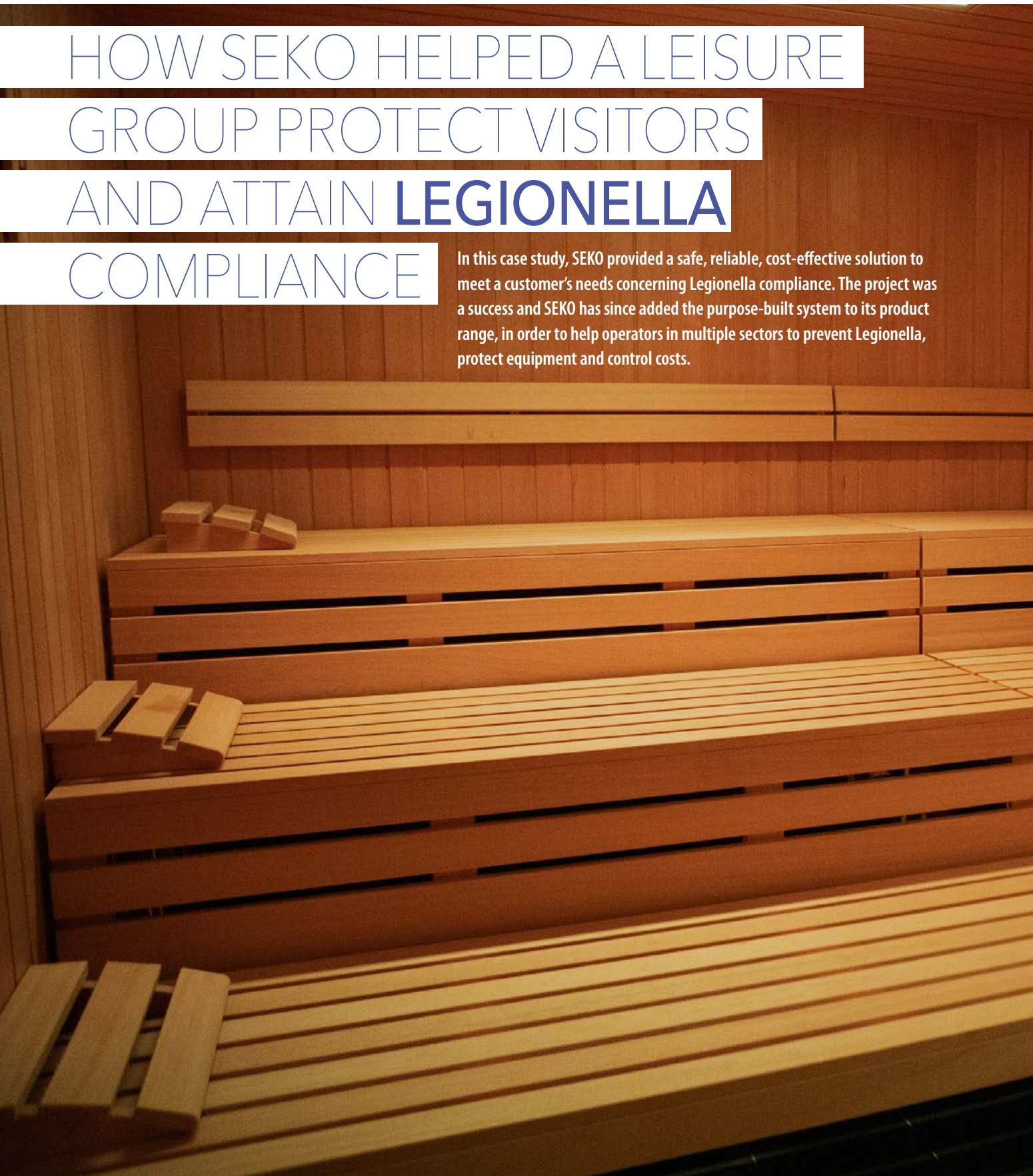
HOW SEKO HELPED A LEISURE GROUP PROTECT VISITORS AND ATTAIN **LEGIONELLA** COMPLIANCE

In this case study, SEKO provided a safe, reliable, cost-effective solution to meet a customer's needs concerning Legionella compliance. The project was a success and SEKO has since added the purpose-built system to its product range, in order to help operators in multiple sectors to prevent Legionella, protect equipment and control costs.



When a European leisure group wanted to safeguard customers across its clubs from Legionnaire's disease and comply with local legislation relating to the control of *Legionella* bacteria in water systems, it chose SEKO for a dedicated solution.

What is Legionnaire's disease and how can it be prevented?

Legionnaire's disease is a potentially-fatal lung infection caused by the inhalation of water vapour contaminated with *Legionella* bacteria. *Legionella* can occur in natural water systems but is more commonly found in purpose-built systems such as cooling towers, hot and cold water systems, spas and pools.

The primary control method for *Legionella* is water temperature management. Operators should always run water services at high temperatures to cause pasteurisation and destroy any bacteria living in the system, thus preventing *Legionella* growth. Water can then be distributed to showers or mixer taps and blended with cold water to moderate temperatures.

Guidance for *Legionella* control states that water should be above 50°C at a hot water tap after 1 minute and 60°C at the calorifier. If the water is heated by a boiler system, this will usually be between 70 and 80°C to make up for losses through the hot water system.

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Addressing a common challenge

This presented a dilemma to the leisure group operator, who was looking to reduce their rising water heating costs as well as prevent the threat of *Legionella*. Thankfully, however, local legislation allowed the use of biocides such as chlorine dioxide (ClO_2) instead of thermal disinfection, meaning the opportunity presented itself to simultaneously reduce both water temperature and costs.

The decision was taken to use chlorine dioxide, a powerful oxidant that disinfects water and prevents biofilm build up. This would mean that as well as achieving significant energy savings, the operator could cease using water softeners for further cost reduction.

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Enter SEKO, with a bespoke solution
Once chlorine dioxide had been chosen as the preferred *Legionella* control method, the operator approached water-treatment expert SEKO for a solution that could safely dose the chemical into its water system.

After a complete assessment of the application, SEKO's product team developed a range of bespoke chlorine dioxide generation systems. These devices, named Chlorox, would offer proportional control with a mixing chamber manifold to allow convenient ClO_2 dosing into cold water storage tanks or directly into the water line.

Comprising three panel-mounted enclosures, the installer-friendly Chlorox system isolates the pumps within the two outer sections with the main wiring housed in the central compartment.

The pump model selected was SEKO's own Tekna Evo TPG50 solenoid-driven dosing unit, with its front-mounted pump head making it perfect for use in a vertical enclosure.

Meanwhile, the combination of Tekna Evo's small stroke capacity – which delivers a constant low-level chemical stream – and its renowned precision and reliability would ensure quality performance for the long term.

In addition, for some of the group's sites with an additional security requirement, SEKO supplied lockable bunded chemical storage cabinets to provide added peace of mind.

Safety first
The Chlorox unit is proportionally controlled by a pulse from a water meter, offering an exceptional degree of safety. This is because when water isn't pulsing through the system there's no risk of chemical dosing. And by interlinking flow sensors with the Tekna Evo pumps, all pumps shut down automatically in the event of a system failure.

Meanwhile, the chemicals are dosed into a maturation chamber within a water-filled outer case so, in the unlikely event of a chamber leak, chlorine dioxide is released into the water and rendered harmless.

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multifunctional valves and an external alarm lamp, makes it both safe and easy to use.

A positive result

Since using the Chlorox system across multiple sites, the leisure group reports significant cost reductions from lower heating costs and the elimination of costly water softeners. Additionally, minimised biofilm build-up helps the operator avoid costly and inconvenient unplanned pipework maintenance.

As an added bonus, the unit's compactness, when combined with the removal of the original water softeners, has created valuable extra space in the group's tight plant rooms.

Along with the delivery of measurable cost and operational benefits, SEKO met the customer's primary objective of *Legionella* compliance. This means the client can now rest assured that they're proactively preventing the spread of *Legionella* bacteria in their hot water systems and in turn protecting the many thousands that use their facilities each week.

By fulfilling and exceeding the operator's remit, this customised package provided the safe, reliable, cost-effective solution that was so important to the customer and their clientele.

The success of the purpose-built Chlorox unit has seen SEKO since add the system to its standard product range, helping operators in multiple sectors to prevent *Legionella*, protect equipment and control costs.

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