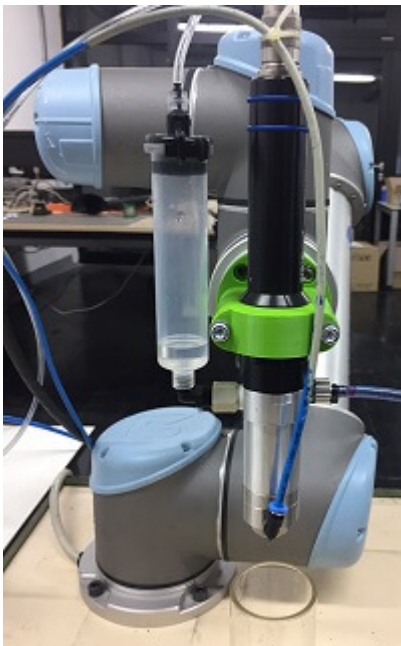


# case study: preflow volumetric spray dispenser ensures the highest sound quality in beyerdynamic headphones

## Description

With more than 90 years of experience in the development of audio electronics, [beyerdynamic](#), based in Heilbronn, Germany, stands for innovative audio products with the highest sound quality and groundbreaking technology. The different divisions provide tailor-made solutions for professional and private users. All products are developed in Germany and are mainly manufactured by hand – from hi-fi headphones to stage microphones to conference and interpreting systems.



The volumetric spray dispenser [preflow eco-SPRAY](#), available since

2016, has established itself in the market. It has also impressed the German hi-fi headphones

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manufacturer, as Sebastian Haberzettl, R & D Headphones, explains:

“The **eco-SPRAY** can be used to spray low to high viscosity materials. When spraying with the **eco-SPRAY**, even small amounts, such as a few milligrams, can be volumetrically dosed. These are important aspects for the application of the thin attenuation layer on the membranes of our loudspeakers.”

The **eco-SPRAY** has become an **important part of their manufacture of loud speakers**. A special coating is applied to the speaker diaphragm, which acts as a damping layer. The coated diaphragm is used in almost all standard **beyerdynamic headphones**. Previously, the coating was applied by hand with a brush. It was a judgement call for the operator, with brush loading and application pressure and speed all done by eye and feel. The coating thickness and uniformity impacts on the sound quality.

Now, using the volumetric spray unit **preeflow eco-SPRAY**, the coating material can be **applied flat and homogeneously**. With the **eco-SPRAY**, a **completely even spray** can be achieved with a **low spray pressure** of less than one bar: the delicate speaker membrane is not damaged or dented.

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By mounting of the dosing system onto flexible industrial robots, spray application from different angles and positions is easily achievable. As in the previous process, the speaker component is moved by means of a turntable. Thanks to the preflow *progressive cavity technology*, the dispensed amount is accurate, reliable and repeatable. The material is volumetrically pumped into the spray-chamber of the eco-SPRAY and then sprayed with straight edge definition for high-precision dosing results.

[See the preflow eco-SPRAY in action](#) on our [YouTube channel](#).

For more information on the preflow eco-SPRAY and our full range of dispensing systems please [contact the team](#).

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Supplied by:

**intertronics**

INTERTRONICS

12a Station Field Industrial Estate, Banbury Road, Kidlington

Oxfordshire England OX5 1JD

t 01865 842842 e [info@intertronics.co.uk](mailto:info@intertronics.co.uk)

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