



Press release

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IBL Löttechnik presents intelligent process control for vapour phase soldering technology at EFX 2026

IBL Löttechnik GmbH's Advanced Process Control (APC) and Automatic Gradient Control ensure greater process reliability, reproducible soldering profiles, and reduced setup time for vapour phase soldering.

The increasing complexity of assemblies, the use of sensitive components, and higher quality requirements call for soldering processes that can not only be precisely controlled but also monitored with consistent reproducibility. At the same time, setup times and the effort required for process implementation must be reduced, operator errors avoided, and soldering processes designed to be as efficient as possible. With this background, IBL Löttechnik will present its latest software solutions for intelligent process control in vapour phase soldering at EFX 2026 in Stuttgart: Advanced Process Control (APC) with integrated Automatic Gradient Control (AGC). Visitors will gain insight into how soldering processes can be programmed more easily and safely, controlled more stably, and documented more transparently.

Advanced Process Control: Intelligent process management instead of time-consuming parameterization

With Advanced Process Control, IBL aims to significantly simplify the entire profile creation process while simultaneously increasing process reliability. Instead of creating temperature profiles based on complex machine parameters and empirical values, the user directly defines the desired process requirements.

The system automatically calculates and controls the necessary machine parameters. This significantly reduces the effort required for program creation. At the same time, it minimizes the risk of incorrect parameter settings, while allowing new assemblies to be integrated into the soldering process considerably faster. "This approach offers considerable advantages, especially for frequently changing products, small batch sizes, or complex assemblies. Users benefit from more intuitive operation, shorter setup times, and significantly higher process stability," says Olaf Cieply, Global Sales Manager at IBL Löttechnik.

Combined with the Advanced Process Monitoring (APM) feature, users also benefit from 24/7 process monitoring of all relevant parameters in IBL vapour phase soldering systems. Precise data collection, analysis, and documentation ensure the highest soldering quality and full traceability and enable the early detection and prevention of production defects.

Automatic Gradient Control automatically regulates temperature gradients in real time

Automatic Gradient Control (AGC) is an important component of Advanced Process Control. Instead of manually adjusting complex machine parameters to each other, the user simply defines the desired temperature gradients for the individual phases of the soldering profile in °C per second. The software automatically calculates the required control parameters from this information and continuously adjusts them throughout the entire process based on the actual measured temperature data.



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This continuous feedback ensures that the specified gradients are reliably maintained even under varying process conditions. Deviations are detected in real time and automatically corrected. The result is highly reproducible temperature profiles, consistently high soldering quality, and significantly reduced process variations, regardless of whether individual prototypes or mass-produced assemblies are being manufactured. At the same time, operator influence is minimized, allowing even less experienced users to achieve reproducible results.

Greater transparency and improved process reliability

With Advanced Process Control, IBL helps electronics manufacturers standardize their production processes sustainably. “The intelligent control system reduces scrap, shortens the process initialization time for new products, and increases process stability throughout the entire production cycle. “Automated control creates the foundation for consistently high manufacturing quality while also making it easier to meet increasing documentation and quality requirements,” Cieply continues. Companies in the automotive, aerospace, defense, medical technology, and industrial electronics sectors, in particular, benefit from the high level of reproducibility and seamless process management.”.

Experience it live at EFX 2026

From October 6–8, 2026, EFX in Stuttgart will focus on innovative solutions for electronics manufacturing, providing the ideal setting to showcase modern software solutions for process automation. At IBL Löttechnik’s booth 9B19, visitors can see firsthand how Advanced Process Control and Automatic Gradient Control pave the way for simpler, smarter, and more reproducible process control in vapour phase soldering. In one-on-one discussions, IBL’s experts will demonstrate how existing manufacturing processes can be optimized, initialization efforts reduced, and the highest quality requirements reliably met at the same time.

About IBL Löttechnik

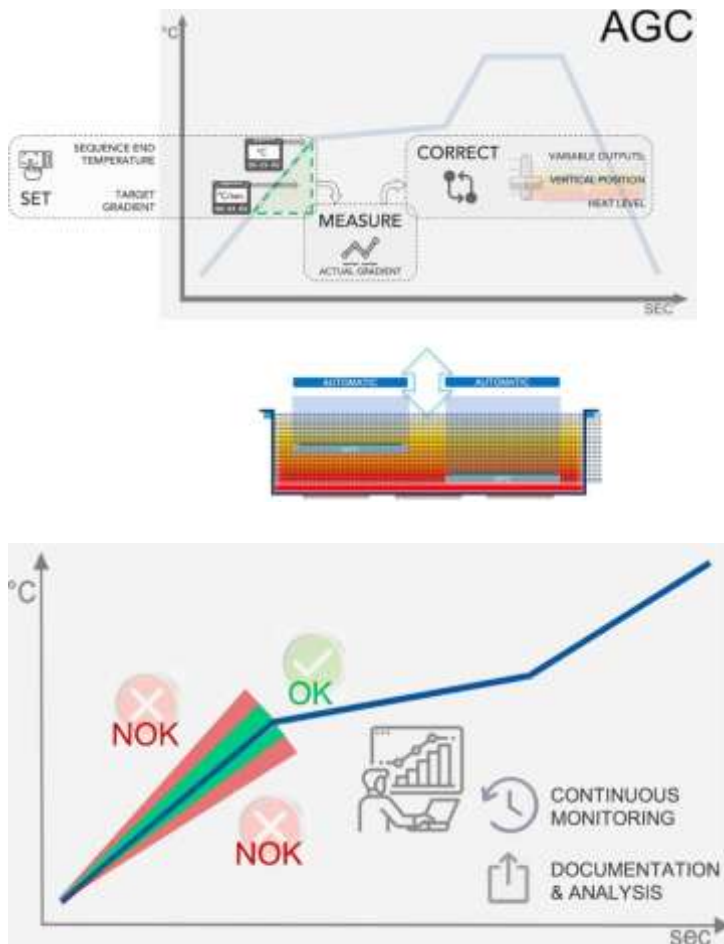
IBL was founded in 1987 and has been working in the soldering sector of electronics since then. IBL recognised the potential of vapour phase technology for assembly and soldering technology at an early stage. They began to develop their own new systems technology for vapour phase soldering during the introduction of SMD- techniques in the manufacture of assemblies. This early entry enabled IBL to develop an enormous amount of know-how and convincing innovative strengths.

That has been documented by more than 30 national and international patents and recognised by a special award from the Bavarian State Government. IBL has pioneered vapour phase systems technology and is the world leader in Vapour Phase Soldering Machine Technology, as a consequence of which, users have a competent partner at their side for future new developments.

More information: www.ibl-tech.com/en/

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Press Office

BUTTER AND SALT tech marketing GmbH

Contact person: Florian Schildein

Hessenallee 12 · 14052 Berlin

Phone: +49 30 585 846 011

E-mail: fs@butter-and-salt.de