



# Broad Oak Toiletries

## Problem products no problem

Broad Oak Toiletries thought it would have to commission a costly custom-built filler to deal with a problem product until it saw Adelphi's Response in action.

### The Challenge

Based in Tiverton, Devon, Broad Oak Toiletries is a contract manufacturer of personal care products, toiletries and fragrances. Besides producing and packaging products for sister company Floris London, Broad Oak is also entrusted with a number of well known perfume and toiletries brands. Because these products command a premium price tag, it is essential that they are filled cleanly and without costly giveaway.

Broad Oak approached Adelphi because it was having difficulties filling a particular product - an exfoliating face mask. "It was a really awkward product - thick, granular and paste-like," recalls Andy Pocock, production engineer at Broad Oak. "The equipment we had was really struggling and speeds were down to 40 units per hour."

### Strategy

Broad Oak was already in contact with Adelphi as it had a 20-year old Adelphi Centrair filler on site, so Andy approached Adelphi about building a bespoke filler for the problem product. He was initially dubious when Adelphi suggested the off-the-peg Response instead.

"We weren't convinced it was going to work because it was pneumatically operated," says Andy. However, his scepticism evaporated when he saw the Response in action. "Adelphi insisted we trial it and when we did, our jaws dropped to the floor because it moved the stuff instantly," says Andy. "It was filling to within +/- 0.2% of the fill target, which was far better than we had been getting."

Dean Willis, sales director at Adelphi, explains that this performance is due in part to the rotary valve head. "The filling head incorporates three holes which alternate between the hopper and the feed pipe. If sucking product into the cylinder, the nozzle exit is closed. When the cylinder is filled, the valve rotates, closing the entrance from the hopper into the feed pipe and pushing the product into the nozzle."

For Broad Oak, which packages around 500 different SKUs ranging from 5ml through to 1 litre in size, another selling point of the Response was its ability to fill a range of products – from alcohol based liquids to lotions and creams – into all kinds of containers.

### Implementation

In summer 2011, Broad Oak purchased its first Response, and was so pleased with its performance that it decided to buy a further three for fulfilling lower volume orders. In addition to the fillers themselves, the investment included change parts, ultrasonic level sensing and a selection of different nozzles and cylinders.

Because the fillers are semi-automatic bench-top machines, there was no installation as such. They are wheeled into position and empty containers are presented to the filling nozzle by hand.

Although slower than Broad Oak's fully automated lines, the semi-automatic fillers are better suited to low volume orders and have resulted in an increase in productivity of about 70%.



"Some of our orders are not very large at all; for example, we might only need 200 units for an individual order," says Andy. "It makes more sense to use a semi-automatic filler than an automatic line that takes ages to set up only for the run to be finished in 20 minutes." Short runs inevitably mean frequent changeovers – Broad Oak changes products up to three times a day. So the near tool-less changeover on the Response was an important factor. "I wouldn't say it's a tool-less changeover but you really only need two tools to do it – an allen key and a spanner - and you're away," says Andy.

Changeover is shortest when switching between different container sizes – this takes around 15-20 seconds. Changing between products, for example, from a white lotion to a brown one, takes around 15 minutes as the operator has to strip down the machine so the wetted parts (nozzle, filling head, cylinder) can be washed, and reassemble it using spare parts.

## Results

Andy says using the Response to fill its products has enabled Broad Oak to achieve both accuracy and speed. "Usually when you speed things up the weight goes out of the window, but with the Response we can fill at a decent speed and maintain good accuracy."

The benefits of more accurate filling have been a reduction in wastage and giveaway of almost 60%. "Taking a product with a target weight of 1kg, in the past we would have needed a bulk volume of 600kg to fill 500 containers. With the Response we're getting a far better yield out of each batch, so we only need 540-550kg to fill the same number of containers," says Andy.

Broad Oak is now considering investing in the Response Automation System for their Responses, giving even greater flexibility. "The four fillers can be plugged into a detachable automatic base, creating a four-head fully automatic machine that can then be integrated with one of our cappers," explains Dean Willis of Adelphi. "This gives complete user flexibility - you can have a four-head automatic line one day if you've got a big order and four semi-automatic fillers the next."

Adelphi manufacture a range of liquid filling and capping machinery, sold in to industries ranging from agrochemicals to pharmaceuticals. For more information take a look at [www.masterfil.com](http://www.masterfil.com) and contact Dean Willis on +44 (0)1444 472300 or at [deanwillis@adelphi.uk.com](mailto:deanwillis@adelphi.uk.com). A video of the Response Automation System can be found at <http://youtu.be/NJOXx5yXjqU?hd=1>