

Industrial revamping with probiotic beverages dispensing with a push of button

The mere line of shelf-stable, “mix-to-drink” probiotic beverages is hitting U.S. shelves thanks to a concept that relies on Emerson’s Branson spin-welding technology to create a cap design that dispenses probiotics with the push of a button. Produced by Karma Culture LLC, the Karma Wellness Water features a patented cap that protects dry probiotic cultures to maintain the highest efficacy without the need for refrigeration. Offering a wide range of Branson plastic welding and joining solutions to the industry since 1947, Emerson’s technologies are integral to creating many of the world’s most popular products, from automobiles and consumer electronics to food and beverage packages and medical devices. “The KarmaCap design, sealed with Branson spin-welding technology, has been vital to our ability to deliver shelf-stable probiotic water,” says C.J. Rapp, CEO of Karma Culture LLC.



They now can toss one of our beverages, like Karma Probiotics, into a briefcase or gym bag, knowing that it will retain potency, even without refrigeration.” Probiotic cultures, known as “good bacteria,” are living microorganisms that are known to support immune and digestive health. Typically premixed with water before bottling, the probiotic ingredients are prone to deteriorate due to moisture, UV rays, oxygen, or heat. Premixed products like this require refrigeration or special handling to slow deterioration, but cannot stop it.

The system overcomes these obstacles by using a screw-on base with a sealed upper capsule that contains the probiotics until the consumer chooses to mix with the push of a button. The sealed upper capsule works because spin-welding technology joins circular thermoplastic parts by applying pressure and a spinning motion that generates heat to melt and fuse them together without impacting the probiotics inside. The result is an airtight seal between the upper capsule and the screw-on cap base that prevents premature mixing or leaking.

To meet demand, packaging lines are pressured to accommodate unprecedented levels of package variety and complexity. For Karma, that meant finding a way to successfully execute production of its complex cap design.

Now this is an opportunity for manufacturing process features automated production using Emerson’s Branson SW300 servo-driven spin welders to produce caps that are free from the issues associated with snap-fit seals – improving production efficiency and eliminating nearly all rejects.

