MAKING BETTER CIG-A-LIKES

Essentra is manufacturing cig-a-likes which it says perform better than the most popular cig-a-likes on the UK market in terms of vapour delivery. Now a turnkey solution provider for e-cigs, the company has developed a small component that makes a big difference.

Keeping it slim

Our readers will be familiar with Essentra plc as a maker of filter technologies, porous technologies, and as a provider of packaging and scientific services to the tobacco industry. As unveiled to TJI in August, the company has drawn from the technologies and experience of its various business units in order to offer customers a turnkey solution in the e-cigarette market. The company is now offering a complete solution to bring cig-a-likes to market device which it claims aims to bridge the performance gap between cig-a-likes and tanks. The key component in the company's offering is a reservoir technology that can be fitted into rechargeable and disposable cig-a-like devices. The reservoir is a three-dimensional structure, constructed out of engineered fibres without the use of chemical additives. Tests undertaken by Essentra have found that devices with the reservoir technology inside are able to deliver a higher volume of vapour to the user while also providing greater device-to-device consistency. These are the main comments of users who complain that the sensory experience of cig-a-like product does not meet their expectations, despite their handling and appearance being more favourable than tank systems. Lee O'Donovan, Essentra's e-cigarette business unit manager, said that the company's reservoir technology is exactly what is needed to put effective and reliable cig-a-like devices back into the hands of vapers.

CLOSER TO A TANK

O'Donovan commented that he and his team recognised the market potential of e-cigarettes from an early stage. More than that, the company viewed the category as a natural extension of its business. "We do scientific testing, we are a manufacturer of metals, plastics, fibres and packaging; all ▶

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of the same materials that go into these types of products. The end user is looking for a similar experience to cigarettes and Essentra has a comprehensive knowledge-base in this field. We quickly discovered that we were very well-positioned to offer a turnkey solution," O'Donovan said.

With the advantage of having extensive experience in testing e-cigarettes through the company's Scientific Services offering,

Packaging can be customised to suit

O'Donovan and his team added to this knowledge-base by commissioning market research directly with consumers. The result was a confirmation of the deficiencies of cig-a-like devices. "What we found is that the products were very inefficient at delivering vapour through the device," O'Donovan said. "They were also very inconsistent, so the user could have a positive experience one day and a negative one the next."

With confidence in the market potential of cig-a-likes, the company set about developing a product solution that would provide an improved vapour delivery and consistency with the elegance of a smaller device that more closely resembled a conventional cigarette. As it turned out, the reservoir technology that would make this possible had already been developed and patented for another application within Essentra's Porous Technologies business unit: "it looks a lot like a filter, but it's not made from cellulose acetate," O'Donovan said. "It is an Essentra-patented process, developed for another industry and application. We then adapted that product specifically for the e-cigarette application and we are currently at the stage of patent pending."

CONSISTENCE IS KEY

The fibre structure has been designed to effectively hold and release liquids and provide high extraction efficiency. O'Donovan and his team took the reservoir structure and put it inside an Essentra-designed e-cigarette device. "This was a major area where we felt we could remove the inconsistencies of products currently present on the market: we also analysed the heating coil and asked, what is the optimal material and size, in terms of how much heat it can generate with this reservoir and with e-liquids of a certain viscosity?

"From our tests, we see that our product can generate up to a 50 per cent increase in the amount of vapour."

Lee Donovan

And we did an extensive amount of testing work in-house to establish what would be optimal. We took our prototype product into our lab and tested it against the leading competitors' products. And we saw a number of advantages."

Essentra's 2016 testing data shows that "We are generating higher levels of vapour from the device, with higher device-to-device consistency rates, which contributes to the consumer's experience. The reservoir plays a very significant role in that," O'Donovan said. "From our tests, we see that our product can generate up to a 50 per cent increase in the amount of vapour. But it also does this quite consistently from device to device."

BESPOKE SOLUTION

The device is already being sold by Essentra customers on the US, UK and European markets, and the company is set up to manufacture a complete bespoke solution at its manufacturing facility in the UK. The manufacturing process consists of fully-automated filling, capping and labelling equipment which is capable of producing hundreds of units per hour. The equipment can handle both cartomizers and disposables, and also carries out quality control measures during production. Automated and semi-automated packaging and labelling capabilities enable Essentra to apply its expertise in packaging, printing and labelling in the form of mass-customisation of the product and packaging. "It is a complete turnkey solution, made to our customers' specification and in providing this service we are aiming to maintain our position as a total solutions provider to the industry, " O'Donovan said.

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