



Professional Technical Services

A new dimension of support for heat treating equipment & processes

SECO/WARWICK

INVENTION MEETS RELIABILITY



We know how important it is to maintain continuity of production. We take responsibility for the proper functioning of your equipment, leaving you time to run your business.

Servicing equipment during a breakdown is the worst possible scenario. System failure is unexpected, surprising and always at the wrong time. SECO/WARWICK is prepared to deal with these situations. In order to raise the service reliability of your equipment, we offer comprehensive support services.

The engineering team at SECO/WARWICK has the knowledge and experience to manage fleets of heat treating equipment in a planned and professional manner regardless of the equipment manufacturer. The solutions we offer are universal, because they are based on best practices for failure prevention in the best sense of the word. **Professional Technical Services provided by SECO/WARWICK are more than the repair in case of failure.** We understand how the equipment works and we increase uptime with the help of automated process maintenance that supports equipment architecture and technology solutions including renovation, modernization and relocation services. SECO/WARWICK carries out preventive inspections and the subsequent preventive measures using advanced tools in the field of metering and reporting.

You no longer have to worry about downtime and additional costs. SECO/WARWICK services are available around the clock, 7 days a week.

Sounds good? This is just the beginning of the benefits!

This is the only comprehensive service package on the market. You can trust us - we have excellent technical skills and years of experience and your needs define our development direction.

This how we see **Professional Technical Services.**



SECO/WARWICK

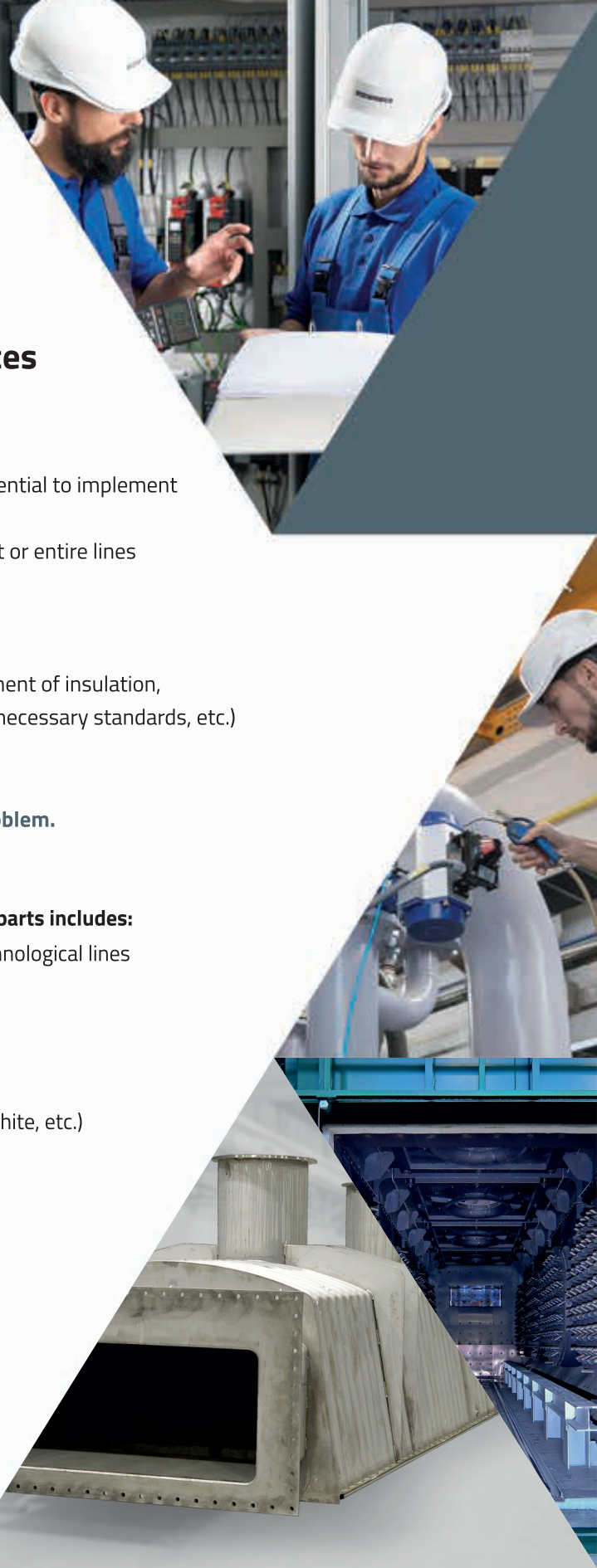
Professional Technical Services include:

- ▶ Modernization of management systems
- ▶ Modernization of technology; adding the potential to implement new processes, for example, LPC + PreNit
- ▶ Start up of the individual pieces of equipment or entire lines
- ▶ Repairs and modernization
- ▶ Equipment relocation
- ▶ Preventive programs - service agreements
- ▶ Services (installation of spare parts, replacement of insulation, burner adjustments, updating equipment to necessary standards, etc.)
- ▶ Sale and replacement of spare parts

**Not a customer of SECO/WARWICK? Not a problem.
The benefit from our solutions is unlimited!**

The SECO/WARWICK complete range of spare parts includes:

- ▶ The complete replacement of sections of technological lines
- ▶ Heating chambers for vacuum furnaces with graphite and molybdenum insulation
- ▶ Heat-resistant or ceramic muffles
- ▶ Retort
- ▶ Heating elements (spirals, molybdenum, graphite, etc.)
- ▶ Insulations
- ▶ Burner systems, recuperators
- ▶ Convection fans
- ▶ Ceramic insulators
- ▶ Belt conveyor
- ▶ Chains
- ▶ Typical furnace parts (thermocouples, sensors, valves, etc.)





SECONOMY | Increase your competitiveness

This unique SECO/WARWICK offer is designed for companies that want to increase their competitiveness, and are searching for ways to reduce production costs and emissions.

See how much you can save!

- 1. Waste heat recovery from heat** treating processes for heating buildings and/or hot water.
- 2. Reduction of heat loss up to 50%*** by replacing the insulation using the latest insulation materials.
- 3. Reduction of gas consumption up to 40%*** after the modernization of the heating system (replacing or supplementing the existing combustion system with optional recuperation).
- 4. Production costs savings of up to 50%*** by changing the fuel for heating from liquid or electric to gas.
- 5. Improvement of equipment performance and energy usage** by upgrading the control system, which allows you to control motors in start-up and load matching to the current needs.

Do you have equipment that is 10 years old or over? Then this offer is for you!

**All values are approximate and do not constitute an offer. The actual reduction possibilities are calculated for each piece of equipment individually, and may differ from those listed.*



SECOLUTION | Business decisions based on facts

The SECOLUTION offer facilitates both system control and facilitates making key decisions in the heat treating process. With SECOLUTION, gaining a competitive advantage is easier, thanks to a better understanding, control and use of the existing machine ecosystem. The functionality of the offer provides system optimization and advanced data analysis, enabling users to respond and monitor the progress of work-in-process. SECOLUTION is also a smart preventive maintenance tool with advanced data analysis of equipment operations.

To serve your business interests, we have implemented new and innovative tools to support your daily operations.

1. SECO/PREDICTIVE

This is a smart tool that can detect potential failures before they occur, thus the risk of unplanned shutdowns and failures is minimized and the availability of equipment is increased.

2. SECO/STATISTICS

SECO/STATISTICS is a software for monitoring and analyzing the most important indicators of equipment operation, which enables efficient its use and optimal downtime scheduling.

3. SECOPTIMIZER

This tool monitors recipe times and ongoing heat treating processes, and automatically manages the loading and unloading, measurably reducing the costs related to the use of equipment by minimizing the idle time and maximizing their use time. It increases use of the existing machine park, which is possible by optimizing the batch queuing.

4. SENERGY

Monitors, controls, reports and optimizes energy demand and minimizes overall costs of energy consumption.

5. Manufacturing Execution System (MES)

MES, a manufacturing execution system, takes full advantage of the company's entire IT capabilities, including the complete manufacturing process. Some of the system's features are:

- ▶ The visualization and real-time management of energy resources and production
- ▶ The display of alarms and events
- ▶ Heat treating recipe management
- ▶ Access to historical data on heat treating processes
- ▶ Remote diagnostics and access to data via the internet
- ▶ Backing up data
- ▶ The ability to mark batches with barcodes or QR systems
- ▶ Remote notifications of selected events on the phone or mailbox
- ▶ Generating periodic or batch reports
- ▶ Advanced data analytics





REPAIRS AND MODERNIZATION

Modernization of the existing machine park is not only a guarantee of efficiently operating individual devices or whole production lines. It's also a high-security, investment-saving, and more time devoted to strategic planning for your business.

SECO/WARWICK offers professional upgrades and comprehensive equipment repairs to ensure that these solutions are implemented without significant investment to purchase of new equipment nor replacement of the entire production lines.

SECO/WARWICK enhancements will help maximize your productivity while providing lower power consumption, safer operation and easier future control and regulation.

BENEFITS/FOR YOUR COMPANY:

Comprehensive equipment upgrades are among a number of benefits for your business.

By implementing new solutions you get the following guarantees:

- ▶ improving the efficiency and performance of the heat treatment and vacuum metallurgy equipment using state-of-the-art technology,
- ▶ cost optimization of production processes and queuing of inputs,
- ▶ reduction of unplanned downtime due to equipment defects,
- ▶ maintain safety standards,
- ▶ no need to incur large capital expenditures,
- ▶ comprehensive and professional advice and top-quality service.







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