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On track to save energy

Frankfurt am Main, 25 June 2024. Soaring energy costs are a driving factor for innovations in the commercial textile-care sector. They generate new solutions that lower consumption, reduce emissions and in many cases extend textile durability. At Texcare International in Frankfurt am Main from 6 to 9 November, a large number of manufacturers will be presenting a broad spectrum of solutions that help dry cleaners and laundries to increase their resource efficiency.

Commercial laundries represent an energy-intensive business sector. Currently, energy accounts for around 15 percent of total costs, with process heat making up the lion's share. Against a backdrop of continuing high energy costs and the challenge of global warming, energy-saving measures and the move away from fossil fuels are of increasing importance for laundries. Hence, all machine and equipment manufacturers are working on the development of concepts that optimise the use of resources and reduce carbon dioxide emissions through modern washing methods, the recycling of water and energy and the use of renewable sources for heat generation.

Water is the key to cutting costs

Recycling process water is nothing new in the laundry business. However, concepts for recycling pressing water, filtered rinsing and process water and the use of cooling water from the dry-cleaning machine for transferring articles to the wet cleaning machine are constantly being improved, which further reduces the amount of fresh water used. In addition, the modern technologies installed in laundry machines, such as weighing cells or low-level sensors, adjust the resources used to the actual load weight and thus contribute to a reduction in costs.

Concepts for reducing machine energy consumption

Energy is a very valuable resource for textile care businesses, and this is why manufacturers of laundry and dry-cleaning machines, as well as finishing appliances, focus on technology with an optimum efficiency classification: such machines ensure the best possible water extraction and low residual moisture in the laundry so it can be dried quickly and efficiently. Plant manufacturers use new materials, e.g. ceramics and carbon steel, to reduce ironer gas consumption. They also utilise heat-pump technology and generate hot water by means of solar energy. Modern machines are also equipped with special coatings that stop dry, energy-absorbing fluff from adhering to the various surfaces. New technologies improve evaporation performance thanks to direct heat transfer in a heated trough or improve solvent distillation by preventing boil-over, measuring turbidity or filtration.

Increasingly, the energy contained in vapour is also being harnessed: technologies such as low-pressure vapour recovery systems ‘recycle’ energy from steam to generate process heat. Special collectors store excess heat and make it available again when needed. Moreover, the energy trapped in exhaust air or wastewater is recovered using special heat exchangers before being fed back into the production process, either as preheated fresh water or fresh air.

At Texcare, manufacturers showcase a wide range of solutions that help dry cleaners and laundries become more resource efficient. Source: Messe Frankfurt

The system as a whole

Reducing the resources consumed by a textile care business cannot be achieved by implementing isolated measures, but only as part of the overall system in which all processes are intertwined: waiting times at machines, idle times and poor occupancy rates result in unnecessary energy losses. In an energy-optimised laundry, however, every item is in the right place at the right time. Additionally, management information systems make it possible to precisely analyse energy consumption in all parts of the laundry and provide a solid basis for modifying processes or making investment decisions.

Detergents and processes are part of the solution

The detergent industry also uses processes and products to promote the optimal utilisation of resources in laundries. Low-temperature disinfection processes, which achieve a listing with the Robert Koch Institute (RKI) and the Association for Applied Hygiene (VAH) at 40°C, can significantly reduce the cost of process heat. In the meantime, however, a new benchmark has been established at 50°C for disinfection washing. Although energy consumption increases with this process, the quantities of detergents and washing auxiliaries used are reduced and the lifespan of the items increases.

Customised, highly concentrated detergents or washing substances, which are tailored to the material, stains and the hygiene requirements of the customer in a modular system, lead to optimum stain removal, reduce the post-wash proportion and lower the energy input per item of laundry.

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What is the future of the energy market. Opinions from the sector

Events of recent years have underscored the dependence of energy prices on geopolitical factors and political decisions. Thus, supply-side developments in Germany and across Europe are therefore difficult to predict, which is why the choice of the best source of energy will be much more dependent on local and structural conditions in the future. “In some regions, hydrogen will be available, while in other regions wood pellets may play a more important role than in the past. Companies will then use these methods to heat steam boilers or generate electricity, for example, to heat thermal oil as a source of energy,” says Andreas Langer from Kannegiesser. In Germany, the focus is likely to shift more towards renewable energy sources, such as solar or wind energy. “Long-term investments in sustainable energy generation can lead to a gradual relaxation in the market, as gas is increasingly replaced by electricity. However, prices are likely to remain high for the time being following the energy transition and the imposition of an energy levy," Seitz CEO Alexander Seitz

Multimatic CEO Dirk Freitag sees the switch to alternative energies as an opportunity for the industry: “They are already by far the cheapest form of energy generation. We firmly believe that, within 10 to 15 years, Germany will be able to generate, store and transport sufficient electricity autonomously for stationary energy consumers, i.e., households and industry, over long distances. Accordingly, we are already prepared for the switch from gas to electricity for all our products.”

Despite all the speculation about future market developments, Thomas Zeck, Sales Manager at Chemische Fabrik Kreussler, summarises the discussion as follows: “Energy costs will remain high, so the energy consumption of laundry and cleaning processes must continue to fall.”

The machine and equipment manufacturing industry is working hard on this and is preparing to show at Texcare 2024 how technological developments will ensure that the textile-care industry remains competitive in the future. Further information about the leading international trade fair for textile care can be found at www.texcare.com.

In addition to Texcare International, Messe Frankfurt organises trade fairs and conferences for textile care in all the world's key economic regions. Detailed information at: www.texcare.com/brand.

Texcare International
World Market for Modern Textile Care

Texcare International will take place from 6 to 9 November 2024.

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