Press Release

Rožnov pod Radhoštěm, 11.08.2026

The next generation of PCBA cleaning for greater process reliability and efficiency

PBT Works presents the advanced HyperSWASH with new upgrades and enhanced process control and automation features

“With the second generation of HyperSWASH, we’re taking the cleaning of electronic assemblies to a whole new level. We have specifically refined our proven cleaning solutions for printed circuit boards and electronic assemblies to offer users even greater process reliability, higher productivity, and improved quality control,” says Robert Sítko, Managing Director of PBT Works s.r.o., as he introduces the upgraded HyperSWASH. The new features and upgrades specifically address the growing demands of modern electronics manufacturing in terms of throughput, flexibility, traceability, cleanliness, resource efficiency, and process stability. The HyperSWASH has not only been technically optimized but also consistently designed to meet the practical requirements of EMS service providers, automotive suppliers, manufacturers of power electronics and industrial electronics, as well as all other high-reliability applications from AI, military and medical segments up to transportation, space and telecommunication devices.

More capacity without additional production space
One of the most important new features of the HyperSWASH is its enlarged process chamber, which comes with the same footprint. For users, this means a significantly higher loading capacity without requiring changes to existing production layouts. As a result, more assemblies can be processed per cleaning cycle, which increases system utilization and reduces unit costs. In addition, flexible loading with TWINGO frames or COMBO baskets allows for quick adaptation to different product sizes and batch sizes. Electronics manufacturers thus benefit from greater flexibility in changing production requirements.

Higher productivity thanks to optimized handling
A new pushcart system significantly simplifies loading and unloading of the system. Operators can change cleaning batches more quickly, thereby reducing downtime. This increases machine availability and ensures better utilization of the entire cleaning cell. Especially in high-throughput production environments, this increases cleaning capacity without the need to invest in additional equipment.

Process reliability through intelligent automation
The new HyperSWASH relies on a powerful Siemens PLC controller combined with a modern and intuitive HMI user interface. This simplifies system operation, reduces training requirements, and minimizes potential operator errors. At the same time, users gain comprehensive visibility into all process steps.

Continuous control of cleaning quality
Another highlight is the automatic and precise dosing of cleaning chemicals. Together with fully integrated online concentration monitoring of cleaning chemicals via systems such as ZESTRON EYE or KYZEN Analyst it ensures consistent process conditions and reduces the need for manual intervention. This leads to greater reproducibility of cleaning results and consistently high cleaning quality.

PBT Works s.r.o.
Lesní 2331
756 61 Rožnov pod Radhoštěm - Czech Republic

Phone: + 420 572 153 111
E-mail: info@pbt-works.com
Website: www.pbt-works.com

Press Release

For production processes with the highest quality requirements, HyperSWASH continuously monitors bath concentration enables early detection of deviations and helps ensure stable process conditions over long production periods. Users benefit from fewer process fluctuations, lower scrap rates, and improved process capability.

Improved cleaning and drying performance

Cleaning performance has been further improved through optimized direct-spray nozzles. This ensures uniform spray impact across the entire PCBA surface, minimizing shadowing effects. Even complex assemblies with high component density benefit from the reliable removal of flux residues and contaminants.

The drying process has also been further developed. The optimized hot-air knife system shortens drying times while simultaneously increasing the efficiency of residual moisture removal. This supports short process times and ensures reproducible cleaning results.

Focus on sustainability and resource efficiency

In addition to process quality, resource conservation is playing an increasingly important role. The HyperSWASH features a Chemical-Stop function that prevents cross-contamination while extending the service life of the process media. This reduces chemical consumption and lowers operating costs. In addition, the integrated closed-loop regeneration of the deionized (DI) rinse water ensures significantly reduced water consumption while maintaining consistently high rinse quality. This improves both the environmental and economic performance of the cleaning process.

Making cleanliness measurable

With its integrated Organic Carbon Sensor (OCS), HyperSWASH continuously monitors nonionic contaminants during rinsing. Combined with ionic conductivity monitoring, it provides comprehensive cleanliness verification by monitoring both ionic and nonionic residues in real time. This enables early detection of quality deviations while providing continuous cleanliness verification instead of relying solely on periodic offline ROSE testing.

This is particularly important for applications in the automotive, medical technology, aerospace, and power electronics industries.

Complete traceability for modern electronics manufacturing

Modern electronics manufacturing requires complete documentation of all production steps. HyperSWASH supports this through comprehensive process data collection and enhanced traceability features. All relevant process parameters are automatically documented and can be easily integrated into existing quality management and production systems. This provides companies with significantly greater transparency, simplifies audits, and lays the foundation for data-driven process optimization.

Future-proof cleaning technology for demanding electronics manufacturing

“With the new HyperSWASH, we offer a cleaning platform that combines productivity, process reliability, sustainability, and quality control in a single solution. The combination of higher capacity, intelligent process monitoring, improved cleaning technology, and comprehensive traceability makes the system a future-proof investment for electronics manufacturers who demand the highest standards of cleanliness and process stability,” Sítko continues, adding: “ The new generation of HyperSWASH demonstrates that modern PCBA cleaning is now much more than just the removal of flux residues; it is becoming an integral part of quality assurance and process optimization in electronics manufacturing.”

PBT Works s.r.o.
Lesní 2331
756 61 Rožnov pod Radhoštěm - Czech Republic

Phone: + 420 572 153 111
E-mail: info@pbt-works.com
Website: www.pbt-works.com

Press Release

About PBT Works
For more than 30 years, PBT Works has been developing, manufacturing, and supplying high-precision cleaning systems for the electronics industry. Founded in 1992, the family-owned company combines long-standing practical experience with in-house research and development to deliver reliable solutions for SMT and electronics manufacturing worldwide.

PBT Works offers a broad and continuously expanding portfolio of cleaning technologies for PCBAs, including low stand-off and bottom terminated components, and other SMT tools, like stencils, soldering and coating pallets, magazines, condensation traps, and other mechanical parts. Depending on process requirements, systems are configured to meet technical and economic objectives as implemented in stand-alone or inline solutions for efficient production environments. PBT Works machines are designed and instantly optimized to work with any water-based, non-flammable cleaning agents from all the leading global chemical manufacturers.

With a strong focus on quality, process stability, and customer-specific requirements, PBT Works supports manufacturers globally with proven technologies, expert consultation, and application-oriented system design.

More information: www.pbt-works.com

Picture:

Picture caption:
PBT Works presents the advanced HyperSWASH

Deeplinks:
https://www.pbt-works.com/cleaning-systems/pcb-cleaning/hyperswash-iii-pcb/

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