Case study: preeflow precision dispensing improves automotive gasket quality

The automobile manufacturing industry places high demands on suppliers with regard to process reliability, quality and efficiency. To meet these challenges, a **preeflow®** customer had to optimise his application of a two-part sealant to make a form-in-place (FIP) automotive gasket. In his previous process, the dispensed sealant bead exceeded the tolerance limits at the point where the gasket loop completed and the sealant overlapped itself. In addition, a key process variable – the material dispense pressure – could not be monitored during application. The result was a high reject rate, and poor productivity due to process variability and the resultant need for heightened and laborious QA inspection.

The preeflow team helped the customer to significantly improve the production process through implementation of more accurate dispensing technology. For process reliability, a two-part dispensing system from preeflow is now used. The **preeflow eco-DUO600** is a volumetric metering, mixing and dispensing unit which uses a progressive cavity pump principle to deliver precise amounts of the mixed sealant. The preeflow systems have exacting control of the material output (which can be dynamically changed); this means that the FIP gasket application is very consistent along its entire dispensed path, including at the problematic area of the join.

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The production unit: preeflow eco-DUO affixed to robot, with controller and flowscreen on the left

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The **EC200-DUO** controller includes material pressure monitoring and control. The **preeflow eco-DUO system** can be connected to the **preeflow flowscreen monitoring unit**, a device for showing the material process pressures on a graphic display.

Stable process for mass production is very important. With the help of the **eco-DUO pressure sensors** in combination with the **flowscreen**, the dispensing parameters can be displayed graphically in real time. Pressure fluctuations that can occur, for example, due to a blocked or defective dispensing needle, contamination, or cured material, are shown instantly. This means that errors can be rectified immediately and the number of rejects can be minimised.

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The dispensed gasket – can you see the join?

Accuracy and repeatability are key concerns of our customers, and we frequently recommend preeflow dispensing systems in these types of scenarios. Whether our customers are dispensing a *single-part* or a *two-part* material, we have found preeflow systems provide a very high level of reliability combined with ease of use and real-time monitoring. The **preeflow eco-DUO** system, which operates using the endless piston principle, along with the flowscreen pressure monitor, provide a repeatable and stable dispensing process, generating the benefits of reduced material costs with improved product quality.

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