

Powder-based food and  
drink dispenser



## At-home device for reconstituting, heating and dispensing powder-based food and drinks from a single-serve pod

We realised the potential for high brightness LED technology in medical applications, and worked with client Brandon Medical to introduce solid-state LED lighting into their product range.

### Technologies

- Dispensing
- Ingredients
- Dissolution
- Chemistry

### Domain expertise

- Home
- Food and beverage
- Product development





### **Our client asked:**

Our client wanted to get a consistent, complete, and cost-effective dispense of powder-based food and drink from a simple consumable. This needed to include dispensing to the right concentration, lump & bubble-free, and be effective at different temperatures.

### **The project story:**

Our chemists worked around the principles of dissolution and dispersion: the impact on solubility of factors such as surface fat, powder age, salt ion content, residual moisture and the manufacturing process were investigated.

The team explored options to avoid clumping, discounting any options that involved dead spots within the pod as well as the use of stirring and agitation, which helped break up clumped material.

Using a unique water injection technique, the device met the requirements for dispensing a lump-free, low foam product, using all the available powder and without risk of blocking.

### **Results: deliverables and outcomes**

We delivered a low cost, non-contacting, novel dispensing appliance for effectively dispensing powder-based food and drinks to a consistently high quality.

### **Contact us**

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