

Perfect hygiene is a must

Absolute cleanliness is an important quality feature in the meat-producing industry. Die Fleischerei presents products and solutions that offer the market offers for helping butchers ensure perfect hygiene.

► **Bacteria, germs and viruses** are always lurking in the background. Rinse-water, for example, contains a high concentration of bacteria. But even installations such as floor drainage and gutters present a high contamination risk. When cleaning and removing odor traps, millions of bacteria can enter your production rooms, for example, via unprotected access to sewage pipes.

The Food Hygiene Ordinance and HACCP concept require companies to set up internal company control systems that guarantee the cleanliness of buildings and premises, rooms, equipment and machines as well as warehouses and transportation equipment in order to ensure food safety. Cleaning and disinfection of production equipment and working tools as well as sales rooms is thus an absolute must. Special hygiene equipment and professional cleaning and disinfection agents help in the necessary daily hygiene routines.

Please don't touch

Even after the end of the major EHEC epidemic, EHEC cases still crop up. These are frequently caused by indirect cross-contamination from dirty hands, i.e. disease-producing microorganisms on the hands get into foods. The only way to counter this is with adequate hygiene. One suitable aid is contactless dispenser systems

for soap, disinfectant and towels. According to the Food Hygiene Regulations (LMHV), every company that manufactures, processes or sells food is responsible to determine all steps in the process workflow that are critical for food safety, to monitor and document these consistently as well as to define the appropriate safety measures. In the food industry and restaurant business, in addition to the requirements for sales and preparation rooms, personal hygiene is of the utmost importance when it comes to complying with LMHV rules.

One component of personal hygiene is hygiene at the workplace. This includes, for example, clothes, devices and rooms. It goes without saying that the cleanliness of these is the first commandment. The second element of personal hygiene is individual hygiene. In addition to general body hygiene, this especially involves the cleanliness of the hands. Because food-spoiling or disease-inducing germs are transferred by immediate contact with the hands, hand hygiene plays a significant role. The LMHV requires that the hands must always be kept clean. This means that the hands and lower arms must be washed several times a day with liquid soap and warm water, especially before beginning to work, after breaks and after every use of the toilet. Disinfectant must be used as well. Suitable dispensers must be used for soap and disinfectant.

The only question is which dispenser systems are adequate. Conventional systems that require the press of a finger to obtain soap from the dispenser fulfill the minimum hygiene rules for hand hygiene but do not entirely exclude the possibility of cross-contamination because touch is still involved. Soap and towel dispensers with sensor technology clearly hold hygienic and economic advantages.

Dispensers equipped with special sensor technology that allow them to be used with absolutely no touch at all are not only hygienically better. Waldemar Lechelt, Managing Director of Egepack (Burgwedel, Germany) says, "As a large national wholesaling cooperative that includes 13 major wholesalers, we have supplied hygiene and packaging articles to the food industry and restaurants for many years. Especially since the EHEC epidemic last year, we have seen a great rise in our customers' awareness when it comes to hygiene. Many of them have converted to contactless dispenser systems because the advantages are obvious. Contactless dispensers – e.g. the brand Lotus enMotion – enable the user to hold his or her hand in front of the electronic sensor on the soap dispenser to receive a dose of foam soap or disinfectant. The situation with paper towels is similar. Because such dispensers do not need to be touched, cross-contamination is nearly out of



Towel dispensers with sensor technology ideally fulfill LMHV requirements.

the question, which results in the greatest degree of hygiene. Such dispenser systems thus ideally fulfill LMHV requirements. In addition to cleanliness, sensor technology also offers a further advantage: the sensitivity of sensors, the length of the towel dispensed and the time needed to roll out the towel can be manually adjusted to ensure sparing use. In this manner, these dispensers simultaneously help save money.”

Fighting dirt with foam



Birchmeier

The portable Foam-Matic 5P foaming device creates a very dry, long-lasting foam without additional compressed air. It can be used in many situations and simplifies the cleaning of butcher shop equipment.

Birchmeier (Stetten, Switzerland) is now presenting its new foaming device, the Foam-Matic 5P, which creates a very dry, long-lasting foam without additional compressed air that simplifies cleaning tools in kitchens and butcher shops (available in Germany via www.dolly-reinigungsbedarf.de).

Cleaning professionals know that time, chemicals and mechanical cleaning effort can be reduced by cleaning foams that have a long adhesion and exposure time. This is especially important for vertical and smooth surfaces. The new Foam-Matic 5P, which can be used in many areas, creates this type of foam quality via a newly developed foam system. A large air cushion and 4 bar pressure guarantee long foaming. Circa 40 square meters can be cleaned with one liter. Its resistance to most cleaning chemicals (Viton seals) ensures that a wide variety of foaming agents can be used. The short tube is ideal for use in tight situations. The optional 50 cm extension increases the device's range.

The unbreakable 7.5-l container (5 l contents and 2.5 l air cushion) is semi-transparent so that the actual level is always visible. The integrated air valve en-

ables convenient pressure generation with the existing compressed air. Otherwise, the efficient hand pump generates the necessary operating pressure with a two-handed grip. The 1.5 m long pressure hose allows a long distance when foaming.

High-pressure hygiene

The Food Service business area of the Niederberger Group (Cologne, Germany) specializes in professional cleaning and disinfection in food industry companies. Niederberger employs only specially trained teams as well as experienced specialists from the food industry, all of whom have the necessary technical know-how to master complex work processes with sophisticated technical devices. After all, knowledge about the many legal requirements creates legal certainty for companies and satisfies the highest hygiene demands in the food production sector.

In addition to cleaning and disinfection, the service portfolio of Niederberger Food Service includes targeted elimination of microorganisms, creation of hygiene plans, maintainable machine cleaning and up-keep, provision of suitable hygiene materials as well as measures for optimizing water and energy consumption. The company ensures that all required regulations of the HACCP, the LMVH and the infection protection law are always strictly complied with.

When cleaning slaughterhouses, for example, the company normally relies on a combination of dry ice jet cleaning, foam cleaning and high-pressure cleaning, although the latter procedure is primarily used for pre-cleaning. In addition, numerous other cleaning methods can be used as needed.



Niederberger Group

When cleaning slaughterhouses, a combination of dry ice jet cleaning, foam cleaning and high-pressure cleaning is normally used.

Stationary high-pressure cleaner

Kärcher (Winnenden, Germany) has three new stationary cold-water high-pressure cleaners for one-lance operation, which are available in over 100 variants. The HD 7/16 ST, HD 9/18 ST and HD 13/12 ST models work with maximal 180 bar operating pressure and a flow rate of up to 1,300 l/h. Their numerous configuration options enable precise accommodation of a company's needs. Each basic model is available with a frame of powder-coated steel – or stainless steel for particularly high hygienic demands. When a lot of greasy dirt must be removed, it is recommended to equip the device for operation with a water feed temperature of up to 85 °C (ST-H). Further options are automatic decompression, protection against dry-running, a water softening system, an operating hours counter and an option that enables cleaning agents to be ejected under high pressure. The optional remote control for chemical use is practical; it allows the addition of various cleaning agents to be controlled from the high-pressure tapping points. Thanks to a “plug & play” system, all attachments can be retrofitted.

Due to its modest dimensions of only 42 cm, the compact main unit can also be mounted on the wall if cramped conditions require it. High-pressure cleaning is rapidly available at the outlets, which are placed where desired. The operating elements are clearly laid out on the front of the device. Signal lamps show operating status, leaks, water shortage or the filling level of the cleaning agent. The connections for water and cleaning agent infeed, high-pressure outlet and the



The stationary cold-water high-pressure cleaners are suitable for constant daily use in plant cleaning. Their numerous configuration options enable precise accommodation of a company's needs.

power cable are located below. A large reservoir ensures not only continual provision of water, but effectively separates the aggregate from the domestic water supply.

Cleaner lift truck wheels



The wheel cleaning machine for lift trucks cleans or disinfects rollers and wheels.

Most recently, hygiene has also become increasingly important in the internal company logistics of conveying packaged or unpackaged foods. After all, when transport, lift and shelf trolleys or forklifts are used, their wheels or rollers can especially be hygienic weak links because as a rule, they are not – or only inadequately – cleaned after moving from unclean to clean areas. They thus present high contamination risks. To effectively counteract this problem, Kohlhoff Hygiene-technik GmbH (Unna, Germany) has developed a wheel cleaning machine that can be used in all places where it is important to clean or disinfect the rollers or wheels of such lift trucks or trolleys: in the food industry, canteens, food service institutions, catering or similar situations.

Foreseen for installation in the floor, the system has four horizontally rotating brushes below a massive stainless steel grate. The brushes have a length of either 700 mm or 1,100 mm. To prevent wheels from getting stuck or wedged in when they roll over the brushes, the stainless steel grate is set diagonally, i.e. at a 45 degree angle to the direction of movement. Sensors at the entry and exit points automatically activate the brush rotation. The brushes are sprayed with a mixture of water and cleaning agent and then thoroughly clean the wheels and rollers.

Two side railings ensure a secure position as well as forced guidance. This means that the system can simultaneously be used to clean the shoe soles of personnel. Combined with various entry control devices and door-opening systems, this system can be used to fulfill various technical hygiene requirements. Because it develops and produces its products itself, Kohlhoff also offers special customer-specific systems.

Hoppe butcher shop in Hänigsen

UV-C disinfection purifies the air

The Hoppe butcher shop in Hänigsen (near Hannover, Germany) has produced traditional meats and sausages using traditional methods and procedures since 1955. The company's 35 employees manufacture up to eight tons of wares every week in a production area of 1,000 square meters and supply these to numerous retailers and companies responsible for catering establishments. Owners Albert and Silvia Hoppe place great value in processing only fresh goods of the highest quality. All animals come from the direct vicinity of the production facility. In addition, the highest quality and hygiene standards are fulfilled during manufacture as well. The company's most recently completed production building uses UV-C air disinfection technology from Bairo (Leichlingen, Germany).

Because the existing building was too small, the Hoppes decided in 2011 to add a new hall with two production rooms. During the planning phases, they held intensive discussions about the issue of air hygiene. Albert Hoppe: "Through our good contacts to the Veterinary College in Hannover, we heard about an EU development program that the college had initiated with the Institute for Animal Hygiene,

Protection and Livestock Ethology. The goal of the program is supporting processing of animals from the immediate vicinity and promoting the high quality of regional products. We decided to take advantage of the subsidies, whereupon representatives of the foundation recommended that we install an air hygiene solution in the new production rooms."

The Bairo air hygiene experts thus completed two UV-C disinfection modules that were designed precisely to the specifications of the evaporator cooler requested by the planner. An AirStream V with a volumetric flow rate of 1,770 m³/h as well as an AirStream V with a performance of 2,070 m³/h are in use. The systems are equipped with Bairo UV-C compact lights that reliably kill up to 99 percent of all microorganisms. The germ reduction occurs through UV-C radiation with a wavelength of 253.7 nm, which is lethal to microorganisms like bacteria, molds, yeasts and viruses. A special interior coating of the quartz glass ensures that no harmful ozone or active oxygen is produced. A further feature of the UV-C lamp is its cladding with a protective Teflon film. This ensures that no glass splinters could ever enter the air current below the radiator in the event of breakage. In addition, it creates a heat cushion that is allowed by the special Bairo installation. Bairo project planner Hartmut

Engler explains the disinfection concept: "In contrast to the conventional installation directly in the evaporator cooler, we were able to position the UV-C lamps after the evaporator cooler, i.e. after the air had passed these and become contaminated. This means that the air was cleaned directly before it enters the room, making it nearly microorganism-free."

After installation of the equipment, measurements made by the Veterinary College of Hannover at the evaporator cooler and in the air underscore the effectiveness of the described installation. The number of germs in the air is lastingly reduced and the quality of production and products is ensured at the highest level. Butcher Hoppe is very satisfied: "Air disinfection is effective and easy to implement. Of course, the investment did cost something, but it pays for itself quickly by ensuring high hygiene and product quality. Last but not least, the UV-C disinfection needs absolutely no chemical agents."



The AirStream V disinfection module is installed on the ceiling of the production room directly after the evaporator cooler. It reduces the microorganisms at the evaporator cooler and in the ambient air by up to 99 percent.



Kitzinger

Simple removal and disassembly of the drum filter in a container washer.

Efficient container cleaning

Kitzinger Maschinenbau (Flensburg-Handewitt, Germany) has constructed cleaning equipment for containers for many years and can draw on its experiences with circa 800 installations of the most varied sizes. Economical operation is the focus of the company's developments. This means ensuring first-class, validated washing and drying results due to correctly configured soaking, washing and blowing-off zones, according to the manufacturer. The machines' double walled construction, multi-tank technology and use of wastewater warmth at the cold water inflow reduce the consumption of various media. The machines are also easy to operate and clean, according to the manufacturer. The jet arms can be replaced without tools and the tanks are almost all on the outside, making them easy to clean as well. The mature, proven construction as well as the innovative high-efficiency electric motors guarantee reliable operation. The completely welded machine housing and use of high-quality components reduce downtime and guarantee a long service life. Furthermore, the manufacturer also pays close attention to work safety aspects. These include noise reduction, protection against thermal and mechanically problematic areas and protection against aerosols (either chemical or biological). The purchase price of a machine plays only a subordinate role. Costs that arise from too high energy, cleaning/rinsing agent and water consumption – as are found with inefficient machines – amount to many times over the purchase price of one of these machines. This, according to the company, is often not taken into account when considering the purchase of a new container washer.

Simple cleaning control

DIN 10516 regulates the verification of cleaning and disinfection effectiveness. This standard, together with the legal specification EG ordinance 852/2004, gives companies – who are wholly responsible for cleaning and disinfection – the instructions they need. Clean Card PRO, made by amfora health care GmbH (Freystadt, Germany) combines a hygiene test of the newest generation with the company's know-how in chemistry, materials science and printing technology in order to verify cleaning results within seconds. This test detects proteins on surfaces in amounts as low as circa 50 micrograms, making dirt visible that can otherwise not be seen. The test surface is dampened with water and the test card subsequently wiped over it. After 30 seconds, if the test surface remains an unchanged yellow and shows no color change in comparison to the card, the surface is clean. The comparison with the previously most well known method, ATP bioluminescence, was carried out by



amfora health care

The Clean Card PRO test verifies correct cleaning in seconds.

TransMIT – the project area for food quality and safety at the Institute for Veterinary Food Science at the University of Giessen – by Prof. Dr. M. Bülte. According to his expert opinion, the Clean Card PRO test proved very suitable for verifying correct cleaning. This test gives food companies greater certainty and helps optimize the quality of cleaning measures. In the framework of companies' responsibility to carry out independent controls, it is suitable for spot checks and ideal for incorporating into the HACCP concept.

Systematic protection against mold

Nothing ever remains the same. This is not only true for the high demands on hygiene and air purity in the food processing industry but also for the specially developed RF fungicidal paints, which are constantly being improved and adapted to meet new requirements as well as current regulations and laws. Thus, RF-Farben, with over 30 years experience in the research and development of agents for eliminating and preventing mold, contributes to guaranteeing the required safety of production processes and employee protection in the food industry. Normal paints developed primarily for the domestic area – even if the bucket of paint says “fungicidal paint” – usually cannot compete with professional products, and due to high exposure to molds, they usually fail within several months, according to the company. In contrast, all RF fungicidal paints contain highly durable raw materials. They are easy to use, brilliant white, high-yield and ensure good coverage. After only three different coats of paint, any situation on the walls and ceiling of a butcher shop will be covered (in white):

- RF-10 for refrigeration and work-rooms: contains no solvents, is water-based, simple to use, tested by the Fraunhofer Institute and has received outstanding ratings, brilliant white.
- RF-20 has similar properties as RF-10 but also iso-



Reifele-Farben

RF fungicidal paints contain highly durable raw materials, are easy to use, brilliant white, high-yield and ensure good coverage.

lates light to middle brown areas (e.g. in smoke deposits), brilliant white.

■ RF-100 is used for very brown or sooty areas, contains solvents; precautionary measures must be taken during use.

■ RF fungicidal paints are available from many butcher materials dealers or coops or can be obtained at short notice.

Compact design, high performance

The new battery-driven Scrubtec 337 walk-behind scrubber/dryer made by Bellenberg cleaning specialist Nilfisk-Alto combines a slim design with high-performance cleaning power. With a brush speed of 140 revolutions per minute, pressure of maximal 18 kg and width of 37 cm, the machine frees nearly any hard floor of light to medium soiling. A powerful suction motor (200 Watt) and the patented suction performance with a width of 47 cm guarantee perfect water suction both in forwards and backwards motion. The compact dimensions of 73 cm length × 43.5 cm width × 55 cm height ensure excellent maneuverability and enable efficient cleaning of hard-to-reach areas or corners. Equipped with a 12 V battery, the cleaner guarantees continuous operation for at least 60 minutes and achieves a theoretical surface coverage of 1,480 square meters per hour. Thanks to a noise level of only 64 decibels, the Scrubtec 337 can also be used for daily cleaning in noise-sensitive areas.

The new walk-behind scrubber/dryer is also very user-friendly, according to the manufacturer. With a weight of only 72 kg as well as a fold-away steering bar, the slim device can be conveniently transported and stored. It is also very ergonomic: the user can adjust the handle height to his/her body size. The removable fresh- and wastewater tanks of ten and eleven liters ensure usage times of over 40 minutes. They can be easily filled and emptied due to the large handle. The transparent cover of the wastewater tank also allows the user to easily monitor the actual water level. Both the brush as well as the oil-resistant polyurethane suction bar can be removed or exchanged without tools.

Disinfection with cold aerosols

A fast, safe and long-lasting preventive cold aerosol procedure – like that offered by Vallovapor GmbH (Berlin, Germany) – effectively sterilizes both the air and surfaces in production areas, even in places where mechanical cleaning does not suffice, or only inadequately (cable carriers, cracks, bottoms of machines). During the aerosol process, a special device sprays the finest aerosol in the air – so fine, that no dampness or humidity develops, but only a fine fog with the sterilization agent. This fog covers all surfaces, including ceilings, walls, devices, ventilation pipes and chan-



The new Scrubtec 337 walk-behind scrubber/dryer is suitable for any hard floor.

Ucrete surface protection: for resistant flooring

Hygienic through and through

The highest quality, hygiene and safety in the meat industry requires dense, resistant industrial floors that offer lasting protection against thermal, chemical and mechanical stress and give germs no opportunity to get a foothold.

For over 40 years, the strong, lasting Ucrete surface protection system made by BASF Construction Chemicals Europe has reliably fulfilled these requirements, thus creating the right foundation for hygienic workflows and first-class products.

A combination of cement and polyurethane resin ensures a seamless and waterproof surface that convinces for many reasons, according to the manufacturer: germs and bacteria cannot hide on Ucrete surfaces. At the same time, the floor dries completely in a very short time so that no damp niches develop in which pathogens and other undesirable microorganisms could grow. These features, in combination with the extreme durability against chemicals and hot steam, make Ucrete just as easy to clean as stainless steel.

Tests by independent institutes prove the reduced germ development. The Biotecon Diagnostics test institute in Potsdam, Germany, for example, investigated the disinfection characteristics and contamination situation of Ucrete and found a significant reduction of the number of germs. Ucrete floors also have a long service life of at

least 20 years and offer an outstanding basis for a germ-free working environment, especially in the meat industry, according to the manufacturer.

www.performanceflooring.basf.com



The seamless, water-impermeable Ucrete systems resist intensive cleaning methods with high-pressure, hot steam and aggressive chemicals – they can be cleaned like stainless steel.



A fast, long-lasting preventive cold aerosol procedure provides effective sterilization of air as well as surfaces in production companies.

nels, air conditioners or heat exchangers. According to Managing Director Martin Urbanek, this method covers 100 percent of everything in the room because the fog does not immediately sink but remains in the room.

Treating a room takes between fifteen minutes and half an hour. Subsequently, the aerosol remains in the room for one to two hours. After this, the area can be normally used. With the ValloFog disinfectant (a polymer electrolyte), a very thin, invisible film remains on all surfaces. This effect is desired be-

cause the film creates a germ-free surface. Mold spores, bacteria, viruses and other microorganisms that come into contact with the film die. This ensures long-lasting results. Only surfaces that come into direct contact with foods must be rinsed with warm water after treatment. The film remains on all other surfaces such as pipes, air conditioners or device surfaces. If desired, weak points in a meat company's hygiene or lasting solutions can also be provided based on testing, documentation and lab evaluations.

Stainless steel dispenser system

Dispenser systems for one-way clothing such as head coverings, gloves, shoe coverings and one-way coats are often a random assortment of stainless steel housings, plastic containers and paper cartons of different sizes and styles, which are problematic both from a safety as well as a hygiene point of view.

The Friedrich Sailer GmbH company (Neu-Ulm, Germany) has now developed a dispenser system for many



In addition to their hygienic construction, the high-quality stainless steel dispensers have a uniform appearance and offer secure storage for various one-way articles.

one-way items that is both attractive and fulfills high hygiene demands.

In addition to their hygienic construction, the high-quality and robustly designed dispensers offer a secure storage system for the various one-way articles. Thanks to their uniform appearance, they can also make the entrance look much better to visitors.

Dispensers are available for many types of one-way articles: one-way coats (bulk, small packages), one-way coats (flat individual packages up to 330 × 350 mm), ear protection (bulk), shoe protectors (bulk), gloves (sorted in compartments according to size, bulk), head coverings (bulk) and beard coverings (bulk).

All dispensers are made of 1.4301 stainless steel and have an internal mechanism that prevents the removal of too many items at once.

Safe meat transport



Dolav pallet boxes made of high-quality HDPE polyethylene are suitable for packaging, transport and cool-storage of meat.

HDPE pallet boxes made by Dolav (Nützen, Germany) are a hygienically superior transport solution for all phases of meat logistics, according to the company. With a low Melt Flow Index (MFI), HDPE von Dolav guarantees high impact resistance and stability in low temperatures of down to -40 °C. In addition, it is resistant to UV rays, acids and alkaline agents.

The boxes are available in seven standard colors, although two-colored variants as well as individual colors are also possible.

In addition, hot-process embossing or embossing printing as well as the use of RFID transponders for locating and storing individual customer data are available.

Dolav boxes are easy to clean and certified for food transport both according to European and American standards as well as for the transport of hazardous goods. Thanks to their special material properties, a box's service life can extend to 20 years. The manufacturer provides ten years' guarantee on all products. Small damages can be repaired by the company's on-site repair service. The box material can be easily recycled as well.

Conny Salzgeber