

SIG customers benefit from groundbreaking ultrasound innovation

PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SIEVING

Bronschhofen (CH), 07/2023

As a leading provider of sustainable, innovative, and versatile packaging solutions, SIG works in close partnership with both customers and technology suppliers to bring food and beverage products to consumers around the world in a safe, sustainable, and affordable way.

The company's latest packaging innovation, SIG Vita, is designed to make opening, holding, pouring, closing, and storing easier, whilst meeting the growing sustainability demands of consumers. In addition to the functionality features of the new packaging range, a new weight-optimized cap remains attached to the pack after the simple one-step opening process. This tethered cap design ensures that the caps stay attached to the pack, and that they are disposed of, and recycled, with the carton.

Whilst innovative design and the use of recyclable materials is important, of equal significance is the flexibility, production capability, and energy efficiency of the technologies and systems used to fill and seal the packaging. Here too, SIG are taking a significant step forward.

Their new filling machine SIG Neo Vita 18 Aseptic is the centerpiece of SIG's next generation platform and the world's fastest filling machine for family-size carton packs with up to 18,000 packs per hour. SIG Neo Vita 18 Aseptic has best-in-class sterility rates and reduced consumption of resources – all adding to improved total cost of ownership and a 25% lower carbon footprint compared to SIG's current generation filling machines for family-size carton packs.

An integral and essential element of this new system is the Ultrasonic technology which is used both to attach the new closure SIG TruCap Linked to the carton and also to seal the carton packs. The use of ultrasonics not only eliminates the need for consumables such as glue, but also brings the benefits of an on demand consistent and controllable process which is highly energy efficient, contributing to the overall savings in energy and utility costs. **Telsonic's patented SoniqTwist® torsional welding technology** is used to attach the closure to the carton. This technique provides additional advantages when used on applications which require precision processing. The SoniqTwist process is recognized as a flexible, high performance, controllable solution to many innovative sealing and joining applications across multiple sectors, including many within packaging. This torsional welding technique is an extremely gentle way to deliver focused ultrasonic energy, whilst significantly reducing any excessive vibration being transferred to the object being processed.



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LOWER OPERATING COSTS

50% Higher output with the same space requirement.
Lower consumption of operating and consumable materials.



LONGEST PRODUCTION CYCLE

SIG NEO guarantees a production cycle of more than 100 hours.



IMPROVED SUSTAINABILITY

60% less water consumption and 25% less greenhouse gas emissions per filled pack.



HIGHEST PERFORMANCE

With an output of 18,000 packages per hour, SIG NEO offers the highest product output per hour for mid-size carton packs on the market today.

Telsonic's MAG 2.4 kW 30 kHz ultrasonic generators with Weld Control Units are at the heart of the ultrasonic solution. A key feature of Telsonic's MAG Weld Control is the Tec-Mode functionality. Acting as the interface between the ultrasonic components and the production line, Tec-Mode facilitates "Plug & Play" integration of the ultrasonic generator, which in itself significantly reduces the engineering effort needed to bring the system to an operational state. MAG Weld Control makes it possible to digitally connect the individual ultrasonic components to form a complete system when used **in conjunction with Telso®Flex control software**, already proven within both ultrasonic welding systems and automation lines. This level of digitalization represents a unique approach and sets a **new benchmark in ultrasonic process control** by delivering the highest levels of flexibility for the packaging sector when introducing new product concepts or designs.

Telso®Flex also supports a wide range of maintenance functions such as the planning of service intervals, remote software upgrades and the generation of service logfiles. The enhanced functionality provided by Telso®Flex, in the form of smart data handling, transparency, traceability, and error prevention makes a valuable contribution to the overall functionality of SIG Neo Vita 18 Aseptic.

The Telsonic HMI is used for commissioning purposes, and to define the correct welding parameters and system settings. During production, operators work exclusively with the SIG Neo HMI, which, by communicating via the Telsonic Profinet interface, makes it possible to change welding parameters, read results and send commands etc.

The ease of integration of the Telsonic ultrasonic technology within this latest generation filling and packaging system from SIG clearly demonstrates the flexibility and capability of the ultrasonic welding process, together with its ability to meet the combined demands of high performance alongside a much-reduced carbon footprint.

"SIG relies on innovative ultrasound technology from Telsonic. Telsonic sets new standards thanks to its SONIQTWIST® torsional welding technology and the digital Telso®Assist platform. Our customers benefit from 100% quality control, increased efficiency, and reduced waste. At the same time, energy consumption is significantly reduced compared to alternative sealing technologies."

By Carolin Reinbold, Key Account Manager, TELSONIC AG, and Tom Pettit, Genesis Sales & Marketing Limited