

Technical News Bulletin

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FLEXRobot 2

- FlexRobot 2 is fully integrated into FlexIS – Less complexity and easier operation.
- Consistent swabbing performance.
- Proven safety features.

Introduction

One platform, one interface. FlexRobot 2 from Bucher Emhart Glass brings FlexRobot control entirely into FlexIS, eliminating the need for a separate control environment. The result: better process visibility, easier operation, and tighter control over the process.

In addition to unifying the user experience by eliminating a separate system, FlexRobot 2 delivers the same consistent swabbing performance, proven safety features, and seamless integration with the forming machine that users have come to expect from its predecessor.

FlexRobot Control Integration with FlexIS

FlexRobot control is now a native part of the FlexIS automation platform, bringing forming and swabbing operations together in a single, integrated control environment.

Operators can control all FlexRobot functions directly from the familiar FlexIS interface – no separate control system required, which reduces operational complexity. Working within one common environment reduces training requirements, shortens the learning curve for new personnel, and speeds up adoption across the plant.

The screenshot displays the FlexRobot Blankside control interface. At the top, a status bar shows job details: Jobname: QG BB, Line-NO: FlexIS Lab, User-ID: Developer, ONLINE status, Speed: 60.0 / 60.0 bpm, Date: Sep 28, 2026, and Time: 2:55:06 PM. Below this is a navigation bar with 'Section 1' selected. The main interface is divided into several tabs: System Overview, Automatic, Semi-automatic, Swabbing, Commands, Setup, Submotions Common, Submotions Section, and Motions All. The 'Swabbing' tab is active, showing two tables of settings.

Calibration Offset		Setting	Mounting Offset		Setting
Section Center [mm]		0.0	Y Mounting Offset [mm]		0.0
Cavity Center [mm]		0.0	Z Mounting Offset [mm]		0.0
Height Offset [mm]		0.0			
W Offset [°]		0.0			
P Offset [°]		0.0			
R Offset [°]		0.0			

Swabbing Settings	Blank 0 In	Blank 0 Out	Blank 1	Blank 2	Blank 3	Blank 4
Height [mm]	0.0	0.0	0.0	0.0	0.0	0.0
Precision [%]	-1	-1	-1	-1	-1	-1
Speed [%]	30	30	30	30	30	30
Acceleration [%]	100	100	100	100	100	100
Wait [ms]	0	0	0	0	0	0

At the bottom of the interface, there is a bar with 'Alarms: 1', a home icon, a robot icon, a settings icon, a bell icon, and a 'FlexRobot Blankside' label.

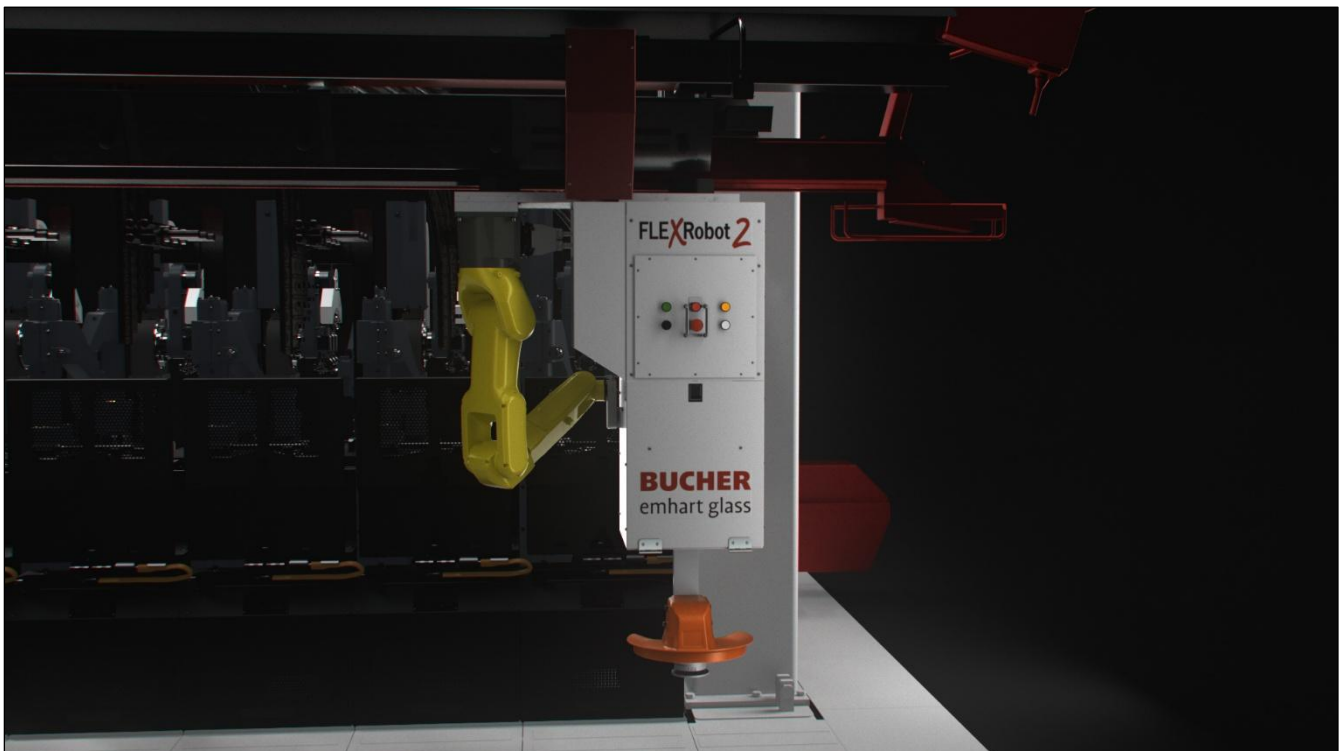
Centralized job management allows swabbing parameters to be included as part of the job setup, simplifying job changes, and reducing manual configuration effort. The integrated architecture also enables closer synchronization between machine operation and swabbing sequences, supporting consistent process execution, and improved production stability.

Unified alarms, diagnostics, and process visibility provide operators and maintenance teams with faster access to critical information enabling more effective troubleshooting. At the same time, swabbing data becomes part of the broader FlexIS ecosystem, creating new opportunities for process optimization, performance monitoring, and data-driven decision making.

By consolidating control, data, and maintenance within FlexIS, your plant benefits from a streamlined automation landscape with fewer components, lower maintenance requirements, reduced lifecycle costs, and a future-ready platform for further digitalization.

Forming Machine Integration

FlexRobot 2 is available for both new and existing Bucher Emhart Glass forming machines and operates seamlessly with the blank side lifting devices, blank side sensor measurement systems, and blank side barriers. For ten- and twelve-section forming machines, the energy chain is integrated on top of the blank side panel to make the best use of the limited space around the machine. For six- and eight-section forming machines or if there are clearance problems with the gob distributor platform, the energy chain can be positioned outside of the machine, normally on the lehr side. Contact Bucher Emhart Glass for installation clearance requirements.



Advantages of Automated Swabbing

FlexRobot 2 offers significant advantages over manual swabbing, helping improve safety, consistency, and overall production efficiency.

- **Consistent swabbing**
A robot is ideal for repetitive tasks like swabbing molds. It is precise, consistent, reliable, and fast, enhancing control of the container forming process.
- **Smart spraying**
The quantity of lubricant sprayed is precisely controlled in relation to the position of the spraying tool in the blank mold. The neck ring is sprayed during the alternate swab cycle without contamination of the plunger.
- **Reduced swabbing compound consumption**
Smart spraying reduces lubricant consumption by up to 75%.
- **Increased container production output**
FlexRobot 2 swabs the blank molds on the fly, reducing rejects and thereby increasing the forming machine output.
- **Cleaner machine and extended mold lifetime**
The small quantity of lubricant applied drastically reduces machine contamination. Combined with contactless swabbing, this extends the time between mold refurbishments and prolongs the blank mold life.
- **More time for production fine tuning**
FlexRobot 2 frees up operator time that can be allocated to maintenance and fine-tuning the container production process to achieve higher machine output.
- **Improved operator safety**
FlexRobot 2 reduces the operator interaction with the machine.
- **Elimination of strain injuries**
During an 8-hour shift on a 36-cavity machine, an operator performs over 1700 swabbing movements and raises their arm more than 550 times to activate the manual swabbing cycle. Using FlexRobot 2 helps eliminate strain injuries caused by repetitive manual swabbing.
- **Reduced environmental impact**
The small quantity of lubricant used reduces the amount of smoke generated during swabbing.

FlexRobot 1 Remains Fully Supported

While FlexRobot 2 is the preferred solution for new installations, customers operating FlexRobot 1 can continue to rely on full service, spare parts, and lifecycle support from Bucher Emhart Glass, ensuring continued support throughout the system lifecycle.

System Specifications

The FlexRobot 2 systems are specified under:

- 607-50-00

Installation Requirements

- Forming machine requirements
 - FlexRobot 2 is available for all Bucher Emhart Glass IS, AIS, and NIS forming machines running FlexIS 3 or later.

Features

Native FlexIS integration

Single-platform automation architecture

Automated, intelligent swabbing

Improved operator safety and ergonomics

Less lubricant for cleaner production

Benefits

Provides a unified operating environment that simplifies operation, training, and maintenance.

Lowers lifecycle costs through reduced hardware complexity, simplified maintenance, and streamlined support.

Ensures consistent swabbing quality while reducing process variation and improving production stability.

Minimizes operator exposure to the machine and eliminates repetitive manual swabbing tasks.

Reduces fumes, machine contamination, oil consumption, and extends mold life.
