



Case Study The Wholesome Health Club

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The Wholesome Health Club

Muscular Protection Against Legionella – Seccua Ultrafiltration Never Takes a Day Off.



CUSTOMER / USER

“Life Competence” health club, located in Tutzing (Lake Starnberg, Germany)



THE SITUATION

Shower and sanitary facilities out of service for months



THE SOLUTION

Three Seccua UrSpring BeWell units running parallel

The Coronavirus pandemic returned hygiene and health protection to the top of all of our agendas. The Lockdown hit health club operators especially hard. That’s why Rosemarie Döllinger, the owner of the Tutzing-based health club Life Competence, decided it was worth going the extra mile to ensure her customers had a healthy and safe place to work out. Pandemic restrictions forced the business to close for a number of weeks. When it reopened, Döllinger implemented a series of comprehensive hygiene protocols that went well beyond what the law mandated.

Opening four decades ago as a modest beauty salon and body sculpting studio, she has since transformed Life Competence into a state-of-the-art health club. Located directly on the shores of Lake Starnberg, Rosemarie Döllinger’s nearly 11,000 sq. ft. club offers spacious rooms for fitness classes, premium-quality strength and cardio equipment, an appealing sauna and wellness area, as well as

showers, locker rooms, and sanitary facilities. The gym being locked down meant that the plumbing fixtures in Life Competence’s sanitary facilities, restrooms, locker rooms, and showers would go unused for days at a time. Although Döllinger regularly flushed the facilities’ sanitary installations and drinking-water pipes to reduce the risk of microbial contamination, she couldn’t help but wonder: Is the water I’m providing my clients truly safe and clean? Have the measures I’ve taken been enough to keep the Legionella count from becoming hazardous?

Eliminating Legionella in the Shower

Legionella occurs naturally in drinking water. But when water in the widely-ramified plumbing often found in athletic facilities stagnates, especially if its temperature is above 70° F, the number of these rod-shaped bacteria skyrockets. Water vapor or droplets from showers, steam baths, or AC humidifiers are all it takes to transport the bacteria into people’s air-

ways. This could lead to infections, to which the elderly and people with weakened immune systems are particularly susceptible. It could even lead to Legionnaire's disease, a severe form of pneumonia.

The toll a hard workout takes on the body also makes it easier for an infection to develop. According to the German Olympic Sports Confederation (DOSB)—the body governing the nation's Olympic sports federations—Germany is home to over 100,000 sports venues. The bulk of its 11,000 gymnasiums, 18,000 sports facilities, 49,000 tennis courts, and 38,400 other athletic grounds are furnished with sanitary facilities, locker rooms, and showers. Every one of them is vulnerable to the problem of insufficient drinking water sanitation. In April 2020, this realization led the DOSB to raise the alarm about "the Legionella threat facing athletic facilities going unused." According to the Robert Koch Institute (RKI), prior to the Covid-19 pandemic there were about 1,000 reported and confirmed cases of legionellosis in Germany annually. In 2018, sixty-three of the 1,443 cases reported would prove to be fatal (four percent). Experts at the German Competence Network Community Acquired Pneumonia (CAPNETZ) estimate that between 15,000 and 30,000 cases of le-

gionellosis go unreported each year, a phenomenon they ascribe to a widespread lack of the appropriate diagnostics when it comes to respiratory illnesses.

Drinking Water Ordinance (TrinkwV) Mandates "Measures to Restore Safe and Hygienic Conditions"

The German Drinking Water Ordinance (TrinkwV) stipulates requirements for public spaces, such as sports facilities, which suffer service disruptions lasting longer than four weeks. It mandates that before facilities are allowed to put their drinking water distribution systems back into operation, these would have to be properly flushed, undergo microbiological testing, and be subjected to whichever other measures might be deemed suitable "to restore safe hygienic conditions." Needless to say, the seven-month period during which the Life Competence health club was locked down during 2020 and 2021 exceeded the TrinkwV's time limit considerably.

As the operator of a health club with non-stop customer flow, maintaining adequate water hygiene standards in all sanitary and shower facilities is a



fundamental part of Rosemarie Döllinger's responsibilities. She both wanted and needed to safeguard her customers from the threat of exposure to excessive *Legionella* and other waterborne bacteria at the club after it reopened. One day, while Döllinger was searching for water-quality testing services, she came across Seccua's ultrafiltration solutions. In 2021, the company became a wholly-owned subsidiary of the MANN+HUMMEL Group, global market leaders in the fields of filtration and standardized membrane-filter water-treatment system technology and innovation.

When drinking water distribution systems become contaminated by high concentrations of *Legionella*, certain conventional measures are usually applied to disinfect the water. These include heating the water to at least 150° F or chlorinating it. Both methods have limited efficacy. The reason is simple. Once a layer of biofilm has formed on a pipe surface, it becomes nearly impossible to eliminate completely. Consequently, it's an optimal breeding ground for pathogens. Rosemarie Döllinger decided that installing a Seccua ultrafiltration system would be a much longer-lasting and safer solution for her business instead.

Seccua Solutions Are Your Sanitary Firewall

Seccua ultrafiltration physically separates contaminants from water using membrane-technology originally developed for use in clinical dialysis. The unit serves as a firewall because it's installed at the point where the municipal main supply line enters a building (point-of-entry system). That means 99.99999 % of all bacteria and parasites as well as up to 99.99 % of all viruses don't stand a chance of getting into the water distribution system. These waterborne pathogens are simply too large to fit through 0.02-micron-wide membrane pores. Not only do Seccua ultrafiltration systems keep *legionella* and other pathogens in check, they also excel at removing turbidity-promoting materials and rust from drinking water, thereby ensuring that what comes out of the tap is always safe and clean. Ultrafiltered water retains essential minerals such as calcium and magnesium, and with them, its natural balance.

From that moment on, Döllinger vowed, every piece of sanitary equipment and every plumbing fixture in the Life Competence health club would be supplied with filtered drinking water. Together, the Seccua team and the proprietor analyzed the club's water usage. The team also went on site to examine the

condition of its plumbing first hand. They then proceeded to identify the main challenges, which were the large number of users (twenty regular-fixture and waterfall showers plus footbaths); the high level of water consumption (almost 30,000 cu. ft. in 2019); and pressure loss in a three-story building. After completing a needs assessment, the experts at Seccua set out to design the perfect custom filtration solution. It would consist of three UrSpring BeWell water filters running simultaneously, each of which featured four gallons of service flow and a peak flow rate of 11 gpm. Because the preexisting water softener system represented a major potential hotbed of bacterial activity, the Seccua ultrafiltration units were installed between it and the rest of the building's plumbing.

Expert Support That Meets Yours Needs

When it comes to working with Seccua, Rosemarie Döllinger is full of praise. "The team was great. From the first minute we spoke on the phone, they were attentive and thorough. They took care of every aspect of planning and then continued to display that same level of professionalism on site. Throughout our collaboration I felt assured that I was in professional hands and that the needs of my business were always the main priority." In the end, the entire installation process only took three days from start to finish. Since space in the health club's basement was at a premium the ultrafiltration units had to be installed in an adjacent room. From there, the Seccua-treated water was fed back into the supply line. The UrSpring BeWell system features a self-cleaning, automatic backflush filter which is typically programmed to flush the unit once per day at a regular hour. Anytime the system detects higher levels of fouling it cleans itself automatically, whereby a single flush cycle uses between 2.5 and 4 gallons of water per unit. Consumes a meager 1.5 Watts during normal operation and just 5.4 Watts for a duration of ten seconds while in flush mode!

Seccua's UrSpring BeWell ultrafiltration system is essentially maintenance-free. The filters are easy to replace and have a service life of about three years. "When it came to choosing a Seccua system, my main focus was on guaranteeing the safety of my customers. But naturally, I considered how it safeguards me as a business owner as well," Rosemarie Döllinger explains. "These days, my clients are less willing than ever to make compromises when it comes to their health and safety."

“I’m completely satisfied with the system. It’s sustainable and works without chemicals. If you are a health-club or pool operator, then I whole-heartedly recommend working with Seccua to find the solution that’s right for you.”





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