Case study
Industrial

Precision Without Compromise: How B-TEC is Transforming Spray Gun Cleaning

Custom pump from Xylem's Flojet portfolio redefines precision spray gun cleaning for the industrial paint sector

Customer Challenge

In industrial paint environments, silicone contamination poses a critical risk to finish quality and process stability. Even trace amounts can prevent proper adhesion, leading to defects like fisheyes, blistering, or patchiness. These issues may not be visible until final inspection and often require a full rework, resulting in lost materials, time, and productivity.

Silicone creates a barrier that prevents paint from bonding to the surface of the material being painted (typically metal or plastic in automotive applications). Because it is difficult to detect and nearly impossible to remove once introduced, paint shops – particularly in OEM settings – enforce strict no-silicone protocols.

B-TEC's customers depend on cleaning systems that meet these requirements. They also need equipment that performs reliably across a variety of use cases, from fast-paced factory cycles to more targeted cleaning jobs in the field. To drive chemical cleaning fluid through spray guns effectively, B-TEC required a compact, high-performance pump capable of delivering consistent pressure and flow across a wide range of chemical solvents.

Xylem Solution

To meet this challenge, B-TEC partnered with Xylem, a global water technology leader and trusted collaborator for more than 20 years. Together, the teams co-developed a customized version of Xylem's Flojet G70 Series air-operated diaphragm pump, designed specifically to integrate with B-TEC's spray gun cleaning machines and meet the industry's most rigorous contamination control standards.

The pump was engineered using chemically resistant thermoplastics and high-performance elastomers, selected for their ability to withstand a wide range of industrial solvents, including aggressive compounds like acetone, MEK, and others commonly used in ATEX regulated environments. Every component was carefully validated to ensure long-term durability, stable performance, and full compliance with B-TEC's silicone-free requirements.

Delivering a flow rate of up to 19 liters per minute, the pump provides consistent, pressurized cleaning – crucial for removing paint residue from spray guns in high-throughput environments like automotive body shops and production lines. At the core of the design is the G70's dual diaphragm configuration, which ensures smoother operation and more stable fluid control than single-diaphragm alternatives.

Did you know?
Even a single drop of silicone can ruin an entire automotive paint job, causing defects that result in full rework, lost materials, and costly downtime.

Because silicone is airborne and highly adhesive, it can spread invisibly through a facility, making contamination control a constant challenge.

Engineered for reliability, Flojet diaphragm pumps deliver consistent performance in high-demand applications.

Built for operational flexibility, the pump also includes self-priming capability, dry-run tolerance, and a quick-connect mounting system that allows on-site replacement in under 15 seconds. Its compact footprint fits seamlessly into the d-800's modular design and simplifies field servicing.

"We needed a pump that could do two things - absolutely eliminate any risk of silicone contamination and handle a wide range of aggressive solvents, without fail. Xylem stepped up to the challenge. Their team worked closely with us to deliver a custom Flojet G70 pump that's exclusive to B-TEC, built for reliability, and fast to service in the field. It's now in more than 20,000 systems and continues to deliver the performance our customers expect."
- Christian Bellroth, CEO at B-TEC

Customer Results

Since integrating the customized Flojet G70 into its d-800 system, B-TEC has delivered more than 20,000 spray gun washers globally, reflecting strong demand for a high-performance, contamination-safe spray gun cleaning solution. Customers report up to 50% faster cleaning cycles, easier maintenance, and greater confidence in silicone-free operation. These improvements are especially important in automotive paint environments, where even minor contamination can lead to costly production delays. The G70's plug-and-play design also supports B-TEC's efforts to streamline assembly and field service.

The pump's modular design enables B-TEC to ship systems with flexible final assembly, improving responsiveness and delivery. Additional benefits include strong reliability, reduced servicing needs, and lower air consumption compared to comparable models, contributing to energy savings and reduced operating costs.

This solution reflects the deep collaboration between B-TEC and Xylem – bringing together application insight, engineering expertise, and system-level innovation. The result is a purpose-built technology that meets the toughest requirements in precision paint environments and continues to evolve through a shared commitment to performance and customer value.

"Collaborating with B-TEC on this solution allowed us to bring together deep application knowledge and advanced fluid handling design. The customized Flojet G70 reflects what's possible when two engineering-driven organizations align around a shared challenge. We're proud to have helped deliver a pump that not only meets the technical demands of the industrial paint industry, but also supports B-TEC's commitment to quality and customer success."
- Andrew Lager, Business Development Manager, Jabsco, Flojet, Rule at Xylem.

Did you know?
The Flojet G70 delivers up to 19 liters per minute of flow for fast, consistent performance in precision fluid handling.

Designed for precision and reliability, B-TEC's cleaning systems support high-precision paint operations across automotive, aerospace, and industrial sectors.