

Elabo TestSystems

Quality - without any ifs and buts



HOT + COLD

Perfect sector-specific solutions

- Cooking and Baking
- Refrigeration and freezing
- Small domestic appliances



euromicron group

ELABO – partnership without limits

ELABO TestSystems: sensible and innovative solutions for inspection and testing from a single source.

For over 30 years, ELABO has been a recognized partner of industry as well as of accredited laboratories and certification centers for the industrial sectors cooking and baking, refrigeration and freezing, and small domestic appliances.



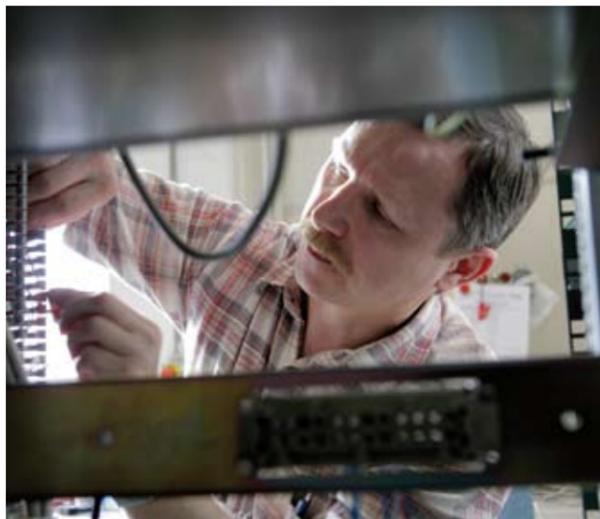
ELABO's wealth of experience offers you optimum support across development, production, quality control, product safety, and guaranteed performance.

We are committed to finding perfect solutions to meet your needs.



You can also rely on our efficient team of technicians and specialist engineers from the most diverse areas.

Our combination of expertise and experience in research and development, electrics and electronics, and construction allow us to design, develop, and implement fully optimized test systems specific to your needs – as efficiently as possible.



ELABO – function and safety test systems



Your production process must run smoothly without errors.

Our systems offer complete functional and safety testing. Clear and efficient controls, and a production monitoring system guarantees that ELABO systems can be integrated in existing production data systems.

Different processes require flexible solutions; our systems have a modular structure and can be easily adapted to meet your requirements, including subprocesses and semi-automatic processes.

Centralized data management requires constant data exchange. Consequently, our test systems can be connected directly to a central server, and either barcodes or RFID systems can be used for device identification processes.

We are committed to finding the optimum solution for your specific requirements.



ELABO offers decisive advantages:

- **Increased and guaranteed product quality.**
- **Implementing subprocesses reduces personnel deployment.**
- **Rapid and efficient systems reduce production costs.**
- **Rapid testing procedures reduce number of test systems required.**
- **Consistent, reproducible test results.**
- **Central data management by the integrated server. Inspection and test installations to standards.**
- **Modular design allows increased flexibility.**
- **Integration of additional statistical functions increases production transparency.**

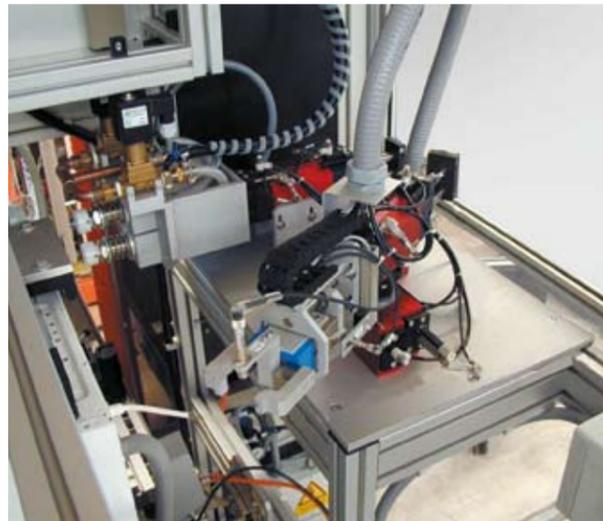
ELABO – detailed solutions

Perfect operations often rely on elements you cannot see. ELABO pays attention to the smallest details during the construction of test installations, which guarantees that your systems will operate safely and economically for years to come.

Finding the optimum solution for you does not always mean that an installation must be completely redeveloped. We implement modular assembly systems which are precisely adapted to your requirements.

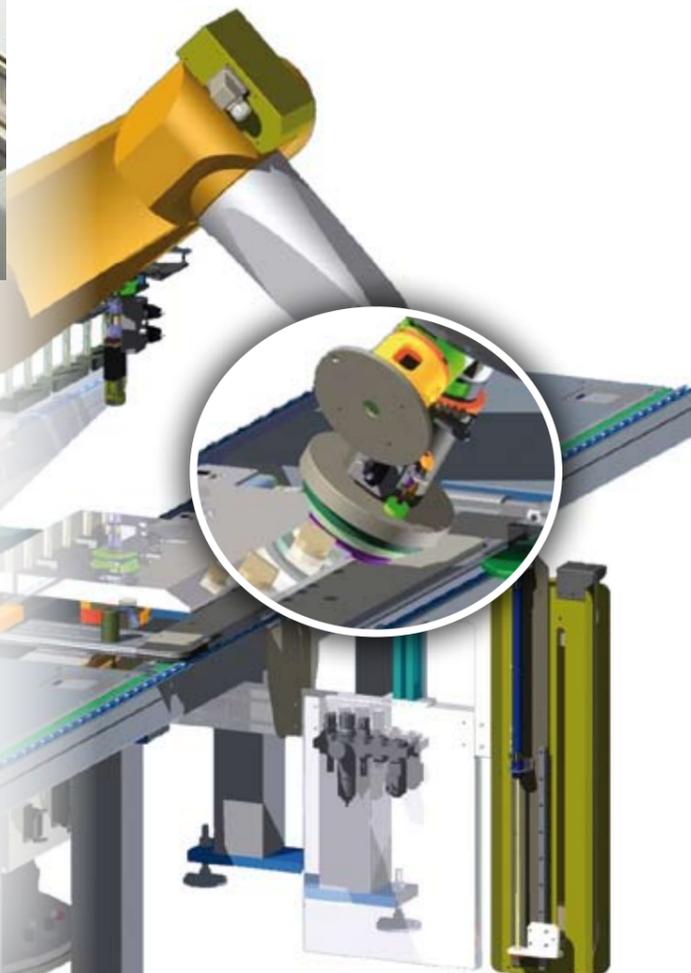


Even during the design phase we pay attention to the “small matters,” such as usability, ergonomics, and accessibility.



Our designers use current 3D CAD and simulation programs, so even complex testing systems can be developed quickly.

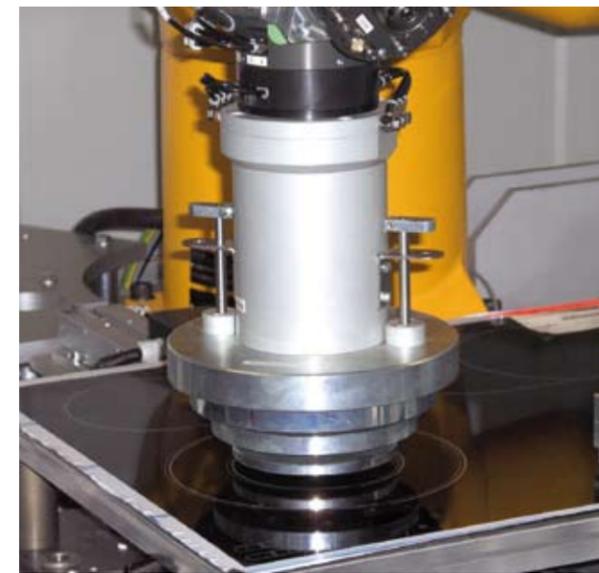
Smooth serial production relies on controlled device adaptation. On all pieces, both voltage supply and sensor technology must be tested.



ELABO – test systems for cooking ranges

The cooking range market has been characterized by a major transformation over the past few years.

New technologies, such as induction heating, have been added to the field of conventional radiant elements. Glass ceramic cooking ranges have almost superseded cast iron models. However, cooking over an open gas flame is also enjoying a revival – not only in professional circles.



Thanks to years of partnering with cooking range manufacturers, ELABO has acquired deep expertise and experience in finding perfect solutions to the most diverse customer requirements.

In addition to safety tests, such as protective conductor and high voltage testing, ELABO also develops solutions for conducting comprehensive and complex functional tests. Our range of services comprises the most diverse possibilities for testing the

exact electrical interconnection, for example by inductive decoupling of a heater coil, or by thermography. Induction cooking ranges, or those with saucepan recognition, can be tested using freely positionable saucepan simulators.

Communication with the electronics and firmware programming using diverse protocols is an integral part of the testing process, this reduces time and labour, and add value in quality assurance.

Modern axis or robot systems allow both fully automatic test sequences and manual preliminary testing or auditing systems. ELABO also offers flame pattern and leak tests for gas cooking ranges.



ELABO – we offer solutions for all applications!

ELABO – test systems for ovens, cooking appliances, and refrigerators

Cooking, baking, roasting, frying, and reheating: a wide variety of electrical appliances are used in households and catering. ELABO produces professional solutions for manufacturers of this wide product range, always perfectly tailored to the respective technology and the customer's requirements.



ELABO offers solutions for each application, from output measurement for cookers, to testing for cooking range controls and temperature regulation. Flame pattern and leak tests for gas cooking ranges round off the service portfolio.

ELABO also designs and produces complete test systems for refrigeration and freezing appliances, including tests to determine coolant levels or the cooling circuit tightness.



The degree of automation ranges from manual solutions to fully automatic portal solutions. Operation of the temperature and function controllers in addition to adaptation of the appliance is taken over by handling systems in this case.

ELABO – we offer solutions for all applications!



ELABO – test systems for small domestic appliances

Small domestic appliances such as toasters, kettles, and vacuum cleaners are usually tested for safety and function, either manually or semi-automatically. ELABO offers a complete package of standardised system components that can be on individual devices, or can be integrated for more automated testing.



Quality electrical contacts are important; ELABO offers an efficient adapter for the most diverse connections and plugs.



At ELABO we always keep customer benefit in mind. This is why we have developed universal sockets, among other products, to make it possible to fit almost all commonly



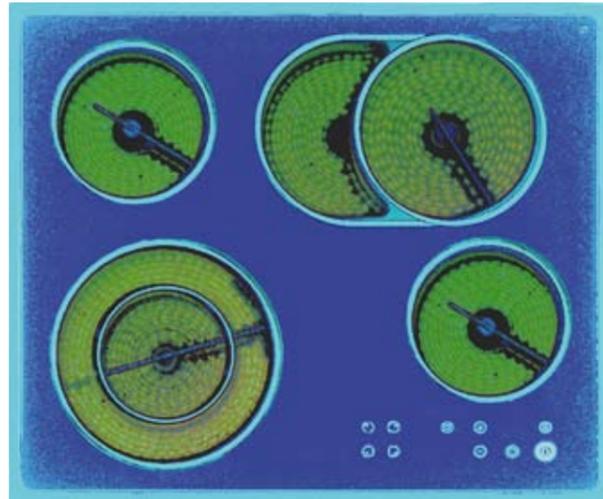
available international mains plugs into one socket. This increases flexibility and improves workplace tidiness.



ELABO – energy efficiency measurement

Large appliances such as cookers, cooking ranges, fridges, and freezers in private homes are among the largest energy consumers. Their energy efficiency documentation is therefore an important purchasing criterion.

Over 10 years ago, ELABO developed systems in conjunction with the VDE Test Institute which form the basis for measuring, documenting, and comparing the energy



consumption of individual appliances according to standards.

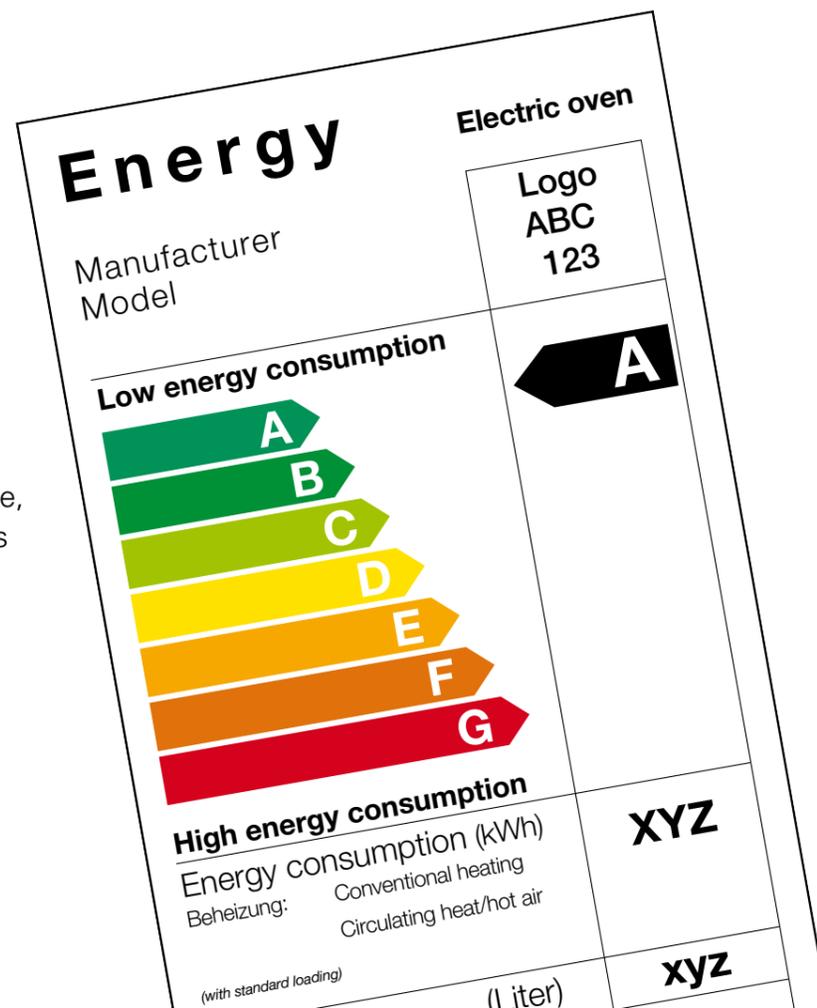
At ELABO we are constantly developing our testing devices.



Our modular systems comply with all the existing requirements, and allow you to acquire, record and analyze various parameters such as voltages, currents, outputs, energies, temperatures.

Furthermore, our test systems can also be equipped for safety testing, and to record current leakage.

We can help you solve your testing problems.



ELABO – systematic flexibility

Safety tests are required at various stages throughout the manufacturing process, this means testing requirements for a testing device can vary widely.

To enable you to meet these requirements, we have developed a flexible modular assembly system composed of hardware and software elements.



You therefore need only one test device to accomplish all existing tasks – an important economic advantage for you. Our test devices are flexible and versatile, operate at high speed, and have compact design.



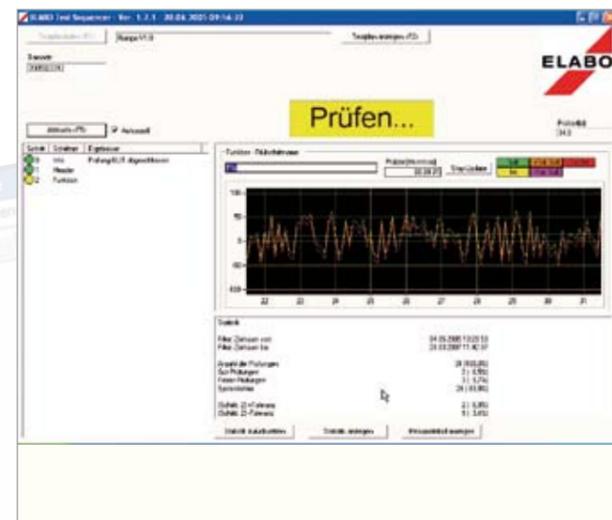
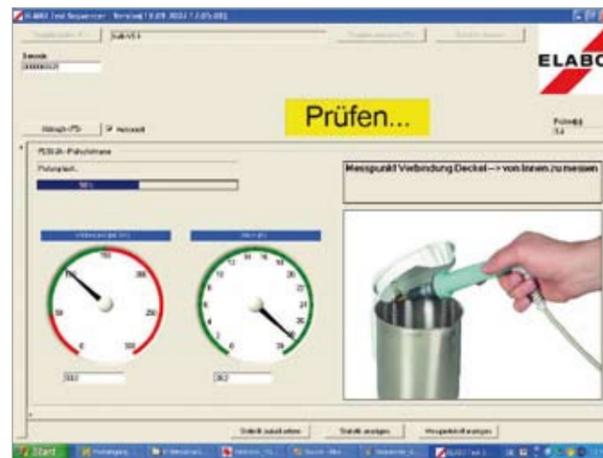
Our basic devices cover all the essential safety testing types according to EN, IEC, and UL standards. The range of use can be easily extended with additional modules.



ELABO – software solutions

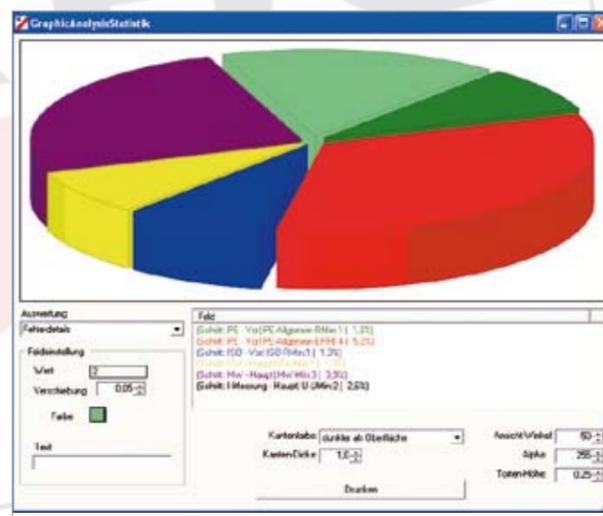
Our expertise is not restricted to the development and implementation of optimal test installations. The appropriate software solutions also contributes to optimal test processes.

Our software solutions guarantee you compliance with the established test schedules and data management, and they can generate the necessary test protocols and statistical analyses at any time.



ELABO's standard software package can be extended with different modules and is constantly under development, using .NET Framework, C#, C++, LabView, and Visual Basic, as well as comprehensive and high-performance graphic processing modules.

Using appropriate interfaces, our solutions can be integrated in existing networks and EDP structures. Connections have already been performed with SAP R3, Navision, Microsoft SQL Server, FTP databases and Oracle.



ELABO – the complete system provider



ELABO devices are not only suitable for use as test system components. They can also be used individually for manual testing. Ask for our test device catalogue, which includes an overview of our entire range of services.

As a complete service provider, we can also set up complete workstations, whether for development, quality assurance, inventory control or laboratories.

Our product groups, **ELABO Laboratory Systems** and **ELABO Electronics**, offer a range of efficient solutions for production process functions.

Our **ELABO-TaMo** sector offers optimal solutions for supply, transportation and intermediate storage of production modules.



In cases where other alternatives are not economically viable, and manual and partially automatic assembly is necessary, **ELABO-TaMas** provides you with all the necessary workstations and an adaptable modular structure, which can be easily extended if necessary.

**ELABO TestSystems –
professional solutions
in many fields.
Ask us!**

**Washing, rinsing,
drying**



Controls / Panels



Electronic tools



Components



Power supply units



**Solar panels /
Converters**



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