



Case study

A more competitive edge for the industrial laundry centre



Customer

Kruppert Wäsche-
Dienst KG



Location

Hünfeld-Michels-
rombach (DE)



Sector

Industrial laundry
service



Dust reduction

Up to 78 %

At a glance

“The innovative air cleaning devices will make us even more competitive in our laundry centre. It is also easier for us to meet our high standards of cleanliness and hygiene.” After all, cleanliness is our business.”

Frank Kruppert, Managing Director

Challenges

Kruppert Wäsche-Dienst KG operates a laundry rental service for hotels and restaurants. The company also has an industrial laundry centre, which processes roughly 30 tonnes of laundry every day. That posed a challenge for air cleaning. Cotton particles detach in the flatwork ironers and during the drying process, building up on machines and around the room. You could also practically taste the cotton particles in the air, which had a negative impact on both employees and the many visitors to the facility. To meet the high hygiene standards, the flatwork ironers had to be cleaned 2 hours before the start of the official production process.

About Kruppert Wäsche-Dienst KG

Kruppert Wäsche-Dienst KG has been operating a laundry rental service for hotels and restaurants in Hünfeld-Michelsrombach in Hesse, Germany for more than 40 years. Since 2011, the company has also operated an industrial laundry facility with over 70 employees, professionally processing large quantities of hotel and restaurant linens.

Benefits

The air cleaning devices from Zehnder Clean Air Solutions significantly reduced particle concentration. The amount of cleaning required could be reduced by 60%, a considerable saving in terms of time and costs. The health and well-being of the workforce also benefited from the solution, increasing employee satisfaction. The new level of cleanliness ensured an impeccable appearance, a crucial bonus point for the image of the industrial laundry centre. This is because Kruppert acts as a model company for manufacturers of flatwork ironers and often serves as the venue for tours.



High hygienic standards for a successful hygiene company

The company owes its success and brand recognition to its high standards of hygiene and quality. Mike Hoppe, Head of Production at Kruppert, sums up the company motto: “Cleanliness is our business.”

Costly cleaning processes due to high dust levels

The Kruppert Wäsche-Dienst industrial laundry centre processes approximately 30 tonnes of laundry made of pure cotton every day in a floor space spanning over 4500 m². As pleasant as the material may be for guests, it poses quite a challenge for the ambient air: **Cotton particles detach in the flatwork ironers and build up on machines and around the room.**

This fine dust also accumulates on the sensors, which measure the laundry in the flatwork ironers, which in turn are used to fold the laundry accurately. “Dusty” sensors can lead to a decline in quality. **You could also practically “taste” the cotton particles in the air**, which had a negative impact on both employees and the many visitors to the facility organised by the manufacturer of the machines we use.

Frank Kruppert, Managing Director of the industrial laundry centre, explains: “Our machine manufacturer arranges guest visits to our facilities at least once a week. That means that we are supposed to act as a model company.” Mike Hoppe, Project Manager at Kruppert, went on to add: **“The fact that we are a hygiene company should be plain for all to see.”**

It was necessary to thoroughly remove the cotton particles on a regular basis in order to meet the high standards set by Kruppert. This procedure took place before the “official” production processes began. During the two hours that it took to power up the facilities, the staff had time to clean fine dust from two of the five flatwork ironers. The remaining machines were cleaned over the following few days.

Targeted research led to Zehnder Clean Air Solutions

Kruppert and its team were looking for a solution to reduce the dust concentration in the air. They came across Zehnder, a specialist in industrial air cleaning systems, when conducting extensive internet research. The system functionality and features sounded promising for the project managers: efficient fine dust reduction, innovative filter technology, devices with varying power levels for different requirements, quiet operation and much more. But they wanted to gather more facts and first-hand experience. Frank Kruppert and Mike Hoppe decided to invite a Zehnder expert to their company. He answered all their questions concerning Zehnder Clean Air Solutions, provided detailed information about the scope of performance for the devices and explained the full-service concept that offers complete support to the customer.

Hoppe: “The functionality and overall package immediately appealed to us and we were able to reach an agreement quickly. The service contract concept also had us convinced. Since we did not have to enter into any long-term contract, we had plenty of time to thoroughly test all aspects of the system.” The project could begin.

All-round air cleaning service from Zehnder “swallows up” fine dust

The first step in selecting a suitable system was to gather key information. The engineers from Zehnder Clean Air Solutions recorded the dust levels for





a week using state-of-the-art measuring technology installed at four locations around the factory facilities. The result: The dust build-up amounted to an average of $52.25 \mu\text{g} / \text{m}^3$. Based on these parameters and the work processes at Kruppert, Zehnder configured a customised, needs-based solution.

The system was ready to be installed shortly thereafter. The Zehnder service staff installed the first technological components very near to the dust source, and were able to filter dust particles out of the air before they had a chance to settle. The remaining system components were installed after working hours. That allowed the work flow to continue uninterrupted.

The devices were pre-programmed based on customer data and the measured values, taking operating procedures into account. That means, for example, that the clean air system activities can be restricted during laundry facility downtimes, helping to reduce energy consumption.

The result: Cost and time savings and 60% lower cleaning expenditures

Hoppe: "Although we had certain expectations, at first we were not able to envision Zehnder clean air systems actually working. But the numbers spoke for themselves. "The dust level was recorded again three months after the systems were installed. At that point the average value was at $13 \mu\text{g} / \text{m}^3$, as compared to the previously measured value of $52.25 \mu\text{g} / \text{m}^3$. That corresponds to an average reduction of 74.5% (with peaks of up to 78%).



This reduction of the dust accumulation is noticeable in several areas throughout Kruppert, including in our work processes. Employees can now clean all five flatwork ironers before production starts, instead of just two. **This represents a reduction of 60% in cleaning costs as well as significant savings in time and costs.** And it also benefits the health and well-being of their staff. Hoppe explains: "One of our employees has an allergy to household dust, and he has been able to reduce his medication intake. Employees that wear glasses have reported that they have to clean them less frequently."

Another plus point is Zehnder's full-service package: Zehnder technicians take care of everything: installation, maintenance and filter replacement. The customer does not have to worry about a thing.

Managing Director Kruppert concluded: "We plan to continue working together with Zehnder Clean Air Solutions because of our great experience and collaboration with them. **Their innovative air cleaning systems make us even more competitive.** It is also easier for us to meet our high standards of cleanliness and hygiene."