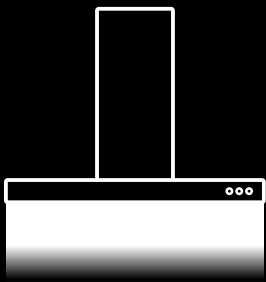
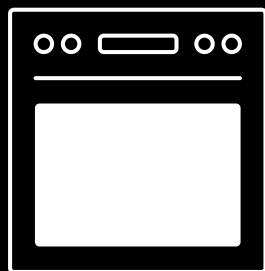


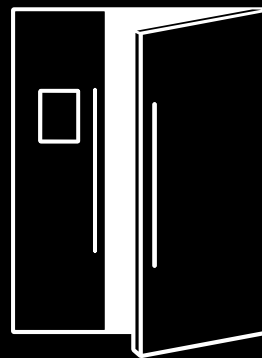
Light and Automation for Appliances



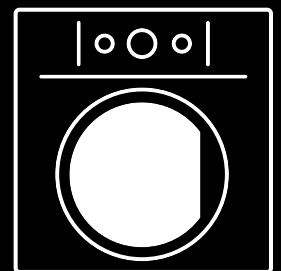
AIR



HOT



COLD



WET





New light for new possibilities

A step ahead with innovative functions.
BJB lighting concepts for domestic appliances.

WITH THE DEVELOPMENT OF THE LED, lighting technology has changed fundamentally. Variable parameters for CRI, colour temperature and luminous flux, as well as the miniaturisation of components, are opening up completely new possibilities for lighting design in domestic appliances. And because traditional "white goods" are now developing into an integral feature of interior design, large domestic and kitchen appliances are becoming showpieces which impress through their numerous technical functions as well as their innovative lighting concepts.

LIGHTING DESIGN MAKES THE DIFFERENCE

This development is also a driving force for BJB engineers in the search for groundbreaking innovations. Our aim is to exploit the potential of the new technology to the full while at the same time meeting the specific demands of various types of domestic appliance. In addition to functional features, such as directional light control, thermal management and energy efficiency, design is playing an increasingly important role.

QUALITY COUNTS

Extractor hoods, ovens, microwaves, refrigerators, washing machines, driers or dishwashers place very different demands on lighting functions. Under the BJB///OEM-Line brand name, we are therefore developing specific solutions for each of the product categories AIR, HOT, COLD and WET, geared to particular types of appliance and oriented to the wishes and expectations of domestic appliance manufacturers all over the world.

EFFICIENCY AND INNOVATION

New light brings new possibilities. In our solutions, extremely compact light sources with high energy efficiency are combined with delicate optical elements for specific light control. This results in greatly improved versions of familiar designs. But there are also completely new approaches which could not have been achieved with conventional means. Some examples are presented in this brochure.

GOOD LIGHT MAKES DOMESTIC APPLIANCES BETTER

In large domestic and kitchen appliances, good light represents a new dimension in the perception of quality. For designers, developers and manufacturers it is therefore becoming a new distinguishing feature and "visible" evidence of innovative thinking.

BJB makes quality visible! With this approach and our decades of experience with lighting technology and domestic appliance lighting, we cover all stages of product development with our own resources - from the idea through to series production. This is described in more detail on the following pages.

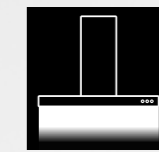


New light for extractor hoods

Is there still room to raise the bar further in the market for extractor hoods? We think there is. Because "visible" progress isn't just reflected in the shape of a product or the materials used. It can also be seen in the details, in areas such as lighting.

Which is why we developed our 77.101 and 77.102 LED lamps. Available as rectangular or circular recessed solutions, these products feature high-quality LEDs and asymmetrical light control, ensuring that the hob is evenly illuminated while at the same time consuming very low levels of energy. Customers can also choose from a tailored selection of LEDs, colour temperatures and power ratings. The visible parts are carefully finished to the highest standards to underscore the premium style of this series of lamps.

Lamps in the BJB///OEM-Line AIR are suitable for all types of extractor hoods. Whether you're looking for new innovations or an LED product to replace existing solutions with conventional light sources, we develop and deliver the right products!



BJB///OEM-Line AIR

LED

Lighting solutions for cooker hoods

Particular features of the BJB///OEM-Line AIR are:

Flexibility: Compatible with all current cooker hood versions

Optimum illumination: Light is focused directly onto the hob

Energy efficiency: Low system costs, higher energy efficiency class

Simplicity: Less installation and wiring work. Coding ensures correct installation

Robust: Long service life, shock-resistant, minimal maintenance requirement



Why technology and design belong together

“The experience of light enhances domestic appliances” – says product designer Stefan Ambrozus. An interview.

The career of product designer Stefan Ambrozus began in Essen, where he studied industrial design at Folkwang University and subsequently established his first design studio in 1991. He moved to Cologne in 2000. Domiciled at the new Creative Quarter Ehrenfeld, he now develops together with five colleagues design solutions for consumer goods and industrial products. His working

methods focus entirely on his claim to develop a comprehensive understanding for every product, including all stages from its production and distribution to its use and ultimate disposal. This strategy has proved extremely successful. Numerous awards from well-known institutes and organisations such as Red Dot and IF Design are convincing evidence.

GOOD DESIGN INCREASES ACCEPTANCE

Industrial design is more than just surface polishing or decoration. The creative process centres on support of functionality, improvement of usability, sales promotion and implementation of all relevant norms and standards. The design must encompass all of these different aspects and combine them in a harmonious whole. Where this is achieved, the product's acceptance among users increases significantly. In addition to the basic technical functions an appliance has to offer, it receives psychological added value which may be expressed in various dimensions: prestige, pleasure in usability or technical innovation. Therefore the market is certainly willing to grant a special, “design” bonus, not available for carelessly designed mass products.

What perspectives does a product designer include in his work? Stefan Ambrozus explains: “Developers, designers, distributors, manufacturers and consumers all consider products from their respective point of view and – consciously or unconsciously – make their demands on design accordingly. A designer's task is to sense these expectations, detect them by asking questions, filter them and combine them.” In this way, nothing is left to chance from selecting material to styling. A harmonious end result requires a design concept with every detail taken into account. Harmony actually seems to be one of the most important values in the creative process at Ambrozus' studio. Both as a principle of order and as the reflection of the result. As in music, any dissonances in terms of material combinations, proportions, insufficient technical attributes or faulty interaction very quickly manifest themselves as unpleasant emotions.



Stefan Ambrozus



LIGHT AS A NEW DIMENSION OF QUALITY

Good design invariably also requires technical knowledge and understanding. In virtually all areas of product design, a designer works together with an engineer. “For example, technical innovations such as LED light are replacing conventional solutions and opening up entirely new cooker hoods and other large kitchen appliances”, Ambrozus explains. “In this way, a product suddenly takes on a new dimension in quality, which did not exist before.” This is described in rational terms by the argument of energy efficiency, in emotional terms as “new lighting experiences”.

PARTNERS AND PROJECTS

Household appliances and luminaires rank among the most important areas of work besides living rooms, kitchens, tableware and public design. Stefan Ambrozus and his team work for well-known manufacturers of luminaires and household appliances such as Zumtobel, Berbel or Miele. A recent highlight: two of their cooker hoods designed for Berbel won the Red Dot Award at the beginning of 2015.

But Ambrozus is also in demand in other areas. For instance, he has also worked for brands such as Villeroy & Boch, Butlers, the system components manufacturer Vauth-Sagel and the street furniture producer Runge. Accordingly, the portfolio of individual projects realised by Ambrozus is extremely diversified. It includes many different items, such as an indestructible vacuum cleaner nozzle or a bombproof waste bin for railway stations and airports.

For BJB, he designed the ADS ONE wiring robot. The smallest robot of the ADS series has been given a look which supports its usability and emphasizes the idea of efficiency. Ambrozus' influence can also be seen in the new BJB products for household appliances. Here, he developed concepts, provided impulses and laid down principles of design and material selection, which “have become visible as quality attributes” in many technical and visual details. Simply because technology and design belong together.

AWARDS

- 2 x Design Center Stuttgart
- 2 x Focus Lebensart “Focus Lifestyle”
- 1 x GEP Design competition
- 10 x IF Design Award
- 6 x Industrie Forum Design
- 1 x Mia Seeger Award
- 1 x Nomination for the Design Award of the Federal Republic of Germany
- 1 x Plus X Design Award
- 12 x Red Dot Design Award
- 3 x Red Dot “best of the best”
- 1 x NRW State Award





From the idea to the finished product: Made by BJB

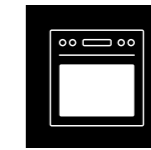
We produced our first oven lamp in 1979. Today we develop lighting technology solutions for the entire range of large domestic and kitchen appliances.

LEDs have also established themselves firmly in the field of domestic appliance lighting. They are obligatory in refrigerators and are increasingly to be found in extractor hoods. In ovens and microwaves, special requirements have to be taken into consideration due to the extreme environmental conditions which are present. The same applies to dishwashers, washing machines and driers. But here, too, they are being used more and more frequently.

The particular challenge in the case of domestic appliances is to adapt lighting solutions to extremely different requirements. These range from **heat, vibration and moisture** on the one hand to the desire for better light quality and good design on the other. To meet these demands, our research and development team is working continuously on new or improved products. We simulate selected lighting scenarios in our own light laboratory. We can react quickly and flexibly to very specific requests with the production of prototypes. We also use computer-assisted procedures to accelerate our internal processes.

Because we cooperate closely with various universities and other scientific institutions, our products and processes are not only state-of-the-art, but are often even more cutting edge. Our 30 years of practical experience as market leader and our detailed knowledge are invaluable in determining the requirements for different applications.





BJB///OEM-Line HOT

LED

Lighting solutions for ovens and microwaves

The following are key features of the BJB///OEM-Line HOT:

Flexibility: Compatible with conventional cut-outs

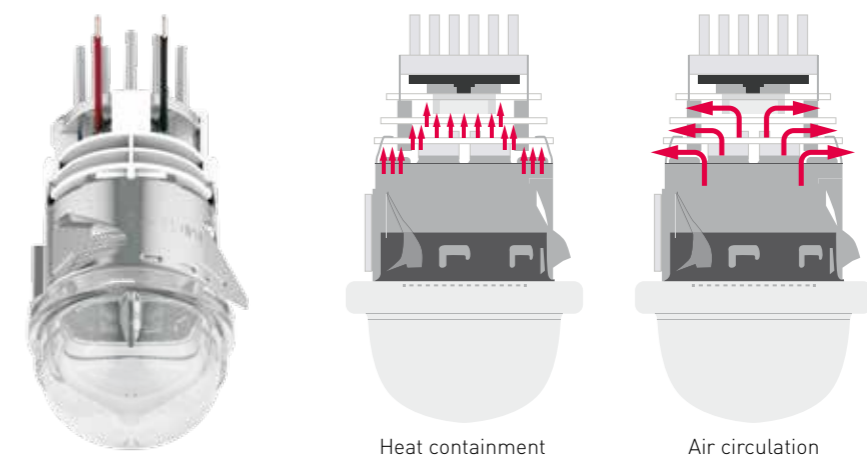
Optimum illumination: Greatly improved light quality in the oven chamber

Energy efficiency: Low system costs, higher energy efficiency class

Innovation: High-end solutions with revolutionary light distribution, AIRPASS technology (patent pending) to keep heat away from the LED

Robust: Long service life, shock-resistant design, easy to clean, minimal maintenance required

How we prevent heat from destroying the LED in the oven.



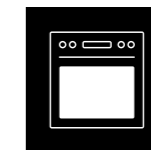
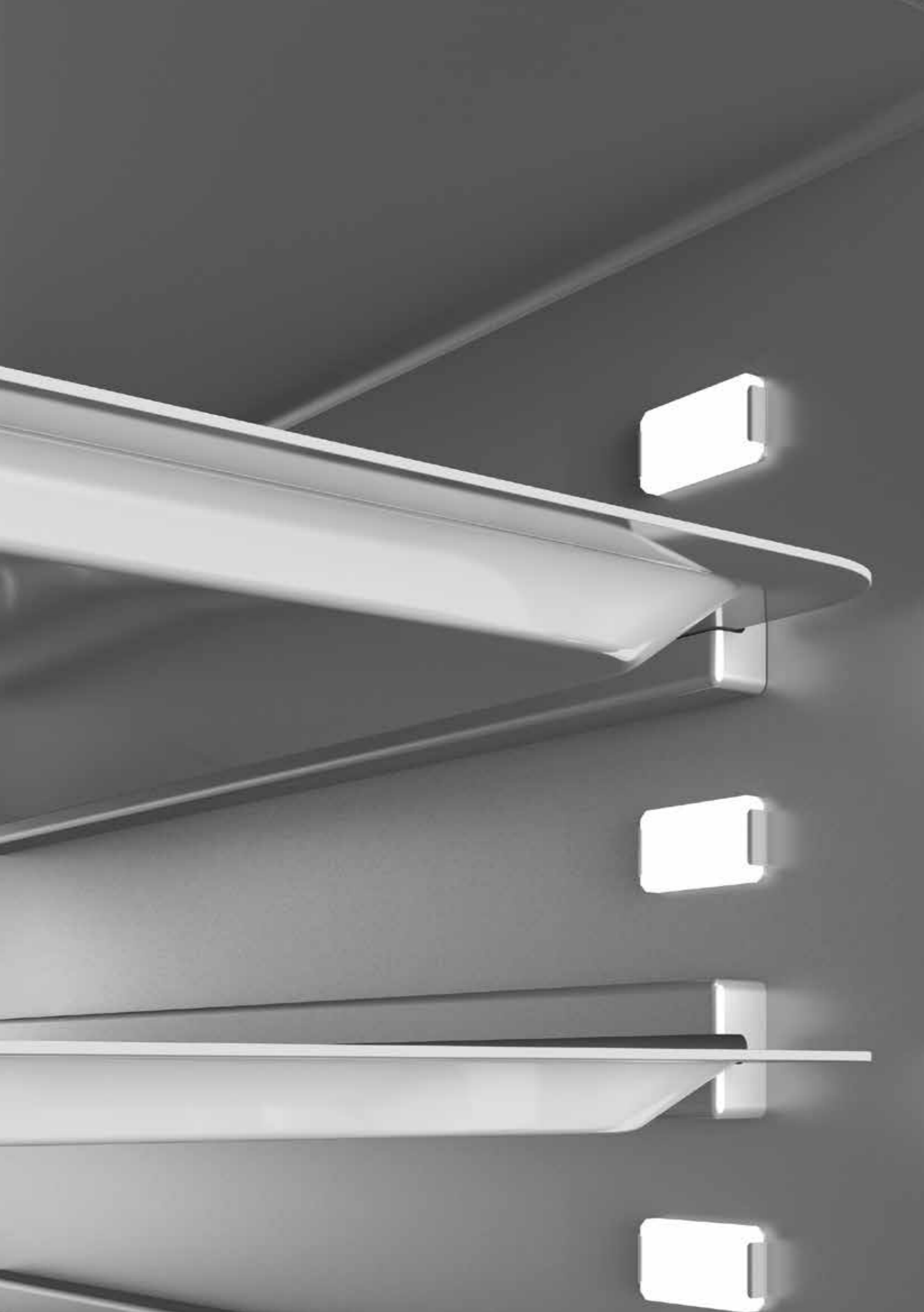
AIRPASS
by BJB

An innovation from BJB: AIRPASS technology

LEDs are heat sensitive. As a result, they can only be used in ovens under certain conditions. Which is why our 77.110 LED oven lamp features a new design for managing heat. Three AIRPASS discs made from a special high-temperature material form an efficient barrier that keeps the heat away from the LED. At the same time, specially positioned openings ensure that air can flow out at the sides. This reduces the temperature around the LED to a level at which it can operate fully.

LED solutions are becoming increasingly widespread in domestic appliance lighting. Due to the special environmental conditions associated with high temperatures, however, we continue to offer conventional halogen-based lighting solutions.

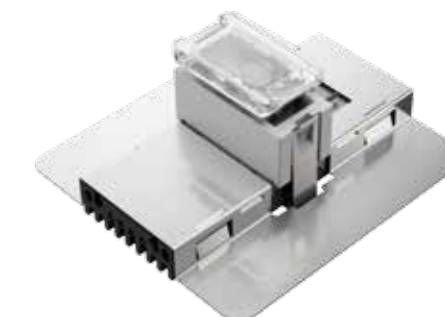




Need light on all cooking levels? Not a problem with this oven lamp.

Good oven lighting has to evenly illuminate all cooking levels. The best way to do this is by using multiple, individual lamps. These should not be too large, but they should have a high light intensity and also be resistant to heat.

Our 77.119 oven lamp is a prime example here. Requiring a panel cut-out of just 15.5 x 32 mm, it is so compact that there is no need for additional reinforcements or embossments in the oven casing. In the model shown here on the left, multiple lamps have been installed on the side to illuminate individual cooking levels. In this kind of set-up, suitable LEDs and light guiding elements are used.



Thermal tests in furnaces in the BJB laboratory...



...are only some of the prerequisites for good oven lighting.

The kitchen has always been my living room

What TV chef Olaf Baumeister has to say about good food and his passion for quality. An interview.

Anyone who is literally under the spotlight understands the value of good lighting: The TV chef Olaf Baumeister regularly inspires his audiences with regional dishes which he seasons with spices and flavourings from all over the world. Much as his TV viewers enjoy the show, there can be no doubt that the guests at his restaurant "Seergarten" by the Sorpe lake appreciate him even more. Here, Baumeister and his team work

with local produce which they enhance in unusual ways – for example "Sauerland Sushi" made of pearl barley and marinated trout. His real secret recipe, however, is his attention to detail and what he calls "love of cooking". With deep conviction he has devoted himself to a careful, almost loving, treatment of the ingredients used in his creations. He explains why in the interview.



Olaf Baumeister

OLAF, YOU COME FROM A FAMILY OF COOKS. HOW WOULD YOU DESCRIBE YOUR STYLE OF COOKING?

In short: Regional, fresh, the finest basic produce, combined with flavourings and ingredients from all over the world. I love to season a locally grown pumpkin with Asian spices. Or to combine a fillet of beef with elderberry muffins. I enjoy experimenting, but everything has to stay simple and natural with as few changes as possible.

WHICH FOOD BRINGS BACK ESPECIALLY FOND MEMORIES FOR YOU?

The food we had at home. My father used to cook and I stood next to him. You could say the kitchen has always been my living room. I liked braised dishes the best, with the aromas and flavours of various different ingredients mingling. That still brings back nostalgic memories.

WHAT QUALITIES DOES ONE NEED TO COOK AT SUCH A HIGH LEVEL?

A good team. People to support you. We now have 75 staff altogether. That means a lot of coordination work. For me it is also important to respect the achievements of others. And you need motivation so that you continue to enjoy your work.



WHEN DID YOU REALISE THAT YOU WANTED TO BE A COOK?
Not immediately, because at first I was working on the service side in my parents' business. It was when I was 15 or 16 that I realised I could cook. At least my friends were suddenly very enthusiastic about what I was making. From that point on, it was clear that this was the only profession for me.

WHAT DO YOU HAVE IN YOUR REFRIGERATOR AT HOME?
A lot of vegetarian food because my wife and children don't like as much meat as I do (he laughs). So we have a lot of vegetables and salads at home. I like to have meat and fish occasionally when I'm cooking in the restaurant.

ARE THERE SECRETS THAT A CHEF WILL NEVER REVEAL?
Yes!

PEOPLE ALWAYS SAY THAT THE LANGUAGE CAN BE HARSH IN A RESTAURANT KITCHEN. IS THAT TRUE?
Absolutely! I've often experienced this myself and I've heard the same from other people. Sometimes you hear unbelievable insults that I don't want to repeat here. It doesn't happen everywhere of course, but it's not so unusual. The atmosphere in our kitchen is different

though. Anyone who's being insulted all the time gets nervous and that isn't a good basis for doing an excellent job. That's my opinion at least. Perhaps others would disagree.

WHAT FAMOUS PEOPLE HAVE YOU COOKED FOR?
Oh, hopefully I won't forget anybody. It doesn't generally make any difference to me whether a person is well-known or not. Because we also do a lot of catering, situations naturally arise where one or two celebrities are present. For example Atze Schröder or Kaya Yanar. Or, in the case of receptions for politicians, we had Gerhard Schröder, Friedrich Merz and Hannelore Kraft. I've also cooked for various pop and rock stars, such as Sceed, Fanta 4, Peter Fox or Revolverheld. But, as I said, I hope I haven't forgotten anybody (he laughs again).

WHICH INGREDIENTS WOULD YOU LIKE TO BRING BACK INTO FASHION?
Nothing in particular at the moment. Every good ingredient has its own appeal. There's nothing I would really give preference to. Our concept consists of classical cuisine plus that "certain something". We like surprises too. There is one thing, though: I'm currently working on a Sauerland gin with some friends of mine. I could imagine that becoming fashionable...

AND YOUR FAVOURITE DISH IS...
Anything – so long as it's made with "loving care"!

THANK YOU FOR TALKING TO US OLAF!



Hotel and restaurant in Langscheid at Sorpesee

Olaf Baumeister (45) completed his training as a chef in the two-star restaurant Résidence in Essen-Kettwig. In 1992 he took over his parents' business in Langscheid am Sorpesee and has been steadily expanding ever since. He is committed to regional cuisine and uncompromising quality and always tries to establish a rapport with his guests. He has a straightforward, easy-going character. He is also a TV chef in the series "Südwestfalen Lecker!" His business currently includes a beach bar, a bistro and the Seergarten restaurant with hotel.

Still under construction, but nearing completion is the "Seegärtnerei", a highly original concept in which fruit, salad ingredients and vegetables for the restaurant menu are grown especially for him on plots of land in the local Soester Börde area. Grown, harvested and prepared locally and eaten in a restaurant especially set up for the purpose – an admirable undertaking (with very tasty results).

Photos: www.niklasthiemann.com

Fine lighting for fine wines. BJB Amber Light for storing wine.

For a wine enthusiast, nothing is more important than storing their liquid treasure properly. Climate-controlled cabinets and wine coolers offer the best conditions for maturing fine wines and storing them correctly over longer periods of time.

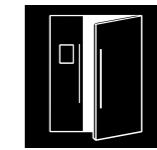
New findings have shown that, in addition to temperature and air humidity, the quality of lighting also plays an important role here. And it's more than just blocking out UV light. The composition of the light spectrum itself is also important. We know that light influences the quality of wine, at the very latest since a study published by the Laboratory for Technology and Analysis of Wine at the University of Zagreb. This is also the reason why different coloured wine bottles are used for different wines*.

The 77.116 Amber Light lighting system from BJB was developed specifically to address this aspect. It is designed to recreate colour temperatures found in traditional wine cellars and provides optimum lighting for storing wine in climate-controlled cabinets and wine coolers. The system also provides particular protection for white wines, which are kept in clear glass bottles.

*Source: <http://www.vetropack.ch/de/vetropack/publikationen>



LED



BJB///OEM-Line COLD

Lighting solutions for storing wine

LEDs: The amber colour temperature protects the quality of wine, variable LED parameters (CRI, type, output)

Energy efficiency: Possible leap forward into the next efficiency class

Thermal management: Thermally optimised components, spring clamps ensure even contact pressure between the LED board and the heat sink, aluminium heat sink

Installation: Easy installation using swivel-screw fixing, minimal protrusion into the interior

Design: Variable length, linear lens made of plastic

Beam angle: Asymmetrical (individually adjustable)

Robust: Long service life, no need to replace light source, easy to clean, minimum maintenance required



An idea is drawn up...



...and the lighting technology simulated.



LED assembly is carried out in our own ESD-protected facilities.



The 77.116 Amber Light lighting system from BJB prevents unsuitable light from negatively impacting wine quality.

The kitchen as a status symbol: 21st-century lifestyles

Today technology plays a greater role in people's everyday lives than ever before. And yet we are still just at the beginning. The position that modern technology will take in houses and flats in future, and what meaning it will have for work in the household, is very much dependent on how far manufacturers take a critical look at social trends, in order to recognise the potential which can be gained from change.

Christian Rauch, Zukunftsinstitut

A PLEASURE INSTEAD OF A CHORE: HOUSEWORK IS BECOMING MEANINGFUL

If people are asked which activities they enjoy in the household, then cooking is the clear winner: 66 percent of Germans say that they enjoy cooking, according to an opinion poll carried out by Zukunftsinstitut within the framework of the 'Future Living' trend report produced for Siemens. The fact that cooking is the favourite housework by far has a lot to do with the creative character of this activity: In our knowledge-based society especially the younger and increasingly well-educated generations have a strong need for meaningfulness and personal satisfaction from the tasks they engage in on a daily basis - and housework counts as a part of this.

As a counter-trend to increasing time constraints and the complexity of daily life, as an antidote to our accelerated lifestyle with constant mobility, housework serves more and more often a conscious deceleration technique. The wish to have more time for oneself, and for the things that are really important, leads more and more people to seek creative self-development in the kitchen. For example by trying out recipes in peace and quiet, or inviting friends over to cook and eat together.

THE KITCHEN IS BECOMING A STATUS SYMBOL

What is more: Creative housework is becoming the new status symbol. Especially for young successful professional women and men, who mostly work with computers, domestic-style activities such as cooking and baking, or home gardening, i.e. growing their own vegetables, fruit and herbs, are becoming sensual cravings and pleasurable experiences to be celebrated. Emotionally charged, they serve as stylistic devices in the temporary flight from the virtual working world and hypermodern urban life.

Seen as creative, meaningful and fulfilling, they step out of the shadows into the light of public attention and self-representation. This explains why a beautiful kitchen has clearly overtaken typical status symbols in the rankings of those things considered valuable. According to our study, for 57 percent of those polled a great kitchen is more important than a great car (29 percent), a great hi-fi/video set-up (8 percent), or the latest smartphone or tablet (7 percent). Housework is becoming presentable. It's becoming visible results in idealisation and aesthetic exaggeration. For city dwellers who are pressed for time it can become a ritual, even a luxury. This dramatisation of housework provides a stage for those household appliances which adopt such new quality characteristics.

USABILITY AND EFFICIENCY

Yet in exactly the same way as the question of what we cook is gaining in importance - organic, regional, vegan, or perhaps even meat as an exception? - the question of how we cook is becoming increasingly significant. Very rational criteria also continue to play a role here: For example, 72 percent of Germans pay attention to the energy efficiency of household appliances. This is a characteristic which is now ranked just below usability. 'When it comes to household

concepts: To design products, including kitchen equipment, in such a way that simple use is possible with a high degree of error tolerance. In the end, all generations will profit from this.

This is no contradiction in terms to aesthetic standards. Because, in this point especially, the priorities of the consumers are clear: According to the results of our trend report, 94 percent would like to have light rooms when they think of a dream kitchen.

HIGH-TECH MEETS HIGH-TOUCH

The fact that it will become increasingly critical to get to grips with such requirements can be seen by the fact that kitchens have long been more than simply rooms for an important part of the housework. In the meantime they have become places of identity and self-fulfilment, where people want to realise their own very personal ideas. Three quarters of Germans say that they find it important to feel at ease in the kitchen. This means an increase in the importance of modern household appliance technology. Its importance is measured in terms of its contribution to the quality of life. This is also what consumers expect: 61 percent are open to innovation in household appliances and as many as 4 out of 10 people polled explicitly placed great importance on innovative technology. High-tech and high-touch - must therefore go hand-in-hand if they are to satisfy customer expectations in future.



appliances, I would like to retain an overview when I am operating them,' is the basic requirement for 87 percent of Germans.

And almost three quarters expect their kitchen equipment to have system solutions which will ensure smooth working processes. At the same time, user-friendly design provides more safety for all different age groups working with household appliances. The right lighting undoubtedly contributes to this. Here too, as in the field of general lighting, the future will be defined by the LED.

Barrier-free living will continue to gain in importance in the future. It is less a question of an age and disability perspective, but rather of universal design



Christian Rauch (39) is a sociologist and has been working for more than ten years as a trend researcher and futurologist, and today manages the Zukunftsinstitut office in Frankfurt am Main. There he is responsible for projects for companies in different fields. His work focuses on trend analyses and studies of future mega trends and their effect on the economy and society.

Heat, moisture, vibrations.
So what? Good light is
possible everywhere.



LED

Lighting solutions for washing machines, tumble driers and dishwashers

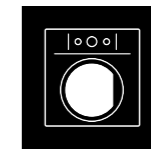
Particular features of the BJB///OEM-Line WET are:

Flexibility: Extremely small recessed luminaires with light guide rod as modular solution for numerous applications. Adapters for various different installation situations

Optimum illumination: Light guide technology for maximum illumination from minimal light-emission area of only \varnothing 20 mm

Energy efficiency: Use of various LED versions possible

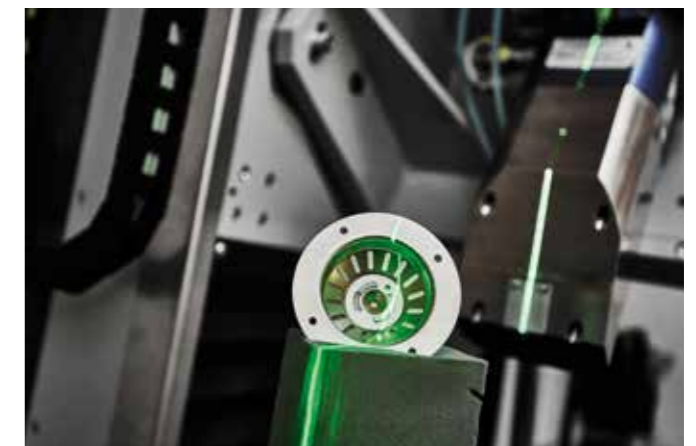
Robust: Functions reliably, even under extreme environmental conditions



BJB///OEM-Line WET



Plastic laser-sintering systems enable fast, economical production of small batches and individual solutions, even with geometrically complex designs



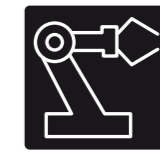
Computer tomography for quality analysis

Light for washing machines, driers and dishwashers - we have a solution for this too. These are appliances in which extreme environmental conditions are prevalent and in which lighting would be technically and economically difficult to achieve without the possibilities offered by LEDs.

Not only do the enhanced BJB universal luminaires with light guide rods tolerate wetness, heat, moisture, vibrations and steam, in many cases they also exceed the service life of the appliances they are used in. This eliminates maintenance work and also makes the replacement of the light source unnecessary. Not to mention the low energy consumption. Adapters are available to enable use in different cut-outs.



Adapters for different cut-outs



From product to production: Automated solutions for the production of domestic appliances.

AUTOMATION FOR DOMESTIC APPLIANCES. At BJB, technology always includes mechanical engineering, or BJB-Automation for short. Whether for luminaire manufacturing or the production of domestic appliances, our engineers are continually working on solutions to make processes easier, more reliable and more efficient. In the mid-1990s we began with a wiring robot. Today we offer several model ranges and numerous special solutions. For automated production of domestic appliances, we also develop and supply special-purpose machines for assembly, wiring and testing. Based on our many years of experience, we advise and support OEMs of all sizes in the creation of suitable solutions for their particular requirements. There are many possible versions, ranging from small, single modules to scalable units and complete manufacturing concepts.



An example of the many things that are possible with BJB.



Machines for the preparation of various conductors



Optical measurement of push-wire connection positions



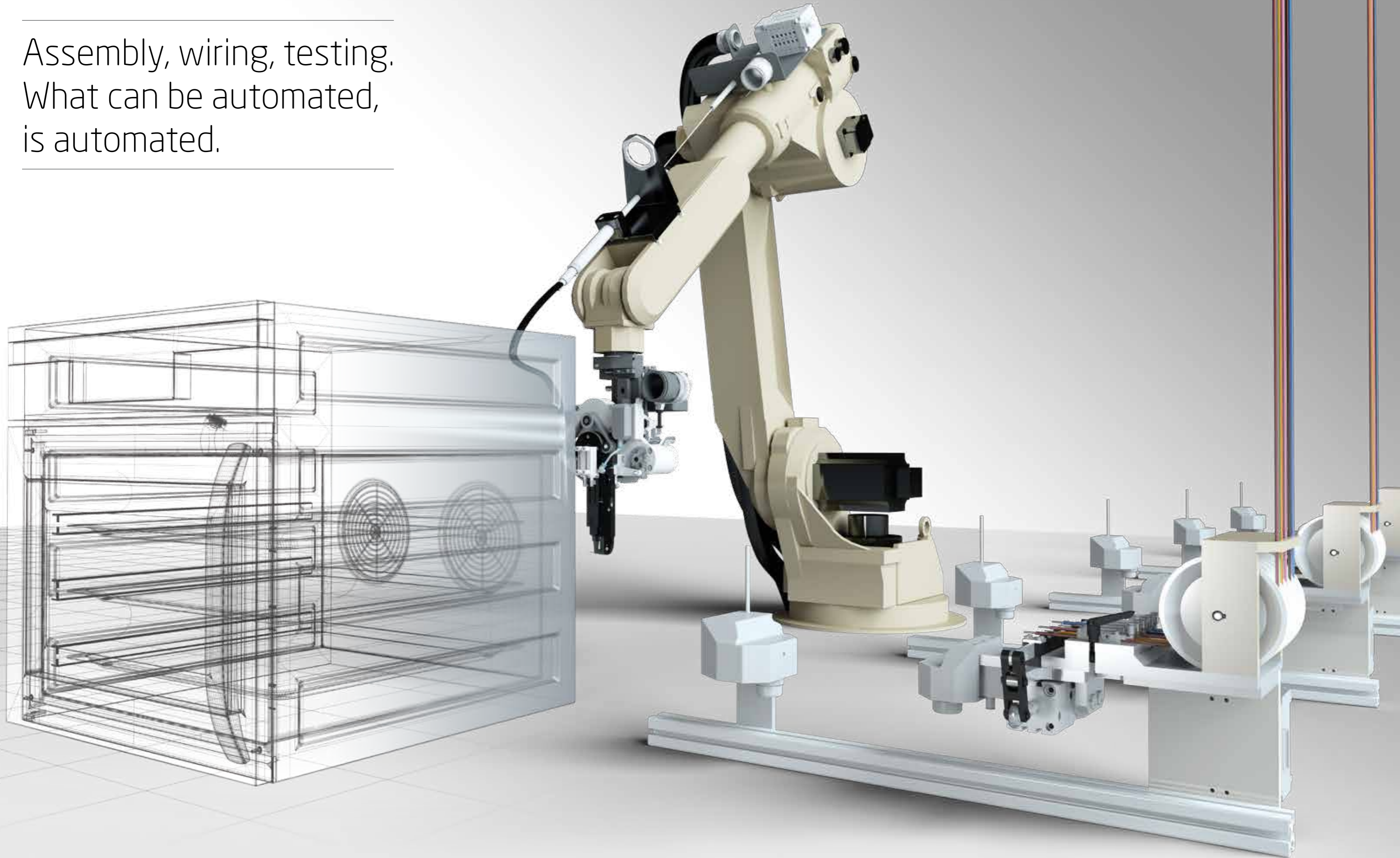
Automatic wiring of a cooker on the rear side of the appliance



Recording and documentation

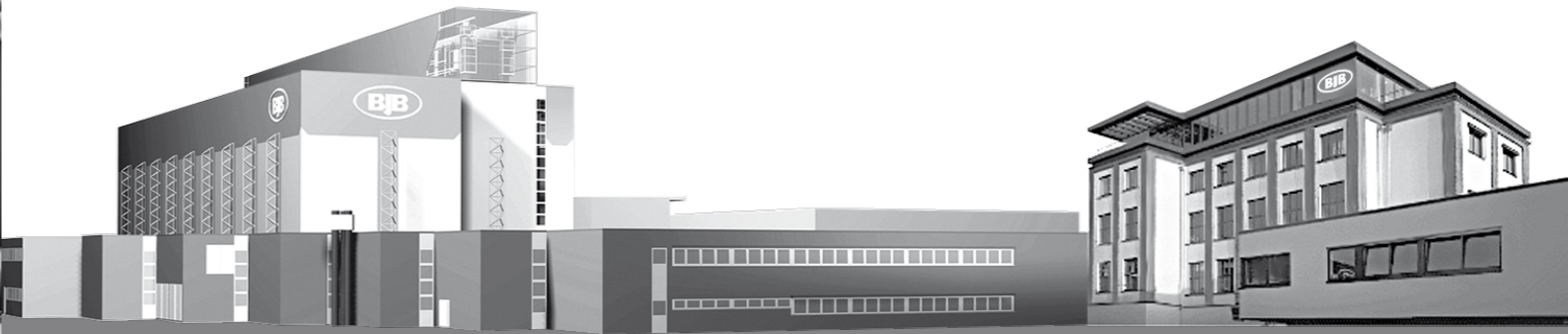
ASSEMBLY, WIRING, TESTING - These are the core modules of BJB's automated solutions. We will be happy to discuss customer-specific requirements for the production of domestic appliances with you at a personal meeting. Our expertise is based on more than 20 years of experience with automated solutions.

Assembly, wiring, testing.
What can be automated,
is automated.





About BJB



DATA & FACTS

BJB was founded in 1867 by Friedrich Wilhelm Brökelmann, Franz Jäger and Gustav Busse. The business began as a factory for petroleum lamps and developed into a company which manufactured components for establishing the connection between power supply and light. Today, BJB is a lighting technology brand which supplies innovative solutions to the lighting and domestic appliance industries worldwide.

BUSINESS SECTORS

- BJB Lighting: Lighting solutions and components for luminaires
- BJB Appliance: Lighting solutions for domestic appliances
- BJB Automation: Machines and equipment for automating luminaire and domestic appliance manufacturing processes

EMPLOYEES

700 worldwide

BJB INTERNATIONAL

Headquarters: Arnsberg (Westphalia, Germany) Subsidiaries in China, Spain, England, Japan, Italy, Hong Kong, Taiwan and the USA. Representatives in 50 other countries. Products supplied to 70 countries.

RESEARCH & DEVELOPMENT

Every year, there are numerous new developments and improvements to the 3000 different products that we sell. In an effort to achieve continuous progress, our engineers carry out detailed studies of products, markets and customer expectations. They work with the latest technical materials, devices and processes, including:

Rapid Prototyping

Laser sintering processes and 3D printers enable us to produce finished models based on design data very quickly without manual intervention.

Computer Aided Technologies

Computer Aided design enables precise results to be obtained more quickly. Models are designed, simulated and optimised on the computer. The analysis functions, which examine components at an early stage to determine their robustness, performance and other characteristics, are particularly useful:

- Computer Aided Inspection
- Computer Aided Engineering
- Computer Aided Design

Light laboratory

For the measurement of luminous flux, light spectrum, luminous intensity, colour temperature, colour rendering, chromaticity coordinate, luminous flux curves and colour shift.

The integrating sphere enables particularly precise measurements to be carried out. It has almost ideal diffuse radiation. This makes it perfect for measuring the total luminous flux of various light sources and laser and light radiation. It even creates a reference source which can be used to compare detectors.

Equipment used in the design process

In order to be able to ensure 100 per cent quality at all times, we test our materials and products with machines from Zwick, the leading manufacturer of test equipment worldwide.

PRODUCTION

From the idea to the finished product, we cover the entire value-creation chain in-house. Production, as the main process, includes:

- Plastic injection moulding incl. toolmaking
- Metalworking
- Assembly
- Circuit board production with automatic placement machine, screen printing system, reflow oven and testing technology

QUALITY MANAGEMENT

International certification organisations confirm the quality of our processes and products. Quality management: ISO 9001
LED standardisation: Zhaga
Safety & quality:

- VDE
- ENEC certificate of the VDE
- CQC (China Quality Certification)
- cUL us (Underwriter Laboratories)
- JET (Japan Electrical Safety & Environment Technology Laboratories)
- X-ray computed tomography (CT) for layer, defect and wall-thickness analysis, etc.

BJB domestic appliance lighting



Light and Automation
for Appliances

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