

## Cryogenic desserts

**From student project to Oscar winning sorbet, with the help of maxon's DC brushless motor, gearhead and motor controller.**

**Brad Smith studied industrial design at Brunel University and, for his final year project, looked at specialty chilling for beverages, using liquid nitrogen. After working in industry for a few years, he came back to the idea and changed the design to support a more commercially viable venture – producing ice-cream.**

'This all became possible with the help of maxon motor uk.' Said Brad 'I started looking online and I didn't know much about DC motors. I knew I wanted something small but powerful and it had to be reliable. A company I contacted said that they couldn't compete with the quality of maxon motors with the torque and weight I needed, so it was an easy decision of who to work with.'

Greg Dutfield, Sales Engineer at maxon motor, visited Brad and saw the low cost motor/gearbox combination he was using was overloaded and struggling with mixing the liquid. Greg measured the currents and calculated a stronger gearhead was needed, with more radial load capacity, to increase the life expectancy. A 22mm diameter maxon Ecmx brushless motor was recommended to cope with the machine starting and stopping numerous times, together with the GP22 C gearhead and DEC controller.

Brad commented 'Working with maxon saved me a lot of time. It was easier to show someone what I wanted to do and let them work out what product I needed. I started with a brushed motor but the motor takes a lot of stress and load so the brushes wore out. Now I am using a DC brushless motor and controller. I needed to be able to vary the speed but keep the torque in order to produce different products. Varying the speed means we can produce ice-cream and sorbet, and at events can switch between the two from portion to portion.'

Young entrepreneur Brad now employs 6 people and Brad's company, Custom Creams, is becoming a well-known name to event organisers and large scale catering companies. They have catered at high profile corporate events for clients such as Google, Skoda, O2, BP and Lloyds. Brad's company, Custom Creams, currently have a patent pending on the mixing process.

'The ice-cream we produce is of a very high quality.' Says Brad, 'Using liquid nitrogen means the cream freezes faster than usual with very small ice crystals. Each serving at an event is made to order, and there are no chemicals involved which gives a very fresh product.' As well as producing the flavours you would expect, some unusual offerings such as bacon and maple syrup and black sesame are available, and a new curry flavour, which is expected to be very popular, will launch soon.

This year Custom Creams entered the Great Taste Awards for the first time. Described as the 'Oscars' of the food world and the 'epicurean equivalent of the Booker prize' they were delighted to receive a 2 star award for their lemon and elderflower sorbet.

Custom Creams can be seen, and more importantly, tasted, at many forthcoming events including [The Taste Festival Christmas](#), [BBC Good Food Show](#) and [Foodie Festivals](#). More details can be found on Twitter [@custom\\_creams](#) and Facebook at [customcreams.uk](#).