

ELWA

systems for energy





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Electric continuous flow heaters for industrial and maritime applications – ELWA is one of the world's leading manufacturers. We design and manufacture a wide assortment of pre-heating units for any kind of medium. Control equipment and cabinets, measuring equipment or process visualisation. ELWA can provide the perfect solution. And if it is not available yet, then we will design it.

ELWA – the name for uncompromising quality.

ELWA defines itself through its high-quality products. The peripheral equipment for large diesel engines or industrial installations is our core business. Including electric flow heaters, heat exchangers, combined with pumps, filters and control equipment, we deliver the perfect product to any customer and for any application. If a task gets challenging, it will make us even more ambitious to find the optimal solution.

Tradition and innovation

The ability to meet any technical challenge comes from experience. ELWA has been successful in business since being founded in 1931. Since then, we have established an outstanding knowledge base which has been extended from generation to generation. But not even ELWA can rely on tradition alone. Hence, we rely on the innovation and on the excellent training of our staff. Vision moves us forward and delivers efficient solutions for our customers.

Quality

Made in Maisach – this is a guarantee of quality. In our state-of-the-art production facilities 20 minutes west of Munich, we manufacture according to environmentally friendly principles and the most exacting standards. Optimised production processes provide the highest quality levels and short production times. Our international customers can rely on our certification according to DIN EN ISO 9001. All products that leave our production facilities are top quality.

Customer Relations

Our working relationship with some of our customers goes back to 1931, when ELWA was founded. There could hardly be a better demonstration of quality than this expression of confidence. Therefore, we always strive to give each of our customers optimum advice and to deliver the best solutions to them. This applies irrespective of whether the task in hand is to deliver complex systems for power plants, or just a spare part.

Supplier relations

As with our customers, we have maintained long-lasting business relations with our suppliers. For us, sustainability and preferred suppliers with environmentally friendly production are important. Quality and reliability are important characteristics that we both expect and appreciate. Our carefully established network makes it possible to ensure that the products delivered to our end users contain only high-quality components.

Network with research facilities

To keep our leading position in technical development, we maintain close relationships with universities and other research facilities. This fruitful cooperation delivers advantages to all parties involved. And lastly, it ensures that the applied technologies for our customers are always state-of-the-art.

Everything from a single source

The motivation and flexibility of our staff, the established network between internal and external research and development merge to the advantage of our customers: We provide perfectly designed and manufactured products. From problem analysis and brainstorming to 3D-modelling and individualised products – ELWA offers all of these from a single source.



Formula for success: The perfect combination of high-quality craftsmanship and automated production.

Thanks to its flexible production strategy, ELWA can react quickly to new demands and cost effectively produce small series or individual units.





SHIP TECHNOLOGY



The maritime industry faces a challenging future. The safety rules and environmental regulations are getting stricter. The freight business has to cope with even tighter schedules and cruise liners are developing at a very fast pace. On any type of ship, the highest levels of reliability of all components are indispensable. Because safe technology protects maritime habitats.

CRUISE LINER

SUPER TANKER

FPSO

MEGA YACHTS



Our course is set for optimised efficiency.

ELWA is at home on the high seas. Whether super tankers, cruise liners, submarines or container ships – we have been supplying components for the shipbuilding industry for more than 75 years now. With passion and without compromise. After all, we know that only first-class quality guarantees safe and profitable marine operations.

Technology

The first ELWA product to be used on ships was the electric continuous flow heater, a unit that we have put through continuous further development, bringing more and more new product variants onto the market. However, we broadened our focus more than 30 years ago when we began to get involved in plant construction. Our team of engineers develops and designs customer-specific modules, and combines these with optimally adapted control systems. Switch cabinet construction is an important building block in our product range, and one that supplements our company's high-quality products with effective functions. We use adapted regulators and programmable controllers which permit a direct link-up to higher-level control systems. Whether deck washing systems for mega yachts, highly complex fuel supply systems for super tankers, pool heating or bilge water processing: every one of our customers' requirements represents a challenge for us, and one that we are happy to meet.

Cooperation

Decades of cooperation with renowned engine manufacturers and shipyards mean we have the experience to find the right solution quickly. Working jointly with our end users and universities, we are available to be called on as committed development partners.

After sales

Quick responses in after sales and high levels of availability of all spare parts mean that safe and efficient maritime operations are guaranteed. For ELWA, it makes no difference whether the heater is fifty years or two years old: we deliver spare parts quickly and reliably.

Expertise in ship technology

- > Cooling water preheater (electric/steam/thermal oil)
- > Lube oil preheater
- > Fuel preheater
- > Nozzle cooling units
- > Bilge water heater
- > Central cooling units
- > Viscosity/temperature control systems



KVE **Electric cooling water preheaters**



The KVE units are used to keep the temperature of cooling water circuits in large diesel engines at operating value. This means the engines remain ready to start at any time. The KVE series is available with heating power from 3 to 600 kW. The circulation pump and power unit are integrated and perfectly adapted for the application.

KVD **Preheater with heat-exchangers**



Like the electric units, the KVT/KVH/KVD series can be used to preheat any kind of liquid filled circuit. Instead of the electric heating elements, we use heat exchangers. The units are equipped with a heat exchanger, control system, pump and control valve.

DKW **Nozzle cooling units**



These units are used to preheat the cooling water circuits of injection nozzle systems, as well as for cooling in continuous operation. In principle, these units can be used for other applications when precise temperature control in the range 20 – 60 °C is required, and there is an external cooling water circuit available.

Vessel types

Aircraft carriers, cruise liners, container vessels, submarines, tugs, super tankers, tall ships and mega yachts. ELWA products are in daily service on all kinds of vessel.

Energy efficiency

Careful management of available resources and design for efficient use of energy are fundamental principles in the design, production and application of our products. At the same time, we consider not only the direct effects on the equipment but also the influences on the ecological balance sheet of the system as a whole.

Protecting the environment

Protection of maritime habitats enjoys the highest priority at ELWA. We design and manufacture technology which actively reduces emissions and pollution:

- > FWE (fuel water emulsion) technology for MAN diesel engines to reduce nitrous oxides in the exhaust gas
- > Bilge water heaters for separating contamination from the water

Classification

ELWA products are available with certificates from all classification authorities: Lloyds Register, American Bureau of Shipping, Germanischer Lloyd, Bureau Veritas, Rina, MRS, CCS, ...

ELWA equipment ensures reliable operation on naval ships with up to 5G acceleration

Fully automated ELWA fuel supplies for supertankers (booster modules)



ENERGY & EFFICIENCY



Energy is not a topic for future discussion, but an integral part of our lives today. Economical use of finite fossil energy resources and effective use of alternative energy sources are essential.

ELWA products are developed with the clear objective of maximum efficiency and sustainability.

COMBINED HEAT AND POWER PLANTS

WIND ENERGY PLANTS

PHOTOVOLTAIC

POWER-TO-HEAT



ELWA stands for efficiency.

Vanuatu in the Pacific, Weipa in Australia, Jiangnan in China, Palma de Mallorca, wind power plants in the Baltic: ELWA products are in service in power stations and with consumers in countless locations all around the world. The highest standards are the basis for reliable power supplies. Installations in hospitals or nuclear power stations leave no room for compromise.

Independence through reliability

Reliability and efficiency are key factors for power generation. ELWA develops and manufactures specially designed components and systems for applications in power stations of all types. Photovoltaic, wind energy, gas turbines, diesel engines or nuclear power – process stability is essential.

Wind energy

The gearboxes of wind turbines are exposed to extreme forces because of the high step-up ratio from the slow-turning rotor to the generator frequency. Optimum lubrication is essential to avoid costly malfunctions. Specially designed ELWA preheaters reliably keep the lubricating oil at the required minimum temperature. Anywhere and at any time.

Conventional power plants / Nuclear power plants

In large-scale power plants, ELWA heaters are used for treating the lubricating oil for the turbines. The long-term quality and service life of the lubricants is a key factor for operational costs and availability of the system. By nature, operational safety of nuclear power stations requires even higher standards compared to conventional plants. ELWA products have been in daily service in these types of power station for decades.

Diesel engine power plants

ELWA can provide a wide range of products for this type of power plant. Injection nozzle cooling systems, cooling water preheaters, lubricating oil heaters or technical water supply units. Almost the complete peripheral equipment for operating fluids can be provided with products from ELWA. Together with partner companies, we manufacture complete fuel systems for almost all types of fuels: light diesel oil, heavy fuel oil or biofuels (rape-seed oil and palm oil). If the engine can burn the fuel, we can deliver it with the necessary operating values.



Power-to-Heat

ELWA P2H systems can convert excess electrical power into heat with precision down to the second, and in so doing, relieve the grid of the building and of the power supplier. Its variable control prevents the need for grid expansion at a small scale – in the building grid – and at a large scale, in European grid expansion.

Efficiency and environment

ELWA develops systems which use seawater for heating or cooling, so as to reduce the energy consumption of buildings or industrial installations significantly. Our commitment to developing these technologies is the logical consequence of our true sense of responsibility for our environment.

Expertise in energy and efficiency:

- > Lubricating oil preheaters
- > Cooling water preheaters
- > Central cooling systems
- > Pressure booster stations
- > Fuel supply units
- > Measuring and control systems

Offshore wind farms: Reliability and long service lives for the oil supply system ensure economical operation

ELWA products in power stations. Safe operation due to decades of experience and the highest quality standards



PRODUCT EXAMPLES

BIO-FUEL-BOOSTER

Fuel handling



The bio-fuel boosters are developments of the fuel modules that we have been supplying for maritime propulsion or diesel engine power plants over many years in collaboration with long-term partners. This series has been specially designed for fuels of biological origin that are as corrosive as they are sensitive.

4700 COMPACT

Electric continuous flow heaters



The ultra-compact 4700 heater series allows gentle heating with minimum external dimensions. The heating power can be smoothly regulated and provides precise temperature control. This type of heater can be used if maximum availability is required with minimum space, e.g. in gearbox housings of wind energy plants.

POWER-TO-HEAT

Conversion of electrical Power-to-Heat



ELWA P2H system provide flexible negative balancing energy, preferably connected to district heating systems because of the permanent high demand for thermal energy.

DEA

Pressure booster stations



ELWA pressure booster stations are used in power stations for supplying technical water or in urea systems for catalytic converters (see Industry).

INDUSTRY



The diversity of our customers from heavy industry, plant engineering, medical technology or the chemicals industry requires absolute flexibility in design and manufacture of our products.

Our internal processes, our production facilities and our network of partner companies have been designed for this purpose.

STEEL MILLS

PHARMACEUTICALS

OIL SEPARATORS

PLANT ENGINEERING



Custom-made and cost-efficient.

One of the main advantages that ELWA offers its customers is individual production. We manufacture most parts of our core products on-site and we can also produce small-batch series or even single units cost-effectively. We can therefore meet all technical and economic requirements of our customers.

Flexibility in design

Our electric continuous flow heaters can be adapted regarding heating power, operating pressure, operating voltage, position of connecting flanges or material. The units can therefore be used for almost any kind of application. In extreme cases, this means: polished surfaces for medical applications and food technology or high-alloy steel for very aggressive liquids like desalinated water.

Individual plant engineering

Our customers can not only choose between almost infinite design options – we also offer complete plant solutions with perfectly adapted expansion options in order to fulfil all kinds of tasks in the industrial field.

We take components from long-term suppliers and use them to supplement our own products, e.g. to produce processing systems for technical water, oil pumping stations or filter systems. We can put our many years of experience and our flexible production options to optimum use in individual industrial fields. On behalf of our customers, we develop air heaters, heating and cooling baths, indirect preheating units, machine tool heating systems, pressure boost systems and dosing modules.

In combination with power units and controllers from our in-house switch cabinet construction arm, we are capable of building autonomous and reliable systems that interact optimally both with higher-level instrumentation and control systems as well as with linked-up hydraulic systems.

Expertise in industrial applications:

- > Continuous flow heaters
- > Pressure boost systems
- > Power units
- > Measuring and control systems
- > Dosing systems

The range of products that is technically feasible cannot be summed up in just a few sentences. Therefore, it is more important for us to convince you of our expertise and our determination to find the optimum solution for any application. Relationships with our customers – some lasting for several decades now – are firmly based on these principles.

Environmental protection

ELWA is an industrial company itself. Therefore, for us, environmental protection and sustainability in industry start right with production. Intelligent building automation systems switch off ventilation functions, filter systems and lighting when they are not needed. The latest welding equipment reduces current consumption. In the test area, the water used for hydraulic pressure tests on equipment is filtered and returned to the storage tanks. The paint shop has a highly effective filter system in order to keep emissions as low as possible. We also take the same care as for our in-house processes when it comes to selecting materials and ensuring that our products are solidly designed. After all, we are only satisfied with our performance if our customers can use the machines we have provided them with over decades without failures, because then we have created something sustainable.

Specially adapted heaters are used in the pharmaceutical and food-technology industries.

ELWA products for industry – with over 75 years of experience



SERIES 4600

Electrical continuous flow heaters



Electrical continuous flow heaters in the 4600 series have an almost unlimited range of configuration possibilities. ELWA manufactures almost all components itself, therefore the devices can be adapted to any conceivable application. Operating voltage, pressure, material, process connection, control ... the product adapts to the process, not the other way around.

DA-MKV

Dosing systems



ELWA dosing systems provide aqueous media at an exact temperature, with high precision, for a large number of industrial processes. Even when high dosing pressures are involved, the systems still achieve reproducible precision over a broad control range.

ROE

Preheating unit



ROE units including electrical pre-heater and control cabinet. These units can be used to provide heating power to any industrial application where oil or a similar fluid is to be heated. The ROE series is available with heating power from 3 to 300 kW.



MOTORSPORT



In motorsport, there is no chance for success without precision, efficiency and quality. These preconditions also apply to our products. However, motorsport is also about passion and enthusiasm, representing the best catalyst for extracting top performance from our engines.

ENGINE TEST RIGS

GEARBOX TEST SYSTEMS

WIND TUNNELS



Motorsport is all about precision, efficiency and passion and thus our ideal field of activity.

In motorsport, we are operating at the absolute peak of the high-end range. On the track, fractions of seconds count. And tenths of degrees in the pits. ELWA is right at the forefront.

Formula 1 as the flagship of motorsport demands absolute precision during racing and in development. With such thoroughbred engines, optimisations can never be made in major steps. Reproducible test conditions on the test rig are therefore all the more important. Our heaters are optimally suited to keep the service products at precisely the specified temperature. The free configuration ability means that even tight installation conditions do not pose a problem. The units can be equipped with a large number of process and measurement connections. The adapted power units mean that the heating power can be controlled quickly and smoothly.

For use on the race track and on the test rig, we produce compact and fully automated oil flushing modules by means of which gearboxes or engines can be preheated, or test rigs can be flushed in order to clean the circuits. The circulation volume, temperature and other process parameters can be selected on the touch panel.

As a technology transfer from the shipbuilding/power plant sector, KVES preheater units can be used as high-performance heat sources for wind tunnel testing of the radiator in the bodywork element. Heat exchangers enable the heat to be decoupled in parallel for the oil circuits. Spin-offs from racing cars to series production are one of the motivations for car makers to take part in motorsport. In parallel, ELWA products are also used in the development or production of series production vehicles. This starts with the input stock in the steelworks, where heaters on the rolling mills bring the emulsions and lubricating oils to precise temperature values.



Manufacturers use our products on engine and gearbox test rigs. To allow tests of air conditioning systems, we produce heaters using special steels and provide them with thermal insulation for extra-low temperature ranges down to -50 °C.

Even though, when required, we devote great attention to maintaining ultra-low temperatures precisely, we never give the motorsport topic the cold shoulder. We share our customers' enthusiasm. Put our precision and our speed to the test.

Motorsport/automotive expertise

- > Test rig lubricating oil preheater
- > Test rig cooling water preheater
- > Oil flushing/filtering modules
- > Central hot water supply
- > Ultra-low temperature heater

There is no room for compromise when manufacturing peripheral products for Formula 1



OSF

Oil flushing modules



Compact & mobile system for preheating gearboxes and engines on the test rig and on the racing track. Additional functions: flushing test rigs with clean oil, evacuating the external system with compressed air. With adjustable pump power and heated tank with level monitoring. Operation via touch display.

4600-TT

Ultra-low temperature heater



This type is a special version of the 4600 series, for which special materials are selected and thermal decoupling of the mountings is provided, in order to make it suitable for use with very low media temperatures. For example, applications are possible on climate-controlled test rigs for media temperatures from -50 to +100°C.

KVES

Heat source



High-performance continuous flow heaters for preheating cooling water or as the central heating water supply for test rigs or wind tunnels (e.g. radiator performance test in the bodywork section). The heaters are available with individual power levels from 3 kW to 600 kW and an optional control unit.



THE COMPANY



“Being an entrepreneur means taking responsibility. For products, for quality, for market reliability and, last but not least, for employees. Right from the word go, it has been our policy to be the best in everything. First-class solutions for satisfied customers, as well as a friendly working atmosphere in the company, for a contented workforce. We have succeeded in all of these areas since 1931. And we want to continue in the same vein. According to our grandfather’s and father’s principles.”

Markus Hilpoltsteiner,
Managing Director



A history of success

Things were by no means plain sailing when Anton Hilpoltsteiner founded ELWA in 1931. However, with considerable boldness and entrepreneurial farsightedness, he laid the foundations for what is, today, a globally leading company. Much has changed since then. The fundamentals have remained unchanged though: boldness and entrepreneurial farsightedness.

ELWA's history began in 1931 when Dipl. Ing. Anton Hilpoltsteiner bought the electrical department from the insolvent assets of a Munich-based company, banking its future on building electrically heated devices. In the early years, ELWA produced electric cookers for domestic and industrial applications. The development of electrical continuous flow heaters was also set in train in this period. In addition to series production at that time, ELWA also offered its customers special fabrications for specific applications. The electrically powered on-board galleys for Zeppelin airships were developed and produced by ELWA.

At the start of the 20th Century, the electrical industry was still something rather exotic, but it soon underwent significant growth and the family firm, ELWA, also profited from this development. The company came through the Second World War without suffering serious damage, and was able to resume normal operations smoothly at the end of the conflict. The need to provide equipment for private households and the production industry meant that ELWA enjoyed full order books, making modernisation and expansion necessary. In 1962, the old production hall and the villa dating back to the founder's time were linked together by a modern administrative block. In this period, the two most important branches of the business were building canteen kitchens and producing continuous flow heaters for ship-building and industry.

In 1971, A. Hilpoltsteiner Senior died and the company passed into the hands of his daughter Hedwig Hausler and son A. J. Hilpoltsteiner, who became the Managing Director and guided ELWA through the 1970s and the difficult times in the 1980s. Two important decisions were taken during this period: production was expanded to include the areas of plant construction and switch cabinet building.

Ever since 1985, switch cabinets, pumps and heaters have been combined into efficient systems. The success of reliable ELWA products fuelled international interest in technology "Made in Germany". Contacts and business links were forged throughout the world.

ELWA established itself as a strong, innovative company in the international market. By 1988, ELWA had become a standard supplier for many engine manufacturers and IT systems began to be introduced. The preheater area continued to develop further. Important cooperation deals such as with fuel module manufacturers secured the market position.



In 1993 and 1995 the development of control technology and plant construction was pushed ahead decisively. The product range was extended time and time again. In 2002 A. Hilpoltsteiner passed away unexpectedly, at a sadly early age. Today the company is managed by Dipl. Ing. (FH) Markus A. Hilpoltsteiner in the third generation.

Canteen kitchen construction, which had up to that point been a second pillar of the company, was abandoned. The company grew, enjoying increasing success. Quite soon, the production facilities on Munich's Landsberger Strasse had become too cramped. At the turn of the year 2008/2009, ELWA moved to its new facilities in Maisach, located on the outskirts of the Bavarian metropolis. On a production area of 6400 m² with the latest working conditions, excellently trained employees manufacture ELWA devices for shipbuilding, industry, energy systems and motorsport.

Flexible, fast and reliable – the right solution for all requirements.



Hydraulic and electrical checking of all devices on the computer-controlled test area. The complete data for all products is logged.

Alignment of the welding structure using adjustable gauges guarantees optimum dimensional accuracy.



Outer strength – inner values.

Production in the new halls in Maisach was exhaustively planned, new machinery, crane systems and warehouse systems were purchased and the entire technical systems had their processes optimised. ELWA produces to the highest standard.

However, this is not all there is to ELWA. ELWA is a living company which is in a dynamic relationship with its environment and demonstrates its social commitment.

The company's buildings have been designed not only according to economic principles, but also with a view to aesthetic aspects. The aim is for ELWA employees to feel good in their workplace. This includes ergonomics, cleanliness, lighting and clean air. Overall, we place great emphasis on achieving the most positive ecological balance possible. Environmental conservation is important for us, as is promoting new technologies. It is not for nothing that a solar thermal installation on the roof of our new building provides environmentally friendly hot water.

ELWA enjoys a lively exchange with schools and universities. For one thing, this helps us to stay at the cutting edge. For another, it provides young people with the opportunity to express their thinking and to try out new ideas.

Last but not least, we provide energetic and financial support to sports clubs, social organisations and open-source projects. After all, we are firmly convinced that by working together, we can create better solutions.

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