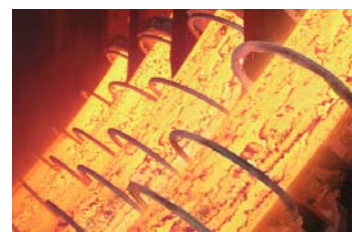


ELOTHERM

SMS group

SERVICE

For top customer satisfaction



SMS GROUP

Leaders in plant construction and mechanical engineering

The SMS group ranks among leading companies in the field of plant construction and mechanical engineering for the industrial processing of steel, aluminum and nonferrous metals. It consists of the two Business Areas SMS Siemag and SMS Meer. Both areas offer integrated solutions for metallurgical process technology, casting and rolling technology as well as other shaping and refining processes.

FAMILY-OWNED AND WORLDWIDE PRESENT

As a family-owned company, the SMS group has built on solid values and a culture of responsibility for four generations. It holds a strong market position while its decentralized structure ensures a fast and efficient response to individual customer demands. The SMS group combines the flexibility of company units that operate as medium-sized enterprises and the broad resources of an internationally active company – all for the customer's benefit. The decentralized corporate culture ensures that not only the individual units but also the employees themselves always think and act in an entrepreneurial manner.

BUILDING ON A STRONG BASIS

A long-term view, careful financial management, focus on values, plus knowledge about the cycles of the machine and plant construction market have, for decades, informed the group's strategic planning. Also high on the agenda is investment in the areas of energy and environment technology, service and modernization of plants as well as on-the-job training and qualification of core employees. On this basis, the SMS group creates tailor-made plant solutions, which enable the customers to keep well ahead of the competition.

**SMS
SIEMAG**
SMS group



**SMS
MEER**
SMS group

SMS ELOTHERM

Your partner for induction heating solutions

With its developments and system solutions, Elotherm has set standards in induction technology for decades. The medium-sized internationally operating company is part of the SMS group. As a technology leader, Elotherm combines all competences when it comes to induction.

- Induction heating of metals for forging and rolling
- Induction hardening and quench & temper
- Induction welding, annealing and special technology for tubes
- Continuous induction strip heating
- Induction kinetics
- Laser technology

CUSTOMIZED SYSTEMATIC SOLUTIONS

Elotherm's technology is based on compatible modular plant components, which can be efficiently combined into individual configurations. This enables economic industrial heating solutions – irrespective of whether it is a single unit or a complete manufacturing line.



LIFE TIME CYCLE

 Before acceptance	 During production	 5-10 years after installation	 Decommissioning
Erection	Hotline	Innovation Assistance	Consulting
Commissioning	Troubleshooting	Converter Retrofit	Buy & Sell
Training	Spares	Control System Upgrade	
Process Support	Preventative Maintenance	Overhaul of Machinery	
	Inductors	Process Optimization	
	System Consultancy	Energy Efficiency	

CORE COMPETENCES

All your benefits at a glance

CUSTOMER-ORIENTED ORGANIZATION

For the service area, Elotherm has created an organizational structure which optimally supports the customers. In addition, Elotherm provides a world-wide service network which is continuously further extended. Current locations are in Germany, France, North America, China, India, Brazil and Mexico. The result for the customers: highest availability and shortest reaction times.

SERVICE FROM PLANT MANUFACTURER

The service customers of Elotherm benefit from an in-depth know-how of the plant manufacturer. The advantages:

- Rise in productivity
- Increase in plant availability
- Improvement in product quality
- Reduction in operational costs
- Safeguarding of plant value
- New fields of application for older facilities

ALL-INCLUSIVE SERVICE OFFERING

Depending on customer needs, Elotherm provides appropriate services. Similar to the actual plants, the customer can economically use individual or several harmonized modules.

TECHNOLOGY LEADER WITH OUTSTANDING PROCESS COMPETENCE

- Experience spanning more than 75 years
- Innovative system partner for the automotive and supplier industry as well as the steel, rolling mill and pipe production industry
- More than 6000 plants worldwide in continuous operation for decades
- Sales and service around the globe
- Fast delivery by local manufacturing and stock-keeping facilities

INDIVIDUAL CUSTOMER CONFIGURATIONS

- High efficiency thanks to modularized plant components
- Tailor-made manufacturing solutions

ENERGY-EFFICIENT, ECONOMIC INDUCTION

- Minimized energy consumption through intelligent technologies
- Sustainable and eco-friendly due to reduction of CO₂
- Quick change of production and increased productivity
- Low manufacturing costs
- Integrated effective power measurement for efficient quality control

IN-HOUSE INDUCTOR AND CONVERTER MANUFACTURING

- All competences under one roof
- Optimal technical interfaces to existing customer systems
- Individual design and layout to attain optimum results
- Innovative converter development with low and resource-saving energy demand

PRECISION IN PROCESSING

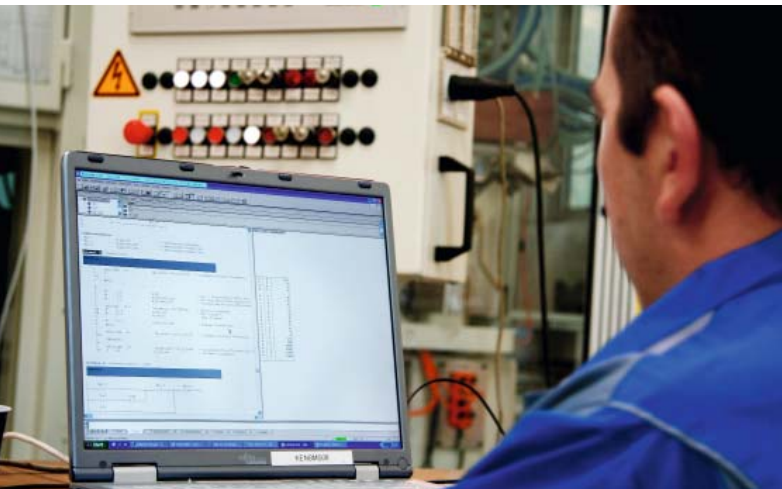
- All relevant certificates, e.g. VDA, DIN/ISO
- Continuous project and quality management from the initial enquiry through field service

ON-SITE SERVICE AND TRAINING

WHEREVER, WHENEVER YOU NEED IT

Our team of Service technicians is the only team that has been looking after SMS Elotherm machinery for more than 75 years now. No matter what component, what generation or what technology is involved: nobody knows Elotherm's machines better than our Service technicians.

High-quality services from the original manufacturer are the best way of guaranteeing maximum availability of your plant. We know what we're doing when it comes to your applications, whether it's forging, hardening, metallurgy, tempering and welding, and our Service centres across the globe ensure the quickest response times.



- Plant installation and supervision
- Initial start-up and testing
- Preventive maintenance and advice on servicing issues
- Troubleshooting and on-site repairs
- Support throughout the process
- Process optimization
- Plant evaluation and improvement of plant efficiency

ON-SITE SERVICE



KNOW-HOW TRANSFER FROM YOUR OEM

Maintaining an edge in terms of know-how means you stay ahead of the competition - so use our specially customized training programs, tailor-made for your plant.

The training course contents are geared primarily towards practical aspects that include direct troubleshooting and how to avoid downtimes. Our training courses teach your specialists how best to utilize the full functionality of your machine.

The courses are held both here at our headquarters in Remscheid (Germany) and directly at our customers' premises.

- Converter training
- Operator training
- Maintenance and troubleshooting training
- Process training

TRAINING

SECURE YOUR PRODUCTION CAPACITY

SMS Elotherm's Preventative Maintenance Incentive Plan

You are invited to join our Preventative Maintenance (PM) Incentive Program. Each system receiving a PM qualifies for a 12-month replacement part

DISCOUNT 5%

Why Elotherm for OEM Preventative Maintenance?

- Maximum system up time
- Timely detection and prevention of downtime root cause faults
- Immediate cost reduction with OEM maintenance quality

When and how does the 5 % discount go into effect?

- Immediately upon order placement, specifying the commission number for the system(s) to be serviced.
- The service must be scheduled and completed before the end of the year.

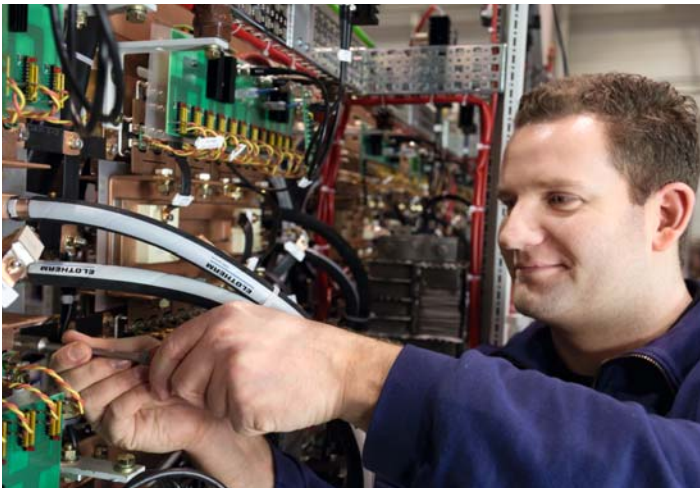
What is excluded from the discount program?

- Inductor (coil) repair
- The dispatch of service personnel

What is serviced under this PM program?

- The converter
- Power supplies
- Tooling





PREVENTATIVE MAINTENANCE SCOPE OF SUPPLY

Please find below the typical scope of supply of a PM as carried out by SMS Elotherm for a heating system. Of course, the PM scope can be customized based on the Customer's requirements.

Converter (Power Supply) Type EM

- General visual inspection of the converter
- Function test of enclosure lighting, door/safety switches, and (if present) the frost monitor(s)
- Inspection and tightness checking of threaded fasteners in the power unit
- Inspection of the cooling system (condition of the hoses, leakage checks, sacrificial anode checks)
- Verification of input voltage and all converter supply voltages
- Checking the converter electronics (function tests, parameter checks, etc.)
- Check all thyristor/transistor control impulses
- Measure the specific idle values
- Check the converter output power under production conditions
- Check enclosure integrity (door seals, etc.)

Resonance Circuit, Capacitor Cabinet, Power Units

- Visual inspection
- Cooling system inspection (check for leakage)
- Visual checks of electrical isolation
- Checking and calibration of the temperature monitoring system (NTCs)
- Check the capacitor switches and transformer switches, to the extent that these items are accessible.
- Check enclosure integrity (door seals, etc.)

Tooling (e.g. inductors)

- Visual inspection of the inductors (coils)
- Verification of the cooling system
- Check the various system monitors (if present)

Discussion of findings and recommendations for improved system performance

- Replacement parts
- Modifications (updates, revamps, etc.)
- Energy efficiency consultation (for example)

PM documentation

- Transmittal of the PM Report
- Next PM requirements

SUPPORT

Replacement parts & troubleshooting

ORIGINAL QUALITY PLUS COMPETENCE

Whatever the problem is, you can rely on the support of experienced engineers at SMS Elotherm. And once the fault has been identified, you can be sure of guaranteed quality with original Elotherm replacement parts.

With our 75 years of experience, we have put together particularly cost-effective replacement part packages. Reap the benefits of a high level of availability. Our large spare parts store, global Service network and intelligent CRM system ensure faults are eliminated in the shortest possible time.

- Hotline and emergency service
- Troubleshooting
- Customer and plant-specific original Elotherm replacement parts
- Replacement part solutions for obsolete components
- Optimal cost-benefit factor by smart spare parts packages
- Consignment stock
- Spare parts management

SERVICES





INDUCTORS AND COILS

TOP PERFORMANCE FOR COST REDUCTIONS

We have inductor and coil workshops in all key world markets - with direct access to our state-of-the-art metallurgy laboratories.

With this know-how and the high-quality repairs performed to Elotherm original manufacturer specifications, we can attain a high level of repeatability for your processes. Our lead times for inductor repairs are particularly fast. What's more, our regular inspection and testing, maintenance and repairs mean you can noticeably reduce your process costs.

- Inspection of inductors
- Condition analysis
- Inductor maintenance
- Inductor repairs
- Replacement inductors

INDUCTOR SERVICES





ELOTHERM
Type: 1000
Bore: 100
Length: 1000
Weight: 1000
Date: 1000

PRODUCTION CHANGE

ADAPTING EFFICIENTLY TO NEW MARKET REQUIREMENTS

The high degree of flexibility offered by SMS Elotherm machines enables a variety of modifications to be made to your production program by simply replacing inductors or implementing intelligent process adjustments.

Our Service experts know exactly how to make these adjustments as cost-effectively as possible and ensure high-quality results and high throughput for you. At the same time we make sure energy efficiency remains high. After all, we know most about SMS Elotherm's machinery and their applications.

- Examination of the current machine condition
- Determination of the induction process including required capacity
- Development and design of the new inductor set and related accessories
- Modification of the machining program, taking the new workpiece into account
- Modifications to the converter where required
- Testing and analysis of the inductor

SERVICES





MODERNISATIONS

STAYING COMPETITIVE, AUTOMATICALLY

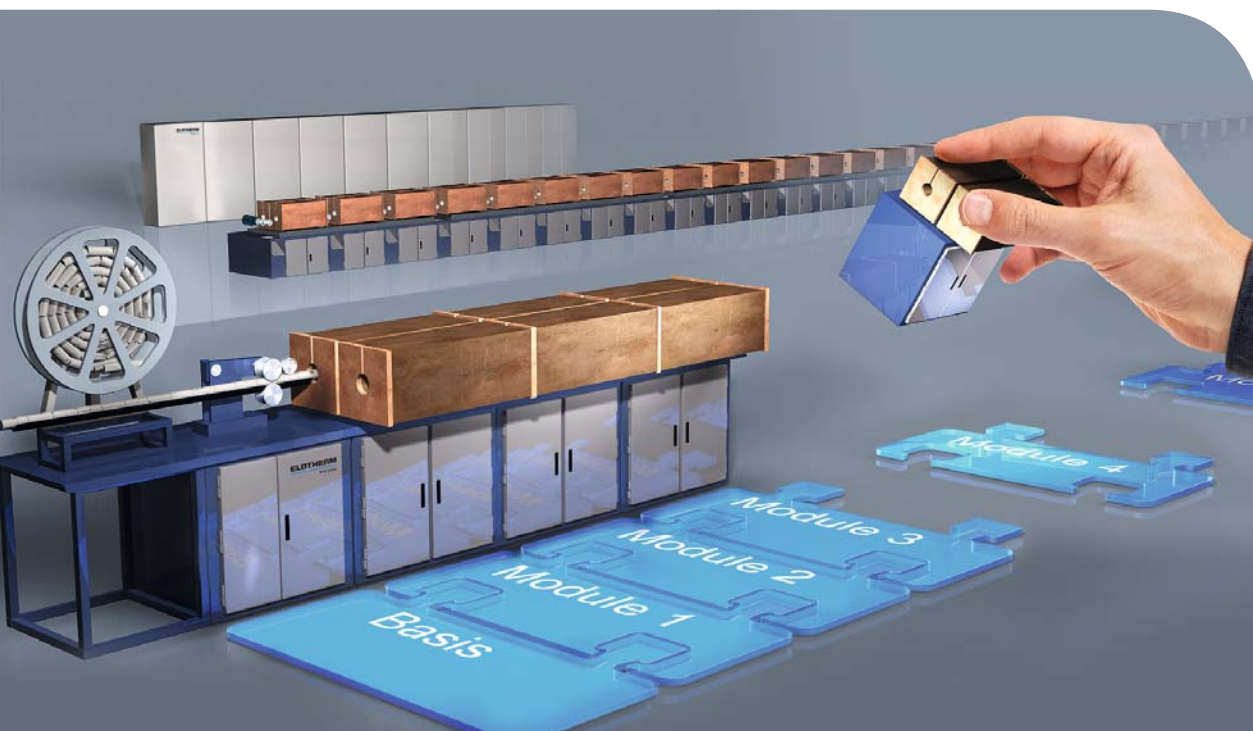
SMS Elotherm offers you innovative revamps, upgrades and overhauls, not just for Elotherm plants but for machinery supplied by other manufacturers.

How you benefit: your plant is always technically up to date. You safeguard your spare parts supply, as out-of-date assemblies or component generations that are no longer available can be replaced in time.

All in all, your plant's availability is increased, support and troubleshooting can be organized more efficiently and you save the costs of investing in a completely new plant.

- Converter retrofit
- Control system upgrades
- Overhaul of machinery
- Energy efficiency

MODERNIZATION SERVICES





WELL-TIMED SWITCH TO A NEW GENERATION

Since 1970 SMS Elotherm has successfully developed several converters generations including 5 for standard applications. Our Service team continues to provide support for generations 3, 4 and 5. Moreover, we still offer a unique retrofit solution for older-generation converters.

Added to this is our know-how: we look at all aspects of your existing machinery and thereby meet all the conditions for continued smooth production after the upgrade. So you see, it pays to make a switch at the right time. Your converter is made fit for the future. Your plant availability and capacity are increased and the operation of the machine remains unchanged.

- Condition inspection at the customer and analysis of need for modification
- Detailed development and design
- Manufacture and supply of an upgrade set including electronics assemblies, system cards and service components
- Installation and initial start-up with on-site testing
- Supply of updated drawings for documentation of actual conditions

CONVERTER REVAMP SERVICES

HIGHER IQ FOR YOUR MACHINE

If a control system is obsolete or fails, this may well lead to drastic production losses, as the availability of replacement parts is no longer guaranteed. That's why a timely upgrade is essential.

Our engineers know Elotherm machinery better than anyone, and are therefore competent partners you can rely on. With us you benefit from the security of knowing that control system upgrades are performed quickly, smoothly and successfully. We ensure the control system meets all Elotherm standards. What's more, a new control system offers you optimized ergonomics and state-of-the-art equipment features.

- Condition inspection at the customer and analysis of need for modification
- Detailed development and design
- Manufacture and supply of an upgrade set
- Installation and initial start-up with on-site testing
- Supply of updated drawings for documentation of actual condition

CONTROL SYSTEM UPGRADE SERVICE

ENERGY EFFICIENCY

Highest Return of Investment

OPTIMIZED PROCESSES, REDUCED COSTS

We calculate in advance how much energy-saving potential your plant offers and how quickly the return on your investment will be. Our Service experts offer you professional advice and technical solutions that help you make substantial cost and energy savings.

As a plant manufacturer we possess detailed knowledge of what contribution the induction process, the inductor or the software can make in creating an energy-saving production process. We can show you how an energy-efficient process saves not only costs, but can mean less scale formation, for example, within an optimized temperature range – a real advantage in terms of subsequent processes, e.g., for forging.

- Measuring and recording of current energy consumption
- Process optimization for maximum energy savings
- Calculation of energy-saving potential
- Development and manufacture of customer-specific, energy-saving inductors (incl. PLC software development)
- Installation, initial start-up and support with production provided by our Service technicians

ENERGY EFFICIENCY SERVICE





A SECURE FUTURE WITH MANAGEABLE INVESTMENT COSTS

Our team of Service technicians is the only team that has been looking after SMS Elotherm machinery for more than 75 years now. Nobody can provide you with a more precise, well-founded diagnosis of how to bring your machine back up to date, so that all process specifications, cycle times and availability requirements are met.

What's more, it goes without saying that we ensure the machine is overhauled to the highest possible standards. Trust your equipment manufacturer.

- Initial assessment at site by Elotherm service technicians
- Report on actual condition and clarification of customer's further requirements
- Detailed quotation for the overhaul
- Manufacture and supply of the maintenance set
- Standard electrical and mechanical components: bearings, V-blocks, pneumatic cylinders, motors, sensors
- Installation and on-site testing
- Documentation and/or drawings of the new machine condition

MACHINE OVERHAUL SERVICE

Allemagne
IAS GMBH

info@ias-induction.com
www.ias-induction.com

Brésil
**SMS ELOTHERM
DO BRAZIL**

info@sms-elotherm.com.br
www.sms-elotherm.com

Chine
**SMS ELOTHERM
INDUCTION TECH. CO. LTD.**

info@sms-elotherm.cn
www.sms-elotherm.com

France
**SMS ELOTHERM
S.A.S.**

info@sms-elotherm.fr
www.sms-elotherm.com

Inde
**SMS ELOTHERM
INDIA**

info@sms-elotherm.in
www.sms-elotherm.com

Mexique
**SMS ELOTHERM
MÉXICO**

info@sms-elotherm.mx
www.sms-elotherm.com

Amérique du Nord
**SMS ELOTHERM NORTH AMERICA LLC
TECH INDUCTION**

info@us.sms-elotherm.com
www.sms-elotherm.com
info@techinduction.com
www.techinduction.com

SMS ELOTHERM GMBH

In der Fleute 2
42897 Remscheid
Allemagne

Tel.: +49 2191 891-0
Fax: +49 2191 891-229
info@sms-elotherm.com
www.sms-elotherm.com

MEETING your EXPECTATIONS